

Quick Select Product Guide

Industrial Sensors



Your automation, our passion.



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Industrial Sensors

Everything for the Perfect Application

The right solution for every application—this is the Pepperl+Fuchs claim behind all the components, systems and solutions that we have been developing for you in the field of industrial sensors for more than seven decades. Our actions are determined by supporting your applications completely reliably and optimizing them continuously. To achieve the best results, we intensively research your markets and the special challenges you face every day. That is why ongoing dialog with you is essential to our work, as is cooperation on an equal footing. Successful together—is how we work.

Partnership needs proximity. That's why you'll always find your contact partner in more than 50 Pepperl+Fuchs locations worldwide. What's more, our team of experts has been working closely with you for many years on a daily basis to develop customized, individual solutions—as one of only a few, sometimes the only manufacturer in the world offering this service as standard. This is why Pepperl+Fuchs' customized solutions are not only successfully established, but are now one of our most important features.

The widest product range on the market and a huge variety of technologies and operating principles are the basis on which we develop the right solution for every application level. Since the invention of the proximity switch in 1958, we have continued to advance our technologies and to supplement them with groundbreaking innovations. For example, the product range in the Industrial Vision area is now so extensive that it can solve even highly complex vision applications—and it is being expanded more and more. The Pepperl+Fuchs LiDAR sensors are state-of-the-art with products such as the R2000 2-D laser scanner. Pepperl+Fuchs is the leader in ultrasound and time-of-flight technologies and also camera-based positioning systems. In addition, Pepperl+Fuchs provides technological highlights for safety-critical applications, such as the safePGV and safePXV safety sensors or the USi-Safety ultrasonic safety sensor system.

Whether it is conventional applications or complex tasks, such as the digital transformation of your application to Industry 4.0 level: our focus is on rethinking established technologies and turning forward-looking concepts into real innovations. An example of this is industrial communication: To enable the integration of different components, sensors are required for interfaces via IO-Link, CAN, Ethernet, etc. We are equipping our sensors with this and other features so that each intelligent sensor can process even more data and information in the future. To this end, we use the know-how of the entire Pepperl+Fuchs Group: Fresh ideas from young start-ups combined with many years of expertise and experience in automation—therefore paving the way for future challenges.

Let us take you into the future of factory automation!



Pepperl+Fuchs - Automation Industry Partner

For over 70 years, Pepperl+Fuchs has relied on the highest quality standards to develop innovative technologies. This is a claim that has made us one of the world's leading manufacturers of industrial sensors, with a portfolio that provides the exact right solution for each application.

Industrial Sensors from Pepperl+Fuchs

5 technology centers for sensor technology, 500 developers, and a range of over 35,000 products. These figures represent the level of technological expertise at Pepperl+Fuchs and our constant effort to advance innovative ideas to perfection. After all, high-performance technology is a decisive criterion for success in view of the growing demands of dynamic markets.

Decades of experience across all sectors make Pepperl+Fuchs a globally competent partner for factory automation. The vast range of our portfolio not only offers the exact right sensor for the our customers' various standard applications—our experts also work alongside you to develop individual solutions that are perfectly tailored to each of your specific applications.



Strong Partners in the Pepperl+Fuchs Group Network



VMT GmbH: Innovative Vision Systems

VMT Vision Machine Technik Bildverarbeitungssysteme GmbH has 20 years of experience in the fields of image processing, laser measurement technology, and robot vision control. As one of the leading international systems companies, we offer our customers a broad portfolio of standardized and individually configured image processing solutions. A competence center within the powerful Pepperl+Fuchs Group network, which combines cutting-edge technology with the highest level of investment security.

www.vmt-vision-technology.com



Neoception GmbH: Customized IoT Solutions

On the path to a digital future, Neoception GmbH is the company of choice: Its tailor-made industrial IoT services turn conventional products into networked applications with added value. Secure, highly available infrastructure enables digital applications to be implemented ultra-efficiently and future-proof IoT solutions to be introduced smoothly, so that you too can benefit from securely connected processes.

www.neoception.com



ecom: Solutions for Mobile Security and Communication

With ecom, Pepperl+Fuchs acquired a highly specialized partner that has been firmly established in a number of markets as the global market leader for mobile industrial devices such as mobile phones, smartphones, and tablets for hazardous areas for decades. Mobile security and communications solutions allow customers to digitalize their applications quickly and easily, opening up brand-new possibilities and significantly increasing workflow safety, efficiency, and transparency. Conventional applications are perfectly served, while Industry 4.0 applications are optimally prepared.

www.ecom-ex.com

Quick Select Product Guide

Product Pages Structure



Inductive Cubic Standard Sensors

F1 Series

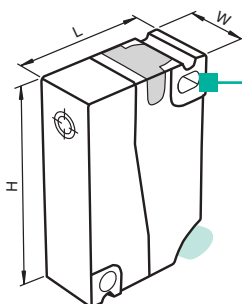


Common Technical Data

Housing length L	26 mm
Housing width W	12 mm
Housing height H	40 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Type of Voltage	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Cable Length	Cable Material	CCC
NBB2-F1-E2	flush	2 mm	PNP	Normally-open (NO)	DC	1400 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	
NBB2-F1-E2-V3	flush	2 mm	PNP	Normally-open (NO)	DC	1400 Hz	10 V	30 V	M8 connector plug			
NBB4-F1-A0	flush	4 mm	NPN	complementary	DC	1400 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	
NBB4-F1-A0-5M	flush	4 mm	NPN	complementary	DC	1400 Hz	10 V	30 V	Fixed cable	5000 mm	PVC	
NBB4-F1-A0-V31	flush	4 mm	NPN	complementary	DC	1400 Hz	10 V	30 V	M8 connector plug			
NBB4-F1-A2	flush	4 mm	PNP	complementary	DC	1400 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	
NBB4-F1-A2-5M	flush	4 mm	PNP	complementary	DC	1400 Hz	10 V	30 V	Fixed cable	5000 mm	PVC	
NBB4-F1-A2-V31	flush	4 mm	PNP	complementary	DC	1400 Hz	10 V	30 V	M8 connector plug			
NBB4-F1-E0	flush	4 mm	NPN	Normally-open (NO)	DC	1400 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	
NBB4-F1-E0-V3	flush	4 mm	NPN	Normally-open (NO)	DC	1400 Hz	10 V	30 V	M8 connector plug			
NBB4-F1-E2	flush	4 mm	PNP	Normally-open (NO)	DC	1400 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	
NBB4-F1-E2-V3	flush	4 mm	PNP	Normally-open (NO)	DC	1400 Hz	10 V	30 V	M8 connector plug			
NBB4-F1-E3	flush	4 mm	PNP	Normally-closed (NC)	DC	1400 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	
NBB4-F1-E3-V3	flush	4 mm	PNP	Normally-closed (NC)	DC	1400 Hz	10 V	30 V	M8 connector plug			
NBN8-F1-A0	nonflush	8 mm	NPN	complementary	DC	1400 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	
NBN8-F1-A0-V31	nonflush	8 mm	NPN	complementary	DC	1400 Hz	10 V	30 V	M8 connector plug			
NBN8-F1-A2	nonflush	8 mm	PNP	complementary	DC	1400 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	
NBN8-F1-A2-V31	nonflush	8 mm	PNP	complementary	DC	1400 Hz	10 V	30 V	M8 connector plug			
NBN8-F1-E0	nonflush	8 mm	NPN	Normally-open (NO)	DC	1400 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	
NBN8-F1-E0-V3	nonflush	8 mm	NPN	Normally-open (NO)	DC	1400 Hz	10 V	30 V	M8 connector plug			
NBN8-F1-E2	nonflush	8 mm	PNP	Normally-open (NO)	DC	1400 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	
NBN8-F1-E2-V3	nonflush	8 mm	PNP	Normally-open (NO)	DC	1400 Hz	10 V	30 V	M8 connector plug			
NBN8-F1-E3	nonflush	8 mm	PNP	Normally-closed (NC)	DC	1400 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	
NBN8-F1-E3-V3	nonflush	8 mm	PNP	Normally-closed (NC)	DC	1400 Hz	10 V	30 V	M8 connector plug			
NBB2-F1-US	flush	2 mm	Two-wire	Normally-open (NO)	AC/DC	25 Hz	20 V	253 V	Fixed cable	2000 mm	PVC	■
NBB4-F1-UO	flush	4 mm	Two-wire	Normally-closed (NC)	AC/DC	25 Hz	20 V	253 V	Fixed cable	2000 mm	PVC	■
NBB4-F1-US	flush	4 mm	Two-wire	Normally-open (NO)	AC/DC	25 Hz	20 V	253 V	Fixed cable	2000 mm	PVC	■



Accessories

V3-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 3-pin, PUR cable, gray
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray
V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray

Quick overview of approvals

Listed product range

Sample product photo

Common technical data of the products listed below

Selected products with a selection of technical data

Product name with hyperlink to the product detail page

Sample dimensional drawing

Suitable accessories to the above-mentioned products

The Best Sensor Solution Directly from the Inventor

As the inventor of the proximity sensor, Pepperl+Fuchs has continued to further develop and perfect its noncontact, wear-free technology. Having the most experience in the market and a complete portfolio of inductive, capacitive, and magnetic sensors always enables the best sensor solution for every application.

Highest Commitment to Quality

Reliability, process safety, and the highest quality standards—this is what proximity sensors from Pepperl+Fuchs stand for. As a pioneer in sensor technology, our key objective is to offer our customers the highest standard of quality on the market. Using test criteria far beyond the normative requirements, Pepperl+Fuchs sets standards in terms of performance and durability.

Expert Advice Since 1959

Having invented the proximity sensor in 1959, Pepperl+Fuchs has the most extensive experience on the market. Creating solutions for countless applications and developing a worldwide sales network means our customers benefit from practical consulting expertise combined with the greatest technical expertise. Based on this experience, our focus is constantly on the future. Continuous technological advancement makes sure Pepperl+Fuchs always offers products that are perfectly tailored to the requirements of your applications.

Offering the Optimal Solution Through Customization

Our offering is rounded off by the option to customize your solution: If your perfect sensor is not included in our comprehensive portfolio, our experts will work with you to develop the optimal configuration to suit your needs. This means that Pepperl+Fuchs will always offer the best sensor solution for each and every application.



For more information, visit
pepperl-fuchs.com/fa-proximity





Complete Portfolio and Customized Solutions



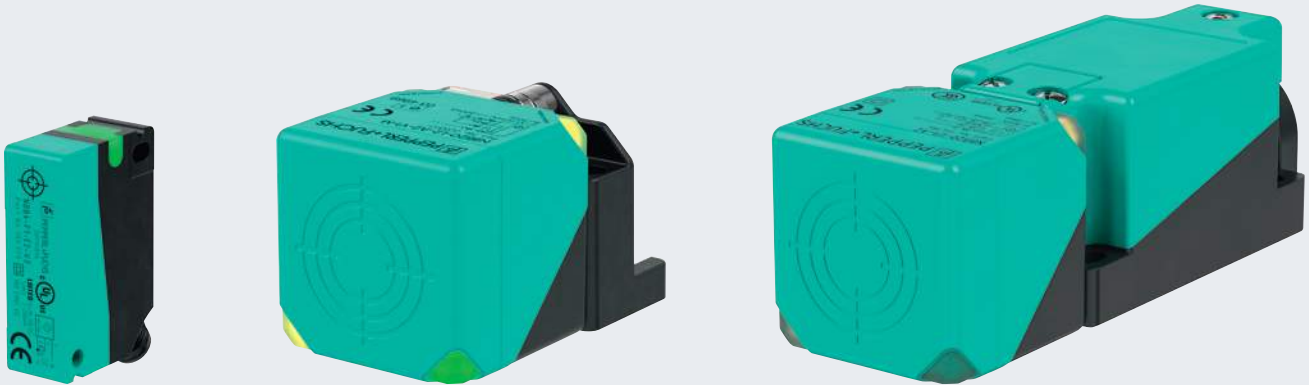
Our comprehensive portfolio of inductive proximity sensors is just as diverse as our customers' applications, offering endless possibilities. Worldwide approvals, various technologies, a wide range of housing designs, materials, and output signals—our portfolio of over 6000 sensors offers maximum flexibility when it comes to choosing the optimum sensor solution.

Typical Applications

- Wear-free, noncontact detection of metallic objects at a distance of up to 100 mm
- Position detection in machine tools
- Monitoring of safe end positions, e.g. for crane applications
- Position querying for skids and thrust plates in automotive manufacturing

Your Benefits at a Glance

- Reliability and process safety for your application thanks to the highest quality standards in sensor production
- The best sensory solution for every application, every time, thanks to our complete portfolio
- Customization beyond the standard portfolio
- Highest levels of robustness and durability even in harsh industrial environments
- Application-specific consulting at the highest technical level thanks to our extensive experience in the market, and our own developments and products



Technical Features

- Wide variety of worldwide approvals, including country and sector-specific approvals (e.g. KOSHA, NEPSI, GL/DNV, UL, CCC, ATEX, IECEx, EAC-Ex, E1, SIL)
- Sensors for all supply voltages (DC, AC, universal current) and output signals (e.g. discrete [two, three, and four-wire], analog, IO-Link, AS-Interface, and NAMUR)
- Wide variety of housing designs and materials
- Complete range of cable and connector types
- Variety of specialist technologies (e.g., metal face sensors, reduction factor 1)
- Sensing ranges from up to 100 mm

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F76 Series

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F79 Series

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F9 Series

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F10 Series

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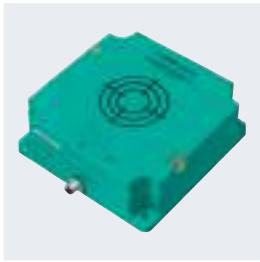
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V3 Series

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F23 Series

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F29 Series

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F33/F33M Series

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F41/F41A Series

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FP Series

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FPS Series

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Varikont Series

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Varikont-L L2/L3 Series

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Inductive Cubic Standard Sensors

F1 Series

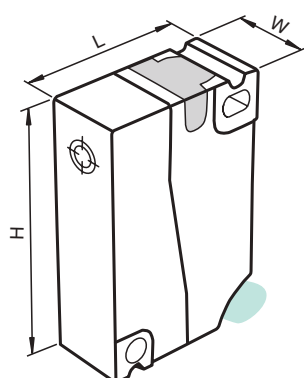


Common Technical Data

Housing length L	26 mm
Housing width W	12 mm
Housing height H	40 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Type of Voltage	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Cable Length	Cable Material	CCC
NBB2-F1-E2	flush	2 mm	PNP	Normally-open (NO)	DC	1400 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	
NBB2-F1-E2-V3	flush	2 mm	PNP	Normally-open (NO)	DC	1400 Hz	10 V	30 V	M8 connector plug			
NBB4-F1-A0	flush	4 mm	NPN	complementary	DC	1400 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	
NBB4-F1-A0 5M	flush	4 mm	NPN	complementary	DC	1400 Hz	10 V	30 V	Fixed cable	5000 mm	PVC	
NBB4-F1-A0-V31	flush	4 mm	NPN	complementary	DC	1400 Hz	10 V	30 V	M8 connector plug			
NBB4-F1-A2	flush	4 mm	PNP	complementary	DC	1400 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	
NBB4-F1-A2 5M	flush	4 mm	PNP	complementary	DC	1400 Hz	10 V	30 V	Fixed cable	5000 mm	PVC	
NBB4-F1-A2-V31	flush	4 mm	PNP	complementary	DC	1400 Hz	10 V	30 V	M8 connector plug			
NBB4-F1-E0	flush	4 mm	NPN	Normally-open (NO)	DC	1400 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	
NBB4-F1-E0-V3	flush	4 mm	NPN	Normally-open (NO)	DC	1400 Hz	10 V	30 V	M8 connector plug			
NBB4-F1-E2	flush	4 mm	PNP	Normally-open (NO)	DC	1400 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	
NBB4-F1-E2-V3	flush	4 mm	PNP	Normally-open (NO)	DC	1400 Hz	10 V	30 V	M8 connector plug			
NBB4-F1-E3	flush	4 mm	PNP	Normally-closed (NC)	DC	1400 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	
NBB4-F1-E3-V3	flush	4 mm	PNP	Normally-closed (NC)	DC	1400 Hz	10 V	30 V	M8 connector plug			
NBN8-F1-A0	nonflush	8 mm	NPN	complementary	DC	1400 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	
NBN8-F1-A0-V31	nonflush	8 mm	NPN	complementary	DC	1400 Hz	10 V	30 V	M8 connector plug			
NBN8-F1-A2	nonflush	8 mm	PNP	complementary	DC	1400 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	
NBN8-F1-A2-V31	nonflush	8 mm	PNP	complementary	DC	1400 Hz	10 V	30 V	M8 connector plug			
NBN8-F1-E0	nonflush	8 mm	NPN	Normally-open (NO)	DC	1400 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	
NBN8-F1-E0-V3	nonflush	8 mm	NPN	Normally-open (NO)	DC	1400 Hz	10 V	30 V	M8 connector plug			
NBN8-F1-E2	nonflush	8 mm	PNP	Normally-open (NO)	DC	1400 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	
NBN8-F1-E2-V3	nonflush	8 mm	PNP	Normally-open (NO)	DC	1400 Hz	10 V	30 V	M8 connector plug			
NBN8-F1-E3	nonflush	8 mm	PNP	Normally-closed (NC)	DC	1400 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	
NBN8-F1-E3-V3	nonflush	8 mm	PNP	Normally-closed (NC)	DC	1400 Hz	10 V	30 V	M8 connector plug			
NBB2-F1-US	flush	2 mm	Two-wire	Normally-open (NO)	AC/DC	25 Hz	20 V	253 V	Fixed cable	2000 mm	PVC	■
NBB4-F1-UO	flush	4 mm	Two-wire	Normally-closed (NC)	AC/DC	25 Hz	20 V	253 V	Fixed cable	2000 mm	PVC	■
NBB4-F1-US	flush	4 mm	Two-wire	Normally-open (NO)	AC/DC	25 Hz	20 V	253 V	Fixed cable	2000 mm	PVC	■

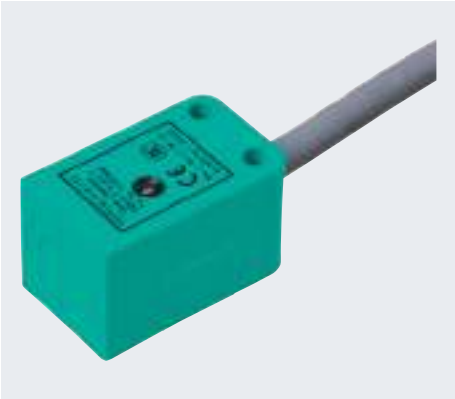


Accessories

V3-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 3-pin, PUR cable, gray
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray
V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray

Inductive Cubic Standard Sensors

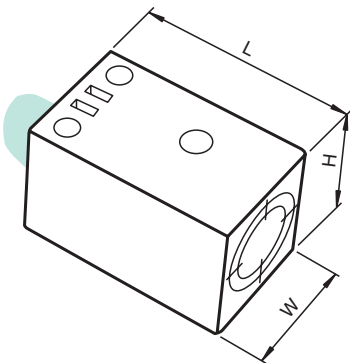
F7 Series



Common Technical Data	
Mechanical installation conditions	nonflush
Detection range	5 mm
Type of output	Three-wire
Type of voltage	DC
Switching frequency	500 Hz
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	Fixed cable
Cable material	PVC
Housing length L	28 mm
Housing width W	17 mm
Housing height H	17 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Type of Output	Switching Element Function	Cable Length
NBN5-F7-E0	NPN	Normally-open (NO)	2000 mm
NBN5-F7-E0-5M	NPN	Normally-open (NO)	5000 mm
NBN5-F7-E1	NPN	Normally-closed (NC)	2000 mm
NBN5-F7-E2	PNP	Normally-open (NO)	2000 mm
NBN5-F7-E2-5M	PNP	Normally-open (NO)	5000 mm



Inductive Cubic Standard Sensors

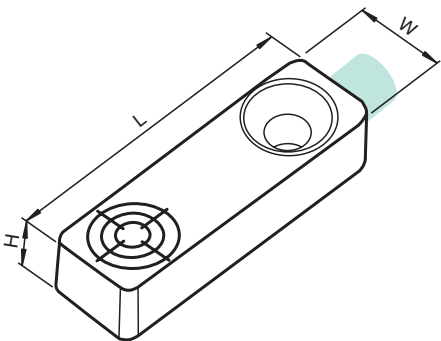
F76 Series



Common Technical Data	
Mechanical installation conditions	flush
Detection range	2 mm
Type of output	Three-wire
Type of voltage	DC
Switching frequency	1500 Hz
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	Fixed cable
Cable length	5000 mm
Cable material	PVC
Housing length L	25 mm
Housing width W	8 mm
Housing height H	5.5 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Type of Output	Switching Element Function
NBB2-F76-E0-0,5M	NPN	Normally-open (NO)
NBB2-F76-E1-0,5M	NPN	Normally-closed (NC)
NBB2-F76-E2-0,5M	PNP	Normally-open (NO)
NBB2-F76-E3-0,5M	PNP	Normally-closed (NC)



Inductive Cubic Standard Sensors

F79 Series

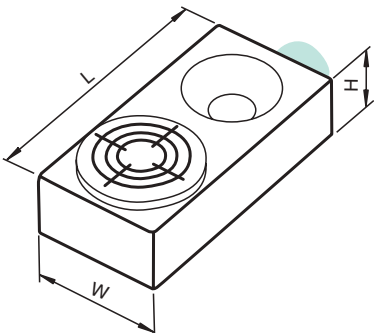


Common Technical Data

Mechanical installation conditions	flush
Detection range	15 mm
Type of output	Three-wire
Type of voltage	DC
Switching frequency	1200 Hz
Operating voltage (min)	5 V
Operating voltage (max)	30 V
Cable material	PVC
Housing length L	16 mm
Housing width W	8 mm
Housing height H	4.7 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Type of Output	Switching Element Function	Connection Type	Cable Length	UL
NBB1,5-F79-E0-0,1M-V3	NPN	Normally-open (NO)	Fixed cable with M8 plug	100 mm	
NBB1,5-F79-E0-0,5M	NPN	Normally-open (NO)	Fixed cable	500 mm	
NBB1,5-F79-E0-5M	NPN	Normally-open (NO)	Fixed cable	5000 mm	
NBB1,5-F79-E1-0,1M-V3	NPN	Normally-closed (NC)	Fixed cable with M8 plug	100 mm	
NBB1,5-F79-E1-0,5M	NPN	Normally-closed (NC)	Fixed cable	500 mm	
NBB1,5-F79-E1-5M	NPN	Normally-closed (NC)	Fixed cable	5000 mm	
NBB1,5-F79-E2-0,1M-V3	PNP	Normally-open (NO)	Fixed cable with M8 plug	100 mm	
NBB1,5-F79-E2-0,5M	PNP	Normally-open (NO)	Fixed cable	500 mm	
NBB1,5-F79-E2-2M	PNP	Normally-open (NO)	Fixed cable	2000 mm	■
NBB1,5-F79-E2-5M	PNP	Normally-open (NO)	Fixed cable	5000 mm	
NBB1,5-F79-E3-0,1M-V3	PNP	Normally-closed (NC)	Fixed cable with M8 plug	100 mm	
NBB1,5-F79-E3-0,5M	PNP	Normally-closed (NC)	Fixed cable	500 mm	
NBB1,5-F79-E3-5M	PNP	Normally-closed (NC)	Fixed cable	5000 mm	



Accessories

V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray

Inductive Cubic Standard Sensors

F9 Series

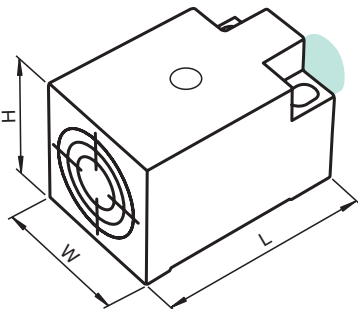


Common Technical Data	
Mechanical installation conditions	flush
Detection range	5 mm
Type of output	Three-wire
Switching element function	Normally-open (NO)
Type of voltage	DC
Switching frequency	500 Hz
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	38.5 mm
Housing width W	16 mm
Housing height H	16.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Type of Output	Connection Type	Cable Length	Cable Material
NBB5-F9-E0	NPN	Fixed cable	2000 mm	PVC
NBB5-F9-E0-V3	NPN	8 mm connector plug		
NBB5-F9-E2	PNP	Fixed cable	2000 mm	PVC
NBB5-F9-E2-V3	PNP	8 mm connector plug		

Accessories	
V3-GR-2M-PUR	Single-ended female cordset, M8, snap-locking, straight, A-coded, 3-pin, PUR cable, gray
V3-WR-2M-PUR	Single-ended female cordset, M8, snap-locking, angled, A-coded, 3-pin, PUR cable, gray



Inductive Cubic Standard Sensors

F10 Series



Common Technical Data

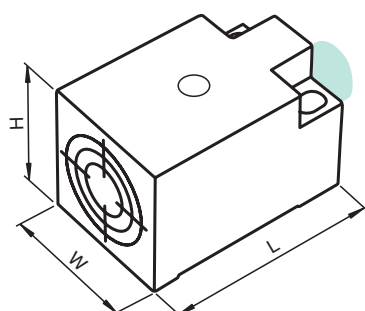
Type of output	Three-wire
Type of voltage	DC
Switching frequency	500 Hz
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	38.5 mm
Housing width W	25 mm
Housing height H	25.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Connection Type	Cable Length	Cable Material	EAC
NBB7-F10-E0	flush	7 mm	NPN	Normally-open (NO)	Fixed cable	2000 mm	PVC	
NBB7-F10-E0-V1	flush	7 mm	NPN	Normally-open (NO)	M12 connector plug			
NBB7-F10-E1	flush	7 mm	NPN	Normally-closed (NC)	Fixed cable	2000 mm	PVC	
NBB7-F10-E2	flush	7 mm	PNP	Normally-open (NO)	Fixed cable	2000 mm	PVC	
NBB7-F10-E2-V1	flush	7 mm	PNP	Normally-open (NO)	M12 connector plug			
NBB7-F10-E3	flush	7 mm	PNP	Normally-closed (NC)	Fixed cable	2000 mm	PVC	
NBN10-F10-E0	nonflush	10 mm	NPN	Normally-open (NO)	Fixed cable	2000 mm	PVC	
NBN10-F10-E0-V1	nonflush	10 mm	NPN	Normally-open (NO)	M12 connector plug			
NBN10-F10-E2	nonflush	10 mm	PNP	Normally-open (NO)	Fixed cable	2000 mm	PVC	■
NBN10-F10-E2-V1	nonflush	10 mm	PNP	Normally-open (NO)	M12 connector plug			

Accessories

V1-G-2M-PUR	Single-ended female cordset, M12, straight A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray



Inductive Cubic Standard Sensors

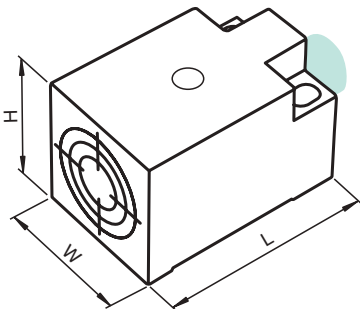
F11 Series



Common Technical Data	
Mechanical installation conditions	nonflush
Detection range	15 mm
Type of output	Three-wire
Switching element function	Normally-open (NO)
Type of voltage	DC
Switching frequency	150 Hz
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	38.5 mm
Housing width W	30 mm
Housing height H	30.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Type of Output	Connection Type	Cable Length	Cable Material
NBN15-F11-E0	NPN	Fixed cable	2000 mm	PVC
NBN15-F11-E0-V1	NPN	M12 connector plug		
NBN15-F11-E2	PNP	Fixed cable	2000 mm	PVC
NBN15-F11-E2-V1	PNP	M12 connector plug		



Accessories	
V1-G-2M-PUR	Single-ended female cordset, M12, straight A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray

Inductive Cubic Standard Sensors

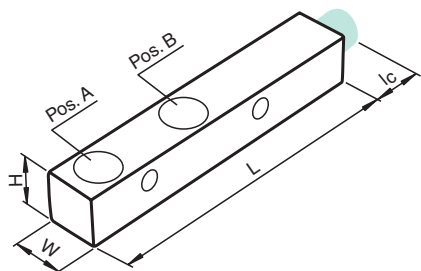
F141 Series



Common Technical Data	
Mechanical installation conditions	flush
Detection range	0.8 mm
Type of output	Three-wire
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	Fixed cable
Cable length	2000 mm
Cable material	PUR
Housing length L	25 mm
Housing width W	5 mm
Housing height H	5 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Type of Output	Switching Element Function	Switching Frequency
NBB0,8-F141-E0	NPN	Normally-open (NO)	10,000 Hz
NBB0,8-F141-E1	NPN	Normally-closed (NC)	2500 Hz
NBB0,8-F141-E2	PNP	Normally-open (NO)	10,000 Hz
NBB0,8-F141-E3	PNP	Normally-closed (NC)	2500 Hz



Inductive Cubic Standard Sensors

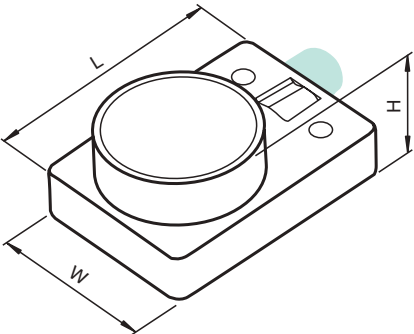
F148 Series



Common Technical Data	
Mechanical installation conditions	flush
Type of voltage	DC
Switching frequency	600 Hz
Operating voltage (min)	10 V
Connection type	Fixed cable
Cable length	2000 mm
Cable material	PUR
Housing length L	50 mm
Housing width W	35 mm
Housing height H	20 mm

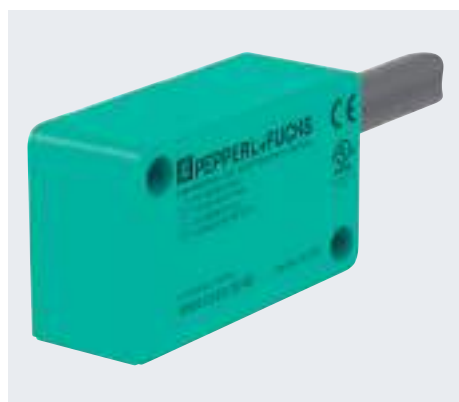
For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Type of Output	Switching Element Function	UB (Max)	e1 Type Approval
NBB8-F148P10-E0-M	8 mm	NPN	Normally-open (NO)	60 V	■
NBB8-F148P10-E2-M	8 mm	PNP	Normally-open (NO)	60 V	■
NBB15-F148P10-E0-M	15 mm	NPN	Normally-open (NO)	60 V	■
NBB15-F148P10-E2-M	15 mm	PNP	Normally-open (NO)	60 V	■
NBB15-F148P10-ARO	15 mm	Relay	Normally-closed (NC)	30 V	
NBB15-F148P10-ARS	15 mm	Relay	Normally-open (NO)	30 V	



Inductive Cubic Standard Sensors

V3 Series



Common Technical Data

Type of voltage	DC
Housing length L	16 mm
Housing width W	27.8 mm
Housing height H	10.2 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

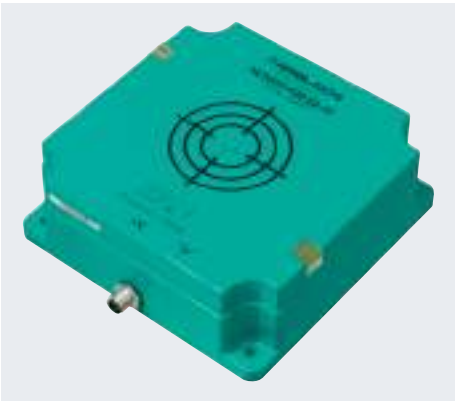
Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Cable Length	Cable Material	CCC	UL
NBB2-V3-E0	flush	2 mm	NPN	Normally-open (NO)	1000 Hz	10 V	30 V	Fixed cable	130 mm	PVC		■
NBB2-V3-E0-V5	flush	2 mm	NPN	Normally-open (NO)	1000 Hz	10 V	30 V	Faston connector plug				■
NBB2-V3-E2	flush	2 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	Fixed cable	130 mm	PVC		■
NBB2-V3-E2-10M	flush	2 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	Fixed cable	10,000 mm	PVC		■
NBB2-V3-E2-1M	flush	2 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	Fixed cable	1000 mm	PVC		■
NBB2-V3-E2-5M	flush	2 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	Fixed cable	5000 mm	PVC		■
NBB2-V3-E2-V3	flush	2 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	M8 connector plug				■
NBB2-V3-E2-V5	flush	2 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	Faston connector plug				■
NBB2-V3-E3	flush	2 mm	PNP	Normally-closed (NC)	1000 Hz	10 V	30 V	Fixed cable	130 mm	PVC		■
NBB2-V3-E3-V3	flush	2 mm	PNP	Normally-closed (NC)	1000 Hz	10 V	30 V	M8 connector plug				■
NBB2-V3-E3-V5	flush	2 mm	PNP	Normally-closed (NC)	1000 Hz	10 V	30 V	Faston connector plug				■
NBB3-V3-E0	flush	3 mm	NPN	Normally-open (NO)	1000 Hz	10 V	30 V	Fixed cable	130 mm	PVC		
NBB3-V3-E0-V3	flush	3 mm	NPN	Normally-open (NO)	1000 Hz	10 V	30 V	M8 connector plug				
NBB3-V3-E1	flush	3 mm	NPN	Normally-closed (NC)	1000 Hz	10 V	30 V	Fixed cable	130 mm	PVC		
NBB3-V3-E1-V3	flush	3 mm	NPN	Normally-closed (NC)	1000 Hz	10 V	30 V	M8 connector plug				
NBB3-V3-E2	flush	3 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	Fixed cable	130 mm	PVC		
NBB3-V3-E2-2M	flush	3 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	Fixed cable	2000 mm	PVC		
NBB3-V3-E2-V3	flush	3 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	M8 connector plug				
NBB3-V3-E3	flush	3 mm	PNP	Normally-closed (NC)	1000 Hz	10 V	30 V	Fixed cable	130 mm	PVC		
NBB3-V3-E3-V3	flush	3 mm	PNP	Normally-closed (NC)	1000 Hz	10 V	30 V	M8 connector plug				
NBN4-V3-E0	nonflush	4 mm	NPN	Normally-open (NO)	500 Hz	10 V	30 V	Fixed cable	130 mm	PVC		■
NBN4-V3-E2	nonflush	4 mm	PNP	Normally-open (NO)	500 Hz	10 V	30 V	Fixed cable	130 mm	PVC		■
NBN6-V3-E0	nonflush	6 mm	NPN	Normally-open (NO)	500 Hz	10 V	30 V	Fixed cable	130 mm	PVC		
NBN6-V3-E0-V3	nonflush	6 mm	NPN	Normally-open (NO)	1000 Hz	10 V	30 V	M8 connector plug				
NBN6-V3-E1	nonflush	6 mm	NPN	Normally-closed (NC)	500 Hz	10 V	30 V	Fixed cable	130 mm	PVC		
NBN6-V3-E1-V3	nonflush	6 mm	NPN	Normally-closed (NC)	1000 Hz	10 V	30 V	M8 connector plug				
NBN6-V3-E2	nonflush	6 mm	PNP	Normally-open (NO)	500 Hz	10 V	30 V	Fixed cable	130 mm	PVC		
NBN6-V3-E2-V3	nonflush	6 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	M8 connector plug				
NBN6-V3-E3	nonflush	6 mm	PNP	Normally-closed (NC)	500 Hz	10 V	30 V	Fixed cable	130 mm	PVC		
NBN6-V3-E3-V3	nonflush	6 mm	PNP	Normally-closed (NC)	1000 Hz	10 V	30 V	M8 connector plug				
NBB3-V3-Z4	flush	3 mm	Two-wire	Normally-open (NO)	2000 Hz	5 V	60 V	Fixed cable	130 mm	PVC	■	■
NBB3-V3-Z5	flush	3 mm	Two-wire	Normally-closed (NC)	2000 Hz	5 V	60 V	Fixed cable	130 mm	PVC	■	■

Accessories

V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray

Inductive Cubic Standard Sensors

F23 Series

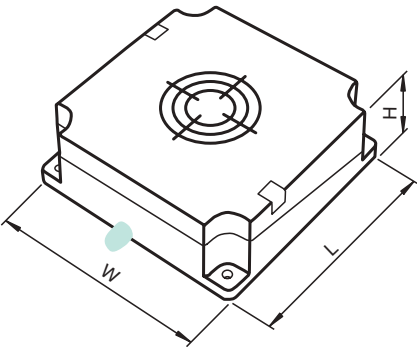


Common Technical Data	
Mechanical installation conditions	nonflush
Detection range	100 mm
Type of output	Three-wire
Type of output	PNP
Switching element function	Normally-open (NO)
Type of voltage	DC
Switching frequency	10 Hz
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	177 mm
Housing width W	177 mm
Housing height H	60.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number

NCN100-F23-E2-V1



Accessories	
V1-G-2M-PUR	Single-ended female cordset, M12, straight A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray

Inductive Cubic Standard Sensors

F29 Series

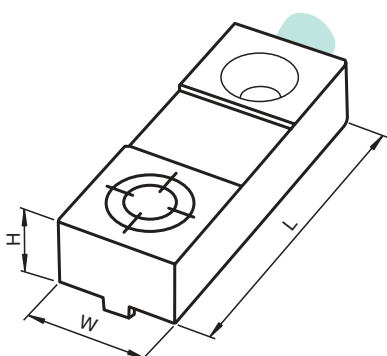


Common Technical Data

Type of voltage	DC
Switching frequency	1000 Hz
Operating voltage (min)	4.75 V
Operating voltage (max)	30 V
Cable material	PVC
Housing length L	27 mm
Housing width W	10 mm
Housing height H	6 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Connection Type	Cable Length
NBB2-F29-A0	flush	2 mm	NPN	complementary	Fixed cable	2000 mm
NBB2-F29-A2	flush	2 mm	PNP	complementary	Fixed cable	2000 mm
NBB2-F29-A2-5M	flush	2 mm	PNP	complementary	Fixed cable	5000 mm
NBB2-F29-E2-5M	flush	2 mm	PNP	Normally-open (NO)	Fixed cable	5000 mm
NBB2-F29-E3	flush	2 mm	PNP	Normally-closed (NC)	Fixed cable	2000 mm
NBN4-F29-A0	nonflush	4 mm	NPN	complementary	Fixed cable	2000 mm
NBN4-F29-A2	nonflush	4 mm	PNP	complementary	Fixed cable	2000 mm
NBN4-F29-E0	nonflush	4 mm	NPN	Normally-open (NO)	Fixed cable	2000 mm
NBN4-F29-E0-5M	nonflush	4 mm	NPN	Normally-open (NO)	Fixed cable	5000 mm
NBN4-F29-E2	nonflush	4 mm	PNP	Normally-open (NO)	Fixed cable	2000 mm
NBN4-F29-E2-5M	nonflush	4 mm	PNP	Normally-open (NO)	Fixed cable	5000 mm
NBN4-F29-E3-5M	nonflush	4 mm	PNP	Normally-closed (NC)	Fixed cable	5000 mm
NBN4-F29-E3-0,5M-V3	nonflush	4 mm	PNP	Normally-closed (NC)	Fixed cable with M8 plug	5000 mm



Accessories

V3-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 3-pin, PUR cable, gray
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray

Inductive Cubic Standard Sensors

F33/F33M Series

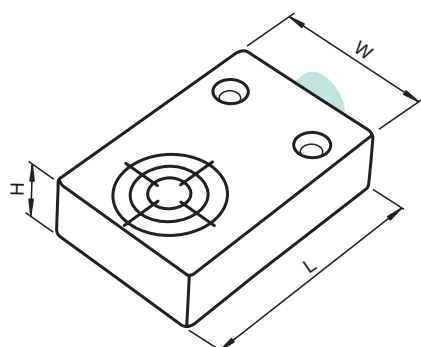


Common Technical Data

Mechanical installation conditions	flush
Type of voltage	DC
Operating voltage (min)	10 V
Cable material	PVC
Housing length L	10 mm
Housing width W	50 mm
Housing height H	25 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Max)	Connection Type	Cable Length	CCC
NBB5-F33-A0	5 mm	NPN	complementary	500 Hz	30 V	Fixed cable	2000 mm	
NBB5-F33-A2	5 mm	PNP	complementary	500 Hz	30 V	Fixed cable	2000 mm	
NBB5-F33-A2-5M	5 mm	PNP	complementary	500 Hz	30 V	Fixed cable	5000 mm	
NBB5-F33-E0	5 mm	NPN	Normally-open (NO)	500 Hz	30 V	Fixed cable	2000 mm	
NBB5-F33-E2	5 mm	PNP	Normally-open (NO)	500 Hz	30 V	Fixed cable	2000 mm	
NBB5-F33M-A0	5 mm	NPN	complementary	500 Hz	30 V	Fixed cable	2000 mm	
NBB5-F33M-A2	5 mm	PNP	complementary	500 Hz	30 V	Fixed cable	2000 mm	
NBB5-F33M-E0	5 mm	NPN	Normally-open (NO)	500 Hz	30 V	Fixed cable	2000 mm	
NBB5-F33M-E2	5 mm	PNP	Normally-open (NO)	500 Hz	30 V	Fixed cable	2000 mm	
NBB5-F33M-E2-5M	5 mm	PNP	Normally-open (NO)	500 Hz	30 V	Fixed cable	5000 mm	
NBB8-F33-E0	8 mm	NPN	Normally-open (NO)	350 Hz	60 V	Fixed cable	2000 mm	■
NBB8-F33-E1	8 mm	NPN	Normally-closed (NC)	350 Hz	60 V	Fixed cable	2000 mm	■
NBB8-F33-E2	8 mm	PNP	Normally-open (NO)	350 Hz	60 V	Fixed cable	2000 mm	■
NBB8-F33-E2-0,2M-V1	8 mm	PNP	Normally-open (NO)	350 Hz	30 V	Fixed cable with M12 plug	200 mm	
NBB8-F33-E3	8 mm	PNP	Normally-closed (NC)	350 Hz	60 V	Fixed cable	2000 mm	■
NBB8-F33-E3-0,2M-V1	8 mm	PNP	Normally-closed (NC)	350 Hz	30 V	Fixed cable with M12 plug	200 mm	



Accessories

V1-G-2M-PUR	Single-ended female cordset, M12, straight A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray

Inductive Cubic Standard Sensors

F41/F41A Series

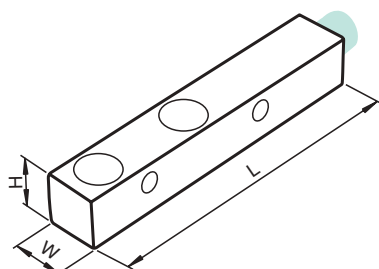


Common Technical Data

Type of output	Three-wire
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing width W	8 mm
Housing height H	8 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	Connection Type	Cable Length	Cable Material	Length L
NBB1,5-F41-E2	flush	1.5 mm	PNP	Normally-open (NO)	1500 Hz	Fixed cable	2000 mm	PVC	40 mm
NBB1,5-F41-E2-V3	flush	1.5 mm	PNP	Normally-open (NO)	1500 Hz	M8 connector plug			46 mm
NBB1,5-F41-E3	flush	1.5 mm	PNP	Normally-closed (NC)	1500 Hz	Fixed cable	2000 mm	PVC	40 mm
NBB1,5-F41-E3-V3	flush	1.5 mm	PNP	Normally-closed (NC)	1500 Hz	M8 connector plug			46 mm
NBB1,5-F41A-E2	flush	1.5 mm	PNP	Normally-open (NO)	1500 Hz	Fixed cable	2000 mm	PVC	40 mm
NBB1,5-F41A-E2-V3	flush	1.5 mm	PNP	Normally-open (NO)	1500 Hz	M8 connector plug			46 mm
NBB1,5-F41A-E3	flush	1.5 mm	PNP	Normally-closed (NC)	1500 Hz	Fixed cable	2000 mm	PVC	40 mm
NBB1,5-F41A-E3-V3	flush	1.5 mm	PNP	Normally-closed (NC)	1500 Hz	M8 connector plug			46 mm
NBB2-F41-E2-V3	flush	2 mm	PNP	Normally-open (NO)	3000 Hz	M8 connector plug			46 mm
NEB3-F41-E0	semi-flush	3 mm	NPN	Normally-open (NO)	1000 Hz	Fixed cable	2000 mm	PVC	40 mm
NEB3-F41-E0-V3	semi-flush	3 mm	NPN	Normally-open (NO)	1000 Hz	M8 connector plug			50 mm
NEB3-F41-E1	semi-flush	3 mm	NPN	Normally-closed (NC)	1000 Hz	Fixed cable	2000 mm	PVC	40 mm
NEB3-F41-E1-V3	semi-flush	3 mm	NPN	Normally-closed (NC)	1000 Hz	M8 connector plug			50 mm
NEB3-F41-E2	semi-flush	3 mm	PNP	Normally-open (NO)	1000 Hz	Fixed cable	2000 mm	PVC	40 mm
NEB3-F41-E2-V3	semi-flush	3 mm	PNP	Normally-open (NO)	1000 Hz	M8 connector plug			50 mm
NEB3-F41-E3	semi-flush	3 mm	PNP	Normally-closed (NC)	1000 Hz	Fixed cable	2000 mm	PVC	40 mm
NEB3-F41-E3-V3	semi-flush	3 mm	PNP	Normally-closed (NC)	1000 Hz	M8 connector plug			50 mm



Accessories

V3-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 3-pin, PUR cable, gray
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray

Inductive Cubic Standard Sensors

FP Series

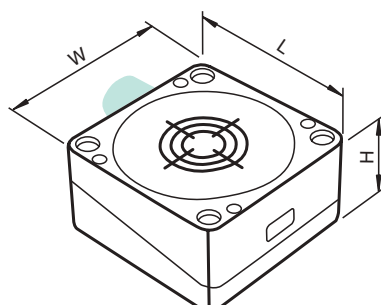


Common Technical Data

UL

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Type of Voltage	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Length L	Width W	Height H	CCC	EAC
NCB40-FP-A2-P1	flush	40 mm	PNP	complementary	DC	80 Hz	10 V	60 V	Terminal compartment	80 mm	80 mm	40 mm	■	
NCB40-FP-A2-P1-V1	flush	40 mm	PNP	complementary	DC	80 Hz	10 V	60 V	M12 connector plug	80 mm	80 mm	40 mm	■	
NCB40-FP-A2-P2	flush	40 mm	PNP	complementary	DC	80 Hz	10 V	60 V	Terminal compartment	80 mm	80 mm	40 mm	■	
NCB40-FP-A2-P4	flush	40 mm	PNP	complementary	DC	80 Hz	10 V	60 V	Terminal compartment	80 mm	80 mm	40 mm	■	
NCB40-FP-A2-P4-V1	flush	40 mm	PNP	complementary	DC	80 Hz	10 V	60 V	M12 connector plug	80 mm	80 mm	40 mm	■	
NCB40-FP-Z2-P1	flush	40 mm	Two-wire	Normally-open/normally-closed (selectable)	DC	50 Hz	10 V	60 V	Terminal compartment	84 mm	84 mm	40 mm	■	
NCB50-FP-A2-P1	flush	50 mm	PNP	complementary	DC	80 Hz	10 V	60 V	Terminal compartment	84 mm	84 mm	40 mm	■	
NCB50-FP-A2-P1-V1	flush	50 mm	PNP	complementary	DC	80 Hz	10 V	60 V	M12 connector plug	84 mm	84 mm	40 mm	■	
NCB50-FP-A2-P4	flush	50 mm	PNP	complementary	DC	80 Hz	10 V	60 V	Terminal compartment	84 mm	84 mm	40 mm	■	
NCB50-FP-A2-P4-V1	flush	50 mm	PNP	complementary	DC	80 Hz	10 V	60 V	M12 connector plug	84 mm	84 mm	40 mm	■	
NCB50-FP-E2-P1	flush	50 mm	PNP	Normally-open (NO)	DC	80 Hz	10 V	60 V	Terminal compartment	84 mm	84 mm	40 mm	■	■
NCB50-FP-E2-P1-V1	flush	50 mm	PNP	Normally-open (NO)	DC	80 Hz	10 V	60 V	M12 connector plug	84 mm	84 mm	40 mm	■	■
NCB50-FP-E2-P4	flush	50 mm	PNP	Normally-open (NO)	DC	80 Hz	10 V	60 V	Terminal compartment	84 mm	84 mm	40 mm	■	
NCB50-FP-E2-P4-V1	flush	50 mm	PNP	Normally-open (NO)	DC	80 Hz	10 V	60 V	M12 connector plug	84 mm	84 mm	40 mm	■	
NCB50-FP-Z2-P1	flush	50 mm	Two-wire	Normally-open/normally-closed (selectable)	DC	80 Hz	10 V	60 V	Terminal compartment	84 mm	84 mm	40 mm	■	
NCB50-FP-Z4-V1	flush	50 mm	Two-wire	Normally-open (NO)	DC	80 Hz	10 V	60 V	M12 connector plug	84 mm	84 mm	40 mm	■	
NCB50-FP-Z5-V1	flush	50 mm	Two-wire	Normally-closed (NC)	DC	80 Hz	10 V	60 V	M12 connector plug	84 mm	84 mm	40 mm	■	
NCN50-FP-A2-P1	nonflush	50 mm	PNP	complementary	DC	80 Hz	10 V	60 V	Terminal compartment	80 mm	80 mm	40 mm	■	■
NCN50-FP-A2-P1-V1	nonflush	50 mm	PNP	complementary	DC	80 Hz	10 V	60 V	M12 connector plug	80 mm	80 mm	40 mm	■	
NCN50-FP-A2-P3	nonflush	50 mm	PNP	complementary	DC	80 Hz	10 V	60 V	Terminal compartment	80 mm	80 mm	40 mm	■	
NCN50-FP-A2-P4	nonflush	50 mm	PNP	complementary	DC	80 Hz	10 V	60 V	Terminal compartment	80 mm	80 mm	40 mm	■	
NCN50-FP-Z2-P1	nonflush	50 mm	Two-wire	Normally-open/normally-closed (selectable)	DC	80 Hz	10 V	60 V	Terminal compartment	80 mm	80 mm	40 mm	■	
NCN50-FP-Z2-P4	nonflush	50 mm	Two-wire	Normally-open/normally-closed (selectable)	DC	80 Hz	10 V	60 V	Terminal compartment	40 mm	80 mm	80 mm		
NJ60-FP-E2-P2	nonflush	60 mm	PNP	Normally-open (NO)	DC	20 Hz	10 V	30 V	Terminal compartment	80 mm	80 mm	40 mm		
NJ60-FP-E2-P2-V1	nonflush	60 mm	PNP	Normally-open (NO)	DC	20 Hz	10 V	30 V	M12 connector plug	80 mm	80 mm	40 mm		
NCB40-FP-W-P1	flush	40 mm	Two-wire	Normally-open/normally-closed (selectable)	AC	20 Hz	20 V	253 V	Terminal compartment	80 mm	80 mm	40 mm	■	
NCN40-FP-W-T-P1	nonflush	40 mm	Two-wire	Normally-open/normally-closed (selectable)	AC	20 Hz	20 V	253 V	Terminal compartment	80 mm	80 mm	40 mm	■	
NCN50-FP-W-P1	nonflush	50 mm	Two-wire	Normally-open/normally-closed (selectable)	AC	20 Hz	20 V	253 V	Terminal compartment	80 mm	80 mm	40 mm	■	



Accessories

V1-G-2M-PUR

Single-ended female cordset, M12, straight A-coded, 4-pin, PUR cable, gray

V1-W-2M-PUR

Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray

Inductive Cubic Standard Sensors

FPS Series

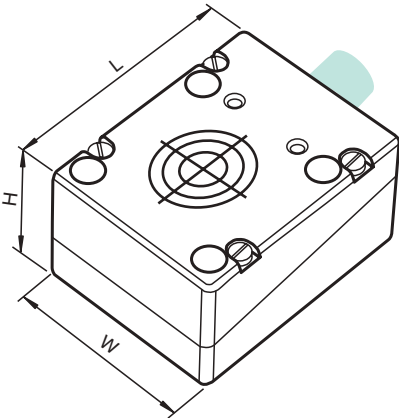


Common Technical Data

Connection type	Terminal compartment
Housing length L	77 mm
Housing width W	60 mm
Housing height H	41 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Type of Voltage	Switching Frequency	UB (Min)	UB (Max)
NBB25-FPS-A2	flush	25 mm	PNP	complementary	DC	70 Hz	10 V	30 V
NBN30-FPS-A2	nonflush	30 mm	PNP	complementary	DC	50 Hz	10 V	30 V
NBN30-FPS-E5	nonflush	30 mm	PNP	Normally-open/normally-closed (selectable)	DC	50 Hz	10 V	65 V
NBN30-FPS-UU	nonflush	30 mm	Two-wire	Normally-open/normally-closed (selectable)	AC/DC	25 Hz	20 V	265 V



Inductive Cubic Standard Sensors

Varikont Series



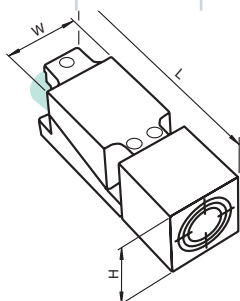
Common Technical Data

UL

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Type of Voltage	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Length L	Width W	Height H	CCC	EAC
NBB20-U1-A0	flush	20 mm	NPN	complementary	DC	440 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBB20-U1-A2	flush	20 mm	PNP	complementary	DC	440 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		■
NBB20-U1-A2-V1	flush	20 mm	PNP	complementary	DC	440 Hz	10 V	30 V	M12 connector plug	118 mm	40 mm	40 mm		
NBB20-U1-E0	flush	20 mm	NPN	Normally-open (NO)	DC	440 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBB20-U1-E1	flush	20 mm	NPN	Normally-closed (NC)	DC	440 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBB20-U1-E2	flush	20 mm	PNP	Normally-open (NO)	DC	440 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		■
NBB20-U1-E2-V1	flush	20 mm	PNP	Normally-open (NO)	DC	440 Hz	10 V	30 V	M12 connector plug	118 mm	40 mm	40 mm		
NBB20-U1-E3	flush	20 mm	PNP	Normally-closed (NC)	DC	440 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBB20-U2-A0	flush	20 mm	NPN	complementary	DC	440 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBB20-U2-A2	flush	20 mm	PNP	complementary	DC	440 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBB20-U2-E0	flush	20 mm	NPN	Normally-open (NO)	DC	440 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBB20-U2-E2	flush	20 mm	PNP	Normally-open (NO)	DC	440 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBB20-U3-E2	flush	20 mm	PNP	Normally-open (NO)	DC	440 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBB20-U3-A2	flush	20 mm	PNP	complementary	DC	440 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBB20-U4-A0	flush	20 mm	NPN	complementary	DC	440 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBB20-U4-A2	flush	20 mm	PNP	complementary	DC	440 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBB20-U4-A2-V1	flush	20 mm	PNP	complementary	DC	440 Hz	10 V	30 V	M12 connector plug	118 mm	40 mm	40 mm		
NBB20-U4-E0	flush	20 mm	NPN	Normally-open (NO)	DC	440 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBB20-U4-E2	flush	20 mm	PNP	Normally-open (NO)	DC	440 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBB20-U4-E2-V1	flush	20 mm	PNP	Normally-open (NO)	DC	440 Hz	10 V	30 V	M12 connector plug	118 mm	40 mm	40 mm		
NBB20-U10-A2	flush	20 mm	PNP	complementary	DC	440 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBB20-U10-E2	flush	20 mm	PNP	Normally-open (NO)	DC	440 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN30-U1-A0	nonflush	30 mm	NPN	complementary	DC	230 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN30-U1-A2	nonflush	30 mm	PNP	complementary	DC	230 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		■
NBN30-U1-A2-V1	nonflush	30 mm	PNP	complementary	DC	230 Hz	10 V	30 V	M12 connector plug	118 mm	40 mm	40 mm		
NBN30-U1-E0	nonflush	30 mm	NPN	Normally-open (NO)	DC	230 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN30-U1-E1	nonflush	30 mm	NPN	Normally-closed (NC)	DC	230 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN30-U1-E2	nonflush	30 mm	PNP	Normally-open (NO)	DC	230 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN30-U1-E2-V1	nonflush	30 mm	PNP	Normally-open (NO)	DC	230 Hz	10 V	30 V	M12 connector plug	118 mm	40 mm	40 mm		
NBN30-U1-E3	nonflush	30 mm	PNP	Normally-closed (NC)	DC	230 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBB30-U1K-A0	flush	30 mm	NPN	complementary	DC	60 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBB30-U1K-A2	flush	30 mm	PNP	complementary	DC	60 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBB30-U1K-E2	flush	30 mm	PNP	Normally-open (NO)	DC	60 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN30-U2-A2	nonflush	30 mm	PNP	complementary	DC	230 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN30-U2-E2	nonflush	30 mm	PNP	Normally-open (NO)	DC	230 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN30-U4-A2	nonflush	30 mm	PNP	complementary	DC	230 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN30-U4-A2-V1	nonflush	30 mm	PNP	complementary	DC	230 Hz	10 V	30 V	M12 connector plug	118 mm	40 mm	40 mm		
NBN30-U4-E0	nonflush	30 mm	NPN	Normally-open (NO)	DC	230 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN30-U4-E2	nonflush	30 mm	PNP	Normally-open (NO)	DC	230 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Type of Voltage	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Length L	Width W	Height H	CCC	EAC
NBN30-U4-E2-V1	nonflush	30 mm	PNP	Normally-open (NO)	DC	230 Hz	10 V	30 V	M12 connector plug	118 mm	40 mm	40 mm		
NBN30-U10-E2	nonflush	30 mm	PNP	Normally-open (NO)	DC	230 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN40-U1-A0	nonflush	40 mm	NPN	complementary	DC	180 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN40-U1-A2	nonflush	40 mm	PNP	complementary	DC	180 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN40-U1-A2-V1	nonflush	40 mm	PNP	complementary	DC	180 Hz	10 V	30 V	M12 connector plug	118 mm	40 mm	40 mm		
NBN40-U1-E0	nonflush	40 mm	NPN	Normally-open (NO)	DC	180 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN40-U1-E1	nonflush	40 mm	NPN	Normally-closed (NC)	DC	180 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN40-U1-E1-V1	nonflush	40 mm	NPN	Normally-closed (NC)	DC	180 Hz	10 V	30 V	M12 connector plug	118 mm	40 mm	40 mm		
NBN40-U1-E2	nonflush	40 mm	PNP	Normally-open (NO)	DC	180 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN40-U1-E2-V1	nonflush	40 mm	PNP	Normally-open (NO)	DC	180 Hz	10 V	30 V	M12 connector plug	118 mm	40 mm	40 mm		
NBN40-U1-E3	nonflush	40 mm	PNP	Normally-closed (NC)	DC	180 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN40-U1L-A0	nonflush	40 mm	NPN	complementary	DC	100 Hz	10 V	30 V	Terminal compartment	128 mm	55 mm	55 mm		
NBN40-U1L-A2	nonflush	40 mm	PNP	complementary	DC	100 Hz	10 V	30 V	Terminal compartment	128 mm	55 mm	55 mm		
NBN40-U1L-A2-V1	nonflush	40 mm	PNP	complementary	DC	100 Hz	10 V	30 V	M12 connector plug	128 mm	55 mm	55 mm		
NBN40-U1L-E2	nonflush	40 mm	PNP	Normally-open (NO)	DC	100 Hz	10 V	30 V	Terminal compartment	128 mm	55 mm	55 mm		
NBN40-U10-E2	nonflush	40 mm	PNP	Normally-open (NO)	DC	180 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN40-U2-A2	nonflush	40 mm	PNP	complementary	DC	180 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN40-U2-E2	nonflush	40 mm	PNP	Normally-open (NO)	DC	180 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN40-U4-A2	nonflush	40 mm	PNP	complementary	DC	180 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN40-U4-A2-V1	nonflush	40 mm	PNP	complementary	DC	180 Hz	10 V	30 V	M12 connector plug	118 mm	40 mm	40 mm		
NBN40-U4-E0	nonflush	40 mm	NPN	Normally-open (NO)	DC	180 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN40-U4-E2	nonflush	40 mm	PNP	Normally-open (NO)	DC	180 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN40-U4-E2-V1	nonflush	40 mm	PNP	Normally-open (NO)	DC	180 Hz	10 V	30 V	M12 connector plug	118 mm	40 mm	40 mm		
NBN40-U4L-A2	nonflush	40 mm	PNP	complementary	DC	100 Hz	10 V	30 V	Terminal compartment	128 mm	55 mm	55 mm		
NBN40-U4L-A2-V1	nonflush	40 mm	PNP	complementary	DC	100 Hz	10 V	30 V	M12 connector plug	128 mm	55 mm	55 mm		
NBN50-U1K-A0	nonflush	50 mm	NPN	complementary	DC	40 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN50-U1K-A2	nonflush	50 mm	PNP	complementary	DC	40 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN50-U1K-E2	nonflush	50 mm	PNP	Normally-open (NO)	DC	40 Hz	10 V	30 V	Terminal compartment	118 mm	40 mm	40 mm		
NBB20-U1-Z2	flush	20 mm	Two-wire	Normally-open/-closed (selectable)	DC	250 Hz	5 V	60 V	Terminal compartment	118 mm	40 mm	40 mm		
NBB15-U1-Z2	flush	15 mm	Two-wire	Normally-open/-closed (selectable)	DC	400 Hz	5 V	60 V	Terminal compartment	118 mm	40 mm	40 mm		
NBB15-U4-Z2	flush	15 mm	Two-wire	Normally-open/-closed (selectable)	DC	400 Hz	5 V	60 V	Terminal compartment	118 mm	40 mm	40 mm		
NBB20-U4-Z2	flush	20 mm	Two-wire	Normally-open/-closed (selectable)	DC	250 Hz	5 V	60 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN30-U1-Z2	nonflush	30 mm	Two-wire	Normally-open/-closed (selectable)	DC	150 Hz	5 V	60 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN30-U4-Z2	nonflush	30 mm	Two-wire	Normally-open/-closed (selectable)	DC	150 Hz	5 V	60 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN40-U1-Z2	nonflush	40 mm	Two-wire	Normally-open/-closed (selectable)	DC	100 Hz	5 V	60 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN40-U1L-Z2	nonflush	40 mm	Two-wire	Normally-open/-closed (selectable)	DC	100 Hz	5 V	60 V	Terminal compartment	128 mm	55 mm	55 mm		
NBN40-U4-Z2	nonflush	40 mm	Two-wire	Normally-open/-closed (selectable)	DC	100 Hz	5 V	60 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN40-U4-Z2-V1	nonflush	40 mm	Two-wire	Normally-open/-closed (selectable)	DC	100 Hz	5 V	60 V	M12 connector plug	118 mm	40 mm	40 mm		
NBN40-U4L-Z2	nonflush	40 mm	Two-wire	Normally-open/-closed (selectable)	DC	100 Hz	5 V	60 V	Terminal compartment	128 mm	55 mm	55 mm		
NBB20-U1-UU	flush	20 mm	Two-wire	Normally-open/-closed (selectable)	AC/DC	100 Hz	20 V	275 V	Terminal compartment	118 mm	40 mm	40 mm		
NBB20-U2-UU	flush	20 mm	Two-wire	Normally-open/-closed (selectable)	AC/DC	100 Hz	20 V	275 V	Terminal compartment	118 mm	40 mm	40 mm		
NBB20-U3-UU	flush	20 mm	Two-wire	Normally-open/-closed (selectable)	AC/DC	100 Hz	20 V	275 V	Terminal compartment	118 mm	40 mm	40 mm		
NBB20-U4-UU	flush	20 mm	Two-wire	Normally-open/-closed (selectable)	AC/DC	100 Hz	20 V	275 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN40-U1-UU	nonflush	40 mm	Two-wire	Normally-open/-closed (selectable)	AC/DC	100 Hz	20 V	275 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN40-U2-UU	nonflush	40 mm	Two-wire	Normally-open/-closed (selectable)	AC/DC	100 Hz	20 V	275 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN40-U3-UU	nonflush	40 mm	Two-wire	Normally-open/-closed (selectable)	AC/DC	100 Hz	20 V	275 V	Terminal compartment	118 mm	40 mm	40 mm		
NBN40-U4-UU	nonflush	40 mm	Two-wire	Normally-open/-closed (selectable)	AC/DC	100 Hz	20 V	275 V	Terminal compartment	118 mm	40 mm	40 mm		



Accessories

MH 04-2681F	Mounting aid for Varikont, +U1+, and +U9* sensors
MHW 01	Modular mounting bracket
V1-G-2M-PUR	Single-ended female cordset, M12, straight A-coded, 4-pin, PUR cable, gray
V1-M20-80	Receptacle, M12/M20; plastic version
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray

Inductive Cubic Standard Sensors

Varikont-L L2/L3 Series



Common Technical Data

Type of voltage	DC
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	67 mm
Housing width W	40 mm
Housing height H	40 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	EAC
NBB20-L2-A0-V1	flush	20 mm	NPN	complementary	440 Hz	10 V	
NBB20-L2-A2-V1	flush	20 mm	PNP	complementary	440 Hz	10 V	■
NBB20-L2-E0-V1	flush	20 mm	NPN	Normally-open (NO)	440 Hz	10 V	
NBB20-L2-E2-V1	flush	20 mm	PNP	Normally-open (NO)	440 Hz	10 V	■
NBB20-L2-E3-V1	flush	20 mm	PNP	Normally-closed (NC)	440 Hz	10 V	
NBB20-L2M-A0-V1	flush	20 mm	NPN	complementary	440 Hz	10 V	
NBB20-L2M-A2-V1	flush	20 mm	PNP	complementary	440 Hz	10 V	■
NBB20-L2M-E0-V1	flush	20 mm	NPN	Normally-open (NO)	440 Hz	10 V	
NBB20-L2M-E2-V1	flush	20 mm	PNP	Normally-open (NO)	440 Hz	10 V	■
NBB30-L2K-A0-V1	flush	30 mm	NPN	complementary	60 Hz	10 V	
NBB30-L2K-A2-V1	flush	30 mm	PNP	complementary	60 Hz	10 V	
NBB30-L2K-E2-V1	flush	30 mm	PNP	Normally-open (NO)	60 Hz	10 V	
NBN30-L2-A2-V1	nonflush	30 mm	PNP	complementary	230 Hz	10 V	
NBN30-L2-E2-V1	nonflush	30 mm	PNP	Normally-open (NO)	230 Hz	10 V	
NBN40-L2-A0-V1	nonflush	40 mm	NPN	complementary	180 Hz	10 V	
NBN40-L2-A2-V1	nonflush	40 mm	PNP	complementary	180 Hz	10 V	■
NBN40-L2-E0-V1	nonflush	40 mm	NPN	Normally-open (NO)	180 Hz	10 V	■
NBN40-L2-E2-V1	nonflush	40 mm	PNP	Normally-open (NO)	180 Hz	10 V	■
NBN40-L2-E34-V1	nonflush	40 mm	PNP	Normally-closed (NC)	180 Hz	10 V	
NBN40-L2M-A0-V1	nonflush	40 mm	NPN	complementary	180 Hz	10 V	
NBN40-L2M-A2-V1	nonflush	40 mm	PNP	complementary	180 Hz	10 V	■
NBN40-L2M-E0-V1	nonflush	40 mm	NPN	Normally-open (NO)	180 Hz	10 V	
NBN40-L2M-E2-V1	nonflush	40 mm	PNP	Normally-open (NO)	180 Hz	10 V	
NBN50-L2K-A0-V1	nonflush	50 mm	NPN	complementary	40 Hz	10 V	
NBN50-L2K-A2-V1	nonflush	50 mm	PNP	complementary	40 Hz	10 V	
NBN50-L2K-E2-V1	nonflush	50 mm	PNP	Normally-open (NO)	40 Hz	10 V	
NBB20-L2-Z0-V1	flush	20 mm	Two-wire	Normally-open (NO)	30 Hz	5 V	
NBB20-L2-Z4-V1	flush	20 mm	Two-wire	Normally-open (NO)	30 Hz	3.8 V	
NBB20-L2-Z5-V1	flush	20 mm	Two-wire	Normally-closed (NC)	30 Hz	3.8 V	
NBN40-L2-Z0-V1	nonflush	40 mm	Two-wire	Normally-open (NO)	30 Hz	5 V	
NBN40-L2-Z4-V1	nonflush	40 mm	Two-wire	Normally-open (NO)	30 Hz	3.8 V	
NBN40-L2-Z5-V1	nonflush	40 mm	Two-wire	Normally-closed (NC)	30 Hz	3.8 V	

Accessories

MH 02-L	Mounting aid
MHW 01	Modular mounting bracket
V1-G-2M-PUR	Single-ended female cordset, M12, straight A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray



PEPPERL+FUCHS
Made in Germany

N30P4J1-A2

Part No. 020995

14-30VDC / 1-200mA



CE

PEPPERL+FUCHS
Made in Germany

N30P4J1-A2

Part No. 020995

14-30VDC / 1-200mA



CE

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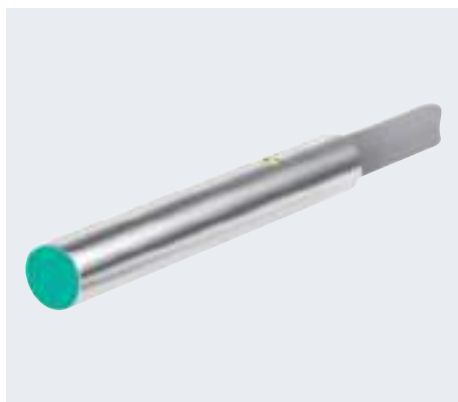


**30 mm Series—
250 V Version**

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Inductive Cylindrical Standard Sensors

3 mm Series

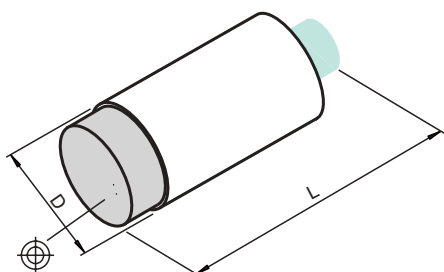


Common Technical Data

Mechanical installation conditions	flush
Type of output	Three-wire
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	22 mm
Housing diameter D	3 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Type of Output	Switching Element Function	Switching Frequency	Connection Type	Cable Length	Cable Material
NBB0,6-3M22-E0	0.6 mm	NPN	Normally-open (NO)	1400 Hz	Fixed cable	2000 mm	PUR
NBB0,6-3M22-E0-0,3M-V3	0.6 mm	NPN	Normally-open (NO)	1400 Hz	Fixed cable with M8 plug	300 mm	PVC
NBB0,6-3M22-E1	0.6 mm	NPN	Normally-closed (NC)	1300 Hz	Fixed cable	2000 mm	PUR
NBB0,6-3M22-E2	0.6 mm	PNP	Normally-open (NO)	1400 Hz	Fixed cable	2000 mm	PVC
NBB0,6-3M22-E2-0,3M-V3	0.6 mm	PNP	Normally-open (NO)	1400 Hz	Fixed cable with M8 plug	300 mm	PVC
NBB0,6-3M22-E3	0.6 mm	PNP	Normally-closed (NC)	1300 Hz	Fixed cable	2000 mm	PUR
NBB1-3M22-E0	1 mm	NPN	Normally-open (NO)	700 Hz	Fixed cable	2000 mm	PVC
NBB1-3M22-E0-0,3M-V3	1 mm	NPN	Normally-open (NO)	700 Hz	Fixed cable with M8 plug	300 mm	PVC
NBB1-3M22-E2	1 mm	PNP	Normally-open (NO)	700 Hz	Fixed cable	2000 mm	PUR
NBB1-3M22-E2-0,3M-V3	1 mm	PNP	Normally-open (NO)	700 Hz	Fixed cable with M8 plug	300 mm	PVC



Accessories

BF 4	Mounting adapter, 4 mm
V3-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 3-pin, PUR cable, gray
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray

Inductive Cylindrical Standard Sensors

4 mm Series



Common Technical Data

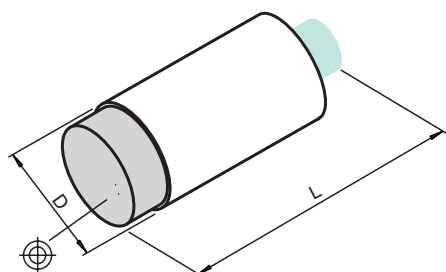
Mechanical installation conditions	flush
Type of output	Three-wire
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing diameter D	4 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Type of Output	Switching Element Function	Switching Frequency	Connection Type	Cable Length	Cable Material	Length L	UL
NBB0,6-4GM22-E0	0.6 mm	NPN	Normally-open (NO)	1400 Hz	Fixed cable	2000 mm	PUR	22 mm	■
NBB0,6-4GM22-E1	0.6 mm	NPN	Normally-closed (NC)	1300 Hz	Fixed cable	2000 mm	PUR	22 mm	■
NBB0,6-4GM22-E2	0.6 mm	PNP	Normally-open (NO)	1400 Hz	Fixed cable	2000 mm	PUR	22 mm	■
NBB0,6-4GM22-E2-0,3M-V3	0.6 mm	PNP	Normally-open (NO)	1400 Hz	Fixed cable with M8 plug	300 mm	PVC	22 mm	■
NBB0,6-4GM22-E3	0.6 mm	PNP	Normally-closed (NC)	1300 Hz	Fixed cable	2000 mm	PUR	22 mm	■
NBB0,8-4M25-E0	0.8 mm	NPN	Normally-open (NO)	3000 Hz	Fixed cable	2000 mm	PVC	25 mm	■
NBB0,8-4M25-E0 PUR	0.8 mm	NPN	Normally-open (NO)	3000 Hz	Fixed cable	2000 mm	PUR	25 mm	■
NBB0,8-4M25-E0-0,3M-V3	0.8 mm	NPN	Normally-open (NO)	3000 Hz	Fixed cable with M8 plug	300 mm	PVC	25 mm	■
NBB0,8-4M25-E0-V3	0.8 mm	NPN	Normally-open (NO)	3000 Hz	M8 connector plug			45 mm	■
NBB0,8-4M25-E1	0.8 mm	NPN	Normally-closed (NC)	3000 Hz	Fixed cable	2000 mm	PVC	25 mm	■
NBB0,8-4M25-E2	0.8 mm	PNP	Normally-open (NO)	3000 Hz	Fixed cable	2000 mm	PVC	25 mm	■
NBB0,8-4M25-E2-0,3M-V3	0.8 mm	PNP	Normally-open (NO)	3000 Hz	Fixed cable with M8 plug	300 mm	PVC	25 mm	■
NBB0,8-4M25-E2-V3	0.8 mm	PNP	Normally-open (NO)	3000 Hz	M8 connector plug			45 mm	■
NBB0,8-4M25-E3	0.8 mm	PNP	Normally-closed (NC)	3000 Hz	Fixed cable	2000 mm	PVC	25 mm	■
NBB0,8-4S25-E2-0,2M-V3	0.8 mm	PNP	Normally-open (NO)	5000 Hz	Fixed cable with M8 plug	200 mm	PVC	25 mm	■
NBB0,8-4M25-E2-5M	0.8 mm	PNP	Normally-open (NO)	3000 Hz	Fixed cable	5000 mm	PVC	25 mm	■
NBB1,4GM22-E0	1 mm	NPN	Normally-open (NO)	700 Hz	Fixed cable	2000 mm	PUR	22 mm	■
NBB1,4GM22-E0-0,3M-V3	1 mm	NPN	Normally-open (NO)	700 Hz	Fixed cable with M8 plug	300 mm	PVC	22 mm	■
NBB1,4GM22-E2	1 mm	PNP	Normally-open (NO)	700 Hz	Fixed cable	2000 mm	PUR	22 mm	■
NBB1,4GM22-E2-0,3M-V3	1 mm	PNP	Normally-open (NO)	700 Hz	Fixed cable with M8 plug	300 mm	PVC	22 mm	■
NBB1,4GM22-E2-5M	1 mm	PNP	Normally-open (NO)	700 Hz	Fixed cable	5000 mm	PUR	22 mm	■
NBB1,5-4M25-E0-V3	1.5 mm	NPN	Normally-open (NO)	3000 Hz	M8 connector plug			38 mm	■
NBB1,5-4M25-E0	1.5 mm	NPN	Normally-open (NO)	3000 Hz	Fixed cable	2000 mm	PVC	25 mm	■
NBB1,5-4M25-E1	1.5 mm	NPN	Normally-closed (NC)	3000 Hz	Fixed cable	2000 mm	PVC	25 mm	■
NBB1,5-4M25-E1-V3	1.5 mm	NPN	Normally-closed (NC)	3000 Hz	M8 connector plug			38 mm	■
NBB1,5-4M25-E2	1.5 mm	PNP	Normally-open (NO)	3000 Hz	Fixed cable	2000 mm	PVC	25 mm	■
NBB1,5-4M25-E2-5M-PUR	1.5 mm	PNP	Normally-open (NO)	3000 Hz	Fixed cable	5000 mm	PUR	25 mm	■
NBB1,5-4M25-E2-V3	1.5 mm	PNP	Normally-open (NO)	3000 Hz	M8 connector plug			38 mm	■
NBB1,5-4M25-E3	1.5 mm	PNP	Normally-closed (NC)	3000 Hz	Fixed cable	2000 mm	PVC	25 mm	■
NBB1,5-4M25-E3-V3	1.5 mm	PNP	Normally-closed (NC)	3000 Hz	M8 connector plug			38 mm	■

Accessories

BF 4	Mounting adapter, 4 mm
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray



Inductive Cylindrical Standard Sensors

5 mm Series



Common Technical Data

Mechanical installation conditions	flush
Type of output	Three-wire
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing diameter D	5 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Type of Output	Switching Element Function	Switching Frequency	Connection Type	Cable Length	Cable Material	Length L	EAC	UL
NBB0,6-5GS20-E2	0.6 mm	PNP	Normally-open (NO)	5000 Hz	Fixed cable	140 mm	PUR	25 mm		
NBB0,8-5GM25-E0	0.8 mm	NPN	Normally-open (NO)	3000 Hz	Fixed cable	2000 mm	PVC	25 mm		■
NBB0,8-5GM25-E0-0,3M-V3	0.8 mm	NPN	Normally-open (NO)	3000 Hz	Fixed cable with M8 plug	300 mm	PVC	25 mm		■
NBB0,8-5GM25-E0-V3	0.8 mm	NPN	Normally-open (NO)	3000 Hz	M8 connector plug			45 mm		■
NBB0,8-5GM25-E1	0.8 mm	NPN	Normally-closed (NC)	3000 Hz	Fixed cable	2000 mm	PVC	25 mm		■
NBB0,8-5GM25-E1-V3	0.8 mm	NPN	Normally-closed (NC)	3000 Hz	M8 connector plug			45 mm		■
NBB0,8-5GM25-E2	0.8 mm	PNP	Normally-open (NO)	3000 Hz	Fixed cable	2000 mm	PVC	25 mm	■	■
NBB0,8-5GM25-E2-0,3M-V3	0.8 mm	PNP	Normally-open (NO)	3000 Hz	Fixed cable with M8 plug	300 mm	PVC	25 mm		■
NBB0,8-5GM25-E2-5M	0.8 mm	PNP	Normally-open (NO)	3000 Hz	Fixed cable	5000 mm	PVC	25 mm		■
NBB0,8-5GM25-E2-V3	0.8 mm	PNP	Normally-open (NO)	3000 Hz	M8 connector plug			45 mm		■
NBB0,8-5GM25-E3	0.8 mm	PNP	Normally-closed (NC)	3000 Hz	Fixed cable	2000 mm	PVC	25 mm		■
NBB1,5-5GM25-E2	1.5 mm	PNP	Normally-open (NO)	3000 Hz	Fixed cable	2000 mm	PVC	25 mm		■
NBB1,5-5GM25-E2-V3	1.5 mm	PNP	Normally-open (NO)	3000 Hz	M8 connector plug			38 mm		■
NBB1,5-5GM25-E3-V3	1.5 mm	PNP	Normally-closed (NC)	3000 Hz	M8 connector plug			38 mm		■
NBB1,5-5GM25-E0	1.5 mm	NPN	Normally-open (NO)	3000 Hz	Fixed cable	2000 mm	PVC	25 mm		■
NBB1,5-5GM25-E0-PUR	1.5 mm	NPN	Normally-open (NO)	3000 Hz	Fixed cable	2000 mm	PUR	25 mm		
NBB1,5-5GM25-E0-V3	1.5 mm	NPN	Normally-open (NO)	3000 Hz	M8 connector plug			38 mm		■
NBB1,5-5GM25-E1	1.5 mm	NPN	Normally-closed (NC)	3000 Hz	Fixed cable	2000 mm	PVC	25 mm		■
NBB1,5-5GM25-E1-V3	1.5 mm	NPN	Normally-closed (NC)	3000 Hz	M8 connector plug			38 mm		■
NBB1,5-5GM25-E3	1.5 mm	PNP	Normally-closed (NC)	3000 Hz	Fixed cable	2000 mm	PVC	25 mm		■

Accessories

BF 5	Mounting adapter, 5 mm
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray

Inductive Cylindrical Standard Sensors

6.5 mm Series—with Plug Connection



Common Technical Data

Type of output	Three-wire
Type of voltage	DC
Operating voltage (min)	5 V
Operating voltage (max)	30 V
Housing diameter D	6.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

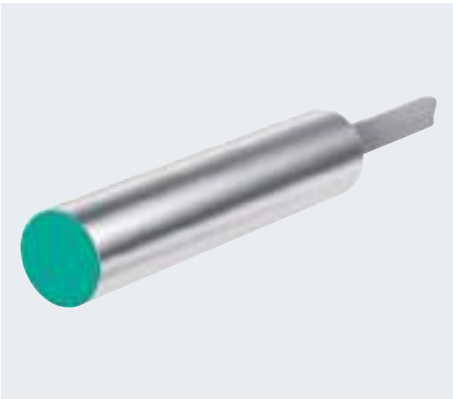
Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	Connection Type	Cable Length	Cable Material	Length L
NBB2-6,5M25-E0-V3	flush	2 mm	NPN	Normally-open (NO)	6000 Hz	M8 connector plug			35 mm
NBB2-6,5M25-E1-V3	flush	2 mm	NPN	Normally-closed (NC)	6000 Hz	M8 connector plug			35 mm
NBB2-6,5M25-E2-V3	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	M8 connector plug			35 mm
NBB2-6,5M25-E3-V3	flush	2 mm	PNP	Normally-closed (NC)	6000 Hz	M8 connector plug			35 mm
NBB2-6,5M30-E0-0,15M-PUR-V3	flush	2 mm	NPN	Normally-open (NO)	6000 Hz	Fixed cable with M8 plug	150 mm	PUR	30 mm
NBB2-6,5M30-E2-0,15M-PUR-V3	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	Fixed cable with M8 plug	150 mm	PUR	30 mm
NBB2-6,5S16-E2-0,3M-V3	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	Fixed cable with M8 plug	300 mm	PVC	16 mm
NBB2-6,5S20-E2-V3	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	M8 connector plug			30 mm
NBB2-6,5S20-E3-V3	flush	2 mm	PNP	Normally-closed (NC)	6000 Hz	M8 connector plug			30 mm
NBB2-6,5S35-E0-V3	flush	2 mm	NPN	Normally-open (NO)	6000 Hz	M8 connector plug			45 mm
NBB2-6,5S35-E1-V3	flush	2 mm	NPN	Normally-closed (NC)	6000 Hz	M8 connector plug			45 mm
NBB2-6,5S35-E2-0,3M-V3	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	Fixed cable with M8 plug	300 mm	PVC	35 mm
NBB2-6,5S35-E2-V3	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	M8 connector plug			45 mm
NBB2-6,5S35-E3-V3	flush	2 mm	PNP	Normally-closed (NC)	6000 Hz	M8 connector plug			45 mm
NBN3-6,5M25-E0-V3	nonflush	3 mm	NPN	Normally-open (NO)	4500 Hz	M8 connector plug			35 mm
NBN3-6,5M25-E1-V3	nonflush	3 mm	NPN	Normally-closed (NC)	4500 Hz	M8 connector plug			35 mm
NBN3-6,5M25-E2-V3	nonflush	3 mm	PNP	Normally-open (NO)	4500 Hz	M8 connector plug			35 mm
NBN3-6,5M30-E0-0,3M-V3	nonflush	3 mm	NPN	Normally-open (NO)	4500 Hz	Fixed cable with M8 plug	300 mm	PVC	30 mm
NEB3-6,5M40-E0-V1	semi-flush	3 mm	NPN	Normally-open (NO)	3500 Hz	M12 connector plug			65 mm
NEB3-6,5M40-E1-V1	semi-flush	3 mm	NPN	Normally-closed (NC)	3500 Hz	M12 connector plug			65 mm
NEB3-6,5M40-E2-V1	semi-flush	3 mm	PNP	Normally-open (NO)	3500 Hz	M12 connector plug			65 mm
NEB3-6,5M40-E3-V1	semi-flush	3 mm	PNP	Normally-closed (NC)	3500 Hz	M12 connector plug			65 mm
NEB3-6,5M45-E0-V3	semi-flush	3 mm	NPN	Normally-open (NO)	3500 Hz	M8 connector plug			55 mm
NEB3-6,5M45-E1-V3	semi-flush	3 mm	NPN	Normally-closed (NC)	3500 Hz	M8 connector plug			55 mm
NEB3-6,5M45-E2-V3	semi-flush	3 mm	PNP	Normally-open (NO)	3500 Hz	M8 connector plug			55 mm
NEB3-6,5M45-E3-V3	semi-flush	3 mm	PNP	Normally-closed (NC)	3500 Hz	M8 connector plug			55 mm
NEN6-6,5M40-E0-V1	nonflush	6 mm	NPN	Normally-open (NO)	1500 Hz	M12 connector plug			65 mm
NEN6-6,5M40-E1-V1	nonflush	6 mm	NPN	Normally-closed (NC)	1500 Hz	M12 connector plug			65 mm
NEN6-6,5M40-E2-V1	nonflush	6 mm	PNP	Normally-open (NO)	1500 Hz	M12 connector plug			65 mm
NEN6-6,5M40-E3-V1	nonflush	6 mm	PNP	Normally-closed (NC)	1500 Hz	M12 connector plug			65 mm
NEN6-6,5M45-E0-V3	nonflush	6 mm	NPN	Normally-open (NO)	1500 Hz	M8 connector plug			55 mm
NEN6-6,5M45-E1-V3	nonflush	6 mm	NPN	Normally-closed (NC)	1500 Hz	M8 connector plug			55 mm
NEN6-6,5M45-E2-V3	nonflush	6 mm	PNP	Normally-open (NO)	1500 Hz	M8 connector plug			55 mm
NEN6-6,5M45-E3-V3	nonflush	6 mm	PNP	Normally-closed (NC)	1500 Hz	M8 connector plug			55 mm

Accessories

BF 6.5	Mounting adapter, 6.5 mm
V1-G-2M-PUR	Single-ended female cordset, M12, straight A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray

Inductive Cylindrical Standard Sensors

6.5 mm Series—with Cable Connection

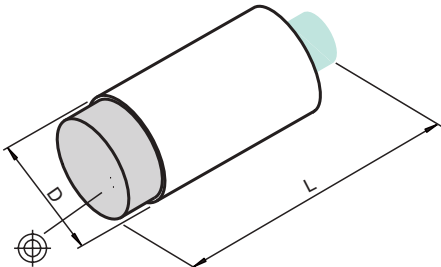


Common Technical Data	
Type of output	Three-wire
Type of voltage	DC
Operating voltage (min)	5 V
Operating voltage (max)	30 V
Connection type	Fixed cable
Housing diameter D	6.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	Cable Length	Cable Material	Length L
NBB2-6,5M30-E0	flush	2 mm	NPN	Normally-open (NO)	6000 Hz	2000 mm	PVC	30 mm
NBB2-6,5M30-E2	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	2000 mm	PVC	30 mm
NBB2-6,5M30M-E2-5M	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5000 mm	PVC	30 mm
NBB2-6,5S16-E0	flush	2 mm	NPN	Normally-open (NO)	6000 Hz	2000 mm	PVC	16 mm
NBB2-6,5S16-E2	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	2000 mm	PVC	16 mm
NBB2-6,5S16-E3	flush	2 mm	PNP	Normally-closed (NC)	6000 Hz	2000 mm	PVC	16 mm
NBB2-6,5S35-E0-PUR	flush	2 mm	NPN	Normally-open (NO)	6000 Hz	2000 mm	PUR	35 mm
NBB2-6,5S35-E2-PUR	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	2000 mm	PUR	35 mm
NBB2-6,5S40-E0-PUR	flush	2 mm	NPN	Normally-open (NO)	6000 Hz	2000 mm	PUR	40 mm
NBB2-6,5S40-E2-5M-PUR	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5000 mm	PUR	40 mm
NBB2-6,5S40-E2-PUR	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	2000 mm	PUR	40 mm
NBB2-6,5S40-E3-PUR	flush	2 mm	PNP	Normally-closed (NC)	6000 Hz	2000 mm	PUR	40 mm
NBB2-6,5S50-E0-PUR	flush	2 mm	NPN	Normally-open (NO)	6000 Hz	2000 mm	PUR	50 mm
NBB2-6,5S50-E2-PUR	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	2000 mm	PUR	50 mm
NBN3-6,5M30-E0	nonflush	3 mm	NPN	Normally-open (NO)	4500 Hz	2000 mm	PVC	30 mm
NBN3-6,5M30-E2	nonflush	3 mm	PNP	Normally-open (NO)	4500 Hz	2000 mm	PVC	30 mm
NBN3-6,5S40-E0-PUR	nonflush	3 mm	NPN	Normally-open (NO)	4500 Hz	2000 mm	PUR	40 mm
NBN3-6,5S40-E2-PUR	nonflush	3 mm	PNP	Normally-open (NO)	4500 Hz	2000 mm	PUR	40 mm
NEB3-6,5M40-E0-PUR	semi-flush	3 mm	NPN	Normally-open (NO)	3500 Hz	2000 mm	PUR	40 mm
NEB3-6,5M40-E1-PUR	semi-flush	3 mm	NPN	Normally-closed (NC)	3500 Hz	2000 mm	PUR	40 mm
NEB3-6,5M40-E2-PUR	semi-flush	3 mm	PNP	Normally-open (NO)	3500 Hz	2000 mm	PUR	40 mm
NEB3-6,5M40-E3-PUR	semi-flush	3 mm	PNP	Normally-closed (NC)	3500 Hz	2000 mm	PUR	40 mm
NEN6-6,5M40-E0-PUR	nonflush	6 mm	NPN	Normally-open (NO)	1500 Hz	2000 mm	PUR	40 mm
NEN6-6,5M40-E1-PUR	nonflush	6 mm	NPN	Normally-closed (NC)	1500 Hz	2000 mm	PUR	40 mm
NEN6-6,5M40-E2-PUR	nonflush	6 mm	PNP	Normally-open (NO)	1500 Hz	2000 mm	PUR	40 mm
NEN6-6,5M40-E3-PUR	nonflush	6 mm	PNP	Normally-closed (NC)	1500 Hz	2000 mm	PUR	40 mm

Accessories	
BF 6.5	Mounting adapter, 6.5 mm





Inductive Cylindrical Standard Sensors

8 mm Series—with Plug Connection



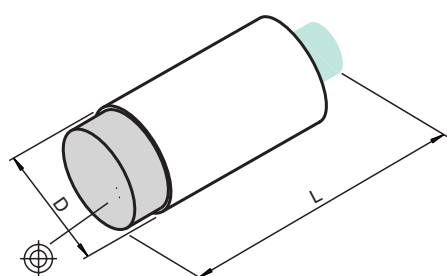
Common Technical Data

Type of voltage	DC
Housing diameter D	8 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Cable Length	Cable Material	Cable Length L	CCC	UL
NCB1,5-8GM50-Z0-V3	flush	1.5 mm	Two-wire	Normally-open (NO)	1200 Hz	5 V	60 V	M8 connector plug			50 mm	■	■
NCB1,5-8GM50-Z1-V3	flush	1.5 mm	Two-wire	Normally-closed (NC)	1200 Hz	5 V	60 V	M8 connector plug			50 mm	■	■
NBB1,5-8GM50-Z3-V3	flush	1.5 mm	Two-wire	Normally-open (NO)	1200 Hz	5 V	60 V	M8 connector plug			48 mm	■	■
NBB2-8GH20-E0-V3	flush	2 mm	NPN	Normally-open (NO)	6000 Hz	5 V	30 V	M8 connector plug			40 mm		■
NBB2-8GH20-E2-V3	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	M8 connector plug			35 mm		■
NBB2-8GH25-E0-V3	flush	2 mm	NPN	Normally-open (NO)	6000 Hz	5 V	30 V	M8 connector plug			40 mm		■
NBB2-8GH25-E2-V3	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	M8 connector plug			40 mm		■
NBB2-8GH40-E0-V3	flush	2 mm	NPN	Normally-open (NO)	6000 Hz	5 V	30 V	M8 connector plug			55 mm		■
NBB2-8GH40-E2-V3	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	M8 connector plug			55 mm		■
NBB2-8GM25-E0-V3	flush	2 mm	NPN	Normally-open (NO)	6000 Hz	5 V	30 V	M8 connector plug			40 mm		■
NBB2-8GM25-E1-V3	flush	2 mm	NPN	Normally-closed (NC)	6000 Hz	5 V	30 V	M8 connector plug			40 mm		■
NBB2-8GM25-E2-V3	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	M8 connector plug			40 mm		■
NBB2-8GM25-E3-V3	flush	2 mm	PNP	Normally-closed (NC)	6000 Hz	5 V	30 V	M8 connector plug			40 mm		■
NBB2-8GM30-A0-V1	flush	2 mm	NPN	complementary	6000 Hz	5 V	30 V	M12 connector plug			55 mm		■
NBB2-8GM30-A2-V1	flush	2 mm	PNP	complementary	6000 Hz	5 V	30 V	M12 connector plug			55 mm		■
NBB2-8GM30-E0-V1	flush	2 mm	NPN	Normally-open (NO)	6000 Hz	5 V	30 V	M12 connector plug			55 mm		■
NBB2-8GM30-E2-0,2M-V3	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	Fixed cable with M8 plug	200 mm	PVC	30 mm		■
NBB2-8GM30-E2-0,3M-V3	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	Fixed cable with M8 plug	300 mm	PVC	30 mm		■
NBB2-8GM30-E2-0,5M-PUR-V1	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	Fixed cable with M12 plug	500 mm	PUR	30 mm		■
NBB2-8GM30-E2-0,5M-V1	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	Fixed cable with M12 plug	500 mm	PVC	30 mm		■
NBB2-8GM30-E2-V1	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	M12 connector plug			55 mm		■
NBB2-8GM40-A0-V1	flush	2 mm	NPN	complementary	6000 Hz	5 V	30 V	M12 connector plug			65 mm		■
NBB2-8GM40-E2-0,2M-PUR-V1	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	Fixed cable with M12 plug	200 mm	PUR	40 mm		■
NBB2-8GM40-A2-V1	flush	2 mm	PNP	complementary	6000 Hz	5 V	30 V	M12 connector plug			65 mm		■
NBB2-8GM40-E0-V1	flush	2 mm	NPN	Normally-open (NO)	6000 Hz	5 V	30 V	M12 connector plug			65 mm		■
NBB2-8GM40-E0-V3	flush	2 mm	NPN	Normally-open (NO)	6000 Hz	5 V	30 V	M8 connector plug			55 mm		■
NBB2-8GM40-E2-0,2M-V1	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	Fixed cable with M12 plug	200 mm	PVC	40 mm		■
NBB2-8GM40-E2-0,3M-V3	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	Fixed cable with M8 plug	300 mm	PVC	40 mm		■
NBB2-8GM40-E2-V1	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	M12 connector plug			65 mm		■
NBB2-8GM40-E2-V3	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	M8 connector plug			55 mm		■
NBB2-8GM40-E3-V1	flush	2 mm	PNP	Normally-closed (NC)	6000 Hz	5 V	30 V	M12 connector plug			65 mm		■
NBB2-8GM40-E3-V3	flush	2 mm	PNP	Normally-closed (NC)	6000 Hz	5 V	30 V	M8 connector plug			55 mm		■
NBB2-8GS30-A2-V1	flush	2 mm	PNP	complementary	6000 Hz	5 V	30 V	M12 connector plug			55 mm		■
NBB2-8GS35-E0-V1	flush	2 mm	NPN	Normally-open (NO)	6000 Hz	5 V	30 V	M12 connector plug			60 mm		■
NBB2-8GS35-E1-V3	flush	2 mm	NPN	Normally-closed (NC)	6000 Hz	5 V	30 V	M8 connector plug			50 mm		■
NBB2-8GS35-E2-V1	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	M12 connector plug			60 mm		■

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Cable Length	Cable Material	Length L	CCC	UL
NBB2-8GS35-E2-V3	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	M8 connector plug			50 mm	■	■
NBB2-8GS35-E3-V1	flush	2 mm	PNP	Normally-closed (NC)	6000 Hz	5 V	30 V	M12 connector plug			60 mm	■	■
NBB2-8GS35-E3-V3	flush	2 mm	PNP	Normally-closed (NC)	6000 Hz	5 V	30 V	M8 connector plug			50 mm	■	■
NBB2-8GS40-E2-V1	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	M12 connector plug			65 mm	■	■
NBB2-8GS40-E2-V3	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	M8 connector plug			55 mm	■	■
NBB2-8GS40-E3-V1	flush	2 mm	PNP	Normally-closed (NC)	6000 Hz	5 V	30 V	M12 connector plug			65 mm	■	■
NBN2-8GM50-Z1-V3	nonflush	2 mm	Two-wire	Normally-closed (NC)	1200 Hz	5 V	60 V	M8 connector plug			48 mm	■	■
NBN2-8GM50-Z3-V3	nonflush	2 mm	Two-wire	Normally-open (NO)	1200 Hz	5 V	60 V	M8 connector plug			48 mm	■	■
NCN2-8GM50-Z0-V3	nonflush	2 mm	Two-wire	Normally-open (NO)	1200 Hz	5 V	60 V	M8 connector plug			40 mm	■	■
NCN2-8GM50-Z1-V3	nonflush	2 mm	Two-wire	Normally-closed (NC)	1200 Hz	5 V	60 V	M8 connector plug			40 mm	■	■
NEB3-8GM40-E0-V1	flush	3 mm	NPN	Normally-open (NO)	3500 Hz	5 V	30 V	M12 connector plug			65 mm	■	■
NEB3-8GM40-E0-V3	flush	3 mm	NPN	Normally-open (NO)	3500 Hz	5 V	30 V	M8 connector plug			55 mm	■	■
NEB3-8GM40-E1-V1	flush	3 mm	NPN	Normally-closed (NC)	3500 Hz	5 V	30 V	M12 connector plug			65 mm	■	■
NEB3-8GM40-E1-V3	flush	3 mm	NPN	Normally-closed (NC)	3500 Hz	5 V	30 V	M8 connector plug			55 mm	■	■
NEB3-8GM40-E2-V1	flush	3 mm	PNP	Normally-open (NO)	3500 Hz	5 V	30 V	M12 connector plug			65 mm	■	■
NEB3-8GM40-E2-V3	flush	3 mm	PNP	Normally-open (NO)	3500 Hz	5 V	30 V	M8 connector plug			55 mm	■	■
NEB3-8GM40-E3-V1	flush	3 mm	PNP	Normally-closed (NC)	3500 Hz	5 V	30 V	M12 connector plug			65 mm	■	■
NEB3-8GM40-E3-V3	flush	3 mm	PNP	Normally-closed (NC)	3500 Hz	5 V	30 V	M8 connector plug			55 mm	■	■
NXB2-8GM25-E2-V3	flush	2 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	M8 connector plug			40 mm	■	■
NBN3-8GM25-E0-V3	nonflush	3 mm	NPN	Normally-open (NO)	4500 Hz	5 V	30 V	M8 connector plug			40 mm	■	■
NBN3-8GM25-E1-V3	nonflush	3 mm	NPN	Normally-closed (NC)	4500 Hz	5 V	30 V	M8 connector plug			40 mm	■	■
NBN3-8GM25-E2-V3	nonflush	3 mm	PNP	Normally-open (NO)	4500 Hz	5 V	30 V	M8 connector plug			40 mm	■	■
NBN3-8GM25-E3-V3	nonflush	3 mm	PNP	Normally-closed (NC)	4500 Hz	5 V	30 V	M8 connector plug			40 mm	■	■
NBN3-8GM30-E0-V1	nonflush	3 mm	NPN	Normally-open (NO)	4500 Hz	5 V	30 V	M12 connector plug			55 mm	■	■
NBN3-8GM30-E2-V1	nonflush	3 mm	PNP	Normally-open (NO)	4500 Hz	5 V	30 V	M12 connector plug			55 mm	■	■
NBN3-8GM40-A0-V1	nonflush	3 mm	NPN	complementary	4500 Hz	5 V	30 V	M12 connector plug			65 mm	■	■
NBN3-8GM40-A2-V1	nonflush	3 mm	PNP	complementary	4500 Hz	5 V	30 V	M12 connector plug			65 mm	■	■
NBN3-8GM40-E0-V1	nonflush	3 mm	NPN	Normally-open (NO)	4500 Hz	5 V	30 V	M12 connector plug			65 mm	■	■
NBN3-8GM40-E2-V1	nonflush	3 mm	PNP	Normally-open (NO)	4500 Hz	5 V	30 V	M12 connector plug			65 mm	■	■
NBN3-8GM40-E2-V3	nonflush	3 mm	PNP	Normally-open (NO)	4500 Hz	5 V	30 V	M8 connector plug			55 mm	■	■
NBN3-8GS35-E0-V3	nonflush	3 mm	NPN	Normally-open (NO)	4500 Hz	5 V	30 V	M8 connector plug			50 mm	■	■
NBN3-8GS35-E1-V3	nonflush	3 mm	NPN	Normally-closed (NC)	4500 Hz	5 V	30 V	M8 connector plug			50 mm	■	■
NBN3-8GS35-E2-V1	nonflush	3 mm	PNP	Normally-open (NO)	4500 Hz	5 V	30 V	M12 connector plug			60 mm	■	■
NBN3-8GS35-E2-V3	nonflush	3 mm	PNP	Normally-open (NO)	4500 Hz	5 V	30 V	M8 connector plug			50 mm	■	■
NBN3-8GS35-E3-V3	nonflush	3 mm	PNP	Normally-closed (NC)	4500 Hz	5 V	30 V	M8 connector plug			50 mm	■	■
NEB3-8GM15-E2-V3	flush	3 mm	PNP	Normally-open (NO)	3500 Hz	5 V	30 V	M8 connector plug			30 mm	■	■
NEB3-8GM45-E2-V3	flush	3 mm	PNP	Normally-open (NO)	3500 Hz	5 V	30 V	M8 connector plug			60 mm	■	■
NXN3-8GM25-E2-V3	nonflush	3 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	M8 connector plug			40 mm	■	■
NEB4-8GM50-E2-V3	semi-flush	4 mm	PNP	Normally-open (NO)	500 Hz	10 V	30 V	M8 connector plug			45.5 mm	■	■
NEN6-8GM40-E0-V1	nonflush	6 mm	NPN	Normally-open (NO)	1500 Hz	5 V	30 V	M12 connector plug			65 mm	■	■
NEN6-8GM40-E0-V3	nonflush	6 mm	NPN	Normally-open (NO)	1500 Hz	5 V	30 V	M8 connector plug			55 mm	■	■
NEN6-8GM40-E1-V1	nonflush	6 mm	NPN	Normally-closed (NC)	1500 Hz	5 V	30 V	M12 connector plug			65 mm	■	■
NEN6-8GM40-E1-V3	nonflush	6 mm	NPN	Normally-closed (NC)	1500 Hz	5 V	30 V	M8 connector plug			55 mm	■	■
NEN6-8GM40-E2-V1	nonflush	6 mm	PNP	Normally-open (NO)	1500 Hz	5 V	30 V	M12 connector plug			65 mm	■	■
NEN6-8GM40-E2-V3	nonflush	6 mm	PNP	Normally-open (NO)	1500 Hz	5 V	30 V	M8 connector plug			55 mm	■	■
NEN6-8GM40-E3-V1	nonflush	6 mm	PNP	Normally-closed (NC)	1500 Hz	5 V	30 V	M12 connector plug			65 mm	■	■
NEN6-8GM40-E3-V3	nonflush	6 mm	PNP	Normally-closed (NC)	1500 Hz	5 V	30 V	M8 connector plug			55 mm	■	■



Accessories

BF 8	Mounting adapter, 8 mm
MH-EXG-08	Quick-mounting bracket with fixed stop
V1-G-2M-PUR	Single-ended female cordset, M12, straight A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray
V3-WMV4A-5M-PUR	Single-ended female cordset, M8, angled, stainless steel 1.4404, A-coded, 3-pin, PUR cable, gray

Inductive Cylindrical Standard Sensors

8 mm Series—with Cable Connection



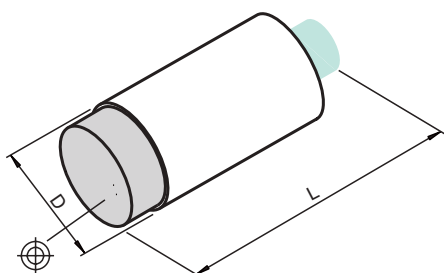
Common Technical Data

Type of voltage	DC
Connection type	Fixed cable
Housing diameter D	8 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	Cable Length	Cable Material	Length L	CCC	UL
NBB1,5-8GM35-E2-3M-PUR	flush	1.5 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	3000 mm	PUR	35 mm	■	■
NBB1,5-8GM40-Z0	flush	1.5 mm	Two-wire	Normally-open (NO)	1200 Hz	5 V	60 V	2000 mm	PVC	40 mm	■	■
NBB1,5-8GM40-Z1	flush	1.5 mm	Two-wire	Normally-closed (NC)	1200 Hz	5 V	60 V	2000 mm	PVC	40 mm	■	■
NCB1,5-8GM40-Z0	flush	1.5 mm	Two-wire	Normally-open (NO)	1200 Hz	5 V	60 V	2000 mm	PUR	40 mm	■	■
NCB1,5-8GM40-Z1	flush	1.5 mm	Two-wire	Normally-closed (NC)	1200 Hz	5 V	60 V	2000 mm	PUR	40 mm	■	■
NBB2-8GM30-E0	flush	2 mm	NPN	Normally-open (NO)	6000 Hz	5 V	30 V	2000 mm	PVC	30 mm	■	■
NBB2-8GM30-E0-5M-PUR	flush	2 mm	NPN	Normally-open (NO)	6000 Hz	5 V	30 V	5000 mm	PUR	30 mm	■	■
NBB2-8GM30-E2	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	2000 mm	PVC	30 mm	■	■
NBB2-8GM30-E2-10M	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	10,000 mm	PVC	30 mm	■	■
NBB2-8GM30-E2-5M	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	5000 mm	PVC	30 mm	■	■
NBB2-8GM30-E2-5M-PUR	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	5000 mm	PUR	30 mm	■	■
NBB2-8GM30-E3	flush	2 mm	PNP	Normally-closed (NC)	6000 Hz	5 V	30 V	2000 mm	PVC	30 mm	■	■
NBB2-8GM30-E3-10M	flush	2 mm	PNP	Normally-closed (NC)	6000 Hz	5 V	30 V	10,000 mm	PVC	30 mm	■	■
NBB2-8GM30-E3-5M	flush	2 mm	PNP	Normally-closed (NC)	6000 Hz	5 V	30 V	5000 mm	PVC	30 mm	■	■
NBB2-8GM35-E2-3M-PUR	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	3000 mm	PUR	35 mm	■	■
NBB2-8GM40-E2	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	2000 mm	PVC	40 mm	■	■
NBB2-8GM40-E3	flush	2 mm	PNP	Normally-closed (NC)	6000 Hz	5 V	30 V	2000 mm	PVC	40 mm	■	■
NBB2-8GM50-A0	flush	2 mm	NPN	complementary	6000 Hz	5 V	30 V	2000 mm	PVC	50 mm	■	■
NBB2-8GM50-A2	flush	2 mm	PNP	complementary	6000 Hz	5 V	30 V	2000 mm	PVC	50 mm	■	■
NBB2-8GM50-A2-5M	flush	2 mm	PNP	complementary	6000 Hz	5 V	30 V	5000 mm	PVC	50 mm	■	■
NBB2-8GM50-E0	flush	2 mm	NPN	Normally-open (NO)	6000 Hz	5 V	30 V	2000 mm	PVC	50 mm	■	■
NBB2-8GM50-E0-5M	flush	2 mm	NPN	Normally-open (NO)	6000 Hz	5 V	30 V	5000 mm	PVC	50 mm	■	■
NBB2-8GM50-E2	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	2000 mm	PVC	50 mm	■	■
NBB2-8GM50-E2-3M	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	3000 mm	PVC	50 mm	■	■
NBB2-8GM50-E2-5M	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	5000 mm	PVC	50 mm	■	■
NBB2-8GM50-E2-PUR	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	2000 mm	PUR	50 mm	■	■
NBB2-8GS16-E0	flush	2 mm	NPN	Normally-open (NO)	6000 Hz	5 V	30 V	2000 mm	PVC	16 mm	■	■
NBB2-8GS16-E2	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	2000 mm	PVC	16 mm	■	■
NBB2-8GS16-E2-3M-PUR	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	3000 mm	PUR	16 mm	■	■
NBB2-8GS16-E3	flush	2 mm	PNP	Normally-closed (NC)	6000 Hz	5 V	30 V	2000 mm	PVC	16 mm	■	■
NBB2-8GS30-E3-3M-PUR	flush	2 mm	PNP	Normally-closed (NC)	6000 Hz	5 V	30 V	3000 mm	PUR	30 mm	■	■
NBB2-8GS35-E0-PUR	flush	2 mm	NPN	Normally-open (NO)	6000 Hz	5 V	30 V	2000 mm	PUR	35 mm	■	■
NBB2-8GS35-E1-PUR	flush	2 mm	NPN	Normally-closed (NC)	6000 Hz	5 V	30 V	2000 mm	PUR	35 mm	■	■
NBB2-8GS35-E2-5M-PUR	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	5000 mm	PUR	35 mm	■	■
NBB2-8GS35-E2-PUR	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	2000 mm	PUR	35 mm	■	■
NBB2-8GS35-E3-8M-PUR	flush	2 mm	PNP	Normally-closed (NC)	6000 Hz	5 V	30 V	8000 mm	PUR	35 mm	■	■
NBB2-8GS35-E3-PUR	flush	2 mm	PNP	Normally-closed (NC)	6000 Hz	5 V	30 V	2000 mm	PUR	35 mm	■	■
NBB2-8GS40-E0-5M-PUR	flush	2 mm	NPN	Normally-open (NO)	6000 Hz	5 V	30 V	5000 mm	PUR	40 mm	■	■
NBB2-8GS40-E0-PUR	flush	2 mm	NPN	Normally-open (NO)	6000 Hz	5 V	30 V	2000 mm	PUR	40 mm	■	■

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	Cable Length	Cable Material	Length L	CC	5
NBB2-8GS40-E2-5M-PUR	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	5000 mm	PUR	40 mm		■
NBB2-8GS40-E2-PUR	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	2000 mm	PUR	40 mm		■
NBB2-8GS40-E3-10M-PUR	flush	2 mm	PNP	Normally-closed (NC)	6000 Hz	5 V	30 V	10,000 mm	PUR	40 mm		■
NBB2-8GS40-E3-PUR	flush	2 mm	PNP	Normally-closed (NC)	6000 Hz	5 V	30 V	2000 mm	PUR	40 mm		■
NBB2-8GS50-E0-PUR	flush	2 mm	NPN	Normally-open (NO)	6000 Hz	5 V	30 V	2000 mm	PUR	50 mm		■
NBB2-8GS50-E2	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	2000 mm	PVC	50 mm		■
NBB2-8GS50-E2-0,6M-PUR	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	600 mm	PUR	50 mm		■
NBB2-8GS50-E2-3,5M-PUR	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	5000 mm	PUR	50 mm		■
NBB2-8GS50-E2-5M-PUR	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	5000 mm	PUR	50 mm		■
NBB2-8GS50-E2-PUR	flush	2 mm	PNP	Normally-open (NO)	6000 Hz	5 V	30 V	2000 mm	PUR	50 mm		■
NBB2-8GS50-E3-PUR	flush	2 mm	PNP	Normally-closed (NC)	6000 Hz	5 V	30 V	2000 mm	PUR	50 mm		■
NBB2-8GS50-A2-PUR	flush	2 mm	PNP	complementary	6000 Hz	5 V	30 V	2000 mm	PUR	50 mm		■
NBN2-8GM40-Z1	nonflush	2 mm	Two-wire	Normally-closed (NC)	1200 Hz	5 V	60 V	2000 mm	PVC	40 mm	■	■
NCN2-8GM40-Z0	nonflush	2 mm	Two-wire	Normally-open (NO)	1200 Hz	5 V	60 V	2000 mm	PUR	40 mm	■	■
NCN2-8GM40-Z1	nonflush	2 mm	Two-wire	Normally-closed (NC)	1200 Hz	5 V	60 V	2000 mm	PUR	40 mm	■	■
NXB2-8GM30-E2	flush	2 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	2000 mm	PVC	30 mm		
NEB3-8GM40-E0-PUR	flush	3 mm	NPN	Normally-open (NO)	3500 Hz	5 V	30 V	2000 mm	PUR	40 mm		■
NEB3-8GM40-E1-PUR	flush	3 mm	NPN	Normally-closed (NC)	3500 Hz	5 V	30 V	2000 mm	PUR	40 mm		■
NEB3-8GM40-E2-PUR	flush	3 mm	PNP	Normally-open (NO)	3500 Hz	5 V	30 V	2000 mm	PUR	40 mm		■
NEB3-8GM40-E3-PUR	flush	3 mm	PNP	Normally-closed (NC)	3500 Hz	5 V	30 V	2000 mm	PUR	40 mm		■
NBN3-8GM30-E0	nonflush	3 mm	NPN	Normally-open (NO)	4500 Hz	5 V	30 V	2000 mm	PVC	30 mm		■
NBN3-8GM30-E2	nonflush	3 mm	PNP	Normally-open (NO)	4500 Hz	5 V	30 V	2000 mm	PVC	30 mm		■
NBN3-8GM30-E2-5M	nonflush	3 mm	PNP	Normally-open (NO)	4500 Hz	5 V	30 V	5000 mm	PVC	30 mm		■
NBN3-8GM30-E3	nonflush	3 mm	PNP	Normally-closed (NC)	4500 Hz	5 V	30 V	2000 mm	PVC	30 mm		■
NBN3-8GM50-A0	nonflush	3 mm	NPN	complementary	4500 Hz	5 V	30 V	2000 mm	PVC	50 mm		■
NBN3-8GM50-A2	nonflush	3 mm	PNP	complementary	4500 Hz	5 V	30 V	2000 mm	PVC	50 mm		■
NBN3-8GM50-E0	nonflush	3 mm	NPN	Normally-open (NO)	4500 Hz	5 V	30 V	2000 mm	PVC	50 mm		■
NBN3-8GM50-E2	nonflush	3 mm	PNP	Normally-open (NO)	4500 Hz	5 V	30 V	2000 mm	PVC	50 mm		■
NBN3-8GS35-E1-PUR	nonflush	3 mm	NPN	Normally-closed (NC)	4500 Hz	5 V	30 V	2000 mm	PUR	35 mm		■
NBN3-8GS35-E2-5M-PUR	nonflush	3 mm	PNP	Normally-open (NO)	4500 Hz	5 V	30 V	5000 mm	PUR	35 mm		■
NBN3-8GS40-E0-PUR	nonflush	3 mm	NPN	Normally-open (NO)	4500 Hz	5 V	30 V	2000 mm	PUR	40 mm		■
NBN3-8GS40-E2-PUR	nonflush	3 mm	PNP	Normally-open (NO)	4500 Hz	5 V	30 V	2000 mm	PUR	40 mm		■
NBN3-8GS40-E2-10M-PUR	nonflush	3 mm	PNP	Normally-open (NO)	4500 Hz	5 V	30 V	10,000 mm	PUR	40 mm		■
NBN3-8GS40-E3-PUR	nonflush	3 mm	PNP	Normally-closed (NC)	4500 Hz	5 V	30 V	2000 mm	PUR	40 mm		■
NXN3-8GM30-E2	nonflush	3 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	2000 mm	PVC	30 mm		
NBN4-8GM35-E2	nonflush	4 mm	PNP	Normally-open (NO)	4500 Hz	5 V	30 V	2000 mm	PVC	35 mm		■
NEB4-8GM45-E2	semi-flush	4 mm	PNP	Normally-open (NO)	500 Hz	10 V	30 V	2000 mm	PUR	45 mm		■
NEN6-8GM40-E0-PUR	nonflush	6 mm	NPN	Normally-open (NO)	1500 Hz	5 V	30 V	2000 mm	PUR	40 mm		■
NEN6-8GM40-E1-PUR	nonflush	6 mm	NPN	Normally-closed (NC)	1500 Hz	5 V	30 V	2000 mm	PUR	40 mm		■
NEN6-8GM40-E2-PUR	nonflush	6 mm	PNP	Normally-open (NO)	1500 Hz	5 V	30 V	2000 mm	PUR	40 mm		■
NEN6-8GM40-E3-PUR	nonflush	6 mm	PNP	Normally-closed (NC)	1500 Hz	5 V	30 V	2000 mm	PUR	40 mm		■
NEN6-8GM40-E0-3M-PUR	nonflush	6 mm	NPN	Normally-open (NO)	1500 Hz	5 V	30 V	3000 mm	PUR	40 mm		■



Accessories

BF 8

Mounting adapter, 8 mm

Inductive Cylindrical Standard Sensors

12 mm Series—with Plug Connection



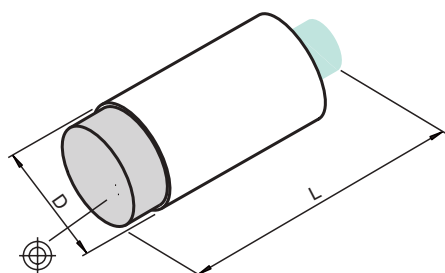
Common Technical Data

Type of voltage	DC
Housing diameter D	12 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Cable Material	Length L	CCC	EAC	UL	UKCA
NBB2-12GM30-E2-V1	flush	2 mm	PNP	Normally-open (NO)	3500 Hz	5 V	36 V	M12 connector plug		44.5 mm		■	■	■
NBB2-12GM40-E0-V1	flush	2 mm	NPN	Normally-open (NO)	3500 Hz	5 V	36 V	M12 connector plug		54.5 mm		■	■	■
NBB2-12GM40-E2-V1	flush	2 mm	PNP	Normally-open (NO)	3500 Hz	5 V	36 V	M12 connector plug		54.5 mm		■	■	■
NBB2-12GM40-Z0-V1	flush	2 mm	Two-wire	Normally-open (NO)	1000 Hz	5 V	60 V	M12 connector plug		40 mm	■		■	
NBB2-12GM40-Z3-V1	flush	2 mm	Two-wire	Normally-open (NO)	1000 Hz	5 V	60 V	M12 connector plug		40 mm	■		■	
NBB2-12GM50-A0-V1	flush	2 mm	NPN	complementary	3500 Hz	5 V	36 V	M12 connector plug		64.5 mm		■	■	■
NBB2-12GM50-A2-V1	flush	2 mm	PNP	complementary	3500 Hz	5 V	36 V	M12 connector plug		64.5 mm		■	■	■
NBB2-12GM50-E0-V1	flush	2 mm	NPN	Normally-open (NO)	3500 Hz	5 V	36 V	M12 connector plug		64.5 mm		■	■	■
NBB2-12GM50-E1-V1	flush	2 mm	NPN	Normally-closed (NC)	3500 Hz	5 V	36 V	M12 connector plug		64.5 mm		■	■	■
NBB2-12GM50-E2-V1	flush	2 mm	PNP	Normally-open (NO)	3500 Hz	5 V	36 V	M12 connector plug		64.5 mm		■	■	■
NBB2-12GM50-E3-V1	flush	2 mm	PNP	Normally-closed (NC)	3500 Hz	5 V	36 V	M12 connector plug		64.5 mm		■	■	■
NBB2-12GS40-Z4L-V1	flush	2 mm	Two-wire	Normally-open (NO)	700 Hz	4 V	30 V	M12 connector plug		55 mm			■	
NCB2-12GM40-Z0-V1	flush	2 mm	Two-wire	Normally-open (NO)	800 Hz	5 V	60 V	M12 connector plug		40 mm	■		■	
NCB2-12GM40-Z1-V1	flush	2 mm	Two-wire	Normally-closed (NC)	800 Hz	5 V	60 V	M12 connector plug		40 mm	■		■	
NBB4-12GM30-E0-V1	flush	4 mm	NPN	Normally-open (NO)	2550 Hz	5 V	36 V	M12 connector plug		44.5 mm		■	■	■
NBB4-12GM30-E2-V1	flush	4 mm	PNP	Normally-open (NO)	2550 Hz	5 V	36 V	M12 connector plug		44.5 mm		■	■	■
NBB4-12GM30-E2-V3	flush	4 mm	PNP	Normally-open (NO)	500 Hz	10 V	30 V	M8 connector plug		30 mm		■	■	
NBB4-12GM30-E3-V1	flush	4 mm	PNP	Normally-closed (NC)	2550 Hz	5 V	36 V	M12 connector plug		44.5 mm		■	■	■
NBB4-12GM30-A0-V1	flush	4 mm	NPN	complementary	2550 Hz	5 V	36 V	M12 connector plug		44.5 mm		■	■	■
NBB4-12GM30-A2-V1	flush	4 mm	PNP	complementary	2550 Hz	5 V	36 V	M12 connector plug		44.5 mm		■	■	■
NBB4-12GM50-E2-0,8M-V1	flush	4 mm	PNP	Normally-open (NO)	2550 Hz	5 V	36 V	Fixed cable with M12 plug	PVC	53 mm		■	■	■
NBB4-12GM50-EI-V1	flush	4 mm	Digital current output		1800 Hz	9 V	30 V	M12 connector plug		65 mm			■	
NBB4-12GM50-E0-V1	flush	4 mm	NPN	Normally-open (NO)	2550 Hz	5 V	36 V	M12 connector plug		64.5 mm		■	■	■
NBB4-12GM50-E1-V1	flush	4 mm	NPN	Normally-closed (NC)	2550 Hz	5 V	36 V	M12 connector plug		64.5 mm		■	■	■
NBB4-12GM50-E2-V1	flush	4 mm	PNP	Normally-open (NO)	2550 Hz	5 V	36 V	M12 connector plug		64.5 mm		■	■	■
NBB4-12GM50-E3-V1	flush	4 mm	PNP	Normally-closed (NC)	2550 Hz	5 V	36 V	M12 connector plug		64.5 mm		■	■	■
NBB4-12GM50-A0-V1	flush	4 mm	NPN	complementary	2550 Hz	5 V	36 V	M12 connector plug		64.5 mm		■	■	■
NBB4-12GM50-A2-V1	flush	4 mm	PNP	complementary	2550 Hz	5 V	36 V	M12 connector plug		64.5 mm		■	■	■
NBN4-12GM30-A0-V1	nonflush	4 mm	NPN	complementary	2650 Hz	5 V	36 V	M12 connector plug		44.5 mm		■	■	■
NBN4-12GM30-A2-V1	nonflush	4 mm	PNP	complementary	2650 Hz	5 V	36 V	M12 connector plug		44.5 mm		■	■	■
NBN4-12GM40-Z0-V1	nonflush	4 mm	Two-wire	Normally-open (NO)	1000 Hz	5 V	60 V	M12 connector plug		40 mm	■		■	
NBN4-12GM40-Z3-V1	nonflush	4 mm	Two-wire	Normally-open (NO)	1000 Hz	5 V	60 V	M12 connector plug		40 mm	■		■	
NBN4-12GM50-A0-V1	nonflush	4 mm	NPN	complementary	2650 Hz	5 V	36 V	M12 connector plug		64.5 mm		■	■	■
NBN4-12GM50-A2-V1	nonflush	4 mm	PNP	complementary	2650 Hz	5 V	36 V	M12 connector plug		64.5 mm		■	■	■
NBN4-12GK50-E2-1,5M-V1	nonflush	4 mm	PNP	Normally-open (NO)	1200 Hz	10 V	30 V	Fixed cable with M12 plug		50 mm			■	
NBN4-12GM40-E0-V1	nonflush	4 mm	NPN	Normally-open (NO)	2650 Hz	5 V	36 V	M12 connector plug		54.5 mm		■	■	■
NBN4-12GM40-E2-V1	nonflush	4 mm	PNP	Normally-open (NO)	2650 Hz	5 V	36 V	M12 connector plug		54.5 mm		■	■	■
NBN4-12GM50-E0-V1	nonflush	4 mm	NPN	Normally-open (NO)	2650 Hz	5 V	36 V	M12 connector plug		64.5 mm		■	■	■

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Cable Material	Length L	CCC	EAC	UL	UKCA
NBN4-12GM50-E1-V1	nonflush	4 mm	NPN	Normally-closed (NC)	2650 Hz	5 V	36 V	M12 connector plug		64.5 mm		■	■	■
NBN4-12GM50-E2-V1	nonflush	4 mm	PNP	Normally-open (NO)	2650 Hz	5 V	36 V	M12 connector plug		64.5 mm		■	■	■
NBN4-12GM50-E3-V1	nonflush	4 mm	PNP	Normally-closed (NC)	2650 Hz	5 V	36 V	M12 connector plug		64.5 mm		■	■	■
NBN4-12GS40-Z4L-V1	nonflush	4 mm	Two-wire	Normally-open (NO)	700 Hz	4 V	30 V	M12 connector plug		55 mm			■	
NCB4-12GM40-Z4-V1	flush	4 mm	Two-wire	Normally-open (NO)	1000 Hz	3.5 V	30 V	M12 connector plug		35 mm			■	
NCB4-12GM40-Z5-V1	flush	4 mm	Two-wire	Normally-closed (NC)	1000 Hz	3.5 V	30 V	M12 connector plug		35 mm			■	
NCB4-12GM40-Z7-V1	flush	4 mm	Two-wire	Normally-closed (NC)	1000 Hz	3.5 V	30 V	M12 connector plug		35 mm			■	
NCB4-12GM50-E2-V1	flush	4 mm	PNP	Normally-open (NO)	800 Hz	10 V	30 V	M12 connector plug		50 mm			■	
NCN4-12GM40-Z0-V1	nonflush	4 mm	Two-wire	Normally-open (NO)	800 Hz	5 V	60 V	M12 connector plug		40 mm	■		■	
NCN4-12GM40-Z1-V1	nonflush	4 mm	Two-wire	Normally-closed (NC)	800 Hz	5 V	60 V	M12 connector plug		40 mm	■		■	
NXB4-12GM50-E2-V1	flush	4 mm	PNP	Normally-open (NO)	450 Hz	10 V	30 V	M12 connector plug		64.5 mm			■	
NEB6-12GM50-E0-V1	semi-flush	6 mm	NPN	Normally-open (NO)	800 Hz	10 V	30 V	M12 connector plug		60 mm		■	■	
NEB6-12GM50-E1-V1	semi-flush	6 mm	NPN	Normally-closed (NC)	800 Hz	10 V	30 V	M12 connector plug		60 mm		■	■	
NEB6-12GM50-E2-V1	semi-flush	6 mm	PNP	Normally-open (NO)	800 Hz	10 V	30 V	M12 connector plug		60 mm		■	■	
NEB6-12GM50-E3-V1	semi-flush	6 mm	PNP	Normally-closed (NC)	800 Hz	10 V	30 V	M12 connector plug		60 mm		■	■	
NBN8-12GM30-A0-V1	nonflush	8 mm	NPN	complementary	1650 Hz	5 V	36 V	M12 connector plug		44.5 mm		■	■	■
NBN8-12GM30-A2-V1	nonflush	8 mm	PNP	complementary	1650 Hz	5 V	36 V	M12 connector plug		44.5 mm		■	■	■
NBN8-12GM30-E2-0,4M-PUR-V3	nonflush	8 mm	PNP	Normally-open (NO)	1650 Hz	5 V	36 V	Fixed cable with M8 plug	PUR	33 mm		■	■	■
NBN8-12GM30-E2-V1	nonflush	8 mm	PNP	Normally-open (NO)	1650 Hz	5 V	36 V	M12 connector plug		44.5 mm		■	■	■
NBN8-12GM30-E3-V1	nonflush	8 mm	PNP	Normally-closed (NC)	1650 Hz	5 V	36 V	M12 connector plug		44.5 mm		■	■	■
NBN8-12GM35-E3-V1	nonflush	8 mm	PNP	Normally-closed (NC)	1650 Hz	5 V	36 V	M12 connector plug		49.5 mm		■	■	■
NBN8-12GM50-A0-V1	nonflush	8 mm	NPN	complementary	1650 Hz	5 V	36 V	M12 connector plug		64.5 mm		■	■	■
NBN8-12GM50-A2-V1	nonflush	8 mm	PNP	complementary	1650 Hz	5 V	36 V	M12 connector plug		64.5 mm		■	■	■
NBN8-12GM50-E0-V1	nonflush	8 mm	NPN	Normally-open (NO)	1650 Hz	5 V	36 V	M12 connector plug		64.5 mm		■	■	■
NBN8-12GM50-E2-V1	nonflush	8 mm	PNP	Normally-open (NO)	1650 Hz	5 V	36 V	M12 connector plug		64.5 mm		■	■	■
NBN8-12GM50-EI-V1	nonflush	8 mm	Digital current output		1500 Hz	9 V	30 V	M12 connector plug		65 mm			■	
NBN8-12GM70-E1-V1	nonflush	8 mm	NPN	Normally-closed (NC)	1650 Hz	5 V	36 V	M12 connector plug		84.5 mm		■	■	■
NCN8-12GM40-Z4-V1	nonflush	8 mm	Two-wire	Normally-open (NO)	750 Hz	3.5 V	30 V	M12 connector plug		35 mm			■	
NCN8-12GM40-Z5-V1	nonflush	8 mm	Two-wire	Normally-closed (NC)	750 Hz	3.5 V	30 V	M12 connector plug		35 mm			■	
NCN8-12GM40-Z7-V1	nonflush	8 mm	Two-wire	Normally-closed (NC)	750 Hz	3.5 V	30 V	M12 connector plug		35 mm			■	
NEB8-12GM50-E2-V1	semi-flush	8 mm	PNP	Normally-open (NO)	400 Hz	10 V	30 V	M12 connector plug		60 mm			■	
NXN8-12GM50-E2-V1	nonflush	8 mm	PNP	Normally-open (NO)	450 Hz	10 V	30 V	M12 connector plug		64.5 mm			■	
NEN10-12GM50-E0-V1	nonflush	10 mm	NPN	Normally-open (NO)	600 Hz	10 V	30 V	M12 connector plug		60 mm		■	■	
NEN10-12GM50-E1-V1	nonflush	10 mm	NPN	Normally-closed (NC)	600 Hz	10 V	30 V	M12 connector plug		60 mm		■	■	
NEN10-12GM50-E2-V1	nonflush	10 mm	PNP	Normally-open (NO)	600 Hz	10 V	30 V	M12 connector plug		60 mm		■	■	
NEN10-12GM50-E3-V1	nonflush	10 mm	PNP	Normally-closed (NC)	600 Hz	10 V	30 V	M12 connector plug		60 mm		■	■	
IA6-12GM35-IU-V1	semi-flush	6 mm	Analog current output			10 V	30 V	M12 connector plug		45 mm				
IA6-12GM50-IU-V1	semi-flush	6 mm	Analog current output	4 mA ... 20 mA		15 V	30 V	M12 connector plug		60 mm				



Accessories

BF 12	Mounting adapter, 12 mm
BF 12-F	Plastic mounting adapter, 12 mm
MH-EXG-12	Quick-mounting bracket with fixed stop
V1-G-2M-PUR	Single-ended female cordset, M12, straight A-coded, 4-pin, PUR cable, gray
V1-G-2M-PVC	Single-ended female cordset, M12, straight A-coded, 4-pin, PVC cable, gray
V1-G-BK	Single-ended female cordset, straight, M12, 4-pin, field attachable
V1-G-BK2M-PUR-U	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, black, UL-approved, suitable for drag chains, torsion-proof
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PVC	Single-ended female cordset, M12, 4-pin, PVC cable
V1-W-BK	Single-ended female cordset, angled, M12, 4-pin, field attachable
V1-W-BK2M-PUR-U	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, black, UL-approved, suitable for drag chains, torsion-proof
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray

Inductive Cylindrical Standard Sensors

12 mm Series—with Cable Connection



Common Technical Data

Type of voltage	DC
Connection type	Fixed cable
Housing diameter D	12 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	Cable Length	Cable Material	Length L	CCC	EAC	UL	UKCA
NBB2-12GM30-E2	flush	2 mm	PNP	Normally-open (NO)	3500 Hz	5 V	36 V	2000 mm	PVC	33 mm	■	■	■	■
NBB2-12GM40-E0	flush	2 mm	NPN	Normally-open (NO)	3500 Hz	5 V	36 V	2000 mm	PVC	43 mm	■	■	■	■
NBB2-12GM40-E0-5M	flush	2 mm	NPN	Normally-open (NO)	3500 Hz	5 V	36 V	5000 mm	PVC	43 mm	■	■	■	■
NBB2-12GM40-E1	flush	2 mm	NPN	Normally-closed (NC)	3500 Hz	5 V	36 V	2000 mm	PVC	43 mm	■	■	■	■
NBB2-12GM40-E2	flush	2 mm	PNP	Normally-open (NO)	3500 Hz	5 V	36 V	2000 mm	PVC	43 mm	■	■	■	■
NBB2-12GM40-E2-3M	flush	2 mm	PNP	Normally-open (NO)	3500 Hz	5 V	36 V	3000 mm	PVC	43 mm	■	■	■	■
NBB2-12GM40-E3	flush	2 mm	PNP	Normally-closed (NC)	3500 Hz	5 V	36 V	2000 mm	PVC	43 mm	■	■	■	■
NBB2-12GM40-E3-10M	flush	2 mm	PNP	Normally-closed (NC)	3500 Hz	5 V	36 V	10,000 mm	PVC	43 mm	■	■	■	■
NBB2-12GM40-Z0	flush	2 mm	Two-wire	Normally-open (NO)	1000 Hz	5 V	60 V	2000 mm	PVC	40 mm	■	■	■	■
NBB2-12GS40-Z4L	flush	2 mm	Two-wire	Normally-open (NO)	700 Hz	4 V	30 V	2000 mm	PUR	40 mm	■	■	■	■
NBB2-12GK50-E0	flush	2 mm	NPN	Normally-open (NO)	1500 Hz	10 V	30 V	2000 mm	PVC	50 mm	■	■	■	■
NBB2-12GK50-E2	flush	2 mm	PNP	Normally-open (NO)	1500 Hz	10 V	30 V	2000 mm	PVC	50 mm	■	■	■	■
NBB2-12GK60-E2-5M PUR	flush	2 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	5000 mm	PUR	60 mm	■	■	■	■
NBB2-12GK50-E2-10M	flush	2 mm	PNP	Normally-open (NO)	1500 Hz	10 V	30 V	10,000 mm	PVC	50 mm	■	■	■	■
NBB2-12GM50-A0	flush	2 mm	NPN	complementary	3500 Hz	5 V	36 V	2000 mm	PVC	53 mm	■	■	■	■
NBB2-12GM50-A2	flush	2 mm	PNP	complementary	3500 Hz	5 V	36 V	2000 mm	PVC	53 mm	■	■	■	■
NBB2-12GM50-E0	flush	2 mm	NPN	Normally-open (NO)	3500 Hz	5 V	36 V	2000 mm	PVC	53 mm	■	■	■	■
NBB2-12GM50-E0-3M	flush	2 mm	NPN	Normally-open (NO)	3500 Hz	5 V	36 V	3000 mm	PVC	53 mm	■	■	■	■
NBB2-12GM50-E0-5M	flush	2 mm	NPN	Normally-open (NO)	3500 Hz	5 V	36 V	5000 mm	PVC	53 mm	■	■	■	■
NBB2-12GM50-E0-6M	flush	2 mm	NPN	Normally-open (NO)	3500 Hz	5 V	36 V	6000 mm	PVC	53 mm	■	■	■	■
NBB2-12GM50-E1	flush	2 mm	NPN	Normally-closed (NC)	3500 Hz	5 V	36 V	2000 mm	PVC	53 mm	■	■	■	■
NBB2-12GM50-E2	flush	2 mm	PNP	Normally-open (NO)	3500 Hz	5 V	36 V	2000 mm	PVC	53 mm	■	■	■	■
NBB2-12GM50-E2-PUR	flush	2 mm	PNP	Normally-open (NO)	3500 Hz	5 V	36 V	2000 mm	PUR	53 mm	■	■	■	■
NBB2-12GM50-E2-10M	flush	2 mm	PNP	Normally-open (NO)	3500 Hz	5 V	36 V	10,000 mm	PVC	53 mm	■	■	■	■
NBB2-12GM50-E2-3M	flush	2 mm	PNP	Normally-open (NO)	3500 Hz	5 V	36 V	3000 mm	PVC	50 mm	■	■	■	■
NBB2-12GM50-E2-3,5M	flush	2 mm	PNP	Normally-open (NO)	3500 Hz	5 V	36 V		PVC	53 mm	■	■	■	■
NBB2-12GM50-E2-5M	flush	2 mm	PNP	Normally-open (NO)	3500 Hz	5 V	36 V	5000 mm	PVC	53 mm	■	■	■	■
NBB2-12GM50-E2-25M-PUR	flush	2 mm	PNP	Normally-open (NO)	3500 Hz	5 V	36 V	25,000 mm	PUR	53 mm	■	■	■	■
NBB2-12GM50-E3	flush	2 mm	PNP	Normally-closed (NC)	3500 Hz	5 V	36 V	2000 mm	PVC	53 mm	■	■	■	■
NCB2-12GM40-Z0	flush	2 mm	Two-wire	Normally-open (NO)	800 Hz	5 V	60 V	2000 mm	PUR	40 mm	■	■	■	■
NCB2-12GM40-Z0-10M	flush	2 mm	Two-wire	Normally-open (NO)	800 Hz	5 V	60 V	10,000 mm	PUR	40 mm	■	■	■	■
NCB2-12GM40-Z1	flush	2 mm	Two-wire	Normally-closed (NC)	800 Hz	5 V	60 V	2000 mm	PUR	40 mm	■	■	■	■
NBB4-12GM30-E0	flush	4 mm	NPN	Normally-open (NO)	2550 Hz	5 V	36 V	2000 mm	PVC	33 mm	■	■	■	■
NBB4-12GM30-E2	flush	4 mm	PNP	Normally-open (NO)	2550 Hz	5 V	36 V	2000 mm	PVC	33 mm	■	■	■	■
NBB4-12GM30-E2-5M	flush	4 mm	PNP	Normally-open (NO)	2550 Hz	5 V	36 V	5000 mm	PVC	30 mm	■	■	■	■
NBB4-12GM30-E3	flush	4 mm	PNP	Normally-closed (NC)	2550 Hz	5 V	36 V	2000 mm	PVC	33 mm	■	■	■	■
NBB4-12GM30-A0	flush	4 mm	NPN	complementary	2550 Hz	5 V	36 V	2000 mm	PVC	33 mm	■	■	■	■
NBB4-12GM30-A2	flush	4 mm	PNP	complementary	2550 Hz	5 V	36 V	2000 mm	PVC	33 mm	■	■	■	■
NBB4-12GM40-E0	flush	4 mm	NPN	Normally-open (NO)	2550 Hz	5 V	36 V	2000 mm	PVC	43 mm	■	■	■	■
NBB4-12GM40-E2	flush	4 mm	PNP	Normally-open (NO)	2550 Hz	5 V	36 V	2000 mm	PVC	43 mm	■	■	■	■
NBB4-12GM40-A2-8M	flush	4 mm	PNP	complementary	2550 Hz	5 V	36 V	8000 mm	PVC	43 mm	■	■	■	■
NBB4-12GM50-A0	flush	4 mm	NPN	complementary	2550 Hz	5 V	36 V	2000 mm	PVC	53 mm	■	■	■	■

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	Cable Length	Cable Material	Length L	CCC	EAC	UL	UKCA
NBB4-12GM50-A2	flush	4 mm	PNP	complementary	2550 Hz	5 V	36 V	2000 mm	PVC	53 mm				
NBB4-12GM50-E0	flush	4 mm	NPN	Normally-open (NO)	2550 Hz	5 V	36 V	2000 mm	PVC	53 mm				
NBB4-12GM50-E1	flush	4 mm	NPN	Normally-closed (NC)	2550 Hz	5 V	36 V	2000 mm	PVC	53 mm				
NBB4-12GM50-E2	flush	4 mm	PNP	Normally-open (NO)	2550 Hz	5 V	36 V	2000 mm	PVC	53 mm				
NBB4-12GM50-E2-0,5M	flush	4 mm	PNP	Normally-open (NO)	2550 Hz	5 V	36 V		PVC	53 mm				
NBB4-12GM50-E2-0,9M	flush	4 mm	PNP	Normally-open (NO)	2550 Hz	5 V	36 V		PVC	53 mm				
NBB4-12GM50-E2-3M	flush	4 mm	PNP	Normally-open (NO)	2550 Hz	5 V	36 V	3000 mm	PVC	53 mm				
NBB4-12GM50-E2-5M	flush	4 mm	PNP	Normally-open (NO)	2550 Hz	5 V	36 V	5000 mm	PVC	53 mm				
NBB4-12GM50-E2-7M	flush	4 mm	PNP	Normally-open (NO)	2550 Hz	5 V	36 V		PVC	53 mm				
NBB4-12GM50-E3	flush	4 mm	PNP	Normally-closed (NC)	2550 Hz	5 V	36 V	2000 mm	PVC	53 mm				
NBB4-12GM50-E3-10M	flush	4 mm	PNP	Normally-closed (NC)	2550 Hz	5 V	36 V	10,000 mm	PVC	53 mm				
NBB4-12GM50-E3-5M	flush	4 mm	PNP	Normally-closed (NC)	2550 Hz	5 V	36 V	5000 mm	PVC	53 mm				
NBB4-12GM50-EI	flush	4 mm	Digital current output		1800 Hz	9 V	30 V	2000 mm	PUR	50 mm				
NBB4-12GM60-E2-5M	flush	4 mm	PNP	Normally-open (NO)	2550 Hz	5 V	36 V	5000 mm	PVC	63 mm				
NBB4-12GM70-E0	flush	4 mm	NPN	Normally-open (NO)	2550 Hz	5 V	36 V	2000 mm	PVC	73 mm				
NBB4-12GM70-E3	flush	4 mm	PNP	Normally-closed (NC)	2550 Hz	5 V	36 V	2000 mm	PVC	73 mm				
NBB4-12GS50-EI	flush	4 mm	Digital current output		1400 Hz	9 V	16 V	1000 mm	PUR	50 mm				
NBN4-12GM40-E0	nonflush	4 mm	NPN	Normally-open (NO)	2650 Hz	5 V	36 V	2000 mm	PVC	43 mm				
NBN4-12GM40-E0-5M	nonflush	4 mm	NPN	Normally-open (NO)	2650 Hz	5 V	36 V	5000 mm	PVC	43 mm				
NBN4-12GM40-E2	nonflush	4 mm	PNP	Normally-open (NO)	2650 Hz	5 V	36 V	2000 mm	PVC	43 mm				
NBN4-12GM40-Z0	nonflush	4 mm	Two-wire	Normally-open (NO)	700 Hz	5 V	60 V	2000 mm	PVC	40 mm				
NBN4-12GS40-Z4L	nonflush	4 mm	Two-wire	Normally-open (NO)	700 Hz	4 V	30 V	2000 mm	PUR	40 mm				
NBN4-12GK50-E0	nonflush	4 mm	NPN	Normally-open (NO)	1200 Hz	10 V	30 V	2000 mm	PVC	50 mm				
NBN4-12GK50-E2	nonflush	4 mm	PNP	Normally-open (NO)	1200 Hz	10 V	30 V	2000 mm	PVC	50 mm				
NBN4-12GM50-E0	nonflush	4 mm	NPN	Normally-open (NO)	2650 Hz	5 V	36 V	2000 mm	PVC	53 mm				
NBN4-12GM50-E0-5M	nonflush	4 mm	NPN	Normally-open (NO)	2650 Hz	5 V	36 V	5000 mm	PVC	53 mm				
NBN4-12GM50-E0-10M	nonflush	4 mm	NPN	Normally-open (NO)	2650 Hz	5 V	36 V	10,000 mm	PVC	53 mm				
NBN4-12GM50-E1	nonflush	4 mm	NPN	Normally-closed (NC)	2650 Hz	5 V	36 V	2000 mm	PVC	53 mm				
NBN4-12GM50-E2	nonflush	4 mm	PNP	Normally-open (NO)	2650 Hz	5 V	36 V	2000 mm	PVC	53 mm				
NBN4-12GM50-E2-5M	nonflush	4 mm	PNP	Normally-open (NO)	2650 Hz	5 V	36 V	5000 mm	PVC	53 mm				
NBN4-12GM50-E2-8M	nonflush	4 mm	PNP	Normally-open (NO)	2650 Hz	5 V	36 V	8000 mm	PVC	53 mm				
NBN4-12GM50-E2-12M	nonflush	4 mm	PNP	Normally-open (NO)	2650 Hz	5 V	36 V		PVC	53 mm				
NBN4-12GM50-E3	nonflush	4 mm	PNP	Normally-closed (NC)	2650 Hz	5 V	36 V	2000 mm	PVC	53 mm				
NBN4-12GM50-E3-5M	nonflush	4 mm	PNP	Normally-closed (NC)	2650 Hz	5 V	36 V	5000 mm	PVC	53 mm				
NBN4-12GM50-E3-6M	nonflush	4 mm	PNP	Normally-closed (NC)	2650 Hz	5 V	36 V	6000 mm	PVC	53 mm				
NBN4-12GM50-A0	nonflush	4 mm	NPN	complementary	2650 Hz	5 V	36 V	2000 mm	PVC	53 mm				
NBN4-12GM50-A2	nonflush	4 mm	PNP	complementary	2650 Hz	5 V	36 V	2000 mm	PVC	53 mm				
NBN4-12GM50-A2-8M	nonflush	4 mm	PNP	complementary	2650 Hz	5 V	36 V	8000 mm	PVC	53 mm				
NBN4-12GM60-E2	nonflush	4 mm	PNP	Normally-open (NO)	2650 Hz	5 V	36 V	2000 mm	PVC	63 mm				
NCB4-12GM35-Z4	flush	4 mm	Two-wire	Normally-open (NO)	1000 Hz	3.5 V	30 V	2000 mm	PVC	35 mm				
NCB4-12GM35-Z5	flush	4 mm	Two-wire	Normally-closed (NC)	1000 Hz	3.5 V	30 V	2000 mm	PVC	35 mm				
NCN4-12GM40-Z0	nonflush	4 mm	Two-wire	Normally-open (NO)	800 Hz	5 V	60 V	2000 mm	PUR	40 mm				
NCN4-12GM40-Z0-10M	nonflush	4 mm	Two-wire	Normally-open (NO)	800 Hz	5 V	60 V	10,000 mm	PUR	40 mm				
NCN4-12GM40-Z1	nonflush	4 mm	Two-wire	Normally-closed (NC)	800 Hz	5 V	60 V	2000 mm	PUR	40 mm				
NXB4-12GM50-E2	flush	4 mm	PNP	Normally-open (NO)	450 Hz	10 V	30 V	2000 mm	PVC	53 mm				
NEB6-12GM50-E0	semi-flush	6 mm	NPN	Normally-open (NO)	800 Hz	10 V	30 V	2000 mm	PUR	50 mm				
NEB6-12GM50-E1	semi-flush	6 mm	NPN	Normally-closed (NC)	800 Hz	10 V	30 V	2000 mm	PUR	50 mm				
NEB6-12GM50-E2	semi-flush	6 mm	PNP	Normally-open (NO)	800 Hz	10 V	30 V	2000 mm	PUR	50 mm				
NEB6-12GM50-E2-5M	semi-flush	6 mm	PNP	Normally-open (NO)	800 Hz	10 V	30 V	5000 mm	PUR	50 mm				
NEB6-12GM50-E3	semi-flush	6 mm	PNP	Normally-closed (NC)	800 Hz	10 V	30 V	2000 mm	PUR	50 mm				
NBN8-12GM50-A0	nonflush	8 mm	NPN	complementary	1650 Hz	5 V	36 V	2000 mm	PVC	53 mm				
NBN8-12GM50-A2	nonflush	8 mm	PNP	complementary	1650 Hz	5 V	36 V	2000 mm	PVC	53 mm				
NBN8-12GM50-E0	nonflush	8 mm	NPN	Normally-open (NO)	1650 Hz	5 V	36 V	2000 mm	PVC	53 mm				
NBN8-12GM50-E2	nonflush	8 mm	PNP	Normally-open (NO)	1650 Hz	5 V	36 V	2000 mm	PVC	53 mm				
NBN8-12GM50-EI	nonflush	8 mm	Digital current output		1500 Hz	9 V	30 V	2000 mm	PUR	50 mm				
NCN8-12GM35-Z4	nonflush	8 mm	Two-wire	Normally-open (NO)	750 Hz	3.5 V	30 V	2000 mm	PVC	35 mm				
NCN8-12GM35-Z5	nonflush	8 mm	Two-wire	Normally-closed (NC)	750 Hz	3.5 V	30 V	2000 mm	PVC	35 mm				
NEN10-12GM50-E0	nonflush	10 mm	NPN	Normally-open (NO)	600 Hz	10 V	30 V	2000 mm	PUR	50 mm				
NEN10-12GM50-E1	nonflush	10 mm	NPN	Normally-closed (NC)	600 Hz	10 V	30 V	2000 mm	PUR	50 mm				
NEN10-12GM50-E2	nonflush	10 mm	PNP	Normally-open (NO)	600 Hz	10 V	30 V	2000 mm	PUR	50 mm				
NEN10-12GM50-E3	nonflush	10 mm	PNP	Normally-closed (NC)	600 Hz	10 V	30 V	2000 mm	PUR	50 mm				
NBN8-12GM30-A0	nonflush	8 mm	NPN	complementary	1650 Hz	5 V	36 V	2000 mm	PVC	33 mm				
NBN8-12GM30-A2	nonflush	8 mm	PNP	complementary	1650 Hz	5 V	36 V	2000 mm	PVC	33 mm				
NBN8-12GM50-A2-3M	nonflush	8 mm	PNP	complementary	1650 Hz	5 V	36 V	3000 mm	PVC	53 mm				
NBN8-12GM30-E2	nonflush	8 mm	PNP	Normally-open (NO)	1650 Hz	5 V	36 V	2000 mm	PVC	33 mm				
NXN8-12GM50-E2	nonflush	8 mm	PNP	Normally-open (NO)	450 Hz	10 V	30 V	2000 mm	PVC	53 mm				

Inductive Cylindrical Standard Sensors

12 mm Series—250 V Version

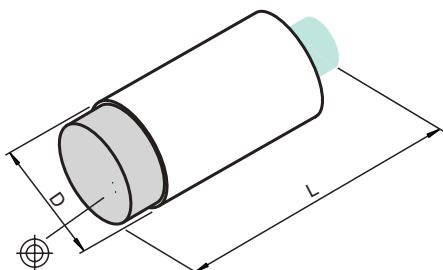


Common Technical Data

Type of output	2-wire
Type of output	Two-wire
Operating voltage (min)	20 V
Housing diameter D	12 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Switching Element Function	Type of Voltage	Switching Frequency	UB (Max)	Connection Type	Cable Length	Cable Material	Length L	CCC
NBB4-12GM65-US-V12	flush	4 mm	Normally-open (NO)	AC/DC	30 Hz	300 V	1/2 inch connector plug			82 mm	■
NBB4-12GM75-US	flush	4 mm	Normally-open (NO)	AC/DC	30 Hz	300 V	Fixed cable	2000 mm	PUR	75 mm	■
NBN8-12GM65-US-V12	nonflush	8 mm	Normally-open (NO)	AC/DC	30 Hz	300 V	1/2 inch connector plug			82 mm	■
NBN8-12GM75-US	nonflush	8 mm	Normally-open (NO)	AC/DC	30 Hz	300 V	Fixed cable	2000 mm	PUR	75 mm	■
NJ2-12GM50-WO	flush	2 mm	Normally-closed (NC)	AC	20 Hz	253 V	Fixed cable	2000 mm	PVC	50 mm	■
NJ2-12GM50-WS	flush	2 mm	Normally-open (NO)	AC	20 Hz	253 V	Fixed cable	2000 mm	PVC	50 mm	■
NJ2-12GM50-WS-5M	flush	2 mm	Normally-open (NO)	AC	20 Hz	253 V	Fixed cable	5000 mm	PVC	50 mm	■
NJ2-12GM50-WS-V12	flush	2 mm	Normally-open (NO)	AC	20 Hz	253 V	1/2 inch connector plug			50 mm	
NJ4-12GM50-WO	nonflush	4 mm	Normally-closed (NC)	AC	20 Hz	253 V	Fixed cable	2000 mm	PVC	50 mm	■
NJ4-12GM50-WS	nonflush	4 mm	Normally-open (NO)	AC	20 Hz	253 V	Fixed cable	2000 mm	PVC	50 mm	■
NJ4-12GM50-WS-10M	nonflush	4 mm	Normally-open (NO)	AC	20 Hz	253 V	Fixed cable	10,000 mm	PVC	50 mm	■
NJ4-12GM50-WS-20M	nonflush	4 mm	Normally-open (NO)	AC	20 Hz	253 V	Fixed cable	20,000 mm	PVC	50 mm	
NJ4-12GM50-WS-V12	nonflush	4 mm	Normally-open (NO)	AC	20 Hz	253 V	1/2 inch connector plug			50 mm	■



Accessories

BF 12	Mounting adapter, 12 mm
EXG-12	Quick-mounting bracket with fixed stop
V12-G-YE2M-PVC	Cordset, 1/2"-20 UNF, 3-pin, PVC cable



Inductive Cylindrical Standard Sensors

18 mm Series—with Plug Connection



Common Technical Data

Type of voltage	DC
Housing diameter D	18 mm

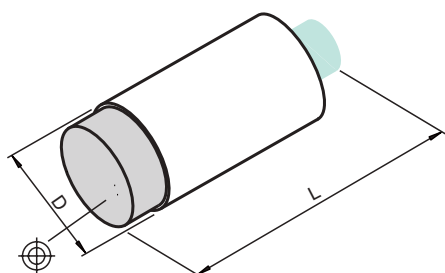
For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Length L	CCC	EAC	UL	UKCA
NBB5-18GH40-E2-V1	flush	5 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	M12 connector plug	39 mm				
NBB5-18GM20-E2-V1	flush	5 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	M12 connector plug	20 mm			■	
NBB5-18GM40-E0-V1	flush	5 mm	NPN	Normally-open (NO)	1950 Hz	5 V	36 V	M12 connector plug	51 mm		■	■	■
NBB5-18GM40-E2-V1	flush	5 mm	PNP	Normally-open (NO)	1950 Hz	5 V	36 V	M12 connector plug	56 mm		■	■	■
NBB5-18GM40-E3-V1	flush	5 mm	PNP	Normally-closed (NC)	1950 Hz	5 V	36 V	M12 connector plug	56 mm		■	■	■
NBB5-18GM40-Z0-V1	flush	5 mm	Two-wire	Normally-open (NO)	500 Hz	5 V	60 V	M12 connector plug	40 mm	■		■	
NBB5-18GM40-Z3-V1	flush	5 mm	Two-wire	Normally-open (NO)	500 Hz	5 V	60 V	M12 connector plug	40 mm	■		■	
NBB5-18GM40-Z3-300MM-V1	flush	5 mm	Two-wire	Normally-open (NO)	500 Hz	5 V	60 V	Fixed cable with M12 plug	40 mm	■		■	
NBB5-18GM50-E0-V1	flush	5 mm	NPN	Normally-open (NO)	1950 Hz	5 V	36 V	M12 connector plug	66 mm		■	■	■
NBB5-18GM50-E2-V1	flush	5 mm	PNP	Normally-open (NO)	1950 Hz	5 V	36 V	M12 connector plug	66 mm		■	■	■
NBB5-18GM50-E3-V1	flush	5 mm	PNP	Normally-closed (NC)	1950 Hz	5 V	36 V	M12 connector plug	66 mm		■	■	■
NBB5-18GM50-A0-V1	flush	5 mm	NPN	complementary	1950 Hz	5 V	36 V	M12 connector plug	66 mm		■	■	■
NBB5-18GM50-A2-V1	flush	5 mm	PNP	complementary	1950 Hz	5 V	36 V	M12 connector plug	66 mm		■	■	■
NBB5-18GS50-Z4L-V1	flush	5 mm	Two-wire	Normally-open (NO)	500 Hz	4 V	30 V	M12 connector plug	66 mm			■	
NBB5-18GM60-I-V1	flush	5 mm	Analog current output	4 mA ... 20 mA		10 V	30 V	M12 connector plug	75 mm			■	
NBB5-18GM60-I3-V1	flush	5 mm	Analog current output	0 mA ... 20 mA		10 V	30 V	M12 connector plug	75 mm			■	
NCB5-18GM40-Z0-V1	flush	5 mm	Two-wire	Normally-open (NO)	350 Hz	5 V	60 V	M12 connector plug	40 mm	■		■	
NCB5-18GM40-Z1-V1	flush	5 mm	Two-wire	Normally-closed (NC)	350 Hz	5 V	60 V	M12 connector plug	40 mm	■		■	
NCB5-18GM40-Z3-V1	flush	5 mm	Two-wire	Normally-open (NO)	350 Hz	5 V	60 V	M12 connector plug	55 mm	■		■	
NBB8-18GM30-E2-V1	flush	8 mm	PNP	Normally-open (NO)	1350 Hz	5 V	36 V	M12 connector plug	46 mm		■	■	■
NBB8-18GM30-E3-V1	flush	8 mm	PNP	Normally-closed (NC)	1350 Hz	5 V	36 V	M12 connector plug	46 mm		■	■	■
NBB8-18GM30-A0-V1	flush	8 mm	NPN	complementary	1350 Hz	5 V	36 V	M12 connector plug	46 mm		■	■	■
NBB8-18GM30-A2-V1	flush	8 mm	PNP	complementary	1350 Hz	5 V	36 V	M12 connector plug	46 mm		■	■	■
NBB8-18GM50-E0-V1	flush	8 mm	NPN	Normally-open (NO)	1350 Hz	5 V	36 V	M12 connector plug	66 mm		■	■	■
NBB8-18GM50-E2-V1	flush	8 mm	PNP	Normally-open (NO)	1350 Hz	5 V	36 V	M12 connector plug	66 mm		■	■	■
NBB8-18GM50-EI-V1	flush	8 mm	Digital current output		1300 Hz	9 V	30 V	M12 connector plug	65 mm			■	
NBB8-18GM50-A0-V1	flush	8 mm	NPN	complementary	1350 Hz	5 V	36 V	M12 connector plug	66 mm		■	■	■
NBB8-18GM50-A2-V1	flush	8 mm	PNP	complementary	1350 Hz	5 V	36 V	M12 connector plug	66 mm		■	■	■
NBB8-18GM50-E2-0,2M-V1	flush	8 mm	PNP	Normally-open (NO)	1350 Hz	5 V	36 V	Fixed cable with M12 plug	56 mm		■	■	■
NBB8-18GM50-E2-0,8M-V1	flush	8 mm	PNP	Normally-open (NO)	1350 Hz	5 V	36 V	Fixed cable with M12 plug	56 mm		■	■	■
NBB8-18GM60-A2-V1	flush	8 mm	PNP	complementary	1350 Hz	5 V	36 V	M12 connector plug	76 mm		■	■	■
NBN8-18GM40-Z0-V1	nonflush	8 mm	Two-wire	Normally-open (NO)	450 Hz	5 V	60 V	M12 connector plug	40 mm	■		■	
NBN8-18GM40-Z3-V1	nonflush	8 mm	Two-wire	Normally-open (NO)	450 Hz	5 V	60 V	M12 connector plug	40 mm	■		■	
NBN8-18GM40-E3-V1	nonflush	8 mm	PNP	Normally-closed (NC)	1650 Hz	5 V	36 V	M12 connector plug	56 mm		■	■	■
NBN8-18GM50-E0-V1	nonflush	8 mm	NPN	Normally-open (NO)	1650 Hz	5 V	36 V	M12 connector plug	66 mm		■	■	■
NBN8-18GM50-E2-V1	nonflush	8 mm	PNP	Normally-open (NO)	1650 Hz	5 V	36 V	M12 connector plug	66 mm		■	■	■
NBN8-18GM50-A0-V1	nonflush	8 mm	NPN	complementary	1650 Hz	5 V	36 V	M12 connector plug	66 mm		■	■	■

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Length L	CCC	EAC	UL	UKCA
NBN8-18GM50-A2-V1	nonflush	8 mm	PNP	complementary	1650 Hz	5 V	36 V	M12 connector plug	66 mm		■	■	■
NBN8-18GM60-A2-V1	nonflush	8 mm	PNP	complementary	1650 Hz	5 V	36 V	M12 connector plug	76 mm		■	■	■
NBN8-18GM70-E2-V1	nonflush	8 mm	PNP	Normally-open (NO)	1650 Hz	5 V	36 V	M12 connector plug	86 mm		■	■	■
NBN8-18GS50-Z4L-V1	nonflush	8 mm	Two-wire	Normally-open (NO)	500 Hz	4 V	30 V	M12 connector plug	66 mm			■	
NCB8-18GM50-E2-V1	flush	8 mm	PNP	Normally-open (NO)	500 Hz	10 V	30 V	M12 connector plug	50 mm			■	
NCB8-18GM50-Z4-V1	flush	8 mm	Two-wire	Normally-open (NO)	1000 Hz	3.5 V	30 V	M12 connector plug	65 mm			■	
NCB8-18GM50-Z5-V1	flush	8 mm	Two-wire	Normally-closed (NC)	1000 Hz	3.5 V	30 V	M12 connector plug	60 mm			■	
NCN8-18GM40-Z0-V1	nonflush	8 mm	Two-wire	Normally-open (NO)	300 Hz	5 V	60 V	M12 connector plug	40 mm	■		■	
NCN8-18GM40-Z1-V1	nonflush	8 mm	Two-wire	Normally-closed (NC)	300 Hz	5 V	60 V	M12 connector plug	40 mm	■		■	
NXB8-18GM50-E2-V1	flush	8 mm	PNP	Normally-open (NO)	150 Hz	10 V	30 V	M12 connector plug	66 mm			■	
NBN12-18GM30-A0-V1	nonflush	12 mm	NPN	complementary	1300 Hz	5 V	36 V	M12 connector plug	46 mm		■	■	■
NBN12-18GM30-A2-V1	nonflush	12 mm	PNP	complementary	1300 Hz	5 V	36 V	M12 connector plug	46 mm		■	■	■
NBN12-18GM30-E2-V1	nonflush	12 mm	PNP	Normally-open (NO)	1300 Hz	5 V	36 V	M12 connector plug	46 mm		■	■	■
NBN12-18GM35-E2-0,15M-V1	nonflush	12 mm	PNP	Normally-open (NO)	1300 Hz	5 V	36 V	Fixed cable with M12 plug	50 mm		■	■	■
NBN12-18GM50-E0-V1	nonflush	12 mm	NPN	Normally-open (NO)	1300 Hz	5 V	36 V	M12 connector plug	65 mm		■	■	■
NBN12-18GM50-E2-V1	nonflush	12 mm	PNP	Normally-open (NO)	1300 Hz	5 V	36 V	M12 connector plug	66 mm		■	■	■
NBN12-18GM50-A0-V1	nonflush	12 mm	NPN	complementary	1300 Hz	5 V	36 V	M12 connector plug	65 mm		■	■	■
NBN12-18GM50-A2-V1	nonflush	12 mm	PNP	complementary	1300 Hz	5 V	36 V	M12 connector plug	66 mm		■	■	■
NBN12-18GM50-EI-V1	nonflush	12 mm	Digital current output		1000 Hz	9 V	30 V	M12 connector plug	65 mm			■	
NBN12-18GM70-E1-V1	nonflush	12 mm	NPN	Normally-closed (NC)	1300 Hz	5 V	36 V	M12 connector plug	86 mm		■	■	■
NCN12-18GM50-Z4-V1	nonflush	12 mm	Two-wire	Normally-open (NO)	1000 Hz	3.5 V	30 V	M12 connector plug	60 mm			■	
NCN12-18GM50-Z5-V1	nonflush	12 mm	Two-wire	Normally-closed (NC)	1000 Hz	3.5 V	30 V	M12 connector plug	60 mm			■	
NCN12-18GM50-Z7-V1	nonflush	12 mm	Two-wire	Normally-closed (NC)	1000 Hz	3.5 V	30 V	M12 connector plug	60 mm			■	
NEB12-18GM50-E0-V1	semi-flush	12 mm	NPN	Normally-open (NO)	500 Hz	10 V	30 V	M12 connector plug	69 mm		■	■	
NEB12-18GM50-E1-V1	semi-flush	12 mm	NPN	Normally-closed (NC)	500 Hz	10 V	30 V	M12 connector plug	69 mm		■	■	
NEB12-18GM50-E2-V1	semi-flush	12 mm	PNP	Normally-open (NO)	500 Hz	10 V	30 V	M12 connector plug	69 mm		■	■	
NEB12-18GM50-E3-V1	semi-flush	12 mm	PNP	Normally-closed (NC)	500 Hz	10 V	30 V	M12 connector plug	69 mm		■	■	
NXN12-18GM50-E2-V1	nonflush	12 mm	PNP	Normally-open (NO)	150 Hz	10 V	30 V	M12 connector plug	65 mm			■	
NEN20-18GM50-E0-V1	nonflush	20 mm	NPN	Normally-open (NO)	200 Hz	10 V	30 V	M12 connector plug	69 mm		■	■	
NEN20-18GM50-E1-V1	nonflush	20 mm	NPN	Normally-closed (NC)	200 Hz	10 V	30 V	M12 connector plug	69 mm		■	■	
NEN20-18GM50-E2-V1	nonflush	20 mm	PNP	Normally-open (NO)	200 Hz	10 V	30 V	M12 connector plug	69 mm		■	■	
NEN20-18GM50-E3-V1	nonflush	20 mm	PNP	Normally-closed (NC)	200 Hz	10 V	30 V	M12 connector plug	69 mm		■	■	

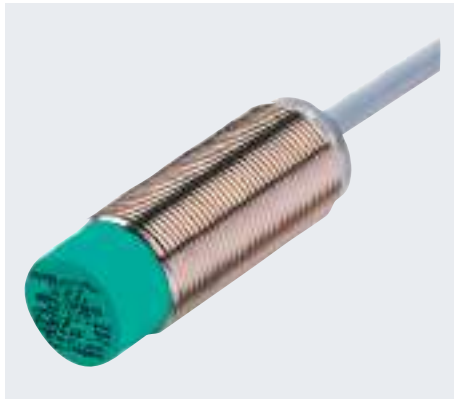
Accessories

BF 18	Mounting adapter, 18 mm
BF 18-F	Plastic mounting adapter, 18 mm
MH 01-M18	Mounting bracket for sensors
MH-EXG-18	Quick-mounting bracket with fixed stop
V1-G-2M-PUR	Single-ended female cordset, M12, straight A-coded, 4-pin, PUR cable, gray
V1-G-2M-PVC	Single-ended female cordset, M12, straight A-coded, 4-pin, PVC cable, gray
V1-G-BK	Single-ended female cordset, straight, M12, 4-pin, field attachable
V1-G-BK2M-PUR-U	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, black, UL-approved, suitable for drag chains, torsion-proof
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PVC	Single-ended female cordset, M12, 4-pin, PVC cable
V1-W-BK	Single-ended female cordset, angled, M12, 4-pin, field attachable
V1-W-BK2M-PUR-U	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, black, UL-approved, suitable for drag chains, torsion-proof



Inductive Cylindrical Standard Sensors

18 mm Series—with Cable Connection



Common Technical Data

Type of voltage	DC
Connection type	Fixed cable
Housing diameter D	18 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	Cable Length	Cable Material	Length L	CCC	EAC	UL	UKCA
NBB5-18GM20-E2	flush	5 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	2000 mm	PVC	20 mm			■	
NBB5-18GM40-Z0	flush	5 mm	Two-wire	Normally-open (NO)	500 Hz	5 V	60 V	2000 mm	PVC	40 mm	■		■	
NBB5-18GM40-E1	flush	5 mm	NPN	Normally-closed (NC)	1950 Hz	5 V	36 V	2000 mm	PVC	46 mm		■	■	■
NBB5-18GM40-E2	flush	5 mm	PNP	Normally-open (NO)	1950 Hz	5 V	36 V	2000 mm	PVC	46 mm		■	■	■
NBB5-18GM40-E2-3M	flush	5 mm	PNP	Normally-open (NO)	1950 Hz	5 V	36 V	3000 mm	PVC	46 mm		■	■	■
NBB5-18GM40-E2-5M	flush	5 mm	PNP	Normally-open (NO)	1950 Hz	5 V	36 V	5000 mm	PVC	46 mm		■	■	■
NBB5-18GK50-E0	flush	5 mm	NPN	Normally-open (NO)	1000 Hz	10 V	30 V	2000 mm	PVC	50 mm			■	
NBB5-18GK50-E2	flush	5 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	2000 mm	PVC	50 mm			■	
NBB5-18GK50-E2-10M	flush	5 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	10,000 mm	PVC	50 mm			■	
NBB5-18GK50-E2-15M	flush	5 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	5000 mm	PVC	50 mm			■	
NBB5-18GK50-E2-40M	flush	5 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	40,000 mm	PVC	50 mm			■	
NBB5-18GK50-E2-5M	flush	5 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	5000 mm	PVC	50 mm			■	
NBB5-18GM50-A0	flush	5 mm	NPN	complementary	1950 Hz	5 V	36 V	2000 mm	PVC	56 mm		■	■	■
NBB5-18GM50-A0-5M	flush	5 mm	NPN	complementary	1950 Hz	5 V	36 V	5000 mm	PVC	56 mm		■	■	■
NBB5-18GM50-A2	flush	5 mm	PNP	complementary	1950 Hz	5 V	36 V	2000 mm	PVC	56 mm		■	■	■
NBB5-18GM50-A2-10M	flush	5 mm	PNP	complementary	1950 Hz	5 V	36 V	10,000 mm	PVC	56 mm		■	■	■
NBB5-18GM50-A2-5M	flush	5 mm	PNP	complementary	1950 Hz	5 V	36 V	5000 mm	PVC	56 mm		■	■	■
NBB5-18GM50-E0	flush	5 mm	NPN	Normally-open (NO)	1950 Hz	5 V	36 V	2000 mm	PVC	56 mm		■	■	■
NBB5-18GM50-E0-3M	flush	5 mm	NPN	Normally-open (NO)	1950 Hz	5 V	36 V	3000 mm	PVC	56 mm		■	■	■
NBB5-18GM50-E0-5M	flush	5 mm	NPN	Normally-open (NO)	1950 Hz	5 V	36 V	5000 mm	PVC	56 mm		■	■	■
NBB5-18GM50-E2	flush	5 mm	PNP	Normally-open (NO)	1950 Hz	5 V	36 V	2000 mm	PVC	56 mm		■	■	■
NBB5-18GM50-E2-10M	flush	5 mm	PNP	Normally-open (NO)	1950 Hz	5 V	36 V	10,000 mm	PVC	56 mm		■	■	■
NBB5-18GM50-E2-15M	flush	5 mm	PNP	Normally-open (NO)	1950 Hz	5 V	36 V	15,000 mm	PVC	56 mm		■	■	■
NBB5-18GM50-E2-5M	flush	5 mm	PNP	Normally-open (NO)	1950 Hz	5 V	36 V	5000 mm	PVC	56 mm		■	■	■
NBB5-18GM50-E3	flush	5 mm	PNP	Normally-closed (NC)	1950 Hz	5 V	36 V	2000 mm	PVC	56 mm		■	■	■
NBB5-18GM50-E3-5M	flush	5 mm	PNP	Normally-closed (NC)	1950 Hz	5 V	36 V	5000 mm	PVC	56 mm		■	■	■
NBB5-18GS50-Z4L	flush	5 mm	Two-wire	Normally-open (NO)	500 Hz	4 V	30 V	2000 mm	PUR	56 mm			■	
NBB5-18GM60-I	flush	5 mm	Analog current output	4 mA ... 20 mA		10 V	30 V	2000 mm	PVC	60 mm			■	
NBB5-18GM60-I3	flush	5 mm	Analog current output	0 mA ... 20 mA		10 V	30 V	2000 mm	PVC	60 mm			■	
NBB5-18GM60-E3-5M-PUR	flush	5 mm	PNP	Normally-closed (NC)	1950 Hz	5 V	36 V	5000 mm	PUR	66 mm		■	■	■
NBB5-18GM40-Z0	flush	5 mm	Two-wire	Normally-open (NO)	350 Hz	5 V	60 V	2000 mm	PUR	40 mm	■		■	
NBB5-18GM40-Z0-10M	flush	5 mm	Two-wire	Normally-open (NO)	350 Hz	5 V	60 V	10,000 mm	PUR	40 mm	■		■	
NBB5-18GM40-Z1	flush	5 mm	Two-wire	Normally-closed (NC)	350 Hz	5 V	60 V	2000 mm	PUR	40 mm	■		■	
NBB8-18GM30-A0	flush	8 mm	NPN	complementary	1350 Hz	5 V	36 V	2000 mm	PVC	36 mm		■	■	■
NBB8-18GM30-A2	flush	8 mm	PNP	complementary	1350 Hz	5 V	36 V	2000 mm	PVC	36 mm		■	■	■
NBB8-18GM30-E2	flush	8 mm	PNP	Normally-open (NO)	1350 Hz	5 V	36 V	2000 mm	PVC	31 mm		■	■	■
NBB8-18GM30-E2-5M	flush	8 mm	PNP	Normally-open (NO)	1350 Hz	5 V	36 V	5000 mm	PVC	31 mm		■	■	■
NBB8-18GM30-E3	flush	8 mm	PNP	Normally-closed (NC)	1350 Hz	5 V	36 V	2000 mm	PVC	31 mm		■	■	■
NBB8-18GM50-A0	flush	8 mm	NPN	complementary	1350 Hz	5 V	36 V	2000 mm	PVC	50 mm		■	■	■
NBB8-18GM50-A0-5M	flush	8 mm	NPN	complementary	1350 Hz	5 V	36 V	5000 mm	PVC	50 mm		■	■	■

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	Cable Length	Cable Material	Length L	CCC	EAC	UL	UKCA
NBB8-18GM50-A2	flush	8 mm	PNP	complementary	1350 Hz	5 V	36 V	2000 mm	PVC	50 mm		■	■	■
NBB8-18GM50-A2-10M	flush	8 mm	PNP	complementary	1350 Hz	5 V	36 V	10,000 mm	PVC	56 mm		■	■	■
NBB8-18GM50-E0	flush	8 mm	NPN	Normally-open (NO)	1350 Hz	5 V	36 V	2000 mm	PVC	50 mm		■	■	■
NBB8-18GM50-E0-3M	flush	8 mm	NPN	Normally-open (NO)	1350 Hz	5 V	36 V	3000 mm	PVC	56 mm		■	■	■
NBB8-18GM50-E0-5M	flush	8 mm	NPN	Normally-open (NO)	1350 Hz	5 V	36 V	5000 mm	PVC	56 mm		■	■	■
NBB8-18GM50-E1-3M	flush	8 mm	NPN	Normally-closed (NC)	1350 Hz	5 V	36 V	3000 mm	PVC	56 mm		■	■	■
NBB8-18GM50-E2	flush	8 mm	PNP	Normally-open (NO)	1350 Hz	5 V	36 V	2000 mm	PVC	56 mm		■	■	■
NBB8-18GM50-E2-5M	flush	8 mm	PNP	Normally-open (NO)	1350 Hz	5 V	36 V	5000 mm	PVC	56 mm		■	■	■
NBB8-18GM50-E2-6M	flush	8 mm	PNP	Normally-open (NO)	1350 Hz	5 V	36 V		PVC	56 mm		■	■	■
NBB8-18GM50-E2-10M	flush	8 mm	PNP	Normally-open (NO)	1350 Hz	5 V	36 V	10,000 mm	PVC	56 mm		■	■	■
NBB8-18GM50-EI	flush	8 mm	Digital current output		1300 Hz	9 V	30 V	2000 mm	PUR	50 mm			■	
NBB8-18GM70-E3	flush	8 mm	PNP	Normally-closed (NC)	1350 Hz	5 V	36 V	2000 mm	PVC	76 mm		■	■	■
NBN8-18GM40-Z0	nonflush	8 mm	Two-wire	Normally-open (NO)	500 Hz	5 V	60 V	2000 mm	PVC	40 mm	■		■	
NBN8-18GK50-A2	nonflush	8 mm	PNP	complementary	500 Hz	10 V	30 V	2000 mm	PVC	50 mm			■	
NBN8-18GK50-A2-10M	nonflush	8 mm	PNP	complementary	500 Hz	10 V	30 V	10,000 mm	PVC	50 mm			■	
NBN8-18GK50-A2-15M	nonflush	8 mm	PNP	complementary	500 Hz	10 V	30 V	5000 mm	PVC	50 mm			■	
NBN8-18GK50-E0	nonflush	8 mm	NPN	Normally-open (NO)	500 Hz	10 V	30 V	2000 mm	PVC	50 mm			■	
NBN8-18GK50-E0-5M	nonflush	8 mm	NPN	Normally-open (NO)	500 Hz	10 V	30 V	5000 mm	PVC	50 mm			■	
NBN8-18GK50-E1-5M	nonflush	8 mm	NPN	Normally-closed (NC)	500 Hz	10 V	30 V	5000 mm	PVC	50 mm			■	
NBN8-18GK50-E2	nonflush	8 mm	PNP	Normally-open (NO)	500 Hz	10 V	30 V	2000 mm	PVC	50 mm			■	
NBN8-18GK50-E2-5M	nonflush	8 mm	PNP	Normally-open (NO)	500 Hz	10 V	30 V	5000 mm	PVC	50 mm			■	
NBN8-18GK60-E2-5M	nonflush	8 mm	PNP	Normally-open (NO)	500 Hz	10 V	30 V	5000 mm	PVC	85 mm			■	
NBN8-18GK60-E2-10M	nonflush	8 mm	PNP	Normally-open (NO)	500 Hz	10 V	30 V	10,000 mm	PVC	85 mm				
NBN8-18GM50-A0	nonflush	8 mm	NPN	complementary	1650 Hz	5 V	36 V	2000 mm	PVC	56 mm		■	■	■
NBN8-18GM50-A0-10M	nonflush	8 mm	NPN	complementary	1650 Hz	5 V	36 V	10,000 mm	PVC	56 mm		■	■	■
NBN8-18GM50-A2	nonflush	8 mm	PNP	complementary	1650 Hz	5 V	36 V	2000 mm	PVC	56 mm		■	■	■
NBN8-18GM50-A2-5M	nonflush	8 mm	PNP	complementary	1650 Hz	5 V	36 V	5000 mm	PVC	56 mm		■	■	■
NBN8-18GM50-A2-10M	nonflush	8 mm	PNP	complementary	1650 Hz	5 V	36 V	10,000 mm	PVC	56 mm		■	■	■
NBN8-18GM50-E0	nonflush	8 mm	NPN	Normally-open (NO)	1650 Hz	5 V	36 V	2000 mm	PVC	56 mm		■	■	■
NBN8-18GM50-E0-5M	nonflush	8 mm	NPN	Normally-open (NO)	1650 Hz	5 V	36 V	5000 mm	PVC	56 mm		■	■	■
NBN8-18GM50-E2	nonflush	8 mm	PNP	Normally-open (NO)	1650 Hz	5 V	36 V	2000 mm	PVC	56 mm		■	■	■
NBN8-18GM50-E2-5M	nonflush	8 mm	PNP	Normally-open (NO)	1650 Hz	5 V	36 V	5000 mm	PVC	56 mm		■	■	■
NBN8-18GM50-E2-10M	nonflush	8 mm	PNP	Normally-open (NO)	1650 Hz	5 V	36 V	10,000 mm	PVC	56 mm		■	■	■
NBN8-18GM50-E2-5M-PUR	nonflush	8 mm	PNP	Normally-open (NO)	1650 Hz	5 V	36 V	5000 mm	PUR	56 mm		■	■	■
NBN8-18GS50-Z4L	nonflush	8 mm	Two-wire	Normally-open (NO)	500 Hz	4 V	30 V	2000 mm	PUR	56 mm			■	
NCB8-18GM50-Z4	flush	8 mm	Two-wire	Normally-open (NO)	1000 Hz	3.5 V	30 V	2000 mm	PVC	48 mm			■	
NCB8-18GM50-Z5	flush	8 mm	Two-wire	Normally-closed (NC)	1000 Hz	3.5 V	30 V	2000 mm	PVC	48 mm			■	
NCN8-18GM40-Z0	nonflush	8 mm	Two-wire	Normally-open (NO)	300 Hz	5 V	60 V	2000 mm	PUR	40 mm	■		■	
NCN8-18GM40-Z1	nonflush	8 mm	Two-wire	Normally-closed (NC)	300 Hz	5 V	60 V	2000 mm	PUR	40 mm	■		■	
NXB8-18GM50-E2	flush	8 mm	PNP	Normally-open (NO)	150 Hz	10 V	30 V	2000 mm	PVC	56 mm			■	
NCN12-18GM50-Z4	nonflush	12 mm	Two-wire	Normally-open (NO)	1000 Hz	3.5 V	30 V	2000 mm	PVC	48 mm			■	
NCN12-18GM50-Z5	nonflush	12 mm	Two-wire	Normally-closed (NC)	1000 Hz	3.5 V	30 V	2000 mm	PVC	48 mm			■	
NEB12-18GM50-E0	semi-flush	12 mm	NPN	Normally-open (NO)	500 Hz	10 V	30 V	2000 mm	PUR	53 mm		■	■	
NEB12-18GM50-E1	semi-flush	12 mm	NPN	Normally-closed (NC)	500 Hz	10 V	30 V	2000 mm	PUR	53 mm		■	■	
NEB12-18GM50-E2	semi-flush	12 mm	PNP	Normally-open (NO)	500 Hz	10 V	30 V	2000 mm	PUR	53 mm		■	■	
NEB12-18GM50-E3	semi-flush	12 mm	PNP	Normally-closed (NC)	500 Hz	10 V	30 V	2000 mm	PUR	53 mm		■	■	
NBN12-18GM30-A0	nonflush	12 mm	NPN	complementary	1300 Hz	5 V	36 V	2000 mm	PVC	36 mm		■	■	■
NBN12-18GM30-A2	nonflush	12 mm	PNP	complementary	1300 Hz	5 V	36 V	2000 mm	PVC	36 mm		■	■	■
NBN12-18GM30-E2	nonflush	12 mm	PNP	Normally-open (NO)	1300 Hz	5 V	36 V	2000 mm	PVC	36 mm		■	■	■
NBN12-18GM30-E3	nonflush	12 mm	PNP	Normally-closed (NC)	1300 Hz	5 V	36 V	2000 mm	PVC	36 mm		■	■	■
NBN12-18GM35-E3-5M	nonflush	12 mm	PNP	Normally-closed (NC)	1300 Hz	5 V	36 V	5000 mm	PVC	41 mm		■	■	■
NBN12-18GM50-A0	nonflush	12 mm	NPN	complementary	1300 Hz	5 V	36 V	2000 mm	PVC	56 mm		■	■	■
NBN12-18GM50-A2	nonflush	12 mm	PNP	complementary	1300 Hz	5 V	36 V	2000 mm	PVC	51 mm		■	■	■
NBN12-18GM50-E0	nonflush	12 mm	NPN	Normally-open (NO)	1300 Hz	5 V	36 V	2000 mm	PVC	56 mm		■	■	■
NBN12-18GM50-E0-3M	nonflush	12 mm	NPN	Normally-open (NO)	1300 Hz	5 V	36 V	3000 mm	PVC	56 mm		■	■	■
NBN12-18GM50-E0-10M	nonflush	12 mm	NPN	Normally-open (NO)	1300 Hz	5 V	36 V	10,000 mm	PVC	56 mm		■	■	■
NBN12-18GM50-E2	nonflush	12 mm	PNP	Normally-open (NO)	1300 Hz	5 V	36 V	2000 mm	PVC	56 mm		■	■	■
NBN12-18GM50-E2-5M	nonflush	12 mm	PNP	Normally-open (NO)	1300 Hz	5 V	36 V	5000 mm	PVC	56 mm		■	■	■
NBN12-18GM50-EI	nonflush	12 mm	Digital current output		1000 Hz	9 V	30 V	2000 mm	PUR	50 mm			■	
NEB12-18GM50-E2-5M	semi-flush	12 mm	PNP	Normally-open (NO)	500 Hz	10 V	30 V	5000 mm	PUR	53 mm		■	■	
NXN12-18GM50-E2	nonflush	12 mm	PNP	Normally-open (NO)	150 Hz	10 V	30 V	2000 mm	PVC	56 mm			■	
NEN20-18GM50-E0	nonflush	20 mm	NPN	Normally-open (NO)	200 Hz	10 V	30 V	2000 mm	PUR	53 mm		■	■	
NEN20-18GM50-E1	nonflush	20 mm	NPN	Normally-closed (NC)	200 Hz	10 V	30 V	2000 mm	PUR	53 mm		■	■	
NEN20-18GM50-E2	nonflush	20 mm	PNP	Normally-open (NO)	200 Hz	10 V	30 V	2000 mm	PUR	53 mm		■	■	
NEN20-18GM50-E3	nonflush	20 mm	PNP	Normally-closed (NC)	200 Hz	10 V	30 V	2000 mm	PUR	53 mm		■	■	

Inductive Cylindrical Standard Sensors

18 mm Series—250 V Version

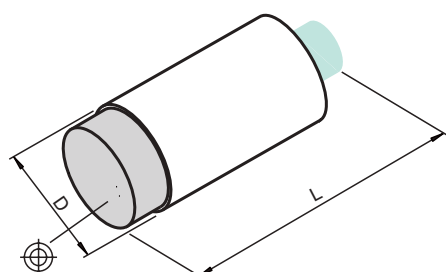


Common Technical Data

Operating voltage (min)	20 V
Housing diameter D	18 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Type of Voltage	Switching Frequency	UB (Max)	Connection Type	Cable Length	Cable Material	Length L	UL
NBB5-18GM60-WO	flush	5 mm	Two-wire	Normally-closed (NC)	AC	20 Hz	253 V	Fixed cable	2000 mm	PVC	60 mm	■
NBB5-18GM60-WO-V12	flush	5 mm	Two-wire	Normally-closed (NC)	AC	20 Hz	253 V	1/2 inch connector plug			60 mm	■
NBB5-18GM60-WS	flush	5 mm	Two-wire	Normally-open (NO)	AC	20 Hz	253 V	Fixed cable	2000 mm	PVC	60 mm	■
NBB5-18GM60-WS-10M	flush	5 mm	Two-wire	Normally-open (NO)	AC	20 Hz	253 V	Fixed cable	10,000 mm	PVC	60 mm	■
NBB5-18GM60-WS-5M	flush	5 mm	Two-wire	Normally-open (NO)	AC	20 Hz	253 V	Fixed cable	5000 mm	PVC	60 mm	■
NBB5-18GM60-WS-V12	flush	5 mm	Two-wire	Normally-open (NO)	AC	20 Hz	253 V	1/2 inch connector plug			60 mm	■
NBB5-18GM80-WO-V93	flush	5 mm	Two-wire	Normally-closed (NC)	AC	20 Hz	253 V	7/8 inch connector plug			80 mm	■
NBB5-18GM80-WS-V93	flush	5 mm	Two-wire	Normally-open (NO)	AC	20 Hz	253 V	7/8 inch connector plug			80 mm	■
NBB8-18GM55-UO-V93	flush	8 mm	Two-wire	Normally-closed (NC)	AC/DC	30 Hz	300 V	7/8 inch connector plug			75 mm	■
NBB8-18GM55-US-V93	flush	8 mm	Two-wire	Normally-open (NO)	AC/DC	30 Hz	300 V	7/8 inch connector plug			75 mm	■
NBB8-18GM60-UO	flush	8 mm	Two-wire	Normally-closed (NC)	AC/DC	30 Hz	300 V	Fixed cable	2000 mm	PUR	63 mm	■
NBB8-18GM60-UO-V12	flush	8 mm	Two-wire	Normally-closed (NC)	AC/DC	30 Hz	300 V	1/2 inch connector plug			70 mm	■
NBB8-18GM60-US	flush	8 mm	Two-wire	Normally-open (NO)	AC/DC	30 Hz	300 V	Fixed cable	2000 mm	PUR	63 mm	■
NBB8-18GM60-US-V12	flush	8 mm	Two-wire	Normally-open (NO)	AC/DC	30 Hz	300 V	1/2 inch connector plug			70 mm	■
NBB8-18GM60-US-10M	flush	8 mm	Two-wire	Normally-open (NO)	AC/DC	30 Hz	300 V	Fixed cable	10,000 mm	PUR	63 mm	■
NBN8-18GM60-WS	nonflush	8 mm	Two-wire	Normally-open (NO)	AC	20 Hz	253 V	Fixed cable	2000 mm	PVC	60 mm	■
NBN8-18GM60-WS-V12	nonflush	8 mm	Two-wire	Normally-open (NO)	AC	20 Hz	253 V	1/2 inch connector plug			60 mm	■
NBN8-18GM60-WS-5M	nonflush	8 mm		Normally-open (NO)	AC	20 Hz	253 V	Fixed cable	5000 mm	PVC	60 mm	■
NBN8-18GM60-WO	nonflush	8 mm	Two-wire	Normally-closed (NC)	AC	20 Hz	253 V	Fixed cable	2000 mm	PVC	60 mm	■
NBN8-18GM80-WO-V93	nonflush	8 mm	Two-wire	Normally-closed (NC)	AC	20 Hz	253 V	7/8 inch connector plug			80 mm	■
NBN8-18GM60-WO-10M	nonflush	8 mm		Normally-closed (NC)	AC	20 Hz	253 V	Fixed cable	10,000 mm	PVC	60 mm	■
NBN8-18GM80-WS-V93	nonflush	8 mm	Two-wire	Normally-open (NO)	AC	20 Hz	253 V	7/8 inch connector plug			80 mm	■
NBN15-18GM55-UO-V93	nonflush	15 mm	Two-wire	Normally-closed (NC)	AC/DC	30 Hz	300 V	7/8 inch connector plug			75 mm	■
NBN15-18GM55-US-V93	nonflush	15 mm	Two-wire	Normally-open (NO)	AC/DC	30 Hz	300 V	7/8 inch connector plug			75 mm	■
NBN15-18GM60-UO	nonflush	15 mm	Two-wire	Normally-closed (NC)	AC/DC	30 Hz	300 V	Fixed cable	2000 mm	PUR	63 mm	■
NBN15-18GM60-UO-V12	nonflush	15 mm	Two-wire	Normally-closed (NC)	AC/DC	30 Hz	300 V	1/2 inch connector plug			70 mm	■
NBN15-18GM60-US	nonflush	15 mm	Two-wire	Normally-open (NO)	AC/DC	30 Hz	300 V	Fixed cable	2000 mm	PUR	63 mm	■
NBN15-18GM60-US-V12	nonflush	15 mm	Two-wire	Normally-open (NO)	AC/DC	30 Hz	300 V	1/2 inch connector plug			70 mm	■



Accessories

BF 18	Mounting adapter, 18 mm
EXG-18	Quick-mounting bracket with fixed stop
V12-G-YE2M-PVC	Cordset, 1/2"-20 UNF, 3-pin, PVC cable
V93-G-YE2M-STOOW	Single-ended female cordset, 7/8", 3-pin, STOOW cable

Inductive Cylindrical Standard Sensors

30 mm Series—with Plug Connection



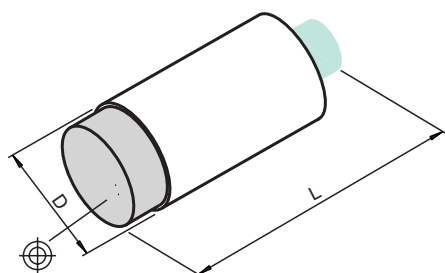
Common Technical Data

Type of voltage	DC
Housing diameter D	30 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Cable Material	Length L	CCC	EAC	UL	UKCA
NBB10-30GM40-Z0-V1	flush	10 mm	Two-wire	Normally-open (NO)	150 Hz	5 V	60 V	M12 connector plug		40 mm	■		■	
NBB10-30GM40-Z3-V1	flush	10 mm	Two-wire	Normally-open (NO)	150 Hz	5 V	60 V	M12 connector plug		40 mm	■		■	
NBB10-30GM40-E2-0,69M-PUR-V1	flush	10 mm	PNP	Normally-open (NO)	1100 Hz	5 V	36 V	Fixed cable with M12 plug	PUR	50 mm		■	■	■
NBB10-30GM50-E0-V1	flush	10 mm	NPN	Normally-open (NO)	1100 Hz	5 V	36 V	M12 connector plug		67 mm		■	■	■
NBB10-30GM50-E2-V1	flush	10 mm	PNP	Normally-open (NO)	1100 Hz	5 V	36 V	M12 connector plug		67 mm		■	■	■
NBB10-30GM50-E3-V1	flush	10 mm	PNP	Normally-closed (NC)	1100 Hz	5 V	36 V	M12 connector plug		67 mm		■	■	■
NBB10-30GM50-A0-V1	flush	10 mm	NPN	complementary	1100 Hz	5 V	36 V	M12 connector plug		67 mm		■	■	■
NBB10-30GM50-A2-V1	flush	10 mm	PNP	complementary	1100 Hz	5 V	36 V	M12 connector plug		67 mm		■	■	■
NBB10-30GS50-Z4L-V1	flush	10 mm	Two-wire	Normally-open (NO)	150 Hz	4 V	30 V	M12 connector plug		66 mm			■	
NCB10-30GM40-Z0-V1	flush	10 mm	Two-wire	Normally-open (NO)	150 Hz	5 V	60 V	M12 connector plug		40 mm	■		■	
NCB10-30GM40-Z1-V1	flush	10 mm	Two-wire	Normally-closed (NC)	150 Hz	5 V	60 V	M12 connector plug		40 mm	■		■	
NBB15-30GM30-A0-V1	flush	15 mm	NPN	complementary	550 Hz	5 V	36 V	M12 connector plug		47 mm		■	■	■
NBB15-30GM30-A2-V1	flush	15 mm	PNP	complementary	550 Hz	5 V	36 V	M12 connector plug		47 mm		■	■	■
NBB15-30GM30-E2-V1	flush	15 mm	PNP	Normally-open (NO)	550 Hz	5 V	36 V	M12 connector plug		47 mm		■	■	■
NBB15-30GM30-E3-V1	flush	15 mm	PNP	Normally-closed (NC)	550 Hz	5 V	36 V	M12 connector plug		47 mm		■	■	■
NBB15-30GM50-A0-V1	flush	15 mm	NPN	complementary	550 Hz	5 V	36 V	M12 connector plug		67 mm		■	■	■
NBB15-30GM50-A2-V1	flush	15 mm	PNP	complementary	550 Hz	5 V	36 V	M12 connector plug		67 mm		■	■	■
NBB15-30GM50-E0-V1	flush	15 mm	NPN	Normally-open (NO)	550 Hz	5 V	36 V	M12 connector plug		67 mm		■	■	■
NBB15-30GM50-E2-V1	flush	15 mm	PNP	Normally-open (NO)	550 Hz	5 V	36 V	M12 connector plug		67 mm		■	■	■
NBB15-30GM50-EI-V1	flush	15 mm	Digital current output		700 Hz	9 V	30 V	M12 connector plug		65 mm			■	
NBN15-30GM40-Z0-V1	nonflush	15 mm	Two-wire	Normally-open (NO)	150 Hz	5 V	60 V	M12 connector plug		40 mm	■		■	
NBN15-30GM40-Z3-V1	nonflush	15 mm	Two-wire	Normally-open (NO)	150 Hz	5 V	60 V	M12 connector plug		40 mm	■		■	
NBN15-30GM50-A0-V1	nonflush	15 mm	NPN	complementary	1150 Hz	5 V	36 V	M12 connector plug		66 mm		■	■	■
NBN15-30GM50-A2-V1	nonflush	15 mm	PNP	complementary	1150 Hz	5 V	36 V	M12 connector plug		66 mm		■	■	■
NBN15-30GM50-E0-V1	nonflush	15 mm	NPN	Normally-open (NO)	1150 Hz	5 V	36 V	M12 connector plug		66 mm		■	■	■
NBN15-30GM50-E2-V1	nonflush	15 mm	PNP	Normally-open (NO)	1150 Hz	5 V	36 V	M12 connector plug		66 mm		■	■	■
NBN15-30GS50-Z4L-V1	nonflush	15 mm	Two-wire	Normally-open (NO)	700 Hz	4 V	30 V	M12 connector plug		66 mm			■	

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Cable Material	Length L	CCC	EAC	UL	UKCA
NCB15-30GM50-Z4-V1	flush	15 mm	Two-wire	Normally-open (NO)	500 Hz	3.5 V	30 V	M12 connector plug		48 mm			■	
NCB15-30GM50-Z5-V1	flush	15 mm	Two-wire	Normally-closed (NC)	500 Hz	3.5 V	30 V	M12 connector plug		48 mm			■	
NCN15-30GM40-Z0-V1	nonflush	15 mm	Two-wire	Normally-open (NO)	100 Hz	5 V	60 V	M12 connector plug		40 mm	■		■	
NCN15-30GM40-Z1-V1	nonflush	15 mm	Two-wire	Normally-closed (NC)	100 Hz	5 V	60 V	M12 connector plug		40 mm	■		■	
NXB15-30GM50-E2-V1	flush	15 mm	PNP	Normally-open (NO)	100 Hz	10 V	30 V	M12 connector plug		67 mm			■	
NBN20-30GM50-EI-V1	nonflush	20 mm	Digital current output		1000 Hz	9 V	30 V	M12 connector plug		65 mm			■	
NEB22-30GM60-E0-V1	semi-flush	22 mm	NPN	Normally-open (NO)	150 Hz	10 V	30 V	M12 connector plug		73.5 mm				
NEB22-30GM60-E2-V1	semi-flush	22 mm	PNP	Normally-open (NO)	150 Hz	10 V	30 V	M12 connector plug		73.5 mm			■	
NEB22-30GM60-E3-V1	semi-flush	22 mm	PNP	Normally-closed (NC)	150 Hz	10 V	30 V	M12 connector plug		73.5 mm				
NBN25-30GM35-A0-V1	nonflush	25 mm	NPN	complementary	400 Hz	5 V	36 V	M12 connector plug		51 mm		■	■	■
NBN25-30GM35-A2-V1	nonflush	25 mm	PNP	complementary	400 Hz	5 V	36 V	M12 connector plug		51 mm		■	■	■
NBN25-30GM35-E2-V1	nonflush	25 mm	PNP	Normally-open (NO)	400 Hz	5 V	36 V	M12 connector plug		51 mm		■	■	■
NBN25-30GM50-E0-V1	nonflush	25 mm	NPN	Normally-open (NO)	400 Hz	5 V	36 V	M12 connector plug		66 mm		■	■	■
NBN25-30GM50-E2-V1	nonflush	25 mm	PNP	Normally-open (NO)	400 Hz	5 V	36 V	M12 connector plug		66 mm		■	■	■
NBN25-30GM50-E3-V1	nonflush	25 mm	PNP	Normally-closed (NC)	400 Hz	5 V	36 V	M12 connector plug		66 mm		■	■	■
NBN25-30GM60-E2-V1	nonflush	25 mm	PNP	Normally-open (NO)	400 Hz	5 V	36 V	M12 connector plug		66 mm		■	■	■
NBN25-30GM70-E1-V1	nonflush	25 mm	NPN	Normally-closed (NC)	400 Hz	5 V	36 V	M12 connector plug		86 mm		■	■	■
NCN25-30GM50-Z4-V1	nonflush	25 mm	Two-wire	Normally-open (NO)	500 Hz	3.5 V	30 V	M12 connector plug		48 mm			■	
NXN25-30GM50-E2-V1	nonflush	25 mm	PNP	Normally-open (NO)	100 Hz	10 V	30 V	M12 connector plug		66 mm			■	
NEN40-30GM60-E0-V1	nonflush	40 mm	NPN	Normally-open (NO)	100 Hz	10 V	30 V	M12 connector plug		73.5 mm				
NEN40-30GM60-E2-V1	nonflush	40 mm	PNP	Normally-open (NO)	100 Hz	10 V	30 V	M12 connector plug		73.5 mm			■	
NEN40-30GM60-E3-V1	nonflush	40 mm	PNP	Normally-closed (NC)	100 Hz	10 V	30 V	M12 connector plug		73.5 mm				



Accessories

BF 30	Mounting adapter, 30 mm
BF 30-F	Plastic mounting adapter, 30 mm
MH-EXG-30	Quick-mounting bracket with fixed stop
V1-G-2M-PUR	Single-ended female cordset, M12, straight A-coded, 4-pin, PUR cable, gray
V1-G-2M-PVC	Single-ended female cordset, M12, straight A-coded, 4-pin, PVC cable, gray
V1-G-BK	Single-ended female cordset, straight, M12, 4-pin, field attachable
V1-G-BK2M-PUR-U	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, black, UL-approved, suitable for drag chains, torsion-proof
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PVC	Single-ended female cordset, M12, 4-pin, PVC cable
V1-W-BK	Single-ended female cordset, angled, M12, 4-pin, field attachable
V1-W-BK2M-PUR-U	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, black, UL-approved, suitable for drag chains, torsion-proof

Inductive Cylindrical Standard Sensors

30 mm Series—with Cable Connection



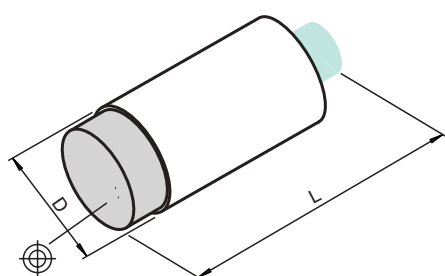
Common Technical Data

Type of voltage	DC
Connection type	Fixed cable
Housing diameter D	30 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	Cable Length	Cable Material	Length L	CCC	EAC	UL	UKCA
NBB8-30GM60-I3	flush	8 mm	Analog current output	0 mA ... 20 mA		15 V	30 V	2000 mm	PVC	60 mm			■	
NBB10-30GM40-E2	flush	10 mm	PNP	Normally-open (NO)	1100 Hz	5 V	36 V	2000 mm	PVC	50 mm		■	■	■
NBB10-30GM50-E0	flush	10 mm	NPN	Normally-open (NO)	1100 Hz	5 V	36 V	2000 mm	PVC	60 mm		■	■	■
NBB10-30GM50-E2	flush	10 mm	PNP	Normally-open (NO)	1100 Hz	5 V	36 V	2000 mm	PVC	60 mm		■	■	■
NBB10-30GK50-E0	flush	10 mm	NPN	Normally-open (NO)	200 Hz	10 V	30 V	2000 mm	PVC	50 mm			■	
NBB10-30GK50-E2	flush	10 mm	PNP	Normally-open (NO)	200 Hz	10 V	30 V	2000 mm	PVC	50 mm			■	
NBB10-30GK50-E2-10M	flush	10 mm	PNP	Normally-open (NO)	200 Hz	10 V	30 V	10,000 mm	PVC	50 mm			■	
NBB10-30GK50-E2-15M	flush	10 mm	PNP	Normally-open (NO)	200 Hz	10 V	30 V	5000 mm	PVC	50 mm			■	
NBB10-30GM40-Z0	flush	10 mm	Two-wire	Normally-open (NO)	150 Hz	5 V	60 V	2000 mm	PVC	40 mm	■		■	
NBB10-30GS50-Z4L	flush	10 mm	Two-wire	Normally-open (NO)	150 Hz	4 V	30 V	2000 mm	PUR	61 mm			■	
NBB10-30GK50-E2-30M	flush	10 mm	PNP	Normally-open (NO)	200 Hz	10 V	30 V	30,000 mm	PVC	50 mm			■	
NBB10-30GM50-A0	flush	10 mm	NPN	complementary	1100 Hz	5 V	36 V	2000 mm	PVC	60 mm		■	■	■
NBB10-30GM50-A2	flush	10 mm	PNP	complementary	1100 Hz	5 V	36 V	2000 mm	PVC	60 mm		■	■	■
NBB10-30GM50-A2-5M	flush	10 mm	PNP	complementary	1100 Hz	5 V	36 V	5000 mm	PVC	60 mm		■	■	■
NBB10-30GM50-E0-5M	flush	10 mm	NPN	Normally-open (NO)	1100 Hz	5 V	36 V	5000 mm	PVC	60 mm		■	■	■
NBB10-30GM50-E0-10M	flush	10 mm	NPN	Normally-open (NO)	1100 Hz	5 V	36 V	10,000 mm	PVC	60 mm		■	■	■
NBB10-30GM50-E2-5M	flush	10 mm	PNP	Normally-open (NO)	1100 Hz	5 V	36 V	5000 mm	PVC	60 mm		■	■	■
NBB10-30GM50-E2-10M	flush	10 mm	PNP	Normally-open (NO)	1100 Hz	5 V	36 V	10,000 mm	PVC	60 mm		■	■	■
NCB10-30GM40-Z0	flush	10 mm	Two-wire	Normally-open (NO)	150 Hz	5 V	60 V	2000 mm	PUR	40 mm	■		■	
NCB10-30GM40-Z1	flush	10 mm	Two-wire	Normally-closed (NC)	150 Hz	5 V	60 V	2000 mm	PUR	40 mm	■		■	
NBB15-30GM30-A0	flush	15 mm	NPN	complementary	550 Hz	5 V	36 V	2000 mm	PVC	40 mm		■	■	■
NBB15-30GM30-A2	flush	15 mm	PNP	complementary	550 Hz	5 V	36 V	2000 mm	PVC	40 mm		■	■	■
NBB15-30GM30-E2	flush	15 mm	PNP	Normally-open (NO)	550 Hz	5 V	36 V	2000 mm	PVC	40 mm		■	■	■
NBB15-30GM30-E3	flush	15 mm	PNP	Normally-closed (NC)	550 Hz	5 V	36 V	2000 mm	PVC	40 mm		■	■	■
NBB15-30GM50-E0	flush	15 mm	NPN	Normally-open (NO)	550 Hz	5 V	36 V	2000 mm	PVC	60 mm		■	■	■
NBB15-30GM50-E2	flush	15 mm	PNP	Normally-open (NO)	550 Hz	5 V	36 V	2000 mm	PVC	40 mm		■	■	■
NBB15-30GM50-E2-10M	flush	15 mm	PNP	Normally-open (NO)	550 Hz	5 V	36 V	10,000 mm	PVC	60 mm		■	■	■
NBB15-30GM50-EI	flush	15 mm	Digital current output		700 Hz	9 V	30 V	2000 mm	PUR	50 mm			■	
NBB15-30GM50-A0	flush	15 mm	NPN	complementary	550 Hz	5 V	36 V	2000 mm	PVC	60 mm		■	■	■
NBB15-30GM50-A2	flush	15 mm	PNP	complementary	550 Hz	5 V	36 V	2000 mm	PVC	60 mm		■	■	■
NBB15-30GM50-A2-10M	flush	15 mm	PNP	complementary	550 Hz	5 V	36 V	10,000 mm	PVC	60 mm		■	■	■
NBB15-30GM70-E3	flush	15 mm	PNP	Normally-closed (NC)	550 Hz	5 V	36 V	2000 mm	PVC	80 mm		■	■	■
NBN15-30GM40-Z0	nonflush	15 mm	Two-wire	Normally-open (NO)	150 Hz	5 V	60 V	2000 mm	PVC	40 mm	■		■	
NBN15-30GM50-E2	nonflush	15 mm	PNP	Normally-open (NO)	1150 Hz	5 V	36 V	2000 mm	PVC	60 mm		■	■	■
NBN15-30GK50-E0	nonflush	15 mm	NPN	Normally-open (NO)	200 Hz	10 V	30 V	2000 mm	PVC	50 mm			■	
NBN15-30GK50-E2	nonflush	15 mm	PNP	Normally-open (NO)	200 Hz	10 V	30 V	2000 mm	PVC	50 mm			■	
NBN15-30GK50-E2-25M	nonflush	15 mm	PNP	Normally-open (NO)	200 Hz	10 V	30 V	5000 mm	PVC	50 mm			■	
NBN15-30GM50-A0	nonflush	15 mm	NPN	complementary	1150 Hz	5 V	36 V	2000 mm	PVC	60 mm		■	■	■
NBN15-30GM50-A2	nonflush	15 mm	PNP	complementary	1150 Hz	5 V	36 V	2000 mm	PVC	60 mm		■	■	■

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	Cable Length	Cable Material	Length L	CCC	EAC	UL	UKCA
NBN15-30GM50-A2-5M	nonflush	15 mm	PNP	complementary	1150 Hz	5 V	36 V	5000 mm	PVC	59 mm		■	■	■
NBN15-30GM50-E0	nonflush	15 mm	NPN	Normally-open (NO)	1150 Hz	5 V	36 V	2000 mm	PVC	60 mm		■	■	■
NBN15-30GM50-E0-5M	nonflush	15 mm	NPN	Normally-open (NO)	1150 Hz	5 V	36 V	5000 mm	PVC	59 mm		■	■	■
NBN15-30GM50-E2-5M	nonflush	15 mm	PNP	Normally-open (NO)	1150 Hz	5 V	36 V	5000 mm	PVC	59 mm		■	■	■
NBN15-30GM60-I3	nonflush	15 mm	Analog current output	0 mA ... 20 mA		15 V	30 V	2000 mm	PVC	60 mm			■	
NBN15-30GM60-I3-5M	nonflush	15 mm	Analog current output	0 mA ... 20 mA		15 V	30 V	5000 mm	PVC	60 mm			■	
NBN15-30GS50-Z4L	nonflush	15 mm	Two-wire	Normally-open (NO)	150 Hz	4 V	30 V	2000 mm	PUR	61 mm			■	
NCB15-30GM50-Z4	flush	15 mm	Two-wire	Normally-open (NO)	500 Hz	3.5 V	30 V	2000 mm	PVC	48 mm			■	
NCB15-30GM50-Z5	flush	15 mm	Two-wire	Normally-closed (NC)	500 Hz	3.5 V	30 V	2000 mm	PVC	48 mm			■	
NCN15-30GM40-Z0	nonflush	15 mm	Two-wire	Normally-open (NO)	100 Hz	5 V	60 V	2000 mm	PUR	40 mm	■		■	
NCN15-30GM40-Z0-10M	nonflush	15 mm	Two-wire	Normally-open (NO)	100 Hz	5 V	60 V	10,000 mm	PUR	40 mm	■		■	
NCN15-30GM40-Z1	nonflush	15 mm	Two-wire	Normally-closed (NC)	100 Hz	5 V	60 V	2000 mm	PUR	40 mm	■		■	
NXB15-30GM50-E2	flush	15 mm	PNP	Normally-open (NO)	100 Hz	10 V	30 V	2000 mm	PVC	60 mm			■	
NBN20-30GM50-EI	nonflush	20 mm	Digital current output		1000 Hz	9 V	30 V	2000 mm	PUR	50 mm			■	
NEB22-30GM60-E0	semi-flush	22 mm	NPN	Normally-open (NO)	150 Hz	10 V	30 V	2000 mm	PVC	60 mm				
NEB22-30GM60-E2	semi-flush	22 mm	PNP	Normally-open (NO)	150 Hz	10 V	30 V	2000 mm	PVC	60 mm				
NBN25-30GM35-A0	nonflush	25 mm	NPN	complementary	400 Hz	5 V	36 V	2000 mm	PVC	44 mm		■	■	■
NBN25-30GM35-A2	nonflush	25 mm	PNP	complementary	400 Hz	5 V	36 V	2000 mm	PVC	44 mm		■	■	■
NBN25-30GM35-E2	nonflush	25 mm	PNP	Normally-open (NO)	400 Hz	5 V	36 V	2000 mm	PVC	44 mm		■	■	■
NBN25-30GM50-E0	nonflush	25 mm	NPN	Normally-open (NO)	400 Hz	5 V	36 V	2000 mm	PVC	60 mm		■	■	■
NBN25-30GM50-E2	nonflush	25 mm	PNP	Normally-open (NO)	400 Hz	5 V	36 V	2000 mm	PVC	60 mm		■	■	■
NBN25-30GM50-E2-5M	nonflush	25 mm	PNP	Normally-open (NO)	400 Hz	5 V	36 V	5000 mm	PVC	59 mm		■	■	■
NCN25-30GM50-Z4	nonflush	25 mm	Two-wire	Normally-open (NO)	500 Hz	3.5 V	30 V	2000 mm	PVC	48 mm			■	
NCN25-30GM50-Z5	nonflush	25 mm	Two-wire	Normally-closed (NC)	500 Hz	3.5 V	30 V	2000 mm	PVC	48 mm			■	
NBN25-30GM70-E2	nonflush	25 mm	PNP	Normally-open (NO)	400 Hz	5 V	36 V	2000 mm	PVC	79 mm		■	■	■
NBN25-30GM70-E2-5M	nonflush	25 mm	PNP	Normally-open (NO)	400 Hz	5 V	36 V	5000 mm	PVC	79 mm		■	■	■
NXN25-30GM50-E2	nonflush	25 mm	PNP	Normally-open (NO)	100 Hz	10 V	30 V	2000 mm	PVC	59 mm			■	
NEN40-30GM60-E0	nonflush	40 mm	NPN	Normally-open (NO)	100 Hz	10 V	30 V	2000 mm	PVC	60 mm				
NEN40-30GM60-E2	nonflush	40 mm	PNP	Normally-open (NO)	100 Hz	10 V	30 V	2000 mm	PVC	60 mm				



Accessories

BF 18-F	Plastic mounting adapter, 18 mm
BF 30	Mounting adapter, 30 mm
BF 30-F	Plastic mounting adapter, 30 mm
MH 01-M18	Mounting bracket for sensors
MH-EXG-30	Quick-mounting bracket with fixed stop

Inductive Cylindrical Standard Sensors

30 mm Series—250 V Version



Common Technical Data

Type of output	Two-wire
Operating voltage (min)	20 V
Housing diameter D	30 mm
UL	■

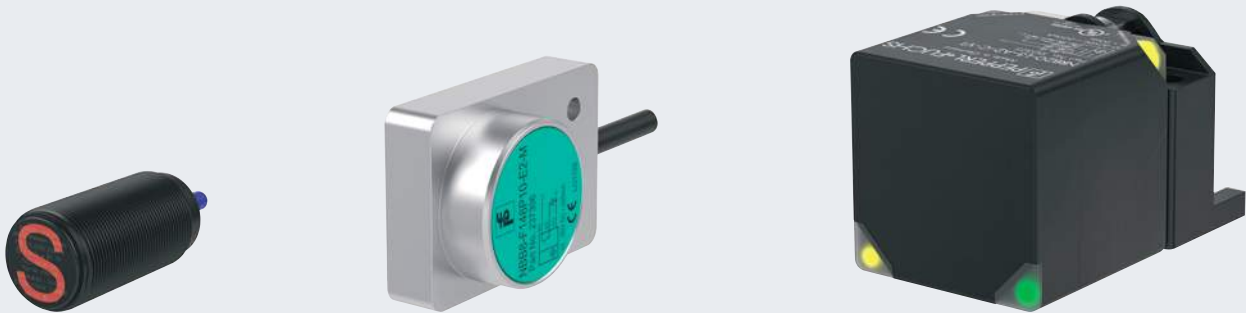
For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Switching Element Function	Type of Voltage	Switching Frequency	UB (Max)	Connection Type	Cable Length	Cable Material	Length L	CCC
NBB10-30GKK-WO	flush	10 mm	Normally-closed (NC)	AC	20 Hz	250 V	Terminal compartment			115 mm	■
NBB10-30GKK-WS	flush	10 mm	Normally-open (NO)	AC	20 Hz	250 V	Terminal compartment			115 mm	■
NBB10-30GM50-WO	flush	10 mm	Normally-closed (NC)	AC	20 Hz	253 V	Fixed cable	2000 mm	PVC	50 mm	■
NBB10-30GM50-WO-10M	flush	10 mm	Normally-closed (NC)	AC	20 Hz	253 V	Fixed cable	10,000 mm	PVC	50 mm	■
NBB10-30GM50-WO-5M	flush	10 mm	Normally-closed (NC)	AC	20 Hz	253 V	Fixed cable	5000 mm	PVC	50 mm	■
NBB10-30GM50-WO-V12	flush	10 mm	Normally-closed (NC)	AC	20 Hz	253 V	1/2 inch connector plug			60 mm	■
NBB10-30GM50-WO-V93	flush	10 mm	Normally-closed (NC)	AC	20 Hz	253 V	7/8 inch connector plug			50 mm	■
NBB10-30GM50-WS	flush	10 mm	Normally-open (NO)	AC	20 Hz	253 V	Fixed cable	2000 mm	PVC	50 mm	■
NBB10-30GM50-WS-10M	flush	10 mm	Normally-open (NO)	AC	20 Hz	253 V	Fixed cable	10,000 mm	PVC	50 mm	■
NBB10-30GM50-WS-V12	flush	10 mm	Normally-open (NO)	AC	20 Hz	253 V	1/2 inch connector plug			60 mm	■
NBB10-30GM50-WS-V93	flush	10 mm	Normally-open (NO)	AC	20 Hz	253 V	7/8 inch connector plug			50 mm	■
NBB15-30GKK-WO	flush	15 mm	Normally-closed (NC)	AC	20 Hz	250 V	Terminal compartment			115 mm	■
NBB15-30GKK-WS	flush	15 mm	Normally-open (NO)	AC	20 Hz	250 V	Terminal compartment			115 mm	■
NBB15-30GM50-UO	flush	15 mm	Normally-closed (NC)	AC/DC	30 Hz	300 V	Fixed cable	2000 mm	PUR	50 mm	■
NBB15-30GM50-UO-5M	flush	15 mm	Normally-closed (NC)	AC/DC	30 Hz	300 V	Fixed cable	5000 mm	PUR	50 mm	■
NBB15-30GM50-UO-V12	flush	15 mm	Normally-closed (NC)	AC/DC	30 Hz	300 V	M12 connector plug			60 mm	■
NBB15-30GM50-UO-V93	flush	15 mm	Normally-closed (NC)	AC/DC	30 Hz	300 V	7/8 inch connector plug			65 mm	■
NBB15-30GM50-US	flush	15 mm	Normally-open (NO)	AC/DC	30 Hz	300 V	Fixed cable	2000 mm	PUR	50 mm	■
NBB15-30GM50-US-5M	flush	15 mm	Normally-open (NO)	AC/DC	30 Hz	300 V	Fixed cable	5000 mm	PUR	50 mm	■
NBB15-30GM50-US-8M	flush	15 mm	Normally-open (NO)	AC/DC	30 Hz	300 V	Fixed cable	8000 mm	PUR	50 mm	■
NBB15-30GM50-US-V12	flush	15 mm	Normally-open (NO)	AC/DC	30 Hz	300 V	1/2 inch connector plug			60 mm	■
NBB15-30GM50-US-V93	flush	15 mm	Normally-open (NO)	AC/DC	30 Hz	300 V	7/8 inch connector plug			65 mm	■
NBB15-30GM50-WO	semi-flush	15 mm	Normally-closed (NC)	AC	20 Hz	253 V	Fixed cable	2000 mm	PVC	50 mm	■
NBB15-30GM50-WO-V12	semi-flush	15 mm	Normally-closed (NC)	AC	20 Hz	253 V	1/2 inch connector plug			60 mm	■
NBB15-30GM50-WO-V93	semi-flush	15 mm	Normally-closed (NC)	AC	20 Hz	253 V	7/8 inch connector plug			50 mm	■
NBB15-30GM50-WS	semi-flush	15 mm	Normally-open (NO)	AC	20 Hz	253 V	Fixed cable	2000 mm	PVC	50 mm	■
NBB15-30GM50-WS-5M	semi-flush	15 mm	Normally-open (NO)	AC	20 Hz	253 V	Fixed cable	5000 mm	PVC	50 mm	■
NBB15-30GM50-WS-V12	semi-flush	15 mm	Normally-open (NO)	AC	20 Hz	253 V	1/2 inch connector plug			60 mm	■
NBB15-30GM50-WS-V93	semi-flush	15 mm	Normally-open (NO)	AC	20 Hz	253 V	7/8 inch connector plug			50 mm	■
NBN25-30GM50-UO	nonflush	25 mm	Normally-closed (NC)	AC/DC	30 Hz	300 V	Fixed cable	2000 mm	PUR	51 mm	■
NBN25-30GM50-UO-V12	nonflush	25 mm	Normally-closed (NC)	AC/DC	30 Hz	300 V	1/2 inch connector plug			60 mm	■
NBN25-30GM50-UO-V93	nonflush	25 mm	Normally-closed (NC)	AC/DC	30 Hz	300 V	7/8 inch connector plug			65 mm	■
NBN25-30GM50-US	nonflush	25 mm	Normally-open (NO)	AC/DC	30 Hz	300 V	Fixed cable	2000 mm	PUR	51 mm	■
NBN25-30GM50-US-V12	nonflush	25 mm	Normally-open (NO)	AC/DC	30 Hz	300 V	1/2 inch connector plug			60 mm	■
NBN25-30GM50-US-V93	nonflush	25 mm	Normally-open (NO)	AC/DC	30 Hz	300 V	7/8 inch connector plug			65 mm	■
NBN25-30GM65-US-5M	nonflush	25 mm	Normally-open (NO)	AC/DC	30 Hz	300 V	Fixed cable	5000 mm	PUR	51 mm	■

Accessories

V12-G-YE2M-PVC	Cordset, 1/2"-20 UNF, 3-pin, PVC cable
V93-G-YE2M-STOOW	Single-ended female cordset, 7/8", 3-pin, STOOW cable

Specialized Sensors for Specific Tasks



Whether it is for welding work in automotive manufacturing, severe temperature fluctuations in mobile applications, or specific safety requirements in hazardous areas, Pepperl+Fuchs offers the best sensor to meet any challenge.

Industry-Specific Special Sensors

In addition to the scope of our comprehensive standard portfolio, different industries also place their own specific requirements on sensor technology. The automotive, mobile equipment, and process industries are three extreme examples where intrinsically safe NAMUR sensors are used. In addition to these three areas, Pepperl+Fuchs offers a range of sensors specifically tailored to individual industry requirements.

Typical Applications

- Position querying in the welding areas of automotive manufacturing
- Valve position feedback in explosion-hazardous areas
- Outrigger monitoring for mobile cranes

Your Benefits at a Glance

- Largest portfolio of sensors for explosion protection with global approvals (e.g. ATEX, IECEx, EAC-Ex), e.g., for the process industry
- Weld-proof sensors for maximum robustness, e.g., in automotive manufacturing
- Pressure-resistant sensors for maximum resistance when used in hydraulic cylinders, for example
- Extremely resistant sensors with E1 approval for use on public roads in the mobile equipment industry
- Reduction factor 1 sensors with the same switching distance with all metals for maximum flexibility, e.g., in mechanical engineering



Proximity Sensors in Special Housing Designs

In addition to industry-specific solutions, sensors often have to be adapted to specific installation conditions. As well as the countless cylindrical and cubic standard housing designs, the Pepperl+Fuchs portfolio also includes special housing designs that have been specially adapted to the spatial conditions of certain applications.

Typical Applications

- Ring-shaped proximity sensors for detecting and counting small parts or detecting fill levels
- F58 housing design: detection of two different target positions in minimal space, e.g., for power clamps

The Benefits of Selected Sensors at a Glance

Ring-Shaped Proximity Sensors with RC/RJ Housing Design:

- Reliable detection of even the smallest parts due to high accuracy
- High passing speed of up to 10 m/s
- Bistable models with direction detection
- NAMUR versions with explosion protection approval for Zone 1

F58 Housing Design for Power Clamps:

- Special housing design with two sensors connected to the main housing via a flexible cable
- Flexible installation thanks to the rotating M12 connector
- A number of sensor housing designs available for minimal installation space
- Easy diagnosis via a bright LED strip around the edge

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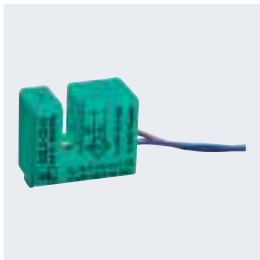
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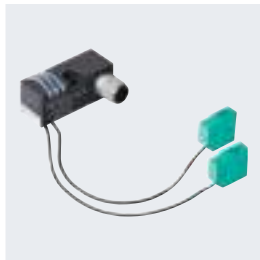
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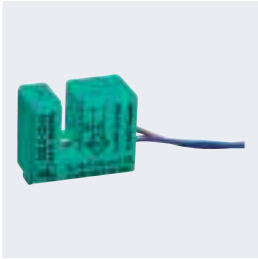
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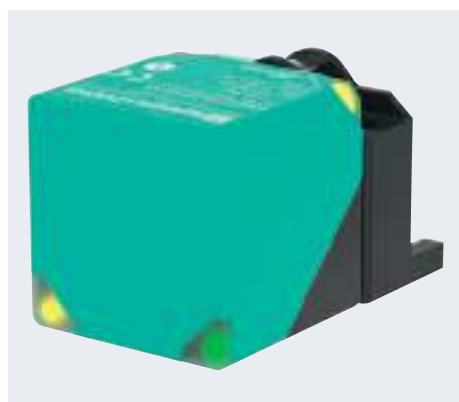


**Dual Sensor
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Inductive Cubic Proximity Sensors with Reduction Factor 1

Cubic Sensors with Reduction Factor 1



Common Technical Data

Special features	Reduction factor 1
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing height H	40 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	Connection Type	Length L	Width W
NRB20-L3-A2-V1	flush	20 mm	PNP	complementary	440 Hz	M12 connector plug	67 mm	40 mm
NRB20-L3-E2-V1	flush	20 mm	PNP	Normally-open (NO)	440 Hz	M12 connector plug	67 mm	40 mm
NRB20-U1-A2	flush	20 mm	PNP	complementary	440 Hz	Terminal compartment	118 mm	40 mm
NRB20-U1-E2-V1	flush	20 mm	PNP	Normally-open (NO)	440 Hz	M12 connector plug	118 mm	40 mm
NRN35-L3-A2-V1	Non-flush	35 mm	PNP	complementary	180 Hz	M12 connector plug	67 mm	40 mm
NRN40-L3K-A0-V1	Non-flush	40 mm	NPN	complementary	180 Hz	M12 connector plug	67 mm	40 mm
NRN40-L3K-A2-V1	nonflush	40 mm	PNP	complementary	180 Hz	M12 connector plug	67 mm	40 mm
NRN40-U1-A2	nonflush	40 mm	PNP	complementary	180 Hz	Terminal compartment	118 mm	40 mm
NRN40-U1-E2-V1	nonflush	40 mm	PNP	Normally-open (NO)	180 Hz	M12 connector plug	118 mm	40 mm
NRB50-FP-A2-P3-V1	flush	50 mm	PNP	complementary	80 Hz	M12 connector plug	84 mm	84 mm
NRB50-FP-E2-P3-V1	flush	50 mm	PNP	Normally-open (NO)	80 Hz	M12 connector plug	84 mm	84 mm
NRN75-FP-A2-P3	nonflush	75 mm	PNP	complementary	50 Hz	Terminal compartment	80 mm	80 mm
NRN75-FP-A2-P3-V1	nonflush	75 mm	PNP	complementary	50 Hz	M12 connector plug	80 mm	80 mm

Highlights

- Maximum flexibility—wide range of sensors for material-independent detection of metallic objects with identical sensing range
- Highly rugged and weld-proof sensors with degree of protection up to IP68/IP69K for use in harsh industrial environments

Brief Description

The broad portfolio of reduction factor 1 sensors from Pepperl+Fuchs enables maximum flexibility in the design of machines and plants. This is ensured through industry-standard cylindrical and cubic housing designs, different cable versions, variants with IO-Link, and weld-proof and chemically resistant special sensors for particularly harsh operational conditions. Users benefit from Pepperl+Fuchs' technological expertise and many years of experience as pioneers of inductive sensor technology as part of customer and application-specific adaptations.

Accessories

MH 02-L	Mounting aid
MH 04-2681F	Mounting aid for VariKont, +U1+, and +U9* sensors
MHW 01	Modular mounting bracket
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled A-coded, 4-pin, PUR cable, gray

Inductive Cylindrical Proximity Sensors with Reduction Factor 1

Cylindrical Sensors with Reduction Factor 1



Common Technical Data

Special features	Reduction factor 1
Type of output	PNP
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Switching Element Function	Switching Frequency	Connection Type	Cable Length	Cable Material	Length L	Diameter D	EAC
NRB2-6,5S40-E2-V3	flush	2 mm	Normally-open (NO)	4000 Hz	M8 connector plug			40 mm	6.5 mm	
NRB2-8GH40-E2	flush	2 mm	Normally-open (NO)	4000 Hz	Fixed cable	2000 mm	PVC	40 mm	8 mm	
NRB2-8GH40-E2-V1	flush	2 mm	Normally-open (NO)	4000 Hz	M12 connector plug			40 mm	8 mm	
NRB2-8GS40-E2-V1	flush	2 mm	Normally-open (NO)	4000 Hz	M12 connector plug			40 mm	8 mm	
NRB2-8GS40-E2-V3	flush	2 mm	Normally-open (NO)	4000 Hz	M8 connector plug			40 mm	8 mm	■
NRB3-12GS40-E2-V1	flush	3 mm	Normally-open (NO)	2000 Hz	M12 connector plug			55 mm	12 mm	
NRB4-12GH40-E2	flush	4 mm	Normally-open (NO)	2000 Hz	Fixed cable	2000 mm	PVC	40 mm	12 mm	
NRB4-12GH40-E2-V1	flush	4 mm	Normally-open (NO)	2000 Hz	M12 connector plug			55 mm	12 mm	
NRB4-12GS40-A2-V1	flush	4 mm	complementary	2000 Hz	M12 connector plug			55 mm	12 mm	
NRB4-12GS40-E2	flush	4 mm	Normally-open (NO)	2000 Hz	Fixed cable	2000 mm	PVC	40 mm	12 mm	
NRB4-12GS40-E2-V1	flush	4 mm	Normally-open (NO)	2000 Hz	M12 connector plug			55 mm	12 mm	■
NRB4-12GS40-E3-V1	flush	4 mm	Normally-closed (NC)	2000 Hz	M12 connector plug			55 mm	12 mm	
NRB6-18GS40-E2-V1	flush	6 mm	Normally-open (NO)	1200 Hz	M12 connector plug			55 mm	18 mm	
NRN6-6,5S40-E2-V3	nonflush	6 mm	Normally-open (NO)	2500 Hz	M8 connector plug			40 mm	6.5 mm	
NRN6-8GH40-E2	nonflush	6 mm	Normally-open (NO)	2500 Hz	Fixed cable	2000 mm	PVC	40 mm	8 mm	
NRN6-8GH40-E2-V1	nonflush	6 mm	Normally-open (NO)	2500 Hz	M12 connector plug			40 mm	8 mm	
NRN6-8GS40-E2-V1	nonflush	6 mm	Normally-open (NO)	2500 Hz	M12 connector plug			40 mm	8 mm	
NRN6-8GS40-E2-V3	nonflush	6 mm	Normally-open (NO)	2500 Hz	M8 connector plug			40 mm	8 mm	
NRB8-18GH40-E2	flush	8 mm	Normally-open (NO)	1200 Hz	Fixed cable	2000 mm	PVC	45 mm	18 mm	
NRB8-18GH40-E2-V1	flush	8 mm	Normally-open (NO)	1200 Hz	M12 connector plug			55 mm	18 mm	
NRB8-18GS40-A2-V1	flush	8 mm	complementary	1200 Hz	M12 connector plug			55 mm	18 mm	
NRB8-18GS40-E2-V1	flush	8 mm	Normally-open (NO)	1200 Hz	M12 connector plug			55 mm	18 mm	
NRB8-18GS50-E2	flush	8 mm	Normally-open (NO)	1200 Hz	Fixed cable	2000 mm	PVC	55 mm	18 mm	
NRB8-18GS50-E2-V1	flush	8 mm	Normally-open (NO)	1200 Hz	M12 connector plug			65 mm	18 mm	
NRB8-18GS50-E3-V1	flush	8 mm	Normally-closed (NC)	1200 Hz	M12 connector plug			65 mm	18 mm	
NRN10-12GH40-E2	nonflush	10 mm	Normally-open (NO)	1500 Hz	Fixed cable	2000 mm	PVC	40 mm	12 mm	
NRN10-12GH40-E2-V1	nonflush	10 mm	Normally-open (NO)	1500 Hz	M12 connector plug			55 mm	12 mm	
NRN10-12GS40-A2-V1	nonflush	10 mm	complementary	1500 Hz	M12 connector plug			55 mm	12 mm	
NRN10-12GS40-E2	nonflush	10 mm	Normally-open (NO)	1500 Hz	Fixed cable	2000 mm	PVC	40 mm	12 mm	
NRN10-12GS40-E2-V1	nonflush	10 mm	Normally-open (NO)	1500 Hz	M12 connector plug			55 mm	12 mm	
NRN10-12GS40-E3-V1	nonflush	10 mm	Normally-closed (NC)	1500 Hz	M12 connector plug			55 mm	12 mm	
NRB12-18GS40-E2-V1	semi-flush	12 mm	Normally-open (NO)	600 Hz	M12 connector plug			40 mm	18 mm	
NRB13-30GS50-E2-V1	flush	13 mm	Normally-open (NO)	750 Hz	M12 connector plug			65 mm	30 mm	
NRB15-30GH50-E2	flush	15 mm	Normally-open (NO)	750 Hz	Fixed cable	2000 mm	PVC	50 mm	30 mm	
NRB15-30GH50-E2-V1	flush	15 mm	Normally-open (NO)	750 Hz	M12 connector plug			65 mm	30 mm	
NRB15-30GS50-E2	flush	15 mm	Normally-open (NO)	750 Hz	Fixed cable	2000 mm	PVC	50 mm	30 mm	
NRB15-30GS50-E2-V1	flush	15 mm	Normally-open (NO)	750 Hz	M12 connector plug			65 mm	30 mm	
NRB15-30GS50-E3-V1	flush	15 mm	Normally-closed (NC)	750 Hz	M12 connector plug			65 mm	30 mm	
NRN15-18GH40-E2	nonflush	15 mm	Normally-open (NO)	800 Hz	Fixed cable	2000 mm	PVC	45 mm	18 mm	
NRN15-18GH40-E2-V1	nonflush	15 mm	Normally-open (NO)	800 Hz	M12 connector plug			55 mm	18 mm	
NRN15-18GS40-A2-V1	nonflush	15 mm	complementary	800 Hz	M12 connector plug			55 mm	18 mm	
NRN15-18GS40-E2-V1	nonflush	15 mm	Normally-open (NO)	800 Hz	M12 connector plug			55 mm	18 mm	
NRN15-18GS50-E2	nonflush	15 mm	Normally-open (NO)	800 Hz	Fixed cable	2000 mm	PVC	55 mm	18 mm	
NRN15-18GS50-E2-V1	nonflush	15 mm	Normally-open (NO)	800 Hz	M12 connector plug			65 mm	18 mm	
NRN15-18GS50-E3-V1	nonflush	15 mm	Normally-closed (NC)	800 Hz	M12 connector plug			65 mm	18 mm	
NRN30-30GH50-E2	nonflush	30 mm	Normally-open (NO)	300 Hz	Fixed cable	2000 mm	PVC	50 mm	30 mm	
NRN30-30GH50-E2-V1	nonflush	30 mm	Normally-open (NO)	300 Hz	M12 connector plug			65 mm	30 mm	
NRN30-30GS50-E2	nonflush	30 mm	Normally-open (NO)	300 Hz	Fixed cable	2000 mm	PVC	50 mm	30 mm	
NRN30-30GS50-E2-V1	nonflush	30 mm	Normally-open (NO)	300 Hz	M12 connector plug			65 mm	30 mm	
NRN30-30GS50-E3-V1	nonflush	30 mm	Normally-closed (NC)	300 Hz	M12 connector plug			65 mm	30 mm	

Highlights

- Maximum flexibility—wide range of sensors for material-independent detection of metallic objects with identical sensing range
- Highly rugged and weld-proof sensors with degree of protection up to IP68/IP69K for use in harsh industrial environments

Brief Description

The broad portfolio of reduction factor 1 sensors from Pepperl+Fuchs enables maximum flexibility in the design of machines and plants. This is ensured through industry-standard cylindrical and cubic housing designs, different cable versions, variants with IO-Link, and weld-proof and chemically resistant special sensors for particularly harsh operational conditions. Users benefit from Pepperl+Fuchs' technological expertise and many years of experience as pioneers of inductive sensor technology as part of customer and application-specific adaptations.

Accessories	
BF 12	Mounting adapter, 12 mm
BF 18	Mounting adapter, 18 mm
BF 30	Mounting adapter, 30 mm
BF 6,5	Mounting adapter, 6.5 mm
BF 8	Mounting adapter, 8 mm
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-G-OR2M-POC	Single-ended female cordset, M12, straight A-coded, 4-pin, POC cable, welding-bead resistant, orange, suitable for robots, torsion-proof, oil-resistant, cross-linked molecules
V1-W-2M-PUR	Single-ended female cordset, M12, angled A-coded, 4-pin, PUR cable, gray

Inductive Cubic Weld-Proof Proximity Sensors with Reduction Factor 1

Cubic Weld-Proof Sensors with Reduction Factor 1



Common Technical Data

Special features	Welding resistant; reduction factor 1
Type of output	PNP
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing height H	40 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Switching Element Function	Switching Frequency	Length L	Width W
NRB20-L3-A2-C-V1	flush	20 mm	complementary	440 Hz	67 mm	40 mm
NRB20-L3-E2-C-V1	flush	20 mm	Normally-open (NO)	440 Hz	67 mm	40 mm
NRB20-L3M-A2-C3-V1	flush	20 mm	complementary	440 Hz	67 mm	40 mm
NRN35-L3-A2-C-V1	nonflush	35 mm	complementary	180 Hz	67 mm	40 mm
NRN35-L3-E2-C-V1	nonflush	35 mm	Normally-open (NO)	180 Hz	67 mm	40 mm
NRN40-L3K-A2-C-V1	nonflush	40 mm	complementary	180 Hz	67 mm	40 mm
NRN40-L3K-E2-C-V1	nonflush	40 mm	Normally-open (NO)	180 Hz	67 mm	40 mm
NRB50-FP-A2-C-P3-V1	flush	50 mm	complementary	1 Hz	84 mm	84 mm
NRB50-FP-E2-C-P3-V1	flush	50 mm	Normally-open (NO)	1 Hz	84 mm	84 mm
NRN75-FP-A2-C-P3-V1	nonflush	75 mm	complementary	1 Hz	80 mm	80 mm
NRN75-FP-E2-C-P3-V1	nonflush	75 mm	Normally-open (NO)	1 Hz	80 mm	80 mm

Highlights

- Maximum flexibility—wide range of sensors for material-independent detection of metallic objects with identical sensing range
- Highly rugged and weld-proof sensors with degree of protection up to IP68/IP69K for use in harsh industrial environments
- Extremely durable thanks to rugged IP67 and IP68 housing designs with resilient PTFE coating or weld-proof plastic

Brief Description

The broad portfolio of reduction factor 1 sensors from Pepperl+Fuchs enables maximum flexibility in the design of machines and plants. This is ensured through industry-standard cylindrical and cubic housing designs, different cable versions, variants with IO-Link, and weld-proof and chemically resistant special sensors for particularly harsh operational conditions. Users benefit from Pepperl+Fuchs' technological expertise and many years of experience as pioneers of inductive sensor technology as part of customer and application-specific adaptations.

Accessories

MH 02-L	Mounting aid
MH 04-2681F	Mounting aid for VariKont, +U1+, and +U9* sensors
MHW 01	Modular mounting bracket
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-G-OR2M-POC	Single-ended female cordset, M12, straight A-coded, 4-pin, POC cable, welding-bead resistant, orange, suitable for robots, torsion-proof, oil-resistant, cross-linked molecules
V1-W-2M-PUR	Single-ended female cordset, M12, angled A-coded, 4-pin, PUR cable, gray

Inductive Cylindrical Weld-Proof Proximity Sensors with Reduction Factor 1

Cylindrical Weld-Proof Sensors with Reduction Factor 1



Common Technical Data

Special features	Welding resistant; reduction factor 1
Type of output	PNP
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Switching Element Function	Switching Frequency	Connection Type	Cable Length	Cable Material	Length L	Diameter D
NRB1,5-8GM40-E2-C-V1	flush	1.5 mm	Normally-open (NO)	1000 Hz	M12 connector plug			40 mm	8 mm
NRB2-12GM40-E2-C-V1	flush	2 mm	Normally-open (NO)	2000 Hz	M12 connector plug			55 mm	12 mm
NRB2-8GM40-E2-C-V1	flush	2 mm	Normally-open (NO)	1000 Hz	M12 connector plug			40 mm	8 mm
NRB3-12GM40-E2-C-V1	flush	3 mm	Normally-open (NO)	2000 Hz	M12 connector plug			55 mm	12 mm
NRB4-12GM40-A2-C	flush	4 mm	complementary	2000 Hz	Fixed cable	2000 mm	PUR	40 mm	12 mm
NRB4-12GM40-E2-C-V1	flush	4 mm	Normally-open (NO)	2000 Hz	M12 connector plug			55 mm	12 mm
NRB4-12GM50-E2-C-V1	flush	4 mm	Normally-open (NO)	2000 Hz	M12 connector plug			65 mm	12 mm
NRB5-18GM40-E2-C-V1	flush	5 mm	Normally-open (NO)	600 Hz	M12 connector plug			55 mm	18 mm
NRB5-18GM50-E2-C-V1	flush	5 mm	Normally-open (NO)	600 Hz	M12 connector plug			65 mm	18 mm
NRB6-18GM40-E2-C-V1	flush	6 mm	Normally-open (NO)	600 Hz	M12 connector plug			55 mm	18 mm
NRN6-8GM40-E2-C-V1	nonflush	6 mm	Normally-open (NO)	400 Hz	M12 connector plug			40 mm	8 mm
NRB8-18GM40-E2-C-V1	flush	8 mm	Normally-open (NO)	600 Hz	M12 connector plug			55 mm	18 mm
NRB8-18GM50-A2-C	flush	8 mm	complementary	600 Hz	Fixed cable	2000 mm	PUR	55 mm	18 mm
NRB8-18GM50-E2-C-V1	flush	8 mm	Normally-open (NO)	600 Hz	M12 connector plug			65 mm	18 mm
NRB10-30GM50-E2-C-V1	flush	10 mm	Normally-open (NO)	750 Hz	M12 connector plug			65 mm	30 mm
NRN10-12GM40-A2-C	nonflush	10 mm	complementary	1000 Hz	Fixed cable	2000 mm	PUR	40 mm	12 mm
NRN10-12GM40-E2-C-V1	nonflush	10 mm	Normally-open (NO)	1000 Hz	M12 connector plug			55 mm	12 mm
NRB12-18GM40-E2-C-V1	semi-flush	12 mm	Normally-open (NO)	600 Hz	M12 connector plug			40 mm	18 mm
NRN12-18GM50-E2-C-V1	nonflush	12 mm	Normally-open (NO)	500 Hz	M12 connector plug			65 mm	18 mm
NRB13-30GM50-E2-C-V1	flush	13 mm	Normally-open (NO)	750 Hz	M12 connector plug			65 mm	30 mm
NRB15-30GM50-A2-C	flush	15 mm	complementary	750 Hz	Fixed cable	2000 mm	PUR	50 mm	30 mm
NRB15-30GM50-E2-C-V1	flush	15 mm	Normally-open (NO)	750 Hz	M12 connector plug			65 mm	30 mm
NRN15-18GM50-A2-C	nonflush	15 mm	complementary	800 Hz	Fixed cable	2000 mm	PUR	55 mm	18 mm
NRN15-18GM50-E2-C-V1	nonflush	15 mm	Normally-open (NO)	500 Hz	M12 connector plug			65 mm	18 mm
NRN20-30GM50-E2-C-V1	nonflush	20 mm	Normally-open (NO)	300 Hz	M12 connector plug			65 mm	30 mm
NRN30-30GM50-A2-C	nonflush	30 mm	complementary	300 Hz	Fixed cable	2000 mm	PUR	50 mm	30 mm
NRN30-30GM50-E2-C-V1	nonflush	30 mm	Normally-open (NO)	300 Hz	M12 connector plug			65 mm	30 mm

Highlights

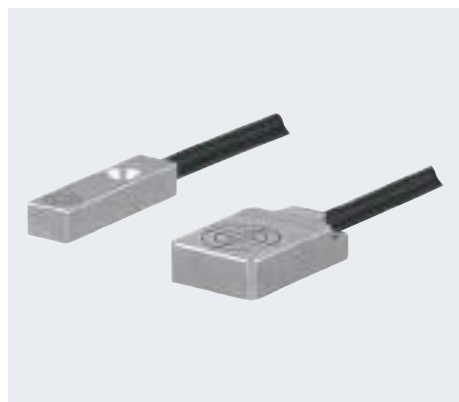
- Maximum flexibility—wide range of sensors for material-independent detection of metallic objects with identical sensing range
- Highly rugged and weld-proof sensors with degree of protection up to IP68/IP69K for use in harsh industrial environments
- Extremely durable thanks to rugged IP67 and IP68 housing designs with resilient PTFE coating or weld-proof plastic

Accessories

BF 12	Mounting adapter, 12 mm
BF 18	Mounting adapter, 18 mm
BF 30	Mounting adapter, 30 mm
BF 8	Mounting adapter, 8 mm
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-G-OR2M-POC	Single-ended female cordset, M12, straight A-coded, 4-pin, POC cable, welding-bead resistant, orange, suitable for robots, torsion-proof, oil-resistant, cross-linked molecules
V1-W-2M-PUR	Single-ended female cordset, M12, angled A-coded, 4-pin, PUR cable, gray

Inductive Cubic Proximity Sensors with Metal Face

Cubic Sensors with Metal Face



Common Technical Data

Special features	Metal face
Mechanical installation conditions	flush
Type of output	Three-wire
Switching element function	Normally-open (NO)
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Cable material	PUR
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Type of Output	Switching Frequency	Connection Type	Cable Length	Length L	Width W	Height H
NMB2-F76M-E2-FE-150 mm-V1	2 mm	PNP	80 Hz	Fixed cable with M12 plug	150 mm	30 mm	7.9 mm	5.5 mm
NMB2-F76M-E2-FE-150 mm-V3	2 mm	PNP	80 Hz	Fixed cable with M8 plug	150 mm	30 mm	7.9 mm	5.5 mm
NMB6-F104M-E0-FE-200 mm-V3	6 mm	NPN	20 Hz	Fixed cable with M8 plug	200 mm	32 mm	20 mm	8 mm
NMB6-F104M-E2-FE	6 mm	PNP	20 Hz	Fixed cable	2000 mm	32 mm	20 mm	8 mm
NMB6-F104M-E2-FE-200 mm-V1	6 mm	PNP	20 Hz	Fixed cable with M12 plug	200 mm	32 mm	20 mm	8 mm
NMB6-F104M-E2-FE-200 mm-V3	6 mm	PNP	20 Hz	Fixed cable with M8 plug	200 mm	32 mm	20 mm	8 mm
NMB6-F104M-E2-NFE	6 mm	PNP	20 Hz	Fixed cable	2000 mm	32 mm	20 mm	8 mm
NMB6-F104M-E2-NFE-200 mm-V1	6 mm	PNP	20 Hz	Fixed cable with M12 plug	200 mm	32 mm	20 mm	8 mm
NMB6-F104M-E2-NFE-200 mm-V3	6 mm	PNP	20 Hz	Fixed cable with M8 plug	200 mm	32 mm	20 mm	8 mm

Highlights

- Resistant to harsh ambient conditions such as humidity and mechanical shocks
- A self-contained, stainless-steel housing with metal sensing face ensures corrosion resistance, impermeability, pressure resistance, wear resistance, durability, reliability, and increased plant availability
- Extended switching distance

Brief Description

In extremely harsh industrial environments, inductive sensors are often exposed to mechanical stress that can shorten their life cycle. For example, when used in machine tools, high forces, abrasion, and aggressive media act on the sensors. For this type of application, Pepperl+Fuchs offers "Metal Face" sensors, which are perfectly protected under especially adverse conditions by their self-contained stainless steel housing with an active sensing face. All FE types are only suitable for ferromagnetic targets and all NFE types for non-ferromagnetic targets.

Accessories

V1-G-OR2M-POC	Single-ended female cordset, M12, straight A-coded, 4-pin, POC cable, welding-bead resistant, orange, suitable for robots, torsion-proof, oil-resistant, cross-linked molecules
V1-W-OR2M-POC	Single-ended female cordset, M12, angled A-coded, 4-pin, POC cable, welding-bead resistant, orange, suitable for robots, torsion-proof, oil-resistant, cross-linked molecules
V3-GM-OR5M-POC	Single-ended female cordset, M8, angled, A-coded, 3-pin, POC cable, welding-bead resistant, orange, suitable for robots, torsion-proof, oil-resistant, cross-linked molecules
V3-WM-OR5M-POC	Single-ended female cordset, M8, angled, A-coded, 3-pin, POC cable, welding-bead resistant, orange, suitable for robots, torsion-proof, oil-resistant, cross-linked molecules

Inductive Cylindrical Proximity Sensors with Metal Face

Cylindrical Sensors with Metal Face



Common Technical Data

Special features	Metal face
Switching element function	Normally-open (NO)
UL	■

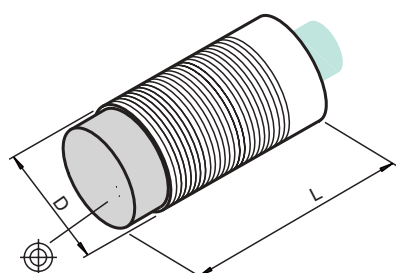
For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Type of Voltage	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Cable Length	Cable Material	Length L	Diameter D	CCC
NMB1,5-8GM35-E0-FE	flush	1.5 mm	NPN	DC	80 Hz	10 V	30 V	Fixed cable	2000 mm	PUR	35 mm	8 mm	
NMB1,5-8GM35-E0-FE-150 mm-V1	flush	1.5 mm	NPN	DC	80 Hz	10 V	30 V	Fixed cable with M12 plug	150 mm	PUR	35 mm	8 mm	
NMB1,5-8GM35-E2-FE	flush	1.5 mm	PNP	DC	80 Hz	10 V	30 V	Fixed cable	2000 mm	PUR	35 mm	8 mm	
NMB1,5-8GM35-E2-FE-150 mm-V1	flush	1.5 mm	PNP	DC	80 Hz	10 V	30 V	Fixed cable with M12 plug	150 mm	PUR	35 mm	8 mm	
NMB1,5-8GM35-E2-FE-150 mm-V3	flush	1.5 mm	PNP	DC	80 Hz	10 V	30 V	Fixed cable with M8 plug	150 mm	PUR	35 mm	8 mm	
NMB1,5-8GM35-E2-FE-1M-V1	flush	1.5 mm	PNP	DC	80 Hz	10 V	30 V	Fixed cable with M12 plug	1000 mm	PUR	35 mm	8 mm	
NMB1,5-8GM50-E2-FE	flush	1.5 mm	PNP	DC	80 Hz	10 V	30 V	Fixed cable	2000 mm	PUR	40 mm	8 mm	
NMB1,5-8GM50-E2-FE-V1	flush	1.5 mm	PNP	DC	80 Hz	10 V	30 V	M12 connector plug			50 mm	8 mm	
NMB1,5-8GM50-E2-FE-V3	flush	1.5 mm	PNP	DC	80 Hz	10 V	30 V	M8 connector plug			50 mm	8 mm	
NMB1,5-8GM65-E2-FE-V1	flush	1.5 mm	PNP	DC	80 Hz	10 V	30 V	M12 connector plug			40 mm	8 mm	
NMB1,5-8GM65-E2-FE-V3	flush	1.5 mm	PNP	DC	80 Hz	10 V	30 V	M8 connector plug			40 mm	8 mm	
NMB2-12GM55-E2-FE	flush	2 mm	PNP	DC	100 Hz	10 V	30 V	Fixed cable	2000 mm	PUR	55 mm	12 mm	
NMB2-12GM65-E0-FE-V1	flush	2 mm	NPN	DC	100 Hz	10 V	30 V	M12 connector plug			65 mm	12 mm	
NMB2-12GM65-E2-FE-V1	flush	2 mm	PNP	DC	100 Hz	10 V	30 V	M12 connector plug			65 mm	12 mm	
NMB2-12GM65-E2-NFE-V1	flush	2 mm	PNP	DC	15 Hz	10 V	30 V	M12 connector plug			65 mm	12 mm	
NMB2-12GM80-US-FE	flush	2 mm	Two-wire	AC/DC	30 Hz	20 V	300 V	Fixed cable	2000 mm	PUR	80 mm	12 mm	■
NMB2-12GM85-US-FE-V12	flush	2 mm	Two-wire	AC/DC	30 Hz	20 V	300 V	1/2 inch connector plug			85 mm	12 mm	■
NMB3-8GM35-E0	flush	3 mm	NPN	DC	360 Hz	10 V	30 V	Fixed cable	2000 mm	PUR	35 mm	8 mm	
NMB3-8GM35-E2	flush	3 mm	PNP	DC	360 Hz	10 V	30 V	Fixed cable	2000 mm	PUR	35 mm	8 mm	
NMB3-8GM35-E2-150 mm-V1	flush	3 mm	PNP	DC	360 Hz	10 V	30 V	Fixed cable with M12 plug	150 mm	PUR	35 mm	8 mm	
NMB3-8GM35-E2-150 mm-V3	flush	3 mm	PNP	DC	360 Hz	10 V	30 V	Fixed cable with M8 plug	150 mm	PUR	35 mm	8 mm	
NMB3-8GM50-E0-V1	flush	3 mm	NPN	DC	360 Hz	10 V	30 V	M12 connector plug			50 mm	8 mm	
NMB3-8GM50-E2	flush	3 mm	PNP	DC	360 Hz	10 V	30 V	Fixed cable	2000 mm	PUR	50 mm	8 mm	
NMB3-8GM50-E2-V1	flush	3 mm	PNP	DC	360 Hz	10 V	30 V	M12 connector plug			50 mm	8 mm	
NMB3-8GM50-E2-V3	flush	3 mm	PNP	DC	360 Hz	10 V	30 V	M8 connector plug			50 mm	8 mm	
NMB3-8GM65-E2-V1	flush	3 mm	PNP	DC	360 Hz	10 V	30 V	M12 connector plug			65 mm	8 mm	
NMB3-8GM65-E2-V3	flush	3 mm	PNP	DC	360 Hz	10 V	30 V	M8 connector plug			65 mm	8 mm	
NMB5-12GM55-E0	flush	5 mm	NPN	DC	360 Hz	10 V	30 V	Fixed cable	2000 mm	PUR	55 mm	12 mm	
NMB5-12GM55-E2	flush	5 mm	PNP	DC	360 Hz	10 V	30 V	Fixed cable	2000 mm	PUR	55 mm	12 mm	
NMB5-18GM55-E2-FE	flush	5 mm	PNP	DC	15 Hz	10 V	30 V	Fixed cable	2000 mm	PUR	55 mm	18 mm	
NMB5-12GM65-E0-V1	flush	5 mm	NPN	DC	360 Hz	10 V	30 V	M12 connector plug			65 mm	12 mm	
NMB5-12GM65-E2-V1	flush	5 mm	PNP	DC	360 Hz	10 V	30 V	M12 connector plug			65 mm	12 mm	
NMB5-18GM65-E0-FE-V1	flush	5 mm	NPN	DC	15 Hz	10 V	30 V	M12 connector plug			50 mm	18 mm	
NMB5-18GM65-E2-FE-V1	flush	5 mm	PNP	DC	15 Hz	10 V	30 V	M12 connector plug			50 mm	18 mm	
NMB5-18GM80-US-FE	flush	5 mm	Two-wire	AC/DC	15 Hz	20 V	300 V	Fixed cable	2000 mm	PUR	80 mm	18 mm	■
NMB5-18GM85-US-FE-V12	flush	5 mm	Two-wire	AC/DC	15 Hz	20 V	300 V	1/2 inch connector plug			90 mm	18 mm	■
NMB6-12GH50-E2	flush	6 mm	PNP	DC	600 Hz	10 V	30 V	Fixed cable	2000 mm	TPE	69 mm	12 mm	
NMB6-12GH50-E2-V1	flush	6 mm	PNP	DC	600 Hz	10 V	30 V	M12 connector plug			60 mm	12 mm	

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Type of Voltage	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Cable Length	Cable Material	Length L	Diameter D	CCC
NMB8-30GM55-E2-FE	flush	8 mm	PNP	DC	10 Hz	10 V	30 V	Fixed cable	2000 mm	PUR	55 mm	30 mm	
NMB8-30GM65-E0-FE-V1	flush	8 mm	NPN	DC	10 Hz	10 V	30 V	M12 connector plug			65 mm	30 mm	
NMB8-30GM65-E2-FE-V1	flush	8 mm	PNP	DC	10 Hz	10 V	30 V	M12 connector plug			65 mm	30 mm	
NMB8-30GM80-US-FE	flush	8 mm	Two-wire	AC/DC	10 Hz	20 V	300 V	Fixed cable	2000 mm	PUR	80 mm	30 mm	■
NMB8-30GM85-US-FE-V12	flush	8 mm	Two-wire	AC/DC	10 Hz	20 V	300 V	1/2 inch connector plug			70 mm	30 mm	
NMB10-18GH50-E2	flush	10 mm	PNP	DC	300 Hz	10 V	30 V	Fixed cable	2000 mm	TPE	70 mm	18 mm	
NMB10-18GH50-E2-V1	flush	10 mm	PNP	DC	300 Hz	10 V	30 V	M12 connector plug			63.5 mm	18 mm	
NMN10-12GH50-E2	nonflush	10 mm	PNP	DC	400 Hz	10 V	30 V	Fixed cable	2000 mm	TPE	69 mm	12 mm	
NMN10-12GH50-E2-V1	nonflush	10 mm	PNP	DC	400 Hz	10 V	30 V	M12 connector plug			60 mm	12 mm	
NMB10-18GM55-E0	flush	10 mm	NPN	DC	240 Hz	10 V	30 V	Fixed cable	2000 mm	PUR	55 mm	18 mm	
NMB10-18GM55-E2	flush	10 mm	PNP	DC	240 Hz	10 V	30 V	Fixed cable	2000 mm	PUR	55 mm	18 mm	
NMB10-18GM65-E0-V1	flush	10 mm	NPN	DC	240 Hz	10 V	30 V	M12 connector plug			65 mm	18 mm	
NMB10-18GM65-E2-V1	flush	10 mm	PNP	DC	240 Hz	10 V	30 V	M12 connector plug			65 mm	18 mm	
NMB15-30GM55-E0	flush	15 mm	NPN	DC	150 Hz	10 V	30 V	Fixed cable	2000 mm	PUR	55 mm	30 mm	
NMB15-30GM55-E2	flush	15 mm	PNP	DC	150 Hz	10 V	30 V	Fixed cable	2000 mm	PUR	55 mm	30 mm	
NMB15-30GM65-E0-V1	flush	15 mm	NPN	DC	150 Hz	10 V	30 V	M12 connector plug			65 mm	30 mm	
NMB15-30GM65-E2-V1	flush	15 mm	PNP	DC	150 Hz	10 V	30 V	M12 connector plug			65 mm	30 mm	
NMN20-18GH50-E2	nonflush	20 mm	PNP	DC	200 Hz	10 V	30 V	Fixed cable	2000 mm	TPE	70 mm	18 mm	
NMN20-18GH50-E2-V1	nonflush	20 mm	PNP	DC	200 Hz	10 V	30 V	M12 connector plug			63.5 mm	18 mm	

Highlights

- Resistant to harsh ambient conditions such as humidity and mechanical shocks
- A self-contained, stainless-steel housing with metal sensing face ensures corrosion resistance, impermeability, pressure resistance, wear resistance, durability, reliability, and increased plant availability
- Extended switching distance



Brief Description

In extremely harsh industrial environments, inductive sensors are often exposed to mechanical stress that can shorten their life cycle. For example, when used in machine tools, high forces, abrasion, and aggressive media act on the sensors. For this type of application, Pepperl+Fuchs offers "Metal Face" sensors, which are perfectly protected under especially adverse conditions by their self-contained stainless steel housing with an active sensing face. All FE types are only suitable for ferromagnetic targets and all NFE types for non-ferromagnetic targets.

Accessories

AB-12	Mounting aid
AB-18	Mounting aid
AB-30	Mounting aid
BF 12	Mounting adapter, 12 mm
BF 18	Mounting adapter, 18 mm
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-G-BK2M-PUR-U	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, black, UL-approved, suitable for drag chains, torsion-proof
V1-G-OR2M-POC	Single-ended female cordset, M12, straight A-coded, 4-pin, POC cable, welding-bead resistant, orange, suitable for robots, torsion-proof, oil-resistant, cross-linked molecules

Inductive Cubic Weld-Proof Proximity Sensors with Metal Face

Cubic Weld-Proof Sensors with Metal Face



Common Technical Data

Special features	Welding resistant; metal face
Mechanical installation conditions	flush
Type of output	Three-wire
Type of output	PNP
Switching element function	Normally-open (NO)
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Cable material	POC

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Switching Frequency	Connection Type	Cable Length	Length L	Width W	Height H
NMB2-F76M-E2-C-FE-150 mm-V1	2 mm	80 Hz	Fixed cable with M12 plug	150 mm	30 mm	7.9 mm	5.5 mm
NMB2-F76M-E2-C-FE-150 mm-V3	2 mm	80 Hz	Fixed cable with M8 plug	150 mm	30 mm	7.9 mm	5.5 mm
NMB6-F104M-E2-C-FE-200 mm-V1	6 mm	2 Hz	Fixed cable with M12 plug	200 mm	32 mm	20 mm	8 mm
NMB6-F104M-E2-C-FE-200 mm-V3	6 mm	2 Hz	Fixed cable with M8 plug	200 mm	32 mm	20 mm	8 mm
NMB6-F104M-E2-C-NFE-200 mm-V1	6 mm	2 Hz	Fixed cable with M12 plug	200 mm	32 mm	20 mm	8 mm
NMB6-F104M-E2-C-NFE-200 mm-V3	6 mm	2 Hz	Fixed cable with M8 plug	200 mm	32 mm	20 mm	8 mm

Highlights

- Resistant to harsh ambient conditions such as humidity and mechanical shocks
- A self-contained, stainless-steel housing with metal sensing face ensures corrosion resistance, impermeability, pressure resistance, wear resistance, durability, reliability, and increased plant availability
- C-series "Metal Face" sensors are resistant to weld splatter
- Extended switching distance

Brief Description

In extremely harsh industrial environments, inductive sensors are often exposed to mechanical stress that can shorten their life cycle. For example, when used in machine tools, high forces, abrasion, and aggressive media act on the sensors. For this type of application, Pepperl+Fuchs offers "Metal Face" sensors, which are perfectly protected under especially adverse conditions by their self-contained stainless steel housing with an active sensing face. All FE types are only suitable for ferromagnetic targets and all NFE types for non-ferromagnetic targets.

Accessories

V1-G-OR2M-POC	Single-ended female cordset, M12, straight A-coded, 4-pin, POC cable, welding-bead resistant, orange, suitable for robots, torsion-proof, oil-resistant, cross-linked molecules
V1-W-OR2M-POC	Single-ended female cordset, M12, angled A-coded, 4-pin, POC cable, welding-bead resistant, orange, suitable for robots, torsion-proof, oil-resistant, cross-linked molecules
V3-GM-OR5M-POC	Single-ended female cordset, M8, angled, A-coded, 3-pin, POC cable, welding-bead resistant, orange, suitable for robots, torsion-proof, oil-resistant, cross-linked molecules
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray
V3-WM-OR5M-POC	Single-ended female cordset, M8, angled, A-coded, 3-pin, POC cable, welding-bead resistant, orange, suitable for robots, torsion-proof, oil-resistant, cross-linked molecules

Inductive Cylindrical Weld-Proof Proximity Sensors with Metal Face

Cylindrical Weld-Proof Sensors with Metal Face



Common Technical Data

Special features	Welding resistant; metal face
Mechanical installation conditions	flush
Switching element function	Normally-open (NO)
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Type of Output	Type of Voltage	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Cable Length	Cable Material	Length L	Diameter D	CC
NMB1,5-8GM23-Z3-C-FE-850 mm-V1	1.5 mm	Two-wire	DC	5 Hz	6 V	30 V	Fixed cable with M12 plug	850 mm	TPE	23 mm	8 mm	
NMB1,5-8GM35-E2-C-FE-150 mm-V1	1.5 mm	PNP	DC	5 Hz	10 V	30 V	Fixed cable with M12 plug	150 mm	PVC	35 mm	8 mm	
NMB1,5-8GM35-E2-C-FE-150 mm-V3	1.5 mm	PNP	DC	5 Hz	10 V	30 V	Fixed cable with M8 plug	150 mm	PVC	35 mm	8 mm	
NMB1,5-8GM50-E2-C-FE-V1	1.5 mm	PNP	DC	5 Hz	10 V	30 V	M12 connector plug			40 mm	8 mm	
NMB2-12GM40-Z3-C-FE-300 mm-V1	2 mm	Two-wire	DC	5 Hz	6 V	30 V	Fixed cable with M12 plug	300 mm	POC	40 mm	12 mm	
NMB2-12GM65-E2-C-FE-V1	2 mm	PNP	DC	5 Hz	10 V	30 V	M12 connector plug			44 mm	12 mm	
NMB2-12GM85-US-C-FE-V12	2 mm	Two-wire	AC/DC	30 Hz	20 V	300 V	1/2 inch connector plug			85 mm	12 mm	■
NMB3-8GM35-E2-C-150 mm-V1	3 mm	PNP	DC	5 Hz	10 V	30 V	Fixed cable with M12 plug	150 mm	TPE	35 mm	8 mm	
NMB3-8GM35-E2-C-150 mm-V3	3 mm	PNP	DC	5 Hz	10 V	30 V	Fixed cable with M8 plug	150 mm	TPE	35 mm	8 mm	
NMB3-8GM50-E2-C-V1	3 mm	PNP	DC	5 Hz	10 V	30 V	M12 connector plug			50 mm	8 mm	
NMB5-12GM65-E2-C-V1	5 mm	PNP	DC	5 Hz	10 V	30 V	M12 connector plug			65 mm	12 mm	
NMB5-18GM55-Z3-C-FE-300 mm-V1	5 mm	Two-wire	DC	5 Hz	6 V	30 V	Fixed cable with M12 plug	300 mm	POC	55 mm	18 mm	
NMB5-18GM65-E2-C-FE-V1	5 mm	PNP	DC	5 Hz	10 V	30 V	M12 connector plug			65 mm	18 mm	
NMB5-18GM85-US-C-FE-V12	5 mm	Two-wire	AC/DC	5 Hz	20 V	300 V	1/2 inch connector plug			90 mm	18 mm	■
NMB8-30GM55-Z3-C-FE-300 mm-V1	8 mm	Two-wire	DC	5 Hz	6 V	30 V	Fixed cable with M12 plug	300 mm	POC	55 mm	30 mm	
NMB8-30GM65-E2-C-FE-V1	8 mm	PNP	DC	2 Hz	10 V	30 V	M12 connector plug			40 mm	30 mm	
NMB10-18GM65-E2-C-V1	10 mm	PNP	DC	5 Hz	10 V	30 V	M12 connector plug			65 mm	18 mm	
NMB15-30GM65-E2-C-V1	15 mm	PNP	DC	5 Hz	10 V	30 V	M12 connector plug			65 mm	30 mm	

Highlights

- Resistant to harsh ambient conditions such as humidity and mechanical shocks
- A self-contained, stainless-steel housing with metal sensing face ensures corrosion resistance, impermeability, pressure resistance, wear resistance, durability, reliability, and increased plant availability
- C-series "Metal Face" sensors are resistant to weld splatter
- Extended switching distance

Accessories

AB-12	Mounting aid
AB-18	Mounting aid
AB-30	Mounting aid
BF 12	Mounting adapter, 12 mm
BF 8	Mounting adapter, 8 mm
V1-G-OR2M-POC	Single-ended female cordset, M12, straight, A-coded, 4-pin, POC cable, welding-bead resistant, orange
V12-G-YE2M-PUR-H/S	Single-ended female cordset, 1/2"-20 UNF, 3-pin, PUR cable, irradiated

Brief Description

In extremely harsh industrial environments, inductive sensors are often exposed to mechanical stress that can shorten their life cycle.

For example, when used in machine tools, high forces, abrasion, and aggressive media act on the sensors. For this type of application, Pepperl+Fuchs offers "Metal Face" sensors, which are perfectly protected under especially adverse conditions by their self-contained stainless steel housing with an active sensing face. All FE types are only suitable for ferromagnetic targets and all NFE types for non-ferromagnetic targets.

Inductive Cubic Weld-Proof Proximity Sensors

Cubic Weld-Proof Sensors



Common Technical Data

Special features	Welding resistant
Type of output	PNP
Type of voltage	DC
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Cable Length	Cable Material	Length L	Width W	Height H	CCC
NBN4-F29-E2-C	nonflush	4 mm	Normally-open (NO)	1000 Hz	4.8 V	30 V	Fixed cable	2000 mm	PVC	27 mm	10 mm	6 mm	
NBN4-F29A-E2-C	nonflush	4 mm	Normally-open (NO)	1000 Hz	10 V	30 V	Fixed cable	2000 mm	PUR irradiated	9 mm	27 mm	10 mm	
NBN4-F29A-E2-C-0,6M-V3	nonflush	4 mm	Normally-open (NO)	1000 Hz	10 V	30 V	Fixed cable	6000 mm	PVC	9 mm	27 mm	10 mm	
NBB20-L3M-A2-C3-V1	flush	20 mm	complementary	5 Hz	10 V	30 V	M12 connector plug			67 mm	40 mm	40 mm	
NBB20-L2-A2-C-V1	flush	20 mm	complementary	5 Hz	10 V	30 V	M12 connector plug			67 mm	40 mm	40 mm	
NBB20-L2-E2-C-V1	flush	20 mm	Normally-open (NO)	5 Hz	10 V	30 V	M12 connector plug			67 mm	40 mm	40 mm	
NBB20-U1-E2-C	flush	20 mm	Normally-open (NO)	5 Hz	10 V	30 V	M12 connector plug			118 mm	40 mm	40 mm	
NBB20-U4-E2-C	flush	20 mm	Normally-open (NO)	5 Hz	10 V	30 V	Terminal compartment			118 mm	40 mm	40 mm	
NCB50-FP-A2-C-P3-V1	flush	50 mm	complementary	1 Hz	10 V	60 V	M12 connector plug			84 mm	84 mm	40 mm	■
NCB50-FP-E2-C-P1-V1	flush	50 mm	Normally-open (NO)	1 Hz	10 V	60 V	M12 connector plug			84 mm	84 mm	40 mm	■
NCB50-FP-E2-C-P3-V1	flush	50 mm	Normally-open (NO)	1 Hz	10 V	30 V	M12 connector plug			84 mm	84 mm	40 mm	
NCB50-FP-E34-C-P3-V1	flush	50 mm	Normally-closed (NC)	1 Hz	10 V	60 V	M12 connector plug			84 mm	84 mm	40 mm	■

Highlights

- Safe switching characteristics due to high magnetic field resistance
- Extremely durable due to rugged IP67 and IP68 housing designs with resilient PTFE coating or weld-proof plastic

Brief Description

Resistant to magnetic fields and welding sparks. Weld-proof sensors with a degree of protection up to IP68 are the ideal detection solution in welding areas and other harsh operating environments. An assembly with two coupled air coils makes them insensitive to magnetic fields which can occur during electric welding or through frequency inverters. The sensor electronics themselves also guarantee the highest level of immunity to EMC interference. The housing design of the various versions also ensures maximum durability and availability.

Accessories

MH 02-L	Mounting aid
MH 04-2681F	Mounting aid for Varikont, +U1+, and +U9* sensors
MHW 01	Modular mounting bracket
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-M20-80	Receptacle, M12/M20; plastic version
V1-W-2M-PUR	Single-ended female cordset, M12, angled A-coded, 4-pin, PUR cable, gray
V3-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 3-pin, PUR cable, gray
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray

Inductive Cylindrical Weld-Proof Proximity Sensors

Cylindrical Weld-Proof Sensors



Common Technical Data	
Special features	Welding resistant
Type of output	Three-wire
Switching element function	Normally-open (NO)
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Frequency	Connection Type	Cable Length	Cable Material	Length L	Diameter D
NBB1,5-8GM30-E2-C-V1	flush	1.5 mm	PNP	1800 Hz	M12 connector plug			30 mm	8 mm
NBB1,5-8GM40-E2-C	flush	1.5 mm	PNP	1800 Hz	Fixed cable	2000 mm	PVC	40 mm	8 mm
NBB1,5-8GM40-E2-C-0,4M-V1	flush	1.5 mm	PNP	1800 Hz	Fixed cable with M12 plug	4000 mm	PUR	40 mm	8 mm
NBB1,5-8GM40-E2-C-V3	flush	1.5 mm	PNP	1800 Hz	M8 connector plug			40 mm	8 mm
NBB2-12GM50-E2-C-V1	flush	2 mm	PNP	1500 Hz	M12 connector plug			49 mm	12 mm
NBB2-12GM50-E0-C-V1	flush	2 mm	NPN	1500 Hz	M12 connector plug			49 mm	12 mm
NBB2-12GM50-E2-C	flush	2 mm	PNP	1500 Hz	Fixed cable	2000 mm	PVC	50 mm	12 mm
NBB2-12GM50-E2-C3-V1	flush	2 mm	PNP	1500 Hz	M12 connector plug			49 mm	12 mm
NBN3-8GM30-E2-C-V1	nonflush	3 mm	PNP	50 Hz	M12 connector plug			35 mm	8 mm
NBN4-12GM50-E2-C	nonflush	4 mm	PNP	1200 Hz	Fixed cable	2000 mm	PVC	50 mm	12 mm
NBN4-12GM50-E2-C-V1	nonflush	4 mm	PNP	1200 Hz	M12 connector plug			46 mm	12 mm
NBB5-18GM50-E0-C-V1	flush	5 mm	NPN	800 Hz	M12 connector plug			50 mm	18 mm
NBB5-18GM50-E2-C-V1	flush	5 mm	PNP	800 Hz	M12 connector plug			50 mm	18 mm
NBB5-18GM50-E2-C3-V1	flush	5 mm	PNP	800 Hz	M12 connector plug			50 mm	18 mm
NBN8-18GM50-E2-C-V1	nonflush	8 mm	PNP	500 Hz	M12 connector plug			50 mm	18 mm
NBB10-30GM50-E2-C-V1	flush	10 mm	PNP	10 Hz	M12 connector plug			50 mm	30 mm
NBB10-30GM50-E2-C3-V1	flush	10 mm	PNP	10 Hz	M12 connector plug			50 mm	30 mm
NBN15-30GM50-E2-C-V1	nonflush	15 mm	PNP	10 Hz	M12 connector plug			50 mm	30 mm

Highlights

- Safe switching characteristics due to high magnetic field resistance
- Extremely durable due to rugged IP67 and IP68 housing designs with resilient PTFE coating or weld-proof plastic

Brief Description

Resistant to magnetic fields and welding sparks. Weld-proof sensors with a degree of protection up to IP68 are the ideal detection solution in welding areas and other harsh operating environments. An assembly with two coupled air coils makes them insensitive to magnetic fields which can occur during electric welding or through frequency inverters. The sensor electronics themselves also guarantee the highest level of immunity to EMC interference. The housing design of the various versions also ensures maximum durability and availability. The brass sleeves of the cylindrical sensors are PTFE coated, ensuring they are also protected against welding sparks and metal chips.

Accessories	
BF 12	Mounting adapter, 12 mm
BF 18	Mounting adapter, 18 mm
BF 30	Mounting adapter, 30 mm
BF 8	Mounting adapter, 8 mm
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-G-OR2M-POC	Single-ended female cordset, M12, straight A-coded, 4-pin, POC cable, welding-bead resistant, orange, suitable for robots, torsion-proof, oil-resistant, cross-linked molecules
V1-W-2M-PUR	Single-ended female cordset, M12, angled A-coded, 4-pin, PUR cable, gray
V1-W-OR2M-POC	Single-ended female cordset, M12, angled A-coded, 4-pin, POC cable, welding-bead resistant, orange, suitable for robots, torsion-proof, oil-resistant, cross-linked molecules

Inductive Cubic Proximity Sensors with Extended Temperature Range up to 100 °C

Cubic Sensors with Extended Temperature Range (100 °C)



Common Technical Data

Special features	Extended Temperature Range
Type of voltage	DC
Operating voltage (min)	10 V
Ambient conditions (max)	100 °C
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Max)	Connection Type	Ambient Temperature (Min)	Length L	Width W	Height H	EAC
NBB20-L2-A2-T-V1	flush	20 mm	PNP	complementary	440 Hz	30 V	M12 connector plug	-25 °C	67 mm	40 mm	40 mm	■
NBB20-L2M-A2-T-V1	flush	20 mm	PNP	complementary	440 Hz	30 V	M12 connector plug	-25 °C	67 mm	40 mm	40 mm	■
NBB20-U1-A0-T	flush	20 mm	NPN	complementary	440 Hz	30 V	Terminal compartment	-25 °C	118 mm	40 mm	40 mm	
NBB20-U1-A2-T	flush	20 mm	PNP	complementary	440 Hz	30 V	Terminal compartment	-25 °C	118 mm	40 mm	40 mm	■
NBB20-U1-A2-T-V1	flush	20 mm	PNP	complementary	440 Hz	30 V	M12 connector plug	-25 °C	118 mm	40 mm	40 mm	■
NBB20-U1-E2-T-V1	flush	20 mm	PNP	Normally-open (NO)	440 Hz	30 V	M12 connector plug	-25 °C	118 mm	40 mm	40 mm	
NBB20-U2-A2-T	flush	20 mm	PNP	complementary	440 Hz	30 V	Terminal compartment	-25 °C	118 mm	40 mm	40 mm	
NBB20-U4-A0-T	flush	20 mm	NPN	complementary	440 Hz	30 V	Terminal compartment	-25 °C	118 mm	40 mm	40 mm	
NBB20-U4-A2-T	flush	20 mm	PNP	complementary	440 Hz	30 V	Terminal compartment	-25 °C	118 mm	40 mm	40 mm	
NBN30-U1-A2-T	nonflush	30 mm	PNP	complementary	230 Hz	30 V	Terminal compartment	-25 °C	118 mm	40 mm	40 mm	■
NBN30-U1-A2-T-V1	nonflush	30 mm	PNP	complementary	230 Hz	30 V	M12 connector plug	-25 °C	118 mm	40 mm	40 mm	
NBN40-U1-A2-T	nonflush	40 mm	PNP	complementary	180 Hz	30 V	Terminal compartment	-25 °C	118 mm	40 mm	40 mm	■
NBN40-U1-A2-T-V1	nonflush	40 mm	PNP	complementary	180 Hz	30 V	M12 connector plug	-25 °C	118 mm	40 mm	40 mm	
NBN40-U1L-A0-T	nonflush	40 mm	NPN	complementary	100 Hz	60 V	Terminal compartment	-25 °C	128 mm	55 mm	55 mm	
NBN40-U1L-A2-T	nonflush	40 mm	PNP	complementary	100 Hz	60 V	Terminal compartment	-25 °C	128 mm	55 mm	55 mm	
NBN40-U2-A2-T	nonflush	40 mm	PNP	complementary	180 Hz	30 V	Terminal compartment	-25 °C	118 mm	40 mm	40 mm	
NCB40-FP-A2-T-P1	flush	40 mm	PNP	complementary	80 Hz	30 V	Terminal compartment	-40 °C	80 mm	80 mm	40 mm	
NCB40-FP-A2-T-P1-V1	flush	40 mm	PNP	complementary	80 Hz	30 V	M12 connector plug	-25 °C	80 mm	80 mm	40 mm	

Highlights

- Established and proven solution for applications in the automotive industry
- Reliable at high temperatures up to 100 °C

Brief Description

The portfolio of sensors with extended temperature range includes versions with different cable lengths, adapted to the respective application. A further advantage is the fact that the sensing range is already calibrated in the hot zone. This eliminates a work step and makes commissioning much faster and more cost-effective.

Accessories

MH 02-L	Mounting aid
MH 04-2681F	Mounting aid for VariKont, +U1+, and +U9* sensors
MHW 01	Modular mounting bracket
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-M20-80	Receptacle, M12/M20; plastic version
V1-W-2M-PUR	Single-ended female cordset, M12, angled A-coded, 4-pin, PUR cable, gray

Inductive Cylindrical Proximity Sensors with Extended Temperature Range up to 100 °C

Cylindrical Sensors with Extended Temperature Range (100 °C)



Common Technical Data

Special features	Extended Temperature Range
Type of voltage	DC
Ambient conditions (min)	-25 °C
Ambient conditions (max)	100 °C

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Cable Length	Cable Material	Length L	Diameter D	EAC	UL
NBB1-8GS50-Z0-T	flush	1 mm	Two-wire	Normally-open (NO)	1500 Hz	15 V	34 V	Fixed cable	2000 mm	PUR	50 mm	8 mm		
NBB1,5-8GS30-E2-T	flush	1.5 mm	PNP	Normally-open (NO)	1500 Hz	10 V	30 V	Fixed cable	2000 mm	PUR	34.5 mm	8 mm		■
NBB1,5-8GS40-E2-T-V3	flush	1.5 mm	PNP	Normally-open (NO)	1500 Hz	10 V	30 V	M8 connector plug			45 mm	8 mm		
NBB2-12GM50-E2-T-V1	flush	2 mm	PNP	Normally-open (NO)	1200 Hz	10 V	65 V	M12 connector plug			65 mm	12 mm		
NBB2-12GM60-E2-T	flush	2 mm	PNP	Normally-open (NO)	1200 Hz	10 V	65 V	Fixed cable	2000 mm	PUR	56 mm	12 mm		■
NBB4-12GM30-E2-T-V1	flush	4 mm	PNP	Normally-open (NO)	500 Hz	10 V	30 V	M12 connector plug			30 mm	12 mm		■
NBN4-12GM40-E2-T-V1	nonflush	4 mm	PNP	Normally-open (NO)	800 Hz	10 V	30 V	M12 connector plug			37 mm	12 mm		
NBN4-12GM60-E2-T-V1	nonflush	4 mm	PNP	Normally-open (NO)	800 Hz	10 V	30 V	M12 connector plug			56 mm	12 mm		
NBB5-18GM50-E2-T-V1	flush	5 mm	PNP	Normally-open (NO)	800 Hz	10 V	30 V	M12 connector plug			69 mm	18 mm		
NBN8-18GM50-E2-T	nonflush	8 mm	PNP	Normally-open (NO)	300 Hz	10 V	30 V	Fixed cable	2000 mm	PUR	59 mm	18 mm		
NBN8-18GM50-E2-T-V1	nonflush	8 mm	PNP	Normally-open (NO)	300 Hz	10 V	30 V	M12 connector plug			69 mm	18 mm		
NBB10-30GM50-E2-T	flush	10 mm	PNP	Normally-open (NO)	300 Hz	10 V	30 V	Fixed cable	2000 mm	PUR	54 mm	30 mm		
NBB10-30GM50-E2-T-V1	flush	10 mm	PNP	Normally-open (NO)	300 Hz	10 V	65 V	M12 connector plug			69 mm	30 mm		■
NBB10-30GM50-Z0-T	flush	10 mm	Two-wire	Normally-open (NO)	300 Hz	15 V	30 V	Fixed cable	2000 mm	PUR	54 mm	30 mm		
NBN15-30GM50-E3-T-V1	nonflush	15 mm	PNP	Normally-closed (NC)	300 Hz	10 V	30 V	M12 connector plug			69 mm	30 mm		
NJ10-30GK-E-T	flush	10 mm	NPN	Normally-open (NO)	300 Hz	10 V	30 V	Fixed cable	2000 mm	PUR	80 mm	30 mm		■
NJ10-30GK-E2-T	flush	10 mm	PNP	Normally-open (NO)	300 Hz	10 V	30 V	Fixed cable	2000 mm	PUR	80 mm	30 mm		■
NJ15-30GK-E-T	nonflush	15 mm	NPN	Normally-open (NO)	300 Hz	10 V	30 V	Fixed cable	2000 mm	PUR	80 mm	30 mm		■
NJ15-30GK-E2-T	nonflush	15 mm	PNP	Normally-open (NO)	300 Hz	10 V	30 V	Fixed cable	2000 mm	PUR	80 mm	30 mm		■
NJ15-30GK-E2-T-5M	nonflush	15 mm	PNP	Normally-open (NO)	300 Hz	10 V	30 V	Fixed cable	5000 mm	PUR	80 mm	30 mm		■

Highlights

- Established and proven solution for applications in the automotive industry
- Reliable at high temperatures up to 100 °C

Accessories

BF 12	Mounting adapter, 12 mm
BF 18	Mounting adapter, 18 mm
BF 30	Mounting adapter, 30 mm
BF 8	Mounting adapter, 8 mm
EXG-12	Quick-mounting bracket with fixed stop
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled A-coded, 4-pin, PUR cable, gray
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray

Brief Description

The portfolio of sensors with extended temperature range includes versions with different cable lengths, adapted to the respective application. A further advantage is the fact that the sensing range is already calibrated in the hot zone. This eliminates a work step and makes commissioning much faster and more cost-effective.

Inductive Cubic Proximity Sensors in High-Temperature Version 150 °C – 250 °C

Cubic High-Temperature Sensors (150 °C – 250 °C)



Common Technical Data

Special features	High temperature
Mechanical installation conditions	Flush mountable
Type of output	Four-wire
Type of output	PNP
Switching element function	complementary
Type of voltage	DC
Switching frequency	20 Hz
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	56 mm
Housing width W	44 mm
Housing height H	40 mm
UL	■

Model Number	Detection Range	Ambient Temperature (Min)	Ambient Temperature (Max)
NCN20-F35-A2-250-10M-V1	20 mm	0 °C	250 °C
NCN20-F35-A2-250-20M-V1	20 mm	0 °C	250 °C
NCN25-F35-A2-250-15M-V1	25 mm	0 °C	250 °C
NCN25-F35-A2-250-V1	25 mm	0 °C	250 °C

Highlights

- Established and proven solution for applications in the automotive industry
- Reliable at high temperatures up to 250 °C
- Quick and easy commissioning thanks to sensor calibration in high temperatures
- Easy-to-integrate sensor structure with an extremely slim control interface

Brief Description

The high-temperature sensors of the F35 series have been specially developed for use in the hot range up to 250 degrees. They consist of a sensor head with separate electronics. Both components are connected via a specially developed cable that meets the high requirements. The control interface in the metric 18-piece housing with M12 plug-in connection is easily integrated into the system with its slim design. It can be mounted in a suitable location outside the hot zone, while the sensor is located inside the hot zone.

Accessories

BF 18	Mounting adapter, 18 mm
SH-F35	Protective hood for mechanical protection and humidity applications
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled A-coded, 4-pin, PUR cable, gray

Inductive Cylindrical Proximity Sensors in High-Temperature Version 150 °C – 250 °C

Cylindrical High-Temperature Sensors (150 °C – 250 °C)



Common Technical Data	
Special features	High temperature
Type of output	2-wire
Type of output	NAMUR
Switching element function	Normally-closed (NC)
Type of voltage	DC
Rated voltage	8.2 V
Connection type	Fixed cable
UL	■
ATEX	■
IECEX	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Switching Frequency	Cable Length	Ambient Temperature (Min)	Ambient Temperature (Max)	Length L	Diameter D	EAC
NJ5-18GK-N-150-15M	flush	5 mm	500 Hz	15,000 mm	-40 °C	150 °C	47 mm	18 mm	■
NJ8-18GK-N-150-15M	nonflush	8 mm	200 Hz	15,000 mm	-40 °C	150 °C	47 mm	18 mm	■
NJ4-30GM-N-200	flush	4 mm	1000 Hz	5000 mm	0 °C	200 °C	75 mm	30 mm	
NJ4-30GM-N-200-10M	flush	4 mm	1000 Hz	10,000 mm	0 °C	200 °C	75 mm	30 mm	
NJ5-18GK-N-150	flush	5 mm	500 Hz	2000 mm	-40 °C	150 °C	47 mm	18 mm	■
NJ8-18GK-N-150	nonflush	8 mm	200 Hz	2000 mm	-40 °C	150 °C	47 mm	18 mm	■
NJ8-18GK-N-150-10M	nonflush	8 mm	200 Hz	10,000 mm	-40 °C	150 °C	47 mm	18 mm	■
NJ15-30GK-N-150	nonflush	15 mm	100 Hz	2000 mm	-25 °C	150 °C	47 mm	30 mm	

Highlights

- Established and proven solution for applications in the automotive industry
- Reliable at high temperatures up to 250 °C
- Quick and easy commissioning thanks to sensor calibration in high temperatures
- Easy-to-integrate sensor structure with an extremely slim control interface

Brief Description

The portfolio of high-temperature sensors includes versions with different cable lengths, adapted to the respective application. A further advantage is the fact that the sensing range is already calibrated in the hot zone. This eliminates a work step and makes commissioning much more straightforward and cost-effective.

Accessories	
BF 30	Mounting adapter, 30 mm

Inductive Proximity Sensors with IO-Link

Sensors with IO-Link



Common Technical Data

Type of output	Three-wire
Type of output	PNP
Switching element function	Normally-open/normally-closed (selectable)
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Switching Frequency	Connection Type	Cable Length	Cable Material	Length L	Width W	Height H	Diameter D
NRB20-L3-E2-IO-V1	flush	20 mm	440 Hz	M12 connector plug			67 mm	40 mm	40 mm	
NRB20-L3-E2-IO-C-V1	flush	20 mm	440 Hz	M12 connector plug			67 mm	40 mm	40 mm	
NRB20-U1-E2-IO	flush	20 mm	440 Hz	Terminal compartment			118 mm	40 mm	40 mm	
NRN40-L3K-E2-IO-V1	nonflush	40 mm	180 Hz	M12 connector plug			67 mm	40 mm	40 mm	
NRN40-L3K-E2-IO-C-V1	nonflush	40 mm	180 Hz	M12 connector plug			67 mm	40 mm	40 mm	
NRN40-U1-E2-IO-V1	nonflush	40 mm	180 Hz	M12 connector plug			118 mm	40 mm	40 mm	
NRB4-12GM40-E2-IO-C	flush	4 mm	2000 Hz	Fixed cable	2000 mm	PUR	40 mm			12 mm
NRB4-12GM40-E2-IO-C-V1	flush	4 mm	2000 Hz	M12 connector plug			55 mm			12 mm
NRB4-12GS40-E2-IO	flush	4 mm	2000 Hz	Fixed cable	2000 mm	PVC	40 mm			12 mm
NRB4-12GS40-E2-IO-V1	flush	4 mm	2000 Hz	M12 connector plug			55 mm			12 mm
NRB8-18GM40-E2-IO-C	flush	8 mm	1500 Hz	Fixed cable	2000 mm	PUR	45 mm			18 mm
NRB8-18GM40-E2-IO-C-V1	flush	8 mm	1500 Hz	M12 connector plug			55 mm			18 mm
NRB8-18GS40-E2-IO	flush	8 mm	1500 Hz	Fixed cable	2000 mm	PVC	45 mm			18 mm
NRB8-18GS40-E2-IO-V1	flush	8 mm	1500 Hz	M12 connector plug			55 mm			18 mm
NRN10-12GM40-E2-IO-C	nonflush	10 mm	1300 Hz	Fixed cable	2000 mm	PUR	40 mm			12 mm
NRN10-12GM40-E2-IO-C-V1	nonflush	10 mm	1300 Hz	M12 connector plug			55 mm			12 mm
NRN10-12GS40-E2-IO	nonflush	10 mm	1300 Hz	Fixed cable	2000 mm	PVC	40 mm			12 mm
NRN10-12GS40-E2-IO-V1	nonflush	10 mm	1300 Hz	M12 connector plug			55 mm			12 mm
NRN15-18GM40-E2-IO-C	nonflush	15 mm	550 Hz	Fixed cable	2000 mm	PUR	40 mm			18 mm
NRN15-18GM40-E2-IO-C-V1	nonflush	15 mm	550 Hz	M12 connector plug			55 mm			18 mm
NRN15-18GS40-E2-IO	nonflush	15 mm	550 Hz	Fixed cable	2000 mm	PVC	40 mm			18 mm
NRN15-18GS40-E2-IO-V1	nonflush	15 mm	550 Hz	M12 connector plug			55 mm			18 mm
NRB15-30GM50-E2-IO-C	flush	15 mm	600 Hz	Fixed cable	2000 mm	PUR	40 mm			30 mm
NRB15-30GM50-E2-IO-C-V1	flush	15 mm	600 Hz	M12 connector plug			65 mm			30 mm
NRB15-30GS50-E2-IO-V1	flush	15 mm	600 Hz	M12 connector plug			65 mm			30 mm
NRB15-30GS50-E2-IO	flush	15 mm	600 Hz	Fixed cable	2000 mm	PVC	40 mm			30 mm
NRN30-30GM50-E2-IO-C	nonflush	30 mm	680 Hz	Fixed cable	2000 mm	PUR	50 mm			30 mm
NRN30-30GM50-E2-IO-C-V1	nonflush	30 mm	680 Hz	M12 connector plug			65 mm			30 mm
NRN30-30GS50-E2-IO	nonflush	30 mm	680 Hz	Fixed cable	2000 mm	PVC	50 mm			30 mm
NRN30-30GS50-E2-IO-V1	nonflush	30 mm	680 Hz	M12 connector plug			65 mm			30 mm

Highlights

- IO-Link interface for servicing and process data
- Possible to set switch point mode or window mode operation
- Possible to set switching function, stability alarm and pulse extension mode

Accessories

BF 12	Mounting adapter, 12 mm
BF 18	Mounting adapter, 18 mm
BF 30	Mounting adapter, 30 mm
ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs

Pressure-Resistant Inductive Proximity Sensors

Pressure-Resistant Sensors



Common Technical Data

Special features	Pressure resistant
Mechanical installation conditions	flush
Type of voltage	DC
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Pressure Resistant up to	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	SIL	Connection Type	Length L	Diameter D	CCC	EAC	ATEX	IECEx
NCB1,5-12GM45-E2-D-V1	1.5 mm	500 bar	PNP	Normally-open (NO)	600 Hz	10 V	30 V		M12 connector plug	56 mm	12 mm				
NCB1,5-12GM60-E2-D-V1	1.5 mm	500 bar	PNP	Normally-open (NO)	600 Hz	10 V	30 V		M12 connector plug	69 mm	12 mm				
NCB1,5-18GM60-E2-D	1.5 mm	350 bar	PNP	Normally-open (NO)	1500 Hz	10 V	60 V		Fixed cable	57 mm	18 mm	■			
NCB1,5-12GM70-E2-D-V1	1.5 mm	500 bar	PNP	Normally-open (NO)	600 Hz	10 V	30 V		M12 connector plug	93 mm	12 mm				
NCB1,5-18GM60-E2-D-V1	1.5 mm	350 bar	PNP	Normally-open (NO)	1500 Hz	10 V	60 V		M12 connector plug	65 mm	18 mm	■			
NCB1,5-18GM60-E3-D-V1	1.5 mm	350 bar	PNP	Normally-closed (NC)	1500 Hz	10 V	60 V		M12 connector plug	65 mm	18 mm	■			
NCB3-14GM65-E2-D-V1	3 mm	500 bar	PNP	Normally-open (NO)	500 Hz	10 V	30 V		M12 connector plug	65 mm	12 mm				
NJ1,5-18GM-N-D	1.5 mm	350 bar	NAMUR	Normally-closed (NC)	400 Hz	8.2 V	8.2 V	2	Fixed cable	50 mm	18 mm		■	■	■
NJ1,5-18GM-N-D-10M	1.5 mm	350 bar	NAMUR	Normally-closed (NC)	400 Hz	8.2 V	8.2 V	2	Fixed cable	50 mm	18 mm		■	■	■
NJ1,5-18GM-N-D-V1	1.5 mm	350 bar	NAMUR	Normally-closed (NC)	400 Hz	8.2 V	8.2 V	2	M12 connector plug	35 mm	18 mm		■	■	■

Highlights

- Extremely rugged design for pressures up to 1000 bar
- Optimized portfolio that is perfectly tailored to applications in hydraulic and pneumatic cylinders
- Different sensing ranges, output and connection options guarantee optimal application solutions

Brief Description

Pressure-resistant proximity sensors are typically used in applications involving high hydraulic and pneumatic pressures to detect components within the pressure range. The required pressure resistance is achieved via a ceramic front face that is embedded in the stainless steel housing. This enables flush assembly. These special sensors are mainly used, for example, to determine the end position of pistons in hydraulic and pneumatic cylinders. Some sensors in the Pepperl+Fuchs product range are designed for operating pressures of up to 500 bar and offer reliable protection against pressure peaks of up to 1000 bar. In addition, the portfolio offers variants with different operating distances, housing designs, and output and connection options that guarantee an optimal application solution.

Accessories

V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-G-N-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 2-pin, PUR cable, blue, NAMUR
V1-W-2M-PUR	Single-ended female cordset, M12, angled A-coded, 4-pin, PUR cable, gray
V1-W-N-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 2-pin, PUR cable, blue, NAMUR

Inductive Cubic Proximity Sensors for Mobile Equipment

Cubic Sensors for Mobile Equipment



Common Technical Data	
Special features	Mobile equipment
Type of voltage	DC
e1 type approval	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Cable Length	Cable Material	Length L	Width W	Height H	CCC	UL
NBB8-F148P10-E0-M	flush	8 mm	NPN	Normally-open (NO)	600 Hz	10 V	60 V	Fixed cable	2000 mm	PUR	50 mm	35 mm	20 mm		
NBB8-F148P10-E2-M	flush	8 mm	PNP	Normally-open (NO)	600 Hz	10 V	60 V	Fixed cable	2000 mm	PUR	50 mm	35 mm	20 mm		
NBB15-F148P10-E0-M	flush	15 mm	NPN	Normally-open (NO)	600 Hz	10 V	60 V	Fixed cable	2000 mm	PUR	50 mm	35 mm	20 mm		
NBB15-F148P10-E2-M	flush	15 mm	PNP	Normally-open (NO)	600 Hz	10 V	60 V	Fixed cable	2000 mm	PUR	50 mm	35 mm	20 mm		
NBB8-F33-A2-M1	flush	8 mm	PNP	complementary	350 Hz	10 V	30 V	Fixed cable	2000 mm	PUR	10 mm	50 mm	25 mm		■
NBB8-F33-E0-M	flush	8 mm	NPN	Normally-open (NO)	350 Hz	5 V	60 V	Fixed cable	2000 mm	PUR	10 mm	50 mm	25 mm	■	
NBB8-F33-E1-M	flush	8 mm	NPN	Normally-closed (NC)	350 Hz	5 V	60 V	Fixed cable	2000 mm	PUR	10 mm	50 mm	25 mm	■	
NBB8-F33-E2-M	flush	8 mm	PNP	Normally-open (NO)	350 Hz	5 V	60 V	Fixed cable	2000 mm	PUR	10 mm	50 mm	25 mm	■	
NBB8-F33-E3-M	flush	8 mm	PNP	Normally-closed (NC)	350 Hz	5 V	60 V	Fixed cable	2000 mm	PUR	10 mm	50 mm	25 mm	■	
NBN10-F33-E0-M	nonflush	10 mm	NPN	Normally-open (NO)	200 Hz	5 V	60 V	Fixed cable	2000 mm	PUR	10 mm	50 mm	25 mm	■	
NBN10-F33-E1-M	nonflush	10 mm	NPN	Normally-closed (NC)	200 Hz	5 V	60 V	Fixed cable	2000 mm	PUR	10 mm	50 mm	25 mm	■	
NBN10-F33-E2-M	nonflush	10 mm	PNP	Normally-open (NO)	200 Hz	5 V	60 V	Fixed cable	2000 mm	PUR	10 mm	50 mm	25 mm	■	
NBN10-F33-E3-M	nonflush	10 mm	PNP	Normally-closed (NC)	200 Hz	5 V	60 V	Fixed cable	2000 mm	PUR	10 mm	50 mm	25 mm	■	
NBB20-L2-A2-V1-M	flush	20 mm	PNP	complementary	200 Hz	10 V	60 V	M12 connector plug			67 mm	40 mm	40 mm	■	■
NBB20-L2M-A0-V1-M	flush	20 mm	NPN	complementary	200 Hz	10 V	60 V	M12 connector plug			67 mm	40 mm	40 mm	■	■
NBB20-L2M-A2-V1-M	flush	20 mm	PNP	complementary	200 Hz	10 V	60 V	M12 connector plug			67 mm	40 mm	40 mm	■	■
NBB20-U1-A0-M	flush	20 mm	NPN	complementary	200 Hz	10 V	60 V	Terminal compartment			118 mm	40 mm	40 mm	■	■
NBB20-U1-A2-M	flush	20 mm	PNP	complementary	200 Hz	10 V	60 V	Terminal compartment			118 mm	40 mm	40 mm	■	■
NBB20-U4-A0-M	flush	20 mm	NPN	complementary	200 Hz	10 V	60 V	Terminal compartment			118 mm	40 mm	40 mm	■	■
NBN40-L2-A0-V1-M	nonflush	40 mm	NPN	complementary	150 Hz	10 V	60 V	M12 connector plug			67 mm	40 mm	40 mm	■	■
NBN40-L2-A2-V1-M	nonflush	40 mm	PNP	complementary	150 Hz	10 V	60 V	M12 connector plug			67 mm	40 mm	40 mm	■	■
NBN40-L2M-A0-V1-M	nonflush	40 mm	NPN	complementary	150 Hz	10 V	60 V	M12 connector plug			67 mm	40 mm	40 mm	■	■
NBN40-L2M-A2-V1-M	nonflush	40 mm	PNP	complementary	150 Hz	10 V	60 V	M12 connector plug			67 mm	40 mm	40 mm	■	■
NBN40-U1-A0-M	nonflush	40 mm	NPN	complementary	150 Hz	10 V	60 V	Terminal compartment			118 mm	40 mm	40 mm	■	■
NBN40-U1-A2-M	nonflush	40 mm	PNP	complementary	150 Hz	10 V	60 V	Terminal compartment			118 mm	40 mm	40 mm	■	■

Highlights

- Maximum mechanical and electrical properties for reliable operation in the harshest outdoor conditions
- Optimized for mobile equipment (E1 type approval for use on public roads)
- Comprehensive portfolio and application-specific adaptations for excellent flexibility in sensor selection
- The highest quality standards (internal testing according to criteria far beyond the normative requirements)

Brief Description

High Reliability Under the Toughest Conditions

Applications in the mobile equipment sector place incredibly specific demands on sensor technology. In addition to approval for road traffic (E1 type approval), proximity sensors in this field must also have EMC immunity. Other typical requirements include high impermeability, resistance to shocks, vibrations, and chemicals, and an extended temperature range of -40 °C to +85 °C. With this in mind, Pepperl+Fuchs offers an extremely broad portfolio that guarantees maximum flexibility. The selection includes exceptionally rugged devices, which, thanks to a special internal test procedure, ensure a level of impermeability beyond the IP68 standard—a new benchmark in quality.

Inductive Cylindrical Proximity Sensors for Mobile Equipment

Cylindrical Sensors for Mobile Equipment



Common Technical Data

Special features	Mobile equipment
Type of voltage	DC
e1 type approval	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Length L	Diameter D	CCC	EAC	UL
NBB4-12GM35-A0-M1	flush	4 mm	NPN	complementary	2200 Hz	7 V	30 V	Fixed cable	35 mm	12 mm			■
NBB4-12GM35-A2-V1-M1	flush	4 mm	PNP	complementary	2200 Hz	7 V	30 V	M12 connector plug	51 mm	12 mm			■
NBB4-12GK50-E0-M	flush	4 mm	NPN	Normally-open (NO)	2500 Hz	5 V	60 V	Fixed cable	50 mm	12 mm	■		■
NBB4-12GK50-E1-M	flush	4 mm	NPN	Normally-closed (NC)	2500 Hz	5 V	60 V	Fixed cable	50 mm	12 mm	■		■
NBB4-12GK50-E2-M	flush	4 mm	PNP	Normally-open (NO)	2500 Hz	5 V	60 V	Fixed cable	50 mm	12 mm	■		■
NBB4-12GK50-E3-M	flush	4 mm	PNP	Normally-closed (NC)	2500 Hz	5 V	60 V	Fixed cable	50 mm	12 mm	■		■
NBB4-12GM50-A0-M1	flush	4 mm	NPN	complementary	2200 Hz	7 V	30 V	Fixed cable	50 mm	12 mm			■
NBB4-12GM50-A0-V1-M1	flush	4 mm	NPN	complementary	2200 Hz	7 V	30 V	M12 connector plug	66 mm	12 mm			■
NBB4-12GM50-A2-M1	flush	4 mm	PNP	complementary	2200 Hz	7 V	30 V	Fixed cable	50 mm	12 mm			■
NBB4-12GM50-A2-V1-M1	flush	4 mm	PNP	complementary	2200 Hz	7 V	30 V	M12 connector plug	66 mm	12 mm			■
NBB4-12GM50-E0-M	flush	4 mm	NPN	Normally-open (NO)	2500 Hz	5 V	60 V	Fixed cable	50 mm	12 mm	■		■
NBB4-12GM50-E0-M1	flush	4 mm	NPN	Normally-open (NO)	2200 Hz	7 V	30 V	Fixed cable	50 mm	12 mm			■
NBB4-12GM50-E0-V1-M	flush	4 mm	NPN	Normally-open (NO)	2500 Hz	5 V	60 V	M12 connector plug	66 mm	12 mm	■		■
NBB4-12GM50-E0-V1-M1	flush	4 mm	NPN	Normally-open (NO)	2200 Hz	7 V	30 V	M12 connector plug	66 mm	12 mm			■
NBB4-12GM50-E1-M	flush	4 mm	NPN	Normally-closed (NC)	2500 Hz	5 V	60 V	Fixed cable	50 mm	12 mm	■		■
NBB4-12GM50-E1-M1	flush	4 mm	NPN	Normally-closed (NC)	2200 Hz	7 V	30 V	Fixed cable	50 mm	12 mm			■
NBB4-12GM50-E1-V1-M	flush	4 mm	NPN	Normally-closed (NC)	2500 Hz	5 V	60 V	M12 connector plug	66 mm	12 mm	■		■
NBB4-12GM50-E1-V1-M1	flush	4 mm	NPN	Normally-closed (NC)	2200 Hz	7 V	30 V	M12 connector plug	66 mm	12 mm			■
NBB4-12GM50-E2-M	flush	4 mm	PNP	Normally-open (NO)	2500 Hz	5 V	60 V	Fixed cable	50 mm	12 mm	■		■
NBB4-12GM50-E2-V1-M	flush	4 mm	PNP	Normally-open (NO)	2500 Hz	5 V	60 V	M12 connector plug	66 mm	12 mm	■		■
NBB4-12GM50-E2-V1-M1	flush	4 mm	PNP	Normally-open (NO)	2200 Hz	7 V	30 V	M12 connector plug	66 mm	12 mm			■
NBB4-12GM50-E3-M	flush	4 mm	PNP	Normally-closed (NC)	2500 Hz	5 V	60 V	Fixed cable	50 mm	12 mm	■		■
NBB4-12GM50-E3-M1	flush	4 mm	PNP	Normally-closed (NC)	2200 Hz	7 V	30 V	Fixed cable	50 mm	12 mm			■
NBB4-12GM50-E3-V1-M	flush	4 mm	PNP	Normally-closed (NC)	2500 Hz	5 V	60 V	M12 connector plug	66 mm	12 mm	■		■
NBB4-12GM50-E2-M1	flush	4 mm	PNP	Normally-open (NO)	2200 Hz	7 V	30 V	Fixed cable	50 mm	12 mm			■
NBB4-12GM50-E3-V1-M1	flush	4 mm	PNP	Normally-closed (NC)	2200 Hz	7 V	30 V	M12 connector plug	66 mm	12 mm			■
NBB4-12GM50-EI-M1	flush	4 mm	Digital current output		1800 Hz	9 V	30 V	Fixed cable	50 mm	12 mm			■
NBB4-12GM50-EI-V1-M1	flush	4 mm	Digital current output		1800 Hz	9 V	30 V	M12 connector plug	65 mm	12 mm			■
NBN4-12GM35-A2-V1-M1	nonflush	4 mm	PNP	complementary	1200 Hz	7 V	30 V	M12 connector plug	51 mm	12 mm			■
NBB5-18GK50-E0-M	flush	5 mm	NPN	Normally-open (NO)	1500 Hz	5 V	60 V	Fixed cable	58 mm	18 mm	■		■
NBB5-18GK50-E1-M	flush	5 mm	NPN	Normally-closed (NC)	1500 Hz	5 V	60 V	Fixed cable	58 mm	18 mm	■		■
NBB5-18GK50-E2-M	flush	5 mm	PNP	Normally-open (NO)	1500 Hz	5 V	60 V	Fixed cable	58 mm	18 mm	■		■
NBB5-18GK50-E3-M	flush	5 mm	PNP	Normally-closed (NC)	1500 Hz	5 V	60 V	Fixed cable	58 mm	18 mm	■		■
NBN7-12GK50-E0-M	nonflush	7 mm	NPN	Normally-open (NO)	1500 Hz	5 V	60 V	Fixed cable	50 mm	12 mm	■		■
NBN7-12GK50-E1-M	nonflush	7 mm	NPN	Normally-closed (NC)	1500 Hz	5 V	60 V	Fixed cable	50 mm	12 mm	■		■
NBN7-12GK50-E2-M	nonflush	7 mm	PNP	Normally-open (NO)	1500 Hz	5 V	60 V	Fixed cable	50 mm	12 mm	■		■
NBN7-12GK50-E3-M	nonflush	7 mm	PNP	Normally-closed (NC)	1500 Hz	5 V	60 V	Fixed cable	50 mm	12 mm	■		■
NBN7-12GM50-E0-M	nonflush	7 mm	NPN	Normally-open (NO)	1500 Hz	5 V	60 V	Fixed cable	50 mm	12 mm	■		■
NBN7-12GM50-E0-V1-M	nonflush	7 mm	NPN	Normally-open (NO)	1500 Hz	5 V	60 V	M12 connector plug	66 mm	12 mm	■		■
NBN7-12GM50-E1-M	nonflush	7 mm	NPN	Normally-closed (NC)	1500 Hz	5 V	60 V	Fixed cable	50 mm	12 mm	■		■
NBN7-12GM50-E1-V1-M	nonflush	7 mm	NPN	Normally-closed (NC)	1500 Hz	5 V	60 V	M12 connector plug	66 mm	12 mm	■		■
NBN7-12GM50-E2-M	nonflush	7 mm	PNP	Normally-open (NO)	1500 Hz	5 V	60 V	Fixed cable	50 mm	12 mm	■		■
NBN7-12GM50-E2-V1-M	nonflush	7 mm	PNP	Normally-open (NO)	1500 Hz	5 V	60 V	M12 connector plug	66 mm	12 mm	■		■

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Length L	Diameter D	CCC	EAC	UL
NBN7-12GM50-E3-M	nonflush	7 mm	PNP	Normally-closed (NC)	1500 Hz	5 V	60 V	Fixed cable	50 mm	12 mm	■		■
NBN7-12GM50-E3-V1-M	nonflush	7 mm	PNP	Normally-closed (NC)	1500 Hz	5 V	60 V	M12 connector plug	66 mm	12 mm	■		■
NBB8-18GM35-A0-M1	flush	8 mm	NPN	complementary	1600 Hz	7 V	30 V	Fixed cable	35 mm	18 mm			■
NBB8-18GM50-E1-V1-M1	flush	8 mm	Digital current output		1300 Hz	9 V	30 V	M12 connector plug	65 mm	18 mm			■
NBB8-18GM50-A0-M1	flush	8 mm	NPN	complementary	1600 Hz	7 V	30 V	Fixed cable	50 mm	18 mm			■
NBB8-18GM50-A0-V1-M1	flush	8 mm	NPN	complementary	1600 Hz	7 V	30 V	M12 connector plug	65 mm	18 mm			■
NBB8-18GM50-A2-M1	flush	8 mm	PNP	complementary	1600 Hz	7 V	30 V	Fixed cable	50 mm	18 mm			■
NBB8-18GM50-A2-V1-M1	flush	8 mm	PNP	complementary	1600 Hz	7 V	30 V	M12 connector plug	65 mm	18 mm			■
NBB8-18GM50-E0-M	flush	8 mm	NPN	Normally-open (NO)	1500 Hz	5 V	60 V	Fixed cable	55 mm	18 mm	■	■	■
NBB8-18GM50-E0-M1	flush	8 mm	NPN	Normally-open (NO)	1600 Hz	7 V	30 V	Fixed cable	50 mm	18 mm			■
NBB8-18GM50-E0-V1-M	flush	8 mm	NPN	Normally-open (NO)	1500 Hz	5 V	60 V	M12 connector plug	65 mm	18 mm	■	■	■
NBB8-18GM50-E0-V1-M1	flush	8 mm	NPN	Normally-open (NO)	1600 Hz	7 V	30 V	M12 connector plug	65 mm	18 mm			■
NBB8-18GM50-E1-M	flush	8 mm	NPN	Normally-closed (NC)	1500 Hz	5 V	60 V	Fixed cable	55 mm	18 mm	■	■	■
NBB8-18GM50-E1-M1	flush	8 mm	NPN	Normally-closed (NC)	1600 Hz	7 V	30 V	Fixed cable	50 mm	18 mm			■
NBB8-18GM50-E1-V1-M	flush	8 mm	NPN	Normally-closed (NC)	1500 Hz	5 V	60 V	M12 connector plug	65 mm	18 mm	■	■	■
NBB8-18GM50-E1-V1-M1	flush	8 mm	NPN	Normally-closed (NC)	1600 Hz	7 V	30 V	M12 connector plug	65 mm	18 mm			■
NBB8-18GM50-E2-M	flush	8 mm	PNP	Normally-open (NO)	1500 Hz	5 V	60 V	Fixed cable	55 mm	18 mm	■	■	■
NBB8-18GM50-E2-M1	flush	8 mm	PNP	Normally-open (NO)	1600 Hz	7 V	30 V	Fixed cable	50 mm	18 mm			■
NBB8-18GM50-E2-V1-M	flush	8 mm	PNP	Normally-open (NO)	1500 Hz	5 V	60 V	M12 connector plug	65 mm	18 mm	■	■	■
NBB8-18GM50-E2-V1-M1	flush	8 mm	PNP	Normally-open (NO)	1600 Hz	7 V	30 V	M12 connector plug	65 mm	18 mm			■
NBB8-18GM50-E3-M	flush	8 mm	PNP	Normally-closed (NC)	1500 Hz	5 V	60 V	Fixed cable	55 mm	18 mm	■	■	■
NBB8-18GM50-E3-M1	flush	8 mm	PNP	Normally-closed (NC)	1600 Hz	7 V	30 V	Fixed cable	50 mm	18 mm			■
NBB8-18GM50-E3-V1-M	flush	8 mm	PNP	Normally-closed (NC)	1500 Hz	5 V	60 V	M12 connector plug	65 mm	18 mm	■	■	■
NBB8-18GM50-E3-V1-M1	flush	8 mm	PNP	Normally-closed (NC)	1600 Hz	7 V	30 V	M12 connector plug	65 mm	18 mm			■
NBB8-18GM50-EI-M	flush	8 mm	Digital current output		1300 Hz	9 V	30 V	Fixed cable	50 mm	18 mm			■
NBN8-12GM50-A0-M1	nonflush	8 mm	NPN	complementary	1200 Hz	7 V	30 V	Fixed cable	50 mm	12 mm			■
NBN8-12GM50-A0-V1-M1	nonflush	8 mm	NPN	complementary	1200 Hz	7 V	30 V	M12 connector plug	66 mm	12 mm			■
NBN8-12GM50-A2-M1	nonflush	8 mm	PNP	complementary	1200 Hz	7 V	30 V	Fixed cable	50 mm	12 mm			■
NBN8-12GM50-A2-V1-M1	nonflush	8 mm	PNP	complementary	1200 Hz	7 V	30 V	M12 connector plug	66 mm	12 mm			■
NBN8-12GM50-E0-M1	nonflush	8 mm	NPN	Normally-open (NO)	1200 Hz	7 V	30 V	Fixed cable	50 mm	12 mm			■
NBN8-12GM50-E0-V1-M1	nonflush	8 mm	NPN	Normally-open (NO)	1200 Hz	7 V	30 V	M12 connector plug	66 mm	12 mm			■
NBN8-12GM50-E1-M1	nonflush	8 mm	NPN	Normally-closed (NC)	1200 Hz	7 V	30 V	Fixed cable	50 mm	12 mm			■
NBN8-12GM50-E1-V1-M1	nonflush	8 mm	NPN	Normally-closed (NC)	1200 Hz	7 V	30 V	M12 connector plug	66 mm	12 mm			■
NBN8-12GM50-E2-M	nonflush	8 mm	PNP	Normally-open (NO)	1200 Hz	7 V	30 V	Fixed cable	50 mm	12 mm			■
NBN8-12GM50-E2-V1-M1	nonflush	8 mm	PNP	Normally-open (NO)	1200 Hz	7 V	30 V	M12 connector plug	66 mm	12 mm			■
NBN8-12GM50-E3-M1	nonflush	8 mm	PNP	Normally-closed (NC)	1200 Hz	7 V	30 V	Fixed cable	50 mm	12 mm			■
NBN8-12GM50-E3-V1-M1	nonflush	8 mm	PNP	Normally-closed (NC)	1200 Hz	7 V	30 V	M12 connector plug	66 mm	12 mm			■
NBN8-12GM50-EI-M1	nonflush	8 mm	Digital current output		1500 Hz	9 V	30 V	Fixed cable	50 mm	12 mm			■
NBN8-12GM50-EI-V1-M1	nonflush	8 mm	Digital current output		1500 Hz	9 V	30 V	M12 connector plug	65 mm	12 mm			■
NBB10-30GK50-E0-M	flush	10 mm	NPN	Normally-open (NO)	800 Hz	5 V	60 V	Fixed cable	63 mm	30 mm	■		■
NBB10-30GK50-E1-M	flush	10 mm	NPN	Normally-closed (NC)	800 Hz	5 V	60 V	Fixed cable	63 mm	30 mm	■		■
NBB10-30GK50-E2-M	flush	10 mm	PNP	Normally-open (NO)	800 Hz	5 V	60 V	Fixed cable	63 mm	30 mm			■
NBB10-30GK50-E3-M	flush	10 mm	PNP	Normally-closed (NC)	800 Hz	5 V	60 V	Fixed cable	63 mm	30 mm	■		■
NBN12-18GK50-E0-M	nonflush	12 mm	NPN	Normally-open (NO)	1500 Hz	5 V	60 V	Fixed cable	58 mm	18 mm	■		■
NBN12-18GK50-E1-M	nonflush	12 mm	NPN	Normally-closed (NC)	1500 Hz	5 V	60 V	Fixed cable	58 mm	18 mm	■		■
NBN12-18GK50-E2-M	nonflush	12 mm	PNP	Normally-open (NO)	1500 Hz	5 V	60 V	Fixed cable	58 mm	18 mm	■		■
NBN12-18GK50-E3-M	nonflush	12 mm	PNP	Normally-closed (NC)	1500 Hz	5 V	60 V	Fixed cable	58 mm	18 mm	■		■
NBN12-18GM50-A0-M1	nonflush	12 mm	NPN	complementary	1200 Hz	7 V	30 V	Fixed cable	50 mm	18 mm			■
NBN12-18GM50-A0-V1-M1	nonflush	12 mm	NPN	complementary	1200 Hz	7 V	30 V	M12 connector plug	65 mm	18 mm			■
NBN12-18GM50-A2-M1	nonflush	12 mm	PNP	complementary	1200 Hz	7 V	30 V	Fixed cable	50 mm	18 mm			■
NBN12-18GM50-A2-V1-M1	nonflush	12 mm	PNP	complementary	1200 Hz	7 V	30 V	M12 connector plug	65 mm	18 mm			■
NBN12-18GM50-E0-M	nonflush	12 mm	NPN	Normally-open (NO)	1500 Hz	5 V	60 V	Fixed cable	55 mm	18 mm	■	■	
NBN12-18GM50-E0-M1	nonflush	12 mm	NPN	Normally-open (NO)	1200 Hz	7 V	30 V	Fixed cable	50 mm	18 mm			■
NBN12-18GM50-E0-V1-M	nonflush	12 mm	NPN	Normally-open (NO)	1500 Hz	5 V	60 V	M12 connector plug	65 mm	18 mm	■	■	
NBN12-18GM50-E0-V1-M1	nonflush	12 mm	NPN	Normally-open (NO)	1200 Hz	7 V	30 V	M12 connector plug	65 mm	18 mm			■
NBN12-18GM50-E1-M	nonflush	12 mm	NPN	Normally-closed (NC)	1500 Hz	5 V	60 V	Fixed cable	55 mm	18 mm	■	■	■
NBN12-18GM50-E1-M1	nonflush	12 mm	NPN	Normally-closed (NC)	1200 Hz	7 V	30 V	Fixed cable	50 mm	18 mm			■
NBN12-18GM50-E1-V1-M	nonflush	12 mm	NPN	Normally-closed (NC)	1500 Hz	5 V	60 V	M12 connector plug	65 mm	18 mm	■	■	
NBN12-18GM50-E1-V1-M1	nonflush	12 mm	NPN	Normally-closed (NC)	1200 Hz	7 V	30 V	M12 connector plug	65 mm	18 mm			■
NBN12-18GM50-E2-M	nonflush	12 mm	PNP	Normally-open (NO)	1500 Hz	5 V	60 V	Fixed cable	55 mm	18 mm	■	■	
NBN12-18GM50-E2-M1	nonflush	12 mm	PNP	Normally-open (NO)	1200 Hz	7 V	30 V	Fixed cable	50 mm	18 mm			■
NBN12-18GM50-E2-V1-M	nonflush	12 mm	PNP	Normally-open (NO)	1500 Hz	5 V	60 V	M12 connector plug	65 mm	18 mm	■	■	
NBN12-18GM50-E2-V1-M1	nonflush	12 mm	PNP	Normally-open (NO)	1200 Hz	7 V	30 V	M12 connector plug	65 mm	18 mm			■
NBN12-18GM50-E3-M	nonflush	12 mm	PNP	Normally-closed (NC)	1500 Hz	5 V	60 V	Fixed cable	55 mm	18 mm	■	■	■
NBN12-18GM50-E3-M1	nonflush	12 mm	PNP	Normally-closed (NC)	1200 Hz	7 V	30 V	Fixed cable	50 mm	18 mm			■

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Length L	Diameter D	CCC	EAC	UL
NBN12-18GM50-E3-V1-M	nonflush	12 mm	PNP	Normally-closed (NC)	1500 Hz	5 V	60 V	M12 connector plug	65 mm	18 mm	■	■	■
NBN12-18GM50-E3-V1-M1	nonflush	12 mm	PNP	Normally-closed (NC)	1200 Hz	7 V	30 V	M12 connector plug	65 mm	18 mm			■
NBN12-18GM50-EI-M1	nonflush	12 mm	Digital current output		1000 Hz	9 V	30 V	Fixed cable	50 mm	18 mm			■
NBN12-18GM50-EI-V1-M1	nonflush	12 mm	Digital current output		1000 Hz	9 V	30 V	M12 connector plug	65 mm	18 mm			■
NBB15-30GM35-A0-M1	flush	15 mm	NPN	complementary	500 Hz	7 V	30 V	Fixed cable	35 mm	30 mm			■
NBB15-30GM50-A0-M1	flush	15 mm	NPN	complementary	500 Hz	7 V	30 V	Fixed cable	50 mm	30 mm			■
NBB15-30GM50-A0-V1-M1	flush	15 mm	NPN	complementary	500 Hz	7 V	30 V	M12 connector plug	66 mm	30 mm			■
NBB15-30GM50-A2-M1	flush	15 mm	PNP	complementary	500 Hz	7 V	30 V	Fixed cable	50 mm	30 mm			■
NBB15-30GM50-A2-V1-M1	flush	15 mm	PNP	complementary	500 Hz	7 V	30 V	M12 connector plug	66 mm	30 mm			■
NBB15-30GM50-E0-M	flush	15 mm	NPN	Normally-open (NO)	600 Hz	5 V	60 V	Fixed cable	61 mm	30 mm	■	■	■
NBB15-30GM50-E0-M1	flush	15 mm	NPN	Normally-open (NO)	500 Hz	7 V	30 V	Fixed cable	50 mm	30 mm			■
NBB15-30GM50-E0-V1-M	flush	15 mm	NPN	Normally-open (NO)	600 Hz	5 V	60 V	M12 connector plug	66 mm	30 mm	■	■	■
NBB15-30GM50-E0-V1-M1	flush	15 mm	NPN	Normally-open (NO)	500 Hz	7 V	30 V	M12 connector plug	66 mm	30 mm			■
NBB15-30GM50-E1-M	flush	15 mm	NPN	Normally-closed (NC)	600 Hz	5 V	60 V	Fixed cable	61 mm	30 mm	■	■	■
NBB15-30GM50-E1-M1	flush	15 mm	NPN	Normally-closed (NC)	500 Hz	7 V	30 V	Fixed cable	50 mm	30 mm			■
NBB15-30GM50-E1-V1-M	flush	15 mm	NPN	Normally-closed (NC)	600 Hz	5 V	60 V	M12 connector plug	66 mm	30 mm	■	■	■
NBB15-30GM50-E1-V1-M1	flush	15 mm	NPN	Normally-closed (NC)	500 Hz	7 V	30 V	M12 connector plug	66 mm	30 mm			■
NBB15-30GM50-E2-M	flush	15 mm	PNP	Normally-open (NO)	600 Hz	5 V	60 V	Fixed cable	61 mm	30 mm	■	■	■
NBB15-30GM50-E2-M1	flush	15 mm	PNP	Normally-open (NO)	500 Hz	7 V	30 V	Fixed cable	50 mm	30 mm			■
NBB15-30GM50-E2-V1-M	flush	15 mm	PNP	Normally-open (NO)	600 Hz	5 V	60 V	M12 connector plug	66 mm	30 mm	■	■	■
NBB15-30GM50-E2-V1-M1	flush	15 mm	PNP	Normally-open (NO)	500 Hz	7 V	30 V	M12 connector plug	66 mm	30 mm			■
NBB15-30GM50-E3-M	flush	15 mm	PNP	Normally-closed (NC)	600 Hz	5 V	60 V	Fixed cable	61 mm	30 mm	■	■	■
NBB15-30GM50-E3-M1	flush	15 mm	PNP	Normally-closed (NC)	500 Hz	7 V	30 V	Fixed cable	50 mm	30 mm			■
NBB15-30GM50-E3-V1-M	flush	15 mm	PNP	Normally-closed (NC)	600 Hz	5 V	60 V	M12 connector plug	66 mm	30 mm	■	■	■
NBB15-30GM50-E3-V1-M1	flush	15 mm	PNP	Normally-closed (NC)	500 Hz	7 V	30 V	M12 connector plug	66 mm	30 mm			■
NBB15-30GM50-EI-M1	flush	15 mm	Digital current output		700 Hz	9 V	30 V	Fixed cable	50 mm	30 mm			■
NBB15-30GM50-EI-V1-M1	flush	15 mm	Digital current output		700 Hz	9 V	30 V	M12 connector plug	65 mm	30 mm			■
NBN15-30GM50-A2-V1-M1	nonflush	15 mm	PNP	complementary	450 Hz	7 V	30 V	M12 connector plug	66 mm	30 mm			■
NBN20-30GM50-EI-M1	nonflush	20 mm	Digital current output		1000 Hz	9 V	30 V	Fixed cable	50 mm	30 mm			■
NBN20-30GM50-EI-V1-M1	nonflush	20 mm	Digital current output		1000 Hz	9 V	30 V	M12 connector plug	65 mm	30 mm			■
NBN25-30GK50-E0-M	nonflush	25 mm	NPN	Normally-open (NO)	200 Hz	5 V	60 V	Fixed cable	63 mm	30 mm	■		■
NBN25-30GK50-E1-M	nonflush	25 mm	NPN	Normally-closed (NC)	200 Hz	5 V	60 V	Fixed cable	63 mm	30 mm	■		■
NBN25-30GK50-E2-M	nonflush	25 mm	PNP	Normally-open (NO)	200 Hz	5 V	60 V	Fixed cable	63 mm	30 mm	■		■
NBN25-30GK50-E3-M	nonflush	25 mm	PNP	Normally-closed (NC)	200 Hz	5 V	60 V	Fixed cable	63 mm	30 mm	■		■
NBN25-30GM40-E2-M1	nonflush	25 mm	PNP	Normally-open (NO)	450 Hz	7 V	30 V	Fixed cable	40 mm	30 mm			■
NBN25-30GM50-A0-M1	nonflush	25 mm	NPN	complementary	450 Hz	7 V	30 V	Fixed cable	50 mm	30 mm			■
NBN25-30GM50-A0-V1-M1	nonflush	25 mm	NPN	complementary	450 Hz	7 V	30 V	M12 connector plug	66 mm	30 mm			■
NBN25-30GM50-A2-M1	nonflush	25 mm	PNP	complementary	450 Hz	7 V	30 V	Fixed cable	50 mm	30 mm			■
NBN25-30GM50-A2-V1-M1	nonflush	25 mm	PNP	complementary	450 Hz	7 V	30 V	M12 connector plug	66 mm	30 mm			■
NBN25-30GM50-E0-M	nonflush	25 mm	NPN	Normally-open (NO)	200 Hz	5 V	60 V	Fixed cable	61 mm	30 mm	■	■	■
NBN25-30GM50-E0-M1	nonflush	25 mm	NPN	Normally-open (NO)	450 Hz	7 V	30 V	Fixed cable	50 mm	30 mm			■

Highlights

- Maximum mechanical and electrical properties for reliable operation in the harshest outdoor conditions
- Optimized for mobile equipment (E1 type approval for use on public roads)
- Comprehensive portfolio and application-specific adaptations for excellent flexibility in sensor selection
- The highest quality standards (internal testing according to criteria far beyond the normative requirements)

Accessories

BF 12	Mounting adapter, 12 mm
BF 18	Mounting adapter, 18 mm
BF 30	Mounting adapter, 30 mm
EXG-12	Quick-mounting bracket with fixed stop
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled A-coded, 4-pin, PUR cable, gray

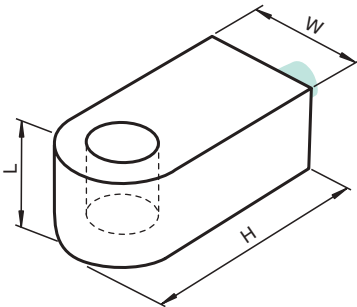
Ring-Shaped Inductive Proximity Sensors

Ring Diameter 21 mm



Common Technical Data	
Detection range	21 mm
Type of output	Three-wire
Type of output	PNP
Switching element function	Normally-open (NO)
Type of voltage	DC
Switching frequency	1000 Hz
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Cable material	PVC
Housing length L	20 mm
Housing width W	45 mm
Housing height H	80 mm
UL	■

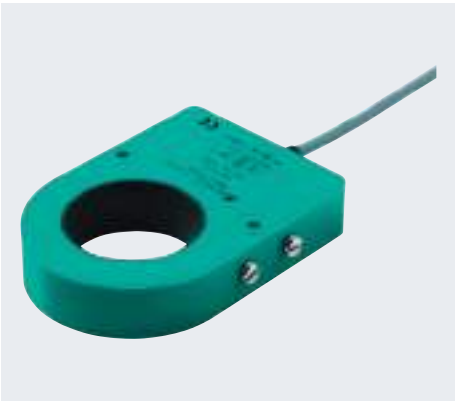
Model Number	Connection Type	Cable Length
RJ21-E2	Fixed cable	2000 mm
RJ21-E2-0,1M-V1	Fixed cable with M12 plug	100 mm



Accessories	
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled A-coded, 4-pin, PUR cable, gray

Ring-Shaped Inductive Proximity Sensors

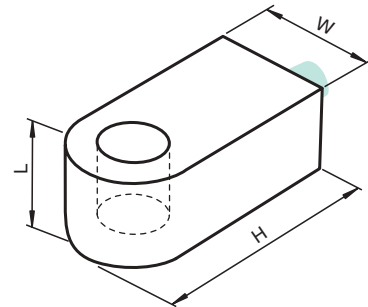
Ring Diameter 43 mm



Common Technical Data	
Detection range	43 mm
Type of output	Three-wire
Type of output	PNP
Switching element function	Normally-open (NO)
Type of voltage	DC
Switching frequency	500 Hz
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	Fixed cable
Cable length	2000 mm
Cable material	PVC
Housing length L	20 mm
Housing width W	70 mm
Housing height H	100 mm
UL	■

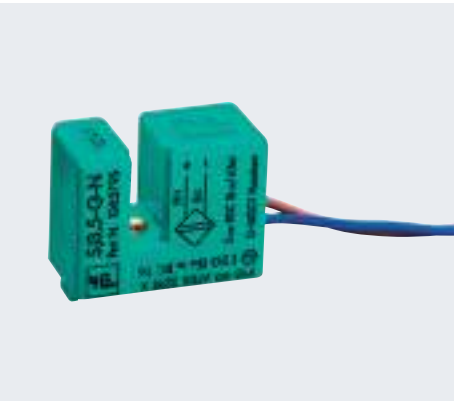
Model Number

RJ43-E2



Slotted Inductive Proximity Sensors

Slot Width 3.5 mm

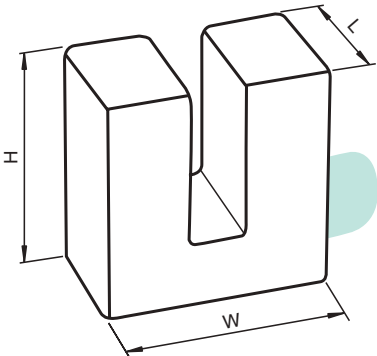


Common Technical Data

Detection range	3.5 mm
Type of output	Three-wire
Type of output	PNP
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing width W	10 mm
Housing height H	15 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Switching Element Function	Switching Frequency	Connection Type	Cable Length	Cable Material	Length L
SB3,5-A2	complementary	3000 Hz	Fixed cable	500 mm	PVC	19 mm
SB3,5-A2-0,5M-V31	complementary	3000 Hz	Fixed cable with M8 plug	500 mm	PVC	19 mm
SB3,5-E2	Normally-open (NO)	3000 Hz	Stranded wires	500 mm		19.5 mm
SB3,5-E2-BU	Normally-open (NO)	3000 Hz	Stranded wires	500 mm		19.5 mm
SB3,5-G-E2	Normally-open (NO)	2000 Hz	Stranded wires	135 mm	PVC	19.5 mm
SB3,5-G-E2-2M	Normally-open (NO)	2000 Hz	Fixed cable	2000 mm	PVC	19.5 mm

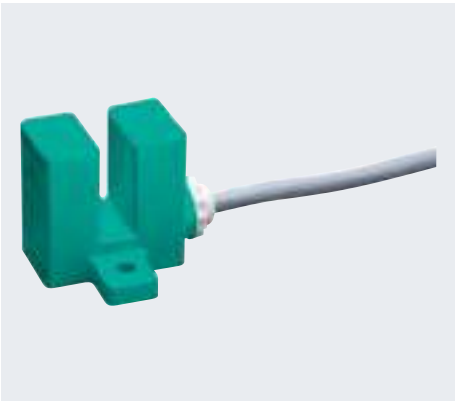


Accessories

V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray

Slotted Inductive Proximity Sensors

Slot Width 10 mm

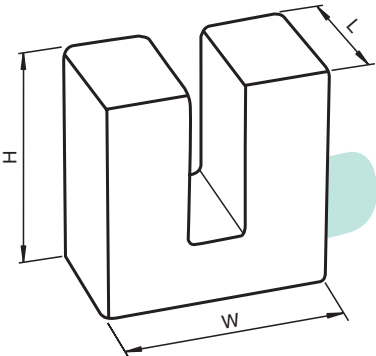


Common Technical Data	
Detection range	10 mm
Type of output	Three-wire
Switching element function	Normally-open (NO)
Type of voltage	DC
Switching frequency	1000 Hz
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	Fixed cable
Cable length	2000 mm
Cable material	PVC
Housing length L	44 mm
Housing width W	55 mm
Housing height H	45 mm
UL	■

Model Number

SJ10-E	NPN
SJ10-E2	PNP

Type of Output



Slotted Inductive Proximity Sensors

Slot Width 15 mm

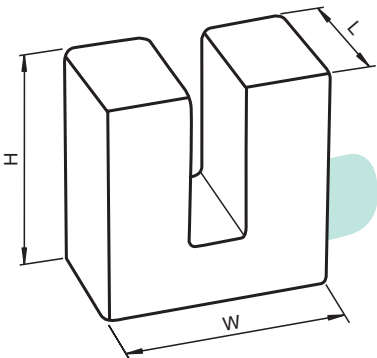


Common Technical Data

Detection range	15 mm
Housing length L	48 mm
Housing width W	30 mm
Housing height H	60 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Type of Output	Switching Element Function	Type of Voltage	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Cable Length	Cable Material	CCC
SJ15-WS	Two-wire	Normally-open (NO)	AC	25 Hz	20 V	253 V	Fixed cable	2000 mm	PVC	■
SJ15-A2	PNP	complementary	DC	500 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	
SJ15-A2-V1	PNP	complementary	DC	500 Hz	10 V	30 V	M12 connector plug			
SJ15-E	NPN	Normally-open (NO)	DC	500 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	
SJ15-E2	PNP	Normally-open (NO)	DC	500 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	
SJ15-E2-4M	PNP	Normally-open (NO)	DC	500 Hz	10 V	30 V	Fixed cable	4000 mm	PVC	

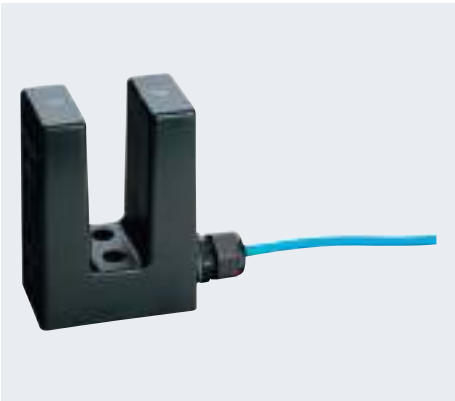


Accessories

V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled A-coded, 4-pin, PUR cable, gray

Slotted Inductive Proximity Sensors

Slot Width 30 mm

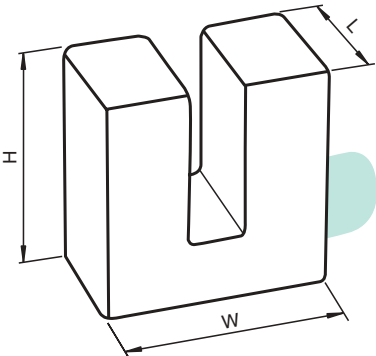


Common Technical Data	
Detection range	30 mm
Type of output	Four-wire
Switching element function	complementary
Type of voltage	DC
Switching frequency	150 Hz
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	Fixed cable
Cable length	2000 mm
Cable material	PVC
Housing length L	84 mm
Housing width W	51 mm
Housing height H	110 mm
UL	■

Model Number

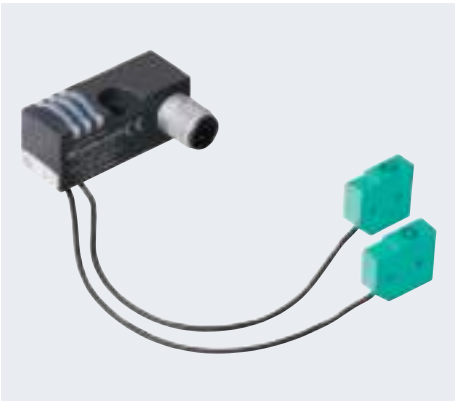
SJ30-A	NPN
SJ30-A2	PNP

Type of Output



Inductive Proximity Sensors for Power Clamps

Sensors for Power Clamps



Common Technical Data	
Housing width W	18 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Type of Voltage	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Length L	Height H
NBN2-F581-100S16-E8-V1	nonflush	2 mm	PNP	Normally-open (NO)	DC	100 Hz	10 V	30 V	M12 connector plug	47 mm	18 mm
NBN2-F581-100S6-E10-V1	nonflush	2 mm	NPN	Normally-open (NO)	DC	25 Hz	10 V	30 V	M12 connector plug	47 mm	18 mm
NBN2-F581-140S6-E8-V1	nonflush	2 mm	PNP	Normally-open (NO)	DC	25 Hz	10 V	30 V	M12 connector plug	47 mm	18 mm
NBN2-F581-270S15-E8-V1	nonflush	2 mm	PNP	Normally-open (NO)	DC	100 Hz	10 V	30 V	M12 connector plug	28 mm	18 mm
NBN2-F581-60/180S6-E8-V1	nonflush	2 mm	PNP	Normally-open (NO)	DC	25 Hz	10 V	30 V	M12 connector plug	47 mm	18 mm
NBN2-F58S-100S3-E8-V1	nonflush	2 mm	PNP	Normally-open (NO)	DC	100 Hz	10 V	30 V	M12 connector plug	34 mm	13.8 mm
NBN2-F58xxA3-100S18	nonflush	2 mm								47 mm	8 mm
NBxx-F58D3x3-E8-V1			PNP	Normally-open (NO)	DC	100 Hz	10 V	30 V	M12 connector plug	46.5 mm	18.5 mm

Highlights

- Completely halogen- and silicone-free
- Use in constant and alternating field welding systems

Accessories	
V1-G-OR2M-POC	Single-ended female cordset, M12, straight A-coded, 4-pin, POC cable, welding-bead resistant, orange, suitable for robots, torsion-proof, oil-resistant, cross-linked molecules

Safety Sensors Approved According to the Machinery Directive

Safety Sensors with OSSD Output



Common Technical Data	
Special features	Safety sensor
Type of output	Four-wire
Type of output	PNP
Switching element function	Normally-open (NO)
Type of voltage	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
SIL	2
Performance Level PL	PL d
EAC	■
TÜV	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Switching Frequency	Connection Type	Cable Length	Cable Material	Length L	Width W	Height H	Diameter D	e1
NSB15-L2M-2E2-V1-S2D2	flush	15 mm	10 Hz	M12 connector plug			67 mm	40 mm	40 mm		
NSN20-L2M-2E2-V1-S2D2	nonflush	20 mm	10 Hz	M12 connector plug			67 mm	40 mm	40 mm		
NSB2-12GH45-2E2-V1-M1-S2D2	flush	2 mm	30 Hz	M12 connector plug			65 mm			12 mm	■
NSB2-12GH45-2E2-V1-S2D2	flush	2 mm	30 Hz	M12 connector plug			65 mm			12 mm	
NSB2-12GM45-2E2-V1-M1-S2D2	flush	2 mm	30 Hz	M12 connector plug			65 mm			12 mm	■
NSB2-12GM45-2E2-V1-S2D2	flush	2 mm	30 Hz	M12 connector plug			65 mm			12 mm	
NSB2-12GH50-2E2-PUR-S2D2	flush	2 mm	30 Hz	Fixed cable	2000 mm	PUR	60 mm			12 mm	
NSB2-12GH50-2E2-M1-S2D2	flush	2 mm	30 Hz	Fixed cable	2000 mm	PUR	60 mm			12 mm	■
NSB2-12GM50-2E2-M1-S2D2	flush	2 mm	30 Hz	Fixed cable	2000 mm	PUR	60 mm			12 mm	■
NSB2-12GM50-2E2-PUR-S2D2	flush	2 mm	30 Hz	Fixed cable	2000 mm	PUR	60 mm			12 mm	
NSB2-12GH50-2E2-S2D2	flush	2 mm	30 Hz	Fixed cable	2000 mm	PVC	60 mm			12 mm	
NSB2-12GM50-2E2-S2D2	flush	2 mm	30 Hz	Fixed cable	2000 mm	PVC	60 mm			12 mm	
NSN4-12GH45-2E2-V1-S2D2	nonflush	4 mm	30 Hz	M12 connector plug			65 mm			12 mm	
NSN4-12GH45-2E2-V1-M1-S2D2	nonflush	4 mm	30 Hz	M12 connector plug			65 mm			12 mm	■
NSN4-12GM45-2E2-V1-S2D2	nonflush	4 mm	30 Hz	M12 connector plug			65 mm			12 mm	
NSN4-12GM45-2E2-V1-M1-S2D2	nonflush	4 mm	30 Hz	M12 connector plug			65 mm			12 mm	■
NSN4-12GH50-2E2-M1-S2D2	nonflush	4 mm	30 Hz	Fixed cable	2000 mm	PUR	60 mm			12 mm	■
NSN4-12GH50-2E2-PUR-S2D2	nonflush	4 mm	30 Hz	Fixed cable	2000 mm	PUR	60 mm			12 mm	
NSN4-12GH50-2E2-S2D2	nonflush	4 mm	30 Hz	Fixed cable	2000 mm	PVC	60 mm			12 mm	
NSN4-12GM50-2E2-PUR-S2D2	nonflush	4 mm	30 Hz	Fixed cable	2000 mm	PUR	60 mm			12 mm	
NSN4-12GM50-2E2-S2D2	nonflush	4 mm	30 Hz	Fixed cable	2000 mm	PVC	60 mm			12 mm	
NSN4-12GM50-2E2-M1-S2D2	nonflush	4 mm	30 Hz	Fixed cable	2000 mm	PUR	60 mm			12 mm	■
NSB5-18GH45-2E2-V1-S2D2	flush	5 mm	30 Hz	M12 connector plug			65 mm			18 mm	
NSB5-18GH45-2E2-V1-M1-S2D2	flush	5 mm	30 Hz	M12 connector plug			65 mm			18 mm	■
NSB5-18GM45-2E2-V1-S2D2	flush	5 mm	30 Hz	M12 connector plug			65 mm			18 mm	
NSB5-18GM45-2E2-V1-M1-S2D2	flush	5 mm	30 Hz	M12 connector plug			65 mm			18 mm	■
NSB5-18GH50-2E2-M1-S2D2	flush	5 mm	30 Hz	Fixed cable	2000 mm	PUR	60 mm			18 mm	■
NSB5-18GH50-2E2-PUR-S2D2	flush	5 mm	30 Hz	Fixed cable	2000 mm	PUR	60 mm			18 mm	
NSB5-18GH50-2E2-S2D2	flush	5 mm	30 Hz	Fixed cable	2000 mm	PVC	60 mm			18 mm	
NSB5-18GM50-2E2-PUR-S2D2	flush	5 mm	30 Hz	Fixed cable	2000 mm	PUR	60 mm			18 mm	
NSB5-18GM50-2E2-S2D2	flush	5 mm	30 Hz	Fixed cable	2000 mm	PVC	60 mm			18 mm	
NSB5-18GM50-2E2-M1-S2D2	flush	5 mm	30 Hz	Fixed cable	2000 mm	PUR	60 mm			18 mm	■
NSN8-18GH45-2E2-V1-S2D2	nonflush	8 mm	30 Hz	M12 connector plug			65 mm			18 mm	
NSN8-18GH45-2E2-V1-M1-S2D2	nonflush	8 mm	30 Hz	M12 connector plug			65 mm			18 mm	■
NSN8-18GM45-2E2-V1-S2D2	nonflush	8 mm	30 Hz	M12 connector plug			65 mm			18 mm	
NSN8-18GM45-2E2-V1-M1-S2D2	nonflush	8 mm	30 Hz	M12 connector plug			65 mm			18 mm	■
NSN8-18GH50-2E2-M1-S2D2	nonflush	8 mm	30 Hz	Fixed cable	2000 mm	PUR	60 mm			18 mm	■
NSN8-18GH50-2E2-PUR-S2D2	nonflush	8 mm	30 Hz	Fixed cable	2000 mm	PUR	60 mm			18 mm	
NSN8-18GH50-2E2-S2D2	nonflush	8 mm	30 Hz	Fixed cable	2000 mm	PVC	60 mm			18 mm	
NSN8-18GM50-2E2-S2D2	nonflush	8 mm	30 Hz	Fixed cable	2000 mm	PVC	60 mm			18 mm	
NSN8-18GM50-2E2-PUR-S2D2	nonflush	8 mm	30 Hz	Fixed cable	2000 mm	PUR	60 mm			18 mm	

Model Number	Mechanical Installation Conditions	Detection Range	Switching Frequency	Connection Type	Cable Length	Cable Material	Length L	Width W	Height H	Diameter D	e1
NSN8-18GM50-2E2-M1-S2D2	nonflush	8 mm	30 Hz	Fixed cable	2000 mm	PUR	60 mm			18 mm	■
NSB10-30GH50-2E2-PUR-S2D2	flush	10 mm	30 Hz	Fixed cable	2000 mm	PUR	65 mm			30 mm	
NSB10-30GH50-2E2-S2D2	flush	10 mm	30 Hz	Fixed cable	2000 mm	PVC	65 mm			30 mm	
NSB10-30GH50-2E2-V1-S2D2	flush	10 mm	30 Hz	M12 connector plug			70 mm			30 mm	
NSB10-30GH50-2E2-M1-S2D2	flush	10 mm	30 Hz	Fixed cable	2000 mm	PUR	65 mm			30 mm	■
NSB10-30GH50-2E2-V1-M1-S2D2	flush	10 mm	30 Hz	M12 connector plug			70 mm			30 mm	■
NSB10-30GM50-2E2-PUR-S2D2	flush	10 mm	30 Hz	Fixed cable	2000 mm	PUR	65 mm			30 mm	
NSB10-30GM50-2E2-S2D2	flush	10 mm	30 Hz	Fixed cable	2000 mm	PVC	65 mm			30 mm	
NSB10-30GM50-2E2-V1-S2D2	flush	10 mm	30 Hz	M12 connector plug			70 mm			30 mm	
NSB10-30GM50-2E2-M1-S2D2	flush	10 mm	30 Hz	Fixed cable	2000 mm	PUR	65 mm			30 mm	■
NSB10-30GM50-2E2-V1-M1-S2D2	flush	10 mm	30 Hz	M12 connector plug			70 mm			30 mm	■
NSN15-30GH50-2E2-V1-S2D2	nonflush	15 mm	20 Hz	M12 connector plug			70 mm			30 mm	
NSN15-30GH50-2E2-M1-S2D2	nonflush	15 mm	20 Hz	Fixed cable	2000 mm	PUR	65 mm			30 mm	■
NSN15-30GH50-2E2-PUR-S2D2	nonflush	15 mm	20 Hz	Fixed cable	2000 mm	PUR	65 mm			30 mm	
NSN15-30GH50-2E2-S2D2	nonflush	15 mm	20 Hz	Fixed cable	2000 mm	PVC	65 mm			30 mm	
NSN15-30GH50-2E2-V1-M1-S2D2	nonflush	15 mm	20 Hz	M12 connector plug			70 mm			30 mm	■
NSN15-30GM50-2E2-PUR-S2D2	nonflush	15 mm	20 Hz	Fixed cable	2000 mm	PUR	65 mm			30 mm	
NSN15-30GM50-2E2-V1-S2D2	nonflush	15 mm	20 Hz	M12 connector plug			70 mm			30 mm	
NSN15-30GM50-2E2-S2D2	nonflush	15 mm	20 Hz	Fixed cable	2000 mm	PVC	65 mm			30 mm	
NSN15-30GM50-2E2-M1-S2D2	nonflush	15 mm	20 Hz	Fixed cable	2000 mm	PUR	65 mm			30 mm	■
NSN15-30GM50-2E2-V1-M1-S2D2	nonflush	15 mm	20 Hz	M12 connector plug			70 mm			30 mm	■

Highlights

- OSSD interface for direct connection to the safety control or I/O module
- Use of standard metal actuators with no dead band in front of the sensor—no adjustment required
- Ideal for demanding applications with extended temperature range and E1 approval
- High safety values for reduced inspection intervals and easier integration into the safety loop

Brief Description

Intelligent Technology, Simple Handling

The inductive safety sensors from Pepperl+Fuchs have been approved according to functional safety SIL 2 and Machinery Directive PL d. With redundant implementation, SIL 3/PL e can even be achieved. High safety characteristics enable easy integration into the safety loop and considerably extend the operating intervals. Thanks to the intelligent electronics, the sensors do not have a dead band. This means that no minimum distance needs to be maintained between the sensor and the target. Simple standard metal targets can be used for detection; no special coding is required. A standardized OSSD interface and comprehensive safety documentation ensure quick and easy integration of the new safety sensors.

Accessories

BF 12	Mounting adapter, 12 mm
BF 18	Mounting adapter, 18 mm
BF 30	Mounting adapter, 30 mm
MH 02-L	Mounting aid
MHW 01	Modular mounting bracket
V1-G-S-BK2M-PUR-A-V1-G	Double-ended cordset, M12 socket, gray, straight, to M12 plug, gray, straight, A-coded, 4-pin, PUR cable, weld-splatter resistant, black, UL-approved, suitable for drag chains, torsion-proof
V1-W-S-BK2M-PUR-A-V1-G	Double-ended cordset, M12 socket, yellow, angled, straight, A-coded, 4-pin, PUR cable, weld-splatter resistant, black, UL-approved, suitable for drag chains, torsion-proof

Safety Sensors Approved According to the Machinery Directive

Safety Sensors with NAMUR Output and Ex Approval



Common Technical Data	
Special features	Safety sensor
Type of output	2-wire
Type of output	NAMUR with safety function
Type of voltage	DC
Rated voltage	8.2 V
SIL	3
UL	■
ATEX	■
IECEx	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Switching Element Function	Switching Frequency	Connection Type	Cable Length	Cable Material	Length L	Width W	Height H	Diameter D	EAC
NJ2-11-SN	flush	2 mm	Normally-closed (NC)	3000 Hz	Fixed cable	2000 mm	silicone	31 mm			11 mm	
NJ2-11-SN-G	flush	2 mm	Normally-closed (NC)	3000 Hz	Fixed cable	2000 mm	silicone	30 mm			14 mm	■
NJ2-11-SN-G-5M	flush	2 mm	Normally-closed (NC)	3000 Hz	Fixed cable	5000 mm	silicone	30 mm			14 mm	■
NJ2-11-SN-G-10M	flush	2 mm	Normally-closed (NC)	3000 Hz	Fixed cable	10,000 mm	silicone	30 mm			14 mm	■
NJ2-12GK-SN	flush	2 mm	Normally-closed (NC)	2000 Hz	Fixed cable	2000 mm	silicone	34 mm			12 mm	■
NJ2-12GK-SN-0,3M	flush	2 mm	Normally-closed (NC)	2000 Hz	Fixed cable	300 mm	silicone	34 mm			12 mm	
NJ2-12GK-SN-10M	flush	2 mm	Normally-closed (NC)	2000 Hz	Fixed cable	10,000 mm	silicone	34 mm			12 mm	■
NJ3-18GK-S1N	flush	3 mm	Normally-open (NO)	200 Hz	Fixed cable	2000 mm	silicone	39 mm			18 mm	■
NJ3-18GK-S1N-5M	flush	3 mm	Normally-open (NO)	200 Hz	Fixed cable	5000 mm	silicone	39 mm			18 mm	■
NJ3-18GK-S1N-10M	flush	3 mm	Normally-open (NO)	200 Hz	Fixed cable	10,000 mm	silicone	39 mm			18 mm	■
NJ4-12GK-SN	nonflush	4 mm	Normally-closed (NC)	1500 Hz	Fixed cable	2000 mm	silicone	34 mm			12 mm	■
NJ4-12GK-SN-15M	nonflush	4 mm	Normally-closed (NC)	1500 Hz	Fixed cable	15,000 mm	silicone	34 mm			12 mm	■
NJ5-18GK-SN	flush	5 mm	Normally-closed (NC)	500 Hz	Fixed cable	2000 mm	silicone	39 mm			18 mm	■
NJ5-18GK-SN-5M	flush	5 mm	Normally-closed (NC)	500 Hz	Fixed cable	5000 mm	silicone	39 mm			18 mm	■
NJ5-18GK-SN-10M	flush	5 mm	Normally-closed (NC)	500 Hz	Fixed cable	10,000 mm	silicone	39 mm			18 mm	■
NJ5-18GK-SN-15M	flush	5 mm	Normally-closed (NC)	500 Hz	Fixed cable	15,000 mm	silicone	39 mm			18 mm	■
NJ5-30GK-S1N	flush	5 mm	Normally-open (NO)	150 Hz	Fixed cable	2000 mm	silicone	40 mm			30 mm	■
NJ5-30GK-S1N-5M	flush	5 mm	Normally-open (NO)	150 Hz	Fixed cable	5000 mm	silicone	40 mm			30 mm	■
NJ5-30GK-S1N-10M	flush	5 mm	Normally-open (NO)	150 Hz	Fixed cable	10,000 mm	silicone	40 mm			30 mm	■
NJ5-30GK-S1N-15M	flush	5 mm	Normally-open (NO)	150 Hz	Fixed cable	15,000 mm	silicone	40 mm			30 mm	■
NJ6-22-SN	flush	6 mm	Normally-closed (NC)	2000 Hz	Fixed cable	2000 mm	silicone	35 mm			22 mm	
NJ6-22-SN-10M	flush	6 mm	Normally-closed (NC)	2000 Hz	Fixed cable	10,000 mm	silicone	35 mm			22 mm	
NJ6-22-SN-G	flush	6 mm	Normally-closed (NC)	2000 Hz	Fixed cable	2000 mm	silicone	35 mm			28.3 mm	
NJ6-22-SN-G-3M	flush	6 mm	Normally-closed (NC)	2000 Hz	Fixed cable	3000 mm	silicone	35 mm			28.3 mm	
NJ6-22-SN-G-10M	flush	6 mm	Normally-closed (NC)	2000 Hz	Fixed cable	10,000 mm	silicone	35 mm			28.3 mm	
NJ8-18GK-SN	nonflush	8 mm	Normally-closed (NC)	200 Hz	Fixed cable	2000 mm	silicone	39 mm			18 mm	■
NJ8-18GK-SN-10M	nonflush	8 mm	Normally-closed (NC)	200 Hz	Fixed cable	10,000 mm	silicone	39 mm			18 mm	■
NJ10-30GK-SN	flush	10 mm	Normally-closed (NC)	300 Hz	Fixed cable	2000 mm	silicone	40 mm			30 mm	■
NJ10-30GK-SN-10M	flush	10 mm	Normally-closed (NC)	300 Hz	Fixed cable	10,000 mm	silicone	40 mm			30 mm	■
NJ10-30GK-SN-15M	flush	10 mm	Normally-closed (NC)	300 Hz	Fixed cable	15,000 mm	silicone	40 mm			30 mm	■
NJ10-30GK-SN-25M	flush	10 mm	Normally-closed (NC)	300 Hz	Fixed cable	25,000 mm	silicone	40 mm			30 mm	■
NJ10-30GK-SN-40M	flush	10 mm	Normally-closed (NC)	300 Hz	Fixed cable	40,000 mm	silicone	40 mm			30 mm	■
NJ15-30GK-SN-5M	nonflush	15 mm	Normally-closed (NC)	100 Hz	Fixed cable	5000 mm	silicone	40 mm			30 mm	■
NJ15-30GK-SN-15M	nonflush	15 mm	Normally-closed (NC)	100 Hz	Fixed cable	15,000 mm	silicone	40 mm			30 mm	■
NJ15-30GK-SN-20M	nonflush	15 mm	Normally-closed (NC)	100 Hz	Fixed cable	20,000 mm	silicone	40 mm			30 mm	■
NJ15-30GK-SN	nonflush	15 mm	Normally-closed (NC)	100 Hz	Fixed cable	2000 mm	silicone	40 mm			30 mm	■
NJ40-FP-SN-P1	nonflush	40 mm	Normally-closed (NC)	100 Hz	Terminal compartment			80 mm	80 mm	40 mm		■
SJ2-SN		2 mm	Normally-closed (NC)	5000 Hz	Stranded wires	500 mm	PVC	8 mm	15 mm	13 mm		■
SJ3.5-S1N		3.5 mm	Normally-open (NO)	2500 Hz	Stranded wires	500 mm	PVC	19.5 mm	10 mm	15 mm		■
SJ3.5-SN		3.5 mm	Normally-closed (NC)	3000 Hz	Stranded wires	500 mm	PVC	19.5 mm	10 mm	15 mm		■

Inductive Cubic Proximity Sensors in Ex Version

Cubic Sensors for the Hazardous Area



Common Technical Data	
Type of voltage	DC
ATEX	■
IECEX	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	SIL	Connection Type	Length L	Width W	Height H	EAC	UL
NBB2-V3-E2-3G-3D	flush	2 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V		Fixed cable	16 mm	27.8 mm	10.2 mm	■	■
NBB2-V3-Z4L-3G-3D	flush	2 mm	Two-wire	Normally-open (NO)	700 Hz	3.7 V	30 V		Fixed cable	16 mm	27.8 mm	10.2 mm	■	■
NCB2-V3-N0	flush	2 mm	NAMUR	Normally-closed (NC)	2000 Hz	8.2 V	8.2 V	2	Fixed cable	16 mm	27.8 mm	10.2 mm	■	■
NCB2-V3-N0-2M	flush	2 mm	NAMUR	Normally-closed (NC)	2000 Hz	8.2 V	8.2 V		Fixed cable	16 mm	27.8 mm	10.2 mm	■	■
NBB3-V3-Z4-3G-3D	flush	3 mm	Two-wire	Normally-open (NO)	2000 Hz	5 V	60 V		Fixed cable	16 mm	27.8 mm	10.2 mm	■	■
NBN4-V3-E2-3G-3D	nonflush	4 mm	PNP	Normally-open (NO)	500 Hz	10 V	30 V		Fixed cable	16 mm	27.8 mm	10.2 mm	■	■
NCN4-V3-N0	nonflush	4 mm	NAMUR	Normally-closed (NC)	2000 Hz	8.2 V	8.2 V	2	Fixed cable	16 mm	27.8 mm	10.2 mm	■	■
NCN4-V3-N0-V5	nonflush	4 mm	NAMUR	Normally-closed (NC)	2000 Hz	8.2 V	8.2 V		Faston connector plug	16 mm	27.8 mm	10.2 mm	■	■
NBB15-U1K-N0	flush	15 mm	NAMUR	Normally-closed (NC)	400 Hz	8.2 V	8.2 V		Terminal compartment	118 mm	40 mm	40 mm	■	■
NBB15-U2K-N0	flush	15 mm	NAMUR	Normally-closed (NC)	300 Hz	8.2 V	8.2 V		Terminal compartment	118 mm	40 mm	40 mm	■	■
NBB15-U4K-N0	flush	15 mm	NAMUR	Normally-closed (NC)	300 Hz	8.2 V	8.2 V		Terminal compartment	118 mm	40 mm	40 mm	■	■
NBB15-U4K-N0-V1	flush	15 mm	NAMUR	Normally-closed (NC)	300 Hz	8.2 V	8.2 V		M12 connector plug	118 mm	40 mm	40 mm	■	■
NBB20-U1K-N0	flush	20 mm	NAMUR	Normally-closed (NC)	250 Hz	8.2 V	8.2 V		Terminal compartment	118 mm	40 mm	40 mm	■	■
NBB20-U4K-N0	flush	20 mm	NAMUR	Normally-closed (NC)	300 Hz	8.2 V	8.2 V		Terminal compartment	118 mm	40 mm	40 mm	■	■
NBB20-U4K-N0-V1	flush	20 mm	NAMUR	Normally-closed (NC)	300 Hz	8.2 V	8.2 V		M12 connector plug	118 mm	40 mm	40 mm	■	■
NBB20-L2-A2-V1-3G-3D	flush	20 mm	PNP	complementary	440 Hz	10 V	30 V		M12 connector plug	67 mm	40 mm	40 mm	■	■
NBB20-L2-E2-V1-3G-3D	flush	20 mm	PNP	Normally-open (NO)	440 Hz	10 V	30 V		M12 connector plug	67 mm	40 mm	40 mm	■	■
NCB20-L2-N0-V1	flush	20 mm	NAMUR	Normally-closed (NC)	300 Hz	8.2 V	8.2 V	2	M12 connector plug	67 mm	40 mm	40 mm	■	■
NBN30-U1K-N0	nonflush	30 mm	NAMUR	Normally-closed (NC)	150 Hz	8.2 V	8.2 V		Terminal compartment	118 mm	40 mm	40 mm	■	■
NBN30-U4K-N0	nonflush	30 mm	NAMUR	Normally-closed (NC)	150 Hz	8.2 V	8.2 V		Terminal compartment	118 mm	40 mm	40 mm	■	■
NBN30-U4K-N0-V1	nonflush	30 mm	NAMUR	Normally-closed (NC)	150 Hz	8.2 V	8.2 V		M12 connector plug	118 mm	40 mm	40 mm	■	■
NBN40-U1K-N0	nonflush	40 mm	NAMUR	Normally-closed (NC)	100 Hz	8.2 V	8.2 V		Terminal compartment	118 mm	40 mm	40 mm	■	■
NBN40-U1K-N0-V1	nonflush	40 mm	NAMUR	Normally-closed (NC)	150 Hz	8.2 V	8.2 V		M12 connector plug	118 mm	40 mm	40 mm	■	■
NBN40-U1LK-N0	nonflush	40 mm	NAMUR	Normally-closed (NC)	100 Hz	8.2 V	8.2 V		Terminal compartment	128 mm	55 mm	55 mm	■	■
NBN40-U1LK-N0-V1	nonflush	40 mm	NAMUR	Normally-closed (NC)	100 Hz	8.2 V	8.2 V		M12 connector plug	128 mm	55 mm	55 mm	■	■
NBN40-U2K-N0	nonflush	40 mm	NAMUR	Normally-closed (NC)	150 Hz	8.2 V	8.2 V		Terminal compartment	118 mm	40 mm	40 mm	■	■
NBN40-U4K-N0	nonflush	40 mm	NAMUR	Normally-closed (NC)	150 Hz	8.2 V	8.2 V		Terminal compartment	118 mm	40 mm	40 mm	■	■
NBN40-U4K-N0-V1	nonflush	40 mm	NAMUR	Normally-closed (NC)	150 Hz	8.2 V	8.2 V		M12 connector plug	118 mm	40 mm	40 mm	■	■
NBN40-U4LK-N0	nonflush	40 mm	NAMUR	Normally-closed (NC)	100 Hz	8.2 V	8.2 V		Terminal compartment	128 mm	55 mm	55 mm	■	■
NBN40-L2-A2-V1-3G-3D	nonflush	40 mm	PNP	complementary	180 Hz	10 V	30 V		M12 connector plug	67 mm	40 mm	40 mm	■	■
NBN40-U4LK-N0-V1	nonflush	40 mm	NAMUR	Normally-closed (NC)	100 Hz	8.2 V	8.2 V		M12 connector plug	128 mm	55 mm	55 mm	■	■
NBN40-L2-E2-V1-3G-3D	nonflush	40 mm	PNP	Normally-open (NO)	180 Hz	10 V	30 V		M12 connector plug	67 mm	40 mm	40 mm	■	■
NCB40-FP-N0-P1	flush	40 mm	NAMUR	Normally-closed (NC)	80 Hz	8.2 V	8.2 V		Terminal compartment	83 mm	83 mm	40 mm	■	■
NCB40-FP-N0-P1-V1	flush	40 mm	NAMUR	Normally-closed (NC)	80 Hz	8.2 V	8.2 V		M12 connector plug	83 mm	83 mm	40 mm	■	■
NCB40-FP-N0-P4	flush	40 mm	NAMUR	Normally-closed (NC)	80 Hz	8.2 V	8.2 V		Terminal compartment	83 mm	83 mm	40 mm	■	■
NCN40-L2-N0-V1	nonflush	40 mm	NAMUR	Normally-closed (NC)	150 Hz	8.2 V	8.2 V	2	M12 connector plug	67 mm	40 mm	40 mm	■	■
NCN50-FP-N0-P4-V1	nonflush	50 mm	NAMUR	Normally-closed (NC)	80 Hz	8.2 V	8.2 V		M12 connector plug	80 mm	80 mm	40 mm	■	■
NJ1,5-F-N	nonflush	1.5 mm	NAMUR	Normally-closed (NC)	5000 Hz	8.2 V	8.2 V		Stranded wires	8 mm	8 mm	10 mm	■	■
NJ2-V3-N	flush	2 mm	NAMUR	Normally-closed (NC)	1000 Hz	8.2 V	8.2 V	2	Fixed cable	16 mm	27.8 mm	10.2 mm	■	■
NJ2-V3-N-V5	flush	2 mm	NAMUR	Normally-closed (NC)	1000 Hz	8.2 V	8.2 V	2	Faston connector plug	16 mm	27.8 mm	10.2 mm	■	■

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	SIL	Connection Type	Length L	Width W	Height H	EAC	UL
NJ2-V3-N-0,075M	flush	2 mm	NAMUR	Normally-closed (NC)	1000 Hz	8.2 V	8.2 V	2	Fixed cable	16 mm	27.8 mm	10.2 mm	■	■
NJ4-F-N	nonflush	4 mm	NAMUR	Normally-closed (NC)	2000 Hz	8.2 V	8.2 V		Fixed cable	53.4 mm	40 mm	17 mm		
NJ6-F-N	flush	6 mm	NAMUR	Normally-closed (NC)	5000 Hz	8.2 V	8.2 V		Fixed cable	12 mm	45 mm	30 mm	■	
NJ6-F-N-10M	flush	6 mm	NAMUR	Normally-closed (NC)	5000 Hz	8.2 V	8.2 V		Fixed cable	20 mm	45 mm	30 mm		
NJ6-F-N-5M	flush	6 mm	NAMUR	Normally-closed (NC)	5000 Hz	8.2 V	8.2 V		Fixed cable	12 mm	45 mm	30 mm	■	
NJ10-F-N	nonflush	10 mm	NAMUR	Normally-closed (NC)	3000 Hz	8.2 V	8.2 V		Fixed cable	20 mm	45 mm	30 mm	■	
NJ15-M1K-N	nonflush	15 mm	NAMUR	Normally-closed (NC)	100 Hz	8.2 V	8.2 V		Terminal compartment	91 mm	30 mm	30 mm	■	
NJ15-M1K-N-V1	nonflush	15 mm	NAMUR	Normally-closed (NC)	100 Hz	8.2 V	8.2 V		M12 connector plug	91 mm	30 mm	30 mm	■	
NJ50-FP-N-P1	nonflush	50 mm	NAMUR	Normally-closed (NC)	100 Hz	8.2 V	8.2 V		Terminal compartment	80 mm	80 mm	40 mm	■	
NJ50-FP-N-P4	nonflush	50 mm	NAMUR	Normally-closed (NC)	100 Hz	8.2 V	8.2 V		Terminal compartment	80 mm	80 mm	40 mm	■	

Highlights

- Rectangular sensors with operating distances from 1.5 mm to 50 mm
- Versions up to SIL 2 available

Brief Description

As a leader in explosion protection technology, Pepperl+Fuchs is known for its extensive experience and in-depth application expertise in this field. Our comprehensive portfolio of ideal components is a testament to this. In addition to our intrinsically safe NAMUR sensors and interface modules, we also offer numerous proximity sensors with the appropriate certification.

Accessories

KCD2-E2L	Sensor output interface terminal with lead breakage detection
MH 02-L	Mounting aid
MH 04-2057B	Mounting aid for VariKont and +U1+ sensors
MH 04-2681F	Mounting aid for VariKont, +U1+, and +U9* sensors
MHW 01	Modular mounting bracket
V1-G-N-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 2-pin, PUR cable, blue, NAMUR
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 2-pin, PUR cable, blue, NAMUR

Inductive Cylindrical Proximity Sensors in Ex Version

Cylindrical Sensors for the Hazardous Area



Common Technical Data

Type of voltage	DC
ATEX	■
IECEx	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	SIL	Connection Type	Length L	Diameter D	EAC	UL
NCB1,5-6,5M25-N0	flush	1.5 mm	NAMUR	Normally-closed (NC)	2000 Hz	8.2 V	8.2 V		Fixed cable	25 mm	6.5 mm	■	■
NCB1,5-6,5M25-N0-5M	flush	1.5 mm	NAMUR	Normally-closed (NC)	2000 Hz	8.2 V	8.2 V		Fixed cable	25 mm	6.5 mm	■	■
NCB1,5-6,5M25-N0-10M	flush	1.5 mm	NAMUR	Normally-closed (NC)	2000 Hz	8.2 V	8.2 V		Fixed cable	25 mm	6.5 mm	■	■
NCB1,5-6,5M25-N0-V1	flush	1.5 mm	NAMUR	Normally-closed (NC)	2000 Hz	8.2 V	8.2 V		M12 connector plug	25 mm	6.5 mm	■	■
NCB1,5-8GM25-N0	flush	1.5 mm	NAMUR	Normally-closed (NC)	2000 Hz	8.2 V	8.2 V		Fixed cable	25 mm	8 mm	■	■
NCB1,5-8GM25-N0-5M	flush	1.5 mm	NAMUR	Normally-closed (NC)	2000 Hz	8.2 V	8.2 V		Fixed cable	25 mm	8 mm	■	■
NCB1,5-8GM25-N0-10M	flush	1.5 mm	NAMUR	Normally-closed (NC)	2000 Hz	8.2 V	8.2 V		Fixed cable	25 mm	8 mm	■	■
NCB1,5-8GM25-N0-V1	flush	1.5 mm	NAMUR	Normally-closed (NC)	2000 Hz	8.2 V	8.2 V		M12 connector plug	48.5 mm	8 mm	■	■
NBB2-12GM60-A2-3G-3D	flush	2 mm	PNP	complementary	1000 Hz	10 V	30 V		Fixed cable	60 mm	12 mm		■
NBB2-12GM40-Z0-3G-3D	flush	2 mm	Two-wire	Normally-open (NO)	1000 Hz	5 V	60 V		Fixed cable	40 mm	12 mm		■
NBB2-12GS40-Z4L-3G-3D	flush	2 mm	Two-wire	Normally-open (NO)	700 Hz	4 V	30 V		Fixed cable	40 mm	12 mm		■
NBB2-12GS40-Z4L-V1-3G-3D	flush	2 mm	Two-wire	Normally-open (NO)	700 Hz	4 V	30 V		M12 connector plug	55 mm	12 mm		■
NCB2-12GK35-N0	flush	2 mm	NAMUR	Normally-closed (NC)	1000 Hz	8.2 V	8.2 V	2	Fixed cable	35 mm	12 mm		■
NCB2-12GM35-N0	flush	2 mm	NAMUR	Normally-closed (NC)	1000 Hz	8.2 V	8.2 V	2	Fixed cable	35 mm	12 mm	■	■
NCB2-12GM35-N0-5M	flush	2 mm	NAMUR	Normally-closed (NC)	1000 Hz	8.2 V	8.2 V		Fixed cable	35 mm	12 mm	■	■
NCB2-12GM35-N0-10M	flush	2 mm	NAMUR	Normally-closed (NC)	1000 Hz	8.2 V	8.2 V		Fixed cable	35 mm	12 mm	■	■
NCB2-12GM35-N0-21M	flush	2 mm	NAMUR	Normally-closed (NC)	1000 Hz	8.2 V	8.2 V		Fixed cable	35 mm	12 mm	■	■
NCB2-12GM35-N0-V1	flush	2 mm	NAMUR	Normally-closed (NC)	1000 Hz	8.2 V	8.2 V	2	M12 connector plug	34 mm	12 mm	■	■
NCB2-12GM40-E2-3G-3D	flush	2 mm	PNP	Normally-open (NO)	2500 Hz	10 V	30 V		Fixed cable	40 mm	12 mm		■
NCB2-12GM40-E2-3G-3D-5M	flush	2 mm	PNP	Normally-open (NO)	2500 Hz	10 V	30 V		Fixed cable	40 mm	12 mm		■
NCB2-12GM40-Z0-V1-3G-3D	flush	2 mm	Two-wire	Normally-open (NO)	800 Hz	5 V	60 V		M12 connector plug	40 mm	12 mm		■
NBB4-12GM50-E2-3G-3D	flush	4 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V		Fixed cable	50 mm	12 mm		■
NBB4-12GM50-E2-V1-3G-3D	flush	4 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V		M12 connector plug	49 mm	12 mm		■
NBN4-12GS40-Z4L-3G-3D	nonflush	4 mm	Two-wire	Normally-open (NO)	700 Hz	4 V	30 V		Fixed cable	40 mm	12 mm		■
NBN4-12GS40-Z4L-V1-3G-3D	nonflush	4 mm	Two-wire	Normally-open (NO)	700 Hz	4 V	30 V		M12 connector plug	55 mm	12 mm		■
NCB4-12GM40-N0	flush	4 mm	NAMUR	Normally-closed (NC)	1500 Hz	8.2 V	8.2 V	2	Fixed cable	40 mm	12 mm	■	■
NCB4-12GM40-N0-5M	flush	4 mm	NAMUR	Normally-closed (NC)	1500 Hz	8.2 V	8.2 V		Fixed cable	40 mm	12 mm	■	■
NCB4-12GM40-N0-10M	flush	4 mm	NAMUR	Normally-closed (NC)	1500 Hz	8.2 V	8.2 V		Fixed cable	40 mm	12 mm	■	■
NCB4-12GM40-N0-V1	flush	4 mm	NAMUR	Normally-closed (NC)	1500 Hz	8.2 V	8.2 V	2	M12 connector plug	40 mm	12 mm	■	■
NCN4-12GK35-N0	nonflush	4 mm	NAMUR	Normally-closed (NC)	800 Hz	8.2 V	8.2 V	2	Fixed cable	35 mm	12 mm		■
NCN4-12GM35-N0	nonflush	4 mm	NAMUR	Normally-closed (NC)	800 Hz	8.2 V	8.2 V	2	Fixed cable	35 mm	12 mm	■	■
NCN4-12GM35-N0-5M	nonflush	4 mm	NAMUR	Normally-closed (NC)	800 Hz	8.2 V	8.2 V		Fixed cable	35 mm	12 mm	■	■
NCN4-12GM35-N0-10M	nonflush	4 mm	NAMUR	Normally-closed (NC)	800 Hz	8.2 V	8.2 V		Fixed cable	35 mm	12 mm	■	■
NCN4-12GM35-N0-V1	nonflush	4 mm	NAMUR	Normally-closed (NC)	800 Hz	8.2 V	8.2 V	2	M12 connector plug	40 mm	12 mm	■	■
NCN4-12GM40-E2-3G-3D	nonflush	4 mm	PNP	Normally-open (NO)	2200 Hz	10 V	30 V		Fixed cable	40 mm	12 mm		■
NCN4-12GM40-E2-V1-3G-3D	nonflush	4 mm	PNP	Normally-open (NO)	2200 Hz	10 V	30 V		M12 connector plug	52 mm	12 mm		■
NCN4-12GM40-Z0-3G-3D	nonflush	4 mm	Two-wire	Normally-open (NO)	800 Hz	5 V	60 V		Fixed cable	40 mm	12 mm		■
NBB5-18GS50-Z4L-3G-3D	flush	5 mm	Two-wire	Normally-open (NO)	500 Hz	4 V	30 V		Fixed cable	56 mm	18 mm		■
NBB5-18GS50-Z4L-V1-3G-3D	flush	5 mm	Two-wire	Normally-open (NO)	500 Hz	4 V	30 V		M12 connector plug	66 mm	18 mm		■
NCB5-18GK40-N0	flush	5 mm	NAMUR	Normally-closed (NC)	400 Hz	8.2 V	8.2 V	2	Fixed cable	40 mm	18 mm		■
NCB5-18GM40-N0	flush	5 mm	NAMUR	Normally-closed (NC)	400 Hz	8.2 V	8.2 V	2	Fixed cable	40 mm	18 mm	■	■

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	SIL	Connection Type	Length L	Diameter D	EAC	UL
NCB5-18GM40-N0-5M	flush	5 mm	NAMUR	Normally-closed (NC)	400 Hz	8.2 V	8.2 V	2	Fixed cable	40 mm	18 mm	■	■
NCB5-18GM40-N0-10M	flush	5 mm	NAMUR	Normally-closed (NC)	400 Hz	8.2 V	8.2 V	2	Fixed cable	40 mm	18 mm	■	■
NCB5-18GM40-N0-15M	flush	5 mm	NAMUR	Normally-closed (NC)	400 Hz	8.2 V	8.2 V	2	Fixed cable	40 mm	18 mm	■	■
NCB5-18GM40-N0-V1	flush	5 mm	NAMUR	Normally-closed (NC)	400 Hz	8.2 V	8.2 V	2	M12 connector plug	40 mm	18 mm	■	■
NCB5-18GM40-Z0-3G-3D	flush	5 mm	Two-wire	Normally-open (NO)	350 Hz	5 V	60 V		Fixed cable	40 mm	18 mm		■
NCB5-18GM40-Z0-3G-3D-10M	flush	5 mm	Two-wire	Normally-open (NO)	350 Hz	5 V	60 V		Fixed cable	40 mm	18 mm		■
NCB5-18GM40-Z1-3G-3D	flush	5 mm	Two-wire	Normally-closed (NC)	350 Hz	5 V	60 V		Fixed cable	40 mm	18 mm		■
NCB5-18GM70-N0	flush	5 mm	NAMUR	Normally-closed (NC)	1000 Hz	8.2 V	8.2 V		Fixed cable	70 mm	18 mm		■
NBB8-18GM50-E2-3G-3D	flush	8 mm	PNP	Normally-open (NO)	500 Hz	10 V	30 V		Fixed cable	50 mm	18 mm		■
NBB8-18GM50-E2-3G-3D-5M	flush	8 mm	PNP	Normally-open (NO)	500 Hz	10 V	30 V		Fixed cable	50 mm	18 mm		■
NBN8-18GS50-Z4L-3G-3D	nonflush	8 mm	Two-wire	Normally-open (NO)	500 Hz	4 V	30 V		Fixed cable	56 mm	18 mm		■
NBN8-18GS50-Z4L-V1-3G-3D	nonflush	8 mm	Two-wire	Normally-open (NO)	500 Hz	4 V	30 V		M12 connector plug	66 mm	18 mm		■
NCB8-18GM40-N0	flush	8 mm	NAMUR	Normally-closed (NC)	1500 Hz	8.2 V	8.2 V	2	Fixed cable	40 mm	18 mm	■	■
NCB8-18GM40-N0-5M	flush	8 mm	NAMUR	Normally-closed (NC)	1500 Hz	8.2 V	8.2 V		Fixed cable	40 mm	18 mm	■	■
NCB8-18GM40-N0-10M	flush	8 mm	NAMUR	Normally-closed (NC)	1500 Hz	8.2 V	8.2 V		Fixed cable	40 mm	18 mm	■	■
NCB8-18GM70-N0-20M-V1	flush	8 mm	NAMUR	Normally-closed (NC)	1500 Hz	8.2 V	8.2 V		Fixed cable	70 mm	18 mm		■
NCB8-18GM40-N0-V1	flush	8 mm	NAMUR	Normally-closed (NC)	1500 Hz	8.2 V	8.2 V	2	M12 connector plug	40 mm	18 mm	■	■
NCN8-18GK40-N0	nonflush	8 mm	NAMUR	Normally-closed (NC)	300 Hz	8.2 V	8.2 V		Fixed cable	40 mm	18 mm		■
NCN8-18GM40-N0	nonflush	8 mm	NAMUR	Normally-closed (NC)	300 Hz	8.2 V	8.2 V	2	Fixed cable	40 mm	18 mm	■	■
NCN8-18GM40-N0-5M	nonflush	8 mm	NAMUR	Normally-closed (NC)	300 Hz	8.2 V	8.2 V	2	Fixed cable	40 mm	18 mm	■	■
NCN8-18GM40-N0-10M	nonflush	8 mm	NAMUR	Normally-closed (NC)	300 Hz	8.2 V	8.2 V	2	Fixed cable	40 mm	18 mm	■	■
NCN8-18GM40-N0-V1	nonflush	8 mm	NAMUR	Normally-closed (NC)	300 Hz	8.2 V	8.2 V	2	M12 connector plug	40 mm	18 mm	■	■
NCN8-18GM40-Z0-3G-3D	nonflush	8 mm	Two-wire	Normally-open (NO)	300 Hz	5 V	60 V		Fixed cable	40 mm	18 mm		■
NCN8-18GM50-E2-3G-3D	nonflush	8 mm	PNP	Normally-open (NO)	400 Hz	10 V	60 V		Fixed cable	50 mm	18 mm		
NCN8-18GM50-E2-3G-3D-5M	nonflush	8 mm	PNP	Normally-open (NO)	400 Hz	10 V	60 V		Fixed cable	50 mm	18 mm		
NBB10-30GS50-Z4L-3G-3D	flush	10 mm	Two-wire	Normally-open (NO)	150 Hz	4 V	30 V		Fixed cable	61 mm	30 mm		■
NCB10-30GK40-N0	flush	10 mm	NAMUR	Normally-closed (NC)	200 Hz	8.2 V	8.2 V		Fixed cable	40 mm	30 mm		■
NCB10-30GM40-Z0-3G-3D	flush	10 mm	Two-wire	Normally-open (NO)	150 Hz	5 V	60 V		Fixed cable	40 mm	30 mm		■
NCB10-30GM40-Z0-V1-3G-3D	flush	10 mm	Two-wire	Normally-open (NO)	150 Hz	5 V	60 V		M12 connector plug	40 mm	30 mm		■
NCB10-30GM40-N0	flush	10 mm	NAMUR	Normally-closed (NC)	200 Hz	8.2 V	8.2 V	2	Fixed cable	40 mm	30 mm	■	■
NCB10-30GM40-N0-5M	flush	10 mm	NAMUR	Normally-closed (NC)	200 Hz	8.2 V	8.2 V		Fixed cable	40 mm	30 mm	■	■
NCB10-30GM40-N0-10M	flush	10 mm	NAMUR	Normally-closed (NC)	200 Hz	8.2 V	8.2 V		Fixed cable	40 mm	30 mm	■	■
NCB10-30GM40-N0-15M	flush	10 mm	NAMUR	Normally-closed (NC)	200 Hz	8.2 V	8.2 V		Fixed cable	40 mm	30 mm	■	■
NCB10-30GM40-N0-50M	flush	10 mm	NAMUR	Normally-closed (NC)	200 Hz	8.2 V	8.2 V		Fixed cable	40 mm	30 mm		■
NCB10-30GM40-N0-V1	flush	10 mm	NAMUR	Normally-closed (NC)	200 Hz	8.2 V	8.2 V	2	M12 connector plug	55 mm	30 mm	■	■
NCB10-30GM40-Z1-3G-3D	flush	10 mm	Two-wire	Normally-closed (NC)	150 Hz	5 V	60 V		Fixed cable	40 mm	30 mm		■
NBB15-30GM50-E2-3G-3D	flush	15 mm	PNP	Normally-open (NO)	200 Hz	10 V	30 V		Fixed cable	50 mm	30 mm		■
NBN15-30GS50-Z4L-3G-3D	nonflush	15 mm	Two-wire	Normally-open (NO)	700 Hz	4 V	30 V		Fixed cable	61 mm	30 mm		■
NCB15-30GM40-N0	semi-flush	15 mm	NAMUR	Normally-closed (NC)	450 Hz	8.2 V	8.2 V	2	Fixed cable	40 mm	30 mm	■	■
NCB15-30GM40-N0-5M	semi-flush	15 mm	NAMUR	Normally-closed (NC)	450 Hz	8.2 V	8.2 V		Fixed cable	40 mm	30 mm	■	■
NCB15-30GM40-N0-10M	semi-flush	15 mm	NAMUR	Normally-closed (NC)	450 Hz	8.2 V	8.2 V		Fixed cable	40 mm	30 mm	■	■
NCB15-30GM40-N0-V1	semi-flush	15 mm	NAMUR	Normally-closed (NC)	450 Hz	8.2 V	8.2 V	2	M12 connector plug	40 mm	30 mm	■	■
NCN15-30GM40-Z0-3G-3D	nonflush	15 mm	Two-wire	Normally-open (NO)	100 Hz	5 V	60 V		Fixed cable	40 mm	30 mm		■
NCN15-30GK40-N0	nonflush	15 mm	NAMUR	Normally-closed (NC)	150 Hz	8.2 V	8.2 V		Fixed cable	40 mm	30 mm		■
NCN15-30GM40-N0	nonflush	15 mm	NAMUR	Normally-closed (NC)	150 Hz	8.2 V	8.2 V	2	Fixed cable	40 mm	30 mm	■	■
NCN15-30GM40-N0-10M	nonflush	15 mm	NAMUR	Normally-closed (NC)	150 Hz	8.2 V	8.2 V	2	Fixed cable	40 mm	30 mm	■	■
NCN15-30GM40-N0-20M	nonflush	15 mm	NAMUR	Normally-closed (NC)	150 Hz	8.2 V	8.2 V		Fixed cable	40 mm	30 mm	■	■
NCN15-30GM40-N0-30M	nonflush	15 mm	NAMUR	Normally-closed (NC)	150 Hz	8.2 V	8.2 V		Fixed cable	40 mm	30 mm	■	■
NCN15-30GM40-N0-V1	nonflush	15 mm	NAMUR	Normally-closed (NC)	150 Hz	8.2 V	8.2 V	2	M12 connector plug	55 mm	30 mm	■	■
NJ0,8-4,5-N	flush	0.8 mm	NAMUR	Normally-closed (NC)	5000 Hz	8.2 V	8.2 V	2	Fixed cable	20 mm	4.5 mm		■
NJ0,8-5GM-N	flush	0.8 mm	NAMUR	Normally-closed (NC)	5000 Hz	8.2 V	8.2 V	2	Fixed cable	20 mm	5 mm	■	■
NJ0,8-5GM-N-5M	flush	0.8 mm	NAMUR	Normally-closed (NC)	5000 Hz	8.2 V	8.2 V	2	Fixed cable	20 mm	5 mm	■	■
NJ0,8-5GM-N-10M	flush	0.8 mm	NAMUR	Normally-closed (NC)	5000 Hz	8.2 V	8.2 V	2	Fixed cable	20 mm	5 mm	■	■
NJ1,5-6,5-N	flush	1.5 mm	NAMUR	Normally-closed (NC)	5000 Hz	8.2 V	8.2 V	2	Fixed cable	22 mm	6.5 mm	■	■
NJ1,5-6,5-N-5M	flush	1.5 mm	NAMUR	Normally-closed (NC)	5000 Hz	8.2 V	8.2 V	2	Fixed cable	22 mm	6.5 mm	■	■
NJ1,5-6,5-N-15M	flush	1.5 mm	NAMUR	Normally-closed (NC)	5000 Hz	8.2 V	8.2 V	2	Fixed cable	22 mm	6.5 mm	■	■
NJ1,5-8GM-N	flush	1.5 mm	NAMUR	Normally-closed (NC)	5000 Hz	8.2 V	8.2 V	2	Fixed cable	22 mm	8 mm	■	■
NJ1,5-8GM-N-5M	flush	1.5 mm	NAMUR	Normally-closed (NC)	5000 Hz	8.2 V	8.2 V	2	Fixed cable	22 mm	8 mm	■	■
NJ1,5-8GM-N-10M	flush	1.5 mm	NAMUR	Normally-closed (NC)	5000 Hz	8.2 V	8.2 V	2	Fixed cable	22 mm	8 mm	■	■
NJ1,5-8GM-N-V1	flush	1.5 mm	NAMUR	Normally-closed (NC)	5000 Hz	8.2 V	8.2 V	2	M12 connector plug	20 mm	8 mm	■	■
NJ1,5-18GM-N-D	flush	1.5 mm	NAMUR	Normally-closed (NC)	400 Hz	8.2 V	8.2 V	2	Fixed cable	50 mm	18 mm	■	■
NJ1,5-18GM-N-D-10M	flush	1.5 mm	NAMUR	Normally-closed (NC)	400 Hz	8.2 V	8.2 V	2	Fixed cable	50 mm	18 mm	■	■
NJ1,5-18GM-N-D-V1	flush	1.5 mm	NAMUR	Normally-closed (NC)	400 Hz	8.2 V	8.2 V	2	M12 connector plug	35 mm	18 mm	■	■
NJ2-11-N	flush	2 mm	NAMUR	Normally-closed (NC)	3000 Hz	8.2 V	8.2 V	2	Fixed cable	31 mm	11 mm		■

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	SIL	Connection Type	Length L	Diameter D	EAC	UL
NJ2-11-N-G	flush	2 mm	NAMUR	Normally-closed (NC)	3000 Hz	8.2 V	8.2 V	2	Fixed cable	30 mm	14 mm	■	■
NJ2-11-N-G-5M	flush	2 mm	NAMUR	Normally-closed (NC)	3000 Hz	8.2 V	8.2 V	2	Fixed cable	30 mm	14 mm	■	■
NJ2-11-N-G-10M	flush	2 mm	NAMUR	Normally-closed (NC)	3000 Hz	8.2 V	8.2 V		Fixed cable	30 mm	14 mm	■	■
NJ2-11-N-G-15M	flush	2 mm	NAMUR	Normally-closed (NC)	3000 Hz	8.2 V	8.2 V	2	Fixed cable	30 mm	14 mm	■	■
NJ2-12GK-N-25M	flush	2 mm	NAMUR	Normally-closed (NC)	2000 Hz	8.2 V	8.2 V		Fixed cable	34 mm	12 mm	■	■
NJ2-12GK-N	flush	2 mm	NAMUR	Normally-closed (NC)	2000 Hz	8.2 V	8.2 V	2	Fixed cable	35 mm	12 mm	■	■
NJ2-12GM-N-25M	flush	2 mm	NAMUR	Normally-closed (NC)	2000 Hz	8.2 V	8.2 V	2	Fixed cable	35 mm	12 mm	■	■
NJ2-12GK-N-5M	flush	2 mm	NAMUR	Normally-closed (NC)	2000 Hz	8.2 V	8.2 V	2	Fixed cable	35 mm	12 mm	■	■
NJ2-12GM-N	flush	2 mm	NAMUR	Normally-closed (NC)	2000 Hz	8.2 V	8.2 V	2	Fixed cable	35 mm	12 mm	■	■
NJ2-12GM-N-V1	flush	2 mm	NAMUR	Normally-closed (NC)	2000 Hz	8.2 V	8.2 V	2	M12 connector plug	50 mm	12 mm	■	■
NJ2-12GM-N-5M	flush	2 mm	NAMUR	Normally-closed (NC)	2000 Hz	8.2 V	8.2 V	2	Fixed cable	35 mm	12 mm	■	■
NJ2-12GM-N-10M	flush	2 mm	NAMUR	Normally-closed (NC)	2000 Hz	8.2 V	8.2 V	2	Fixed cable	35 mm	12 mm	■	■
NJ4-12GK-N	nonflush	4 mm	NAMUR	Normally-closed (NC)	1500 Hz	8.2 V	8.2 V	2	Fixed cable	35 mm	12 mm	■	■
NJ4-12GK-N-5M	nonflush	4 mm	NAMUR	Normally-closed (NC)	1500 Hz	8.2 V	8.2 V	2	Fixed cable	35 mm	12 mm	■	■
NJ4-12GK-N-10M	nonflush	4 mm	NAMUR	Normally-closed (NC)	1500 Hz	8.2 V	8.2 V	2	Fixed cable	35 mm	12 mm	■	■
NJ4-12GK-N-35M	nonflush	4 mm	NAMUR	Normally-closed (NC)	1500 Hz	8.2 V	8.2 V		Fixed cable	34 mm	12 mm	■	■
NJ4-12GM-N-20M	nonflush	4 mm	NAMUR	Normally-closed (NC)	1500 Hz	8.2 V	8.2 V	2	Fixed cable	33 mm	12 mm	■	■
NJ4-12GM-N	nonflush	4 mm	NAMUR	Normally-closed (NC)	1500 Hz	8.2 V	8.2 V	2	Fixed cable	33 mm	12 mm	■	■
NJ4-12GM-N-5M	nonflush	4 mm	NAMUR	Normally-closed (NC)	1500 Hz	8.2 V	8.2 V	2	Fixed cable	33 mm	12 mm	■	■
NJ4-12GM-N-10M	nonflush	4 mm	NAMUR	Normally-closed (NC)	1500 Hz	8.2 V	8.2 V	2	Fixed cable	33 mm	12 mm	■	■
NJ4-12GM-N-V1	nonflush	4 mm	NAMUR	Normally-closed (NC)	1500 Hz	8.2 V	8.2 V	2	M12 connector plug	50 mm	12 mm	■	■
NJ4-30GM-N-200	flush	4 mm	NAMUR	Normally-closed (NC)	1000 Hz	8.2 V	8.2 V		Fixed cable	75 mm	30 mm		■
NJ4-30GM-N-200-10M	flush	4 mm	NAMUR	Normally-closed (NC)	1000 Hz	8.2 V	8.2 V		Fixed cable	75 mm	30 mm		■
NJ5-11-N	nonflush	5 mm	NAMUR	Normally-closed (NC)	3000 Hz	8.2 V	8.2 V		Fixed cable	30 mm	11 mm		■
NJ5-11-N-15M	nonflush	5 mm	NAMUR	Normally-closed (NC)	3000 Hz	8.2 V	8.2 V	2	Fixed cable	30 mm	11 mm		■
NJ5-11-N-5M	nonflush	5 mm	NAMUR	Normally-closed (NC)	3000 Hz	8.2 V	8.2 V	2	Fixed cable	30 mm	11 mm		■
NJ5-11-N-G	nonflush	5 mm	NAMUR	Normally-closed (NC)	3000 Hz	8.2 V	8.2 V	2	Fixed cable	31 mm	14 mm	■	■
NJ5-11-N-G-0,5M-V1	nonflush	5 mm	NAMUR	Normally-closed (NC)	3000 Hz	8.2 V	8.2 V	2	Fixed cable with M12 plug	31 mm	14 mm	■	■
NJ5-11-N-G-5M	nonflush	5 mm	NAMUR	Normally-closed (NC)	3000 Hz	8.2 V	8.2 V	2	Fixed cable	31 mm	14 mm	■	■
NJ5-11-N-G-6M	nonflush	5 mm	NAMUR	Normally-closed (NC)	3000 Hz	8.2 V	8.2 V	2	Fixed cable	31 mm	14 mm	■	■
NJ5-11-N-G-10M	nonflush	5 mm	NAMUR	Normally-closed (NC)	3000 Hz	8.2 V	8.2 V	2	Fixed cable	31 mm	14 mm	■	■
NJ5-18GK-N	flush	5 mm	NAMUR	Normally-closed (NC)	500 Hz	8.2 V	8.2 V	2	Fixed cable	39 mm	18 mm	■	■
NJ5-18GK-N-5M	flush	5 mm	NAMUR	Normally-closed (NC)	500 Hz	8.2 V	8.2 V	2	Fixed cable	39 mm	18 mm	■	■
NJ5-18GK-N-10M	flush	5 mm	NAMUR	Normally-closed (NC)	500 Hz	8.2 V	8.2 V	2	Fixed cable	39 mm	18 mm	■	■
NJ5-18GK-N-150	flush	5 mm	NAMUR	Normally-closed (NC)	500 Hz	8.2 V	8.2 V		Fixed cable	47 mm	18 mm	■	■
NJ5-18GM-N	flush	5 mm	NAMUR	Normally-closed (NC)	500 Hz	8.2 V	8.2 V	2	Fixed cable	40 mm	18 mm	■	■
NJ5-18GM-N-5M	flush	5 mm	NAMUR	Normally-closed (NC)	500 Hz	8.2 V	8.2 V	2	Fixed cable	40 mm	18 mm	■	■
NJ5-18GM-N-10M	flush	5 mm	NAMUR	Normally-closed (NC)	500 Hz	8.2 V	8.2 V	2	Fixed cable	40 mm	18 mm	■	■
NJ5-18GM-N-V1	flush	5 mm	NAMUR	Normally-closed (NC)	500 Hz	8.2 V	8.2 V	2	M12 connector plug	50 mm	18 mm	■	■
NJ5-18GM50-E2-3G-3D	flush	5 mm	PNP	Normally-open (NO)	2000 Hz	10 V	30 V		Fixed cable	50 mm	18 mm		■
NJ5-18GM50-E2-3G-3D-5M	flush	5 mm	PNP	Normally-open (NO)	2000 Hz	10 V	30 V		Fixed cable	50 mm	18 mm		■
NJ5-18GM50-E2-V1-3G-3D	flush	5 mm	PNP	Normally-open (NO)	2000 Hz	10 V	30 V		M12 connector plug	50 mm	18 mm		■
NJ6-22-N	flush	6 mm	NAMUR	Normally-closed (NC)	2000 Hz	8.2 V	8.2 V	2	Fixed cable	35 mm	22 mm		■
NJ6-22-N-5M	flush	6 mm	NAMUR	Normally-closed (NC)	2000 Hz	8.2 V	8.2 V	2	Fixed cable	35 mm	22 mm		■

Highlights

- Cylindrical sensors with diameters between 4.5 mm and 30 mm
- Versions up to SIL 2 available

Accessories

BF 11	Mounting adapter, 11 mm
BF 12	Mounting adapter, 12 mm
BF 18	Mounting adapter, 18 mm
BF 18-F	Plastic mounting adapter, 18 mm
BF 30	Mounting adapter, 30 mm
BF 4.5	Mounting adapter, 4.5 mm
BF 40	Mounting adapter, 40 mm
BF 5	Mounting adapter, 5 mm

Brief Description

As a leader in explosion protection technology, Pepperl+Fuchs is known for its extensive experience and in-depth application expertise in this field. Our comprehensive portfolio of ideal components is a testament to this. In addition to our intrinsically safe NAMUR sensors and interface modules, we also offer numerous proximity sensors with the appropriate certification.



Inductive Ring-Shaped Proximity Sensors in Ex Version

Ring-Shaped Sensors for the Hazardous Area



Common Technical Data

Special features	Ex sensor
Type of output	2-wire
Type of output	NAMUR
Switching element function	Normally-closed (NC)
Type of voltage	DC
Rated voltage	8.2 V
Connection type	Fixed cable
Cable material	PVC
UL	■
ATEX	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

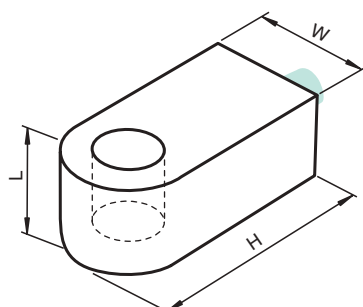
Model Number	Detection Range	Switching Frequency	Cable Length	Length L	Width W	Height H
RC10-14-N0	10 mm	2000 Hz	2000 mm	20 mm	25 mm	32.5 mm
RC10-14-N3	10 mm		2000 mm	20 mm	25 mm	32.5 mm
RC15-14-N0	15 mm	1500 Hz	2000 mm	20 mm	25 mm	32.5 mm
RC15-14-N3	15 mm		2000 mm	20 mm	25 mm	32.5 mm
RJ15-14-N	15 mm	1500 Hz	2000 mm	20 mm	25 mm	32.5 mm
RJ15-14-N-5M	15 mm	1500 Hz	5000 mm	20 mm	25 mm	32.5 mm
RJ15-N	15 mm	1500 Hz	2000 mm	25 mm	29 mm	45 mm

Highlights

- Ring-shaped sensors with a diameter of 10 mm to 15 mm

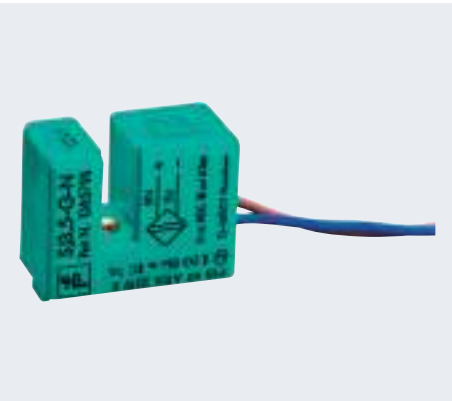
Brief Description

As a leader in explosion protection technology, Pepperl+Fuchs is known for its extensive experience and in-depth application expertise in this field. Our comprehensive portfolio of ideal components is a testament to this. In addition to our intrinsically safe NAMUR sensors and interface modules, we also offer numerous proximity sensors with the appropriate certification.



Inductive Slot-Shaped Proximity Sensors in Ex Version

Slot-Shaped Sensors for the Hazardous Area



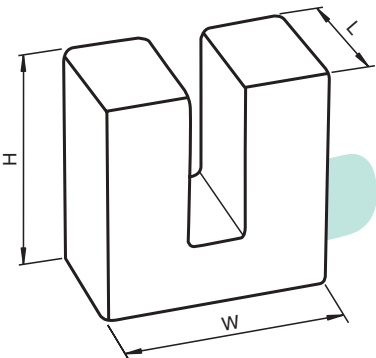
Common Technical Data	
Type of output	2-wire
Type of output	NAMUR
Switching element function	Normally-closed (NC)
Type of voltage	DC
Rated voltage	8.2 V
Cable material	PVC
UL	■
ATEX	■
IECEX	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Switching Frequency	SIL	Connection Type	Cable Length	Length L	Width W	Height H	EAC
SC2-N0-GN	2 mm	5000 Hz		Stranded wires	500 mm	8 mm	15 mm	13 mm	
SC2-N0-YE	2 mm	5000 Hz	2	Stranded wires	500 mm	8 mm	15 mm	13 mm	
SJ2-N	2 mm	5000 Hz	2	Stranded wires	500 mm	8 mm	8 mm	12 mm	■
SC3,5-G-N0	3.5 mm	3000 Hz	2	Stranded wires	135 mm	19.5 mm	10 mm	15 mm	■
SC3,5-G-N0-6M	3.5 mm	3000 Hz		Stranded wires	6000 mm	19.5 mm	10 mm	15 mm	■
SC3,5-N0-BU	3.5 mm	3000 Hz	2	Stranded wires	500 mm	19.5 mm	10 mm	15 mm	
SC3,5-N0-WH	3.5 mm	3000 Hz	2	Stranded wires	500 mm	19.5 mm	10 mm	15 mm	■
SC3,5-N0-YE	3.5 mm	3000 Hz	2	Stranded wires	500 mm	19.5 mm	10 mm	15 mm	■
SJ3,5-G-N	3.5 mm	3000 Hz		Stranded wires	500 mm	19.5 mm	10 mm	15 mm	
SJ3,5-N	3.5 mm	3000 Hz	2	Stranded wires	500 mm	19.5 mm	10 mm	15 mm	■
SJ3,5-N-BU	3.5 mm	3000 Hz	2	Stranded wires	500 mm	19.5 mm	10 mm	15 mm	
SJ3,5-N-GN	3.5 mm	3000 Hz		Stranded wires	500 mm	19.5 mm	10 mm	15 mm	
SJ3,5-N-YE	3.5 mm	3000 Hz		Stranded wires	500 mm	19.5 mm	10 mm	15 mm	
SJ5-G-N	5 mm	2000 Hz		Stranded wires	500 mm	15 mm	10 mm	15 mm	
SJ5-K-N	5 mm	2000 Hz		Fixed cable	2000 mm	29 mm	32 mm	31 mm	
SJ5-K-N-6M	5 mm	2000 Hz		Fixed cable	6000 mm	29 mm	32 mm	31 mm	
SJ5-N	5 mm	2000 Hz	2	Stranded wires	500 mm	15 mm	10 mm	15 mm	■
SJ10-N	10 mm	1000 Hz	2	Fixed cable	2000 mm	44 mm	55 mm	45 mm	
SJ10-N-5M	10 mm	1000 Hz		Fixed cable	5000 mm	44 mm	55 mm	45 mm	
SJ30-N	30 mm	150 Hz		Fixed cable	2000 mm	84 mm	51 mm	110 mm	

Highlights

- Slot-shaped sensors with a slot width of 2 mm to 30 mm



Brief Description

As a leader in explosion protection technology, Pepperl+Fuchs is known for its extensive experience and in-depth application expertise in this field. Our comprehensive portfolio of ideal components is a testament to this. In addition to our intrinsically safe NAMUR sensors and interface modules, we also offer numerous proximity sensors with the appropriate certification.

Dual Sensors for Valve Actuators

Dual Sensor F25 Series



Common Technical Data

Mechanical installation conditions	Flush mountable
Type of voltage	DC
Housing width W	52 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

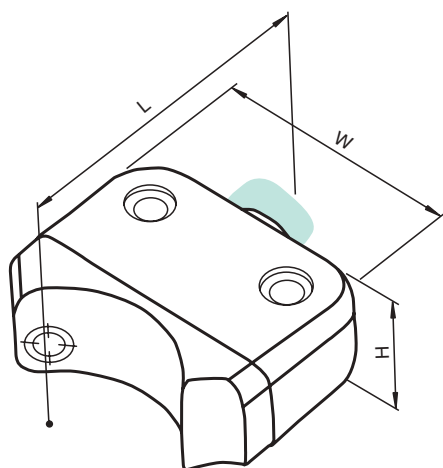
Model Number	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Cable Length	Cable Material	Length L	Height H	EAC	UL	ATEX	IECEx
NBN3-F25-E8-5M	3 mm	PNP	Normally-open (NO)	500 Hz	10 V	30 V	Fixed cable	5000 mm	PVC	52 mm	20 mm		■		
NBN3-F25F-E8-V1	3 mm	PNP	Normally-open (NO)	500 Hz	10 V	30 V	M12 connector plug			45 mm	20 mm		■		
NCN3-F25-N4-0,14	3 mm	NAMUR	Normally-closed (NC)	1500 Hz	8.2 V	8.2 V	Fixed cable	180 mm	PVC	52 mm	20 mm		■	■	■
NCN3-F25-N4-5M	3 mm	NAMUR	Normally-closed (NC)	1500 Hz	8.2 V	8.2 V	Fixed cable	5000 mm	PVC	52 mm	20 mm		■	■	■
NCN3-F25-N4-V1	3 mm	NAMUR	Normally-closed (NC)	1500 Hz	8.2 V	8.2 V	M12 connector plug			52 mm	20 mm		■	■	■
NCN3-F25F-N4-V1	3 mm	NAMUR	Normally-closed (NC)	1500 Hz	8.2 V	8.2 V	M12 connector plug			45 mm	20 mm	■	■	■	■
NBN4-F25-2Z4L	4 mm	Two-wire	Normally-open (NO)	500 Hz	5 V	30 V	Fixed cable	2000 mm	PVC	52 mm	20 mm		■		
NBN4-F25-2Z4L-0,14M	4 mm	Two-wire	Normally-open (NO)	500 Hz	5 V	30 V	Fixed cable	180 mm	PVC	52 mm	20 mm		■		
NBN4-F25-2Z4L-5M	4 mm	Two-wire	Normally-open (NO)	500 Hz	5 V	30 V	Fixed cable	5000 mm	PVC	52 mm	20 mm		■		
NBN4-F25-E8	4 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	52 mm	20 mm		■		
NBN4-F25-E8-0,14M	4 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	Fixed cable	180 mm	PVC	52 mm	20 mm		■		
NBN4-F25-2Z4L-V1	4 mm	Two-wire	Normally-open (NO)	500 Hz	5 V	30 V	M12 connector plug			52 mm	20 mm		■		
NBN4-F25-E8-V1	4 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	M12 connector plug			52 mm	20 mm		■		
NBN4-F25K-2E2	4 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	Terminal compartment			69 mm	20 mm		■		
NBN4-F25K-2Z4L	4 mm	Two-wire	Normally-open (NO)	500 Hz	5 V	30 V	Terminal compartment			69 mm	37.5 mm		■		
NBN4-F25K-E8	4 mm	PNP	Normally-open (NO)	1000 Hz	10 V	30 V	Terminal compartment			69 mm	37.5 mm		■		

Highlights

- Direct assembly on standard drives

Brief Description

The F25/F25K series is available as a cable, plug or terminal compartment variant and combines the two sensor elements in the smallest possible space. This makes them perfect for small basic applications, such as manual valves in indoor areas.



Accessories

BT32	Actuator for F25 series
BT32XAS	Actuator for F25 series
BT33	Actuator for F25 series
BT34	Actuator for F25 series
BT43-RG-01	Actuator for F25 series including protective cover and mounting base
MHV-BT-F25/F31	Adapter plate for F25/F31 dual sensors
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-G-N4-5M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray, NAMUR

Dual Sensors for Valve Actuators

Dual Sensor F31/F31K Series



Common Technical Data

Mechanical installation conditions	Flush mountable
Detection range	3 mm
Housing width W	65 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Type of Output	Switching Element Function	Type of Voltage	Switching Frequency	UB (Min)	UB (Max)	SIL	Connection Type	Length L	Height H	CCC	EAC	UL	ATEX	IECEx
NBN3-F31-E8-K	PNP	Normally-open (NO)	DC	500 Hz	10 V	30 V		Fixed cable	36 mm	33.5 mm			■		
NBN3-F31-E8-K-K	PNP	Normally-open (NO)	DC	500 Hz	10 V	30 V		Fixed cable	36 mm	33.5 mm			■		
NBN3-F31-E8-V1	PNP	Normally-open (NO)	DC	500 Hz	10 V	30 V		M12 connector plug	36 mm	33.5 mm		■	■		
NBN3-F31-E8-V16-V15	PNP	Normally-open (NO)	DC	500 Hz	10 V	30 V			36 mm	33.5 mm			■		
NBN3-F31-E8-V18	PNP	Normally-open (NO)	DC	500 Hz	10 V	30 V		M18 connector plug	36 mm	33.5 mm		■	■		
NBN3-F31-U8-K		Normally-open (NO)	AC/DC	25 Hz	20 V	253 V		Fixed cable	36 mm	33.5 mm			■		
NBN3-F31-U8-V18		Normally-open (NO)	AC/DC	25 Hz	20 V	253 V		M18 connector plug	36 mm	33.5 mm			■		
NBN3-F31-Z8-K	Two-wire	Normally-open (NO)	DC	500 Hz	6 V	60 V		Fixed cable	36 mm	33.5 mm	■		■		
NBN3-F31-Z8-K-K	Two-wire	Normally-open (NO)	DC	500 Hz	6 V	60 V		Fixed cable	36 mm	33.5 mm	■		■		
NBN3-F31-Z8-V1	Two-wire	Normally-open (NO)	DC	500 Hz	6 V	60 V		M12 connector plug	36 mm	33.5 mm	■		■		
NBN3-F31-Z8-V18	Two-wire	Normally-open (NO)	DC	500 Hz	6 V	60 V		M18 connector plug	36 mm	33.5 mm	■		■		
NBN3-F31K-E8	PNP	Normally-open (NO)	DC	500 Hz	10 V	30 V		Terminal compartment	77.5 mm	35.5 mm			■		
NBN3-F31K-E8-K	PNP	Normally-open (NO)	DC	500 Hz	10 V	30 V		Terminal compartment	77.5 mm	35.5 mm			■		
NBN3-F31K-E8-V1-V1	PNP	Normally-open (NO)	DC	500 Hz	10 V	30 V		Terminal compartment	77.5 mm	35.5 mm			■		
NBN3-F31K-Z8	Two-wire	Normally-open (NO)	DC	500 Hz	6 V	60 V		Terminal compartment	77.5 mm	35 mm	■		■		
NBN3-F31K-Z8-K	Two-wire	Normally-open (NO)	DC	500 Hz	6 V	60 V		Terminal compartment	77.5 mm	35 mm	■	■	■		
NBN3-F31K-Z8-V1-V1	Two-wire	Normally-open (NO)	DC	500 Hz	6 V	60 V		Terminal compartment	77.5 mm	35 mm	■		■		
NCN3-F31-B3-V1-K	AS-Interface	Normally-open/normally-closed (selectable)	DC	100 Hz	26.5 V	31.9 V		M12 connector plug	36 mm	33.5 mm			■		
NCN3-F31-B3B-V1	AS-Interface	Normally-open/normally-closed (selectable)	DC	100 Hz	26.5 V	31.9 V		M12 connector plug	36 mm	33.5 mm			■		
NCN3-F31-B3B-V1-K	AS-Interface	Normally-open/normally-closed (selectable)	DC	100 Hz	26.5 V	31.9 V		M12 connector plug	36 mm	33.5 mm			■		
NCN3-F31-B3B-V1-V1	AS-Interface	Normally-open/normally-closed (selectable)	DC	100 Hz	26.5 V	31.9 V		M12 connector plug	36 mm	33.5 mm			■		
NCN3-F31-N4-K	NAMUR	Normally-closed (NC)	DC	3000 Hz	8.2 V	8.2 V	2	Fixed cable	36 mm	33.5 mm		■	■	■	■
NCN3-F31-N4-K-10M	NAMUR	Normally-closed (NC)	DC	3000 Hz	8.2 V	8.2 V	2	Fixed cable	36 mm	33.5 mm		■	■	■	■
NCN3-F31-N4-K-K	NAMUR	Normally-closed (NC)	DC	3000 Hz	8.2 V	8.2 V	2	Fixed cable	36 mm	33.5 mm		■	■	■	■
NCN3-F31-N4-V1	NAMUR	Normally-closed (NC)	DC	3000 Hz	8.2 V	8.2 V	2	M12 connector plug	36 mm	33.5 mm		■	■	■	■
NCN3-F31-N4-V16-K	NAMUR	Normally-closed (NC)	DC	3000 Hz	8.2 V	8.2 V	2	Other	36 mm	33.5 mm		■	■	■	■
NCN3-F31-N4-V16-V16	NAMUR	Normally-closed (NC)	DC	3000 Hz	8.2 V	8.2 V	2	Other	36 mm	33.5 mm		■	■	■	■
NCN3-F31-N4-V18	NAMUR	Normally-closed (NC)	DC	3000 Hz	8.2 V	8.2 V	2	M18 connector plug	36 mm	33.5 mm		■	■	■	■
NCN3-F31K-B3B-B31	AS-Interface	Normally-open/normally-closed (selectable)	DC	100 Hz	26.5 V	31.9 V		Terminal compartment	77.5 mm	35.5 mm		■	■		
NCN3-F31K-N4	NAMUR	Normally-closed (NC)	DC	3000 Hz	8.2 V	8.2 V	2	Terminal compartment	77.5 mm	35.5 mm		■	■	■	■
NCN3-F31K-N4-B13	NAMUR	Normally-closed (NC)	DC	3000 Hz	8.2 V	8.2 V	2	Terminal compartment	77.5 mm	35.5 mm		■	■	■	■
NCN3-F31K-N4-B13-S	NAMUR	Normally-closed (NC)	DC	3000 Hz	8.2 V	8.2 V	2	Terminal compartment	77.5 mm	35.5 mm		■	■	■	■
NCN3-F31K-N4-K	NAMUR	Normally-closed (NC)	DC	3000 Hz	8.2 V	8.2 V	2	Terminal compartment	77.5 mm	35.5 mm		■	■	■	■
NCN3-F31K-N4-K-S	NAMUR	Normally-closed (NC)	DC	3000 Hz	8.2 V	8.2 V	2	Terminal compartment	77.5 mm	35.5 mm		■	■	■	■
NCN3-F31K-N4-S	NAMUR	Normally-closed (NC)	DC	3000 Hz	8.2 V	8.2 V	2	Terminal compartment	77.5 mm	35.5 mm		■	■	■	■
NCN3-F31K-N4-V1-V1	NAMUR	Normally-closed (NC)	DC	3000 Hz	8.2 V	8.2 V	2	Terminal compartment	77.5 mm	35.5 mm		■	■	■	■
NCN3-F31K-N5-K	NAMUR	Normally-closed (NC)	DC	3000 Hz	8.2 V	8.2 V		Terminal compartment	77.5 mm	35.5 mm			■	■	■

Dual Sensors for Valve Actuators

Dual Sensor F31K2 Series



Common Technical Data	
Type of voltage	DC
Connection type	Terminal compartment
Housing length L	106 mm
Housing width W	100 mm
Housing height H	53 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	SIL	EAC	UL	ATEX	IECEx
NBN3-F31K2-E8-B13-S	cannot be flush mounted	2.5 mm	PNP	Normally-open (NO)	100 Hz	10 V	30 V		■			
NBN3-F31K2-E8-B33-S	cannot be flush mounted	2.5 mm	PNP	Normally-open (NO)	100 Hz	10 V	30 V		■	■		
NBN3-F31K2-Z8L-B13-S	cannot be flush mounted	2.5 mm	Two-wire	Normally-open (NO)	100 Hz	6 V	30 V		■	■		
NBN3-F31K2-Z8L-B33-S	cannot be flush mounted	2.5 mm	Two-wire	Normally-open (NO)	100 Hz	6 V	30 V		■	■		
NBN3-F31K2M-E8-B13-S	cannot be flush mounted	2.5 mm	PNP	Normally-open (NO)	100 Hz	10 V	30 V		■	■		
NBN3-F31K2M-E8-B13-S-3G-3D	cannot be flush mounted	2.5 mm	PNP	Normally-open (NO)	100 Hz	10 V	30 V				■	■
NBN3-F31K2M-E8-B23-S	cannot be flush mounted	2.5 mm	PNP	Normally-open (NO)	100 Hz	10 V	30 V		■	■		
NBN3-F31K2M-E8-B23-S-3G-3D	cannot be flush mounted	2.5 mm	PNP	Normally-open (NO)	100 Hz	10 V	30 V				■	■
NBN3-F31K2M-E8-B33-S	cannot be flush mounted	2.5 mm	PNP	Normally-open (NO)	100 Hz	10 V	30 V		■	■		
NBN3-F31K2M-E8-B43-S	cannot be flush mounted	2.5 mm	PNP	Normally-open (NO)	100 Hz	10 V	30 V		■	■		
NBN3-F31K2M-Z8L-B13-S	cannot be flush mounted	2.5 mm	Two-wire	Normally-open (NO)	100 Hz	6 V	30 V		■	■		
NBN3-F31K2M-Z8L-B13-S-3G-3D	cannot be flush mounted	2.5 mm	Two-wire	Normally-open (NO)	100 Hz	6 V	30 V				■	■
NBN3-F31K2M-Z8L-B23-S	cannot be flush mounted	2.5 mm	Two-wire	Normally-open (NO)	100 Hz	6 V	30 V		■	■		
NBN3-F31K2M-Z8L-B23-S-3G-3D	cannot be flush mounted	2.5 mm	Two-wire	Normally-open (NO)	100 Hz	6 V	30 V					■
NBN3-F31K2M-Z8L-B33-S	cannot be flush mounted	2.5 mm	Two-wire	Normally-open (NO)	100 Hz	6 V	30 V		■	■		
NBN3-F31K2M-Z8L-B43-S	cannot be flush mounted	2.5 mm	Two-wire	Normally-open (NO)	100 Hz	6 V	30 V		■	■		
NCN3-F31K2-N4-B13-S	Flush mountable	3 mm	NAMUR	Normally-closed (NC)	3000 Hz	8.2 V	8.2 V	2		■	■	■
NCN3-F31K2-N4-B33-S	Flush mountable	3 mm	NAMUR	Normally-closed (NC)	3000 Hz	8.2 V	8.2 V	2		■	■	■
NCN3-F31K2-N5-B13-S	Flush mountable	3 mm	NAMUR	Normally-closed (NC)	3000 Hz	8.2 V	8.2 V	2		■	■	■
NCN3-F31K2-N5-B33-S	Flush mountable	3 mm	NAMUR	Normally-closed (NC)	3000 Hz	8.2 V	8.2 V	2		■	■	■
NCN3-F31K2M-N4-B13-S	Flush mountable	3 mm	NAMUR	Normally-closed (NC)	3000 Hz	8.2 V	8.2 V	2		■	■	■
NCN3-F31K2M-N4-B23-S	Flush mountable	3 mm	NAMUR	Normally-closed (NC)	3000 Hz	8.2 V	8.2 V	2		■	■	■

Highlights

- Easy to mount on standard valve actuators without the need for additional mounting aids
- Open solution with the highly visible integrated valve position indicator and translucent housing
- Flexible, modular housing design
- Tightly sealed thanks to inductive, noncontact detection of the valve position
- Optimized for outdoor use thanks to high resistance to UV, temperature, and salt water
- Versions up to SIL 2 available
- ATEX/IECEx versions for safe use in Ex zone 2/22 (3G ec, 3D tc) and zone 0/20 (1G ia, 1D ia)

Brief Description

The F31K2 series, on the other hand, is specifically designed for compromise-free use in the outdoor area. It combines flexibility with robustness and excellent performance, even under extreme conditions.

Accessories	
BT115A	Actuator for F31 series
BT115X	Actuator for F31 series
BT65-F31K2-RG-EN	Actuator for F31K2 series
BT65-F31K2-RG-EN-01	Actuator for F31K2 series including protective cover
BT65A	Actuator for F31 series
BT65X	Actuator for F31 series
SH-BT65-F31K2-01	Protective cover for actuator BT65-F31K2-RG-EN-01



Reliable Detection of Non-Metallic Objects



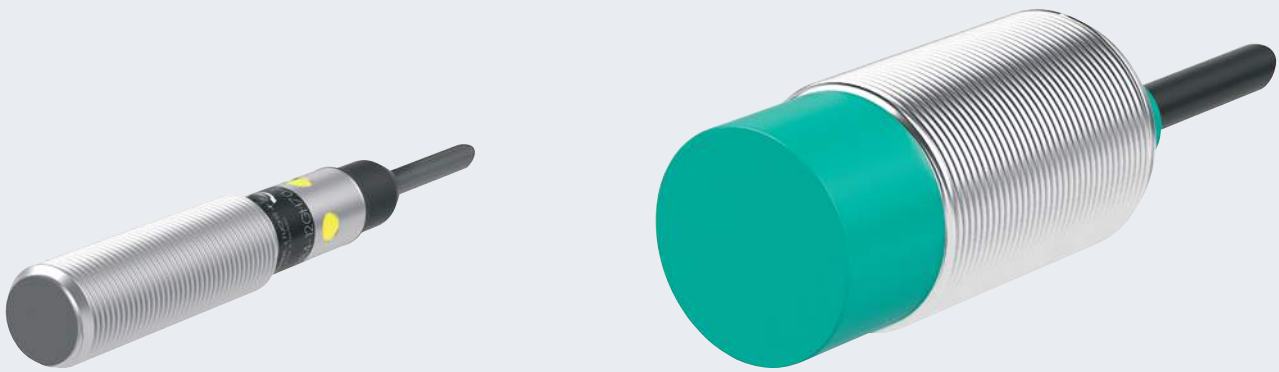
If inductive sensors cannot be used with liquids, granulates, or wood, capacitive proximity sensors are the perfect solution. In particular, special versions such as rugged sensors in stainless steel or chemically resistant housing materials guarantee outstanding reliability and service life.

Typical Applications

- Fill level querying for liquids and solids e.g., in the agricultural or wood-processing industry
- Detection of materials in plastic containers
- Process engineering for the chemical and pharmaceutical industries
- Medical and rehabilitation technology
- Woodworking machines
- Glass and plastic handling

Your Benefits at a Glance

- Reliability and process safety for your application thanks to the highest quality standards in sensor production
- The perfect solution for detecting non-metallic objects
- Highest levels of robustness and durability even in harsh industrial environments
- Application-specific advice at the highest technical level



Technical Features

- Sensors for all supply voltages (DC, AC, universal current) and output signals (e.g., two, three, and four-wire, AS-Interface, and NAMUR)
- Complete range of cable and connector types
- Variety of special approvals, including for explosion protection
- Especially rugged sensors with stainless steel housing and chemically resistant housing materials available
- Sensing ranges from 1 mm to 50 mm available

Contents



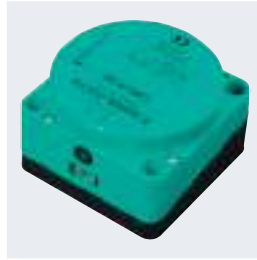
F46/F46A Series

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F64 Series

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FP Series

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Capacitive Cubic Standard Sensors

F46/F46A Series

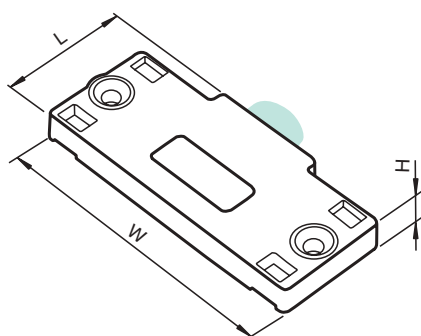


Common Technical Data

Mechanical installation conditions	nonflush
Type of output	Three-wire
Type of voltage	DC
Operating voltage (max)	30 V
Housing width W	50 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	Connection Type	Cable Length	Cable Material	Temperature (Min)	Temperature (Max)	Length L	Height H	UL
CBN2-F46-E0	2 mm	NPN	Normally-open (NO)	10 Hz	10 V	Fixed cable	2000 mm	PVC	-25 °C	70 °C	25 mm	5 mm	■
CBN2-F46-E1	2 mm	NPN	Normally-closed (NC)	10 Hz	10 V	Fixed cable	2000 mm	PVC	-25 °C	70 °C	25 mm	5 mm	■
CBN2-F46-E2	2 mm	PNP	Normally-open (NO)	10 Hz	10 V	Fixed cable	2000 mm	PVC	-25 °C	70 °C	25 mm	5 mm	■
CBN2-F46-E3	2 mm	PNP	Normally-closed (NC)	10 Hz	10 V	Fixed cable	2000 mm	PVC	-25 °C	70 °C	20 mm	5 mm	■
CBN5-F46-E0	5 mm	NPN	Normally-open (NO)	10 Hz	10 V	Fixed cable	2000 mm	PVC	-25 °C	70 °C	25 mm	5 mm	■
CBN5-F46-E1	5 mm	NPN	Normally-closed (NC)	10 Hz	10 V	Fixed cable	2000 mm	PVC	-25 °C	70 °C	25 mm	5 mm	■
CBN5-F46-E2	5 mm	PNP	Normally-open (NO)	10 Hz	10 V	Fixed cable	2000 mm	PVC	-25 °C	70 °C	25 mm	5 mm	■
CBN5-F46-E3	5 mm	PNP	Normally-closed (NC)	10 Hz	10 V	Fixed cable	2000 mm	PVC	-25 °C	70 °C	25 mm	5 mm	■
-F46A-E0	5 mm	NPN	Normally-open (NO)	10 Hz	10 V	Fixed cable	2000 mm	FEP	-25 °C	70 °C	30.4 mm	10.5 mm	■
CCN5-F46A-E1	5 mm	NPN	Normally-closed (NC)	10 Hz	10 V	Fixed cable	2000 mm	FEP	-25 °C	70 °C	30.4 mm	10.5 mm	■
CCN5-F46A-E2	5 mm	PNP	Normally-open (NO)	10 Hz	10 V	Fixed cable	2000 mm	FEP	-25 °C	70 °C	30.4 mm	10.5 mm	■
CCN5-F46A-E3	5 mm	PNP	Normally-closed (NC)	10 Hz	10 V	Fixed cable	2000 mm	FEP	-25 °C	70 °C	30.4 mm	10.5 mm	■
CBN10-F46-E0	10 mm	NPN	Normally-open (NO)	5 Hz	10 V	Fixed cable	2000 mm	PVC	-25 °C	70 °C	25 mm	5 mm	■
CBN10-F46-E2	10 mm	PNP	Normally-open (NO)	5 Hz	10 V	Fixed cable	2000 mm	PVC	-25 °C	70 °C	25 mm	5 mm	■
CBN10-F46-E3	10 mm	PNP	Normally-closed (NC)	5 Hz	10 V	Fixed cable	2000 mm	PVC	-25 °C	70 °C	25 mm	5 mm	■
CBN10-F46C-EI	7 mm	Digital current output		5 Hz	9 V	Fixed cable	2000 mm	PUR	-40 °C	85 °C	30.4 mm	10.5 mm	
CBN10-F46-E2-0,1M-V1	10 mm	PNP	Normally-open (NO)	5 Hz	10 V	Fixed cable with M12 plug	100 mm	PVC	-25 °C	70 °C	5 mm	20 mm	■
CBN10-F46-E2-0,4M-V3	10 mm	PNP	Normally-open (NO)	5 Hz	10 V	Fixed cable with M8 plug	2000 mm	PVC	-25 °C	70 °C	25 mm	5 mm	■



Capacitive Cubic Standard Sensors

F64 Series

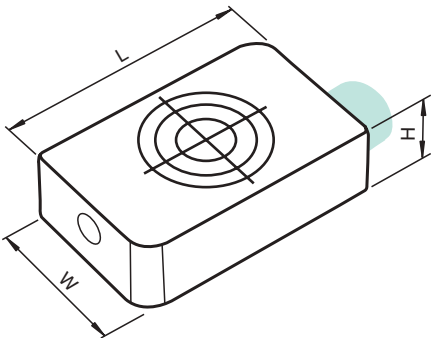


Common Technical Data	
Special features	Resistant to magnetic fields
Mechanical installation conditions	nonflush
Detection range	15 mm
Type of voltage	DC
Switching frequency	100 Hz
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	40 mm
Ambient temperature (min)	-25 °C
Ambient temperature (max)	70 °C
Housing width W	25 mm
Housing height H	12 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Type of Output	Switching Element Function	Connection Type	Cable Length	Cable Material
CBN15-F64-E2	PNP	Normally-open (NO)	Fixed cable	2000 mm	PUR
CBN15-F64-A0	NPN	complementary	Fixed cable	2000 mm	PUR
CBN15-F64-A0-V31	NPN	complementary	M8 connector plug		
CBN15-F64-A2	PNP	complementary	Fixed cable	2000 mm	PUR
CBN15-F64-A2-0,3M-V1	PNP	complementary	Fixed cable with M12 plug	300 mm	PUR
CBN15-F64-A2-1M-V1	PNP	complementary	Fixed cable with M12 plug	1000 mm	PUR
CBN15-F64-A2-V31	PNP	complementary	M8 connector plug		

Accessories	
MH-F64	Mounting base



Capacitive Cubic Standard Sensors

FP Series



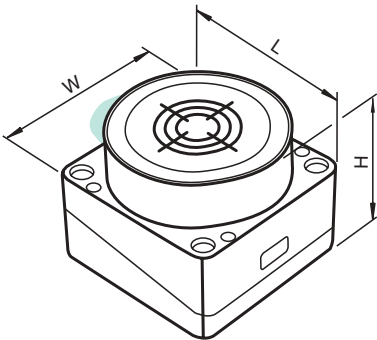
Common Technical Data	
Mechanical installation conditions	nonflush
Detection range	40 mm
Type of output	Four-wire
Switching element function	complementary
Type of voltage	DC
Switching frequency	10 Hz
Operating voltage (min)	10 V
Operating voltage (max)	60 V
Connection type	Terminal compartment
Ambient temperature (min)	-25 °C
Ambient temperature (max)	70 °C
Housing length L	40 mm
Housing width W	80 mm
Housing height H	80 mm
UL	■

Model Number

CJ40-FP-A0-P1
CJ40-FP-A2-P1

Type of Output

NPN
PNP



Capacitive Cylindrical Standard Sensors

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12 mm Series

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18 mm Series

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30 mm Series

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Capacitive Cylindrical Standard Sensors

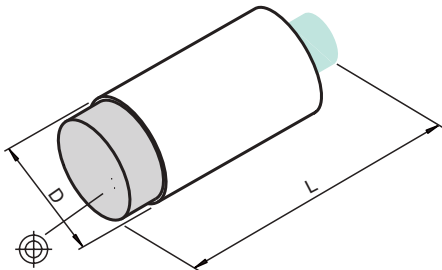
12 mm Series



Common Technical Data	
Type of output	Three-wire
Switching element function	Normally-open (NO)
Type of voltage	DC
Switching frequency	50 Hz
Operating voltage (min)	10 V
Operating voltage (max)	36 V
Housing diameter D	12 mm
Ambient temperature (min)	-25 °C
Ambient temperature (max)	70 °C
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Connection Type	Cable Length	Cable Material	Length L
CBB4-12GH60-E0-V1	Flush	4 mm	NPN	M12 connector plug			60 mm
CBB4-12GH60-E2-V1	Flush	4 mm	PNP	M12 connector plug			60 mm
CBB4-12GH70-E0	Flush	4 mm	NPN	Fixed cable	2000 mm	PUR	70 mm
CBB4-12GH70-E2	Flush	4 mm	PNP	Fixed cable	2000 mm	PUR	70 mm
CBN8-12GH60-E2-V1	nonflush	8 mm	PNP	M12 connector plug			61.2 mm



Accessories	
BF 12	Mounting adapter, 12 mm
V1-G-2M-PUR	Single-ended female cordset, M12, straight A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray

Capacitive Cylindrical Standard Sensors

18 mm Series

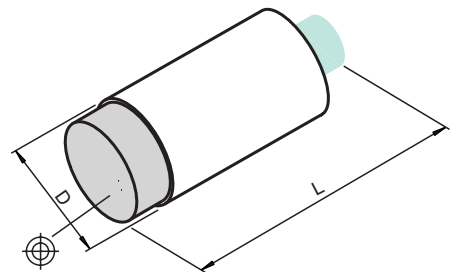


Common Technical Data	
Type of output	Three-wire
Switching element function	Normally-open (NO)
Type of voltage	DC
Switching frequency	100 Hz
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing diameter D	18 mm
Ambient temperature (min)	-25 °C
Ambient temperature (max)	85 °C
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Connection Type	Cable Length	Cable Material	Length L
CBB8-18GK75-E2-V1	flush	8 mm	PNP	M12 connector plug			88 mm
CBB8-18GS75-E0	flush	8 mm	NPN	Fixed cable	2000 mm	PUR	75 mm
CBB8-18GS75-E2	flush	8 mm	PNP	Fixed cable	2000 mm	PUR	75 mm
CBB8-18GS75-E2-V1	flush	8 mm	PNP	M12 connector plug			88 mm
CBN15-18GK75-E2-V1	nonflush	15 mm	PNP	M12 connector plug			88 mm
CBN15-18GS75-E2	nonflush	15 mm	PNP	Fixed cable	2000 mm	PUR	75 mm
CBN15-18GS75-E2-V1	nonflush	15 mm	PNP	M12 connector plug			88 mm

Accessories	
BF 18	Mounting adapter, 18 mm
V1-G-2M-PUR	Single-ended female cordset, M12, straight A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray



Capacitive Cylindrical Standard Sensors

30 mm Series



Common Technical Data

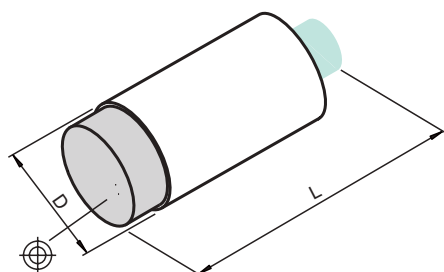
Switching frequency	10 Hz
Housing diameter D	30 mm
Ambient temperature (min)	-25 °C
Ambient temperature (max)	70 °C
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Type of Voltage	UB (Min)	UB (Max)	Connection Type	Cable Length	Cable Material	Length L	CCC
CBB10-30GK60-E0	flush	10 mm	NPN	Normally-open (NO)	DC	10 V	30 V	Fixed cable	2000 mm	PVC	60 mm	
CBB10-30GK60-E2	flush	10 mm	PNP	Normally-open (NO)	DC	10 V	30 V	Fixed cable	2000 mm	PVC	60 mm	
CCB10-30GS60-A2-V1	flush	10 mm	PNP	complementary	DC	10 V	60 V	M12 connector plug			60 mm	■
CCB10-30GS60-E0	flush	10 mm	NPN	Normally-open (NO)	DC	10 V	60 V	Fixed cable	2000 mm	PVC	60 mm	■
CCB10-30GS60-E2	flush	10 mm	PNP	Normally-open (NO)	DC	10 V	60 V	Fixed cable	2000 mm	PVC	60 mm	■
CCB10-30GS60-E2-V1	flush	10 mm	PNP	Normally-open (NO)	DC	10 V	60 V	M12 connector plug			60 mm	■
CBN15-30GK60-A0	nonflush	15 mm	NPN	complementary	DC	10 V	30 V	Fixed cable	2000 mm	PVC	60 mm	
CBN15-30GK60-A2	nonflush	15 mm	PNP	complementary	DC	10 V	30 V	Fixed cable	2000 mm	PVC	60 mm	
CBN15-30GK60-E0	nonflush	15 mm	NPN	Normally-open (NO)	DC	10 V	30 V	Fixed cable	2000 mm	PVC	60 mm	
CBN15-30GK60-E2	nonflush	15 mm	PNP	Normally-open (NO)	DC	10 V	30 V	Fixed cable	2000 mm	PVC	60 mm	
CCN15-30GS60-A0	nonflush	15 mm	NPN	complementary	DC	10 V	60 V	Fixed cable	2000 mm	PVC	60 mm	■
CCN15-30GS60-A2	nonflush	15 mm	PNP	complementary	DC	10 V	60 V	Fixed cable	2000 mm	PVC	60 mm	■
CCN15-30GS60-A2-V1	nonflush	15 mm	PNP	complementary	DC	10 V	60 V	M12 connector plug			60 mm	■
CCN15-30GS60-E0	nonflush	15 mm	NPN	Normally-open (NO)	DC	10 V	60 V	Fixed cable	2000 mm	PVC	60 mm	■
CCN15-30GS60-E2	nonflush	15 mm	PNP	Normally-open (NO)	DC	10 V	60 V	Fixed cable	2000 mm	PVC	60 mm	■
CCN15-30GS60-E2-V1	nonflush	15 mm	PNP	Normally-open (NO)	DC	10 V	60 V	M12 connector plug			60 mm	■
CJ10-30GK-WO	nonflush	10 mm	Two-wire	Normally-closed (NC)	AC	20 V	253 V	Fixed cable	2000 mm	PVC	80 mm	■
CJ10-30GK-WS	nonflush	10 mm	Two-wire	Normally-open (NO)	AC	20 V	253 V	Fixed cable	2000 mm	PVC	80 mm	■
CJ10-30GM-WO	nonflush	10 mm	Two-wire	Normally-closed (NC)	AC	20 V	253 V	Fixed cable	2000 mm	PVC	80 mm	■
CJ10-30GM-WS	nonflush	10 mm	Two-wire	Normally-open (NO)	AC	20 V	253 V	Fixed cable	2000 mm	PVC	80 mm	■

Accessories

BF 30	Mounting adapter, 30 mm
V1-G-2M-PUR	Single-ended female cordset, M12, straight A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray





Capacitive Sensors for the Hazardous Area

Sensors for the Hazardous Area



Common Technical Data

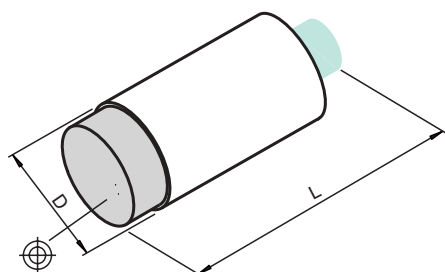
Special features	Ex sensor
Type of output	2-wire
Type of output	NAMUR
Switching element function	Normally-open (NO)
Type of voltage	DC
Rated voltage	8.2 V
Ambient temperature (max)	70 °C
UL	■
ATEX	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Switching Frequency	Connection Type	Cable Length	Cable Material	Ambient Temperature (Min)	Length L	Diameter D
CJ1-12GK-N	nonflush	1 mm	1 Hz	Fixed cable	2000 mm	PVC	-25 °C	60 mm	12 mm
CJ1-12GK-N-5M	nonflush	1 mm	1 Hz	Fixed cable	5000 mm	PVC	-25 °C	60 mm	12 mm
CJ1-12GK-N-15M	nonflush	1 mm	1 Hz	Fixed cable	15,000 mm	PVC	-25 °C	60 mm	12 mm
CJ2-18GK-N	nonflush	2 mm	1 Hz	Fixed cable	2000 mm	PVC	-25 °C	80 mm	18 mm
CJ4-12GK-N	nonflush	4 mm	1 Hz	Fixed cable	2000 mm	PVC	-25 °C	60 mm	12 mm
CJ4-12GK-N-5M	nonflush	4 mm	1 Hz	Fixed cable	5000 mm	PVC	-25 °C	60 mm	12 mm
CJ4-12GK-N-10M	nonflush	4 mm	1 Hz	Fixed cable	10,000 mm	PVC	-25 °C	60 mm	12 mm
CJ6-18GK-N	nonflush	6 mm	1 Hz	Fixed cable	2000 mm	PVC	-25 °C	80 mm	18 mm
CCB10-30GS55-N1	flush	10 mm	50 Hz	Fixed cable	2000 mm	PUR	-20 °C	80 mm	30 mm
CCB10-30GS55-N1-V1	flush	10 mm	50 Hz	M12 connector plug			-20 °C	80 mm	30 mm

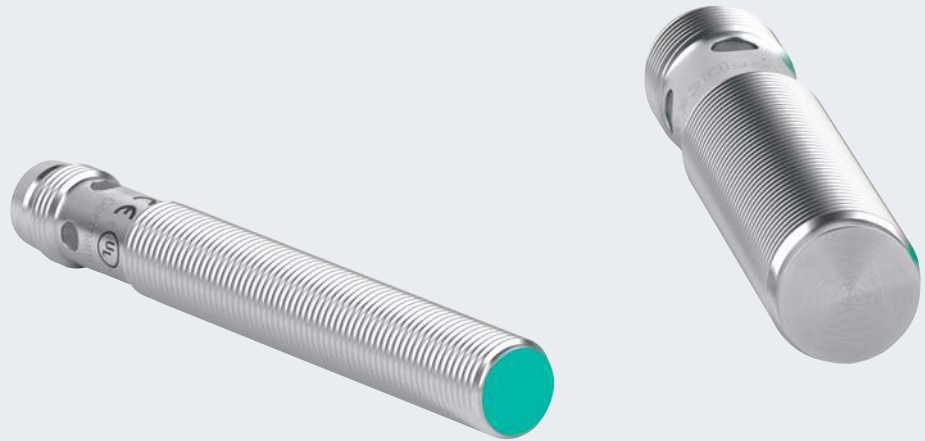
Accessories

BF 12	Mounting adapter, 12 mm
BF 18	Mounting adapter, 18 mm
BF 30	Mounting adapter, 30 mm
V1-G-N4-5M-PUR	Single-ended female cordset, M12, straight A-coded, 4-pin, PUR cable, blue, NAMUR
V1-G-N4-5M-PVC	Single-ended female cordset, M12, straight A-coded, 4-pin, PVC cable, blue, NAMUR
V1-W-N4-2M-PVC	Single-ended female cordset, M12, angled A-coded, 4-pin, PVC cable, blue, NAMUR
V1-W-N4-5M-PUR	Single-ended female cordset, M12, angled A-coded, 4-pin, PUR cable, blue, NAMUR
V1-W-N4-5M-PVC	Single-ended female cordset, M12, angled A-coded, 4-pin, PVC cable, blue, NAMUR





Multipurpose Sensors for Demanding Tasks



Completely durable, noncontact and maintenance-free. Robust magnetic field sensors for applications where other technologies fail.

Quick Processes, High Sensing Ranges

When the technology of inductive sensors reaches its limits, magnetic field sensors are a very versatile alternative. They can reliably detect magnetic fields through non-magnetizable materials. Pepperl+Fuchs offers an optimized portfolio of different cylindrical and cubic housing designs and sizes. Versions with switching distances of up to 70 mm and high switching frequencies of up to 5000 Hz, and a wide range of output and connection options ensure the optimum solution for every application requirement.

The sensors are available in plastic and stainless steel versions, and special NAMUR versions can also be used in hazardous areas. For particularly demanding environmental conditions, stainless steel sensor versions with an IP protection class up to IP69 are also available. These sensors are extremely durable and maintenance-free with their extremely rugged design and non-contact detection.



Highlights

- Detection of magnetic fields through non-magnetizable materials
- Extremely rugged design
- Extremely long service life thanks to noncontact detection
- High switching frequencies (up to 5000 kHz) ensure quick and reliable process flows
- Special variants with approvals for hazardous areas

Cubic Magnetic Field Sensors

F12/F32 Series

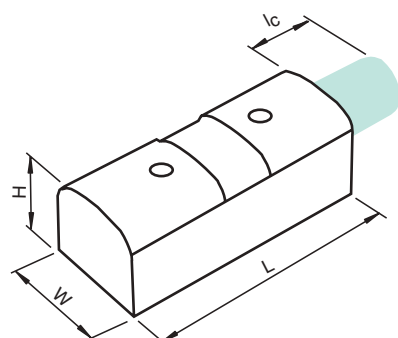


Common Technical Data

Type of voltage	DC

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Mechanical Installation Conditions	Detection Range	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Temperature (Min)	Temperature (Max)	Length L	Width W	Height H	UL	ATEX	IECEx
50FY41-V4A-12	nonflush	2.5 mm	PNP/NPN	Normally-open (NO)		10 V	12 V	Fixed cable	-40 °C	100 °C	39 mm	39 mm	12.7 mm	■	■	■
50FY41-V4A-50	nonflush	2.5 mm	PNP/NPN	Normally-open (NO)		10 V	12 V	Fixed cable	-40 °C	100 °C	39 mm	39 mm	12.7 mm	■	■	■
50FY41-V4A-6	nonflush	2.5 mm	PNP/NPN	Normally-open (NO)		10 V	12 V	Fixed cable	-40 °C	100 °C	39 mm	39 mm	12.7 mm	■	■	■
MB-F32-A2	nonflush		PNP	complementary		10 V	30 V	Fixed cable	-25 °C	85 °C	50 mm	18 mm	21 mm			
MB-F32-A2-V1	nonflush		PNP	complementary		10 V	30 V	M12 connector plug	-25 °C	85 °C	50 mm	18 mm	21 mm			
MB35-F12-1N	flush	35 mm	NAMUR	Normally-open (NO)	5000 Hz	8.2 V	8.2 V	Fixed cable	-25 °C	70 °C	30 mm	12 mm	12 mm		■	■
MB35-F12-1N-5M	flush	35 mm	NAMUR	Normally-open (NO)	5000 Hz	8.2 V	8.2 V	Fixed cable	-25 °C	70 °C	30 mm	12 mm	12 mm		■	■



Accessories

KE5D2-6H/2R-S	Safety monitor
V1-G-2M-PUR	Single-ended female cordset, M12, straight A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray
52FY31-V4A	Magnetic actuator

Cylindrical Magnetic Field Sensors

8 mm/12 mm/18 mm Series

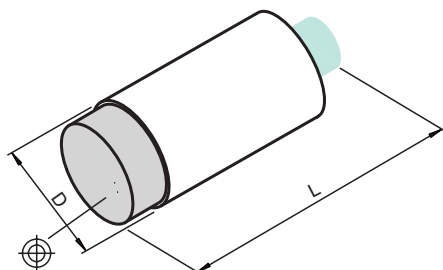


Common Technical Data

Mechanical installation conditions	flush
Switching element function	Normally-open (NO)
Type of voltage	DC

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Type of Output	Switching Frequency	UB (Min)	UB (Max)	Connection Type	Cable Length	Cable Material	Temperature (Min)	Temperature (Max)	Length L	Diameter D	UL	ATEX	IECEx
MB60-8GM50-E2	60 mm	PNP	5000 Hz	10 V	30 V	Fixed cable	2000 mm	PUR	-25 °C	75 °C	50 mm	8 mm	■		
MB60-8GM50-E2-V3	60 mm	PNP	5000 Hz	10 V	30 V	M8 connector plug			-25 °C	75 °C	60 mm	8 mm	■		
MB60-12GM50-E2	60 mm	PNP	5000 Hz	10 V	30 V	Fixed cable	2000 mm	PUR	-25 °C	75 °C	50 mm	12 mm	■		
MMB60-12GH50-E2-V1	60 mm	PNP	5000 Hz	10 V	30 V	M12 connector plug			-25 °C	75 °C	60 mm	12 mm	■		
MMB60-12H50-E2-V1	60 mm	PNP	5000 Hz	10 V	30 V	M12 connector plug			0 °C	100 °C	60 mm	12 mm	■		
MMB70-12GH50-1N	70 mm	NAMUR	1000 Hz	8.2 V	8.2 V	Fixed cable	2000 mm	PVC	-25 °C	70 °C	50 mm	12 mm		■	■
MMB70-12GH50-1N-V1	70 mm	NAMUR	1000 Hz	8.2 V	8.2 V	M12 connector plug			-25 °C	70 °C	60 mm	12 mm		■	■
MMB70-18GH50-E2-V1	70 mm	PNP	5000 Hz	10 V	30 V	M12 connector plug			-25 °C	75 °C	60 mm	18 mm	■		
MB80-12GM50-E0	80 mm	NPN	5000 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	-25 °C	70 °C	50 mm	12 mm			
MB80-12GM50-E0-PUR	80 mm	NPN	5000 Hz	10 V	30 V	Fixed cable	2000 mm	PUR	-25 °C	70 °C	50 mm	12 mm			
MB80-12GM50-E0-V1	80 mm	NPN	5000 Hz	10 V	30 V	M12 connector plug			-25 °C	70 °C	65 mm	12 mm			
MB80-12GM50-E2	80 mm	PNP	5000 Hz	10 V	30 V	Fixed cable	2000 mm	PVC	-25 °C	70 °C	50 mm	12 mm			
MB80-12GM50-E2-V1	80 mm	PNP	5000 Hz	10 V	30 V	M12 connector plug			-25 °C	70 °C	65 mm	12 mm			



Accessories

BF 12	Mounting adapter, 12 mm
BF 8	Mounting adapter, 8 mm
DM 25-32-07	Permanent magnet for magnetic field sensors
DM 60-31-15	Permanent magnet for magnetic field sensors
V1-G-2M-PUR	Single-ended female cordset, M12, straight A-coded, 4-pin, PUR cable, gray
V1-G-OR2M-POC	Single-ended female cordset, M12, straight, A-coded, 4-pin, POC cable, welding-bead resistant, orange, suitable for robots, torsion-proof, oil-resistant, cross-linked molecules
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray

Maximum Efficiency Through High-Performance Technology

Photoelectric sensors from Pepperl+Fuchs offer innovative sensor solutions advanced through extensive experience and continuous development. Powerful technologies such as Pulse Ranging Technology, Multi Pixel Technology, and end-to-end IO-Link integration guarantee highly efficient applications.

Innovations for Industrial Automation

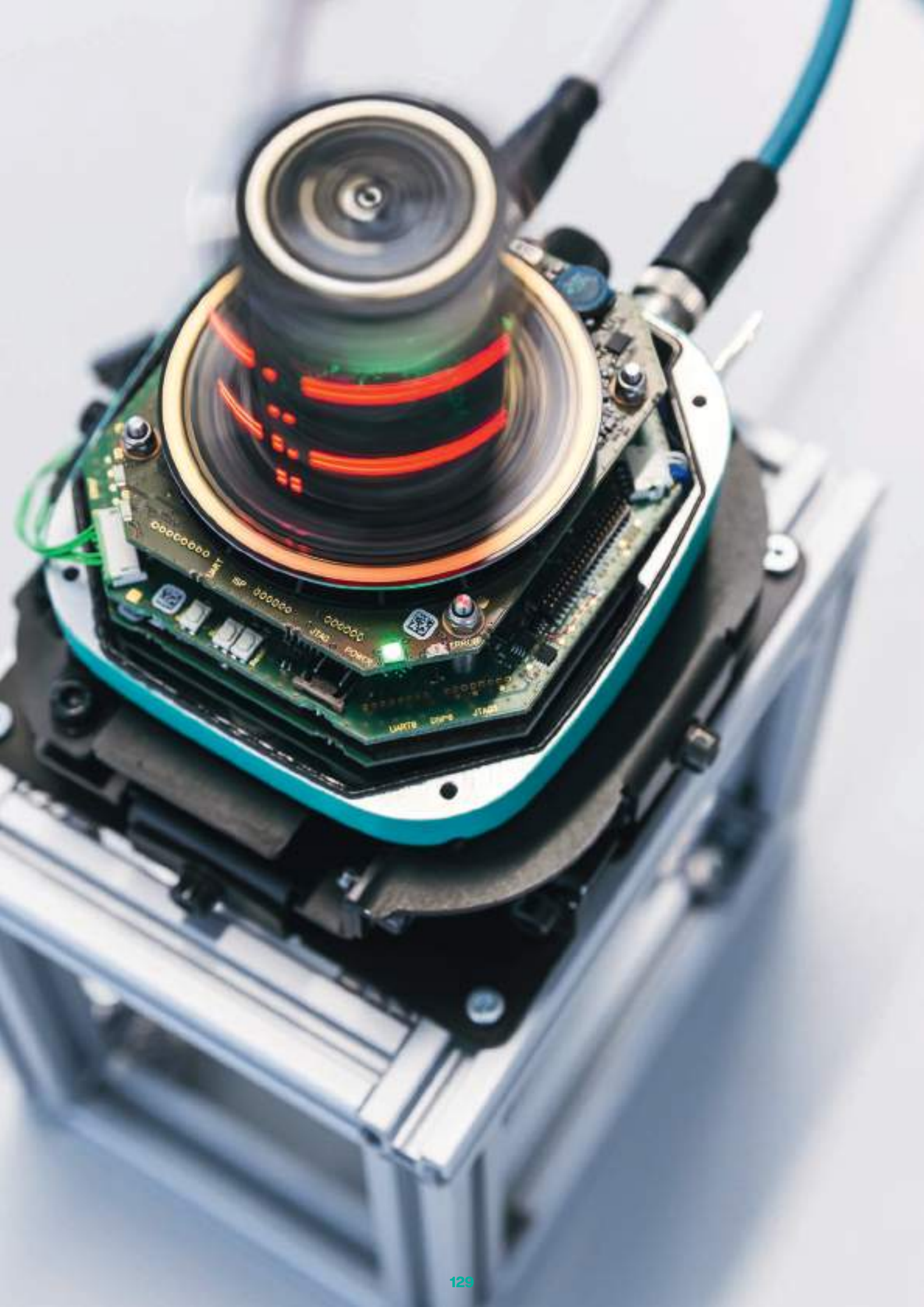
With the development of its Pulse Ranging Technology (PRT), Pepperl+Fuchs unlocked the potential to use direct light runtime measurement in commercial industries for the first time. The world's first 360° 2-D laser scanner R2000 completely revolutionized the navigation of driverless transportation systems. With innovations such as these, Pepperl+Fuchs has shaped the world of automation from the very beginning. Continuous development enables you to carry on creating new, even more efficient application solutions, both now and in the future.

Outstanding Flexibility with a Coordinated Portfolio

Tailored to the requirements of industrial automation, the portfolio of photoelectric sensors delivers the right solution for every application, every time. Various function principles, from classic thru-beam sensors and diffuse mode sensors to high-performance distance sensors, are available in miniature, standard, and special housing designs.



More information is available at:
pepperl-fuchs.com/fa-opto



Flexibility Redefined



The overarching concept of optoelectronic standard light barriers is to integrate multiple function principles end-to-end into identical standard housing designs. This means that regardless of the installation situation, the right sensor is always available as a thru-beam sensor, retroreflective sensor, diffuse mode sensor, or switching sensor with measurement core.

Typical Applications

- Small part detection
- Component inspection for printed circuit boards
- Front edge detection on conveyor belts
- Detection of transparent objects
- Object positioning

Your Benefits at a Glance

- End-to-end integration of photoelectric function principles into identical standard housing designs for outstanding flexibility
- Choice of various cubic and cylindrical standard housing designs
- Innovative DuraBeam laser technology for extra-long service life and increased operating temperature range, even in especially small housing designs
- Communication down to sensor level with IO-Link



Technical Features

- A complete portfolio of function principles is available, from thru-beam sensors, retroreflective sensors, and diffuse mode sensors to special function principles such as switching sensors with measurement cores (available in the R10x series, among others)
- Various light sources (red light, infrared light, and laser) for optimal adaptation to the application
- Comprehensive range of accessories for mounting brackets, reflectors, and alignment aids
- Degree of protection of up to IP69K



Multi Pixel Technology (MPT) for Precise, Near-Range Distance Measurement

Distance sensors are also available in small to medium-sized standard housing designs. The compact size of the measurement core enables the most precise, reliable, and adaptable distance measurement for near-range applications.

More information is available at:
pepperl-fuchs.com/fa-mpt



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Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R2 Series Thru-Beam Sensors

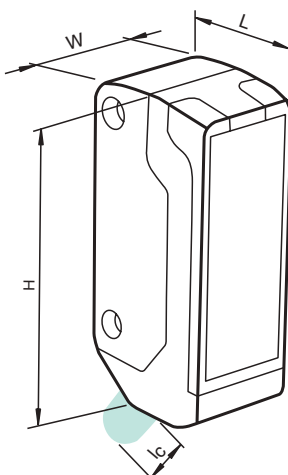


Common Technical Data

Function principle	Thru-beam sensor
Type of voltage	DC
Housing length L	11.2 mm
Housing width W	7.5 mm
Housing height H	24 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type	Type of Output	UB (Min)	UB (Max)	Connection Type
OBE1000-R2-SE0-L	1000 mm	Red laser diode	NPN	12 V	24 V	Fixed cable
OBE1000-R2-SE2-0,2M-V31-L	1000 mm	Red laser diode	PNP	12 V	24 V	Fixed cable with M8 plug
OBE1000-R2-SE2-L	1000 mm	Red laser diode	PNP	12 V	24 V	Fixed cable
OBE2000-R2-SE0	2000 mm	Red LED	NPN	10 V	30 V	Fixed cable
OBE2000-R2-SE0-0,2M-V31	2000 mm	Red LED	NPN	10 V	30 V	Fixed cable with M8 plug
OBE2000-R2-SE2	2000 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBE2000-R2-SE2-0,2M-V31	2000 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBE2000-R2-SE3	2000 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBE10M-R2-SE0-L	10,000 mm	Red laser diode	NPN	12 V	24 V	Fixed cable
OBE10M-R2-SE2-0,2M-V31-L	10,000 mm	Red laser diode	PNP	12 V	24 V	Fixed cable with M8 plug
OBE10M-R2-SE2-L	10,000 mm	Red laser diode	PNP	12 V	24 V	Fixed cable



Accessories

MH-R2-01	Mounting aid for sensors from the R2 series, mounting bracket
MH-R2-02	Mounting aid for sensors from the R2 series, mounting bracket
MH-R2-03	Mounting aid for sensors from the R2 series, mounting bracket
MH-R2-04	Mounting aid for sensors from the R2 series, mounting bracket
V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R2 Series Retroreflective Sensors

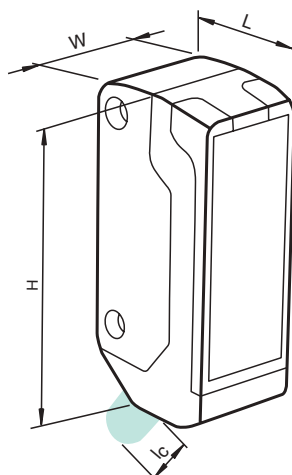


Common Technical Data

Function principle	Retroreflective sensor with polarization filter
Type of voltage	DC
Housing length L	11.2 mm
Housing width W	7.5 mm
Housing height H	24 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type	Type of Output	UB (Min)	UB (Max)	Connection Type
OBR1000-R2-E0	1000 mm	Red LED	NPN	10 V	30 V	Fixed cable
OBR1000-R2-E0-0,4M-V3	1000 mm	Red LED	NPN	10 V	30 V	Other
OBR1000-R2-E2	1000 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBR1000-R2-E2-0,2M-V3	1000 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBR1000-R2-E2-0,2M-V31	1000 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBR2000-R2-E0-L	2000 mm	Red laser diode	NPN	12 V	24 V	Fixed cable
OBR2000-R2-E2-0,2M-V31-L	2000 mm	Red laser diode	PNP	12 V	24 V	Fixed cable with M8 plug
OBR2000-R2-E2-L	2000 mm	Red laser diode	PNP	12 V	24 V	Fixed cable



Accessories

MH-R2-01	Mounting aid for sensors from the R2 series, mounting bracket
MH-R2-02	Mounting aid for sensors from the R2 series, mounting bracket
MH-R2-03	Mounting aid for sensors from the R2 series, mounting bracket
MH-R2-04	Mounting aid for sensors from the R2 series, mounting bracket
REF-H23	Reflector with mounting holes
REF-H40	Rectangular reflector, 47.5 mm x 23.5 mm, mounting holes, retaining tab
REF-MH20	Rectangular reflector with microstructure, 32 mm x 20 mm, mounting holes
REF-MH23	Rectangular reflector with microstructure, 23 mm x 13.8 mm, diagonal mounting hole
V3-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 3-pin, PUR cable, gray
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray
V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R2 Series

Diffuse Mode Sensors



Common Technical Data

Type of voltage	DC
Housing length L	11.2 mm
Housing width W	7.5 mm
Housing height H	24 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Function Principle	Detection Range	Light Type	Type of Output	UB (Min)	UB (Max)	Connection Type
OBT15-R2-E0	with background suppression	15 mm	Red LED	NPN	10 V	30 V	Fixed cable
OBT15-R2-E0-1T	with background evaluation	15 mm	Red LED	NPN	10 V	30 V	Fixed cable
OBT15-R2-E0-L	with background suppression	15 mm	Red laser diode	NPN	12 V	24 V	Fixed cable
OBT15-R2-E2	with background suppression	15 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBT15-R2-E2-0,2M-V3	with background suppression	15 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBT15-R2-E2-0,2M-V31	with background suppression	15 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBT15-R2-E2-0,2M-V31-L	with background suppression	15 mm	Red laser diode	PNP	12 V	24 V	Fixed cable with M8 plug
OBT15-R2-E2-1T	with background evaluation	15 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBT15-R2-E2-L	with background suppression	15 mm	Red laser diode	PNP	12 V	24 V	Fixed cable
OBT20-R2-E0	with background suppression	20 mm	Red LED	NPN	10 V	30 V	Fixed cable
OBT20-R2-E2-0,2M-V31	with background suppression	20 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBT30-R2-E0	with background suppression	30 mm	Red LED	NPN	10 V	30 V	Fixed cable
OBT30-R2-E0-0,4M-V3	with background suppression	30 mm	Red LED	NPN	10 V	30 V	Other
OBT30-R2-E0-1T	with background evaluation	30 mm	Red LED	NPN	10 V	30 V	Fixed cable
OBT30-R2-E0-L	with background suppression	30 mm	Red laser diode	NPN	12 V	24 V	Fixed cable
OBT30-R2-E2	with background suppression	30 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBT30-R2-E2-0,2M-V3	with background suppression	30 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBT30-R2-E2-0,2M-V31	with background suppression	30 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBT30-R2-E2-0,2M-V31-L	with background suppression	30 mm	Red laser diode	PNP	12 V	24 V	Fixed cable with M8 plug
OBT30-R2-E2-1T	with background evaluation	30 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBT30-R2-E2-L	with background suppression	30 mm	Red laser diode	PNP	12 V	24 V	Fixed cable
OBT40-R2-E0	with background suppression	40 mm	Red LED	NPN	10 V	30 V	Fixed cable
OBT40-R2-E2-0,2M-V31	with background suppression	40 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBT50-R2-E0	with background suppression	50 mm	Red LED	NPN	10 V	30 V	Fixed cable
OBT50-R2-E0-1T	with background evaluation	50 mm	Red LED	NPN	10 V	30 V	Fixed cable
OBT50-R2-E0-L	with background suppression	50 mm	Red laser diode	NPN	12 V	24 V	Fixed cable
OBT50-R2-E2	with background suppression	50 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBT50-R2-E2-0,2M-V3	with background suppression	50 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBT50-R2-E2-0,2M-V31	with background suppression	50 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBT50-R2-E2-0,2M-V31-L	with background suppression	50 mm	Red laser diode	PNP	12 V	24 V	Fixed cable with M8 plug
OBT50-R2-E2-1T	with background evaluation	50 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBT50-R2-E2-L	with background suppression	50 mm	Red laser diode	PNP	12 V	24 V	Fixed cable
OBT50-R2-E3-0,2M-V31	with background suppression	50 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBT80-R2-E0	with background suppression	80 mm	Red LED	NPN	10 V	30 V	Fixed cable
OBT80-R2-E0-L	with background suppression	80 mm	Red laser diode	NPN	12 V	24 V	Fixed cable
OBT80-R2-E2	with background suppression	80 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBT80-R2-E2-0,2M-V3	with background suppression	80 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBT80-R2-E2-0,2M-V31	with background suppression	80 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBT80-R2-E2-0,2M-V31-L	with background suppression	80 mm	Red laser diode	PNP	12 V	24 V	Fixed cable with M8 plug
OBT80-R2-E2-L	with background suppression	80 mm	Red laser diode	PNP	12 V	24 V	Fixed cable

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R2F Series Thru-Beam Sensors



Common Technical Data

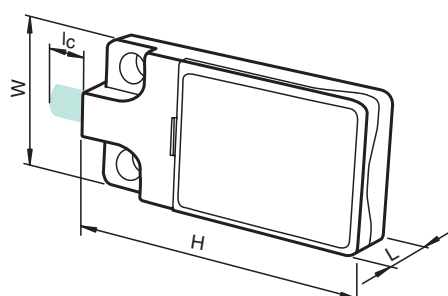
Function principle	Thru-beam sensor
Type of voltage	DC
Housing length L	4.1 mm
Housing width W	12 mm
Housing height H	25.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type	Type of Output	UB (Min)	UB (Max)	Connection Type
OBE500-R2F-SE0	500 mm	Red LED	NPN	10 V	30 V	Fixed cable
OBE500-R2F-SE0-L	500 mm	Red laser diode	NPN	12 V	24 V	Fixed cable
OBE500-R2F-SE2	500 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBE500-R2F-SE2-0.2M-V31	500 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBE500-R2F-SE2-0.2M-V31-L	500 mm	Red laser diode	PNP	12 V	24 V	Fixed cable with M8 plug
OBE500-R2F-SE2-L	500 mm	Red laser diode	PNP	12 V	24 V	Fixed cable
OBE1500-R2F-SE0-L	1500 mm	Red laser diode	NPN	12 V	24 V	Fixed cable
OBE1500-R2F-SE2-0.2M-V31-L	1500 mm	Red laser diode	PNP	12 V	24 V	Fixed cable with M8 plug
OBE1500-R2F-SE2-L	1500 mm	Red laser diode	PNP	12 V	24 V	Fixed cable

Accessories

V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray



Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R2F Series Retroreflective Sensors



Common Technical Data

Function principle	Retroreflective sensor with polarization filter
Detection range	1500 mm
Light type	Red laser diode
Type of voltage	DC
Operating voltage (min)	12 V
Operating voltage (max)	24 V
Housing length L	4.1 mm
Housing width W	12 mm
Housing height H	25.5 mm
UL	■

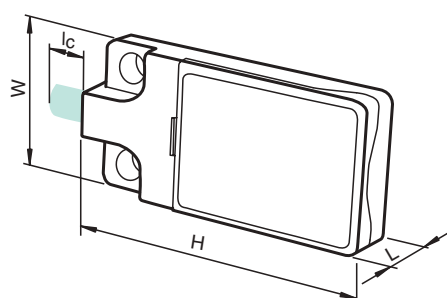
For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number

Type of Output

Connection Type

OBR1500-R2F-E0-L	NPN	Fixed cable
OBR1500-R2F-E2-0,2M-V31-L	PNP	Fixed cable with M8 plug
OBR1500-R2F-E2-L	PNP	Fixed cable



Accessories

REF-H23	Reflector with mounting holes
REF-H40	Rectangular reflector, 47.5 mm x 23.5 mm, mounting holes, retaining tab
REF-MH20	Rectangular reflector with microstructure, 32 mm x 20 mm, mounting holes
REF-MH23	Rectangular reflector with microstructure, 23 mm x 13.8 mm, diagonal mounting hole
V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R2F Series

Diffuse Mode Sensors



Common Technical Data

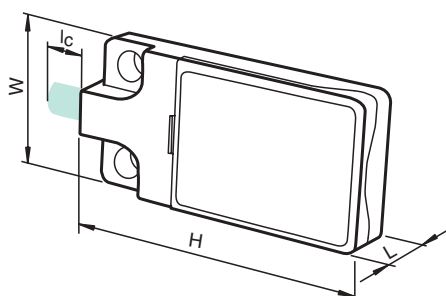
Function principle	Triangulation sensor with background suppression
Type of voltage	DC
Housing length L	4.1 mm
Housing width W	12 mm
Housing height H	25.5 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type	Type of Output	UB (Min)	UB (Max)	Connection Type
OBT15-R2F-E0	15 mm	Red LED	NPN	10 V	30 V	Fixed cable
OBT15-R2F-E0-L	15 mm	Red laser diode	NPN	12 V	24 V	Fixed cable
OBT15-R2F-E2	15 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBT15-R2F-E2-0,2M-V31	15 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBT15-R2F-E2-0,2M-V31-L	15 mm	Red laser diode	PNP	12 V	24 V	Fixed cable with M8 plug
OBT15-R2F-E2-L	15 mm	Red laser diode	PNP	12 V	24 V	Fixed cable
OBT30-R2F-E0	30 mm	Red LED	NPN	10 V	30 V	Fixed cable
OBT30-R2F-E0-L	30 mm	Red laser diode	NPN	12 V	24 V	Fixed cable
OBT30-R2F-E2	30 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBT30-R2F-E2-0,2M-V31	30 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBT30-R2F-E2-0,2M-V31-L	30 mm	Red laser diode	PNP	12 V	24 V	Fixed cable with M8 plug
OBT30-R2F-E2-L	30 mm	Red laser diode	PNP	12 V	24 V	Fixed cable

Accessories

V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray



Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R3 Series Thru-Beam Sensors

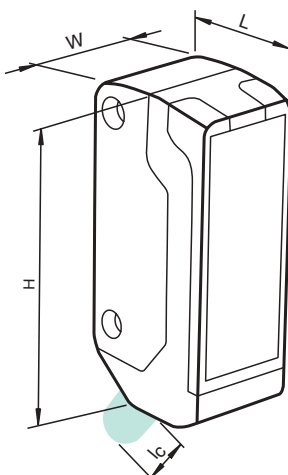


Common Technical Data

Function principle	Thru-beam sensor
Type of voltage	DC
Housing length L	13.8 mm
Housing width W	7.5 mm
Housing height H	26 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type	Type of Output	UB (Min)	UB (Max)	Connection Type
OBE1000-R3-SE0-L	1000 mm	Red laser diode	NPN	12 V	24 V	Fixed cable
OBE1000-R3-SE2-0,2M-V31-L	1000 mm	Red laser diode	PNP	12 V	24 V	Fixed cable with M8 plug
OBE1000-R3-SE2-L	1000 mm	Red laser diode	PNP	12 V	24 V	Fixed cable
OBE2000-R3-SE0	2000 mm	Red LED	NPN	10 V	30 V	Fixed cable
OBE2000-R3-SE2	2000 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBE2000-R3-SE2-0,2M-V3	2000 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBE2000-R3-SE2-0,2M-V31	2000 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBE10M-R3-SE0-L	10,000 mm	Red laser diode	NPN	12 V	24 V	Fixed cable
OBE10M-R3-SE2-0,2M-V31-L	10,000 mm	Red laser diode	PNP	12 V	24 V	Fixed cable with M8 plug
OBE10M-R3-SE2-L	10,000 mm	Red laser diode	PNP	12 V	24 V	Fixed cable



Accessories

MH-R3-01	Mounting aid for sensors from the R3 series, mounting bracket
MH-R3-02	Mounting aid for sensors from the R3 series, mounting bracket
MH-R3-03	Mounting aid for sensors from the R3 series, mounting bracket
MH-R3-04	Mounting aid for sensors from the R3 series, mounting bracket
V3-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 3-pin, PUR cable, gray
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray
V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R3 Series Retroreflective Sensors

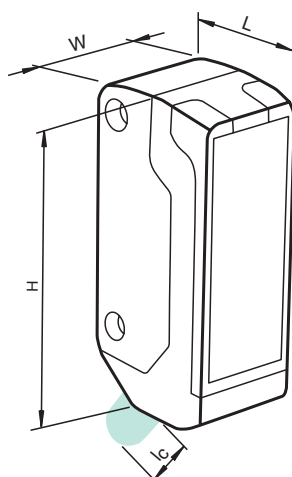


Common Technical Data

Function principle	Retroreflective sensor with polarization filter
Type of voltage	DC
Housing length L	13.8 mm
Housing width W	7.5 mm
Housing height H	26 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type	Type of Output	UB (Min)	UB (Max)	Connection Type
OBR1000-R3-E0	1000 mm	Red LED	NPN	10 V	30 V	Fixed cable
OBR1000-R3-E2	1000 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBR1000-R3-E2-0,2M-V3	1000 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBR1000-R3-E2-0,2M-V31	1000 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBR1000-R3-E3	1000 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBR1000-R3-E3-0,2M-V31	1000 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBR2000-R3-E0-L	2000 mm	Red laser diode	NPN	12 V	24 V	Fixed cable
OBR2000-R3-E2-0,2M-V31-L	2000 mm	Red laser diode	PNP	12 V	24 V	Fixed cable with M8 plug
OBR2000-R3-E2-L	2000 mm	Red laser diode	PNP	12 V	24 V	Fixed cable



Accessories

MH-R3-01	Mounting aid for sensors from the R3 series, mounting bracket
MH-R3-02	Mounting aid for sensors from the R3 series, mounting bracket
MH-R3-03	Mounting aid for sensors from the R3 series, mounting bracket
MH-R3-04	Mounting aid for sensors from the R3 series, mounting bracket
REF-H23	Reflector with mounting holes
REF-H40	Rectangular reflector, 47.5 mm x 23.5 mm, mounting holes, retaining tab
REF-MH20	Rectangular reflector with microstructure, 32 mm x 20 mm, mounting holes
REF-MH23	Rectangular reflector with microstructure, 23 mm x 13.8 mm, diagonal mounting hole
V3-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 3-pin, PUR cable, gray
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray
V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R3 Series Diffuse Mode Sensors



Common Technical Data

Type of voltage	DC
Housing length L	13.8 mm
Housing width W	7.5 mm
Housing height H	26 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Function Principle	Detection Range	Light Type	Type of Output	UB (Min)	UB (Max)	Connection Type
OBT15-R3-E0	with background suppression	15 mm	Red LED	NPN	10 V	30 V	Fixed cable
OBT15-R3-E0-1T	with background evaluation	15 mm	Red LED	NPN	10 V	30 V	Fixed cable
OBT15-R3-E0-L	with background suppression	15 mm	Red laser diode	NPN	12 V	24 V	Fixed cable
OBT15-R3-E2	with background suppression	15 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBT15-R3-E2-0,2M-V3	with background suppression	15 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBT15-R3-E2-0,2M-V31	with background suppression	15 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBT15-R3-E2-0,2M-V31-L	with background suppression	15 mm	Red laser diode	PNP	12 V	24 V	Fixed cable with M8 plug
OBT15-R3-E2-1T	with background evaluation	15 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBT15-R3-E2-L	with background suppression	15 mm	Red laser diode	PNP	12 V	24 V	Fixed cable
OBT30-R3-E0	with background suppression	30 mm	Red LED	NPN	10 V	30 V	Fixed cable
OBT30-R3-E0-1T	with background evaluation	30 mm	Red LED	NPN	10 V	30 V	Fixed cable
OBT30-R3-E0-L	with background suppression	30 mm	Red laser diode	NPN	12 V	24 V	Fixed cable
OBT30-R3-E2	with background suppression	30 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBT30-R3-E2-0,2M-V3	with background suppression	30 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBT30-R3-E2-0,2M-V31	with background suppression	30 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBT30-R3-E2-0,2M-V31-L	with background suppression	30 mm	Red laser diode	PNP	12 V	24 V	Fixed cable with M8 plug
OBT30-R3-E2-1T	with background evaluation	30 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBT30-R3-E2-2,5M-V3-L	with background suppression	30 mm	Red laser diode	PNP	12 V	24 V	Fixed cable with M8 plug
OBT30-R3-E2-5M	with background suppression	30 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBT30-R3-E2-L	with background suppression	30 mm	Red laser diode	PNP	12 V	24 V	Fixed cable
OBT50-R3-E0	with background suppression	50 mm	Red LED	NPN	10 V	30 V	Fixed cable
OBT50-R3-E0-1T	with background evaluation	50 mm	Red LED	NPN	10 V	30 V	Fixed cable
OBT50-R3-E0-L	with background suppression	50 mm	Red laser diode	NPN	12 V	24 V	Fixed cable
OBT50-R3-E2	with background suppression	50 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBT50-R3-E2-0,2M-V3	with background suppression	50 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBT50-R3-E2-0,2M-V31	with background suppression	50 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBT50-R3-E2-0,2M-V31-L	with background suppression	50 mm	Red laser diode	PNP	12 V	24 V	Fixed cable with M8 plug
OBT50-R3-E2-1T	with background evaluation	50 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBT50-R3-E2-3M	with background suppression	50 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBT50-R3-E2-5M	with background suppression	50 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBT50-R3-E2-L	with background suppression	50 mm	Red laser diode	PNP	12 V	24 V	Fixed cable
OBT80-R3-E0	with background suppression	80 mm	Red LED	NPN	10 V	30 V	Fixed cable
OBT80-R3-E0-L	with background suppression	80 mm	Red laser diode	NPN	12 V	24 V	Fixed cable
OBT80-R3-E2	with background suppression	80 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBT80-R3-E2-0,2M-V3	with background suppression	80 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBT80-R3-E2-0,2M-V31	with background suppression	80 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBT80-R3-E2-0,2M-V31-L	with background suppression	80 mm	Red laser diode	PNP	12 V	24 V	Fixed cable with M8 plug
OBT80-R3-E2-L	with background suppression	80 mm	Red laser diode	PNP	12 V	24 V	Fixed cable
OBT80-R3-E3-0,2M-V31	with background suppression	80 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R3F Series Thru-Beam Sensors

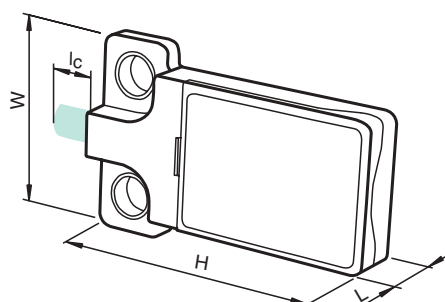


Common Technical Data

Function principle	Thru-beam sensor
Type of voltage	DC
Housing length L	4.1 mm
Housing width W	16 mm
Housing height H	25.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type	Type of Output	UB (Min)	UB (Max)	Connection Type
OBE500-R3F-SE0	500 mm	Red LED	NPN	10 V	30 V	Fixed cable
OBE500-R3F-SE0-L	500 mm	Red laser diode	NPN	12 V	24 V	Fixed cable
OBE500-R3F-SE2	500 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBE500-R3F-SE2-0,2M-V31	500 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBE500-R3F-SE2-0,2M-V31-L	500 mm	Red laser diode	PNP	12 V	24 V	Fixed cable with M8 plug
OBE500-R3F-SE2-L	500 mm	Red laser diode	PNP	12 V	24 V	Fixed cable
OBE1500-R3F-SE0-L	1500 mm	Red laser diode	NPN	12 V	24 V	Fixed cable
OBE1500-R3F-SE2-0,2M-V31-L	1500 mm	Red laser diode	PNP	12 V	24 V	Fixed cable with M8 plug
OBE1500-R3F-SE2-L	1500 mm	Red laser diode	PNP	12 V	24 V	Fixed cable



Accessories

V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R3F Series

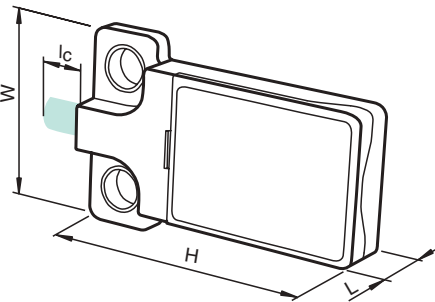
Retroreflective Sensors



Common Technical Data	
Function principle	Retroreflective sensor with polarization filter
Detection range	1500 mm
Light type	Red laser diode
Type of voltage	DC
Operating voltage (min)	12 V
Operating voltage (max)	24 V
Housing length L	4.1 mm
Housing width W	16 mm
Housing height H	25.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Type of Output	Connection Type
OBR1500-R3F-E0-L	NPN	Fixed cable
OBR1500-R3F-E1-0,2M-V31-L	NPN	Fixed cable with M8 plug
OBR1500-R3F-E2-0,2M-V31-L	PNP	Fixed cable with M8 plug
OBR1500-R3F-E2-L	PNP	Fixed cable



Accessories	
REF-H23	Reflector with mounting holes
REF-H40	Rectangular reflector, 47.5 mm x 23.5 mm, mounting holes, retaining tab
REF-MH20	Rectangular reflector with microstructure, 32 mm x 20 mm, mounting holes
REF-MH23	Rectangular reflector with microstructure, 23 mm x 13.8 mm, diagonal mounting hole
V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R3F Series

Diffuse Mode Sensors



Common Technical Data

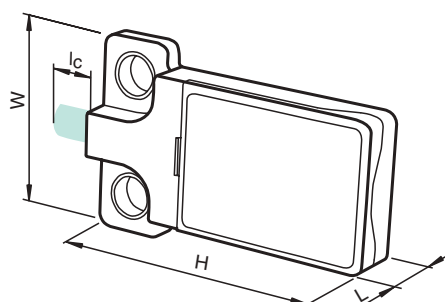
Function principle	Triangulation sensor with background suppression
Type of voltage	DC
Housing length L	4.1 mm
Housing width W	16 mm
Housing height H	25.5 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type	Type of Output	UB (Min)	UB (Max)	Connection Type
OBT15-R3F-E0	15 mm	Red LED	NPN	10 V	30 V	Fixed cable
OBT15-R3F-E0-L	15 mm	Red laser diode	NPN	12 V	24 V	Fixed cable
OBT15-R3F-E2	15 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBT15-R3F-E2-0,2M-V31	15 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBT15-R3F-E2-0,2M-V31-L	15 mm	Red laser diode	PNP	12 V	24 V	Fixed cable with M8 plug
OBT15-R3F-E2-L	15 mm	Red laser diode	PNP	12 V	24 V	Fixed cable
OBT30-R3F-E0	30 mm	Red LED	NPN	10 V	30 V	Fixed cable
OBT30-R3F-E0-L	30 mm	Red laser diode	NPN	12 V	24 V	Fixed cable
OBT30-R3F-E2	30 mm	Red LED	PNP	10 V	30 V	Fixed cable
OBT30-R3F-E2-0,2M-V31	30 mm	Red LED	PNP	10 V	30 V	Fixed cable with M8 plug
OBT30-R3F-E2-0,2M-V31-L	30 mm	Red laser diode	PNP	12 V	24 V	Fixed cable with M8 plug
OBT30-R3F-E2-L	30 mm	Red laser diode	PNP	12 V	24 V	Fixed cable

Accessories

V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray



Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R100 Series Thru-Beam Sensors

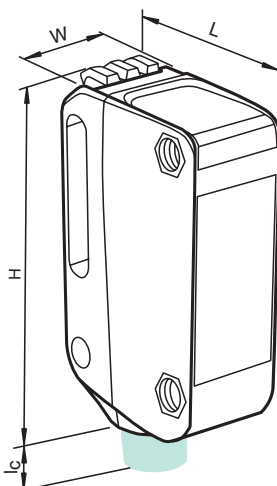


Common Technical Data

Function principle	Thru-beam sensor
Interface	IO-Link
Operating elements	Potentiometer
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	21.5 mm
Housing width W	11 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type	Type of Output	Connection Type	Height H
OBE12M-R100-S2EP-IO	12,000 mm	Red LED	2 x push-pull	Fixed cable	37.1 mm
OBE12M-R100-S2EP-IO-0,3M-V1	12,000 mm	Red LED	2 x push-pull	Fixed cable with M12 plug	37.1 mm
OBE12M-R100-S2EP-IO-0,3M-V31	12,000 mm	Red LED	2 x push-pull	Fixed cable with M8 plug	37.1 mm
OBE12M-R100-S2EP-IO-V31	12,000 mm	Red LED	2 x push-pull	M8 connector plug	44.5 mm
OBE12M-R100-SEP-IO-0,3M-V3	12,000 mm	Red LED	1 x push-pull	Fixed cable with M8 plug	37.1 mm
OBE12M-R100-SEP-IO-V3	12,000 mm	Red LED	1 x push-pull	M8 connector plug	37.1 mm
OBE20M-R100-S2EP-IO-0,3M-V1-L	20,000 mm	Red laser diode	2 x push-pull	Fixed cable with M12 plug	37.1 mm
OBE20M-R100-S2EP-IO-0,3M-V31-L	20,000 mm	Red laser diode	2 x push-pull	Fixed cable with M8 plug	37.1 mm
OBE20M-R100-S2EP-IO-IR	20,000 mm	Infrared LED	2 x push-pull	Fixed cable	37.1 mm
OBE20M-R100-S2EP-IO-L	20,000 mm	Red laser diode	2 x push-pull	Fixed cable	37.1 mm
OBE20M-R100-S2EP-IO-V31-IR	20,000 mm	Infrared LED	2 x push-pull	M8 connector plug	44.5 mm
OBE20M-R100-S2EP-IO-V31-L	20,000 mm	Red laser diode	2 x push-pull	M8 connector plug	44.5 mm
OBE20M-R100-SEP-IO-0,3M-V3-L	20,000 mm	Red laser diode	1 x push-pull	Fixed cable with M8 plug	37.1 mm
OBE20M-R100-SEP-IO-V3-L	20,000 mm	Red laser diode	1 x push-pull	M8 connector plug	37.1 mm



Accessories

ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 plug for sensor connection
OMH-ML100-03	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-ML100-031	Mounting aid for circular profiles, $\varnothing$ 10 mm ... 14 mm or flat profiles 1 mm ... 5 mm
OMH-ML100-09	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-R10X-01	Mounting bracket
OMH-R10X-02	Mounting bracket
OMH-R10X-04	Mounting bracket
OMH-R10X-10	Mounting bracket
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray
V3-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 3-pin, PUR cable, gray
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R100 Series Retroreflective Sensors



Common Technical Data

Interface	IO-Link
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	21.5 mm
Housing width W	11 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Function Principle	Detection Range	Light Type	Operating Elements	Type of Output	Connection Type	Height H
OBG5000-R100-2EP-IO	for glass detection	3500 mm	Red LED	Push-button	2 x push-pull	Fixed cable	37.1 mm
OBG5000-R100-2EP-IO-0,3M-V1	for glass detection	3500 mm	Red LED	Push-button	2 x push-pull	Fixed cable with M12 plug	37.1 mm
OBG5000-R100-2EP-IO-0,3M-V31	for glass detection	3500 mm	Red LED	Sensor	2 x push-pull	Fixed cable with M8 plug	37.1 mm
OBG5000-R100-2EP-IO-V31	for glass detection	3500 mm	Red LED	Push-button	2 x push-pull	M8 connector plug	44.5 mm
OBG5000-R100-2EP1-IO	for glass detection	3500 mm	Red LED	Push-button	2 x push-pull	Fixed cable	37.1 mm
OBG5000-R100-2EP1-IO-0,3M-V1	for glass detection	3500 mm	Red LED	Push-button	2 x push-pull	Fixed cable with M12 plug	37.1 mm
OBG5000-R100-2EP1-IO-V31	for glass detection	3500 mm	Red LED	Push-button	2 x push-pull	M8 connector plug	44.5 mm
OBG5000-R100-E5-IO-V3	for glass detection	3500 mm	Red LED	Push-button	PNP	M8 connector plug	44.5 mm
OBG5000-R100-EP-IO-0,3M-V3	for glass detection	3500 mm	Red LED	Push-button	1 x push-pull	Fixed cable with M8 plug	37.1 mm
OBG5000-R100-EP-IO-V3	for glass detection	3500 mm	Red LED	Push-button	1 x push-pull	M8 connector plug	44.5 mm
OBR7500-R100-EP-IO-V3	with polarization filter	7500 mm	Red LED	Potentiometer	1 x push-pull	M8 connector plug	44.5 mm
OBR7000-R100-2EP-IO-1R-IR	without polarization filter	7000 mm	Infrared LED	Potentiometer	2 x push-pull	Fixed cable	37.1 mm
OBR7000-R100-2EP-IO-V31-1R-IR	without polarization filter	7000 mm	Infrared LED	Potentiometer	2 x push-pull	M8 connector plug	44.5 mm
OBR7000-R100-2EP1-IO-V31-1R-IR	without polarization filter	7000 mm	Infrared LED	Potentiometer	2 x push-pull	M8 connector plug	44.5 mm
OBR7500-R100-2EP-IO	with polarization filter	7500 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable	37.1 mm
OBR7500-R100-2EP-IO-0,3M-V1	with polarization filter	7500 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug	37.1 mm
OBR7500-R100-2EP-IO-0,3M-V31	with polarization filter	7500 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug	37.1 mm
OBR7500-R100-2EP-IO-V31	with polarization filter	7500 mm	Red LED	Potentiometer	2 x push-pull	M8 connector plug	44.5 mm
OBR7500-R100-2EP1-IO	with polarization filter	7500 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable	37.1 mm
OBR7500-R100-2EP1-IO-0,3M-V1	with polarization filter	7500 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug	37.1 mm
OBR7500-R100-2EP1-IO-0,3M-V31	with polarization filter	7500 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug	37.1 mm
OBR7500-R100-2EP1-IO-V31	with polarization filter	7500 mm	Red LED	Potentiometer	2 x push-pull	M8 connector plug	44.5 mm
OBR7500-R100-E2-IO-V31	with polarization filter	7500 mm	Red LED		PNP	M8 connector plug	44.5 mm
OBR7500-R100-EP-IO-0,3M-V3	with polarization filter	7500 mm	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug	37.1 mm
OBR10M-R100-2EP-IO-1R-IR	without polarization filter	10,000 mm	Infrared LED	Potentiometer	2 x push-pull	Fixed cable	37.1 mm
OBR10M-R100-2EP-IO-V31-1R-IR	without polarization filter	10,000 mm	Infrared LED	Potentiometer	2 x push-pull	M8 connector plug	44.5 mm
OBR12M-R100-2EP-IO-0,3M-V1-L	with polarization filter	12,000 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug	37.1 mm
OBR12M-R100-2EP-IO-0,3M-V31-L	with polarization filter	12,000 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug	37.1 mm
OBR12M-R100-2EP-IO-L	with polarization filter	12,000 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable	37.1 mm
OBR12M-R100-2EP-IO-V31-L	with polarization filter	12,000 mm	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug	44.5 mm
OBR12M-R100-EP-IO-0,3M-V3-L	with polarization filter	12,000 mm	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug	37.1 mm
OBR12M-R100-EP-IO-V3-L	with polarization filter	12,000 mm	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug	44.5 mm

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R100 Series Diffuse Mode Sensors



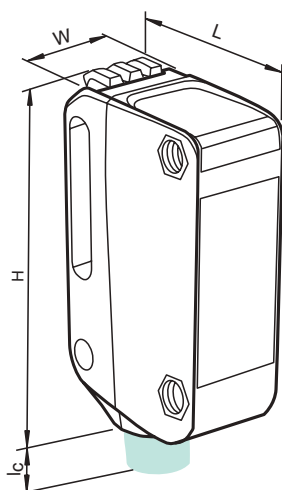
Common Technical Data

Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	21.5 mm
Housing width W	11 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Function Principle	Detection Range	Light Type	Interface	Operating Elements	Type of Output	Connection Type	Height H
OBT100-R100-2EP-IO-0,3M-V1-L	with background suppression	100 mm	Red laser diode	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M12 plug	37.1 mm
OBT100-R100-2EP-IO-0,3M-V31-L	with background suppression	100 mm	Red laser diode	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M8 plug	37.1 mm
OBT100-R100-2EP-IO-1T-L	with background evaluation	100 mm	Red laser diode	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1 mm
OBT100-R100-2EP-IO-L	with background suppression	100 mm	Red laser diode	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1 mm
OBT100-R100-2EP-IO-V31-1T-L	with background evaluation	100 mm	Red laser diode	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	44.5 mm
OBT100-R100-2EP-IO-V31-L	with background suppression	100 mm	Red laser diode	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	44.5 mm
OBT100-R100-EP-IO-0,3M-V3-1T-L	with background evaluation	100 mm	Red laser diode	IO-Link	Potentiometer	1 x push-pull	Fixed cable with M8 plug	37.1 mm
OBT100-R100-EP-IO-0,3M-V3-L	with background suppression	100 mm	Red laser diode	IO-Link	Potentiometer	1 x push-pull	Fixed cable with M8 plug	37.1 mm
OBT100-R100-EP-IO-V3-1T-L	with background evaluation	100 mm	Red laser diode	IO-Link	Potentiometer	1 x push-pull	M8 connector plug	44.5 mm
OBT100-R100-EP-IO-V3-L	with background suppression	100 mm	Red laser diode	IO-Link	Potentiometer	1 x push-pull	M8 connector plug	44.5 mm
OBT150-R100-2EP-IO	with background suppression	150 mm	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1 mm
OBT150-R100-2EP-IO-0,3M-V1	with background suppression	150 mm	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M12 plug	37.1 mm
OBT150-R100-2EP1-IO	with background suppression	150 mm	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1 mm
OBT150-R100-2EP1-IO-0,3M-V1	with background suppression	150 mm	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M12 plug	37.1 mm
OBT150-R100-2EP1-IO-0,3M-V1-IR	with background suppression	150 mm	Infrared LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M12 plug	44.5 mm
OBT150-R100-2EP1-IO-0,3M-V31	with background suppression	150 mm	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M8 plug	37.1 mm
OBT150-R100-2EP1-IO-IR	with background suppression	150 mm	Infrared LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1 mm
OBT150-R100-2EP1-IO-V31	with background suppression	150 mm	Red LED	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	44.5 mm
OBT150-R100-2EP1-IO-V31-IR	with background suppression	150 mm	Infrared LED	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	44.5 mm
OQT150-R100-2EP-IO	with multiple switch points	150 mm	Red LED	IO-Link	Push-button	2 x push-pull	Fixed cable	37.1 mm
OQT150-R100-2EP-IO-0,3M-V1	with multiple switch points	150 mm	Red LED	IO-Link	Push-button	2 x push-pull	Fixed cable with M12 plug	37.1 mm
OQT150-R100-2EP-IO-0,3M-V1-L	with multiple switch points	150 mm	Red laser diode	IO-Link	Push-button	2 x push-pull	Fixed cable with M12 plug	37.1 mm
OQT150-R100-2EP-IO-0,3M-V31	with multiple switch points	150 mm	Red LED	IO-Link	Push-button	2 x push-pull	Fixed cable with M8 plug	37.1 mm
OQT150-R100-2EP-IO-0,3M-V31-L	with multiple switch points	150 mm	Red laser diode	IO-Link	Push-button	2 x push-pull	Fixed cable with M8 plug	37.1 mm
OQT150-R100-2EP-IO-IR	with multiple switch points	150 mm	Infrared LED	IO-Link	Push-button	2 x push-pull	Fixed cable	37.1 mm
OQT150-R100-2EP-IO-L	with multiple switch points	150 mm	Red laser diode	IO-Link	Push-button	2 x push-pull	Fixed cable	37.1 mm
OQT150-R100-2EP-IO-V31	with multiple switch points	150 mm	Red LED	IO-Link	Push-button	2 x push-pull	M8 connector plug	44.5 mm
OQT150-R100-2EP-IO-V31-IR	with multiple switch points	150 mm	Infrared LED	IO-Link	Push-button	2 x push-pull	M8 connector plug	44.5 mm
OQT150-R100-2EP-IO-V31-L	with multiple switch points	150 mm	Red laser diode	IO-Link	Push-button	2 x push-pull	M8 connector plug	44.5 mm
OQT150-R100-EP-IO-0,3M-V3	with multiple switch points	150 mm	Red LED	IO-Link	Push-button	1 x push-pull	Fixed cable with M8 plug	37.1 mm
OQT150-R100-EP-IO-0,3M-V3-L	with multiple switch points	150 mm	Red laser diode	IO-Link	Push-button	1 x push-pull	Fixed cable with M8 plug	37.1 mm
OQT150-R100-EP-IO-V3	with multiple switch points	150 mm	Red LED	IO-Link	Push-button	1 x push-pull	M8 connector plug	44.5 mm
OQT150-R100-EP-IO-V3-L	with multiple switch points	150 mm	Red laser diode	IO-Link	Push-button	1 x push-pull	M8 connector plug	44.5 mm
OBT300-R100-2EP-IO-0,3M-V1-L	with background suppression	300 mm	Red laser diode	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M12 plug	37.1 mm
OBT300-R100-2EP-IO-0,3M-V31-L	with background suppression	300 mm	Red laser diode	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M8 plug	37.1 mm
OBT300-R100-2EP-IO-1T-L	with background evaluation	300 mm	Red laser diode	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1 mm
OBT300-R100-2EP-IO-L	with background suppression	300 mm	Red laser diode	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1 mm

Model Number	Function Principle	Detection Range	Light Type	Interface	Operating Elements	Type of Output	Connection Type	Height H
OBT300-R100-2EP-IO-V31-1T-L	with background evaluation	300 mm	Red laser diode	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	44.5 mm
OBT300-R100-2EP-IO-V31-L	with background suppression	300 mm	Red laser diode	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	44.5 mm
OBT300-R100-E5-IO-0,3M-V3-L	with background suppression	300 mm	Red laser diode	IO-Link	Potentiometer	PNP	Fixed cable with M8 plug	37.1 mm
OBT300-R100-E5-IO-L	with background suppression	300 mm	Red laser diode	IO-Link	Potentiometer	PNP	Fixed cable	37.1 mm
OBT300-R100-E5-V31-L	with background suppression	300 mm	Red laser diode		Potentiometer	PNP	M8 connector plug	44.5 mm
OBT300-R100-EP-IO-0,3M-V3-1T-L	with background evaluation	300 mm	Red laser diode	IO-Link	Potentiometer	1 x push-pull	Fixed cable with M8 plug	37.1 mm
OBT300-R100-EP-IO-0,3M-V3-L	with background suppression	300 mm	Red laser diode	IO-Link	Potentiometer	1 x push-pull	Fixed cable with M8 plug	37.1 mm
OBT300-R100-EP-IO-V3-1T-L	with background evaluation	300 mm	Red laser diode	IO-Link	Potentiometer	1 x push-pull	M8 connector plug	44.5 mm
OBT300-R100-EP-IO-V3-L	with background suppression	300 mm	Red laser diode	IO-Link	Potentiometer	1 x push-pull	M8 connector plug	44.5 mm
OBT350-R100-2EP-IO	with background suppression	350 mm	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1 mm
OBT350-R100-2EP-IO-0,3M-V1	with background suppression	350 mm	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M12 plug	37.1 mm
OBT350-R100-2EP-IO-0,3M-V1-1T	with background evaluation	350 mm	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M12 plug	37.1 mm
OBT350-R100-2EP-IO-0,3M-V1-IR	with background suppression	350 mm	Infrared LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M12 plug	37.1 mm
OBT350-R100-2EP-IO-0,3M-V31	with background suppression	350 mm	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M8 plug	37.1 mm
OBT350-R100-2EP-IO-0,3M-V31-1T	with background evaluation	350 mm	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M8 plug	37.1 mm
OBT350-R100-2EP-IO-0,3M-V31-IR	with background suppression	350 mm	Infrared LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M8 plug	37.1 mm
OBT350-R100-2EP-IO-1T	with background evaluation	350 mm	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1 mm
OBT350-R100-2EP-IO-1T-IR	with background evaluation	350 mm	Infrared LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1 mm
OBT350-R100-2EP-IO-IR	with background suppression	350 mm	Infrared LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1 mm
OBT350-R100-2EP-IO-V31	with background suppression	350 mm	Red LED	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	44.5 mm
OBT350-R100-2EP-IO-V31-1T	with background evaluation	350 mm	Red LED	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	44.5 mm
OBT350-R100-2EP-IO-V31-1T-IR	with background evaluation	350 mm	Infrared LED	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	44.5 mm
OBT350-R100-2EP-IO-V31-IR	with background suppression	350 mm	Infrared LED	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	44.5 mm
OBT350-R100-2EP-IO-0,3M-V1-IR	with background suppression	350 mm	Infrared LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M12 plug	44.5 mm
OBT350-R100-2EP1-IO-IR	with background suppression	350 mm	Infrared LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1 mm
OBT350-R100-2EP1-IO-V31-IR	with background suppression	350 mm	Infrared LED	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	44.5 mm
OBT350-R100-EP-IO-0,3M-V3	with background suppression	350 mm	Red LED	IO-Link	Potentiometer	1 x push-pull	Fixed cable with M8 plug	37.1 mm
OBT350-R100-EP-IO-0,3M-V3-1T	with background evaluation	350 mm	Red LED	IO-Link	Potentiometer	1 x push-pull	Fixed cable with M8 plug	37.1 mm
OBT350-R100-EP-IO-V3	with background suppression	350 mm	Red LED	IO-Link	Potentiometer	1 x push-pull	M8 connector plug	44.5 mm
OBT350-R100-EP-IO-V3-1T	with background evaluation	350 mm	Red LED	IO-Link	Potentiometer	1 x push-pull	M8 connector plug	44.5 mm
OBD1000-R100-2EP-IO	energetic	1000 mm	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1 mm
OBD1000-R100-2EP-IO-0,3M-V1	energetic	1000 mm	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M12 plug	37.1 mm
OBD1000-R100-2EP-IO-0,3M-V31	energetic	1000 mm	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M8 plug	37.1 mm
OBD1000-R100-2EP-IO-V31	energetic	1000 mm	Red LED	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	44.5 mm
OBD1000-R100-EP-IO-0,3M-V3	energetic	1000 mm	Red LED	IO-Link	Potentiometer	1 x push-pull	Fixed cable with M8 plug	37.1 mm
OBD1000-R100-EP-IO-V3	energetic	1000 mm	Red LED	IO-Link	Potentiometer	1 x push-pull	M8 connector plug	37.1 mm
OBD1100-R100-2EP-IO-IR	energetic	1100 mm	Infrared LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable	37.1 mm
OBD1100-R100-2EP-IO-V31-IR	energetic	1100 mm	Infrared LED	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	44.5 mm



Accessories

ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 plug for sensor connection
OMH-ML100-03	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-ML100-031	Mounting aid for circular profiles, $\varnothing$ 10 mm ... 14 mm or flat profiles 1 mm ... 5 mm
OMH-ML100-09	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-R10X-01	Mounting bracket
OMH-R10X-02	Mounting bracket
OMH-R10X-04	Mounting bracket
OMH-R10X-10	Mounting bracket
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray
V3-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 3-pin, PUR cable, gray
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R101 Series Thru-Beam Sensors

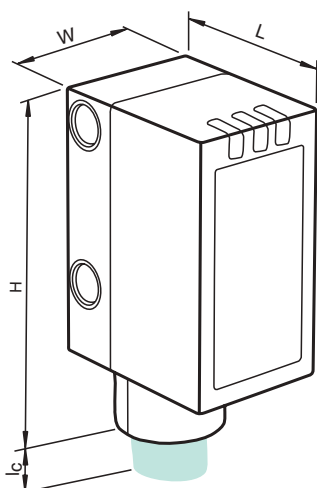


Common Technical Data

Function principle	Thru-beam sensor
Interface	IO-Link
Operating elements	Potentiometer
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	18.3 mm
Housing width W	13.9 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type	Type of Output	Connection Type	Height H
OBE12M-R101-S2EP-IO	12,000 mm	Red LED	2 x push-pull	Fixed cable	33.8 mm
OBE12M-R101-S2EP-IO-0,3M-V1	12,000 mm	Red LED	2 x push-pull	Fixed cable with M12 plug	33.8 mm
OBE12M-R101-S2EP-IO-0,3M-V31	12,000 mm	Red LED	2 x push-pull	Fixed cable with M8 plug	33.8 mm
OBE12M-R101-S2EP-IO-V31	12,000 mm	Red LED	2 x push-pull	M8 connector plug	41.4 mm
OBE12M-R101-SEP-IO-0,3M-V3	12,000 mm	Red LED	1 x push-pull	Fixed cable with M8 plug	33.8 mm
OBE12M-R101-SEP-IO-V3	12,000 mm	Red LED	1 x push-pull	M8 connector plug	33.8 mm
OBE20M-R101-S2EP-IO-0,3M-V1-L	20,000 mm	Red laser diode	2 x push-pull	Fixed cable with M12 plug	33.8 mm
OBE20M-R101-S2EP-IO-0,3M-V31-L	20,000 mm	Red laser diode	2 x push-pull	Fixed cable with M8 plug	33.8 mm
OBE20M-R101-S2EP-IO-IR	20,000 mm	Infrared LED	2 x push-pull	Fixed cable	33.8 mm
OBE20M-R101-S2EP-IO-L	20,000 mm	Red laser diode	2 x push-pull	Fixed cable	33.8 mm
OBE20M-R101-S2EP-IO-V31-IR	20,000 mm	Infrared LED	2 x push-pull	M8 connector plug	41.4 mm
OBE20M-R101-S2EP-IO-V31-L	20,000 mm	Red laser diode	2 x push-pull	M8 connector plug	41.4 mm
OBE20M-R101-SEP-IO-0,3M-V3-L	20,000 mm	Red laser diode	1 x push-pull	Fixed cable with M8 plug	33.8 mm
OBE20M-R101-SEP-IO-V3-L	20,000 mm	Red laser diode	1 x push-pull	M8 connector plug	33.8 mm



Accessories

ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 plug for sensor connection
OMH-4.1	Mounting clamp
OMH-R101	Mounting clamp
OMH-R101-Front	Mounting clamp
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray
V3-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 3-pin, PUR cable, gray
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray
V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R101 Series Retroreflective Sensors



Common Technical Data

Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	18.3 mm
Housing width W	13.9 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Function Principle	Detection Range	Light Type	Interface	Operating Elements	Type of Output	Connection Type	Height H
OBG5000-R101-2EP-IO	for glass detection	3500 mm	Red LED	IO-Link	Push-button	2 x push-pull	Fixed cable	33.8 mm
OBG5000-R101-2EP-IO-0,3M-V1	for glass detection	3500 mm	Red LED	IO-Link	Sensor	2 x push-pull	Fixed cable with M12 plug	33.8 mm
OBG5000-R101-2EP-IO-0,3M-V31	for glass detection	3500 mm	Red LED	IO-Link	Push-button	2 x push-pull	Fixed cable with M8 plug	33.8 mm
OBG5000-R101-2EP-IO-V31	for glass detection	3500 mm	Red LED	IO-Link	Push-button	2 x push-pull	M8 connector plug	41.4 mm
OBG5000-R101-2EP1-IO	for glass detection	3500 mm	Red LED	IO-Link	Push-button	2 x push-pull	Fixed cable	33.8 mm
OBG5000-R101-2EP1-IO-V31	for glass detection	3500 mm	Red LED	IO-Link	Push-button	2 x push-pull	M8 connector plug	41.4 mm
OBG5000-R101-2P1-IO	with polarization filter	5000 mm	Red LED	IO-Link		2 x push-pull	Fixed cable	31.9 mm
OBG5000-R101-2P1-IO-V31	with polarization filter	5000 mm	Red LED	IO-Link		2 x push-pull	M8 connector plug	39.5 mm
OBG5000-R101-EP-IO-0,3M-V3	for glass detection	3500 mm	Red LED	IO-Link	Push-button	1 x push-pull	Fixed cable with M8 plug	33.8 mm
OBG5000-R101-EP-IO-V3	for glass detection	3500 mm	Red LED	IO-Link	Push-button	1 x push-pull	M8 connector plug	41.4 mm
OBR7000-R101-2EP-IO-1R-IR	without polarization filter	7000 mm	Infrared LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable	33.8 mm
OBR7000-R101-2EP-IO-V31-1R-IR	without polarization filter	7000 mm	Infrared LED	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	41.4 mm
OBR7500-R101-2EP-IO	with polarization filter	7500 mm	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable	33.8 mm
OBR7500-R101-2EP-IO-0,3M-V1	with polarization filter	7500 mm	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M12 plug	33.8 mm
OBR7500-R101-2EP-IO-0,3M-V31	with polarization filter	7500 mm	Red LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M8 plug	33.8 mm
OBR7500-R101-2EP-IO-V31	with polarization filter	7500 mm	Red LED	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	41.4 mm
OBR7500-R101-E5-0,3M-V1	with polarization filter	7500 mm	Red LED		Potentiometer	PNP	Fixed cable with M12 plug	33.8 mm
OBR7500-R101-EP-IO-0,3M-V3	with polarization filter	7500 mm	Red LED	IO-Link	Potentiometer	1 x push-pull	Fixed cable with M8 plug	33.8 mm
OBR7500-R101-EP-IO-V3	with polarization filter	7500 mm	Red LED	IO-Link	Potentiometer	1 x push-pull	M8 connector plug	41.4 mm
OBR7500-R101-P1-Y0447	with polarization filter	7500 mm	Red LED			1 x push-pull	M8 connector plug	39.5 mm
OBR10M-R101-2EP-IO-1R-IR	without polarization filter	10,000 mm	Infrared LED	IO-Link	Potentiometer	2 x push-pull	Fixed cable	33.8 mm
OBR10M-R101-2EP-IO-V31-1R-IR	without polarization filter	10,000 mm	Infrared LED	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	41.4 mm
OBR12M-R101-2EP-IO-0,3M-V1-L	with polarization filter	12,000 mm	Red laser diode	IO-Link	Potentiometer	2 x push-pull	Fixed cable with M12 plug	33.8 mm
OBR12M-R101-2EP-IO-0,3M-V31-L	with polarization filter	12,000 mm	Red laser diode	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	41.4 mm
OBR12M-R101-2EP-IO-L	with polarization filter	12,000 mm	Red laser diode	IO-Link	Potentiometer	2 x push-pull	Fixed cable	33.8 mm
OBR12M-R101-2EP-IO-V31-L	with polarization filter	12,000 mm	Red laser diode	IO-Link	Potentiometer	2 x push-pull	M8 connector plug	41.4 mm
OBR12M-R101-EP-IO-0,3M-V3-L	with polarization filter	12,000 mm	Red laser diode	IO-Link	Potentiometer	1 x push-pull	Fixed cable with M8 plug	33.8 mm
OBR12M-R101-EP-IO-V3-L	with polarization filter	12,000 mm	Red laser diode	IO-Link	Potentiometer	1 x push-pull	M8 connector plug	41.4 mm

Accessories

ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 plug for sensor connection
OFR-100/100	Reflective tape, 100 mm x 100 mm
OMH-4.1	Mounting clamp
OMH-R101	Mounting clamp
OMH-R101-Front	Mounting clamp
REF-H33	Reflector with screw mounting
REF-H50	Rectangular reflector, 51 mm x 61 mm, mounting holes, retaining tab
REF-H85-2	Rectangular reflector, 84.5 mm x 84.5 mm, mounting holes
REF-MH20	Rectangular reflector with microstructure, 32 mm x 20 mm, mounting holes

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R101 Series Diffuse Mode Sensors



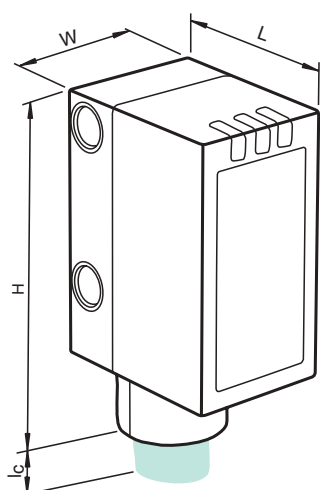
Common Technical Data

Interface	IO-Link
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	18.3 mm
Housing width W	13.9 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Function Principle	Detection Range	Light Type	Operating Elements	Type of Output	Connection Type	Height H
OBT20-R101-2P1-IO	with background suppression	20 mm	Red LED		2 x push-pull	Fixed cable	31.9 mm
OBT20-R101-2P1-IO-0,3M-V1	with background suppression	20 mm	Red LED		2 x push-pull	Fixed cable with M12 plug	31.9 mm
OBT20-R101-2P1-IO-0,3M-V31	with background suppression	20 mm	Red LED		2 x push-pull	Fixed cable with M8 plug	31.9 mm
OBT20-R101-2P1-IO-V31	with background suppression	20 mm	Red LED		2 x push-pull	M8 connector plug	31.9 mm
OBT20-R101-2P1-IO-V31-IR	with background suppression	20 mm	Infrared LED		2 x push-pull	M8 connector plug	31.9 mm
OBT40-R101-2P1-IO	with background suppression	40 mm	Red LED		2 x push-pull	Fixed cable	31.9 mm
OBT40-R101-2P1-IO-0,3M-V1	with background suppression	40 mm	Red LED		2 x push-pull	Fixed cable with M12 plug	31.9 mm
OBT40-R101-2P1-IO-V31	with background suppression	40 mm	Red LED		2 x push-pull	M8 connector plug	31.9 mm
OBT40-R101-2P1-IO-V31-IR	with background suppression	40 mm	Infrared LED		2 x push-pull	M8 connector plug	31.9 mm
OBT60-R101-2P1-IO	with background suppression	60 mm	Red LED		2 x push-pull	Fixed cable	31.9 mm
OBT60-R101-2P1-IO-0,3M-V1	with background suppression	60 mm	Red LED		2 x push-pull	Fixed cable with M12 plug	31.9 mm
OBT60-R101-2P1-IO-0,3M-V31	with background suppression	60 mm	Red LED		2 x push-pull	Fixed cable with M8 plug	31.9 mm
OBT60-R101-2P1-IO-IR	with background suppression	60 mm	Infrared LED		2 x push-pull	Fixed cable	31.9 mm
OBT60-R101-2P1-IO-V31	with background suppression	60 mm	Red LED		2 x push-pull	M8 connector plug	31.9 mm
OBT60-R101-2P1-IO-V31-IR	with background suppression	60 mm	Infrared LED		2 x push-pull	M8 connector plug	31.9 mm
OBT80-R101-2P1-IO	with background suppression	80 mm	Red LED		2 x push-pull	Fixed cable	31.9 mm
OBT80-R101-2P1-IO-0,3M-V1	with background suppression	80 mm	Red LED		2 x push-pull	Fixed cable with M12 plug	31.9 mm
OBT80-R101-2P1-IO-0,3M-V31	with background suppression	80 mm	Red LED		2 x push-pull	Fixed cable with M8 plug	31.9 mm
OBT80-R101-2P1-IO-V31	with background suppression	80 mm	Red LED		2 x push-pull	M8 connector plug	31.9 mm
OBT80-R101-2P1-IO-V31-IR	with background suppression	80 mm	Infrared LED		2 x push-pull	M8 connector plug	31.9 mm
OBT100-R101-2EP-IO-0,3M-V1-L	with background suppression	100 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug	33.8 mm
OBT100-R101-2EP-IO-0,3M-V31-L	with background suppression	100 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug	33.8 mm
OBT100-R101-2EP-IO-1T-L	with background evaluation	100 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable	33.8 mm
OBT100-R101-2EP-IO-1T-L-Y0244	with background evaluation	100 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug	33.8 mm
OBT100-R101-2EP-IO-1T-L-Y0245	with background evaluation	100 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug	33.8 mm
OBT100-R101-2EP-IO-L	with background suppression	100 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable	33.8 mm
OBT100-R101-2EP-IO-V31-1T-L	with background evaluation	100 mm	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug	41.4 mm
OBT100-R101-2EP-IO-V31-L	with background suppression	100 mm	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug	41.4 mm
OBT100-R101-EP-IO-0,3M-V3-1T-L	with background evaluation	100 mm	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug	33.8 mm
OBT100-R101-EP-IO-0,3M-V3-L	with background suppression	100 mm	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug	33.8 mm
OBT100-R101-EP-IO-V3-1T-L	with background evaluation	100 mm	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug	41.4 mm
OBT100-R101-EP-IO-V3-L	with background suppression	100 mm	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug	41.4 mm
OBT150-R101-2EP1-IO	with background suppression	150 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable	33.8 mm
OBT150-R101-2EP1-IO-0,3M-V1	with background suppression	150 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug	33.8 mm
OBT150-R101-2EP1-IO-V31	with background suppression	150 mm	Red LED	Potentiometer	2 x push-pull	M8 connector plug	33.8 mm
OBT150-R101-2EP1-IO-V31-IR	with background suppression	150 mm	Infrared LED	Potentiometer	2 x push-pull	M8 connector plug	33.8 mm
OQT150-R101-2EP-IO	with multiple switch points	150 mm	Red LED	Push-button	2 x push-pull	Fixed cable	33.8 mm
OQT150-R101-2EP-IO-0,3M-V1	with multiple switch points	150 mm	Red LED	Push-button	2 x push-pull	Fixed cable with M12 plug	33.8 mm
OQT150-R101-2EP-IO-0,3M-V1-L	with multiple switch points	150 mm	Red laser diode	Push-button	2 x push-pull	Fixed cable with M12 plug	33.8 mm
OQT150-R101-2EP-IO-0,3M-V31	with multiple switch points	150 mm	Red LED	Push-button	2 x push-pull	Fixed cable with M8 plug	33.8 mm
OQT150-R101-2EP-IO-0,3M-V31-L	with multiple switch points	150 mm	Red laser diode	Push-button	2 x push-pull	Fixed cable with M8 plug	33.8 mm

Model Number	Function Principle	Detection Range	Light Type	Operating Elements	Type of Output	Connection Type	Height H
OQT150-R101-2EP-IO-IR	with multiple switch points	150 mm	Infrared LED	Push-button	2 x push-pull	Fixed cable	33.8 mm
OQT150-R101-2EP-IO-L	with multiple switch points	150 mm	Red laser diode	Push-button	2 x push-pull	Fixed cable	33.8 mm
OQT150-R101-2EP-IO-V31	with multiple switch points	150 mm	Red LED	Push-button	2 x push-pull	M8 connector plug	41.4 mm
OQT150-R101-2EP-IO-V31-IR	with multiple switch points	150 mm	Infrared LED	Push-button	2 x push-pull	M8 connector plug	41.4 mm
OQT150-R101-2EP-IO-V31-L	with multiple switch points	150 mm	Red laser diode	Push-button	2 x push-pull	M8 connector plug	41.4 mm
OQT150-R101-EP-IO-0,3M-V3	with multiple switch points	150 mm	Red LED	Push-button	1 x push-pull	Fixed cable with M8 plug	33.8 mm
OQT150-R101-EP-IO-0,3M-V3-L	with multiple switch points	150 mm	Red laser diode	Push-button	1 x push-pull	Fixed cable with M8 plug	33.8 mm
OQT150-R101-EP-IO-V3	with multiple switch points	150 mm	Red LED	Push-button	1 x push-pull	M8 connector plug	41.4 mm
OQT150-R101-EP-IO-V3-L	with multiple switch points	150 mm	Red laser diode	Push-button	1 x push-pull	M8 connector plug	41.4 mm
OBT300-R101-2EP-IO-0,3M-V1-L	with background suppression	300 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug	33.8 mm
OBT300-R101-2EP-IO-0,3M-V31-L	with background suppression	300 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug	33.8 mm
OBT300-R101-2EP-IO-1T-L	with background evaluation	300 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable	33.8 mm
OBT300-R101-2EP-IO-1T-L-Y0112	with background evaluation	300 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug	33.8 mm
OBT300-R101-2EP-IO-1T-L-Y0113	with background evaluation	300 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug	33.8 mm
OBT300-R101-2EP-IO-L	with background suppression	300 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable	33.8 mm
OBT300-R101-2EP-IO-V31-1T-L	with background evaluation	300 mm	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug	41.4 mm
OBT300-R101-2EP-IO-V31-L	with background suppression	300 mm	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug	41.4 mm
OBT300-R101-EP-IO-0,3M-V3-1T-L	with background evaluation	300 mm	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug	33.8 mm
OBT300-R101-EP-IO-0,3M-V3-L	with background suppression	300 mm	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug	33.8 mm
OBT300-R101-EP-IO-V3-1T-L	with background evaluation	300 mm	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug	41.4 mm
OBT300-R101-EP-IO-V3-L	with background suppression	300 mm	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug	41.4 mm
OBT350-R101-2EP-IO	with background suppression	350 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable	33.8 mm
OBT350-R101-2EP-IO-0,3M-V1	with background suppression	350 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug	33.8 mm
OBT350-R101-2EP-IO-0,3M-V1-1T	with background evaluation	350 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug	33.8 mm
OBT350-R101-2EP-IO-0,3M-V31	with background suppression	350 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug	33.8 mm
OBT350-R101-2EP-IO-0,3M-V31-1T	with background evaluation	350 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug	33.8 mm
OBT350-R101-2EP-IO-1T	with background evaluation	350 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable	33.8 mm
OBT350-R101-2EP-IO-1T-IR	with background evaluation	350 mm	Infrared LED	Potentiometer	2 x push-pull	Fixed cable	33.8 mm
OBT350-R101-2EP-IO-IR	with background suppression	350 mm	Infrared LED	Potentiometer	2 x push-pull	Fixed cable	33.8 mm
OBT350-R101-2EP-IO-V31	with background suppression	350 mm	Red LED	Potentiometer	2 x push-pull	M8 connector plug	41.4 mm
OBT350-R101-2EP-IO-V31-1T	with background evaluation	350 mm	Red LED	Potentiometer	2 x push-pull	M8 connector plug	41.4 mm
OBT350-R101-2EP-IO-V31-1T-IR	with background evaluation	350 mm	Infrared LED	Potentiometer	2 x push-pull	M8 connector plug	41.4 mm
OBT350-R101-2EP-IO-V31-IR	with background suppression	350 mm	Infrared LED	Potentiometer	2 x push-pull	M8 connector plug	41.4 mm
OBT350-R101-EP-IO-0,3M-V3	with background suppression	350 mm	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug	33.8 mm
OBT350-R101-EP-IO-0,3M-V3-1T	with background evaluation	350 mm	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug	33.8 mm
OBT350-R101-EP-IO-V3	with background suppression	350 mm	Red LED	Potentiometer	1 x push-pull	M8 connector plug	41.4 mm
OBT350-R101-EP-IO-V3-1T	with background evaluation	350 mm	Red LED	Potentiometer	1 x push-pull	M8 connector plug	41.4 mm
OBD1000-R101-2EP-IO	Diffuse mode sensor, energetic	1000 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable	33.8 mm
OBD1000-R101-2EP-IO-0,3M-V1	Diffuse mode sensor, energetic	1000 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug	33.8 mm
OBD1000-R101-2EP-IO-0,3M-V31	Diffuse mode sensor, energetic	1000 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug	33.8 mm
OBD1000-R101-2EP-IO-V31	Diffuse mode sensor, energetic	1000 mm	Red LED	Potentiometer	2 x push-pull	M8 connector plug	41.4 mm
OBD1000-R101-EP-IO-0,3M-V3	Diffuse mode sensor, energetic	1000 mm	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug	33.8 mm
OBD1000-R101-EP-IO-V3	Diffuse mode sensor, energetic	1000 mm	Red LED	Potentiometer	1 x push-pull	M8 connector plug	41.4 mm
OBD1100-R101-2EP-IO-IR	Diffuse mode sensor, energetic	1100 mm	Infrared LED	Potentiometer	2 x push-pull	Fixed cable	33.8 mm
OBD1100-R101-2EP-IO-V31-IR	Diffuse mode sensor, energetic	1100 mm	Infrared LED	Potentiometer	2 x push-pull	M8 connector plug	41.4 mm



Accessories

ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 plug for sensor connection
OMH-4.1	Mounting clamp
OMH-R101	Mounting clamp
OMH-R101-Front	Mounting clamp
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray
V3-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 3-pin, PUR cable, gray
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray
V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R102 Series Thru-Beam Sensors

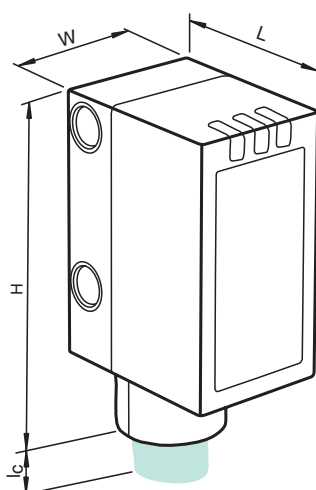


Common Technical Data

Function principle	Thru-beam sensor
Interface	IO-Link
Operating elements	Potentiometer
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	18.3 mm
Housing width W	13.9 mm
Housing height H	33.8 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type	Type of Output	Connection Type
OBE12M-R102-S2EP-IO	12,000 mm	Red LED	2 x push-pull	Fixed cable
OBE12M-R102-S2EP-IO-V31	12,000 mm	Red LED	2 x push-pull	M8 connector plug
OBE12M-R102-SEP-IO-V31	12,000 mm	Red LED	1 x push-pull	M8 connector plug
OBE20M-R102-S2EP-IO-V31-L	20,000 mm	Red laser diode	2 x push-pull	M8 connector plug



Accessories

ICE2-8IOL-K45P-RJ45	Ethernet/IP IO-Link master with 8 inputs/outputs, DIN mounting rail, push-in connector
ICE2-8IOL-K45S-RJ45	Ethernet/IP IO-Link master with 8 inputs/outputs, DIN mounting rail, screw terminal
ICE3-8IOL-K45P-RJ45	PROFINET IO IO-Link master with 8 inputs/outputs, DIN mounting rail, push-in connector
ICE3-8IOL-K45S-RJ45	PROFINET IO IO-Link master with 8 inputs/outputs, DIN mounting rail, screw terminal
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 plug for sensor connection
OMH-4.1	Mounting clamp
OMH-R101	Mounting clamp
OMH-R101-Front	Mounting clamp
V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R102 Series Retroreflective Sensors



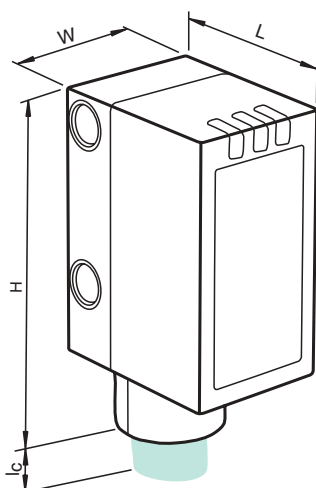
Common Technical Data

Function principle	Retroreflective sensor for glass detection
Detection range	3500 mm
Light type	Red LED
Interface	IO-Link
Operating elements	Push-button
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M8 connector plug
Housing length L	18.3 mm
Housing width W	13.9 mm
Housing height H	41.4 mm
UL	■

Model Number

Type of Output

OBG5000-R102-2EP-IO-V31	2 x push-pull
OBG5000-R102-2EP1-IO-V31	2 x push-pull
OBG5000-R102-EP-IO-V31	1 x push-pull



Accessories

ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE2-8IOL-G65L-V1D	Ethernet/IP IO-Link master with 8 inputs/outputs
ICE2-8IOL-K45P-RJ45	Ethernet/IP IO-Link master with 8 inputs/outputs, DIN mounting rail, push-in connector
ICE2-8IOL-K45S-RJ45	Ethernet/IP IO-Link master with 8 inputs/outputs, DIN mounting rail, screw terminal
ICE3-8IOL-G65L-V1D	PROFINET IO IO-Link master with 8 inputs/outputs
ICE3-8IOL-K45P-RJ45	PROFINET IO IO-Link master with 8 inputs/outputs, DIN mounting rail, push-in connector
ICE3-8IOL-K45S-RJ45	PROFINET IO IO-Link master with 8 inputs/outputs, DIN mounting rail, screw terminal
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 plug for sensor connection
OFR-100/100	Reflective tape, 100 mm x 100 mm
REF-H33	Reflector with screw mounting
REF-H50	Rectangular reflector, 51 mm x 61 mm, mounting holes, retaining tab
REF-H85-2	Rectangular reflector, 84.5 mm x 84.5 mm, mounting holes
V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R102 Series Diffuse Mode Sensors



Common Technical Data

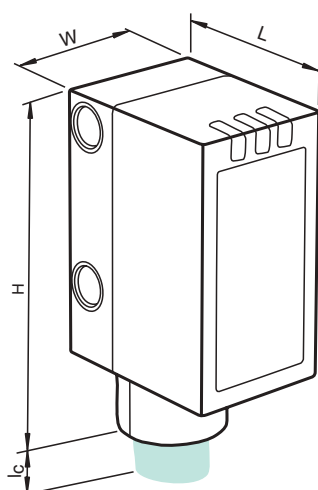
Function principle	Triangulation sensor with background suppression
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	18.3 mm
Housing width W	13.9 mm
Housing height H	31.9 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type	Interface	Type of Output	Connection Type
OBT20-R102-2P1-IO	20 mm	Red LED	IO-Link	2 x push-pull	Fixed cable
OBT20-R102-2P1-IO-0,3M-V1	20 mm	Red LED	IO-Link	2 x push-pull	Fixed cable with M12 plug
OBT20-R102-2P1-IO-IR	20 mm	Infrared LED	IO-Link	2 x push-pull	Fixed cable
OBT20-R102-2P1-IO-V31	20 mm	Red LED	IO-Link	2 x push-pull	M8 connector plug
OBT20-R102-2P1-IO-V31-IR	20 mm	Infrared LED	IO-Link	2 x push-pull	M8 connector plug
OBT20-R102-P1-IO-V31	20 mm	Red LED	IO-Link	1 x push-pull	M8 connector plug
OBT40-R102-2P1-IO	40 mm	Red LED	IO-Link	2 x push-pull	Fixed cable
OBT40-R102-2P1-IO-0,3M-V1	40 mm	Red LED	IO-Link	2 x push-pull	Fixed cable with M12 plug
OBT40-R102-2P1-IO-IR	40 mm	Infrared LED	IO-Link	2 x push-pull	Fixed cable
OBT40-R102-2P1-IO-V31	40 mm	Red LED	IO-Link	2 x push-pull	M8 connector plug
OBT40-R102-2P1-IO-V31-IR	40 mm	Infrared LED	IO-Link	2 x push-pull	M8 connector plug
OBT40-R102-A0-V31	40 mm	Red LED		NPN	M8 connector plug
OBT40-R102-P1-IO-V31	40 mm	Red LED	IO-Link	1 x push-pull	M8 connector plug
OBT40-R102-P1-IO-V31-IR	40 mm	Infrared LED	IO-Link	1 x push-pull	M8 connector plug
OBT60-R102-2P1-IO	60 mm	Red LED	IO-Link	2 x push-pull	Fixed cable
OBT60-R102-2P1-IO-0,3M-V1	60 mm	Red LED	IO-Link	2 x push-pull	Fixed cable with M12 plug
OBT60-R102-2P1-IO-V31	60 mm	Red LED	IO-Link	2 x push-pull	M8 connector plug
OBT60-R102-2P1-IO-V31-IR	60 mm	Infrared LED	IO-Link	2 x push-pull	M8 connector plug
OBT60-R102-P1-IO-V31	60 mm	Red LED	IO-Link	1 x push-pull	M8 connector plug
OBT80-R102-2P1-IO	80 mm	Red LED	IO-Link	2 x push-pull	Fixed cable
OBT80-R102-2P1-IO-0,3M-V1	80 mm	Red LED	IO-Link	2 x push-pull	Fixed cable with M12 plug
OBT80-R102-2P1-IO-IR	80 mm	Infrared LED	IO-Link	2 x push-pull	Fixed cable
OBT80-R102-2P1-IO-V31	80 mm	Red LED	IO-Link	2 x push-pull	M8 connector plug
OBT80-R102-2P1-IO-V31-IR	80 mm	Infrared LED	IO-Link	2 x push-pull	M8 connector plug

Accessories

ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 plug for sensor connection
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray
V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray



Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R103 Series Thru-Beam Sensors

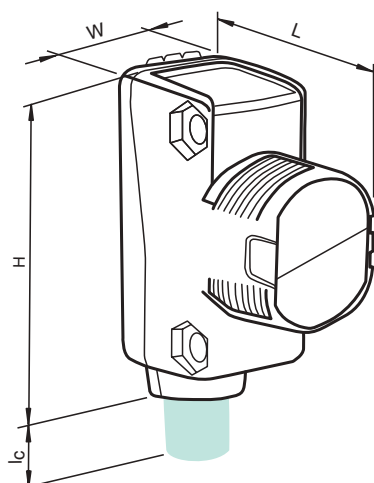


Common Technical Data

Function principle	Thru-beam sensor
Interface	IO-Link
Operating elements	Potentiometer
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	26.7 mm
Housing width W	15 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type	Type of Output	Connection Type	Height H
OBE10M-R103-S2EP-IO	10,000 mm	Red LED	2 x push-pull	Fixed cable	36.5 mm
OBE10M-R103-S2EP-IO-0,3M-V1	10,000 mm	Red LED	2 x push-pull	Fixed cable with M12 plug	36.5 mm
OBE10M-R103-S2EP-IO-0,3M-V31	10,000 mm	Red LED	2 x push-pull	Fixed cable with M8 plug	36.5 mm
OBE10M-R103-S2EP-IO-V31	10,000 mm	Red LED	2 x push-pull	M8 connector plug	43.9 mm
OBE10M-R103-SEP-IO-0,3M-V3	10,000 mm	Red LED	1 x push-pull	Fixed cable with M8 plug	36.5 mm
OBE10M-R103-SEP-IO-V3	10,000 mm	Red LED	1 x push-pull	M8 connector plug	43.9 mm
OBE20M-R103-S2EP-IO-0,3M-V1-L	20,000 mm	Red laser diode	2 x push-pull	Fixed cable with M12 plug	36.5 mm
OBE20M-R103-S2EP-IO-0,3M-V31-L	20,000 mm	Red laser diode	2 x push-pull	Fixed cable with M8 plug	36.5 mm
OBE20M-R103-S2EP-IO-L	20,000 mm	Red laser diode	2 x push-pull	Fixed cable	36.5 mm
OBE20M-R103-S2EP-IO-V31-L	20,000 mm	Red laser diode	2 x push-pull	M8 connector plug	43.9 mm
OBE20M-R103-SEP-IO-0,3M-V3-L	20,000 mm	Red laser diode	1 x push-pull	Fixed cable with M8 plug	36.5 mm
OBE20M-R103-SEP-IO-V3-L	20,000 mm	Red laser diode	1 x push-pull	M8 connector plug	43.9 mm



Accessories

ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 plug for sensor connection
OMH-ML100-03	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-ML100-031	Mounting aid for circular profiles, $\varnothing$ 10 mm ... 14 mm or flat profiles 1 mm ... 5 mm
OMH-ML100-09	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-R103-01	Mounting bracket
OMH-R10X-01	Mounting bracket
OMH-R10X-04	Mounting bracket
OMH-R10X-10	Mounting bracket
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray
V3-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 3-pin, PUR cable, gray
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R103 Series Retroreflective Sensors

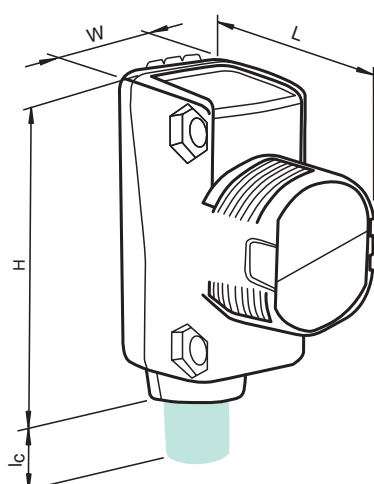


Common Technical Data

Interface	IO-Link
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	26.7 mm
Housing width W	15 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Function Principle	Detection Range	Light Type	Operating Elements	Type of Output	Connection Type	Height H
OBG4000-R103-2EP-IO	for glass detection	3500 mm	Red LED	Push-button	2 x push-pull	Fixed cable	36.5 mm
OBG4000-R103-2EP-IO-0,3M-V1	for glass detection	3500 mm	Red LED	Push-button	2 x push-pull	Fixed cable with M12 plug	36.5 mm
OBG4000-R103-2EP-IO-0,3M-V31	for glass detection	3500 mm	Red LED	Push-button	2 x push-pull	Fixed cable with M8 plug	36.5 mm
OBG4000-R103-2EP-IO-V31	for glass detection	3500 mm	Red LED	Push-button	2 x push-pull	M8 connector plug	43.9 mm
OBG4000-R103-EP-IO-0,3M-V3	for glass detection	3500 mm	Red LED	Push-button	1 x push-pull	Fixed cable with M8 plug	36.5 mm
OBG4000-R103-EP-IO-V3	for glass detection	3500 mm	Red LED	Push-button	1 x push-pull	M8 connector plug	43.9 mm
OBR6000-R103-EP-IO-V3	with polarization filter	6000 mm	Red LED	Potentiometer	1 x push-pull	M8 connector plug	43.9 mm
OBR6000-R103-2EP-IO	with polarization filter	6000 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable	36.5 mm
OBR6000-R103-2EP-IO-0,3M-V1	with polarization filter	6000 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug	36.5 mm
OBR6000-R103-2EP-IO-0,3M-V31	with polarization filter	6000 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug	36.5 mm
OBR6000-R103-2EP-IO-V31	with polarization filter	6000 mm	Red LED	Potentiometer	2 x push-pull	M8 connector plug	43.9 mm
OBR6000-R103-EP-IO-0,3M-V3	with polarization filter	6000 mm	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug	36.5 mm
OBR12M-R103-2EP-IO-0,3M-V1-L	with polarization filter	12,000 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug	36.5 mm
OBR12M-R103-2EP-IO-0,3M-V31-L	with polarization filter	12,000 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug	36.5 mm
OBR12M-R103-2EP-IO-L	with polarization filter	12,000 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable	36.5 mm
OBR12M-R103-2EP-IO-V31-L	with polarization filter	12,000 mm	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug	43.9 mm
OBR12M-R103-EP-IO-0,3M-V3-L	with polarization filter	12,000 mm	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug	36.5 mm
OBR12M-R103-EP-IO-V3-L	with polarization filter	12,000 mm	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug	43.9 mm



Accessories

ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 plug for sensor connection
OFR-100/100	Reflective tape, 100 mm x 100 mm
OMH-ML100-03	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-ML100-031	Mounting aid for circular profiles, $\varnothing$ 10 mm ... 14 mm or flat profiles 1 mm ... 5 mm
OMH-ML100-09	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-R103-01	Mounting bracket
OMH-R10X-01	Mounting bracket
OMH-R10X-04	Mounting bracket
OMH-R10X-10	Mounting bracket
REF-H33	Reflector with screw mounting
REF-H50	Rectangular reflector, 51 mm x 61 mm, mounting holes, retaining tab



PN 267075-0127
OBD1000-R100
-2EP-ID-V31

66307 Mannheim, Germany

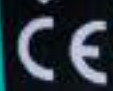
PEPPERL+FUCHS
PN 267075-0127
OBD1000-R100
-2EP-ID-V31

$U_B = 10-30\text{ V DC}$

Class 2



Type 1 enclosure



Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R103 Series Diffuse Mode Sensors



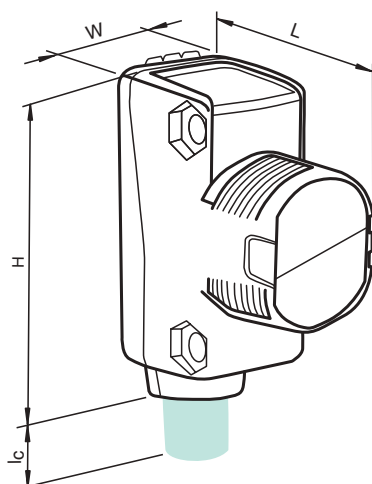
Common Technical Data

Interface	IO-Link
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	26.7 mm
Housing width W	15 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Function Principle	Detection Range	Light Type	Operating Elements	Type of Output	Connection Type	Height H
OBT80-R103-2EP-IO-0,3M-V1-1T-L	with background evaluation	80 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug	36.5 mm
OBT80-R103-2EP-IO-0,3M-V1-L	with background suppression	80 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug	36.5 mm
OBT80-R103-2EP-IO-0,3M-V31-L	with background suppression	80 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug	36.5 mm
OBT80-R103-2EP-IO-1T-L	with background evaluation	80 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable	36.5 mm
OBT80-R103-2EP-IO-1T-L-Y0351	with background evaluation	80 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug	36.5 mm
OBT80-R103-2EP-IO-L	with background suppression	80 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable	36.5 mm
OBT80-R103-2EP-IO-V31-1T-L	with background evaluation	80 mm	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug	43.9 mm
OBT80-R103-2EP-IO-V31-L	with background suppression	80 mm	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug	43.9 mm
OBT80-R103-EP-IO-0,3M-V3-1T-L	with background evaluation	80 mm	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug	36.5 mm
OBT80-R103-EP-IO-0,3M-V3-L	with background suppression	80 mm	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug	36.5 mm
OBT80-R103-EP-IO-V3-1T-L	with background evaluation	80 mm	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug	43.9 mm
OBT80-R103-EP-IO-V3-L	with background suppression	80 mm	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug	43.9 mm
OQT120-R103-2EP-IO	with multiple switch points	120 mm	Red LED	Push-button	2 x push-pull	Fixed cable	36.5 mm
OQT120-R103-2EP-IO-0,3M-V1	with multiple switch points	120 mm	Red LED	Push-button	2 x push-pull	Fixed cable with M12 plug	36.5 mm
OQT120-R103-2EP-IO-0,3M-V1-L	with multiple switch points	120 mm	Red laser diode	Push-button	2 x push-pull	Fixed cable with M12 plug	36.5 mm
OQT120-R103-2EP-IO-0,3M-V31	with multiple switch points	120 mm	Red LED	Push-button	2 x push-pull	Fixed cable with M8 plug	36.5 mm
OQT120-R103-2EP-IO-0,3M-V31-L	with multiple switch points	120 mm	Red laser diode	Push-button	2 x push-pull	Fixed cable with M8 plug	36.5 mm
OQT120-R103-2EP-IO-L	with multiple switch points	120 mm	Red laser diode	Push-button	2 x push-pull	Fixed cable	36.5 mm
OQT120-R103-2EP-IO-V31	with multiple switch points	120 mm	Red LED	Push-button	2 x push-pull	M8 connector plug	43.9 mm
OQT120-R103-2EP-IO-V31-L	with multiple switch points	120 mm	Red laser diode	Push-button	2 x push-pull	M8 connector plug	43.9 mm
OQT120-R103-EP-IO-0,3M-V3	with multiple switch points	120 mm	Red LED	Push-button	1 x push-pull	Fixed cable with M8 plug	36.5 mm
OQT120-R103-EP-IO-0,3M-V3-L	with multiple switch points	120 mm	Red laser diode	Push-button	1 x push-pull	Fixed cable with M8 plug	36.5 mm
OQT120-R103-EP-IO-V3	with multiple switch points	120 mm	Red LED	Push-button	1 x push-pull	M8 connector plug	43.9 mm
OQT120-R103-EP-IO-V3-L	with multiple switch points	120 mm	Red laser diode	Push-button	1 x push-pull	M8 connector plug	43.9 mm
OBT250-R103-2EP-IO-0,3M-V1-L	with background suppression	250 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug	36.5 mm
OBT250-R103-2EP-IO-0,3M-V31-L	with background suppression	250 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug	36.5 mm
OBT250-R103-2EP-IO-1T-L	with background evaluation	250 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable	36.5 mm
OBT250-R103-2EP-IO-1T-L-Y0329	with background evaluation	250 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug	36.5 mm
OBT250-R103-2EP-IO-1T-L-Y0330	with background evaluation	250 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug	36.5 mm
OBT250-R103-2EP-IO-L	with background suppression	250 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable	36.5 mm
OBT250-R103-2EP-IO-V31-1T-L	with background evaluation	250 mm	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug	43.9 mm
OBT250-R103-2EP-IO-V31-L	with background suppression	250 mm	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug	43.9 mm
OBT250-R103-EP-IO-0,3M-V3-1T-L	with background evaluation	250 mm	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug	36.5 mm
OBT250-R103-EP-IO-0,3M-V3-L	with background suppression	250 mm	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug	36.5 mm
OBT250-R103-EP-IO-V3-1T-L	with background evaluation	250 mm	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug	43.9 mm
OBT250-R103-EP-IO-V3-L	with background suppression	250 mm	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug	43.9 mm
OBT300-R103-2EP-IO	with background suppression	300 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable	36.5 mm
OBT300-R103-2EP-IO-0,3M-V1	with background suppression	300 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug	36.5 mm
OBT300-R103-2EP-IO-0,3M-V1-1T	with background evaluation	300 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug	36.5 mm
OBT300-R103-2EP-IO-0,3M-V31	with background suppression	300 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug	36.5 mm
OBT300-R103-2EP-IO-0,3M-V31-1T	with background evaluation	300 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug	36.5 mm

Model Number	Function Principle	Detection Range	Light Type	Operating Elements	Type of Output	Connection Type	Height H
OBT300-R103-2EP-IO-1T	with background evaluation	300 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable	36.5 mm
OBT300-R103-2EP-IO-V31	with background suppression	300 mm	Red LED	Potentiometer	2 x push-pull	M8 connector plug	43.9 mm
OBT300-R103-2EP-IO-V31-1T	with background evaluation	300 mm	Red LED	Potentiometer	2 x push-pull	M8 connector plug	43.9 mm
OBT300-R103-2EP1-IO-0,3M-V1	with background suppression	300 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug	36.5 mm
OBT300-R103-EP-IO-0,3M-V3	with background suppression	300 mm	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug	36.5 mm
OBT300-R103-EP-IO-0,3M-V3-1T	with background evaluation	300 mm	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug	36.5 mm
OBT300-R103-EP-IO-V3	with background suppression	300 mm	Red LED	Potentiometer	1 x push-pull	M8 connector plug	43.9 mm
OBT300-R103-EP-IO-V3-1T	with background evaluation	300 mm	Red LED	Potentiometer	1 x push-pull	M8 connector plug	43.9 mm
OBD800-R103-2EP-IO	energetic	800 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable	36.5 mm
OBD800-R103-2EP-IO-0,3M-V1	energetic	800 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug	36.5 mm
OBD800-R103-2EP-IO-0,3M-V31	energetic	800 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug	36.5 mm
OBD800-R103-2EP-IO-V31	energetic	800 mm	Red LED	Potentiometer	2 x push-pull	M8 connector plug	43.9 mm
OBD800-R103-EP-IO-0,3M-V3	energetic	800 mm	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug	36.5 mm
OBD800-R103-EP-IO-V3	energetic	800 mm	Red LED	Potentiometer	1 x push-pull	M8 connector plug	43.9 mm



Accessories

ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE2-8IOL-G65L-V1D	Ethernet/IP IO-Link master with 8 inputs/outputs
ICE2-8IOL-K45P-RJ45	Ethernet/IP IO-Link master with 8 inputs/outputs, DIN mounting rail, push-in connector
ICE2-8IOL-K45S-RJ45	Ethernet/IP IO-Link master with 8 inputs/outputs, DIN mounting rail, screw terminal
ICE3-8IOL-G65L-V1D	PROFINET IO IO-Link master with 8 inputs/outputs
ICE3-8IOL-K45P-RJ45	PROFINET IO IO-Link master with 8 inputs/outputs, DIN mounting rail, push-in connector
ICE3-8IOL-K45S-RJ45	PROFINET IO IO-Link master with 8 inputs/outputs, DIN mounting rail, screw terminal
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 plug for sensor connection
OFR-100/100	Reflective tape, 100 mm x 100 mm
OMH-ML100-03	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-ML100-031	Mounting aid for circular profiles, $\varnothing$ 10 mm ... 14 mm or flat profiles 1 mm ... 5 mm
OMH-ML100-09	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-R103-01	Mounting bracket
OMH-R10X-01	Mounting bracket
OMH-R10X-04	Mounting bracket
OMH-R10X-10	Mounting bracket
REF-H33	Reflector with screw mounting
REF-H85-2	Rectangular reflector, 84.5 mm x 84.5 mm, mounting holes
REF-VR10	Rectangular reflector, 60 mm x 19 mm, mounting holes

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R200 Series Thru-Beam Sensors

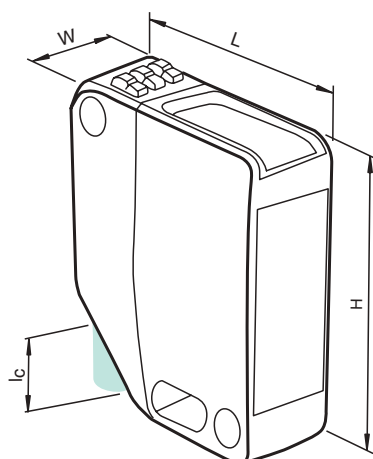


Common Technical Data

Function principle	Thru-beam sensor
Interface	IO-Link
Operating elements	Potentiometer
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	41.7 mm
Housing width W	15 mm
Housing height H	50.6 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type	Type of Output	Connection Type
OBE25M-R200-S2EP-IO	25,000 mm	Red LED	2 x push-pull	Fixed cable
OBE25M-R200-S2EP-IO-0,3M-V1	25,000 mm	Red LED	2 x push-pull	Fixed cable with M12 plug
OBE25M-R200-S2EP-IO-0,3M-V31	25,000 mm	Red LED	2 x push-pull	Fixed cable with M8 plug
OBE25M-R200-S2EP-IO-V1	25,000 mm	Red LED	2 x push-pull	M12 connector plug
OBE25M-R200-S2EP-IO-V31	25,000 mm	Red LED	2 x push-pull	M8 connector plug
OBE25M-R200-SEP-IO-0.3M-V3	25,000 mm	Red LED	1 x push-pull	Fixed cable with M8 plug
OBE25M-R200-SEP-IO-0,3M-V3	25,000 mm	Red LED	1 x push-pull	M8 connector plug
OBE40M-R200-S2EP-IO-0,3M-V1-L	40,000 mm	Red laser diode	2 x push-pull	Fixed cable with M12 plug
OBE40M-R200-S2EP-IO-0,3M-V31-L	40,000 mm	Red laser diode	2 x push-pull	Fixed cable with M8 plug
OBE40M-R200-S2EP-IO-L	40,000 mm	Red laser diode	2 x push-pull	Fixed cable
OBE40M-R200-S2EP-IO-V1-L	40,000 mm	Red laser diode	2 x push-pull	M12 connector plug
OBE40M-R200-S2EP-IO-V31-L	40,000 mm	Red laser diode	2 x push-pull	M8 connector plug
OBE40M-R200-SEP-IO-0,3M-V3-L	40,000 mm	Red laser diode	1 x push-pull	Fixed cable with M8 plug
OBE40M-R200-SEP-IO-V3-L	40,000 mm	Red laser diode	1 x push-pull	M8 connector plug



Accessories

ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 plug for sensor connection
OMH-MLV12-HWG	Fixing bracket for MLV12 series sensors
OMH-MLV12-HWK	Fixing bracket for MLV12 series sensors
OMH-R200-01	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-R20x-Quick-Mount	Quick mounting aid
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray
V3-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 3-pin, PUR cable, gray
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray
V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R200 Series Retroreflective Sensors



Common Technical Data

Interface	IO-Link
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	41.7 mm
Housing width W	15 mm
Housing height H	50.6 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Function Principle	Detection Range	Light Type	Operating Elements	Type of Output	Connection Type
OBG8000-R200-EP-IO-V3	for glass detection	5600 mm	Red LED	Push-button	1 x push-pull	M8 connector plug
OBG8000-R200-2EP-IO	for glass detection	5600 mm	Red LED	Push-button	2 x push-pull	Fixed cable
OBG8000-R200-2EP-IO-0,3M-V1	for glass detection	5600 mm	Red LED	Push-button	2 x push-pull	Fixed cable with M12 plug
OBG8000-R200-2EP-IO-0,3M-V15	for glass detection	5600 mm	Red LED	Push-button	2 x push-pull	Fixed cable with M12 plug
OBG8000-R200-2EP-IO-0,3M-V31	for glass detection	5600 mm	Red LED	Push-button	2 x push-pull	Fixed cable with M8 plug
OBG8000-R200-2EP-IO-V1	for glass detection	5600 mm	Red LED	Push-button	2 x push-pull	M12 connector plug
OBG8000-R200-2EP-IO-V15	for glass detection	5600 mm	Red LED	Push-button	2 x push-pull	M12 connector plug
OBG8000-R200-2EP-IO-V31	for glass detection	5600 mm	Red LED	Push-button	2 x push-pull	M8 connector plug
OBG8000-R200-EP-IO-0,3M-V3	for glass detection	5600 mm	Red LED	Push-button	1 x push-pull	Fixed cable with M8 plug
OBR15M-R200-2EP-IO	with polarization filter	15,000 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable
OBR15M-R200-2EP-IO-0,3M-V1	with polarization filter	15,000 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBR15M-R200-2EP-IO-0,3M-V15	with polarization filter	15,000 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBR15M-R200-2EP-IO-0,3M-V31	with polarization filter	15,000 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBR15M-R200-2EP-IO-V1	with polarization filter	15,000 mm	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBR15M-R200-2EP-IO-V15	with polarization filter	15,000 mm	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBR15M-R200-2EP-IO-V31	with polarization filter	15,000 mm	Red LED	Potentiometer	2 x push-pull	M8 connector plug
OBR15M-R200-EP-IO-0,3M-V3	with polarization filter	15,000 mm	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBR15M-R200-EP-IO-V3	with polarization filter	15,000 mm	Red LED	Potentiometer	1 x push-pull	M8 connector plug
OBR25M-R200-2EP-IO-0,3M-V1-L	with polarization filter	25,000 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBR25M-R200-2EP-IO-0,3M-V15-L	with polarization filter	25,000 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBR25M-R200-2EP-IO-0,3M-V31-L	with polarization filter	25,000 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBR25M-R200-2EP-IO-L	with polarization filter	25,000 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable
OBR25M-R200-2EP-IO-V1-L	with polarization filter	25,000 mm	Red laser diode	Potentiometer	2 x push-pull	M12 connector plug
OBR25M-R200-2EP-IO-V15-L	with polarization filter	25,000 mm	Red laser diode	Potentiometer	2 x push-pull	M12 connector plug
OBR25M-R200-2EP-IO-V31-L	with polarization filter	25,000 mm	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug
OBR25M-R200-A5-IO-V1-L	with polarization filter	25,000 mm	Red laser diode	Potentiometer	PNP	M12 connector plug
OBR25M-R200-EP-IO-0,3M-V3-L	with polarization filter	25,000 mm	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBR25M-R200-EP-IO-V3-L	with polarization filter	25,000 mm	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug

Accessories

FE-RR1	Round reflector ø 80.87 mm, mounting hole in center
ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 plug for sensor connection
OFR-100/100	Reflective tape, 100 mm x 100 mm
OMH-MLV12-HWG	Fixing bracket for MLV12 series sensors
OMH-MLV12-HWK	Fixing bracket for MLV12 series sensors
OMH-R20x-Quick-Mount	Quick mounting aid
REF-C110-2	Round reflector ø 84 mm, mounting hole in center
REF-H50	Rectangular reflector, 51 mm x 61 mm, mounting holes, retaining tab
REF-H85-2	Rectangular reflector, 84.5 mm x 84.5 mm, mounting holes
REF-MH20	Rectangular reflector with microstructure, 32 mm x 20 mm, mounting holes

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R200 Series Diffuse Mode Sensors



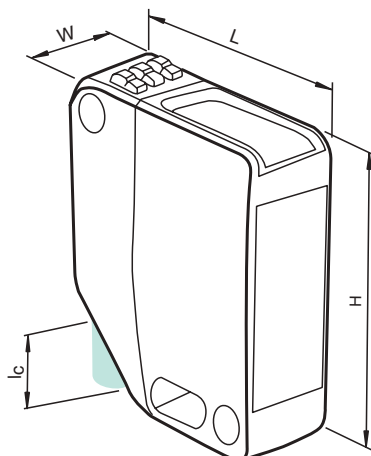
Common Technical Data

Interface	IO-Link
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	41.7 mm
Housing width W	15 mm
Housing height H	50.6 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Function Principle	Detection Range	Light Type	Operating Elements	Type of Output	Connection Type
OBT300-R200-2EP-IO	with background suppression	300 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable
OBT300-R200-2EP-IO-0,3M-V1	with background suppression	300 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBT300-R200-2EP-IO-0,3M-V1-1T	with background evaluation	300 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBT300-R200-2EP-IO-0,3M-V31	with background suppression	300 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBT300-R200-2EP-IO-0,3M-V31-1T	with background evaluation	300 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBT300-R200-2EP-IO-1T	with background evaluation	300 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable
OBT300-R200-2EP-IO-V1	with background suppression	300 mm	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBT300-R200-2EP-IO-V1-1T	with background evaluation	300 mm	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBT300-R200-2EP-IO-V31	with background suppression	300 mm	Red LED	Potentiometer	2 x push-pull	M8 connector plug
OBT300-R200-2EP-IO-V31-1T	with background evaluation	300 mm	Red LED	Potentiometer	2 x push-pull	M8 connector plug
OBT300-R200-EP-IO-0,3M-V3	with background suppression	300 mm	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBT300-R200-EP-IO-0,3M-V3-1T	with background evaluation	300 mm	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBT300-R200-EP-IO-V3	with background suppression	300 mm	Red LED	Potentiometer	1 x push-pull	M8 connector plug
OBT300-R200-EP-IO-V3-1T	with background evaluation	300 mm	Red LED	Potentiometer	1 x push-pull	M8 connector plug
OQT350-R200-2EP-IO-0,3M-V1-L	with multiple switch points	350 mm	Red laser diode	Push-button	2 x push-pull	Fixed cable with M12 plug
OQT350-R200-2EP-IO-0,3M-V31-L	with multiple switch points	350 mm	Red laser diode	Push-button	2 x push-pull	Fixed cable with M8 plug
OQT350-R200-2EP-IO-L	with multiple switch points	350 mm	Red laser diode	Push-button	2 x push-pull	Fixed cable
OQT350-R200-2EP-IO-V1-L	with multiple switch points	350 mm	Red laser diode	Push-button	2 x push-pull	M12 connector plug
OQT350-R200-2EP-IO-V31-L	with multiple switch points	350 mm	Red laser diode	Push-button	2 x push-pull	M8 connector plug
OQT350-R200-EP-IO-0,3M-V3-L	with multiple switch points	350 mm	Red laser diode	Push-button	1 x push-pull	Fixed cable with M8 plug
OQT350-R200-EP-IO-V3-L	with multiple switch points	350 mm	Red laser diode	Push-button	1 x push-pull	M8 connector plug
OQT400-R200-2EP-IO-V3	with multiple switch points	400 mm	Red LED	Push-button	1 x push-pull	M8 connector plug
OQT400-R200-2EP-IO	with multiple switch points	400 mm	Red LED	Push-button	2 x push-pull	Fixed cable
OQT400-R200-2EP-IO-0,3M-V1	with multiple switch points	400 mm	Red LED	Push-button	2 x push-pull	Fixed cable with M12 plug
OQT400-R200-2EP-IO-0,3M-V31	with multiple switch points	400 mm	Red LED	Push-button	2 x push-pull	Fixed cable with M8 plug
OQT400-R200-2EP-IO-V1	with multiple switch points	400 mm	Red LED	Push-button	2 x push-pull	M12 connector plug
OQT400-R200-2EP-IO-V31	with multiple switch points	400 mm	Red LED	Push-button	2 x push-pull	M8 connector plug
OQT400-R200-EP-IO-0,3M-V3	with multiple switch points	400 mm	Red LED	Push-button	1 x push-pull	Fixed cable with M8 plug
OBT600-R200-2EP-IO-0,3M-V1-L	with background suppression	600 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBT600-R200-2EP-IO-0,3M-V31-L	with background suppression	600 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBT600-R200-2EP-IO-1T-L	with background evaluation	600 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable
OBT600-R200-2EP-IO-1T-L-Y0233	with background evaluation	600 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBT600-R200-2EP-IO-1T-L-Y0236	with background evaluation	600 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBT600-R200-2EP-IO-L	with background suppression	600 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable
OBT600-R200-2EP-IO-V1-1T-L	with background evaluation	600 mm	Red laser diode	Potentiometer	2 x push-pull	M12 connector plug
OBT600-R200-2EP-IO-V1-L	with background suppression	600 mm	Red laser diode	Potentiometer	2 x push-pull	M12 connector plug
OBT600-R200-2EP-IO-V31-1T-L	with background evaluation	600 mm	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug
OBT600-R200-2EP-IO-V31-L	with background suppression	600 mm	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug
OBT600-R200-EP-IO-0,3M-V3-1T-L	with background evaluation	600 mm	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBT600-R200-EP-IO-0,3M-V3-L	with background suppression	600 mm	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug

Model Number	Function Principle	Detection Range	Light Type	Operating Elements	Type of Output	Connection Type
OBT600-R200-EP-IO-V3-1T-L	with background evaluation	600 mm	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug
OBT600-R200-EP-IO-V3-L	with background suppression	600 mm	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug
OBT650-R200-2EP-IO	with background suppression	650 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable
OBT650-R200-2EP-IO-0,3M-V1	with background suppression	650 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBT650-R200-2EP-IO-0,3M-V1-1T	with background evaluation	650 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBT650-R200-2EP-IO-0,3M-V31	with background suppression	650 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBT650-R200-2EP-IO-0,3M-V31-1T	with background evaluation	650 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBT650-R200-2EP-IO-1T	with background evaluation	650 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable
OBT650-R200-2EP-IO-V1	with background suppression	650 mm	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBT650-R200-2EP-IO-V1-1T	with background evaluation	650 mm	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBT650-R200-2EP-IO-V31	with background suppression	650 mm	Red LED	Potentiometer	2 x push-pull	M8 connector plug
OBT650-R200-2EP-IO-V31-1T	with background evaluation	650 mm	Red LED	Potentiometer	2 x push-pull	M8 connector plug
OBT650-R200-EP-IO-0,3M-V3	with background suppression	650 mm	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBT650-R200-EP-IO-0,3M-V3-1T	with background evaluation	650 mm	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBT650-R200-EP-IO-V3	with background suppression	650 mm	Red LED	Potentiometer	1 x push-pull	M8 connector plug
OBT650-R200-EP-IO-V3-1T	with background evaluation	650 mm	Red LED	Potentiometer	1 x push-pull	M8 connector plug
OBD1400-R200-2EP-IO	Diffuse mode sensor, energetic	1400 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable
OBD1400-R200-2EP-IO-0,3M-V1	Diffuse mode sensor, energetic	1400 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBD1400-R200-2EP-IO-0,3M-V31	Diffuse mode sensor, energetic	1400 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBD1400-R200-2EP-IO-V1	Diffuse mode sensor, energetic	1400 mm	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBD1400-R200-2EP-IO-V31	Diffuse mode sensor, energetic	1400 mm	Red LED	Potentiometer	2 x push-pull	M8 connector plug
OBD1400-R200-EP-IO-0,3M-V3	Diffuse mode sensor, energetic	1400 mm	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBD1400-R200-EP-IO-V3	Diffuse mode sensor, energetic	1400 mm	Red LED	Potentiometer	1 x push-pull	M8 connector plug



Accessories

ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE2-8IOL-G65L-V1D	Ethernet/IP IO-Link master with 8 inputs/outputs
ICE2-8IOL-K45P-RJ45	Ethernet/IP IO-Link master with 8 inputs/outputs, DIN mounting rail, push-in connector
ICE2-8IOL-K45S-RJ45	Ethernet/IP IO-Link master with 8 inputs/outputs, DIN mounting rail, screw terminal
ICE3-8IOL-G65L-V1D	PROFINET IO IO-Link master with 8 inputs/outputs
ICE3-8IOL-K45P-RJ45	PROFINET IO IO-Link master with 8 inputs/outputs, DIN mounting rail, push-in connector
ICE3-8IOL-K45S-RJ45	PROFINET IO IO-Link master with 8 inputs/outputs, DIN mounting rail, screw terminal
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 plug for sensor connection
OMH-MLV12-HWG	Fixing bracket for MLV12 series sensors
OMH-MLV12-HWK	Fixing bracket for MLV12 series sensors
OMH-R200-01	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-R20x-Quick-Mount	Quick mounting aid
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray
V3-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 3-pin, PUR cable, gray
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray
V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R201 Series Thru-Beam Sensors

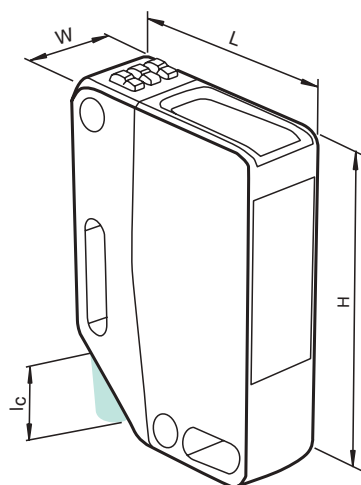


Common Technical Data

Function principle	Thru-beam sensor
Interface	IO-Link
Operating elements	Potentiometer
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	41.7 mm
Housing width W	15 mm
Housing height H	61.7 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type	Type of Output	Connection Type
OBE25M-R201-S2EP-IO	25,000 mm	Red LED	2 x push-pull	Fixed cable
OBE25M-R201-S2EP-IO-0,3M-V1	25,000 mm	Red LED	2 x push-pull	Fixed cable with M12 plug
OBE25M-R201-S2EP-IO-0,3M-V31	25,000 mm	Red LED	2 x push-pull	Fixed cable with M8 plug
OBE25M-R201-S2EP-IO-V1	25,000 mm	Red LED	2 x push-pull	M12 connector plug
OBE25M-R201-S2EP-IO-V31	25,000 mm	Red LED	2 x push-pull	M8 connector plug
OBE25M-R201-SEP-IO-0,3M-V3	25,000 mm	Red LED	1 x push-pull	Fixed cable with M8 plug
OBE25M-R201-SEP-IO-V3	25,000 mm	Red LED	1 x push-pull	M8 connector plug
OBE40M-R201-S2EP-IO-0,3M-V1-L	40,000 mm	Red laser diode	2 x push-pull	Fixed cable with M12 plug
OBE40M-R201-S2EP-IO-0,3M-V31-L	40,000 mm	Red laser diode	2 x push-pull	Fixed cable with M8 plug
OBE40M-R201-S2EP-IO-L	40,000 mm	Red laser diode	2 x push-pull	Fixed cable
OBE40M-R201-S2EP-IO-V1-L	40,000 mm	Red laser diode	2 x push-pull	M12 connector plug
OBE40M-R201-S2EP-IO-V31-L	40,000 mm	Red laser diode	2 x push-pull	M8 connector plug
OBE40M-R201-SEP-IO-0,3M-V3-L	40,000 mm	Red laser diode	1 x push-pull	Fixed cable with M8 plug
OBE40M-R201-SEP-IO-V3-L	40,000 mm	Red laser diode	1 x push-pull	M8 connector plug



Accessories

ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 plug for sensor connection
OMH-R20x-Quick-Mount	Quick mounting aid
OMH-RL31-02	Narrow mounting bracket
OMH-RL31-03	Narrow mounting bracket
OMH-RL31-04	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-RL31-07	Mounting bracket complete with adjustment component
OMH-RL31-08	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray
V3-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 3-pin, PUR cable, gray
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray
V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R201 Series Retroreflective Sensors

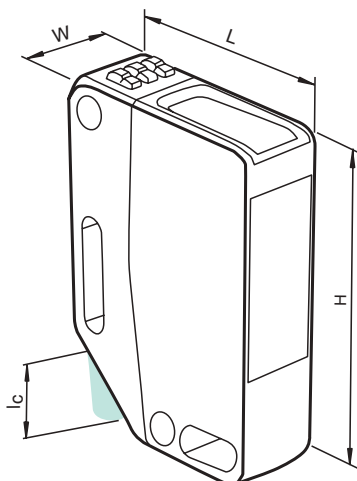


Common Technical Data

Interface	IO-Link
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	41.7 mm
Housing width W	15 mm
Housing height H	61.7 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Function Principle	Detection Range	Light Type	Operating Elements	Type of Output	Connection Type
OBG8000-R201-2EP-IO	for glass detection	5600 mm	Red LED	Push-button	2 x push-pull	Fixed cable
OBG8000-R201-2EP-IO-0.3M-V1	for glass detection	5600 mm	Red LED	Push-button	2 x push-pull	Fixed cable with M12 plug
OBG8000-R201-2EP-IO-0,3M-V15	for glass detection	5600 mm	Red LED	Push-button	2 x push-pull	Fixed cable with M12 plug
OBG8000-R201-2EP-IO-0,3M-V31	for glass detection	5600 mm	Red LED	Push-button	2 x push-pull	Fixed cable with M8 plug
OBG8000-R201-2EP-IO-V1	for glass detection	5600 mm	Red LED	Push-button	2 x push-pull	M12 connector plug
OBG8000-R201-2EP-IO-V15	for glass detection	5600 mm	Red LED	Push-button	2 x push-pull	M12 connector plug
OBG8000-R201-2EP-IO-V31	for glass detection	5600 mm	Red LED	Push-button	2 x push-pull	M8 connector plug
OBG8000-R201-EP-IO-0,3M-V3	for glass detection	5600 mm	Red LED	Push-button	1 x push-pull	Fixed cable with M8 plug
OBG8000-R201-EP-IO-V3	for glass detection	5600 mm	Red LED	Push-button	1 x push-pull	M8 connector plug
OBR15M-R201-2EP-IO	with polarization filter	15,000 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable
OBR15M-R201-2EP-IO-0,3M-V1	with polarization filter	15,000 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBR15M-R201-2EP-IO-0,3M-V15	with polarization filter	15,000 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBR15M-R201-2EP-IO-0,3M-V31	with polarization filter	15,000 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBR15M-R201-2EP-IO-V1	with polarization filter	15,000 mm	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBR15M-R201-2EP-IO-V15	with polarization filter	15,000 mm	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBR15M-R201-2EP-IO-V31	with polarization filter	15,000 mm	Red LED	Potentiometer	2 x push-pull	M8 connector plug
OBR15M-R201-EP-IO-0,3M-V3	with polarization filter	15,000 mm	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBR15M-R201-EP-IO-V3	with polarization filter	15,000 mm	Red LED	Potentiometer	1 x push-pull	M8 connector plug
OBR25M-R201-2EP-IO-0,3M-V1-L	with polarization filter	25,000 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBR25M-R201-2EP-IO-0,3M-V15-L	with polarization filter	25,000 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBR25M-R201-2EP-IO-0,3M-V31-L	with polarization filter	25,000 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBR25M-R201-2EP-IO-L	with polarization filter	25,000 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable
OBR25M-R201-2EP-IO-V1-L	with polarization filter	25,000 mm	Red laser diode	Potentiometer	2 x push-pull	M12 connector plug
OBR25M-R201-2EP-IO-V15-L	with polarization filter	25,000 mm	Red laser diode	Potentiometer	2 x push-pull	M12 connector plug
OBR25M-R201-2EP-IO-V31-L	with polarization filter	25,000 mm	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug
OBR25M-R201-EP-IO-0,3M-V3-L	with polarization filter	25,000 mm	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBR25M-R201-EP-IO-V3-L	with polarization filter	25,000 mm	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug



Accessories

FE-RR1	Round reflector $\varnothing$ 80.87 mm, mounting hole in center
ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 plug for sensor connection
OFR-100/100	Reflective tape, 100 mm x 100 mm
OMH-R20x-Quick-Mount	Quick mounting aid
OMH-RL31-02	Mounting bracket narrow
OMH-RL31-03	Mounting bracket narrow
OMH-RL31-04	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R201 Series Diffuse Mode Sensors



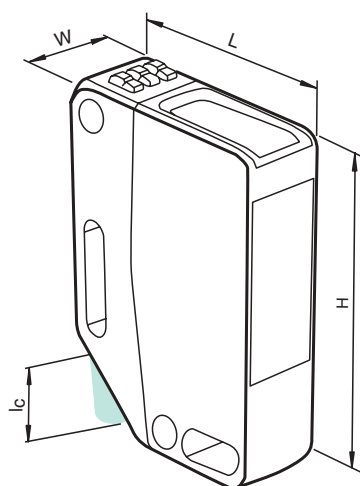
Common Technical Data

Interface	IO-Link
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	41.7 mm
Housing width W	15 mm
Housing height H	61.7 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Function Principle	Detection Range	Light Type	Operating Elements	Type of Output	Connection Type
OBT300-R201-2EP-IO	with background suppression	300 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable
OBT300-R201-2EP-IO-0,3M-V1	with background suppression	300 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBT300-R201-2EP-IO-0,3M-V1-1T	with background evaluation	300 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBT300-R201-2EP-IO-0,3M-V31	with background suppression	300 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBT300-R201-2EP-IO-0,3M-V31-1T	with background evaluation	300 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBT300-R201-2EP-IO-1T	with background evaluation	300 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable
OBT300-R201-2EP-IO-V1	with background suppression	300 mm	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBT300-R201-2EP-IO-V1-1T	with background evaluation	300 mm	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBT300-R201-2EP-IO-V31	with background suppression	300 mm	Red LED	Potentiometer	2 x push-pull	M8 connector plug
OBT300-R201-2EP-IO-V31-1T	with background evaluation	300 mm	Red LED	Potentiometer	2 x push-pull	M8 connector plug
OBT300-R201-EP-IO-0,3M-V3	with background suppression	300 mm	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBT300-R201-EP-IO-0,3M-V3-1T	with background evaluation	300 mm	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBT300-R201-EP-IO-V3	with background suppression	300 mm	Red LED	Potentiometer	1 x push-pull	M8 connector plug
OBT300-R201-EP-IO-V3-1T	with background evaluation	300 mm	Red LED	Potentiometer	1 x push-pull	M8 connector plug
OQT350-R201-2EP-IO-0,3M-V1-L	with multiple switch points	350 mm	Red laser diode	Push-button	2 x push-pull	Fixed cable with M12 plug
OQT350-R201-2EP-IO-0,3M-V31-L	with multiple switch points	350 mm	Red laser diode	Push-button	2 x push-pull	Fixed cable with M8 plug
OQT350-R201-2EP-IO-L	with multiple switch points	350 mm	Red laser diode	Push-button	2 x push-pull	Fixed cable
OQT350-R201-2EP-IO-V1-L	with multiple switch points	350 mm	Red laser diode	Push-button	2 x push-pull	M12 connector plug
OQT350-R201-2EP-IO-V31-L	with multiple switch points	350 mm	Red laser diode	Push-button	2 x push-pull	M8 connector plug
OQT350-R201-EP-IO-0,3M-V3-L	with multiple switch points	350 mm	Red laser diode	Push-button	1 x push-pull	Fixed cable with M8 plug
OQT350-R201-EP-IO-V3-L	with multiple switch points	350 mm	Red laser diode	Push-button	1 x push-pull	M8 connector plug
OQT400-R201-2EP-IO	with multiple switch points	400 mm	Red LED	Push-button	2 x push-pull	Fixed cable
OQT400-R201-2EP-IO-0,3M-V1	with multiple switch points	400 mm	Red LED	Push-button	2 x push-pull	Fixed cable with M12 plug
OQT400-R201-2EP-IO-0,3M-V31	with multiple switch points	400 mm	Red LED	Push-button	2 x push-pull	Fixed cable with M8 plug
OQT400-R201-2EP-IO-V1	with multiple switch points	400 mm	Red LED	Push-button	2 x push-pull	M12 connector plug
OQT400-R201-2EP-IO-V31	with multiple switch points	400 mm	Red LED	Push-button	2 x push-pull	M8 connector plug
OQT400-R201-EP-IO-0,3M-V3	with multiple switch points	400 mm	Red LED	Push-button	1 x push-pull	Fixed cable with M8 plug
OQT400-R201-EP-IO-V3	with multiple switch points	400 mm	Red LED	Push-button	1 x push-pull	M8 connector plug
OBT600-R201-2EP-IO-0,3M-V1-L	with background suppression	600 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBT600-R201-2EP-IO-0,3M-V31-L	with background suppression	600 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBT600-R201-2EP-IO-1T-L	with background evaluation	600 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable
OBT600-R201-2EP-IO-1T-L-Y0247	with background evaluation	600 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBT600-R201-2EP-IO-1T-L-Y0250	with background evaluation	600 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBT600-R201-2EP-IO-L	with background suppression	600 mm	Red laser diode	Potentiometer	2 x push-pull	Fixed cable
OBT600-R201-2EP-IO-V1-1T-L	with background evaluation	600 mm	Red laser diode	Potentiometer	2 x push-pull	M12 connector plug
OBT600-R201-2EP-IO-V1-L	with background suppression	600 mm	Red laser diode	Potentiometer	2 x push-pull	M12 connector plug
OBT600-R201-2EP-IO-V31-1T-L	with background evaluation	600 mm	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug
OBT600-R201-2EP-IO-V31-L	with background suppression	600 mm	Red laser diode	Potentiometer	2 x push-pull	M8 connector plug
OBT600-R201-EP-IO-0,3M-V3-1T-L	with background evaluation	600 mm	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBT600-R201-EP-IO-0,3M-V3-L	with background suppression	600 mm	Red laser diode	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBT600-R201-EP-IO-V3-1T-L	with background evaluation	600 mm	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug

Model Number	Function Principle	Detection Range	Light Type	Operating Elements	Type of Output	Connection Type
OBT600-R201-EP-IO-V3-L	with background suppression	600 mm	Red laser diode	Potentiometer	1 x push-pull	M8 connector plug
OBT650-R201-2EP-IO	with background suppression	650 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable
OBT650-R201-2EP-IO-0,3M-V1	with background suppression	650 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBT650-R201-2EP-IO-0,3M-V1-1T	with background evaluation	650 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBT650-R201-2EP-IO-0,3M-V31	with background suppression	650 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBT650-R201-2EP-IO-0,3M-V31-1T	with background evaluation	650 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBT650-R201-2EP-IO-1T	with background evaluation	650 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable
OBT650-R201-2EP-IO-V1	with background suppression	650 mm	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBT650-R201-2EP-IO-V1-1T	with background evaluation	650 mm	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBT650-R201-2EP-IO-V31	with background suppression	650 mm	Red LED	Potentiometer	2 x push-pull	M8 connector plug
OBT650-R201-2EP-IO-V31-1T	with background evaluation	650 mm	Red LED	Potentiometer	2 x push-pull	M8 connector plug
OBT650-R201-EP-IO-0,3M-V3	with background suppression	650 mm	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBT650-R201-EP-IO-0,3M-V3-1T	with background evaluation	650 mm	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBT650-R201-EP-IO-V3	with background suppression	650 mm	Red LED	Potentiometer	1 x push-pull	M8 connector plug
OBT650-R201-EP-IO-V3-1T	with background evaluation	650 mm	Red LED	Potentiometer	1 x push-pull	M8 connector plug
OBD1400-R201-2EP-IO	Diffuse mode sensor, energetic	1400 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable
OBD1400-R201-2EP-IO-0,3M-V1	Diffuse mode sensor, energetic	1400 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M12 plug
OBD1400-R201-2EP-IO-0,3M-V31	Diffuse mode sensor, energetic	1400 mm	Red LED	Potentiometer	2 x push-pull	Fixed cable with M8 plug
OBD1400-R201-2EP-IO-V1	Diffuse mode sensor, energetic	1400 mm	Red LED	Potentiometer	2 x push-pull	M12 connector plug
OBD1400-R201-2EP-IO-V31	Diffuse mode sensor, energetic	1400 mm	Red LED	Potentiometer	2 x push-pull	M8 connector plug
OBD1400-R201-EP-IO-0,3M-V3	Diffuse mode sensor, energetic	1400 mm	Red LED	Potentiometer	1 x push-pull	Fixed cable with M8 plug
OBD1400-R201-EP-IO-V3	Diffuse mode sensor, energetic	1400 mm	Red LED	Potentiometer	1 x push-pull	M8 connector plug



Accessories

ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE2-8IOL-G65L-V1D	Ethernet/IP IO-Link master with 8 inputs/outputs
ICE2-8IOL-K45P-RJ45	Ethernet/IP IO-Link master with 8 inputs/outputs, DIN mounting rail, push-in connector
ICE2-8IOL-K45S-RJ45	Ethernet/IP IO-Link master with 8 inputs/outputs, DIN mounting rail, screw terminal
ICE3-8IOL-G65L-V1D	PROFINET IO IO-Link master with 8 inputs/outputs
ICE3-8IOL-K45P-RJ45	PROFINET IO IO-Link master with 8 inputs/outputs, DIN mounting rail, push-in connector
ICE3-8IOL-K45S-RJ45	PROFINET IO IO-Link master with 8 inputs/outputs, DIN mounting rail, screw terminal
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 plug for sensor connection
OMH-R20x-Quick-Mount	Quick mounting aid
OMH-RL31-02	Mounting bracket narrow
OMH-RL31-03	Mounting bracket narrow
OMH-RL31-04	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-RL31-07	Mounting bracket complete with adjustment component
OMH-RL31-08	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray
V3-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 3-pin, PUR cable, gray
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray
V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

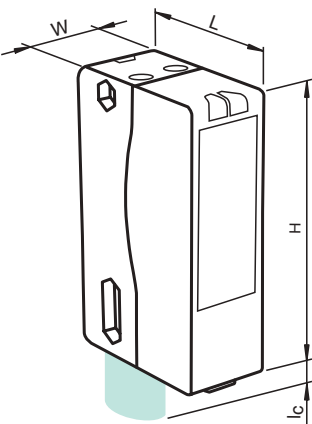
RL28 Series
Thru-Beam Sensors



Common Technical Data	
Function principle	Thru-beam sensor
Operating elements	Potentiometer
Housing width W	25.8 mm
Housing height H	88 mm
EAC	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type	Type of Output	Type of Voltage	UB (Min)	UB (Max)	Connection Type	Length L	CCC	UL	Vds	UKCA
LA28/LK28-FC-Z/31/116	10,000 mm	Red LED	Relay	AC/DC	12 V	240 V	Terminal compartment	65.5 mm	■	■	■	■
LD28/LV28-F1-3974/47/82b/112	30,000 mm	Red LED	PNP	DC	10 V	30 V	M12 connector plug	65.5 mm	■	■	■	■
LA28/LK28-Z-F1/31/116	65,000 mm	Red LED	Relay	AC/DC	12 V	240 V	Terminal compartment	65.5 mm	■	■	■	■
LD28/LV28-LAS-F1-7675	120,000 mm	Red laser diode	1 x push-pull	DC	10 V	30 V	M12 connector plug	54.3 mm	■	■	■	■



Accessories	
OMH-05	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-21	Mounting bracket
OMH-22	Mounting bracket
OMH-RL28-C	Protective cover for protection against welding beads
OMH-RLK29	Mounting bracket
OMH-RLK29-HW	Mounting bracket for rear wall mounting
V15-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 5-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

RL28 Series Retroreflective Sensors



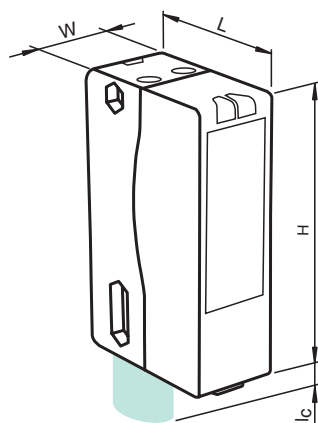
Common Technical Data

Operating elements	Potentiometer
Housing width W	25.8 mm
Housing height H	88 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Function Principle	Detection Range	Light Type	Type of Output	Type of Voltage	UB (Min)	UB (Max)	Connection Type	Length L	CCC	EAC	UL	VdS	UKCA
RL28-54-G-Z/47/112	for glass detection	5600 mm	Red LED	PNP	DC	10 V	30 V	M12 connector plug	65.5 mm					
RL28-54-G-Z/47/116	for glass detection	5600 mm	Red LED	PNP	DC	10 V	30 V	Terminal compartment	65.5 mm					
RL28-54-G-Z/49/116	for glass detection	5600 mm	Red LED	PNP/NPN	DC	10 V	30 V	Terminal compartment	65.5 mm					
RL28-54-G-Z/76a/110/116	for glass detection	5600 mm	Red LED	1 x push-pull	DC	10 V	30 V	Terminal compartment	65.5 mm					
RL28-54-G/47/105	for glass detection	5600 mm	Red LED	PNP	DC	10 V	30 V	M12 connector plug	54.3 mm					
RL28-54-G/47/115	for glass detection	5600 mm	Red LED	PNP	DC	10 V	30 V	Fixed cable	54.3 mm					
RL28-54-G/49/105	for glass detection	5600 mm	Red LED	PNP/NPN	DC	10 V	30 V	M12 connector plug	54.3 mm					
RL28-54-G/76a/110/115	for glass detection	5600 mm	Red LED	1 x push-pull	DC	10 V	30 V	Fixed cable	54.3 mm					
RLK28-54-G/31/116	for glass detection	5600 mm	Red LED	Relay	AC/DC	12 V	240 V	Terminal compartment	65.5 mm					
RLK28-FC-55-Z/31/116	without polarization filter	3000 mm	Red LED	Relay	AC/DC	12 V	240 V	Terminal compartment	65.5 mm					
RL28-55-V-Z/47/82b/112	with polarization filter	13,000 mm	Red LED	PNP	DC	10 V	30 V	M12 connector plug	65.5 mm					
RL28-55-V-Z/47/82b/116	with polarization filter	13,000 mm	Red LED	PNP	DC	10 V	30 V	Terminal compartment	65.5 mm					
RL28-55-V-Z/49/76a/82b/116	with polarization filter	13,000 mm	Red LED	PNP/NPN	DC	10 V	30 V	Terminal compartment	65.5 mm					
RL28-55-V/47/82b/105	with polarization filter	13,000 mm	Red LED	PNP	DC	10 V	30 V	M12 connector plug	54.3 mm					
RL28-55-V/49/74	with polarization filter	13,000 mm	Red LED	PNP/NPN	DC	10 V	30 V	M18 connector plug	54.3 mm					
RL28-55-V/49/82b/105	with polarization filter	13,000 mm	Red LED	PNP/NPN	DC	10 V	30 V	M12 connector plug	54.3 mm					
RL28-55-V/82b/105/110	with polarization filter	13,000 mm	Red LED	1 x push-pull	DC	10 V	30 V	M12 connector plug	54.3 mm					
RL28-55-Z/47/76a/82b/116	with polarization filter	17,000 mm	Red LED	PNP	DC	10 V	30 V	Terminal compartment	65.5 mm					
RL28-55-Z/47/82b/112	with polarization filter	17,000 mm	Red LED	PNP	DC	10 V	30 V	M12 connector plug	65.5 mm					
RL28-55-Z/49/76a/82b/116	with polarization filter	17,000 mm	Red LED	PNP/NPN	DC	10 V	30 V	Terminal compartment	65.5 mm					
RL28-55-Z/49/82b/112	with polarization filter	17,000 mm	Red LED	PNP/NPN	DC	10 V	30 V	M12 connector plug	65.5 mm					
RL28-55-Z/76a/82b/110/116	with polarization filter	17,000 mm	Red LED	1 x push-pull	DC	10 V	30 V	Terminal compartment	65.5 mm					
RL28-55-Z/82b/110/112	with polarization filter	17,000 mm	Red LED	1 x push-pull	DC	10 V	30 V	M12 connector plug	65.5 mm					
RL28-55/47/73c	with polarization filter	17,000 mm	Red LED	PNP	DC	10 V	30 V	M12 connector plug	54.3 mm					
RL28-55/47/74	with polarization filter	17,000 mm	Red LED	PNP	DC	10 V	30 V	M18 connector plug	54.3 mm					
RL28-55/47/76a/105	with polarization filter	17,000 mm	Red LED	PNP	DC	10 V	30 V	M12 connector plug	54.3 mm					
RL28-55/47/82b/105	with polarization filter	17,000 mm	Red LED	PNP	DC	10 V	30 V	M12 connector plug	54.3 mm					
RL28-55/47/82b/105/106	with polarization filter	17,000 mm	Red LED	PNP	DC	19.2 V	28.8 V	M12 connector plug	54.3 mm					
RL28-55/47/82b/115	with polarization filter	17,000 mm	Red LED	PNP	DC	10 V	30 V	Fixed cable	54.3 mm					
RL28-55/49/74	with polarization filter	17,000 mm	Red LED	PNP/NPN	DC	10 V	30 V	M18 connector plug	54.3 mm					
RL28-55/49/76b/105	with polarization filter	17,000 mm	Red LED	PNP/NPN	DC	10 V	30 V	M12 connector plug	54.3 mm					
RL28-55/49/82b/105	with polarization filter	17,000 mm	Red LED	PNP/NPN	DC	10 V	30 V	M12 connector plug	54.3 mm					
RL28-55/49/82b/115	with polarization filter	17,000 mm	Red LED	PNP/NPN	DC	10 V	30 V	Fixed cable	54.3 mm					
RL28-55/82b/105/110	with polarization filter	17,000 mm	Red LED	1 x push-pull	DC	10 V	30 V	M12 connector plug	54.3 mm					
RL28-55/82b/110/115	with polarization filter	17,000 mm	Red LED	1 x push-pull	DC	10 V	30 V	Fixed cable	54.3 mm					
RLK28-55-V-Z/31/116	with polarization filter	13,000 mm	Red LED	Relay	AC/DC	12 V	240 V	Terminal compartment	65.5 mm					

Model Number	Function Principle	Detection Range	Light Type	Type of Output	Type of Voltage	UB (Min)	UB (Max)	Connection Type	Length L	CCC	EAC	UL	Vds	UKCA
RLK28-55-Z/31/116	with polarization filter	17,000 mm	Red LED	Relay	AC/DC	12 V	240 V	Terminal compartment	65.5 mm	■	■	■		
RLK28-55/31/116	with polarization filter	17,000 mm	Red LED	Relay	AC/DC	12 V	240 V	Terminal compartment	65.5 mm	■	■	■		
RL28-55/35/47/115b	with polarization filter	20,000 mm	Red LED	PNP	DC	10 V	30 V	Fixed cable with M12 plug	54.3 mm		■	■		■
RL28-55-LAS/47/82b/105	with polarization filter	30,000 mm	Red laser diode	PNP	DC	10 V	30 V	M12 connector plug	54.3 mm		■	■		■
RL28-55-LAS/47/82b/115	with polarization filter	30,000 mm	Red laser diode	PNP	DC	10 V	30 V	Fixed cable	54.3 mm		■	■		■
RL28-55-LAS/49/82b/105	with polarization filter	30,000 mm	Red laser diode	PNP/NPN	DC	10 V	30 V	M12 connector plug	54.3 mm		■	■		■
RL28-55-LAS/76a/82b/105/110	with polarization filter	30,000 mm	Red laser diode	1 x push-pull	DC	10 V	30 V	M12 connector plug	54.3 mm		■	■		■
RL28-55-LAS/76a/82b/110/115	with polarization filter	30,000 mm	Red laser diode	1 x push-pull	DC	10 V	30 V	Fixed cable	54.3 mm		■	■		■
RLK28-55-LAS-Z/31/116	with polarization filter	30,000 mm	Red laser diode	Relay	AC/DC	12 V	240 V	Terminal compartment	65.5 mm	■	■	■		



Accessories

OMH-05	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-21	Mounting bracket
OMH-22	Mounting bracket
OMH-K01	Mounting clamp for sensors with dovetail
OMH-K03	Mounting clamp for sensors with dovetail
OMH-RL28-C	Protective cover for protection against welding beads
OMH-RLK29	Mounting bracket
OMH-RLK29-HW	Mounting bracket for rear wall mounting
REF-C110-2	Round reflector $\varnothing$ 84 mm, mounting hole in center
REF-MH82	Rectangular reflector with microstructure, 82 mm x 60 mm, mounting holes

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

RL28 Series Diffuse Mode Sensors



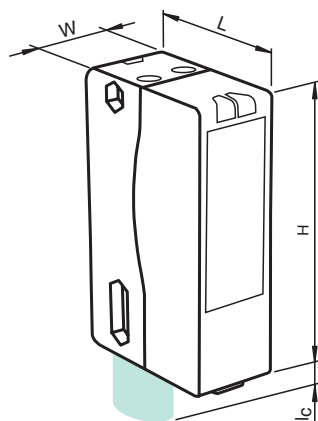
Common Technical Data

Function principle	Triangulation sensor with background suppression
Operating elements	Potentiometer
Housing width W	25.8 mm
Housing height H	88 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type	Type of Output	Type of Voltage	UB (Min)	UB (Max)	Connection Type	Length L	CCC	EAC	UL	UKCA
RL28-8-H-400-FFP-RT/47/105	400 mm	Red LED	PNP	DC	10 V	30 V	M12 connector plug	54.3 mm			■	
RL28-8-H-400-IR-Z/110/116	400 mm	Infrared LED	1 x push-pull	DC	10 V	30 V	Terminal compartment	54.3 mm		■	■	■
RL28-8-H-400-IR-Z/47/116	400 mm	Infrared LED	PNP	DC	10 V	30 V	Terminal compartment	54.3 mm		■	■	■
RL28-8-H-400-IR-Z/49/116	400 mm	Infrared LED	PNP/NPN	DC	10 V	30 V	Terminal compartment	54.3 mm		■	■	■
RL28-8-H-400-IR/105/110	400 mm	Infrared LED	1 x push-pull	DC	10 V	30 V	M12 connector plug	54.3 mm			■	■
RL28-8-H-400-IR/47/105	400 mm	Infrared LED	PNP	DC	10 V	30 V	M12 connector plug	54.3 mm		■	■	■
RL28-8-H-400-IR/49/105	400 mm	Infrared LED	PNP/NPN	DC	10 V	30 V	M12 connector plug	54.3 mm		■	■	■
RL28-8-H-400-IR/49/115	400 mm	Infrared LED	PNP/NPN	DC	10 V	30 V	Fixed cable	54.3 mm		■	■	■
RL28-8-H-400-RT-Z/110/116	400 mm	Red LED	1 x push-pull	DC	10 V	30 V	Terminal compartment	54.3 mm		■	■	■
RL28-8-H-400-RT-Z/49/116	400 mm	Red LED	PNP/NPN	DC	10 V	30 V	Terminal compartment	54.3 mm		■	■	■
RL28-8-H-400-RT/105/110	400 mm	Red LED	1 x push-pull	DC	10 V	30 V	M12 connector plug	54.3 mm		■	■	■
RL28-8-H-400-RT/47/105	400 mm	Red LED	PNP	DC	10 V	30 V	M12 connector plug	54.3 mm		■	■	■
RL28-8-H-400-RT/47/115	400 mm	Red LED	PNP	DC	10 V	30 V	Fixed cable	54.3 mm		■	■	■
RL28-8-H-400-RT/47/73c	400 mm	Red LED	PNP	DC	10 V	30 V	M12 connector plug	54.3 mm			■	■
RL28-8-H-400-RT/49/105	400 mm	Red LED	PNP/NPN	DC	10 V	30 V	M12 connector plug	54.3 mm			■	■
RL28-8-H-400-RT/49/115	400 mm	Red LED	PNP/NPN	DC	10 V	30 V	Fixed cable	54.3 mm			■	■
RLK28-8-H-400-IR-Z/31/116	400 mm	Infrared LED	Relay	AC/DC	12 V	240 V	Terminal compartment	65.5 mm	■	■	■	
RLK28-8-H-400-RT-Z/31/116	400 mm	Red LED	Relay	AC/DC	12 V	240 V	Terminal compartment	65.5 mm	■	■	■	
RL28-8-H-700-IR-Z/47/116	700 mm	Infrared LED	PNP	DC	10 V	30 V	Terminal compartment	65.5 mm		■	■	■
RL28-8-H-700-IR-Z/49/116	700 mm	Infrared LED	PNP/NPN	DC	10 V	30 V	Terminal compartment	65.5 mm		■	■	■
RL28-8-H-700-IR/105/110	700 mm	Infrared LED	1 x push-pull	DC	10 V	30 V	M12 connector plug	54.3 mm		■	■	■
RL28-8-H-700-IR/110/115	700 mm	Infrared LED	1 x push-pull	DC	10 V	30 V	Fixed cable	54.3 mm		■	■	■
RL28-8-H-700-IR/47/105	700 mm	Infrared LED	PNP	DC	10 V	30 V	M12 connector plug	54.3 mm		■	■	
RL28-8-H-700-IR/47/105/106	700 mm	Infrared LED	PNP	DC	19.2 V	28.8 V	M12 connector plug	54.3 mm		■		■
RL28-8-H-700-IR/47/115	700 mm	Infrared LED	PNP	DC	10 V	30 V	Fixed cable	54.3 mm		■	■	■
RL28-8-H-700-IR/47/74	700 mm	Infrared LED	PNP	DC	10 V	30 V	M18 connector plug	54.3 mm		■	■	■
RL28-8-H-700-IR/49/105	700 mm	Infrared LED	PNP/NPN	DC	10 V	30 V	M12 connector plug	54.3 mm		■	■	■
RL28-8-H-700-IR/49/115	700 mm	Infrared LED	PNP/NPN	DC	10 V	30 V	Fixed cable	54.3 mm		■	■	■
RL28-8-H-700-RT-Z/47/112	700 mm	Red LED	PNP	DC	10 V	30 V	M12 connector plug	65.5 mm		■	■	■
RL28-8-H-700-RT-Z/47/116	700 mm	Red LED	PNP	DC	10 V	30 V	Terminal compartment	65.5 mm		■	■	■
RL28-8-H-700-RT-Z/49/116	700 mm	Red LED	PNP/NPN	DC	10 V	30 V	Terminal compartment	65.5 mm			■	■
RL28-8-H-700-RT/105/110	700 mm	Red LED	1 x push-pull	DC	10 V	30 V	M12 connector plug	54.3 mm		■	■	■
RL28-8-H-700-RT/47/105	700 mm	Red LED	PNP	DC	10 V	30 V	M12 connector plug	54.3 mm		■	■	■
RL28-8-H-700-RT/47/115	700 mm	Red LED	PNP	DC	10 V	30 V	Fixed cable	54.3 mm		■	■	■
RL28-8-H-700-RT/47/73c	700 mm	Red LED	PNP	DC	10 V	30 V	M12 connector plug	54.3 mm		■	■	■
RL28-8-H-700-RT/47/74	700 mm	Red LED	PNP	DC	10 V	30 V	M18 connector plug	54.3 mm		■	■	■
RL28-8-H-700-RT/49/105	700 mm	Red LED	PNP/NPN	DC	10 V	30 V	M12 connector plug	54.3 mm		■	■	■
RL28-8-H-700-RT/49/115	700 mm	Red LED	PNP/NPN	DC	10 V	30 V	Fixed cable	54.3 mm		■	■	■
RLK28-8-H-700-IR-Z/31/116	700 mm	Infrared LED	Relay	AC/DC	12 V	240 V	Terminal compartment	65.5 mm	■	■	■	
RLK28-8-H-700-RT-Z/31/116	700 mm	Red LED	Relay	AC/DC	12 V	240 V	Terminal compartment	65.5 mm	■	■	■	
RL28-8-H-1500-LAS/105/110	1500 mm	Red laser diode	1 x push-pull	DC	10 V	30 V	M12 connector plug	54.3 mm		■	■	■

Model Number	Detection Range	Light Type	Type of Output	Type of Voltage	UB (Min)	UB (Max)	Connection Type	Length L	CCC	EAC	UL	UKCA
RL28-8-H-1500-LAS/47/105	1500 mm	Red laser diode	PNP	DC	10 V	30 V	M12 connector plug	54.3 mm	■	■	■	■
RL28-8-H-1500-LAS/47/115b	1500 mm	Red laser diode	PNP	DC	10 V	30 V	Fixed cable with M12 plug	54.3 mm	■	■	■	■
RL28-8-H-2000-IR-Z/110/116	2000 mm	Infrared LED	1 x push-pull	DC	10 V	30 V	Terminal compartment	65.5 mm	■	■	■	■
RL28-8-H-2000-IR-Z/47/112	2000 mm	Infrared LED	PNP	DC	10 V	30 V	M12 connector plug	65.5 mm	■	■	■	■
RL28-8-H-2000-IR-Z/47/116	2000 mm	Infrared LED	PNP	DC	10 V	30 V	Terminal compartment	65.5 mm	■	■	■	■
RL28-8-H-2000-IR-Z/49/112	2000 mm	Infrared LED	PNP/NPN	DC	10 V	30 V	M12 connector plug	65.5 mm	■	■	■	■
RL28-8-H-2000-IR-Z/49/116	2000 mm	Infrared LED	PNP/NPN	DC	10 V	30 V	Terminal compartment	65.5 mm	■	■	■	■
RL28-8-H-2000-IR/105/110	2000 mm	Infrared LED	1 x push-pull	DC	10 V	30 V	M12 connector plug	54.3 mm	■	■	■	■
RL28-8-H-2000-IR/110/115	2000 mm	Infrared LED	1 x push-pull	DC	10 V	30 V	Fixed cable	54.3 mm	■	■	■	■
RL28-8-H-2000-IR/47/105	2000 mm	Infrared LED	PNP	DC	10 V	30 V	M12 connector plug	54.3 mm	■	■	■	■
RL28-8-H-2000-IR/47/105/106	2000 mm	Infrared LED	PNP	DC	19.2 V	28.8 V	M12 connector plug	54.3 mm	■	■	■	■
RL28-8-H-2000-IR/47/115	2000 mm	Infrared LED	PNP	DC	10 V	30 V	Fixed cable	54.3 mm	■	■	■	■
RL28-8-H-2000-IR/47/73c	2000 mm	Infrared LED	PNP	DC	10 V	30 V	M12 connector plug	54.3 mm	■	■	■	■
RL28-8-H-2000-IR/47/74	2000 mm	Infrared LED	PNP	DC	10 V	30 V	M18 connector plug	54.3 mm	■	■	■	■
RL28-8-H-2000-IR/49/105	2000 mm	Infrared LED	PNP/NPN	DC	10 V	30 V	M12 connector plug	54.3 mm	■	■	■	■
RL28-8-H-2000-IR/49/115	2000 mm	Infrared LED	PNP/NPN	DC	10 V	30 V	Fixed cable	54.3 mm	■	■	■	■
RL28-8-H-2000-IR/49/74	2000 mm	Infrared LED	PNP/NPN	DC	10 V	30 V	M18 connector plug	54.3 mm	■	■	■	■
RLK28-8-H-2000-IR-Z/31/116	2000 mm	Infrared LED	Relay	AC/DC	12 V	240 V	Terminal compartment	65.5 mm	■	■	■	■



Accessories

OMH-05	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-21	Mounting bracket
OMH-22	Mounting bracket
OMH-RL28-C	Protective cover for protection against welding beads
OMH-RLK29	Mounting bracket
OMH-RLK29-HW	Mounting bracket for rear wall mounting

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

RL29 Series

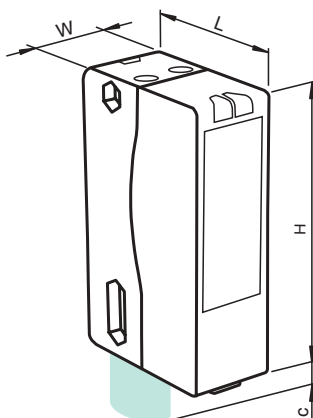


Common Technical Data

Light type	Red LED
Housing width W	25.8 mm
Housing height H	88 mm
EAC	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Function Principle	Detection Range	Operating Elements	Type of Output	Type of Voltage	Connection Type	Length L	CCC	UL	UKCA
RL29-8-H-1200-RT/115/136	Triangulation sensor with background suppression	1200 mm	Potentiometer	2 x push-pull	DC	Fixed cable	54.3 mm	■	■	■
RL29-8-H-1200-RT/115b/136	Triangulation sensor with background suppression	1200 mm	Potentiometer	2 x push-pull	DC	Fixed cable with M12 plug	54.3 mm	■	■	■
RL29-8-H-1200-RT/59/73c/136	Triangulation sensor with background suppression	1200 mm	Potentiometer	2 x push-pull	DC	M12 connector plug	54.3 mm	■	■	■
RL29-8-H-1200-RT/73c/136	Triangulation sensor with background suppression	1200 mm	Potentiometer	2 x push-pull	DC	M12 connector plug	54.3 mm	■	■	■
RL29-8-2000/115b/136	Diffuse mode sensor, energetic	2000 mm	Potentiometer	2 x push-pull	DC	Fixed cable with M12 plug	54.3 mm	■	■	■
RL29-8-2000/59/73c/136	Diffuse mode sensor, energetic	2000 mm	Potentiometer	2 x push-pull	DC	M12 connector plug	54.3 mm	■	■	■
RL29-8-2000/73c/136	Diffuse mode sensor, energetic	2000 mm	Potentiometer	2 x push-pull	DC	M12 connector plug	54.3 mm	■	■	■
RL29-55-V/115b/136	Retroreflective sensor with polarization filter	6000 mm		2 x push-pull	DC	Fixed cable with M12 plug	54.3 mm	■	■	■
RL29-55-V/25/73c/136	Retroreflective sensor with polarization filter	6000 mm		2 x push-pull	DC	M12 connector plug	54.3 mm	■	■	■
RL29-55-V/73c/136	Retroreflective sensor with polarization filter	6000 mm		2 x push-pull	DC	M12 connector plug	54.3 mm	■	■	■
RL29-55/115b/136	Retroreflective sensor with polarization filter	7000 mm		2 x push-pull	DC	Fixed cable with M12 plug	54.3 mm	■	■	■
RL29-55/25/73c/136	Retroreflective sensor with polarization filter	7000 mm		2 x push-pull	DC	M12 connector plug	54.3 mm	■	■	■
RL29-55/73c/136	Retroreflective sensor with polarization filter	7000 mm		2 x push-pull	DC	M12 connector plug	54.3 mm	■	■	■
RLK29-55/25/116	Retroreflective sensor with polarization filter	12,000 mm		Relay	AC/DC	Terminal compartment	65.5 mm	■	■	■
RLK29-55/25/116-Set	Retroreflective sensor with polarization filter	12,000 mm		Relay	AC/DC	Terminal compartment	65.5 mm	■	■	■
RLK29-55/59/116	Retroreflective sensor with polarization filter	12,000 mm		Relay	AC/DC	Terminal compartment	65.5 mm	■	■	■
RLK29-55/59/116-Set	Retroreflective sensor with polarization filter	12,000 mm		Relay	AC/DC	Terminal compartment	65.5 mm	■	■	■
LA29/LK29-Z-F1/31/116-SET	Thru-beam sensor	65,000 mm	Potentiometer	Relay	AC/DC	Terminal compartment	65.5 mm	■	■	■
LA29/LK29-Z-F2/31/116-SET	Thru-beam sensor	65,000 mm	Potentiometer	Relay	AC/DC	Terminal compartment	65.5 mm	■	■	■



Accessories

OFR-100/100	Reflective tape, 100 mm x 100 mm
OMH-05	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-21	Mounting bracket
OMH-22	Mounting bracket
OMH-RL28-C	Protective cover for protection against welding beads
OMH-RLK29	Mounting bracket
OMH-RLK29-HW	Mounting bracket for rear wall mounting
OMH-RLK29-HW-120	Mounting bracket for rear wall mounting
REF-C110-2	Round reflector $\varnothing$ 84 mm, mounting hole in center
REF-H160	Rectangular reflector, 60 mm x 18 mm, mounting holes
REF-H180	Rectangular reflector, 182 mm x 42 mm, mounting holes
REF-H50	Rectangular reflector, 51 mm x 61 mm, mounting holes, retaining tab
REF-H60-2	Reflector with mounting holes
REF-H85-2	Rectangular reflector, 84.5 mm x 84.5 mm, mounting holes
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

RL31 Series Thru-Beam Sensors

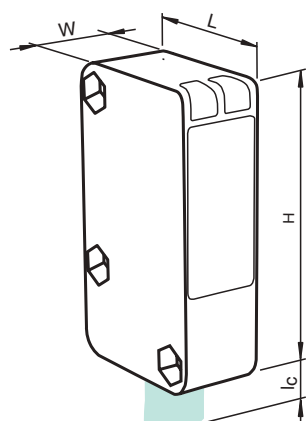


Common Technical Data

Function principle	Thru-beam sensor
Detection range	43,000 mm
Light type	Red LED
Housing length L	35 mm
Housing width W	18 mm
Housing height H	62 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Operating Elements	Type of Output	Type of Voltage	UB (Min)	UB (Max)	Connection Type	CCC	EAC	UL
LA31/LK31/16/25/31/115	Potentiometer	Relay	AC/DC	24 V	240 V	Fixed cable	■	■	■
LA31/LK31/25/31/115		Relay	AC/DC	24 V	240 V	Fixed cable	■	■	■
LA31/LK31/25/31/115 SET		Relay	AC/DC	24 V	240 V	Fixed cable	■	■	■
LA31/LK31/25/31/115 SET2		Relay	AC/DC	24 V	240 V	Fixed cable	■	■	■
LA31/LK31/31/115		Relay	AC/DC	24 V	240 V	Fixed cable	■	■	■
LD31/LV31/25/73c/76a/136		2 x push-pull	DC	10 V	30 V	M12 connector plug	■	■	■
LD31/LV31/73c/76a/136		2 x push-pull	DC	10 V	30 V	M12 connector plug	■	■	■
LD31/LV31/76a/115/136		2 x push-pull	DC	10 V	30 V	Fixed cable	■	■	■



Accessories

OMH-RL31-01	Mounting bracket
OMH-RL31-02	Mounting bracket narrow
OMH-RL31-03	Mounting bracket narrow
OMH-RL31-04	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-RL31-05	Mounting bracket for mounting on flat surfaces with two M4 screws
OMH-RL31-06	Stainless steel mounting bracket with adjustable half clamp on the side
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

RL31 Series Retroreflective Sensors

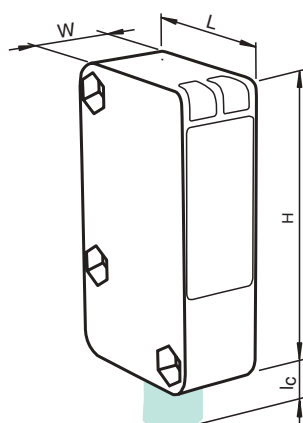


Common Technical Data

Light type	Red LED
Housing length L	35 mm
Housing width W	18 mm
Housing height H	62 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Function Principle	Detection Range	Type of Output	Type of Voltage	UB (Min)	UB (Max)	Connection Type	CCC	EAC	UL
RL31-54/115/136	with polarization filter	9000 mm	2 x push-pull	DC	10 V	30 V	Fixed cable			■
RL31-54/115/136-5M	with polarization filter	9000 mm	2 x push-pull	DC	10 V	30 V	Fixed cable			■
RL31-54/115b/136	with polarization filter	9000 mm	2 x push-pull	DC	10 V	30 V	Fixed cable with M12 plug			■
RL31-54/25/73c/136	with polarization filter	9000 mm	2 x push-pull	DC	10 V	30 V	M12 connector plug		■	■
RL31-54/73c/136	with polarization filter	9000 mm	2 x push-pull	DC	10 V	30 V	M12 connector plug		■	■
RLK31-54/25/31/115	with polarization filter	9000 mm	Relay	AC/DC	24 V	240 V	Fixed cable	■	■	
RLK31-54/25/31/115 SET	with polarization filter	9000 mm	Relay	AC/DC	24 V	240 V	Fixed cable	■	■	
RLK31-54/25/31/115 SET2	with polarization filter	9000 mm	Relay	AC/DC	24 V	240 V	Fixed cable	■	■	
RLK31-54/25/31/33/115-15M	with polarization filter	9000 mm	Relay	AC/DC	24 V	240 V	Fixed cable	■	■	
RLK31-54/25/31/33/115-15M SET	with polarization filter	9000 mm	Relay	AC/DC	24 V	240 V	Fixed cable	■	■	
RLK31-54/25/31/33/115-5M	with polarization filter	9000 mm	Relay	AC/DC	24 V	240 V	Fixed cable	■	■	
RLK31-54/31/115	with polarization filter	9000 mm	Relay	AC/DC	24 V	240 V	Fixed cable	■	■	
RLK31-54/31/33/115	with polarization filter	9000 mm	Relay	AC/DC	24 V	240 V	Fixed cable	■	■	
RLK31-6/25/31/115	without polarization filter	16,500 mm	Relay	AC/DC	24 V	240 V	Fixed cable	■	■	
RLK31-6/31/115	without polarization filter	16,500 mm	Relay	AC/DC	24 V	240 V	Fixed cable	■	■	



Accessories

OFR-100/100	Reflective tape, 100 mm x 100 mm
OMH-RL31-01	Mounting bracket
OMH-RL31-02	Mounting bracket narrow
OMH-RL31-03	Mounting bracket narrow
OMH-RL31-04	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-RL31-05	Mounting bracket for mounting on flat surfaces with two M4 screws
OMH-RL31-06	Stainless steel mounting bracket with adjustable half clamp on the side
REF-C110-2	Round reflector $\varnothing$ 84 mm, mounting hole in center
REF-H160	Rectangular reflector, 60 mm x 18 mm, mounting holes
REF-H180	Rectangular reflector, 182 mm x 42 mm, mounting holes
REF-H50	Rectangular reflector, 51 mm x 61 mm, mounting holes, retaining tab
REF-H60-2	Reflector with mounting holes
REF-H85-2	Rectangular reflector, 84.5 mm x 84.5 mm, mounting holes
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray
Weather cap for REF-C110-2	Weather cap for reflector series

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

RL31 Series

Diffuse Mode Sensors

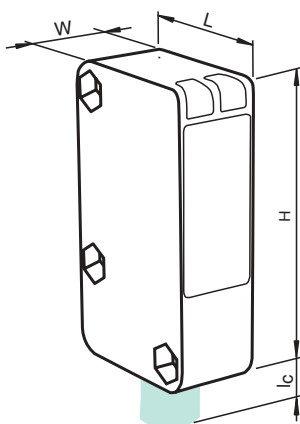


Common Technical Data

Operating elements	Potentiometer
Housing length L	35 mm
Housing width W	18 mm
Housing height H	62 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Function Principle	Detection Range	Light Type	Interface	Type of Output	Type of Voltage	UB (Min)	UB (Max)	Connection Type	CCC	EAC	UL
RL31-8-H-800-IR/73c/136	with background suppression	800 mm	Infrared LED		2 x push-pull	DC	10 V	30 V	M12 connector plug			■
RL31-8-H-800-RT-IO/59/115/136	with measurement core	800 mm	Red LED	IO-Link	2 x push-pull	DC	10 V	30 V	Fixed cable			■
RL31-8-H-800-RT-IO/59/73c/136	with measurement core	800 mm	Red LED	IO-Link	2 x push-pull	DC	10 V	30 V	M12 connector plug			■
RL31-8-H-800-RT/115/136	with background suppression	800 mm	Red LED		2 x push-pull	DC	10 V	30 V	Fixed cable			■
RL31-8-H-800-RT/73c/136	with background suppression	800 mm	Red LED		2 x push-pull	DC	10 V	30 V	M12 connector plug		■	■
RLK31-8-1200-RT/31/115	energetic	1200 mm	Red LED		Relay	AC/DC	24 V	240 V	Fixed cable	■	■	
RLK31-8-1200-RT/31/59/115	energetic	1200 mm	Red LED		Relay	AC/DC	24 V	240 V	Fixed cable	■	■	
RL31-8-1200-RT/59/73c/136	energetic	1200 mm	Red LED		2 x push-pull	DC	10 V	30 V	M12 connector plug			■
RL31-8-1200-RT/73c/136	energetic	1200 mm	Red LED		2 x push-pull	DC	10 V	30 V	M12 connector plug		■	■
RL31-8-2500-IR/115/136	energetic	2500 mm	Infrared LED		2 x push-pull	DC	10 V	30 V	Fixed cable			■
RL31-8-2500-IR/59/73c/136	energetic	2500 mm	Infrared LED		2 x push-pull	DC	10 V	30 V	M12 connector plug			■
RL31-8-2500-IR/73c/136	energetic	2500 mm	Infrared LED		2 x push-pull	DC	10 V	30 V	M12 connector plug		■	■
RLK31-8-2500-IR-3953/31	energetic	2500 mm	Infrared LED		Relay	AC/DC	24 V	240 V	Fixed cable			■
RLK31-8-2500-IR/31/115	energetic	2500 mm	Infrared LED		Relay	AC/DC	24 V	240 V	Fixed cable	■	■	
RLK31-8-2500-IR/31/33/115-5M	energetic	2500 mm	Infrared LED		Relay	AC/DC	24 V	240 V	Fixed cable	■	■	
RLK31-8-2500-IR/31/59/115	energetic	2500 mm	Infrared LED		Relay	AC/DC	24 V	240 V	Fixed cable	■	■	



Accessories

ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 plug for sensor connection
OMH-RL31-01	Mounting bracket
OMH-RL31-02	Mounting bracket narrow
OMH-RL31-03	Mounting bracket narrow
OMH-RL31-04	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-RL31-05	Mounting bracket for mounting on flat surfaces with two M4 screws
OMH-RL31-06	Stainless steel mounting bracket with adjustable half clamp on the side
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

MLV41 Series Retroreflective Sensors

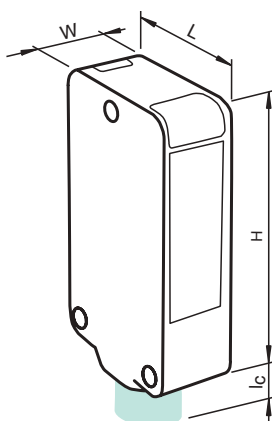


Common Technical Data

Light type	Red LED
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	13.6 mm
Housing width W	31 mm
Housing height H	56.5 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Function Principle	Detection Range	Interface	Operating Elements	Type of Output	Connection Type
MLV41-54-G-IO/25/92/136	for glass detection	4000 mm	IO-Link		2 x push-pull	M12 connector plug
MLV41-54-G-IO/102/123/124/126g	for glass detection	4000 mm		Potentiometer	NPN	M12 connector plug
MLV41-54-G/25/115/123/136	for glass detection	4000 mm			2 x push-pull	Fixed cable
MLV41-54-G/25/123/124/136	for glass detection	4000 mm			2 x push-pull	M12 connector plug
MLV41-54-G/25/70/123/136	for glass detection	4000 mm			2 x push-pull	M9 connector plug
MLV41-54-G/25/76a/124/136	for glass detection	4000 mm			2 x push-pull	M12 connector plug
MLV41-54-G/25/95/136	for glass detection	4000 mm			2 x push-pull	M8 connector plug
MLV41-54-G/82b/103/123/124	for glass detection	4000 mm		Potentiometer	PNP	M12 connector plug
MLV41-54-G/98/110	for glass detection	4000 mm		Potentiometer	1 x push-pull	M8 connector plug
MLV41-55-IO/98/103	with polarization filter	7000 mm	IO-Link		PNP	M8 connector plug
MLV41-55-IO/92/136	with polarization filter	8000 mm	IO-Link		2 x push-pull	M12 connector plug
MLV41-55-IO/95/136	with polarization filter	8000 mm	IO-Link		2 x push-pull	M8 connector plug
MLV41-55/25/115/136	with polarization filter	8000 mm			2 x push-pull	Fixed cable
MLV41-55/25/70/136	with polarization filter	8000 mm			2 x push-pull	M9 connector plug
MLV41-55/25/92/136	with polarization filter	8000 mm			2 x push-pull	M12 connector plug
MLV41-55/25/95/136	with polarization filter	8000 mm			2 x push-pull	M8 connector plug
MLV41-55/40a/82b/92/103	with polarization filter	8000 mm		Potentiometer	PNP	M12 connector plug
MLV41-55/40a/92/102/126b	with polarization filter	8000 mm		Potentiometer	NPN	M12 connector plug
MLV41-6-IO/92/136	without polarization filter	9500 mm	IO-Link		2 x push-pull	M12 connector plug
MLV41-6-IO/95/136	without polarization filter	9500 mm	IO-Link		2 x push-pull	M8 connector plug
MLV41-6-IO/98/103	without polarization filter	9500 mm	IO-Link		PNP	M8 connector plug
MLV41-6/25/115/136	without polarization filter	9500 mm			2 x push-pull	Fixed cable
MLV41-6/25/70/136	without polarization filter	9500 mm			2 x push-pull	M9 connector plug
MLV41-6/25/82a/95/103	without polarization filter	9500 mm			PNP	M8 connector plug
MLV41-6/25/92/136	without polarization filter	9500 mm			2 x push-pull	M12 connector plug
MLV41-6/25/95/136	without polarization filter	9500 mm			2 x push-pull	M8 connector plug
MLV41-6/82b/92/103	without polarization filter	9500 mm			PNP	M12 connector plug
MLV41-6/92/102/126b	without polarization filter	9500 mm			NPN	M12 connector plug



Accessories

ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 plug for sensor connection
OFR-100/100	Reflective tape, 100 mm x 100 mm
OMH-09	Mounting bracket for MLV41 series sensors for mounting on M12 round bar
OMH-40	Mounting bracket
ORR50G	Rectangular reflector, 50.9 mm x 60.9 mm, mounting holes, retaining tab and polarization filter

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

MLV41 Series

Diffuse Mode Sensors

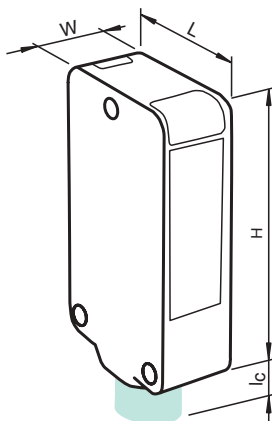


Common Technical Data

Function principle	Triangulation sensor with background suppression
Detection range	350 mm
Operating elements	Potentiometer
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	13.6 mm
Housing width W	31 mm
Housing height H	56.5 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Light Type	Type of Output	Connection Type
MLV41-8-H-350-IR/25/98/110	Infrared LED	1 x push-pull	M8 connector plug
MLV41-8-H-350-IR/59/115/136	Infrared LED	2 x push-pull	Fixed cable
MLV41-8-H-350-IR/59/115b/136	Infrared LED	2 x push-pull	Fixed cable with M12 plug
MLV41-8-H-350-IR/59/92/136	Infrared LED	2 x push-pull	M12 connector plug
MLV41-8-H-350-IR/59/95/136	Infrared LED	2 x push-pull	M8 connector plug
MLV41-8-H-350-RT/25/115/136	Red LED	2 x push-pull	Fixed cable
MLV41-8-H-350-RT/25/92/136	Red LED	2 x push-pull	M12 connector plug
MLV41-8-H-350-RT/40a/98/110	Red LED	1 x push-pull	M8 connector plug
MLV41-8-H-350-RT/59/115/136	Red LED	2 x push-pull	Fixed cable
MLV41-8-H-350-RT/59/115b/136	Red LED	2 x push-pull	Fixed cable with M12 plug
MLV41-8-H-350-RT/59/70/136	Red LED	2 x push-pull	M9 connector plug
MLV41-8-H-350-RT/59/71/136	Red LED	2 x push-pull	M9 connector plug
MLV41-8-H-350-RT/59/92/136	Red LED	2 x push-pull	M12 connector plug
MLV41-8-H-350-RT/59/95/136	Red LED	2 x push-pull	M8 connector plug



Accessories

OMH-09	Mounting bracket for MLV41 series sensors for mounting on M12 round bar
OMH-40	Mounting bracket
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray
V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

R300 Series

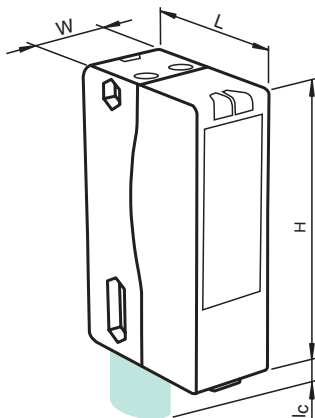


Common Technical Data

Light type	Red LED
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	54.3 mm
Housing width W	25.8 mm
Housing height H	88 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Function Principle	Detection Range	Operating Elements	Type of Output
OBR50M-R300-2P1-V1	Distance sensor	50,000 mm	Push-button	2 x push-pull
OBR50M-R300-2PP-V1	Distance sensor	50,000 mm	Push-button	2 x push-pull
OMR50M-R300-IEP-V1	Distance sensor	50,000 mm	Push-button	1 x push-pull, 1 x analog
OMR50M-R300-UEP-V1	Distance sensor	50,000 mm	Push-button	1 x push-pull, 1 x analog
OQR50M-R300-2EP-V1	Distance sensor	50,000 mm	Push-button	2 x push-pull
OBD8000-R300-2P1-V1-L	Diffuse mode sensor, energetic	8000 mm	Potentiometer	2 x push-pull
OBD8000-R300-2PP-V1-L	Diffuse mode sensor, energetic	8000 mm	Potentiometer	2 x push-pull
OMD8000-R300-IEP-V1-L	Distance sensor	8000 mm	Push-button	1 x push-pull, 1 x analog
OMD8000-R300-UEP-V1-L	Distance sensor	8000 mm	Push-button	1 x push-pull, 1 x analog
OQD8000-R300-2EP-V1-L	Distance sensor	8000 mm	Push-button	2 x push-pull



Accessories

OMH-05	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-07-01	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-21	Mounting bracket
OMH-22	Mounting bracket
OMH-K01	Mounting clamp for sensors with dovetail
OMH-K03	Mounting clamp for sensors with dovetail
OMH-RLK29-HW	Mounting bracket for rear wall mounting
OMH-VDM28-01	Metal enclosure for inserting protective panes or diaphragms
OMH-VDM28-02	Mounting and fine adjustment device for sensors from the 28 series
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

ML29 Series



Common Technical Data

Function principle	Thru-beam sensor
Light type	Infrared LED
Type of voltage	DC
Housing length L	9.2 mm
Housing width W	11.6 mm
Housing height H	85.2 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Type of Output	UB (Min)	UB (Max)	Connection Type	EAC
ML29T-P/32/59/115 100 mm	2500 mm	PNP	10 V	32 V	Fixed cable	
ML29-2P/25/103/143	5000 mm	PNP	11 V	30 V	Other	
ML29-P/25/102/115	6000 mm	NPN	11 V	30 V	Fixed cable	
ML29-P/25/102/143	6000 mm	NPN	11 V	30 V	Other	
ML29-P/25/103/115	6000 mm	PNP	11 V	30 V	Fixed cable	■
ML29-P/25/103/143	6000 mm	PNP	11 V	30 V	Other	
ML29-P/59/102/115	6000 mm	NPN	11 V	30 V	Fixed cable	
ML29-P/59/102/143	6000 mm	NPN	11 V	30 V	Other	
ML29-P/59/103/115	6000 mm	PNP	11 V	30 V	Fixed cable	
ML29-P/59/103/143	6000 mm	PNP	11 V	30 V	Other	

Accessories

ML29 Front Plate	Front plate for ML29 series thru-beam sensors

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

ML100 Series Thru-Beam Sensors

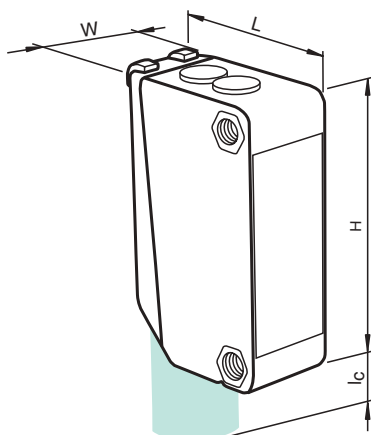


Common Technical Data

Function principle	Thru-beam sensor
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	20 mm
Housing width W	11 mm
Housing height H	31 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type	Operating Elements	Type of Output	Connection Type	e1
M100/MV100-RT/76a/103/115	10,000 mm	Red LED	Potentiometer	PNP	Fixed cable	
M100/MV100-RT/76a/103/115a	10,000 mm	Red LED	Potentiometer	PNP	Fixed cable with M8 plug	
M100/MV100-RT/76a/95/103	10,000 mm	Red LED	Potentiometer	PNP	M8 connector plug	
M100/MV100-RT/76a/98/103	10,000 mm	Red LED	Potentiometer	PNP	M8 connector plug	
M100/MV100-RT/76b/102/115	10,000 mm	Red LED	Potentiometer	NPN	Fixed cable	
M100/MV100-RT/76b/102/115a	10,000 mm	Red LED	Potentiometer	NPN	Fixed cable with M8 plug	
M100/MV100-RT/76b/95/102	10,000 mm	Red LED	Potentiometer	NPN	M8 connector plug	
M100/MV100-RT/76b/98/102	10,000 mm	Red LED	Potentiometer	NPN	M8 connector plug	
M100/MV100-IR/76a/103/115	15,000 mm	Infrared LED	Potentiometer	PNP	Fixed cable	
M100/MV100-IR/76a/95/103	15,000 mm	Infrared LED	Potentiometer	PNP	M8 connector plug	
M100/MV100-IR/76b/102/115	15,000 mm	Infrared LED	Potentiometer	NPN	Fixed cable	
M100/MV100-IR/95/120/154	15,000 mm	Infrared LED		PNP	M8 connector plug	■
M100/MV100-RT/35/102/115/154	20,000 mm	Red LED		NPN	Fixed cable	
M100/MV100-RT/35/103/115/154	20,000 mm	Red LED		PNP	Fixed cable	
M100/MV100-RT/35/76a/103/115	20,000 mm	Red LED	Potentiometer	PNP	Fixed cable	
M100/MV100-RT/35/76a/95/103	20,000 mm	Red LED	Potentiometer	PNP	M8 connector plug	
M100/MV100-RT/35/76a/98/103	20,000 mm	Red LED	Potentiometer	PNP	M8 connector plug	
M100/MV100-RT/35/76b/102/115	20,000 mm	Red LED	Potentiometer	NPN	Fixed cable	
M100/MV100-RT/35/76b/95/102	20,000 mm	Red LED	Potentiometer	NPN	M8 connector plug	
M100/MV100-RT/35/76b/98/102	20,000 mm	Red LED	Potentiometer	NPN	M8 connector plug	



Accessories

OMH-10	Mounting aid
OMH-F10-ML100	Mounting aid for sensors in the ML100 series
OMH-ML100-01	Mounting aid for sensors in the ML100 series, mounting bracket
OMH-ML100-02	Mounting aid for sensors in the ML100 series, mounting bracket
OMH-ML100-03	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-ML100-04	Mounting aid for sensors in the ML100 series, mounting bracket
OMH-ML100-05	Mounting aid for sensors in the ML100 series, mounting bracket
OMH-ML100-09	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-ML100-S1	Mounting bracket
OMH-ML100-S2	Mounting aid for sensors in the ML100 series, mounting bracket
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray
V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

ML100 Series Retroreflective Sensors



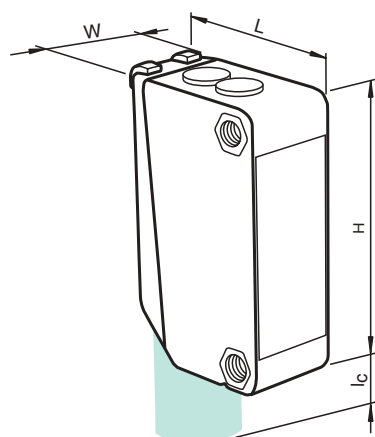
Common Technical Data

Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	20 mm
Housing width W	11 mm
Housing height H	31 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Function Principle	Detection Range	Light Type	Operating Elements	Type of Output	Connection Type	T ₀
ML100-55-G/102/115	with polarization filter	2500 mm	Red LED	Potentiometer	NPN	Fixed cable	
ML100-55-G/103/115	with polarization filter	2500 mm	Red LED	Potentiometer	PNP	Fixed cable	
ML100-55-G/95/102	with polarization filter	2500 mm	Red LED	Potentiometer	NPN	M8 connector plug	
ML100-55-G/95/103	with polarization filter	2500 mm	Red LED	Potentiometer	PNP	M8 connector plug	
ML100-54-F/102/115	with polarization filter	2700 mm	Red LED	Potentiometer	NPN	Fixed cable	
ML100-54-F/103/115	with polarization filter	2700 mm	Red LED	Potentiometer	PNP	Fixed cable	
ML100-54-F/103/115b	with polarization filter	2700 mm	Red LED	Potentiometer	PNP	Fixed cable with M12 plug	
ML100-54-F/25/102/115/154	with polarization filter	2700 mm	Red LED		NPN	Fixed cable	
ML100-54-F/25/103/115/154	with polarization filter	2700 mm	Red LED		PNP	Fixed cable	
ML100-54-F/25/103/115a/154	with polarization filter	2700 mm	Red LED		PNP	Fixed cable with M8 plug	
ML100-54-F/25/103/115b/154	with polarization filter	2700 mm	Red LED		PNP	Fixed cable with M12 plug	
ML100-54-F/25/95/102/154	with polarization filter	2700 mm	Red LED		NPN	M8 connector plug	
ML100-54-F/25/95/103/154	with polarization filter	2700 mm	Red LED		PNP	M8 connector plug	
ML100-54-F/95/102	with polarization filter	2700 mm	Red LED	Potentiometer	NPN	M8 connector plug	
ML100-54-F/95/103	with polarization filter	2700 mm	Red LED	Potentiometer	PNP	M8 connector plug	
ML100-54/102/115	with polarization filter	3500 mm	Red LED	Potentiometer	NPN	Fixed cable	
ML100-54/103/115	with polarization filter	3500 mm	Red LED	Potentiometer	PNP	Fixed cable	
ML100-54/59/82a/103/115a/154	with polarization filter	3500 mm	Red LED		PNP	Fixed cable with M8 plug	
ML100-54/95/102	with polarization filter	3500 mm	Red LED	Potentiometer	NPN	M8 connector plug	
ML100-54/95/103	with polarization filter	3500 mm	Red LED	Potentiometer	PNP	M8 connector plug	
ML100-55/102/115	with polarization filter	5000 mm	Red LED	Potentiometer	NPN	Fixed cable	
ML100-55/103/115	with polarization filter	5000 mm	Red LED	Potentiometer	PNP	Fixed cable	
ML100-55/103/115a	with polarization filter	5000 mm	Red LED	Potentiometer	PNP	Fixed cable with M8 plug	
ML100-55/103/115b	with polarization filter	5000 mm	Red LED	Potentiometer	PNP	Fixed cable with M12 plug	
ML100-55/115b/120	with polarization filter	5000 mm	Red LED	Potentiometer	PNP	Fixed cable with M12 plug	
ML100-55/25/103/115b/154	with polarization filter	5000 mm	Red LED		PNP	Fixed cable with M12 plug	
ML100-55/25/115b/120/154	with polarization filter	5000 mm	Red LED		PNP	Fixed cable with M12 plug	
ML100-55/25/95/103/154	with polarization filter	5000 mm	Red LED		PNP	M8 connector plug	
ML100-55/33/103/115-5M	with polarization filter	5000 mm	Red LED	Potentiometer	PNP	Fixed cable	
ML100-55/33/103/115a	with polarization filter	5000 mm	Red LED	Potentiometer	PNP	Fixed cable with M8 plug	
ML100-55/59/103/115	with polarization filter	5000 mm	Red LED	Potentiometer	PNP	Fixed cable	
ML100-55/59/103/115a/154	with polarization filter	5000 mm	Red LED		PNP	Fixed cable with M8 plug	
ML100-55/59/103/115b	with polarization filter	5000 mm	Red LED	Potentiometer	PNP	Fixed cable with M12 plug	
ML100-55/59/95/103	with polarization filter	5000 mm	Red LED	Potentiometer	PNP	M8 connector plug	
ML100-55/59/95/103/154	with polarization filter	5000 mm	Red LED		PNP	M8 connector plug	
ML100-55/59/98/103/154	with polarization filter	5000 mm	Red LED		PNP	M8 connector plug	
ML100-55/82a/103/115a	with polarization filter	5000 mm	Red LED	Potentiometer	PNP	Fixed cable with M8 plug	
ML100-55/95/102	with polarization filter	5000 mm	Red LED	Potentiometer	NPN	M8 connector plug	
ML100-55/95/103	with polarization filter	5000 mm	Red LED	Potentiometer	PNP	M8 connector plug	
ML100-55/98/102	with polarization filter	5000 mm	Red LED	Potentiometer	NPN	M8 connector plug	
ML100-55/98/103	with polarization filter	5000 mm	Red LED	Potentiometer	PNP	M8 connector plug	
ML100-6-IR/102/115	without polarization filter	5000 mm	Infrared LED	Potentiometer	NPN	Fixed cable	■

Model Number	Function Principle	Detection Range	Light Type	Operating Elements	Type of Output	Connection Type	
ML100-6-IR/103/115	without polarization filter	5000 mm	Infrared LED	Potentiometer	PNP	Fixed cable	■
ML100-6-IR/33/102/115	without polarization filter	5000 mm	Infrared LED	Potentiometer	NPN	Fixed cable	■
ML100-6-IR/95/102	without polarization filter	5000 mm	Infrared LED	Potentiometer	NPN	M8 connector plug	■
ML100-6-IR/95/103	without polarization filter	5000 mm	Infrared LED	Potentiometer	PNP	M8 connector plug	■



Accessories

OFR-100/100	Reflective tape, 100 mm x 100 mm
OFR-70-2	Reflective tape, 70 mm x 70 mm
OMH-10	Mounting aid
OMH-F10-ML100	Mounting aid for sensors in the ML100 series
OMH-ML100-01	Mounting aid for sensors in the ML100 series, mounting bracket
OMH-ML100-02	Mounting aid for sensors in the ML100 series, mounting bracket
OMH-ML100-03	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-ML100-04	Mounting aid for sensors in the ML100 series, mounting bracket
OMH-ML100-05	Mounting aid for sensors in the ML100 series, mounting bracket
OMH-ML100-08	Mounting aid for sensors in the ML100 series, snap-on mounting
OMH-ML100-09	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-ML100-S1	Mounting bracket
OMH-ML100-S2	Mounting aid for sensors in the ML100 series, mounting bracket
REF-C110-2	Round reflector $\varnothing$ 84 mm, mounting hole in center
REF-H33	Reflector with screw mounting
REF-H50	Rectangular reflector, 51 mm x 61 mm, mounting holes, retaining tab
REF-H60-2	Reflector with mounting holes
REF-H85-2	Rectangular reflector, 84.5 mm x 84.5 mm, mounting holes
REF-MH23-2	Rectangular reflector with microstructure, 23 mm x 14 mm, diagonal mounting hole
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

ML100 Series Diffuse Mode Sensors



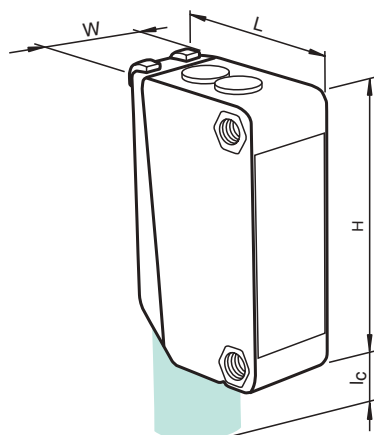
Common Technical Data

Operating elements	Potentiometer
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	20 mm
Housing width W	11 mm
Housing height H	31 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Function Principle	Detection Range	Light Type	Type of Output	Connection Type	EAC	UKCA
ML100-8-HW-350-RT/95/103	with background evaluation	350 mm	Red LED	PNP	M8 connector plug	■	■
ML100-8-H-100-RT/102/115	with background suppression	100 mm	Red LED	NPN	Fixed cable	■	■
ML100-8-H-100-RT/103/115	with background suppression	100 mm	Red LED	PNP	Fixed cable	■	■
ML100-8-H-100-RT/103/115a	with background suppression	100 mm	Red LED	PNP	Fixed cable with M8 plug	■	■
ML100-8-H-100-RT/95/102	with background suppression	100 mm	Red LED	NPN	M8 connector plug	■	■
ML100-8-H-100-RT/95/103	with background suppression	100 mm	Red LED	PNP	M8 connector plug	■	■
ML100-8-H-100/115/120/162	with background suppression	100 mm	Red LED	PNP	Fixed cable		
ML100-8-H-100/115/127/162	with background suppression	100 mm	Red LED	NPN	Fixed cable		
ML100-8-H-100/95/120/162	with background suppression	100 mm	Red LED	PNP	M8 connector plug		
ML100-8-H-100/95/127/162	with background suppression	100 mm	Red LED	NPN	M8 connector plug		
ML100-8-HGU-100-RT/102/115/162	with convergent beam	100 mm	Red LED	NPN	Fixed cable	■	■
ML100-8-HGU-100-RT/103/115/162	with convergent beam	100 mm	Red LED	PNP	Fixed cable	■	■
ML100-8-HGU-100-RT/95/102/162	with convergent beam	100 mm	Red LED	NPN	M8 connector plug	■	■
ML100-8-HGU-100-RT/95/103/162	with convergent beam	100 mm	Red LED	PNP	M8 connector plug	■	■
ML100-8-H-200-IR/102/115	with background suppression	200 mm	Infrared LED	NPN	Fixed cable	■	■
ML100-8-H-200-IR/103/115	with background suppression	200 mm	Infrared LED	PNP	Fixed cable	■	■
ML100-8-H-200-IR/95/102	with background suppression	200 mm	Infrared LED	NPN	M8 connector plug	■	■
ML100-8-H-200-IR/95/103	with background suppression	200 mm	Infrared LED	PNP	M8 connector plug	■	■
ML100-8-W-200-RT/95/103	Diffuse mode sensor, energetic	200 mm	Red LED	PNP	M8 connector plug	■	■
ML100-8-W-200-RT/102/115	Diffuse mode sensor, energetic	200 mm	Red LED	NPN	Fixed cable	■	■
ML100-8-W-200-RT/102/115b	Diffuse mode sensor, energetic	200 mm	Red LED	NPN	Fixed cable with M12 plug	■	■
ML100-8-W-200-RT/103/115	Diffuse mode sensor, energetic	200 mm	Red LED	PNP	Fixed cable	■	■
ML100-8-W-200-RT/103/115b	Diffuse mode sensor, energetic	200 mm	Red LED	PNP	Fixed cable with M12 plug	■	■
ML100-8-W-200-RT/95/102	Diffuse mode sensor, energetic	200 mm	Red LED	NPN	M8 connector plug	■	■
ML100-8-H-350-RT/102/115	with background suppression	350 mm	Red LED	NPN	Fixed cable	■	■
ML100-8-H-350-RT/102/115a	with background suppression	350 mm	Red LED	NPN	Fixed cable with M8 plug	■	■
ML100-8-H-350-RT/103/115	with background suppression	350 mm	Red LED	PNP	Fixed cable	■	■
ML100-8-H-350-RT/103/115a	with background suppression	350 mm	Red LED	PNP	Fixed cable with M8 plug	■	■
ML100-8-H-350-RT/103/115b	with background suppression	350 mm	Red LED	PNP	Fixed cable with M12 plug	■	■
ML100-8-H-350-RT/33/103/115a	with background suppression	350 mm	Red LED	PNP	Fixed cable with M8 plug	■	■
ML100-8-H-350-RT/33/103/115b	with background suppression	350 mm	Red LED	PNP	Fixed cable with M12 plug	■	■
ML100-8-H-350-RT/95/102	with background suppression	350 mm	Red LED	NPN	M8 connector plug	■	■
ML100-8-H-350-RT/95/103	with background suppression	350 mm	Red LED	PNP	M8 connector plug	■	■
ML100-8-H-350-RT/98/102	with background suppression	350 mm	Red LED	NPN	M8 connector plug	■	■
ML100-8-H-350-RT/98/103	with background suppression	350 mm	Red LED	PNP	M8 connector plug	■	■
ML100-8-HW-350-RT/102/115	with background evaluation	350 mm	Red LED	NPN	Fixed cable	■	■
ML100-8-HW-350-RT/103/115	with background evaluation	350 mm	Red LED	PNP	Fixed cable	■	■
ML100-8-HW-350-RT/95/102	with background evaluation	350 mm	Red LED	NPN	M8 connector plug	■	■
ML100-8-1000-RT/102/115	Diffuse mode sensor, energetic	1000 mm	Red LED	NPN	Fixed cable	■	■
ML100-8-1000-RT/103/115	Diffuse mode sensor, energetic	1000 mm	Red LED	PNP	Fixed cable	■	■
ML100-8-1000-RT/103/115a-1M	Diffuse mode sensor, energetic	1000 mm	Red LED	PNP	Fixed cable with M8 plug	■	■

Model Number	Function Principle	Detection Range	Light Type	Type of Output	Connection Type	EAC	UKCA
ML100-8-1000-RT/103/115b	Diffuse mode sensor, energetic	1000 mm	Red LED	PNP	Fixed cable with M12 plug	■	■
ML100-8-1000-RT/95/102	Diffuse mode sensor, energetic	1000 mm	Red LED	NPN	M8 connector plug	■	■
ML100-8-1000-RT/95/103	Diffuse mode sensor, energetic	1000 mm	Red LED	PNP	M8 connector plug	■	■
ML100-8-1000-RT/98/102	Diffuse mode sensor, energetic	1000 mm	Red LED	NPN	M8 connector plug	■	■
ML100-8-1000-RT/98/103	Diffuse mode sensor, energetic	1000 mm	Red LED	PNP	M8 connector plug	■	■



Accessories

OMH-10	Mounting aid
OMH-F10-ML100	Mounting aid for sensors in the ML100 series
OMH-ML100-01	Mounting aid for sensors in the ML100 series, mounting bracket
OMH-ML100-02	Mounting aid for sensors in the ML100 series, mounting bracket
OMH-ML100-03	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-ML100-04	Mounting aid for sensors in the ML100 series, mounting bracket
OMH-ML100-05	Mounting aid for sensors in the ML100 series, mounting bracket
OMH-ML100-09	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-ML100-S1	Mounting bracket
OMH-ML100-S2	Mounting aid for sensors in the ML100 series, mounting bracket
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray
V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

ML17 Series

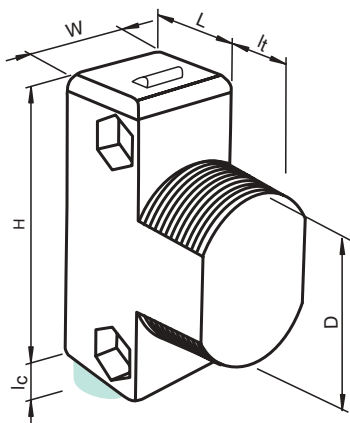


Common Technical Data

Function principle	Thru-beam sensor
Detection range	15,000 mm
Light type	Infrared LED
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	29.3 mm
Housing width W	15 mm
Housing height H	34.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Type of Output	Connection Type
MD17/115		Fixed cable
MD17/115b		Fixed cable with M12 plug
MD17/143		M8 connector plug
MD17/73		M12 connector plug
MV17/115/136	2 x push-pull	Fixed cable
MV17/115b/136	2 x push-pull	Fixed cable with M12 plug
MV17/136/143	2 x push-pull	M8 connector plug
MV17/73/136	2 x push-pull	M12 connector plug



Accessories

OMH-ML17	Mounting bracket
OMH-ML17-1	Mounting bracket
V1-G-BK2M-PUR-U	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, black, UL-approved, suitable for drag chains, torsion-proof
V1-G-BK5M-PUR-U	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, black, UL-approved, suitable for drag chains, torsion-proof
V1-W-BK2M-PUR-U	Single-ended female cordset, M12, A-coded, 4-pin, PUR cable, black, UL-approved, suitable for drag chains, torsion-proof
V1-W-BK5M-PUR-U	Single-ended female cordset, M12, A-coded, 4-pin, PUR cable, black, UL-approved, suitable for drag chains, torsion-proof
V31-GM-BK2M-PUR-U	Single-ended female cordset, straight, A-coded, 4-pin, PUR cable black, UL-approved, suitable for drag chains, torsion-proof
V31-GM-BK5M-PUR-U	Single-ended female cordset, straight, A-coded, 4-pin, PUR cable black, UL-approved, suitable for drag chains, torsion-proof
V31-WM-BK2M-PUR-U	Single-ended female cordset, angled, A-coded, 4-pin, PUR cable, black, UL-approved, suitable for drag chains, torsion-proof
V31-WM-BK5M-PUR-U	Single-ended female cordset, angled, A-coded, 4-pin, PUR cable, black, UL-approved, suitable for drag chains, torsion-proof

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

ML17 Series Retroreflective Sensors



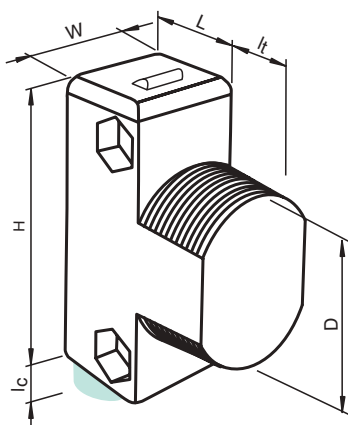
Common Technical Data

Function principle	Retroreflective sensor with polarization filter
Detection range	3500 mm
Light type	Red LED
Type of output	2 x push-pull
Operating elements	Potentiometer
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	29.3 mm
Housing width W	15 mm
Housing height H	34.5 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number Connection Type

ML17-54/115/136	Fixed cable
ML17-54/115b/136	Fixed cable with M12 plug
ML17-54/136/143	M8 connector plug
ML17-54/73/136	M12 connector plug



Accessories

OMH-ML17	Mounting bracket
OMH-ML17-1	Mounting bracket
OMH-ML17-EZ	Mounting bracket
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray
V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

ML17 Series Diffuse Mode Sensors

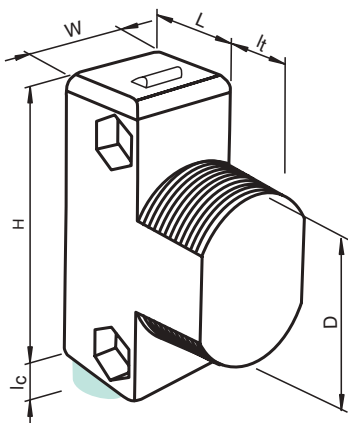


Common Technical Data

Type of output	2 x push-pull
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	29.3 mm
Housing width W	15 mm
Housing height H	34.5 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Function Principle	Detection Range	Light Type	Operating Elements	Connection Type
ML17-8-450/115/136	energetic	450 mm	Infrared LED	Potentiometer	Fixed cable
ML17-8-450/115b/136	energetic	450 mm	Infrared LED	Potentiometer	Fixed cable with M12 plug
ML17-8-450/136/143	energetic	450 mm	Infrared LED	Potentiometer	M8 connector plug
ML17-8-450/73/136	energetic	450 mm	Infrared LED	Potentiometer	M12 connector plug
ML17-8-H-50-RT/115/136	with background suppression	50 mm	Red LED		Fixed cable
ML17-8-H-50-RT/115b/136	with background suppression	50 mm	Red LED		Fixed cable with M12 plug
ML17-8-H-50-RT/136/143	with background suppression	50 mm	Red LED		M8 connector plug
ML17-8-H-50-RT/73/136	with background suppression	50 mm	Red LED		M12 connector plug
ML17-8-H-100-RT/115/136	with background suppression	100 mm	Red LED		Fixed cable
ML17-8-H-100-RT/115b/136	with background suppression	100 mm	Red LED		Fixed cable with M12 plug
ML17-8-H-100-RT/136/143	with background suppression	100 mm	Red LED		M8 connector plug
ML17-8-H-100-RT/73/136	with background suppression	100 mm	Red LED		M12 connector plug



Accessories

OMH-ML17	Mounting bracket
OMH-ML17-1	Mounting bracket
OMH-ML17-EZ	Mounting bracket
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray
V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

BB10 Series

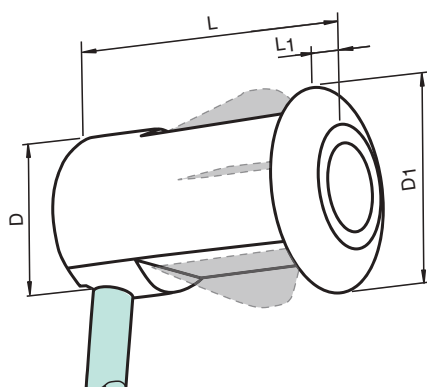


Common Technical Data

Function principle	Thru-beam sensor
Light type	Infrared LED
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	22 mm
Housing diameter D	12.5 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Type of Output	Connection Type	e1
BB10-P-F1/25/33/35/102/115-7m	3000 mm	NPN	Fixed cable	■
BB10-P-F1/25/33/35/103/115-7m	3000 mm	PNP	Fixed cable	■
BB10-P-F1/33/35/59/102/115-7m	3000 mm	NPN	Fixed cable	■
BB10-P-F1/33/35/59/103/115-7m	3000 mm	PNP	Fixed cable	■
BB10-P-F2/25/33/35/102/115-7m	3000 mm	NPN	Fixed cable	■
BB10-P-F2/25/33/35/103/115-7m	3000 mm	PNP	Fixed cable	■
BB10-P-F2/33/35/59/102/115-7m	3000 mm	NPN	Fixed cable	■
BB10-P-F2/33/35/59/103/115-7m	3000 mm	PNP	Fixed cable	■
BB10-P/25/33/76b/102/115-7m	6000 mm	NPN	Fixed cable	■
BB10-P/25/33/76b/102/115e	6000 mm	NPN	Other	■
BB10-P/25/33/76b/103/115-10m	6000 mm	PNP	Fixed cable	■
BB10-P/25/33/76b/103/115-7m	6000 mm	PNP	Fixed cable	■
BB10-P/25/33/76b/103/115a	6000 mm	PNP	Fixed cable with M8 plug	■
BB10-P/25/33/76b/103/115e	6000 mm	PNP	Other	■
BB10-P/33/59/76b/102/115-7m	6000 mm	NPN	Fixed cable	■
BB10-P/33/59/76b/103/115-7m	6000 mm	PNP	Fixed cable	■



Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

12 mm Thread Series

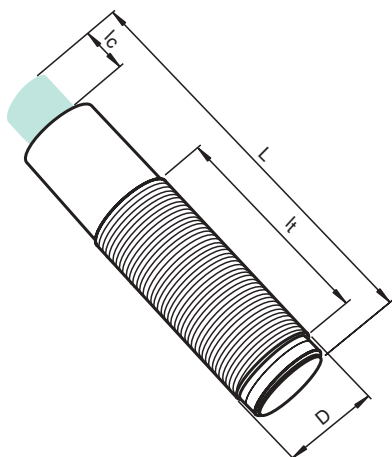


Common Technical Data

Light type	Red LED
Operating elements	Potentiometer
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing diameter D	12 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Function Principle	Detection Range	Type of Output	Connection Type	Length L
OBD300-12GM40-E4	Diffuse mode sensor, energetic	300 mm	NPN	Fixed cable	45 mm
OBD300-12GM40-E4-V1	Diffuse mode sensor, energetic	300 mm	NPN	M12 connector plug	55 mm
OBD300-12GM40-E5	Diffuse mode sensor, energetic	300 mm	PNP	Fixed cable	45 mm
OBD300-12GM40-E5-V1	Diffuse mode sensor, energetic	300 mm	PNP	M12 connector plug	55 mm
OBR2500-12GM40-E5-V1	Retroreflective sensor with polarization filter	2500 mm	PNP	M12 connector plug	55 mm
OBR2500-12GM40-E4	Retroreflective sensor with polarization filter	2500 mm	NPN	Fixed cable	45 mm
OBR2500-12GM40-E4-V1	Retroreflective sensor with polarization filter	2500 mm	NPN	M12 connector plug	55 mm
OBR2500-12GM40-E5	Retroreflective sensor with polarization filter	2500 mm	PNP	Fixed cable	45 mm
OBE6000-12GM40-SE4	Thru-beam sensor	6000 mm	NPN	Fixed cable	45 mm
OBE6000-12GM40-SE4-V1	Thru-beam sensor	6000 mm	NPN	M12 connector plug	55 mm
OBE6000-12GM40-SE5	Thru-beam sensor	6000 mm	PNP	Fixed cable	45 mm
OBE6000-12GM40-SE5-V1	Thru-beam sensor	6000 mm	PNP	M12 connector plug	55 mm



Accessories

BF 12	Mounting adapter, 12 mm
BF 12-F	Plastic mounting adapter, 12 mm
BF 5-30	Universal mounting bracket for cylindrical sensors with a 5 mm ... 30 mm diameter
OFR-100/100	Reflective tape, 100 mm x 100 mm
REF-C110-2	Round reflector ø 84 mm, mounting hole in center
REF-H50	Rectangular reflector, 51 mm x 61 mm, mounting holes, retaining tab
REF-H85-2	Rectangular reflector, 84.5 mm x 84.5 mm, mounting holes
REF-VR10	Rectangular reflector, 60 mm x 19 mm, mounting holes
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

18 mm Thread Series Thru-Beam Sensors

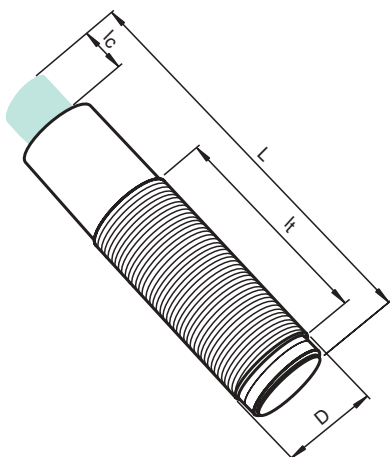


Common Technical Data

Function principle	Thru-beam sensor
Light type	Red LED
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing diameter D	18 mm
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Type of Output	Connection Type	Length L
OBE15M-18GK40A-SE0	15,000 mm	NPN	Fixed cable	53.4 mm
OBE15M-18GK40A-SE0-V1	15,000 mm	NPN	M12 connector plug	58.5 mm
OBE15M-18GK40A-SE2	15,000 mm	PNP	Fixed cable	53.4 mm
OBE15M-18GK40A-SE2-V1	15,000 mm	PNP	M12 connector plug	58.5 mm
OBE15M-18GM40A-SE0	15,000 mm	NPN	Fixed cable	53.4 mm
OBE15M-18GM40A-SE0-V1	15,000 mm	NPN	M12 connector plug	58.5 mm
OBE15M-18GM40A-SE2	15,000 mm	PNP	Fixed cable	53.4 mm
OBE15M-18GM40A-SE2-V1	15,000 mm	PNP	M12 connector plug	58.5 mm
OBE15M-18GM60A-SE4	15,000 mm	NPN	Fixed cable	73.4 mm
OBE15M-18GM60A-SE4-V1	15,000 mm	NPN	M12 connector plug	78.5 mm
OBE15M-18GM60A-SE5	15,000 mm	PNP	Fixed cable	73.4 mm
OBE15M-18GM60A-SE5-V1	15,000 mm	PNP	M12 connector plug	78.5 mm
OBE25M-18GK40-SE0	25,000 mm	NPN	Fixed cable	40 mm
OBE25M-18GK40-SE0-V1	25,000 mm	NPN	M12 connector plug	45.1 mm
OBE25M-18GK40-SE2	25,000 mm	PNP	Fixed cable	40 mm
OBE25M-18GK40-SE2-V1	25,000 mm	PNP	M12 connector plug	45.1 mm
OBE25M-18GM40-SE0	25,000 mm	NPN	Fixed cable	40 mm
OBE25M-18GM40-SE0-V1	25,000 mm	NPN	M12 connector plug	45.1 mm
OBE25M-18GM40-SE2	25,000 mm	PNP	Fixed cable	40 mm
OBE25M-18GM40-SE2-V1	25,000 mm	PNP	M12 connector plug	45.1 mm
OBE25M-18GM60-SE4	25,000 mm	NPN	Fixed cable	60 mm
OBE25M-18GM60-SE4-V1	25,000 mm	NPN	M12 connector plug	65.1 mm
OBE25M-18GM60-SE5	25,000 mm	PNP	Fixed cable	60 mm
OBE25M-18GM60-SE5-V1	25,000 mm	PNP	M12 connector plug	65.1 mm



Accessories

BF 18	Mounting adapter, 18 mm
BF 18-F	Plastic mounting adapter, 18 mm
BF 5-30	Universal mounting bracket for cylindrical sensors with a 5 mm ... 30 mm diameter
CPZ18B03	Mounting aid with swivel nut
OMH-04	Mounting aid for circular profiles ø 12 mm or flat profiles 1.5 mm ... 3 mm
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

18 mm Thread Series Retroreflective Sensors



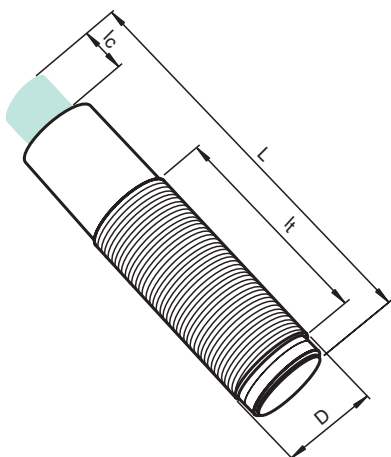
Common Technical Data

Light type	Red LED
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing diameter D	18 mm
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Function Principle	Detection Range	Operating Elements	Type of Output	Connection Type	Length L
OBG3000-18GK40A-E0	for glass detection	3000 mm	Potentiometer	NPN	Fixed cable	53.4 mm
OBG3000-18GK40A-E0-V1	for glass detection	3000 mm	Potentiometer	NPN	M12 connector plug	58.5 mm
OBG3000-18GK40A-E2	for glass detection	3000 mm	Potentiometer	PNP	Fixed cable	53.4 mm
OBG3000-18GK40A-E2-V1	for glass detection	3000 mm	Potentiometer	PNP	M12 connector plug	58.5 mm
OBG3000-18GM40A-E0	for glass detection	3000 mm	Potentiometer	NPN	Fixed cable	53.4 mm
OBG3000-18GM40A-E0-V1	for glass detection	3000 mm	Potentiometer	NPN	M12 connector plug	58.5 mm
OBG3000-18GM40A-E2	for glass detection	3000 mm	Potentiometer	PNP	Fixed cable	53.4 mm
OBG3000-18GM40A-E2-V1	for glass detection	3000 mm	Potentiometer	PNP	M12 connector plug	58.5 mm
OBG3000-18GM60A-E4	for glass detection	3000 mm	Potentiometer	NPN	Fixed cable	73.4 mm
OBG3000-18GM60A-E4-V1	for glass detection	3000 mm	Potentiometer	NPN	M12 connector plug	78.5 mm
OBG3000-18GM60A-E5	for glass detection	3000 mm	Potentiometer	PNP	Fixed cable	73.4 mm
OBG3000-18GM60A-E5-V1	for glass detection	3000 mm	Potentiometer	PNP	M12 connector plug	78.5 mm
OBG3500-18GK40-E0	for glass detection	3500 mm	Potentiometer	NPN	Fixed cable	40 mm
OBG3500-18GK40-E0-V1	for glass detection	3500 mm	Potentiometer	NPN	M12 connector plug	45.1 mm
OBG3500-18GK40-E2	for glass detection	3500 mm	Potentiometer	PNP	Fixed cable	40 mm
OBG3500-18GK40-E2-V1	for glass detection	3500 mm	Potentiometer	PNP	M12 connector plug	45.1 mm
OBG3500-18GM40-E0	for glass detection	3500 mm	Potentiometer	NPN	Fixed cable	40 mm
OBG3500-18GM40-E0-V1	for glass detection	3500 mm	Potentiometer	NPN	M12 connector plug	45.1 mm
OBG3500-18GM40-E2	for glass detection	3500 mm	Potentiometer	PNP	Fixed cable	40 mm
OBG3500-18GM40-E2-V1	for glass detection	3500 mm	Potentiometer	PNP	M12 connector plug	45.1 mm
OBG3500-18GM60-E4	for glass detection	3500 mm	Potentiometer	NPN	Fixed cable	60 mm
OBG3500-18GM60-E4-V1	for glass detection	3500 mm	Potentiometer	NPN	M12 connector plug	65.1 mm
OBG3500-18GM60-E5	for glass detection	3500 mm	Potentiometer	PNP	Fixed cable	60 mm
OBG3500-18GM60-E5-V1	for glass detection	3500 mm	Potentiometer	PNP	M12 connector plug	65.1 mm
OBR5000-18GK40A-E0	with polarization filter	5000 mm		NPN	Fixed cable	53.4 mm
OBR5000-18GK40A-E0-V1	with polarization filter	5000 mm		NPN	M12 connector plug	58.5 mm
OBR5000-18GK40A-E2	with polarization filter	5000 mm		PNP	Fixed cable	53.4 mm
OBR5000-18GK40A-E2-V1	with polarization filter	5000 mm		PNP	M12 connector plug	58.5 mm
OBR5000-18GM40A-E0	with polarization filter	5000 mm		NPN	Fixed cable	53.4 mm
OBR5000-18GM40A-E0-V1	with polarization filter	5000 mm		NPN	M12 connector plug	58.5 mm
OBR5000-18GM40A-E2	with polarization filter	5000 mm		PNP	Fixed cable	53.4 mm
OBR5000-18GM40A-E2-V1	with polarization filter	5000 mm		PNP	M12 connector plug	58.5 mm
OBR5000-18GM60A-E4	with polarization filter	5000 mm		NPN	Fixed cable	73.4 mm
OBR5000-18GM60A-E4-V1	with polarization filter	5000 mm		NPN	M12 connector plug	78.5 mm
OBR5000-18GM60A-E5	with polarization filter	5000 mm		PNP	Fixed cable	73.4 mm
OBR5000-18GM60A-E5-V1	with polarization filter	5000 mm		PNP	M12 connector plug	78.5 mm
OBR5500-18GK40-E0	with polarization filter	5500 mm		NPN	Fixed cable	40 mm
OBR5500-18GK40-E0-V1	with polarization filter	5500 mm		NPN	M12 connector plug	45.1 mm
OBR5500-18GK40-E2	with polarization filter	5500 mm		PNP	Fixed cable	40 mm
OBR5500-18GK40-E2-V1	with polarization filter	5500 mm		PNP	M12 connector plug	45.1 mm
OBR5500-18GM40-E0	with polarization filter	5500 mm		NPN	Fixed cable	40 mm
OBR5500-18GM40-E0-V1	with polarization filter	5500 mm		NPN	M12 connector plug	45.1 mm

Model Number	Function Principle	Detection Range	Operating Elements	Type of Output	Connection Type	Length L
OBR5500-18GM40-E2	with polarization filter	5500 mm		PNP	Fixed cable	40 mm
OBR5500-18GM40-E2-V1	with polarization filter	5500 mm		PNP	M12 connector plug	45.1 mm
OBR5500-18GM60-E4	with polarization filter	5500 mm		NPN	Fixed cable	60 mm
OBR5500-18GM60-E4-V1	with polarization filter	5500 mm		NPN	M12 connector plug	65.1 mm
OBR5500-18GM60-E5	with polarization filter	5500 mm		PNP	Fixed cable	60 mm
OBR5500-18GM60-E5-V1	with polarization filter	5500 mm		PNP	M12 connector plug	65.1 mm



Accessories

BF 18	Mounting adapter, 18 mm
BF 18-F	Plastic mounting adapter, 18 mm
BF 5-30	Universal mounting bracket for cylindrical sensors with a 5 mm ... 30 mm diameter
CPZ18B03	Mounting aid with swivel nut
OFR-100/100	Reflective tape, 100 mm x 100 mm
OMH-04	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
REF-C110-2	Round reflector $\varnothing$ 84 mm, mounting hole in center
REF-H50	Rectangular reflector, 51 mm x 61 mm, mounting holes, retaining tab
REF-H85-2	Rectangular reflector, 84.5 mm x 84.5 mm, mounting holes
REF-VR10	Rectangular reflector, 60 mm x 19 mm, mounting holes
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Light Barriers / Diffuse Mode Sensors

18 mm Thread Series Diffuse Mode Sensors



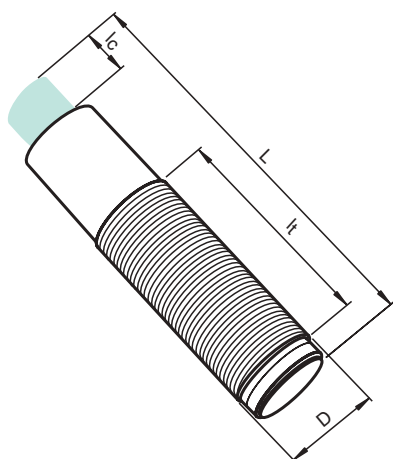
Common Technical Data

Light type	Red LED
Operating elements	Potentiometer
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing diameter D	18 mm
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Function Principle	Detection Range	Type of Output	Connection Type	Length L
OBD450-18GK40A-E0	energetic	450 mm	NPN	Fixed cable	53.4 mm
OBD450-18GK40A-E0-V1	energetic	450 mm	NPN	M12 connector plug	58.5 mm
OBD450-18GK40A-E2	energetic	450 mm	PNP	Fixed cable	53.4 mm
OBD450-18GK40A-E2-V1	energetic	450 mm	PNP	M12 connector plug	58.5 mm
OBD450-18GM40A-E0	energetic	450 mm	NPN	Fixed cable	53.4 mm
OBD450-18GM40A-E0-V1	energetic	450 mm	NPN	M12 connector plug	58.5 mm
OBD450-18GM40A-E2	energetic	450 mm	PNP	Fixed cable	53.4 mm
OBD450-18GM40A-E2-V1	energetic	450 mm	PNP	M12 connector plug	58.5 mm
OBD450-18GM60A-E4	energetic	450 mm	NPN	Fixed cable	73.4 mm
OBD450-18GM60A-E4-V1	energetic	450 mm	NPN	M12 connector plug	78.5 mm
OBD450-18GM60A-E5	energetic	450 mm	PNP	Fixed cable	73.4 mm
OBD450-18GM60A-E5-V1	energetic	450 mm	PNP	M12 connector plug	78.5 mm
OBD600-18GK40-E0	energetic	600 mm	NPN	Fixed cable	40 mm
OBD600-18GK40-E0-V1	energetic	600 mm	NPN	M12 connector plug	45.1 mm
OBD600-18GK40-E2	energetic	600 mm	PNP	Fixed cable	40 mm
OBD600-18GK40-E2-V1	energetic	600 mm	PNP	M12 connector plug	45.1 mm
OBD600-18GM40-E0	energetic	600 mm	NPN	Fixed cable	40 mm
OBD600-18GM40-E0-V1	energetic	600 mm	NPN	M12 connector plug	45.1 mm
OBD600-18GM40-E2	energetic	600 mm	PNP	Fixed cable	40 mm
OBD600-18GM40-E2-V1	energetic	600 mm	PNP	M12 connector plug	45.1 mm
OBD600-18GM60-E4	energetic	600 mm	NPN	Fixed cable	60 mm
OBD600-18GM60-E4-V1	energetic	600 mm	NPN	M12 connector plug	65.1 mm
OBD600-18GM60-E5	energetic	600 mm	PNP	Fixed cable	60 mm
OBD600-18GM60-E5-V1	energetic	600 mm	PNP	M12 connector plug	65.1 mm
OBT150-18GK40-E0	with background suppression	150 mm	NPN	Fixed cable	40 mm
OBT150-18GK40-E0-V1	with background suppression	150 mm	NPN	M12 connector plug	45.1 mm
OBT150-18GK40-E2	with background suppression	150 mm	PNP	Fixed cable	40 mm
OBT150-18GK40-E2-V1	with background suppression	150 mm	PNP	M12 connector plug	45.1 mm
OBT150-18GM40-E0	with background suppression	150 mm	NPN	Fixed cable	40 mm
OBT150-18GM40-E0-V1	with background suppression	150 mm	NPN	M12 connector plug	45.1 mm
OBT150-18GM40-E2	with background suppression	150 mm	PNP	Fixed cable	40 mm
OBT150-18GM40-E2-V1	with background suppression	150 mm	PNP	M12 connector plug	45.1 mm
OBT150-18GM60-E4	with background suppression	150 mm	NPN	Fixed cable	60 mm
OBT150-18GM60-E4-V1	with background suppression	150 mm	NPN	M12 connector plug	65.1 mm
OBT150-18GM60-E5	with background suppression	150 mm	PNP	Fixed cable	60 mm
OBT150-18GM60-E5-V1	with background suppression	150 mm	PNP	M12 connector plug	65.1 mm
OBT300-18GK40-E0	with background suppression	300 mm	NPN	Fixed cable	40 mm
OBT300-18GK40-E0-V1	with background suppression	300 mm	NPN	M12 connector plug	45.1 mm
OBT300-18GK40-E2	with background suppression	300 mm	PNP	Fixed cable	40 mm
OBT300-18GK40-E2-V1	with background suppression	300 mm	PNP	M12 connector plug	45.1 mm
OBT300-18GM40-E0	with background suppression	300 mm	NPN	Fixed cable	40 mm
OBT300-18GM40-E0-V1	with background suppression	300 mm	NPN	M12 connector plug	45.1 mm

Model Number	Function Principle	Detection Range	Type of Output	Connection Type	Length L
OBT300-18GM40-E2	with background suppression	300 mm	PNP	Fixed cable	40 mm
OBT300-18GM40-E2-V1	with background suppression	300 mm	PNP	M12 connector plug	45.1 mm
OBT300-18GM60-E4	with background suppression	300 mm	NPN	Fixed cable	60 mm
OBT300-18GM60-E4-V1	with background suppression	300 mm	NPN	M12 connector plug	65.1 mm
OBT300-18GM60-E5	with background suppression	300 mm	PNP	Fixed cable	60 mm
OBT300-18GM60-E5-V1	with background suppression	300 mm	PNP	M12 connector plug	65.1 mm



Accessories

BF 18	Mounting adapter, 18 mm
BF 18-F	Plastic mounting adapter, 18 mm
BF 5-30	Universal mounting bracket for cylindrical sensors with a 5 mm ... 30 mm diameter
CPZ18B03	Mounting aid with swivel nut
OMH-04	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray

Intelligent Functionality for Incredible Precision



Extensive knowledge of engineering enables Pepperl+Fuchs to produce distance-based photoelectric sensors that use the innovative PRT (Pulse Ranging Technology) and MPT (Multi Pixel Technology) measuring principles. This integrated intelligence ensures the highest levels of precision and safety during object detection.

2-D LiDAR Sensors

The R2000 series 2-D laser scanners with 360° measuring angle achieve maximum power in the most compact housing design. The R2100 multi-ray LED scanner guarantees maximum robustness and cost efficiency. The optimized portfolio of 2-D LiDAR sensors from Pepperl+Fuchs thus offers solutions from basic to high-end applications.

Typical Applications

- Navigation of driverless transport systems
- Profile detection in robotics applications
- Collision avoidance in automated storage and retrieval systems or suspended conveyor systems
- Detection of overhangs, e.g., for pallets
- Highly precise monitoring of large areas

The Benefits of Selected 2-D LiDAR Sensors at a Glance

R2000 UHD 2-D Laser Scanner:

- Small light spot for detecting the smallest of objects and precise edge detection
- All-round visibility thanks to 360° measuring angle and up to 100 m detection range
- Optimized for quick measurement applications with a high scan rate of 100 Hz
- Highest angular resolution of 0.014° for highly precise navigation and positioning tasks

R2100 Multi-Ray LED Scanner:

- LED measurement guarantees a long service life
- Ideal for mechanically demanding applications as there are no moving parts in the sensor
- 2-D measurement over 11 individual beams
- Large light spots tolerate different surface structures



Pulse Ranging Technology (PRT) for Medium to Very Long Ranges

Equipped with the innovative Pulse ranging Technology (PRT), the distance sensors from Pepperl+Fuchs detect objects at distances from a few centimeters to several hundred meters with millimeter precision. Thanks to intelligent sensor electronics, PRT allows highly accurate, reliable, and clear measurements with high repeatability and fast response times, even with difficult environmental conditions and object properties. The VDM28 series offers stable production processes thanks to high immunity and resistance to environmental influences. It offers a wide range of applications thanks to the availability of switching and measuring sensors, including with IO-Link. The VDM100 distance measurement devices offer increased productivity with ultra-fast, continuous measurement and high reliability with a measuring range of up to 300 m and an accuracy of 0.5 mm.

Typical Applications

- Positioning of automated storage and retrieval systems, portal cranes or moving carriages
- Level measurement
- Compartment occupied check in high-bay warehouses
- Stack height control
- Thickness measurement of coils

Multi Pixel Technology (MPT) for Near-Range Applications

Multi Pixel Technology from Pepperl+Fuchs uses the proven triangulation principle for the precise measurement of distances to shorter distances. Target objects are clearly distinguished from the background, while adjustable operating modes allow interfering objects in the foreground or background to be reliably suppressed. No other technology provides greater reliability in object detection at short distances.

The R10x and R20x series offer an end-to-end solution of photoelectric functional principles and innovative technologies in an identical housing. Equipped with IO-Link, the series meet all the requirements of Sensorik4.0.

Typical Applications

- Well suited for simple and complex applications
- Detection of objects with changing object surface and structure
- Evaluation of multiple switching thresholds or switching windows
- Suitable for applications in highly fluctuating ambient conditions

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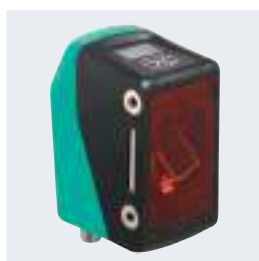
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Photoelectric Sensors—Distance Sensors

R100 Series



Common Technical Data

Function principle	Distance sensor
Interface	IO-Link
Operating elements	Push-button
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	21.5 mm
Housing width W	11 mm
Housing height H	44.5 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type	Type of Output	Connection Type
OMT50-R100-2EP-IO	50 mm	Red LED	2 x push-pull	Fixed cable
OMT50-R100-2EP-IO-0,3M-V1	50 mm	Red LED	2 x push-pull	Fixed cable with M12 plug
OMT50-R100-2EP-IO-0,3M-V1-L	50 mm	Red laser diode	2 x push-pull	Fixed cable with M12 plug
OMT50-R100-2EP-IO-0,3M-V31	50 mm	Red LED	2 x push-pull	Fixed cable with M8 plug
OMT50-R100-2EP-IO-0,3M-V31-L	50 mm	Red laser diode	2 x push-pull	Fixed cable with M8 plug
OMT50-R100-2EP-IO-L	50 mm	Red laser diode	2 x push-pull	Fixed cable
OMT50-R100-2EP-IO-V31	50 mm	Red LED	2 x push-pull	M8 connector plug
OMT50-R100-2EP-IO-V31-L	50 mm	Red laser diode	2 x push-pull	M8 connector plug
OMT50-R100-EP-IO-0,3M-V3	50 mm	Red LED	1 x push-pull	Fixed cable with M8 plug
OMT50-R100-EP-IO-0,3M-V3-L	50 mm	Red laser diode	1 x push-pull	Fixed cable with M8 plug
OMT50-R100-EP-IO-V3	50 mm	Red LED	1 x push-pull	M8 connector plug
OMT50-R100-EP-IO-V3-L	50 mm	Red laser diode	1 x push-pull	M8 connector plug
OMT100-R100-2EP-IO	100 mm	Red LED	2 x push-pull	Fixed cable
OMT100-R100-2EP-IO-0,3M-V1	100 mm	Red LED	2 x push-pull	Fixed cable with M12 plug
OMT100-R100-2EP-IO-0,3M-V1-L	100 mm	Red laser diode	2 x push-pull	Fixed cable with M12 plug
OMT100-R100-2EP-IO-0,3M-V31	100 mm	Red LED	2 x push-pull	Fixed cable with M8 plug
OMT100-R100-2EP-IO-0,3M-V31-L	100 mm	Red laser diode	2 x push-pull	Fixed cable with M8 plug
OMT100-R100-2EP-IO-L	100 mm	Red laser diode	2 x push-pull	Fixed cable
OMT100-R100-2EP-IO-V31	100 mm	Red LED	2 x push-pull	M8 connector plug
OMT100-R100-2EP-IO-V31-L	100 mm	Red laser diode	2 x push-pull	M8 connector plug
OMT100-R100-EP-IO-0,3M-V3	100 mm	Red LED	1 x push-pull	Fixed cable with M8 plug
OMT100-R100-EP-IO-0,3M-V3-L	100 mm	Red laser diode	1 x push-pull	Fixed cable with M8 plug
OMT100-R100-EP-IO-V3	100 mm	Red LED	1 x push-pull	M8 connector plug
OMT100-R100-EP-IO-V3-L	100 mm	Red laser diode	1 x push-pull	M8 connector plug
OMT150-R100-2EP-IO-0,3M-V1-L	150 mm	Red laser diode	2 x push-pull	Fixed cable with M12 plug
OMT150-R100-2EP-IO-0,3M-V31-L	150 mm	Red laser diode	2 x push-pull	Fixed cable with M8 plug
OMT150-R100-2EP-IO-L	150 mm	Red laser diode	2 x push-pull	Fixed cable
OMT150-R100-2EP-IO-V31-L	150 mm	Red laser diode	2 x push-pull	M8 connector plug
OMT150-R100-EP-IO-0,3M-V3-L	150 mm	Red laser diode	1 x push-pull	Fixed cable with M8 plug
OMT150-R100-EP-IO-V3-L	150 mm	Red laser diode	1 x push-pull	M8 connector plug
OMT200-R100-2EP-IO	200 mm	Red LED	2 x push-pull	Fixed cable
OMT200-R100-2EP-IO-0,3M-V1	200 mm	Red LED	2 x push-pull	Fixed cable with M12 plug
OMT200-R100-2EP-IO-0,3M-V31	200 mm	Red LED	2 x push-pull	Fixed cable with M8 plug
OMT200-R100-2EP-IO-V31	200 mm	Red LED	2 x push-pull	M8 connector plug
OMT200-R100-EP-IO-0,3M-V3	200 mm	Red LED	1 x push-pull	Fixed cable with M8 plug
OMT200-R100-EP-IO-V3	200 mm	Red LED	1 x push-pull	M8 connector plug

Photoelectric Sensors—Distance Sensors

R101 Series



Common Technical Data

Function principle	Distance sensor
Interface	IO-Link
Operating elements	Push-button
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	18.3 mm
Housing width W	13.9 mm
Housing height H	41.4 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type	Type of Output	Connection Type
OMT50-R101-2EP-IO	50 mm	Red LED	2 x push-pull	Fixed cable
OMT50-R101-2EP-IO-0,3M-V1	50 mm	Red LED	2 x push-pull	Fixed cable with M12 plug
OMT50-R101-2EP-IO-0,3M-V1-L	50 mm	Red laser diode	2 x push-pull	Fixed cable with M12 plug
OMT50-R101-2EP-IO-0,3M-V31	50 mm	Red LED	2 x push-pull	Fixed cable with M8 plug
OMT50-R101-2EP-IO-0,3M-V31-L	50 mm	Red laser diode	2 x push-pull	Fixed cable with M8 plug
OMT50-R101-2EP-IO-L	50 mm	Red laser diode	2 x push-pull	Fixed cable
OMT50-R101-2EP-IO-V31	50 mm	Red LED	2 x push-pull	M8 connector plug
OMT50-R101-2EP-IO-V31-L	50 mm	Red laser diode	2 x push-pull	M8 connector plug
OMT50-R101-EP-IO-0,3M-V3	50 mm	Red LED	1 x push-pull	Fixed cable with M8 plug
OMT50-R101-EP-IO-0,3M-V3-L	50 mm	Red laser diode	1 x push-pull	Fixed cable with M8 plug
OMT50-R101-EP-IO-V3	50 mm	Red LED	1 x push-pull	M8 connector plug
OMT50-R101-EP-IO-V3-L	50 mm	Red laser diode	1 x push-pull	M8 connector plug
OMT100-R101-2EP-IO	100 mm	Red LED	2 x push-pull	Fixed cable
OMT100-R101-2EP-IO-0,3M-V1	100 mm	Red LED	2 x push-pull	Fixed cable with M12 plug
OMT100-R101-2EP-IO-0,3M-V1-L	100 mm	Red laser diode	2 x push-pull	Fixed cable with M12 plug
OMT100-R101-2EP-IO-0,3M-V31	100 mm	Red LED	2 x push-pull	Fixed cable with M8 plug
OMT100-R101-2EP-IO-0,3M-V31-L	100 mm	Red laser diode	2 x push-pull	Fixed cable with M8 plug
OMT100-R101-2EP-IO-L	100 mm	Red laser diode	2 x push-pull	Fixed cable
OMT100-R101-2EP-IO-V31	100 mm	Red LED	2 x push-pull	M8 connector plug
OMT100-R101-2EP-IO-V31-L	100 mm	Red laser diode	2 x push-pull	M8 connector plug
OMT100-R101-EP-IO-0,3M-V3	100 mm	Red LED	1 x push-pull	Fixed cable with M8 plug
OMT100-R101-EP-IO-0,3M-V3-L	100 mm	Red laser diode	1 x push-pull	Fixed cable with M8 plug
OMT100-R101-EP-IO-V3	100 mm	Red LED	1 x push-pull	M8 connector plug
OMT100-R101-EP-IO-V3-L	100 mm	Red laser diode	1 x push-pull	M8 connector plug
OMT150-R101-2EP-IO-0,3M-V1-L	150 mm	Red laser diode	2 x push-pull	Fixed cable with M12 plug
OMT150-R101-2EP-IO-0,3M-V31-L	150 mm	Red laser diode	2 x push-pull	Fixed cable with M8 plug
OMT150-R101-2EP-IO-L	150 mm	Red laser diode	2 x push-pull	Fixed cable
OMT150-R101-2EP-IO-V31-L	150 mm	Red laser diode	2 x push-pull	M8 connector plug
OMT150-R101-EP-IO-0,3M-V3-L	150 mm	Red laser diode	1 x push-pull	Fixed cable with M8 plug
OMT150-R101-EP-IO-V3-L	150 mm	Red laser diode	1 x push-pull	M8 connector plug
OMT200-R101-2EP-IO	200 mm	Red LED	2 x push-pull	Fixed cable
OMT200-R101-2EP-IO-0,3M-V1	200 mm	Red LED	2 x push-pull	Fixed cable with M12 plug
OMT200-R101-2EP-IO-0,3M-V31	200 mm	Red LED	2 x push-pull	Fixed cable with M8 plug
OMT200-R101-2EP-IO-V31	200 mm	Red LED	2 x push-pull	M8 connector plug
OMT200-R101-EP-IO-0,3M-V3	200 mm	Red LED	1 x push-pull	Fixed cable with M8 plug
OMT200-R101-EP-IO-V3	200 mm	Red LED	1 x push-pull	M8 connector plug

Photoelectric Sensors—Distance Sensors

R103 Series



Common Technical Data

Function principle	Distance sensor
Interface	IO-Link
Operating elements	Push-button
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	26.7 mm
Housing width W	15 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type	Type of Output	Connection Type	Height H
OMT45-R103-EP-IO-V3-L	45 mm	Red laser diode	1 x push-pull	M8 connector plug	43.9 mm
OMT45-R103-2EP-IO	45 mm	Red LED	2 x push-pull	Fixed cable	36.5 mm
OMT45-R103-2EP-IO-0,M-V1	45 mm	Red LED	2 x push-pull	Fixed cable with M12 plug	36.5 mm
OMT45-R103-2EP-IO-0,3M-V1-L	45 mm	Red laser diode	2 x push-pull	Fixed cable with M12 plug	36.5 mm
OMT45-R103-2EP-IO-0,3M-V31	45 mm	Red LED	2 x push-pull	Fixed cable with M8 plug	36.5 mm
OMT45-R103-2EP-IO-0,3M-V31-L	45 mm	Red laser diode	2 x push-pull	Fixed cable with M8 plug	36.5 mm
OMT45-R103-2EP-IO-L	45 mm	Red laser diode	2 x push-pull	Fixed cable	36.5 mm
OMT45-R103-2EP-IO-V31	45 mm	Red LED	2 x push-pull	M8 connector plug	43.9 mm
OMT45-R103-2EP-IO-V31-L	45 mm	Red laser diode	2 x push-pull	M8 connector plug	43.9 mm
OMT45-R103-EP-IO-0,3M-V3	45 mm	Red LED	1 x push-pull	Fixed cable with M8 plug	36.5 mm
OMT45-R103-EP-IO-0,3M-V3-L	45 mm	Red laser diode	1 x push-pull	Fixed cable with M8 plug	36.5 mm
OMT45-R103-EP-IO-V3	45 mm	Red LED	1 x push-pull	M8 connector plug	43.9 mm
OMT100-R103-2EP-IO	100 mm	Red LED	2 x push-pull	Fixed cable	36.5 mm
OMT100-R103-2EP-IO-0.3M-V1	100 mm	Red LED	2 x push-pull	Fixed cable with M12 plug	36.5 mm
OMT100-R103-2EP-IO-0,3M-V31	100 mm	Red LED	2 x push-pull	Fixed cable with M8 plug	36.5 mm
OMT100-R103-2EP-IO-V31	100 mm	Red LED	2 x push-pull	M8 connector plug	43.9 mm
OMT100-R103-EP-IO-0,3M-V3	100 mm	Red LED	1 x push-pull	Fixed cable with M8 plug	36.5 mm
OMT100-R103-EP-IO-V3	100 mm	Red LED	1 x push-pull	M8 connector plug	43.9 mm
OMT120-R103-2EP-IO-0,3M-V1-L	120 mm	Red laser diode	2 x push-pull	Fixed cable with M12 plug	36.5 mm
OMT120-R103-2EP-IO-0,3M-V31-L	120 mm	Red laser diode	2 x push-pull	Fixed cable with M8 plug	36.5 mm
OMT120-R103-2EP-IO-L	120 mm	Red laser diode	2 x push-pull	Fixed cable	36.5 mm
OMT120-R103-2EP-IO-V31-L	120 mm	Red laser diode	2 x push-pull	M8 connector plug	43.9 mm
OMT120-R103-EP-IO-0,3M-V3-L	120 mm	Red laser diode	1 x push-pull	Fixed cable with M8 plug	36.5 mm
OMT120-R103-EP-IO-V3-L	120 mm	Red laser diode	1 x push-pull	M8 connector plug	43.9 mm
OMT150-R103-2EP-IO	150 mm	Red LED	2 x push-pull	Fixed cable	36.5 mm
OMT150-R103-2EP-IO-0,3M-V1	150 mm	Red LED	2 x push-pull	Fixed cable with M12 plug	36.5 mm
OMT150-R103-2EP-IO-0,3M-V31	150 mm	Red LED	2 x push-pull	Fixed cable with M8 plug	36.5 mm
OMT150-R103-2EP-IO-V31	150 mm	Red LED	2 x push-pull	M8 connector plug	43.9 mm
OMT150-R103-EP-IO-0,3M-V3	150 mm	Red LED	1 x push-pull	Fixed cable with M8 plug	36.5 mm
OMT150-R103-EP-IO-V3	150 mm	Red LED	1 x push-pull	M8 connector plug	43.9 mm

Photoelectric Sensors—Distance Sensors

R200 Series



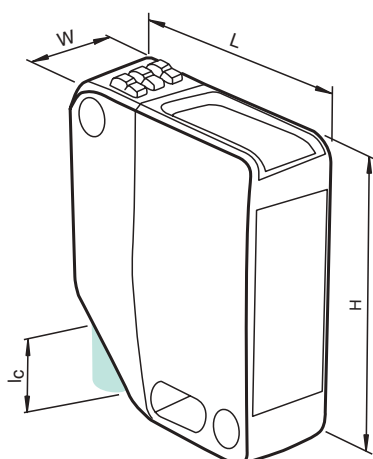
Common Technical Data

Function principle	Distance sensor
Interface	IO-Link
Operating elements	Push-button
Type of voltage	DC
Operating voltage (max)	30 V
Housing length L	41.7 mm
Housing width W	15 mm
Housing height H	50.6 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type	Type of Output	UB (Min)	Connection Type
OMT300-R200-2EP-IO	300 mm	Red LED	2 x push-pull	10 V	Fixed cable
OMT300-R200-2EP-IO-0,3M-V1	300 mm	Red LED	2 x push-pull	10 V	Fixed cable with M12 plug
OMT300-R200-2EP-IO-0,3M-V1-L	300 mm	Red laser diode	2 x push-pull	10 V	Fixed cable with M12 plug
OMT300-R200-2EP-IO-0,3M-V31	300 mm	Red LED	2 x push-pull	10 V	Fixed cable with M8 plug
OMT300-R200-2EP-IO-0,3M-V31-L	300 mm	Red laser diode	2 x push-pull	10 V	Fixed cable with M8 plug
OMT300-R200-2EP-IO-L	300 mm	Red laser diode	2 x push-pull	10 V	Fixed cable
OMT300-R200-2EP-IO-V1	300 mm	Red LED	2 x push-pull	10 V	M12 connector plug
OMT300-R200-2EP-IO-V1-L	300 mm	Red laser diode	2 x push-pull	10 V	M12 connector plug
OMT300-R200-2EP-IO-V31	300 mm	Red LED	2 x push-pull	10 V	M8 connector plug
OMT300-R200-2EP-IO-V31-L	300 mm	Red laser diode	2 x push-pull	10 V	M8 connector plug
OMT300-R200-EP-IO-0,3M-V3	300 mm	Red LED	1 x push-pull	10 V	Fixed cable with M8 plug
OMT300-R200-EP-IO-0,3M-V3-L	300 mm	Red laser diode	1 x push-pull	10 V	Fixed cable with M8 plug
OMT300-R200-EP-IO-V3	300 mm	Red LED	1 x push-pull	10 V	M8 connector plug
OMT300-R200-EP-IO-V3-L	300 mm	Red laser diode	1 x push-pull	10 V	M8 connector plug
OMT300-R200-IEP-IO-0,3M-V1	300 mm	Red LED	1 x push-pull, 1 x analog	18 V	Fixed cable with M12 plug
OMT300-R200-IEP-IO-0,3M-V1-L	300 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	Fixed cable with M12 plug
OMT300-R200-IEP-IO-0,3M-V31	300 mm	Red LED	1 x push-pull, 1 x analog	18 V	Fixed cable with M8 plug
OMT300-R200-IEP-IO-0,3M-V31-L	300 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	Fixed cable with M8 plug
OMT300-R200-IEP-IO-V1	300 mm	Red LED	1 x push-pull, 1 x analog	18 V	M12 connector plug
OMT300-R200-IEP-IO-V1-L	300 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	M12 connector plug
OMT300-R200-IEP-IO-V31	300 mm	Red LED	1 x push-pull, 1 x analog	18 V	M8 connector plug
OMT300-R200-IEP-IO-V31-L	300 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	M8 connector plug
OMT300-R200-UEP-IO-0,3M-V1	300 mm	Red LED	1 x push-pull, 1 x analog	18 V	Fixed cable with M12 plug
OMT300-R200-UEP-IO-0,3M-V1-L	300 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	Fixed cable with M12 plug
OMT300-R200-UEP-IO-0,3M-V31	300 mm	Red LED	1 x push-pull, 1 x analog	18 V	Fixed cable with M8 plug
OMT300-R200-UEP-IO-0,3M-V31-L	300 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	Fixed cable with M8 plug
OMT300-R200-UEP-IO-V1	300 mm	Red LED	1 x push-pull, 1 x analog	18 V	M12 connector plug
OMT300-R200-UEP-IO-V1-L	300 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	M12 connector plug
OMT300-R200-UEP-IO-V31	300 mm	Red LED	1 x push-pull, 1 x analog	18 V	M8 connector plug
OMT300-R200-UEP-IO-V31-L	300 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	M8 connector plug
OMT550-R200-2EP-IO	550 mm	Red LED	2 x push-pull	10 V	Fixed cable
OMT550-R200-2EP-IO-0,3M-V1	550 mm	Red LED	2 x push-pull	10 V	Fixed cable with M12 plug
OMT550-R200-2EP-IO-0,3M-V31	550 mm	Red LED	2 x push-pull	10 V	Fixed cable with M8 plug
OMT550-R200-2EP-IO-V1	550 mm	Red LED	2 x push-pull	10 V	M12 connector plug
OMT550-R200-2EP-IO-V31	550 mm	Red LED	2 x push-pull	10 V	M8 connector plug
OMT550-R200-EP-IO-0,3M-V3	550 mm	Red LED	1 x push-pull	10 V	Fixed cable with M8 plug
OMT550-R200-EP-IO-V3	550 mm	Red LED	1 x push-pull	10 V	M8 connector plug
OMT550-R200-IEP-IO-0,3M-V1	550 mm	Red LED	1 x push-pull, 1 x analog	18 V	Fixed cable with M12 plug
OMT550-R200-IEP-IO-0,3M-V31	550 mm	Red LED	1 x push-pull, 1 x analog	18 V	Fixed cable with M8 plug
OMT550-R200-IEP-IO-V1	550 mm	Red LED	1 x push-pull, 1 x analog	18 V	M12 connector plug
OMT550-R200-IEP-IO-V31	550 mm	Red LED	1 x push-pull, 1 x analog	18 V	M8 connector plug
OMT550-R200-UEP-IO-0,3M-V1	550 mm	Red LED	1 x push-pull, 1 x analog	18 V	Fixed cable with M12 plug

Model Number	Detection Range	Light Type	Type of Output	UB (Min)	Connection Type
OMT550-R200-UEP-IO-0,3M-V31	550 mm	Red LED	1 x push-pull, 1 x analog	18 V	Fixed cable with M8 plug
OMT550-R200-UEP-IO-V1	550 mm	Red LED	1 x push-pull, 1 x analog	18 V	M12 connector plug
OMT550-R200-UEP-IO-V31	550 mm	Red LED	1 x push-pull, 1 x analog	18 V	M8 connector plug
OMT600-R200-2EP-IO-0,3M-V1-L	600 mm	Red laser diode	2 x push-pull	10 V	Fixed cable with M12 plug
OMT600-R200-2EP-IO-0,3M-V31-L	600 mm	Red laser diode	2 x push-pull	10 V	Fixed cable with M8 plug
OMT600-R200-2EP-IO-L	600 mm	Red laser diode	2 x push-pull	10 V	Fixed cable
OMT600-R200-2EP-IO-V1-L	600 mm	Red laser diode	2 x push-pull	10 V	M12 connector plug
OMT600-R200-2EP-IO-V31-L	600 mm	Red laser diode	2 x push-pull	10 V	M8 connector plug
OMT600-R200-EP-IO-0,3M-V3-L	600 mm	Red laser diode	1 x push-pull	10 V	Fixed cable with M8 plug
OMT600-R200-EP-IO-V3-L	600 mm	Red laser diode	1 x push-pull	10 V	M8 connector plug
OMT600-R200-IEP-IO-0,3M-V1-L	600 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	Fixed cable with M12 plug
OMT600-R200-IEP-IO-0,3M-V31-L	600 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	Fixed cable with M8 plug
OMT600-R200-IEP-IO-V1-L	600 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	M12 connector plug
OMT600-R200-IEP-IO-V31-L	600 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	M8 connector plug
OMT600-R200-UEP-IO-0,3M-V1-L	600 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	Fixed cable with M12 plug
OMT600-R200-UEP-IO-0,3M-V31-L	600 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	Fixed cable with M8 plug
OMT600-R200-UEP-IO-V1-L	600 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	M12 connector plug
OMT600-R200-UEP-IO-V31-L	600 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	M8 connector plug



Accessories

ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE2-8IOL-G65L-V1D	Ethernet/IP IO-Link master with 8 inputs/outputs
ICE2-8IOL-K45P-RJ45	Ethernet/IP IO-Link master with 8 inputs/outputs, DIN mounting rail, push-in connector
ICE2-8IOL-K45S-RJ45	Ethernet/IP IO-Link master with 8 inputs/outputs, DIN mounting rail, screw terminal
ICE3-8IOL-G65L-V1D	PROFINET IO IO-Link master with 8 inputs/outputs
ICE3-8IOL-K45P-RJ45	PROFINET IO IO-Link master with 8 inputs/outputs, DIN mounting rail, push-in connector
ICE3-8IOL-K45S-RJ45	PROFINET IO IO-Link master with 8 inputs/outputs, DIN mounting rail, screw terminal
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 plug for sensor connection
OMH-MLV12-HWG	Mounting bracket for MLV12 series sensors
OMH-MLV12-HWK	Mounting bracket for MLV12 series sensors
OMH-R200-01	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-R20x-Quick-Mount	Quick mounting aid
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray
V3-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 3-pin, PUR cable, gray

Photoelectric Sensors—Distance Sensors

R201 Series



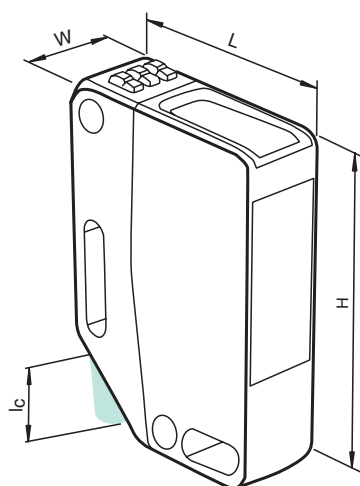
Common Technical Data

Function principle	Distance sensor
Interface	IO-Link
Operating elements	Push-button
Type of voltage	DC
Operating voltage (max)	30 V
Housing length L	41.7 mm
Housing width W	15 mm
Housing height H	61.7 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type	Type of Output	UB (Min)	Connection Type
OMT300-R201-2EP-IO	300 mm	Red LED	2 x push-pull	10 V	Fixed cable
OMT300-R201-2EP-IO-L	300 mm	Red laser diode	2 x push-pull	10 V	Fixed cable
OMT300-R201-2EP-IO-V1	300 mm	Red LED	2 x push-pull	10 V	M12 connector plug
OMT300-R201-2EP-IO-0,3M-V1	300 mm	Red LED	2 x push-pull	10 V	Fixed cable with M12 plug
OMT300-R201-2EP-IO-V31	300 mm	Red LED	2 x push-pull	10 V	M8 connector plug
OMT300-R201-2EP-IO-0,3M-V31	300 mm	Red LED	2 x push-pull	10 V	Fixed cable with M8 plug
OMT300-R201-EP-IO-V3	300 mm	Red LED	1 x push-pull	10 V	M8 connector plug
OMT300-R201-EP-IO-0,3M-V3	300 mm	Red LED	1 x push-pull	10 V	Fixed cable with M8 plug
OMT300-R201-IEP-IO-V1	300 mm	Red LED	1 x push-pull, 1 x analog	18 V	M12 connector plug
OMT300-R201-IEP-IO-0,3M-V1	300 mm	Red LED	1 x push-pull, 1 x analog	18 V	Fixed cable with M12 plug
OMT300-R201-IEP-IO-V31	300 mm	Red LED	1 x push-pull, 1 x analog	18 V	M8 connector plug
OMT300-R201-IEP-IO-0,3M-V31	300 mm	Red LED	1 x push-pull, 1 x analog	18 V	Fixed cable with M8 plug
OMT300-R201-UEP-IO-V1	300 mm	Red LED	1 x push-pull, 1 x analog	18 V	M12 connector plug
OMT300-R201-UEP-IO-0,3M-V1	300 mm	Red LED	1 x push-pull, 1 x analog	18 V	Fixed cable with M12 plug
OMT300-R201-UEP-IO-V31	300 mm	Red LED	1 x push-pull, 1 x analog	18 V	M8 connector plug
OMT300-R201-UEP-IO-0,3M-V31	300 mm	Red LED	1 x push-pull, 1 x analog	18 V	Fixed cable with M8 plug
OMT300-R201-2EP-IO-V1-L	300 mm	Red laser diode	2 x push-pull	10 V	M12 connector plug
OMT300-R201-2EP-IO-0,3M-V1-L	300 mm	Red laser diode	2 x push-pull	10 V	Fixed cable with M12 plug
OMT300-R201-2EP-IO-0,3M-V31-L	300 mm	Red laser diode	2 x push-pull	10 V	Fixed cable with M8 plug
OMT300-R201-2EP-IO-V31-L	300 mm	Red laser diode	2 x push-pull	10 V	M8 connector plug
OMT300-R201-EP-IO-0,3M-V3-L	300 mm	Red laser diode	1 x push-pull	10 V	Fixed cable with M8 plug
OMT300-R201-EP-IO-V3-L	300 mm	Red laser diode	1 x push-pull	10 V	M8 connector plug
OMT300-R201-IEP-IO-0,3M-V1-L	300 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	Fixed cable with M12 plug
OMT300-R201-IEP-IO-0,3M-V31-L	300 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	Fixed cable with M8 plug
OMT300-R201-IEP-IO-V1-L	300 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	M12 connector plug
OMT300-R201-IEP-IO-V31-L	300 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	M8 connector plug
OMT300-R201-UEP-IO-0,3M-V1-L	300 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	Fixed cable with M12 plug
OMT300-R201-UEP-IO-0,3M-V31-L	300 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	Fixed cable with M8 plug
OMT300-R201-UEP-IO-V1-L	300 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	M12 connector plug
OMT300-R201-UEP-IO-V31-L	300 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	M8 connector plug
OMT550-R201-2EP-IO	550 mm	Red LED	2 x push-pull	10 V	Fixed cable
OMT550-R201-2EP-IO-V1	550 mm	Red LED	2 x push-pull	10 V	M12 connector plug
OMT550-R201-2EP-IO-0,3M-V1	550 mm	Red LED	2 x push-pull	10 V	Fixed cable with M12 plug
OMT550-R201-2EP-IO-V31	550 mm	Red LED	2 x push-pull	10 V	M8 connector plug
OMT550-R201-2EP-IO-0,3M-V31	550 mm	Red LED	2 x push-pull	10 V	Fixed cable with M8 plug
OMT550-R201-EP-IO-V3	550 mm	Red LED	1 x push-pull	10 V	M8 connector plug
OMT550-R201-EP-IO-0,3M-V3	550 mm	Red LED	1 x push-pull	10 V	Fixed cable with M8 plug
OMT550-R201-IEP-IO-V1	550 mm	Red LED	1 x push-pull, 1 x analog	18 V	M12 connector plug
OMT550-R201-IEP-IO-0,3M-V1	550 mm	Red LED	1 x push-pull, 1 x analog	18 V	Fixed cable with M12 plug
OMT550-R201-IEP-IO-V31	550 mm	Red LED	1 x push-pull, 1 x analog	18 V	M8 connector plug
OMT550-R201-IEP-IO-0,3M-V31	550 mm	Red LED	1 x push-pull, 1 x analog	18 V	Fixed cable with M8 plug
OMT550-R201-UEP-IO-V1	550 mm	Red LED	1 x push-pull, 1 x analog	18 V	M12 connector plug

Model Number	Detection Range	Light Type	Type of Output	UB (Min)	Connection Type
OMT550-R201-UEP-IO-0,3M-V1	550 mm	Red LED	1 x push-pull, 1 x analog	18 V	Fixed cable with M12 plug
OMT550-R201-UEP-IO-V31	550 mm	Red LED	1 x push-pull, 1 x analog	18 V	M8 connector plug
OMT550-R201-UEP-IO-0,3M-V31	550 mm	Red LED	1 x push-pull, 1 x analog	18 V	Fixed cable with M8 plug
OMT600-R201-2EP-IO-0,3M-V1-L	600 mm	Red laser diode	2 x push-pull	10 V	Fixed cable with M12 plug
OMT600-R201-2EP-IO-0,3M-V31-L	600 mm	Red laser diode	2 x push-pull	10 V	Fixed cable with M8 plug
OMT600-R201-2EP-IO-L	600 mm	Red laser diode	2 x push-pull	10 V	Fixed cable
OMT600-R201-2EP-IO-V1-L	600 mm	Red laser diode	2 x push-pull	10 V	M12 connector plug
OMT600-R201-2EP-IO-V31-L	600 mm	Red laser diode	2 x push-pull	10 V	M8 connector plug
OMT600-R201-EP-IO-0,3M-V3-L	600 mm	Red laser diode	1 x push-pull	10 V	Fixed cable with M8 plug
OMT600-R201-EP-IO-V3-L	600 mm	Red laser diode	1 x push-pull	10 V	M8 connector plug
OMT600-R201-IEP-IO-0,3M-V1-L	600 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	Fixed cable with M12 plug
OMT600-R201-IEP-IO-0,3M-V31-L	600 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	Fixed cable with M8 plug
OMT600-R201-IEP-IO-V1-L	600 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	M12 connector plug
OMT600-R201-IEP-IO-V31-L	600 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	M8 connector plug
OMT600-R201-UEP-IO-0,3M-V1-L	600 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	Fixed cable with M12 plug
OMT600-R201-UEP-IO-0,3M-V31-L	600 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	Fixed cable with M8 plug
OMT600-R201-UEP-IO-V1-L	600 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	M12 connector plug
OMT600-R201-UEP-IO-V31-L	600 mm	Red laser diode	1 x push-pull, 1 x analog	18 V	M8 connector plug



Accessories

ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE2-8IOL-G65L-V1D	Ethernet/IP IO-Link master with 8 inputs/outputs
ICE2-8IOL-K45P-RJ45	Ethernet/IP IO-Link master with 8 inputs/outputs, DIN mounting rail, push-in connector
ICE2-8IOL-K45S-RJ45	Ethernet/IP IO-Link master with 8 inputs/outputs, DIN mounting rail, screw terminal
ICE3-8IOL-G65L-V1D	PROFINET IO IO-Link master with 8 inputs/outputs
ICE3-8IOL-K45P-RJ45	PROFINET IO IO-Link master with 8 inputs/outputs, DIN mounting rail, push-in connector
ICE3-8IOL-K45S-RJ45	PROFINET IO IO-Link master with 8 inputs/outputs, DIN mounting rail, screw terminal
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 plug for sensor connection
OMH-R20x-Quick-Mount	Quick mounting aid
OMH-RL31-02	Mounting bracket narrow
OMH-RL31-03	Mounting bracket narrow
OMH-RL31-04	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-RL31-07	Mounting bracket complete with adjustment component
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray
V3-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 3-pin, PUR cable, gray
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray
V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray

Photoelectric Sensors—Distance Sensors

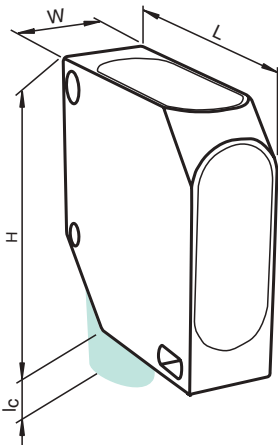
VDM18 Series



Common Technical Data	
Function principle	Distance sensor
Light type	Red laser diode
Operating elements	Potentiometer
Type of voltage	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	50 mm
Housing width W	17 mm
Housing height H	50 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Type of Output
VDM18-100/20/122/151	100 mm	PNP
VDM18-100/20/88/122/151	100 mm	PNP
VDM18-100/32/105/122	100 mm	PNP
VDM18-300/20/122/151	300 mm	PNP
VDM18-300/20/88/122/151	300 mm	PNP
VDM18-300/21/122/151	300 mm	NPN
VDM18-300/32/105/122	300 mm	PNP



Accessories	
OMH-VDM18-01	Mounting aid for VDM18 series distance measurement devices
OMH-VDM18-02	Mounting aid for VDM18 series distance measurement devices

Photoelectric Sensors—Distance Sensors

VDM28 Series

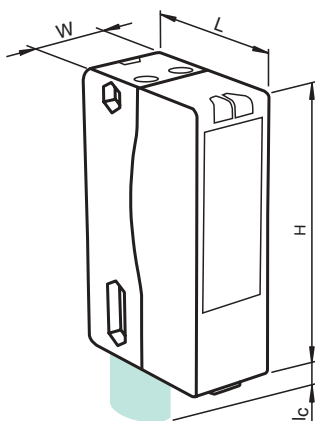


Common Technical Data

Function principle	Distance sensor
Operating elements	Push-button
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing width W	25.8 mm
Housing height H	88 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type	Interface	Type of Output	Connection Type	Length L
VDM28-8-L1-IO/110/115b/122	8 m	Red laser diode	IO-Link	1 x push-pull	Fixed cable with M12 plug	54.6 mm
VDM28-8-L1-IO/115b/136	8 m	Red laser diode	IO-Link	2 x push-pull	Fixed cable with M12 plug	54.6 mm
VDM28-8-L1-IO/33/110/115b/122	8 m	Red laser diode	IO-Link	1 x push-pull	Fixed cable with M12 plug	54.6 mm
VDM28-8-L1-IO/73c/110/122	8 m	Red laser diode	IO-Link	1 x push-pull	M12 connector plug	54.6 mm
VDM28-8-L1-IO/73c/136	8 m	Red laser diode	IO-Link	2 x push-pull	M12 connector plug	54.6 mm
VDM28-8-L1-IR-IO/73C/110/122	8 m	Infrared laser diode	IO-Link	1 x push-pull	M12 connector plug	54.6 mm
VDM28-8-L1/73c/136	8 m	Red laser diode		2 x push-pull	M12 connector plug	54.3 mm
VDM28-15-L1-IO/110/115b/122	15 m	Red laser diode	IO-Link	1 x push-pull	Fixed cable with M12 plug	54.6 mm
VDM28-15-L1-IO/73c/110/122	15 m	Red laser diode	IO-Link	1 x push-pull	M12 connector plug	54.6 mm
VDM28-15-L1/73c/136	15 m	Red laser diode		2 x push-pull	M12 connector plug	54.3 mm
VDM28-50-R1-IO/73c/110/122	50 m	Red laser diode	IO-Link	1 x push-pull	M12 connector plug	54.6 mm
VDM28-50-R1-IO/73c/136	50 m	Red laser diode		2 x push-pull	M12 connector plug	54.6 mm
VDM28-50-R1-IR-IO/73c/110/122	50 m	Infrared laser diode	IO-Link	1 x push-pull	M12 connector plug	54.6 mm
VDM28-50-R1/73c/136	50 m	Red laser diode		2 x push-pull	M12 connector plug	54.6 mm



Accessories

ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 plug for sensor connection
OFR-100/100	Reflective tape, 100 mm x 100 mm
OMH-05	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-07-01	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-21	Mounting bracket
OMH-22	Mounting bracket
OMH-K01	Mounting clamp for sensors with dovetail
OMH-K03	Mounting clamp for sensors with dovetail
OMH-RL28-C	Protective cover for protection against welding beads
OMH-RLK29-HW	Mounting bracket for rear wall mounting
OMH-VDM28-01	Metal enclosure for inserting protective panes or diaphragms
OMH-VDM28-02	Mounting and fine adjustment device for sensors from the 28 series

Photoelectric Sensors—Distance Sensors

R1000 Series



Common Technical Data

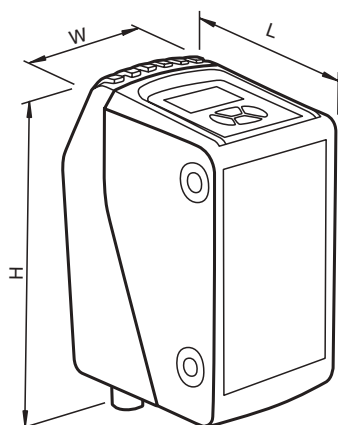
Function principle	Distance sensor
Light type	Red laser diode
Interface	SSI
Operating elements	Push-button
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	80.6 mm
Housing width W	55 mm
Housing height H	106.6 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number

Detection Range

OMR150M-R1000-SSI-V1V1B	150 m
OMR150M-R1000-SSI-V1V1B-T	150 m
OMR50M-R1000-SSI-V1V1B	50 m
OMR50M-R1000-SSI-V1V1B-T	50 m



Accessories

OFR-1000/1000	Reflective tape, 1000 mm x 1000 mm
OFR-250/250	Reflective Tape
OFR-500/500	Reflective Tape
OMH-R1000-01	Mounting bracket
OMH-R1000-02	Mounting aid for R1000 series sensors, quick-lock and adjustment device
REF-250 mmx250 mm	Reflective tape on metal plate 250 mm x 250 mm
REF-500 mmx500 mm	Reflective tape on metal plate 500 mm x 500 mm
Protective cap LS610 accessories	M12 protective cap set (male + female) for LS610 / LS611 series
V1-G-BK	Single-ended female cordset, straight, M12, 4-pin, field attachable
V1-W-BK	Single-ended female cordset, angled, M12, 4-pin, field attachable
V15-G-PG9	Single-ended female cordset, M12, 5-pin, field-attachable
V15-W-PG9	Single-ended female cordset, M12, 5-pin, field-attachable
V15B-G-15M-LIHCH-TP	SSI bus cable, B-coded M12, 5-pin cable
V15B-G-ABG-PG9	Single-ended female cordset, M12, for PROFIBUS, field-attachable
V15B-W-15M-LIHCH-TP	SSI bus cable, M12, B-coded, 5-pin cable

2-D LiDAR Sensor

R2100 Series



Common Technical Data	
Function principle	2-D LiDAR sensor
Light type	Infrared LED
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	157 mm
Housing width W	81 mm
Housing height H	45 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

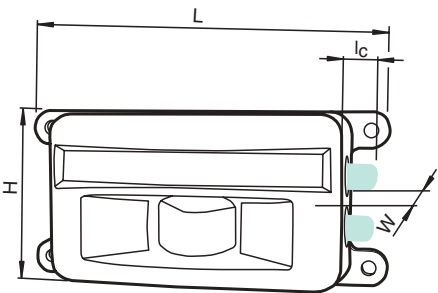
Model Number	Detection Range	Interface
OMD6000-R2100-B16-2V15	6 m	CAN
OMD8000-R2100-R2-2V15	8 m	

Highlights

- Development of the PRT ensures reliable and clear measurement
- Long service life due to measurement using LEDs
- No moving parts for added durability
- 2D measurement using 11 individual rays
- Large light spots tolerate different surface textures
- Reduced energy consumption for greater cost efficiency
- High speed of response for faster processes

Brief Description

The R2100 is a solid-state design LiDAR sensor that works without moving parts and delivers extra durability. This multi-ray LED scanner from Pepperl+Fuchs is also cost-effective. The device carries out 2-D measurements over 11 single beams for absolutely reliable measurement results. Multiple wide-beam emitters of the R2100 ensure reliable object detection regardless of surface texture.



Accessories	
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-G-BK5M-PUR-U	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, black, UL-approved, suitable for drag chains, torsion-proof
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray
V1-W-BK5M-PUR-U	Single-ended female cordset, M12, A-coded, 4-pin, PUR cable, black, UL-approved, suitable for drag chains, torsion-proof
V15-G-2M-PVC-SUBD9	Adapter cable M12 socket, straight, A-coded 5-pin to Sub-D plug, 9-pin, PVC cable, gray
V15-G-5M-PUR-ABG	Single-ended female cordset, M12, straight, A-coded, 5-pin, PUR cable, gray, shielded

2-D LiDAR Sensor

R2000 Series



Common Technical Data

Function principle	2-D LiDAR sensor
Operating elements	Push-button
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	106 mm
Housing width W	106 mm
Housing height H	116.5 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

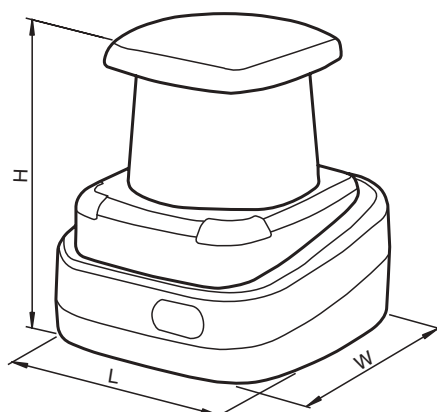
Model Number	Detection Range	Light Type	Repeat rate [kHz]	Resolution
OBD10M-R2000-4EP-V1V17	10 m	Red laser diode	54	
OMD10M-R2000-B23-V1V1D	10 m	Red laser diode	250	1 mm
OMD12M-R2000-B23-V1V1D-HD-1L	12 m	Infrared laser diode	84	1 mm
OBD30M-R2000-4EP-V1V17-1L	30 m	Infrared laser diode	54	
OBD30M-R2000-4EP-V1V17-T-1L	30 m	Infrared laser diode	54	
OMD30M-R2000-B23-V1V1D-1L	30 m	Infrared laser diode	250	1 mm
OMD30M-R2000-B23-V1V1D-HD-1L	30 m	Infrared laser diode	84	1 mm
OMD30M-R2000-B23-V1V1D-T-1L	30 m	Infrared laser diode	250	1 mm
OMD60M-R2000-B23-V1V1D-1L	60 m	Infrared laser diode	250	1 mm
OMD60M-R2000-B23-V1V1D-T-1L	60 m	Infrared laser diode	250	1 mm

Highlights

- Innovative Pulse Ranging Technology (PRT) ensures reliable and clear measurements
- Sharp light spot for small-object detection and precise edge detection
- All-round visibility with 360° measuring angle
- Compact design for simple mechanical integration
- Interactive wrap-around display facilitates commissioning

Brief Description

The R2000 series offers a wide range of unique functionalities that make object detection safer than ever before, even under the most challenging of conditions. A small light spot combined with a high angular resolution makes it possible to detect even the smallest of objects. The all-round visibility and measuring angle of 360° eliminate the need for multiple sensors. The R2000 series is very compact, for straightforward and space-saving integration into the application. The interactive display makes it possible to show text and graphic messages. Basic settings can be configured directly on the device and diagnostic information can be viewed during operation.



Accessories

Functional grounding LS610/VDM1000 accessories	Functional grounding for LS610 / LS611 / VDM100 series
MH-R2000	Mounting aid for R2000 series sensors, quick-lock and adjustment device
Protective cap LS610 accessories	M12 protective cap set (male + female) for LS610 / LS611 series
V1-G-5M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-G-BK5M-PUR-U	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, black, UL-approved, suitable for drag chains, torsion-proof
V19-G-5M-PUR-ABG	Single-ended female cordset, M12, straight, A-coded, 8-pin, PUR cable, gray, shielded

3-D LiDAR Sensor

R2300 Series



Common Technical Data	
Function principle	3-D LiDAR sensor
Detection range	4 m
Light type	Infrared laser diode
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	69 mm
Housing width W	96 mm
Housing height H	57 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number

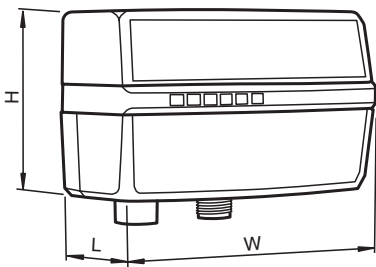
OMD10M-R2300-B23-V1V1D-4S

Highlights

- High angle resolution
- Aligned using integrated pilot laser
- PRT (Pulse Ranging Technology) measurement procedure
- Compact housing design
- High pollution tolerance

Brief Description

The R2300 multi-layer scanner combines four scan layers into a single 3-D LiDAR sensor, providing significantly more measurement information about the sensing range. It reliably detects even the smallest object structures and contours. The integrated pilot laser can be switched on for simple alignment and commissioning. With the exception of the rotating mirror, the device has entirely solid-state electronics, which make it especially durable.



Accessories	
Protective cap	M12 protective cap set (male + female) for LS610 / LS611 series
LS610 accessories	
V1-G-5M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-G-BK5M-PUR-U	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, black, UL-approved, suitable for drag chains, torsion-proof
V1-W-5M-PUR-ABG	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray, shielded
V1SD-90-W-3M-PUR-ABG-V45-G	Bus cable, Ethernet, angled M12 plug, D-coded to RJ45, Ethernet-coded, 4-pin, PUR cable, blue, Cat5e, shielded
V1SD-G-ABG-PG9	Single-ended male cordset, M12, 4-pin, D-coded, shielded, field-attachable

Easy Integration of Object Detection



Light grids from Pepperl+Fuchs are supremely user-friendly thanks to simple plug-and-play installation and commissioning. The software-free parameterization via touch field and the free choice of 16 integrated measuring functions (LGM) make integration simpler than ever before.

Typical Applications

- Height and object detection in the packaging industry and in warehousing and material handling
- Detecting and counting irregular objects
- Determining the position of and measuring objects
- Detecting any shape of object
- Object Identification

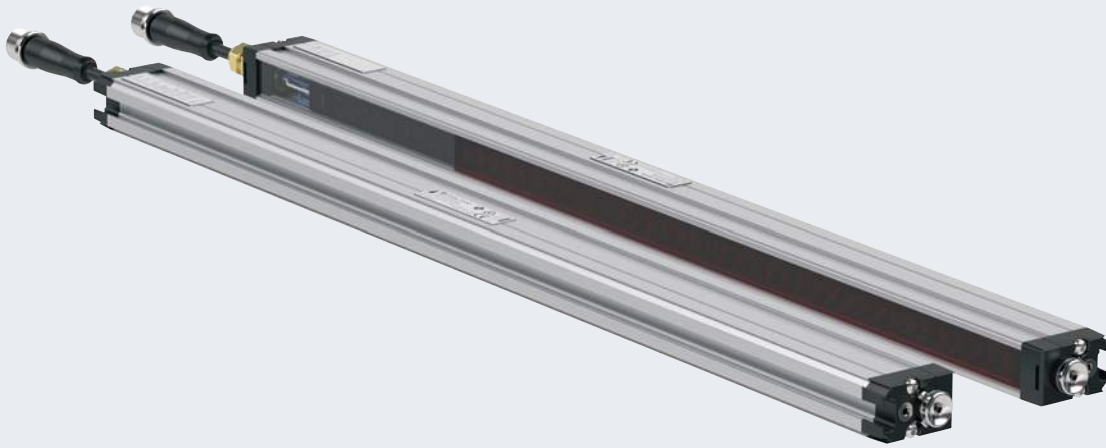
The Benefits of Selected Products at a Glance

LGS Light Grid:

- Simple, software-free parameterization via touchpad or external input
- Extremely fast object detection—even with three-way crossover
- IO-Link interface for servicing and process data
- Object identification via integrated object detection

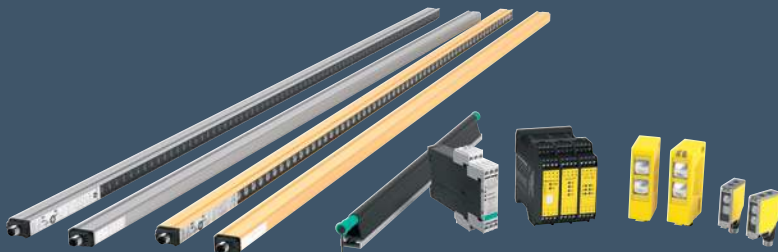
LGM Measuring Light Grid:

- Very user-friendly thanks to 16 integrated, freely selectable measuring functions
- Convenient integration by direct measured value output in millimeters—without complex single-beam evaluation
- Simple adjustment and evaluation via IO-Link standard interface
- Especially rugged due to IP67 degree of protection



Sensors for Safety Applications

Safety-certified Pepperl+Fuchs sensors offer the highest quality standards and reliability for protecting people and machines. The portfolio, which has been specifically tailored to functional safety requirements, also offers excellent investment security and outstanding plant availability.



More information is available at:
pepperl-fuchs.com/fa-safety

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Photoelectric Sensors—Light Grids

LGM Series



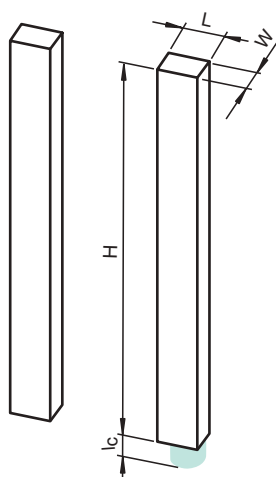
Common Technical Data

Function principle	Thru-beam sensor
Detection range	6000 mm
Light type	Infrared LED
Interface	IO-Link
Type of output	1 x push-pull
Operating elements	Push-button
Type of voltage	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
Connection type	Fixed cable with M12 plug
Housing length L	30.5 mm
Housing width W	20 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number Beam Spacing

LGM8	8 mm
LGM17	17 mm
LGM25	25 mm
LGM50	50 mm



Accessories

AA SLCT-01	Profile alignment aid; simplified alignment of the SLCS and SLCT safety light curtains
ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 plug for sensor connection
OMH-LGS-01	Mounting aid for LGS/LGM series light grids
OMH-SLCT-01	Quick-lock and adjustment device
OMH-SLCT-03	Mounting bracket complete with adjustment component
OMH-SLCT-04	Mounting bracket complete with adjustment component (moveable bearing)
OMH-SLCT-05	Mounting bracket complete with adjustment component
OMH-SLCT-06	Swivel bracket
V1-G-BK0,6M-PUR-U-V1-G-LGS25T	Cordset, LGS25 light grids to ICE modules/WIS 2, M12 to M12, PUR cable, 4-pin
V1-G-BK10M-PUR-U	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, black, UL-approved, suitable for drag chains, torsion-proof
V1-G-BK15M-PUR-U	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, black, UL-approved, suitable for drag chains, torsion-proof
V1-G-BK2M-PUR-U	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, black, UL-approved, suitable for drag chains, torsion-proof

Photoelectric Sensors—Light Grids

LGS Series



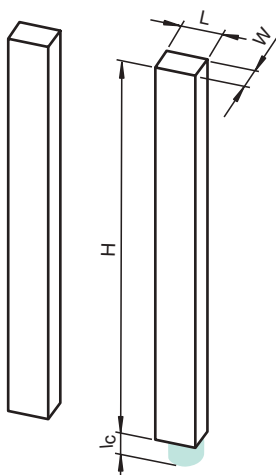
Common Technical Data

Function principle	Thru-beam sensor
Detection range	6000 mm
Light type	Infrared LED
Interface	IO-Link
Type of output	1 x push-pull
Operating elements	Push-button
Type of voltage	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
Connection type	Fixed cable with M12 plug
Housing length L	30.5 mm
Housing width W	20 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number Beam Spacing

LGS8	8 mm
LGS17	17 mm
LGS25	25 mm
LGS50	50 mm
LGS100	100 mm



Accessories

AA SLCT-01	Profile alignment aid; simplified alignment of the SLCS and SLCT safety light curtains
ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 plug for sensor connection
OMH-LGS-01	Mounting aid for LGS/LGM series light grids
OMH-SLCT-01	Quick-lock and adjustment device
OMH-SLCT-03	Mounting bracket complete with adjustment component
OMH-SLCT-04	Mounting bracket complete with adjustment component (moveable bearing)
OMH-SLCT-05	Mounting bracket complete with adjustment component
OMH-SLCT-06	Swivel bracket
V1-G-BK0,6M-PUR-U-V1-G-LGS25T	Cordset, LGS25 light grids to ICE modules/WIS 2, M12 to M12, PUR cable, 4-pin
V1-G-BK10M-PUR-U	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, black, UL-approved, suitable for drag chains, torsion-proof
V1-G-BK15M-PUR-U	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, black, UL-approved, suitable for drag chains, torsion-proof
V1-G-BK2M-PUR-U	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, black, UL-approved, suitable for drag chains, torsion-proof

Photoelectric Sensors—Light Grids

RLG28 Series

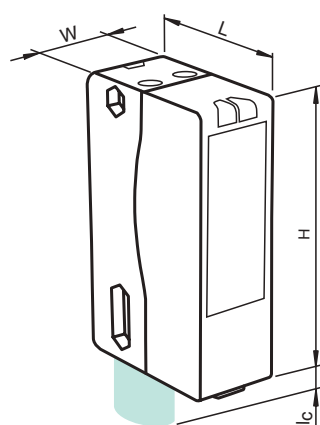


Common Technical Data

Function principle	Retroreflective sensor with polarization filter
Light type	Red LED
Operating elements	Push-button
Type of voltage	DC
Operating voltage (min)	12 V
Operating voltage (max)	30 V
Housing length L	54.3 mm
Housing width W	25.8 mm
Housing height H	88 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Type of Output	Connection Type
RLG28-55-7226	600 mm	2 x push-pull	Fixed cable with M12 plug
RLG28-55-7462	4000 mm	1 x push-pull	M12 connector plug
RLG28-55/115b/136	4000 mm	2 x push-pull	Fixed cable with M12 plug
RLG28-55/40a/115b/136	4000 mm	2 x push-pull	Fixed cable with M12 plug
RLG28-55/40a/73c/136	4000 mm	2 x push-pull	M12 connector plug



Accessories

OFR-100/100	Reflective tape, 100 mm x 100 mm
OMH-05	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-21	Mounting bracket
OMH-K01	Mounting clamp for sensors with dovetail
OMH-RLK29-HW	Mounting bracket for rear wall mounting
REF-A80	Rectangular reflector, 80 mm x 50 mm, self-adhesive
REF-H50x100	Rectangular reflector, 122 mm x 49.5 mm, mounting holes
REF-H85-2	Rectangular reflector, 84.5 mm x 84.5 mm, mounting holes
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-G-2M-PVC	Single-ended female cordset, M12, straight, A-coded, 4-pin, PVC cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray

Optimized for Specific Applications



In addition to standard applications, the Pepperl+Fuchs portfolio also offers highly specialized sensors. These are designed for specific applications, so you can benefit from an optimal solution in the usual high quality.

Fiber Optic Sensors

- Typical applications
- Detection of objects in very harsh ambient conditions, such as high temperatures, mechanical vibrations or contact with highly corrosive cleaning agents
- Object detection in particularly cramped mounting conditions

Your Benefits at a Glance

- Reliable operation under all ambient conditions
- Simple commissioning: choice of teach-in or potentiometer
- IO-Link interface available for user-friendly parameterization (MLV41)
- Fiber optic sensors with particularly high power (High Power versions)

Technical Features

- Degree of protection of up to IP67
- Suitable for plastic and glass fiber optics
- Narrow housing designs available for DIN rail mounting

Print Mark Contrast Sensors

- Typical applications
- Detection of contrast marks for controlling printing, labeling, or packaging plants
- Applications in the printing, packaging, and food industries

Your Benefits at a Glance

- Reliable detection of even weak contrast marks by active three-range method with three emitters (R, G, B) or separate teach-in for mark and background
- High switching point accuracy thanks to light spot that is aligned to contrast marks
- Suitable for extremely fast scanning processes due to short response time

Technical Features

- IO-Link interface available for service and process data
- Contrast sensors available in standard industrial housings
- Static or dynamic teach-in



Slot and Slot Grid Sensors

- Typical applications
- Presence monitoring on feed devices
- Ejection control of small parts
- Counting of bulk material on vibration conveyors
- Small part detection

Your Benefits at a Glance

- Fast mounting through adjustment of the optical axes at the factory
- Easier mounting with a single connection
- Flexible product choice thanks to a variety of housing designs
- High switch point accuracy for the most precise positioning tasks

Technical Features

- Miniature housing designs available—optimized for small part detection to 0.8 mm
- Slot widths up to 220 mm
- Rugged metal versions available
- Degree of protection of up to IP67

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**Plastic
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Photoelectric Sensors—Optical Data Couplers

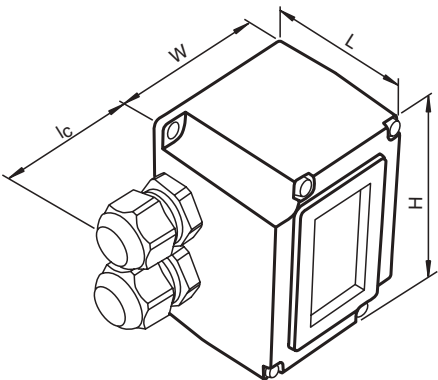
DAD15 Series



Common Technical Data	
Function principle	Thru-beam sensor
Light type	Infrared LED
Interface	8 bit parallel
Operating elements	Potentiometer
Type of voltage	DC
Operating voltage (min)	10 V
Connection type	Terminal compartment
Housing length L	76 mm
Housing width W	53 mm
EAC	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	UB (Max)
DAD15-8P	1500 mm	60 V
DAD15-8P-R-2388	1500 mm	60 V
DAD15-8P-NPN	1500 mm	30 V
DAD15-8P/35	2500 mm	60 V



Accessories	
OMH-DAD10	Mounting bracket

Photoelectric Sensors—Optical Data Couplers

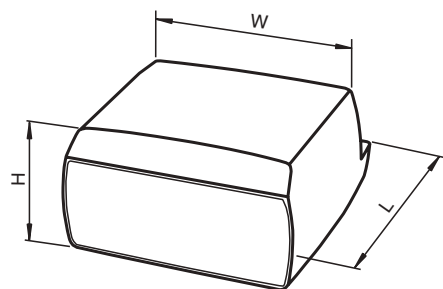
LS682 Series



Common Technical Data	
Function principle	Thru-beam sensor
Interface	Ethernet
Type of voltage	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type
LS682-DA-EN/F1	150 m	Infrared laser diode
LS682-DA-EN/F2	150 m	Red laser diode
LS682-DA-EN/F1/146	150 m	Infrared laser diode
LS682-DA-EN/F2/146	150 m	Red laser diode
LS682-DA-EN/F1/35	300 m	Infrared laser diode
LS682-DA-EN/F2/35	300 m	Red laser diode
LS682-DA-EN/F1/35/146	300 m	Infrared laser diode
LS682-DA-EN/F2/35/146	300 m	Red laser diode



Accessories	
OMH-LS610-01	Mounting bracket for optical data couplers
OMH-LS610-02	Direct mounting set consisting of four M4 threaded inserts
OMH-LS610-03	Mounting bracket with deviation mirror for optical data couplers

Photoelectric Sensors—Optical Data Couplers

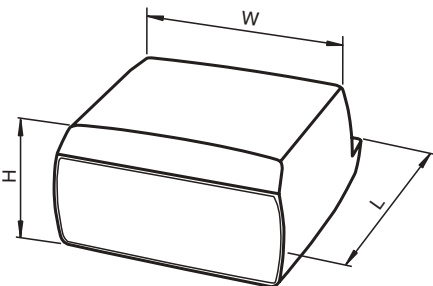
LS684 Series



Common Technical Data	
Function principle	Thru-beam sensor
Interface	Ethernet
Type of voltage	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type
LS684-DA-EN/F1	150 m	Infrared laser diode
LS684-DA-EN/F2	150 m	Red laser diode
LS684-DA-EN/F2/146	150 m	Red laser diode
LS684-DA-EN/F1/146	150 m	Infrared laser diode
LS684-DA-EN/F1/35	300 m	Infrared laser diode
LS684-DA-EN/F2/35	300 m	Red laser diode
LS684-DA-EN/F1/35/146	300 m	Infrared laser diode
LS684-DA-EN/F2/35/146	300 m	Red laser diode



Accessories	
OMH-LS610-01	Mounting bracket for optical data couplers
OMH-LS610-02	Direct mounting set consisting of four M4 threaded inserts
OMH-LS610-03	Mounting bracket with deviation mirror for optical data couplers

Photoelectric Slot Sensors in a Miniature Housing Design

GL2/GL3/GL5 Series



Common Technical Data

Function principle	Thru-beam sensor
Light type	Infrared LED
Type of voltage	DC
Operating voltage (min)	5 V
Operating voltage (max)	30 V

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Type of Output	UB (Max)	Connection Type	Length L	Width W	Height H	EAC	UL
GL2-P/153	1.8 mm	NPN	30 V	Fixed cable	9.1 mm	6.3 mm	15.2 mm		
GL3-L/153	3.1 mm	NPN	30 V	Fixed cable	18.4 mm	6.3 mm	15.9 mm		
GL3-P/153	3.1 mm	NPN	30 V	Fixed cable	15.9 mm	6.3 mm	18.4 mm		
GL3-T/153	3.1 mm	NPN	30 V	Fixed cable	15.9 mm	23.6 mm	12.9 mm		
GL3-U/153	3.1 mm	NPN	30 V	Fixed cable	24.7 mm	6.3 mm	15.9 mm		
GL5-F/28a/115	5 mm	NPN	24 V	Fixed cable	26.2 mm	13.2 mm	13.4 mm		■
GL5-F/43a/115	5 mm	PNP	24 V	Fixed cable	26.2 mm	13.2 mm	13.4 mm		■
GL5-F/43a/155	5 mm	PNP	24 V	Other	27.2 mm	13.2 mm	13.4 mm		■
GL5-J/28a/155	5 mm	NPN	24 V	Other	27.2 mm	13.2 mm	13.4 mm		■
GL5-J/43a/115	5 mm	PNP	24 V	Fixed cable	26.2 mm	13.2 mm	13.4 mm		■
GL5-J/43a/155	5 mm	PNP	24 V	Other	27.2 mm	13.2 mm	13.4 mm		■
GL5-L/28a/115	5 mm	NPN	24 V	Fixed cable	15.5 mm	18.5 mm	26 mm		■
GL5-L/28a/155	5 mm	NPN	24 V	Other	15.5 mm	19.5 mm	26 mm		■
GL5-L/43a/115	5 mm	PNP	24 V	Fixed cable	15.5 mm	18.5 mm	26 mm		■
GL5-L/43a/115-5M	5 mm	PNP	24 V	Fixed cable	15.5 mm	18.5 mm	26 mm		■
GL5-L/43a/115a	5 mm	PNP	24 V	Fixed cable with M8 plug	15.5 mm	18.5 mm	26 mm	■	■
GL5-L/43a/155	5 mm	PNP	24 V	Other	15.5 mm	19.5 mm	26 mm	■	■
GL5-R/28a/115	5 mm	NPN	24 V	Fixed cable	26.2 mm	13.2 mm	13.4 mm		■
GL5-R/43a/115	5 mm	PNP	24 V	Fixed cable	26.2 mm	13.2 mm	13.4 mm		■
GL5-R/43a/115-5M	5 mm	PNP	24 V	Fixed cable	26.2 mm	13.2 mm	13.4 mm		■
GL5-R/43a/155	5 mm	PNP	24 V	Other	27.2 mm	13.2 mm	13.4 mm		■
GL5-T/28a/115	5 mm	NPN	24 V	Fixed cable	26.2 mm	26 mm	13.4 mm		■
GL5-T/28a/155	5 mm	NPN	24 V	Other	27.2 mm	26 mm	13.4 mm		■
GL5-T/43a/115	5 mm	PNP	24 V	Fixed cable	26.2 mm	26 mm	13.4 mm		■
GL5-T/43a/155	5 mm	PNP	24 V	Other	27.2 mm	26 mm	13.4 mm		■
GL5-U/28a/115	5 mm	NPN	24 V	Fixed cable	26.2 mm	7 mm	25.4 mm		■
GL5-U/28a/155	5 mm	NPN	24 V	Other	27.2 mm	7 mm	25.4 mm		■
GL5-U/43a/115	5 mm	PNP	24 V	Fixed cable	26.2 mm	7 mm	25.4 mm		■
GL5-U/43a/155	5 mm	PNP	24 V	Other	27.2 mm	7 mm	25.4 mm		■
GL5-Y/25/46a/115e	5 mm	PNP	24 V	Other	15.5 mm	25.5 mm	13.4 mm		■
GL5-Y/28a/115	5 mm	NPN	24 V	Fixed cable	15.5 mm	25.5 mm	13.4 mm		■
GL5-Y/28a/155	5 mm	NPN	24 V	Other	15.5 mm	26.6 mm	13.4 mm		■
GL5-Y/43a/115	5 mm	PNP	24 V	Fixed cable	15.5 mm	25.5 mm	13.4 mm		■
GL5-Y/43a/115-5M	5 mm	PNP	24 V	Fixed cable	15.5 mm	25.5 mm	13.4 mm		■
GL5-Y/43a/155	5 mm	PNP	24 V	Other	15.5 mm	26.6 mm	13.4 mm		■

Accessories

CBL SET GL5	Connection cable for GL5 series

Photoelectric Slot Sensors in Rugged Pressure Diecast Zinc Housing

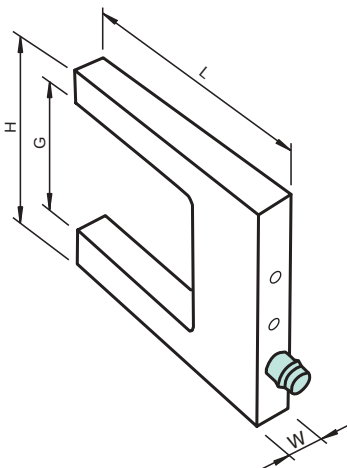
GL Series



Common Technical Data	
Function principle	Thru-beam sensor
Operating elements	Potentiometer
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M8 connector plug
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type	Type of Output
GL10-IR/32/40a/98a	10 mm	Infrared LED	PNP
GL10-RT/30/40a/98a	10 mm	Red LED	NPN
GL10-RT/32/40a/98a	10 mm	Red LED	PNP
GL20-IR/32/40a/98a	20 mm	Infrared LED	PNP
GL20-RT/30/40a/98a	20 mm	Red LED	NPN
GL20-RT/32/40a/98a	20 mm	Red LED	PNP
GL30-IR/32/40a/98a	30 mm	Infrared LED	PNP
GL30-RT/30/40a/98a	30 mm	Red LED	NPN
GL30-RT/32/40a/95	30 mm	Red LED	PNP
GL30-RT/32/40a/98a	30 mm	Red LED	PNP
GL40-IR/32/40a/98a	40 mm	Infrared LED	PNP
GL40-RT/32/40a/98a	40 mm	Red LED	PNP
GL50-IR/32/40a/98a	50 mm	Infrared LED	PNP
GL50-RT/30/40a/98a	50 mm	Red LED	NPN
GL50-RT/32/40a/98a	50 mm	Red LED	PNP
GL80-IR/32/40a/98a	80 mm	Infrared LED	PNP
GL80-RT/30/40a/98a	80 mm	Red LED	NPN
GL80-RT/32/40a/98a	80 mm	Red LED	PNP
GL121-IR/32/40a/98a	121 mm	Infrared LED	PNP
GL121-RT/30/40a/98a	121 mm	Red LED	NPN
GL121-RT/32/40a/98a	121 mm	Red LED	PNP
GL220-IR/32/40a/98a	220 mm	Infrared LED	PNP
GL220-RT/30/40a/98a	220 mm	Red LED	NPN
GL220-RT/32/40a/98a	220 mm	Red LED	PNP



Accessories	
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray
V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray

Photoelectric Slot Sensors in Plastic Housing

GLP Series

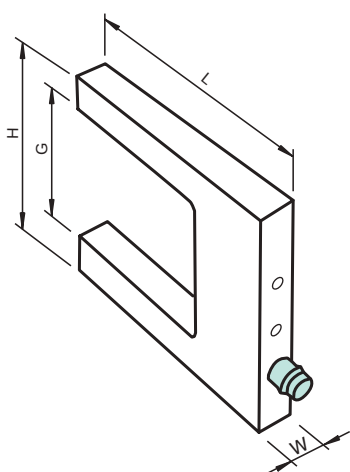


Common Technical Data

Function principle	Thru-beam sensor
Light type	Red LED
Operating elements	Push-button
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M8 connector plug
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Type of Output
GLP30-RT/40b/102/123/143	30 mm	NPN
GLP30-RT/40b/102/156	30 mm	NPN
GLP30-RT/40b/103/123/143	30 mm	PNP
GLP30-RT/40b/103/156	30 mm	PNP
GLP50-RT/40b/102/123/143	50 mm	NPN
GLP50-RT/40b/102/156	50 mm	NPN
GLP50-RT/40b/103/123/143	50 mm	PNP
GLP50-RT/40b/103/156	50 mm	PNP
GLP80-RT/40b/102/123/143	80 mm	NPN
GLP80-RT/40b/102/156	80 mm	NPN
GLP80-RT/40b/103/123/143	80 mm	PNP
GLP80-RT/40b/103/156	80 mm	PNP
GLP120-RT/40b/102/123/143	120 mm	NPN
GLP120-RT/40b/102/156	120 mm	NPN
GLP120-RT/40b/103/123/143	120 mm	PNP
GLP120-RT/40b/103/156	120 mm	PNP



Accessories

OMH-K03	Mounting clamp for sensors with dovetail
V3-GM-BK2M-PUR-U	Single-ended female cordset, M8, straight, A-coded, 3-pin, PUR cable, black, UL-approved, suitable for drag chains, torsion-proof
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray
V3-WM-BK2M-PUR-U	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, black, UL-approved, suitable for drag chains, torsion-proof
V31-GM-2M-PUR	Single-ended female cordset, M8, straight, A-coded, 4-pin, PUR cable, gray
V31-GM-BK2M-PUR-U	Single-ended female cordset, straight, A-coded, 4-pin, PUR cable black, UL-approved, suitable for drag chains, torsion-proof
V31-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 4-pin, PUR cable, gray
V31-WM-BK2M-PUR-U	Single-ended female cordset, angled, A-coded, 4-pin, PUR cable, black, UL-approved, suitable for drag chains, torsion-proof

Photoelectric Slot Sensors

GL-ES Series



Common Technical Data	
Function principle	Thru-beam sensor
Detection range	24 mm
Light type	Infrared LED
Type of output	PNP
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	Fixed cable
EAC	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number

GL-ES-IR/115/120

Slot Grid Sensors

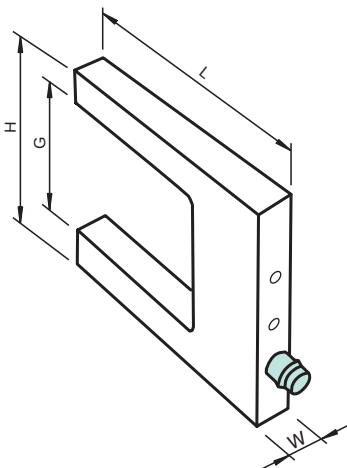
RAL Series



Common Technical Data	
Function principle	Thru-beam sensor
Light type	Infrared LED
Type of output	PNP
Operating elements	Potentiometer
Type of voltage	DC
Operating voltage (min)	19.2 V
Operating voltage (max)	28.8 V
Connection type	M8 connector plug
Housing width W	20 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Length L	Height H
RAL50-IR/32/98	50 mm	81 mm	90 mm
RAL70-IR/32/98	70 mm	105 mm	110 mm
RAL100-IR/32/98	100 mm	135 mm	140 mm
RAL150-IR/32/98	150 mm	185 mm	190 mm



Accessories	
V3-WM-2M-PUR	Single-ended female cordset, M8, angled, A-coded, 3-pin, PUR cable, gray

Photoelectric Sensors—Print Mark Contrast Sensors

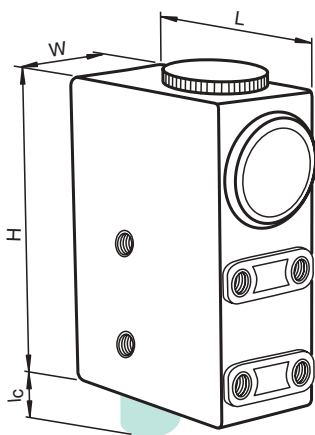
DK10 Series



Common Technical Data	
Light type	Red laser diode
Operating elements	Potentiometer
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	60.8 mm
Housing width W	33 mm
Housing height H	85.6 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Type of Output
DK10-LAS/9S50/76a/110/124	300 mm	1 x push-pull
DK10-LAS/49	300 mm	PNP/NPN
DK10-LAS/76a/110/124	300 mm	1 x push-pull
DK10-LAS/76a/79b/110/124	300 mm	1 x push-pull
DK10-LAS/9S20	300 mm	1 x push-pull
DK10-LAS/35/79b	800 mm	1 x push-pull
DK10-LAS/35/49	800 mm	PNP/NPN
DK10-LAS-54/76/110/124	10,000 mm	1 x push-pull



Accessories	
OMH-DK	Right-angled mounting bracket
OMH-DK-1	Flat mounting bracket
V15-G-5M-PVC	Single-ended female cordset, M12, straight, A-coded, 5-pin, PVC cable, gray
V15-W-5M-PVC	Single-ended female cordset, M12, angled, A-coded, 5-pin, PVC cable, gray

Photoelectric Sensors—Print Mark Contrast Sensors

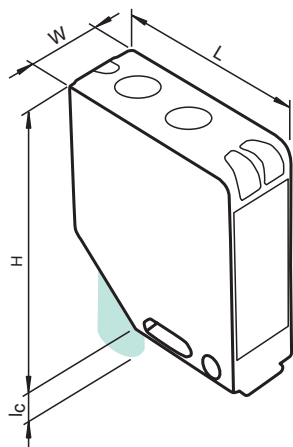
DK12 Series



Common Technical Data	
Detection range	11 mm
Light type	Green/red/blue LED
Type of output	2 x push-pull
Operating elements	Potentiometer
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	15 mm
Housing width W	41.5 mm
Housing height H	49 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Interface
DK12-11-IO/92/136	IO-Link
DK12-11-IO/A/92/136	IO-Link
DK12-11/124/136	
DK12-11/A/124/136	



Accessories	
ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE2-8IOL-G65L-V1D	Ethernet/IP IO-Link master with 8 inputs/outputs
ICE2-8IOL-K45P-RJ45	Ethernet/IP IO-Link master with 8 inputs/outputs, DIN mounting rail, push-in connector
ICE2-8IOL-K45S-RJ45	Ethernet/IP IO-Link master with 8 inputs/outputs, DIN mounting rail, screw terminal
ICE3-8IOL-G65L-V1D	PROFINET IO IO-Link master with 8 inputs/outputs
ICE3-8IOL-K45P-RJ45	PROFINET IO IO-Link master with 8 inputs/outputs, DIN mounting rail, push-in connector
ICE3-8IOL-K45S-RJ45	PROFINET IO IO-Link master with 8 inputs/outputs, DIN mounting rail, screw terminal
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 plug for sensor connection

Photoelectric Sensors—Print Mark Contrast Sensors

DK20 Series

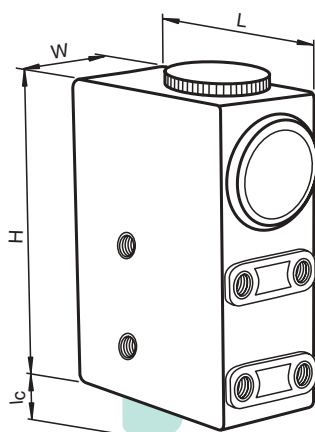


Common Technical Data

Operating elements	Push-button
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	60.8 mm
Housing width W	33 mm
Housing height H	85.6 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type	Type of Output
DK20/9S50	9.5 mm	Green/red/blue LED	1 x push-pull
DK20/49	9.5 mm	Green/red/blue LED	PNP/NPN
DK20-9,5/B/110/124	9.5 mm	Green/red/blue LED	1 x push-pull
DK20-9,5/A/110/124	9.5 mm	Green/red/blue LED	1 x push-pull
DK20-9,5/9S20/110/124	9.5 mm	Green/red/blue LED	1 x push-pull
DK20-9,5/79B/110/124	9.5 mm	Green/red/blue LED	1 x push-pull
DK20-9,5/110/124	9.5 mm	Green/red/blue LED	1 x push-pull
DK20-25/110/124	25 mm	Green/red/blue LED	1 x push-pull
DK20-25/A/110/124	25 mm	Green/red/blue LED	1 x push-pull
DK20/35A/9S20	25 mm	Green/red/blue LED	1 x push-pull
DK20/35B	50 mm	Red LED	1 x push-pull
DK20/35B/79B	50 mm	Red LED	1 x push-pull



Accessories

OMH-DK	Right-angled mounting bracket
OMH-DK-1	Flat mounting bracket
V15-G-5M-PVC	Single-ended female cordset, M12, straight, A-coded, 5-pin, PVC cable, gray
V15-W-5M-PVC	Single-ended female cordset, M12, angled, A-coded, 5-pin, PVC cable, gray

Photoelectric Sensors—Print Mark Contrast Sensors

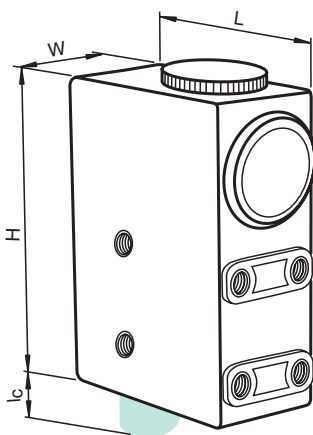
DK21 Series



Common Technical Data	
Light type	Green/red/blue LED
Type of output	1 x push-pull
Operating elements	Push-button
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	60.8 mm
Housing width W	33 mm
Housing height H	85.6 mm
EAC	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range
DK21-9,5/A/110/124	9.5 mm
DK21-9,5/110/124	9.5 mm
DK21-9,5/9S50/110/124	9.5 mm
DK21-25/110/124	25 mm



Accessories	
OMH-DK	Right-angled mounting bracket
OMH-DK-1	Flat mounting bracket
V15-G-5M-PVC	Single-ended female cordset, M12, straight, A-coded, 5-pin, PVC cable, gray
V15-W-5M-PVC	Single-ended female cordset, M12, angled, A-coded, 5-pin, PVC cable, gray

DK34 Series

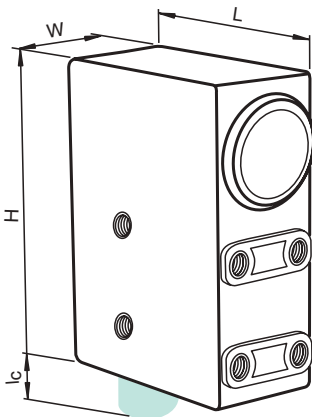


Common Technical Data	
Detection range	9.5 mm
Light type	Green/red/blue LED
Type of output	1 x push-pull
Operating elements	Push-button
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	60.8 mm
Housing width W	33 mm
Housing height H	85.6 mm
EAC	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number

DK34-9,5/110/124



Accessories	
OMH-DK	Right-angled mounting bracket
OMH-DK-1	Flat mounting bracket
V15-G-5M-PVC	Single-ended female cordset, M12, straight, A-coded, 5-pin, PVC cable, gray
V15-W-5M-PVC	Single-ended female cordset, M12, angled, A-coded, 5-pin, PVC cable, gray

Photoelectric Sensors—Print Mark Color Sensors

DF12 Series



Common Technical Data	
Detection range	11 mm
Light type	Green/red/blue LED
Type of output	3 x push-pull
Operating elements	Potentiometer
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	15 mm
Housing width W	41.5 mm
Housing height H	49 mm
EAC	■
UL	■
UKCA	■

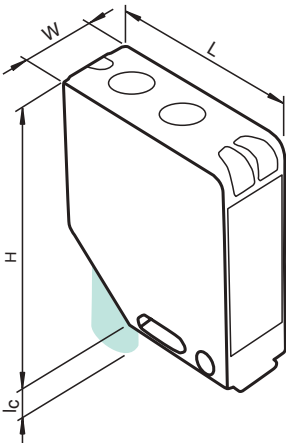
For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number

DF12-11-3K/145/151
DF12-11-3K/9s20/145/151

Timer Function

Impulse-type switch-off delay time relay, 20 ms



Accessories	
V19-G-2M-PUR-ABG	Single-ended female cordset, M12, straight, A-coded, 8-pin, PUR cable, gray, shielded

Photoelectric Sensors—Print Mark Color Sensors

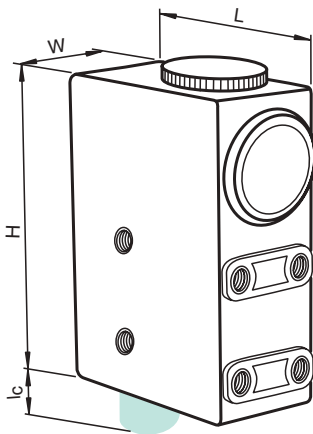
DF20 Series



Common Technical Data	
Light type	Green/red/blue LED
Type of output	PNP/NPN
Operating elements	Push-button
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	60.8 mm
Housing width W	33 mm
Housing height H	85.5 mm
EAC	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range
DF20/B/49/124	9.5 mm
DF20/49/124	9.5 mm
DF20/9S20/49/124	9.5 mm
DF20/35A/49/124	25 mm



Accessories	
V15-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 5-pin, PUR cable, gray

Photoelectric Sensors—Fiber Optic Sensors

SU18 Series

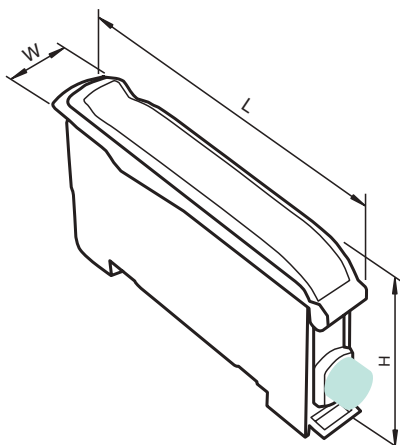


Common Technical Data

Light type	Red LED
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	62.3 mm
Housing width W	9 mm
Housing height H	34.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Operating Elements	Type of Output	Connection Type
SU18-16/40a/102/115/126a	150 mm	Potentiometer	NPN	Fixed cable
SU18-16/40a/102/115a/126a	150 mm	Potentiometer	NPN	Fixed cable with M8 plug
SU18-16/40a/110/115/126a	150 mm	Potentiometer	1 x push-pull	Fixed cable
SU18-16/40a/110/115a	150 mm	Potentiometer	1 x push-pull	Fixed cable with M8 plug
SU18-16/40a/110/115a/126a	150 mm	Potentiometer	1 x push-pull	Fixed cable with M8 plug
SU18-16/40a/115a/120	150 mm	Potentiometer	PNP	Fixed cable with M8 plug
SU18-40a/102/115/126a	150 mm	Push-button	NPN	Fixed cable
SU18-40a/102/115a/123	150 mm	Push-button	NPN	Fixed cable with M8 plug
SU18-40a/110/115/123	150 mm	Push-button	1 x push-pull	Fixed cable
SU18-40a/110/115/126a	150 mm	Push-button	1 x push-pull	Fixed cable
SU18-40a/110/115a	150 mm	Push-button	1 x push-pull	Fixed cable with M8 plug
SU18-40a/110/115a/123	150 mm	Push-button	1 x push-pull	Fixed cable with M8 plug
SU18-40a/110/115a/126a	150 mm	Push-button	1 x push-pull	Fixed cable with M8 plug
SU18/16/35/40a/102/115/126a	460 mm	Potentiometer	NPN	Fixed cable
SU18/16/35/40a/110/115/126a	460 mm	Potentiometer	1 x push-pull	Fixed cable
SU18/16/35/40a/110/115a	460 mm	Potentiometer	1 x push-pull	Fixed cable with M8 plug
SU18/16/35/40a/110/115a/126a	460 mm	Potentiometer	1 x push-pull	Fixed cable with M8 plug
SU18/35/40a/102/115/123	460 mm	Push-button	NPN	Fixed cable
SU18/35/40a/102/115/126a	460 mm	Push-button	NPN	Fixed cable
SU18/35/40a/110/115/123	460 mm	Push-button	1 x push-pull	Fixed cable
SU18/35/40a/110/115/126a	460 mm	Push-button	1 x push-pull	Fixed cable
SU18/35/40a/110/115a/126a	460 mm	Push-button	1 x push-pull	Fixed cable with M8 plug



Accessories

Suitable optical fibers can be found in the relevant product datasheet

Photoelectric Sensors—Fiber Optic Sensors

SU19 Series



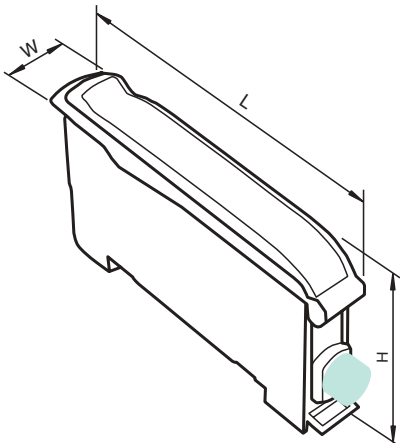
Common Technical Data	
Detection range	150 mm
Light type	Red LED
Type of output	1 x push-pull
Operating elements	Push-button
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	62.3 mm
Housing width W	9 mm
Housing height H	34.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Connection Type
SU19.1/110/115	Fixed cable
SU19.1/110/115a	Fixed cable with M8 plug
SU19/110/115/123	Fixed cable
SU19/110/115a/126a	Fixed cable with M8 plug

Accessories

Suitable optical fibers can be found in the relevant product datasheet



Photoelectric Sensors—Fiber Optic Sensors

MLV41-LL Series

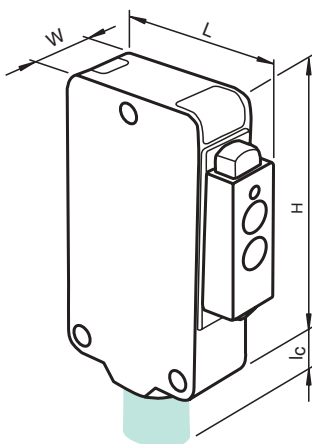


Common Technical Data

Type of output	2 x push-pull
Operating elements	Potentiometer
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing length L	13.6 mm
Housing width W	31 mm
Housing height H	56.5 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Light Type	Interface	Connection Type
MLV41-LL-RT/95/136	36 mm	Red LED		M8 connector plug
MLV41-LL-RT-IO/115/136	36 mm	Red LED	IO-Link	Fixed cable
MLV41-LL-RT-IO/92/136	36 mm	Red LED	IO-Link	M12 connector plug
MLV41-LL-RT-IO/95/136	36 mm	Red LED	IO-Link	M8 connector plug
MLV41-LL-RT/115/136	36 mm	Red LED		Fixed cable
MLV41-LL-RT/92/136	36 mm	Red LED		M12 connector plug
MLV41-LL-IR-IO/115/136	55 mm	Infrared LED	IO-Link	Fixed cable
MLV41-LL-IR-IO/92/136	55 mm	Infrared LED	IO-Link	M12 connector plug
MLV41-LL-IR-IO/95/136	55 mm	Infrared LED	IO-Link	M8 connector plug
MLV41-LL-IR/115/136	55 mm	Infrared LED		Fixed cable
MLV41-LL-IR/92/136	55 mm	Infrared LED		M12 connector plug
MLV41-LL-IR/95/136	55 mm	Infrared LED		M8 connector plug
MLV41-LL-IR/70/136	55 mm	Infrared LED		M9 connector plug



Accessories

ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE2-8IOL-G65L-V1D	Ethernet/IP IO-Link master with 8 inputs/outputs
ICE2-8IOL-K45P-RJ45	Ethernet/IP IO-Link master with 8 inputs/outputs, DIN mounting rail, push-in connector
ICE2-8IOL-K45S-RJ45	Ethernet/IP IO-Link master with 8 inputs/outputs, DIN mounting rail, screw terminal
ICE3-8IOL-G65L-V1D	PROFINET IO IO-Link master with 8 inputs/outputs
ICE3-8IOL-K45P-RJ45	PROFINET IO IO-Link master with 8 inputs/outputs, DIN mounting rail, push-in connector
ICE3-8IOL-K45S-RJ45	PROFINET IO IO-Link master with 8 inputs/outputs, DIN mounting rail, screw terminal
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 plug for sensor connection
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray

Suitable optical fibers can be found in the relevant product datasheet

Photoelectric Sensors—Fiber Optic Sensors

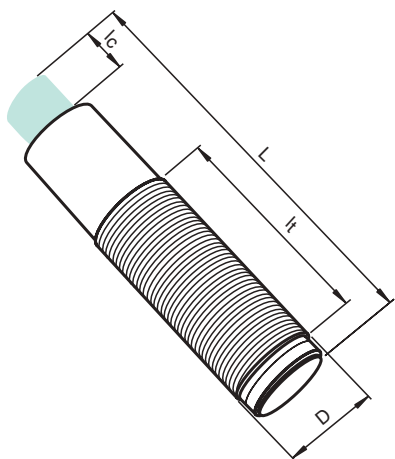
VL18-LL Series



Common Technical Data	
Detection range	70 mm
Light type	Red LED
Operating elements	Potentiometer
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	65 mm
Housing diameter D	18 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

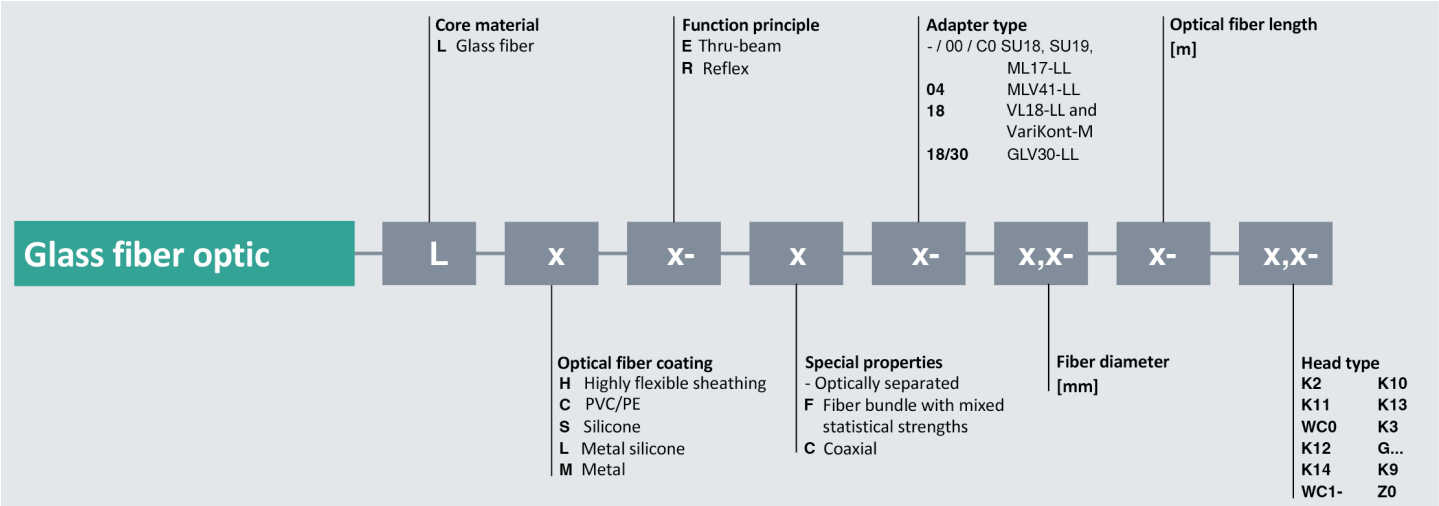
Model Number	Type of Output
VL18LL-M/30/40a/118	NPN
VL18LL-M/32/40a/118	PNP
VL18LL-M/40a/118/128	1 x push-pull



Accessories	
V1-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray

Suitable optical fibers can be found in the relevant product datasheet

Glass Fiber Optics



For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Brief Description

Glass fiber optics are made up of multiple individual fibers with a diameter of approximately 50 µm each. Stainless steel, PVC, metal and silicone, or silicone sheathing can be selected depending on the application. The low optical attenuation of glass fibers compared to plastic fibers enables greater sensing and detection ranges. The rugged mechanical design of the stainless steel sheathing means the cables can be used at temperatures of up to 200 °C.

Accessories	
K-LA01	Collimating lens, up to four times higher detection range, M2.6 thread
K-LA02	Collimating lens, side optical face, M2.6 thread
K-LA06	Collimating lens, up to eight times higher detection range, M4 thread

Plastic Fiber Optics



	Core material K Plastic material		Function principle E Thru-beam R Reflex		Adapter type - / 00 / C0 SU18, SU19, ML17-LL MLV41-LL VL18-LL and VariKont-M GLV30-LL		Optical fiber length [m]	
Plastic fiber optic	K	x	x-	x	x-	x,x-	x-	x,x-
		Optical fiber coating L PVC/PE		Special properties A Array C Coaxial		Fiber diameter [mm]		Head type K81 K106 K75 K108 K78 K101 K101 K113 K71 K102 K82 K111

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Brief Description

Plastic fiber optics are made up of PVC-sheathed fibers. The fiber optic material is lightweight and very flexible, so it can be used on machines with fast-moving parts. One great advantage is that the fibers can be cut to length individually.

Accessories

K-LA01	Collimating lens, up to four times higher detection range, M2.6 thread
K-LA02	Collimating lens, side optical face, M2.6 thread
K-LA03	Focusing lens, size of light spot approx. 0.5 mm at 8 mm, M3 thread
K-LA04	Collimating lens, up to eight times higher detection range, M4 thread
K-LA06	Collimating lens, up to eight times higher detection range, M4 thread
KM3-1,0	Metal protection for plastic fiber optic M3 x 1 m
KM4-0,5	Metal protection for plastic fiber optic M4 x 0.5 m
KM4-1,0	Metal protection for plastic fiber optic M4 x 1 m

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Photoelectric Sensors—Safety Light Barriers

SLA12 Series

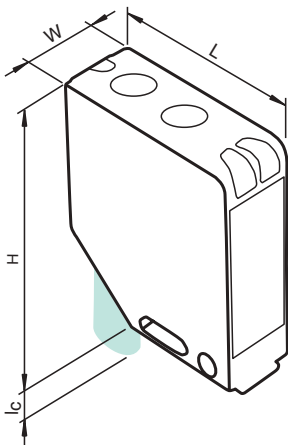


Common Technical Data

Function principle	Thru-beam sensor
Light type	Red laser diode
Type of voltage	DC
SIL	3
Connection type	M12 connector plug
Housing length L	41.5 mm
Housing width W	15 mm
Housing height H	49 mm
TÜV	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range
SLA12-LAS-T/124	12 m
SLA12-LAS-T/35/124	30 m



Accessories

OMH-06	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-K01	Mounting clamp for sensors with dovetail
OMH-K02	Mounting clamp for sensors with dovetail
OMH-MLV12-HWG	Mounting bracket for MLV12 series sensors
OMH-MLV12-HWK	Mounting bracket for MLV12 series sensors
SB4-OH-4CP-4C-4C-4C	Safety control unit
SB4-OR-4CP-2E	Safety control unit

Photoelectric Sensors—Safety Light Barriers

SLA29 Series

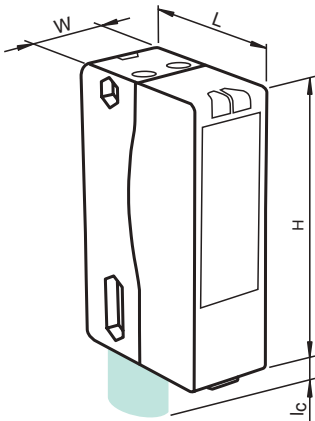


Common Technical Data

Function principle	Thru-beam sensor
Light type	Red LED
Type of voltage	DC
SIL	3
Housing width W	25.8 mm
Housing height H	88 mm
TÜV	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Connection Type	Length L	UL
SLA29/105/106	30 m	M12 connector plug	54.3 mm	■
SLA29/116	30 m	Terminal compartment	65.5 mm	
SLA29/73c	30 m	M12 connector plug	54.3 mm	
SLA29/35/105/106	65 m	M12 connector plug	54.3 mm	■
SLA29/35/116 R=65m	65 m	Terminal compartment	65.5 mm	
SLA29/35/73c R=65m	65 m	M12 connector plug	54.3 mm	



Accessories

OMH-05	Mounting aid for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
OMH-21	Mounting bracket
OMH-22	Mounting bracket

Photoelectric Sensors—Safety Light Grids

SLCS Series



Common Technical Data

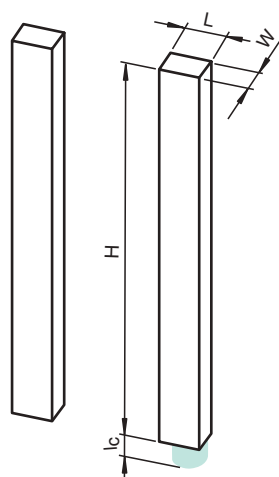
Function principle	Thru-beam sensor
Detection range	8000 mm
Light type	Infrared LED
Type of voltage	DC
Operating voltage (min)	19.2 V
Operating voltage (max)	31.2 V
SIL	3
Connection type	M12 connector plug
Housing length L	30 mm
Housing width W	20 mm
TÜV	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number

Optical Resolution

SLCS14	14 mm
SLCS30	30 mm
SLCS60	60 mm
SLCS90	90 mm



Accessories

AA SLCT-01	Profile alignment aid; simplified alignment of the SLCS and SLCT safety light curtains
OMH-SLCT-01	Quick-lock and adjustment device
OMH-SLCT-02	Mounting aid for OMH-SLCT-01
OMH-SLCT-03	Mounting aid complete with adjustment component
OMH-SLCT-04	Mounting aid complete with adjustment component (moveable bearing)
OMH-SLCT-05	Mounting aid complete with adjustment component
OMH-SLCT-06	Swivel Bracket
OMH-SLCT-10	Clamp mounting suitable for 6 mm ... 11.5 mm grooves
OMH-SLCT-100-1200	Mounting base for floor mounting and cover plate
OMH-SLCT-100-1500	Mounting base for floor mounting and cover plate
OMH-SLCT-100-2100	Mounting base for floor mounting and cover plate
OMH-SLCT-100-2500	Mounting base for floor mounting and cover plate
OMH-SLCT-11	Reverse clamp mounting suitable for 8.5 mm ... 10.5 mm grooves
OMH-SLCT-110-1200	Mounting base for floor mounting with rear panel and cover plate
OMH-SLCT-110-1500	Mounting base for floor mounting with rear panel and cover plate
OMH-SLCT-110-2100	Mounting base for floor mounting with rear panel and cover plate
OMH-SLCT-12-500	Mounting bracket, muting arm with round rod d=12 mm
OMH-SLCT-120-1200	Side protection for mounting base
OMH-SLCT-120-1500	Side protection for mounting base
OMH-SLCT-120-2100	Side protection for mounting base

Photoelectric Sensors—Safety Light Grids

SLCT Series

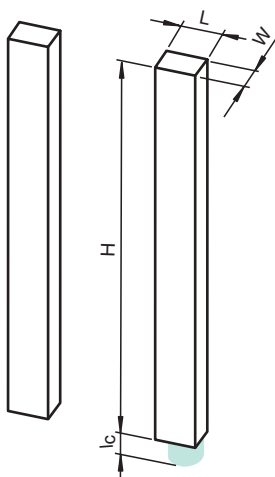


Common Technical Data

Function principle	Thru-beam sensor
Detection range	8000 mm
Light type	Infrared LED
Type of voltage	DC
Operating voltage (min)	19.2 V
Operating voltage (max)	31.2 V
SIL	1
Connection type	M12 connector plug
Housing length L	30 mm
Housing width W	20 mm
TÜV	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Optical Resolution
SLCT14	14 mm
SLCT30	30 mm
SLCT60	60 mm
SLCT90	90 mm



Accessories

AA SLCT-01	Profile alignment aid; simplified alignment of the SLCS and SLCT safety light curtains
OMH-SLCT-01	Quick-lock and adjustment device
OMH-SLCT-02	Mounting aid for OMH-SLCT-01
OMH-SLCT-03	Mounting aid complete with adjustment component
OMH-SLCT-04	Mounting aid complete with adjustment component (moveable bearing)
OMH-SLCT-05	Mounting aid complete with adjustment component
OMH-SLCT-06	Swivel Bracket
OMH-SLCT-10	Clamp mounting suitable for 6 mm ... 11.5 mm grooves
OMH-SLCT-100-1200	Mounting base for floor mounting and cover plate
OMH-SLCT-100-1500	Mounting base for floor mounting and cover plate
OMH-SLCT-100-2100	Mounting base for floor mounting and cover plate
OMH-SLCT-100-2500	Mounting base for floor mounting and cover plate
OMH-SLCT-11	Reverse clamp mounting suitable for 8.5 mm ... 10.5 mm grooves
OMH-SLCT-110-1200	Mounting base for floor mounting with rear panel and cover plate
OMH-SLCT-110-1500	Mounting base for floor mounting with rear panel and cover plate
OMH-SLCT-110-2100	Mounting base for floor mounting with rear panel and cover plate
OMH-SLCT-12-500	Mounting bracket, muting arm with round rod d=12 mm
OMH-SLCT-120-1200	Side protection for mounting base
OMH-SLCT-120-1500	Side protection for mounting base
OMH-SLCT-120-2100	Side protection for mounting base

Photoelectric Sensors—Safety Device—Control Units

SB4 Series



Common Technical Data

Type of voltage	DC
Operating voltage (min)	19.2 V
Operating voltage (max)	28.8 V
SIL	3
Housing height H	99 mm
TÜV	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Type of Output	Connection Type	Length L	Width W
SB4 Module 2E	Relay	Terminal compartment	100.5 mm	22.6 mm
SB4 Module 2E/165	Relay	Terminal compartment	100.5 mm	22.6 mm
SB4 Module 4C		Terminal compartment	100.5 mm	22.6 mm
SB4 Module 4C/165		Terminal compartment	100.5 mm	22.6 mm
SB4 Module 4CO			100.5 mm	22.6 mm
SB4 Module 4COP			100.5 mm	22.6 mm
SB4 Module 4CP		Terminal compartment	100.5 mm	22.6 mm
SB4 Module 4CP/165		Terminal compartment	100.5 mm	22.6 mm
SB4 Module 4M		Terminal compartment	100.5 mm	22.6 mm
SB4 Module 4M/165		Terminal compartment	100.5 mm	22.6 mm
SB4 Module 4MD			100.5 mm	22.6 mm
SB4 Module 4MD/165		Terminal compartment	100.5 mm	22.6 mm
SB4 Module 4X		Terminal compartment	100.5 mm	22.6 mm
SB4 Module 4X/165		Terminal compartment	100.5 mm	22.6 mm
SB4 Module 4XP		Terminal compartment	100.5 mm	22.6 mm
SB4 Module 4XP/165		Terminal compartment	100.5 mm	22.6 mm
SB4 Module 6C			100.5 mm	22.6 mm
SB4 Module OR	Relay	Terminal compartment	100.5 mm	22.6 mm
SB4 Module OR/165	Relay	Terminal compartment	100.5 mm	22.6 mm
SB4-OR-4CP	Relay		112.7 mm	45 mm
SB4-OR-4CP-4C	Relay		112.7 mm	45 mm
SB4-OR-4CP-4M	PNP		112.7 mm	45 mm
SB4-OR-4XP	Relay		112.7 mm	45 mm
SB4-OR-4XP-4M	PNP		112.7 mm	45 mm
SB4-OR-4XP-4X	Relay		112.7 mm	45 mm

Accessories

SB4 Cape	Cover
SB4 Housing 2	Empty housing for SB4 control unit
SB4 Housing 3	Empty housing for SB4 control unit
SB4 Housing 4	Empty housing for SB4 control unit
SB4 Housing 5	Empty housing for SB4 control unit
SB4 Housing 6	Empty housing for SB4 control unit
SB4 Housing 8	Empty housing for SB4 control unit
SLA12-LAS-T/124	Safety light barrier with laser light
SLA12-LAS-T/35/124	Safety light barrier with laser light



Innovation and Expertise Right from the Outset

The ultrasonic portfolio from Pepperl+Fuchs combines the advantages of decades of development expertise with a high degree of vertical integration in the field of ultrasonic sensors. The Pepperl+Fuchs technology center, in-house transducer production and comprehensive expert knowledge offer future-proof and application-oriented sensor solutions.

Top Quality and Performance—Ultrasonic Sensors from the In-House Technology Center

Ultrasonic sensors from Pepperl+Fuchs are built in the company's own technology center with associated transducer development and manufacturing. For more than 30 years, our forward-thinking team of experts has been working continually on further developing ultrasound technology for the solutions of tomorrow. That means our customers always receive the most powerful products on the market.

This approach has led to the widest standard portfolio in the industry, supported by numerous patents and innovations for the highest level of flexibility in product selection, and an optimal application solution. In addition to the standard portfolio, Pepperl+Fuchs has the knowledge and infrastructure to respond to customer requirements with speed and flexibility and to implement individual solutions.

Ultrasound Technology for Any Industrial Application

Ultrasonic sensors are used in industry to detect objects and measure distance. Versatility and availability are key user requirements.

With its ultrasonic portfolio, Pepperl+Fuchs provides a variety of sensors that offer benefits such as minimized dead band, large measuring ranges of up to 10 m, adjustable sound beams, and much more—and all in a variety of housing designs and materials. This means we can always offer technically reliable and efficient solutions.



More information is available at:

pepperl-fuchs.com/fa-ultrasonic





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30GM70 Series

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30GM-IO Series

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Cylindrical Ultrasonic Sensors

12GM Series Diffuse Mode Sensors



Common Technical Data

Housing design	cylindrical
Type of voltage	DC
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	70 mm
Housing diameter D	12 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

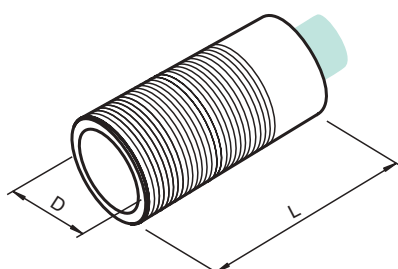
Model Number	Detection Range	Dead Band	Type of Output	Switching Element Function	Response Time [ms]	Switching Frequency	UB (Min)
UB120-12GM-E4-V1	120 mm	15 mm	NPN	Normally-open/normally-closed (selectable)	9 ms	52 Hz	10 V
UB120-12GM-E5-V1	120 mm	15 mm	PNP	Normally-open/normally-closed (selectable)	9 ms	52 Hz	10 V
UB120-12GM-I-V1	120 mm	15 mm	Analog current output	Analog	27 ms		10 V
UB120-12GM-U-V1	120 mm	15 mm	Analog voltage output	Analog	27 ms		15 V
UB200-12GM-E4-V1	200 mm	15 mm	NPN	Normally-open/normally-closed (selectable)	30 ms	13 Hz	10 V
UB200-12GM-E5-V1	200 mm	15 mm	PNP	Normally-open/normally-closed (selectable)	30 ms	13 Hz	10 V
UB200-12GM-I-V1	200 mm	15 mm	Analog current output	Analog	30 ms		10 V
UB200-12GM-U-V1	200 mm	15 mm	Analog voltage output	Analog	30 ms		15 V
UB400-12GM-E4-V1	400 mm	30 mm	NPN	Normally-open/normally-closed (selectable)	50 ms	8 Hz	10 V
UB400-12GM-E5-V1	400 mm	30 mm	PNP	Normally-open/normally-closed (selectable)	50 ms	8 Hz	10 V
UB400-12GM-I-V1	400 mm	30 mm	Analog current output	Analog	50 ms		10 V
UB400-12GM-U-V1	400 mm	30 mm	Analog voltage output	Analog	50 ms		15 V

Highlights

- Little space required, small dead band: ideal for tight installation situations
- IP67 degree of protection for excellent availability in harsh environments
- Teach-in process for simple configuration
- Three detection ranges, switching output or analog output—the right solution for every requirement

Brief Description

The highly compact cylindrical M12 housing in combination with the extra-small dead band make 12GM series ultrasonic sensors the ideal solution for tight installation situations, e.g., in the ink tanks of printing machines. For applications in harsh environments, the IP67 degree of protection guarantees the ultimate in robust construction and availability. The diffuse mode sensors—available either with switching or analog output—are impressively user-friendly as they can be configured via teach-in.



Accessories

BF 12	Mounting adapter, 12 mm
BF 12-F	Plastic mounting adapter, 12 mm
BF 5-30	Universal mounting bracket for cylindrical sensors with a diameter of 5 mm ... 30 mm
M12K-VE	Plastic nuts with centering ring for vibration-decoupled mounting of cylindrical sensors
UB-PROG2	Programming unit
UVW90-M12	Ultrasonic deviation reflector
V1-G-2M-PVC	Single-ended female cordset, M12, straight, A-coded, 4-pin, PVC cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray

Cylindrical Ultrasonic Sensors

18GM40 Series

Thru-Beam Sensor and Diffuse Mode Sensor



Common Technical Data

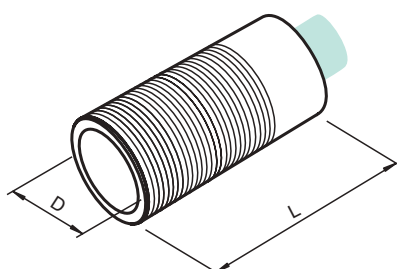
Housing design	cylindrical
Type of voltage	DC
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing diameter D	18 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Design	Detection Range	Dead Band	Type of Output	Switching Element Function	Response Time [ms]	Switching Frequency	UB (Min)	Length L	EAC
UB300-18GM40-E4-V1	Straight head	300 mm	35 mm	NPN	Normally-open/normally-closed (selectable)	50 ms	13 Hz	10 V	40 mm	■
UB300-18GM40-E5-V1	Straight head	300 mm	35 mm	PNP	Normally-open/normally-closed (selectable)	50 ms	13 Hz	10 V	40 mm	
UB300-18GM40-I-V1	Straight head	300 mm	35 mm	Analog current output	Analog	50 ms		10 V	40 mm	
UB300-18GM40-U-V1	Straight head	300 mm	35 mm	Analog voltage output	Analog	50 ms		15 V	40 mm	
UB300-18GM40A-E4-V1	Angled head	300 mm	35 mm	NPN	Normally-open/normally-closed (selectable)	50 ms	13 Hz	10 V	57 mm	
UB300-18GM40A-E5-V1	Angled head	300 mm	35 mm	PNP	Normally-open/normally-closed (selectable)	50 ms	13 Hz	10 V	57 mm	
UB300-18GM40A-I-V1	Angled head	300 mm	35 mm	Analog current output	Analog	50 ms		10 V	40 mm	
UB300-18GM40A-U-V1	Angled head	300 mm	35 mm	Analog voltage output	Analog	50 ms		15 V	40 mm	
UB800-18GM40-E4-V1	Straight head	800 mm	50 mm	NPN	Normally-open/normally-closed (selectable)	100 ms	4 Hz	10 V	40 mm	
UB800-18GM40-E5-V1	Straight head	800 mm	50 mm	PNP	Normally-open/normally-closed (selectable)	100 ms	4 Hz	10 V	40 mm	■
UB800-18GM40-I-V1	Straight head	800 mm	50 mm	Analog current output	Analog	100 ms		10 V	40 mm	■
UB800-18GM40-U-V1	Straight head	800 mm	50 mm	Analog voltage output	Analog	100 ms		15 V	40 mm	
UB800-18GM40A-E4-V1	Angled head	800 mm	50 mm	NPN	Normally-open/normally-closed (selectable)	100 ms	4 Hz	10 V	57 mm	
UB800-18GM40A-E5-V1	Angled head	800 mm	50 mm	PNP	Normally-open/normally-closed (selectable)	100 ms	4 Hz	10 V	57 mm	
UB800-18GM40A-I-V1	Angled head	800 mm	50 mm	Analog current output	Analog	100 ms		10 V	57 mm	
UB800-18GM40A-U-V1	Angled head	800 mm	50 mm	Analog voltage output	Analog	100 ms		15 V	57 mm	
UBE1000-18GM40-SE2-V1	Straight head	1000 mm		PNP	Normally-open (NO)		100 Hz	10 V	40 mm	
UBE1000-18GM40A-SE2-V1	Angled head	1000 mm		PNP	Normally-open (NO)		100 Hz	10 V	40 mm	

Highlights

- Wide variety of integration options through special housing design and graduated detection areas
- Different output versions offer flexible solutions for measuring or switching applications
- IP67 degree of protection for maximum reliability and availability under tough operational conditions



Brief Description

The 18GM40 series of thru-beam sensors and diffuse mode sensors provides the ideal solution for tough installation conditions. Their extremely short housing design saves space, while the versions with right-angled ultrasonic transducers offer an additional level of freedom during integration, such as in profiles or angled machine structures. Their application areas are just as demanding and varied: They can count bottles in filling lines, detect containers on waste collection vehicles and detect cars and boats on fair-ground rides.

Accessories

BF 18	Mounting adapter, 18 mm
BF 18-F	Plastic mounting adapter, 18 mm
BF 5-30	Universal mounting bracket for cylindrical sensors
M18K-VE	Plastic nuts with centering ring for vibration-decoupled mounting of cylindrical sensors
OMH-04	Mounting aid for circular profile ø 12 mm or flat profile
UB-PROG2	Programming unit
UVW90-K18	Ultrasonic deviation reflector
V1-G-2M-PVC	Single-ended female cordset, M12, straight, A-coded, 4-pin, PVC cable, gray

Cylindrical Ultrasonic Sensors

18GM60 Series Diffuse Mode Sensors



Common Technical Data

Housing design	cylindrical
Type of output	PNP
Switching element function	Normally-open/normally-closed (selectable)
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing diameter D	18 mm
UL	■
e1 type approval	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

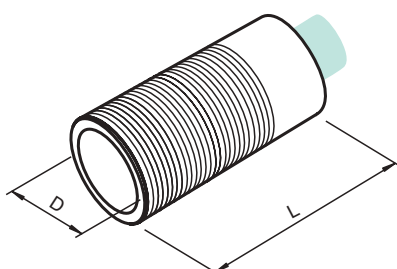
Model Number	Design	Detection Range	Dead Band	Response Time [ms]	Switching Frequency	Length L
UB300-18GM60-E5-V1-M	Straight head	300 mm	35 mm	50 ms	13 Hz	51 mm
UB300-18GM60A-E5-V1-M	Angled head	300 mm	35 mm	50 ms	13 Hz	69 mm
UB800-18GM60-E5-V1-M	Straight head	800 mm	50 mm	100 ms	4 Hz	51 mm
UB800-18GM60A-E5-V1-M	Angled head	800 mm	50 mm	100 ms	4 Hz	69 mm

Highlights

- Different sensing ranges for different object distances

Brief Description

The 18GM60 ultrasonic diffuse mode sensor has proven itself in a number of applications. The five different output stages mean that it can be used for a wide variety of purposes. The teach-in input and temperature compensation are added bonuses. E1 type approval means that the sensor is also suitable for automotive engineering.



Accessories

BF 18	Mounting adapter, 18 mm
BF 18-F	Plastic mounting adapter, 18 mm
BF 5-30	Universal mounting bracket for cylindrical sensors with a diameter of 5 mm ... 30 mm
OMH-04	Mounting bracket for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
UB-PROG2	Programming unit
V1-G-2M-PVC	Single-ended female cordset, M12, straight, A-coded, 4-pin, PVC cable, gray
V1-W-2M-PUR	Single-ended female cordset, M12, angled, A-coded, 4-pin, PUR cable, gray

Cylindrical Ultrasonic Sensors

18GM75 Series Diffuse Mode Sensors



Common Technical Data

Housing design	cylindrical
Type of voltage	DC
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing diameter D	18 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Design	Detection Range	Dead Band	Type of Output	Switching Element Function	Response Time [ms]	Switching Frequency	UB (Min)	Length L	EAC
UB500-18GM75-E01-V15	Straight head	500 mm	30 mm	2 * NPN, NPN	Normally-open/normally-closed (selectable)	50 ms	8 Hz	10 V	85 mm	
UB500-18GM75-E23-V15	Straight head	500 mm	30 mm	2 * PNP, PNP	Normally-open/normally-closed (selectable)	50 ms	8 Hz	10 V	85 mm	
UB500-18GM75-E4-V15	Straight head	500 mm	30 mm	NPN	Normally-open/normally-closed (selectable)	50 ms	8 Hz	10 V	85 mm	
UB500-18GM75-E5-V15	Straight head	500 mm	30 mm	PNP	Normally-open/normally-closed (selectable)	50 ms	8 Hz	10 V	85 mm	■
UB500-18GM75-E6-V15	Straight head	500 mm	30 mm	2 * PNP, PNP	Normally-open/normally-closed (selectable)	50 ms	8 Hz	10 V	85 mm	
UB500-18GM75-E7-V15	Straight head	500 mm	30 mm	2 * NPN, NPN	Normally-open/normally-closed (selectable)	50 ms	8 Hz	10 V	85 mm	
UB500-18GM75-I-V15	Straight head	500 mm	30 mm	Analog current output	Analog	50 ms		10 V	85 mm	
UB500-18GM75-U-V15	Straight head	500 mm	30 mm	Analog voltage output	Analog	50 ms		15 V	85 mm	
UB1000-18GM75-E01-V15	Straight head	1000 mm	70 mm	2 * NPN, NPN	Normally-open/normally-closed (selectable)	125 ms	3 Hz	10 V	75 mm	
UB1000-18GM75-E23-V15	Straight head	1000 mm	70 mm	2 * PNP, PNP	Normally-open/normally-closed (selectable)	125 ms	3 Hz	10 V	75 mm	
UB1000-18GM75-E4-V15	Straight head	1000 mm	70 mm	NPN	Normally-open/normally-closed (selectable)	125 ms	3 Hz	10 V	75 mm	
UB1000-18GM75-E5-V15	Straight head	1000 mm	70 mm	PNP	Normally-open/normally-closed (selectable)	125 ms	3 Hz	10 V	75 mm	
UB1000-18GM75-E6-V15	Straight head	1000 mm	70 mm	2 * PNP, PNP	Normally-open/normally-closed (selectable)	125 ms	3 Hz	10 V	75 mm	
UB1000-18GM75-E7-V15	Straight head	1000 mm	70 mm	2 * NPN, NPN	Normally-open/normally-closed (selectable)	125 ms	3 Hz	10 V	75 mm	
UB1000-18GM75-I-V15	Straight head	1000 mm	70 mm	Analog current output	Analog	125 ms		10 V	75 mm	
UB1000-18GM75-U-V15	Straight head	1000 mm	70 mm	Analog voltage output	Analog	125 ms		15 V	75 mm	
UB1000-18GM75A-E5-V15	Angled head	1000 mm	70 mm	PNP	Normally-open/normally-closed (selectable)	125 ms	3 Hz	10 V	102.5 mm	
UB1000-18GM75A-I-V15	Angled head	1000 mm	70 mm	Analog current output	Analog	125 ms		10 V	102.5 mm	

Highlights

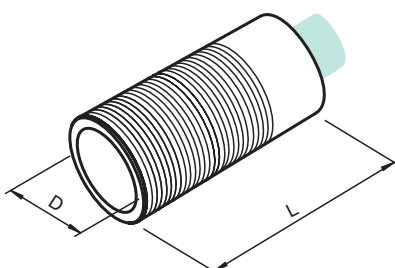
- Different sensing ranges for different object distances
- Adjustable sound beam increases range of possible sensor applications
- Output variability in the series enables a wide variety of automation solutions

Brief Description

The 18GM75 ultrasonic diffuse mode sensor has proven itself in a multitude of applications. The width of the sound beam can be easily adapted to any detection situation. In addition, the synchronization option avoids cross-talk between sensors that are installed close together, guaranteeing a reliable measurement function. The switching of the sound beam is particularly advantageous in tight installation situations or in applications with interfering machine parts in close proximity to the sensor. This means that the width of the sound beam can be easily switched to a narrow setting and reliable detection of the object or level can be ensured.

Accessories

BF 18	Mounting adapter, 18 mm
BF 18-F	Plastic mounting adapter, 18 mm
BF 5-30	Universal mounting bracket for cylindrical sensors with a diameter of 5 mm ... 30 mm
M18K-VE	Plastic nuts with centering ring for vibration-decoupled mounting of cylindrical sensors
OMH-04	Mounting bracket for circular profiles ø 12 mm or flat profiles 1.5 mm ... 3 mm



Cylindrical Ultrasonic Sensors

18GS Series Diffuse Mode Sensors



Common Technical Data

Housing design	cylindrical
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	90 mm
EAC	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Dead Band	Type of Output	Response Time [ms]	Switching Frequency
UC500-18GS-2EP-IO-V15	500 mm	30 mm	IO-Link	20 ms	14 Hz
UC500-18GS-IUEP-IO-V15	500 mm	30 mm	IO-Link, analog voltage output, analog current output	20 ms	14 Hz
UC1000-18GS-2EP-IO-V15	1000 mm	70 mm	IO-Link	28 ms	10 Hz
UC1000-18GS-IUEP-IO-V15	1000 mm	70 mm	IO-Link, analog voltage output, analog current output	28 ms	10 Hz

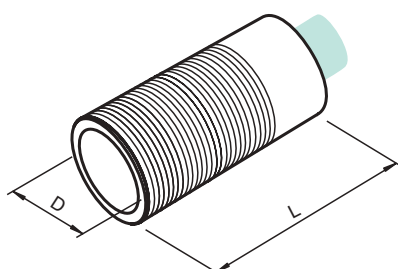
Highlights

- Application-specific adaptation thanks to versatile functions in one sensor
- Suppression of interfering machine parts for consistent measured values
- Adjustable sound cone for quick adaptation to the application without loss of range
- Automatic sensor synchronization when using multiple sensors in a confined space
- User-friendly programming and parameterization via push-buttons, IrDA interface or IO-Link (DTM/PACTware)

Brief Description

The UB18GS series ultrasonic diffuse mode sensor has proven itself in a multitude of applications. The width of the sound beam can be easily adapted to any detection situation. In addition, the synchronization option avoids cross-talk between sensors that are installed close together, guaranteeing a reliable measurement function.

With features such as echo suppression, adjustable sound beam width, extended synchronization, a very small dead band, IO-Link and infrared interface, and push buttons, the series offers an unprecedented variety of functions and adjustment options in a single device. This gives the user the greatest possible amount of flexibility.



Accessories

AB-18	Mounting aid
BF 18	Mounting adapter, 18 mm
BF 18-F	Plastic mounting adapter, 18 mm
BF 5-30	Universal mounting bracket for cylindrical sensors with a diameter of 5 mm ... 30 mm
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 connector for sensor connection
OMH-04	Mounting bracket for circular profiles ø 12 mm or flat profiles 1.5 mm ... 3 mm
UC-PROG-IR-USB	Interface cable to parameterize sensors with IrDA interface
UVW90-K18	Ultrasonic deviation reflector

Cylindrical Ultrasonic Sensors

UB-30GM Series

Thru-Beam Sensor and Diffuse Mode Sensor



Common Technical Data

Design	Straight head
Housing design	cylindrical
Switching element function	Normally-open/normally-closed (selectable)
Type of voltage	DC
Operating voltage (max)	30 V
Connection type	M12 connector plug
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Dead Band	Type of Output	Response Time [ms]	Switching Frequency	UB (Min)	Length L	Diameter D	EAC
UB500-30GM-E4-V15	500 mm	30 mm	NPN	50 ms	10 Hz	10 V	94 mm	30 mm	
UB500-30GM-E5-V15	500 mm	30 mm	PNP	50 ms	10 Hz	10 V	94 mm	30 mm	■
UB2000-30GM-E4-V15	2000 mm	80 mm	NPN	150 ms	3.3 Hz	10 V	94 mm	30 mm	
UB2000-30GM-E5-V15	2000 mm	80 mm	PNP	150 ms	3.3 Hz	10 V	94 mm	30 mm	■
UB4000-30GM-E4-V15	4000 mm	200 mm	NPN	325 ms	1.5 Hz	10 V	108 mm	40 mm	
UB4000-30GM-E5-V15	4000 mm	200 mm	PNP	325 ms	1.5 Hz	10 V	108 mm	40 mm	■
UB6000-30GM-E4-V15	6000 mm	350 mm	NPN	650 ms	0.8 Hz	10 V	112 mm	73 mm	
UB6000-30GM-E5-V15	6000 mm	350 mm	PNP	650 ms	0.8 Hz	10 V	112 mm	73 mm	
UBE4000-30GM-SA2-V15	4000 mm		2 * PNP, PNP		15 Hz	18 V	90 mm	40 mm	

Highlights

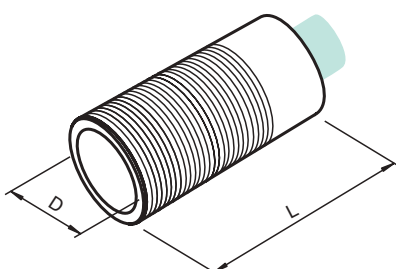
- Sensing ranges in practical graduation for a variety of detection applications
- Synchronization and IP65 degree of protection for outstanding operational reliability
- High degree of vibration resistance for use in harsh and mobile applications

Brief Description

The UB-30GM series diffuse mode sensors are easy to adjust via the teach-in input. They can be synchronized to guarantee impressive detection and switching reliability even in installation situations with multiple ultrasonic sensors. The sensors are extremely robust and vibration-resistant, and deliver reliable measurements at all times while resisting interference such as compressed air. The diversity of detection ranges makes this series the ideal solution for monitoring bulk goods in silos of varying sizes, for example.

Accessories

BF 30	Mounting adapter, 30 mm
BF 30-F	Plastic mounting adapter, 30 mm
BF 5-30	Universal mounting bracket for cylindrical sensors with a diameter of 5 mm ... 30 mm
M30K-VE	Plastic nuts with centering ring for vibration-decoupled mounting of cylindrical sensors
UB-PROG2	Programming unit
UVW90-K30	Ultrasonic deviation reflector
UVW90-M30	Ultrasonic deviation reflector
V1-G-2M-PVC	Single-ended female cordset, M12, straight, A-coded, 4-pin, PVC cable, gray



Cylindrical Ultrasonic Sensors

UC-30GM Series Diffuse Mode Sensors



Common Technical Data

Housing design	cylindrical
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Design	Detection Range [mm]	Dead Band [mm]	Type of Output	Switching Element Function	Switching Frequency	Length L [mm]	Diameter D [mm]	EAC
UC300-30GM-E6R2-K-V15	Remote head	300	30	2 * PNP, PNP	Normally-open/normally-closed (selectable)	7 Hz	25	18	
UC300-30GM-IUR2-K-V15	Remote head	300	30	Analog current output, analog voltage output	Analog		25	18	
UC300-30GM-IUR2-V15	Straight head	300	15	Analog current output, analog voltage output	Analog		114	30	■
UC500-30GM-E6R2-V15	Straight head	500	30	2 * PNP, PNP	Normally-open/normally-closed (selectable)	7 Hz	94	30	
UC500-30GM-E7R2-V15	Straight head	500	30	2 * NPN, NPN	Normally-open/normally-closed (selectable)	7 Hz	94	30	
UC500-30GM-IUR2-V15	Straight head	500	30	Analog current output, analog voltage output	Analog		114	30	
UC1000-30GM-E6R2-K-V15	Remote head	1000	80	2 * PNP, PNP	Normally-open/normally-closed (selectable)	2.5 Hz	27	30	
UC1000-30GM-IUR2-K-V15	Remote head	1000	80	Analog current output, analog voltage output	Analog		27	30	
UC2000-30GM-E6R2-T-V15	Straight head	2000	80	2 * PNP, PNP	Normally-open/normally-closed (selectable)	2.5 Hz	94	30	
UC2000-30GM-E6R2-V15	Straight head	2000	80	2 * PNP, PNP	Normally-open/normally-closed (selectable)	2.5 Hz	94	30	■
UC2000-30GM-E7R2-V15	Straight head	2000	80	2 * NPN, NPN	Normally-open/normally-closed (selectable)	2.5 Hz	94	30	
UC2000-30GM-IUR2-T-V15	Straight head	2000	80	Analog current output, analog voltage output	Analog		114	30	
UC2000-30GM-IUR2-V15	Straight head	2000	80	Analog current output, analog voltage output	Analog		114	30	■
UC4000-30GM-E6R2-V15	Straight head	4000	200	2 * PNP, PNP	Normally-open/normally-closed (selectable)	1 Hz	108	40	
UC4000-30GM-E7R2-V15	Straight head	4000	200	2 * NPN, NPN	Normally-open/normally-closed (selectable)	1 Hz	108	40	
UC4000-30GM-IUR2-V15	Straight head	4000	200	Analog current output, analog voltage output	Analog		128	40	
UC6000-30GM-E6R2-V15	Straight head	6000	350	2 * PNP, PNP	Normally-open/normally-closed (selectable)	0.5 Hz	112	73	
UC6000-30GM-E7R2-V15	Straight head	6000	350	2 * NPN, NPN	Normally-open/normally-closed (selectable)	0.5 Hz	112	73	
UC6000-30GM-IUR2-V15	Straight head	6000	350	Analog current output, analog voltage output	Analog		132	73	

Highlights

- Comprehensive parameterization for customized sensor adjustment
- Intuitive programming and configuration for easy commissioning
- Variants with offset transducers increase installation flexibility

Accessories

BF 18	Mounting adapter, 18 mm
BF 18-F	Plastic mounting adapter, 18 mm
BF 30	Mounting adapter, 30 mm
BF 30-F	Plastic mounting adapter, 30 mm
BF 5-30	Universal mounting bracket for cylindrical sensors
M-105	Protective cover
M30K-VE	Plastic nuts with centering ring for vibration-decoupled mounting
OMH-04	Mounting bracket for circular profiles ø 12 mm or flat profiles 1.5 mm ... 3 mm

Brief Description

Due to the variety of parameterization options, the diffuse mode sensors are versatile and can be deployed individually. They are easy to configure via the integrated programming plug. Sensor versions with offset transducers offer an additional level of freedom during machine integration in special installation situations. With these characteristics, they offer an impressive array of potential solutions, such as distance measurement between load-holding equipment and containers in container spreaders prior to pick-up.

Cylindrical Ultrasonic Sensors

30GM70 Series

Diffuse Mode Sensors



Common Technical Data

Housing design	cylindrical
Switching element function	Normally-open/normally-closed (selectable)
Type of voltage	DC
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing diameter D	30 mm
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Design	Detection Range	Dead Band	Type of Output	Response Time [ms]	Switching Frequency	UB (min)	Length L
UC500-30GM70-2E2R2-K-V15	Straight head	500 mm	45 mm	2 * PNP	60 ms	5 Hz	12 V	111.3 mm
UC500-30GM70-2E2R2-V15	Straight head	500 mm	45 mm	2 * PNP	60 ms	5 Hz	12 V	99.3 mm
UC500-30GM70-IE2R2-K-V15	Straight head	500 mm	45 mm	PNP, analog current output	60 ms	5 Hz	20 V	111.3 mm
UC500-30GM70-IE2R2-V15	Straight head	500 mm	45 mm	PNP, analog current output	60 ms	5 Hz	20 V	99.3 mm
UC500-30GM70-UE2R2-K-V15	Straight head	500 mm	45 mm	PNP, analog voltage output	60 ms	5 Hz	20 V	111.3 mm
UC500-30GM70-UE2R2-V15	Straight head	500 mm	45 mm	PNP, analog voltage output	60 ms	5 Hz	20 V	99.3 mm
UC500-30GM70S-2E2R2-V15	Swivel head	500 mm	45 mm	2 * PNP	60 ms	5 Hz	12 V	126 mm
UC500-30GM70S-IE2R2-V15	Swivel head	500 mm	45 mm	PNP, analog current output	60 ms	5 Hz	20 V	126 mm
UC500-30GM70S-UE2R2-V15	Swivel head	500 mm	45 mm	PNP, analog voltage output	60 ms	5 Hz	20 V	126 mm
UC2000-30GM70-2E2R2-K-V15	Straight head	2000 mm	100 mm	2 * PNP	100 ms	4 Hz	12 V	111.3 mm
UC2000-30GM70-IE2R2-K-V15	Straight head	2000 mm	100 mm	PNP, analog current output	100 ms	4 Hz	20 V	111.3 mm
UC2000-30GM70-IE2R2-V15	Straight head	2000 mm	100 mm	PNP, analog current output	100 ms	4 Hz	20 V	99.3 mm
UC2000-30GM70-UE2R2-K-V15	Straight head	2000 mm	100 mm	PNP, analog voltage output	100 ms	4 Hz	20 V	111.3 mm
UC2000-30GM70-UE2R2-V15	Straight head	2000 mm	100 mm	PNP, analog voltage output	100 ms	4 Hz	20 V	99.3 mm
UC2000-30GM70S-2E2R2-V15	Swivel head	2000 mm	100 mm	2 * PNP	100 ms	4 Hz	12 V	126 mm
UC2000-30GM70S-IE2R2-V15	Swivel head	2000 mm	100 mm	PNP, analog current output	100 ms	4 Hz	20 V	126 mm
UC2000-30GM70S-UE2R2-V15	Swivel head	2000 mm	100 mm	PNP, analog voltage output	100 ms	4 Hz	20 V	126 mm
UC3500-30GM70-2E2R2-V15	Straight head	3500 mm	200 mm	2 * PNP	150 ms	2 Hz	12 V	99.3 mm
UC3500-30GM70-IE2R2-V15	Straight head	3500 mm	200 mm	PNP, analog current output	150 ms	2 Hz	20 V	99.3 mm
UC3500-30GM70-UE2R2-V15	Straight head	3500 mm	200 mm	PNP, analog voltage output	150 ms	2 Hz	20 V	99.3 mm
UC3500-30GM70S-2E2R2-V15	Swivel head	3500 mm	200 mm	2 * PNP	150 ms	2 Hz	12 V	126 mm
UC3500-30GM70S-IE2R2-V15	Swivel head	3500 mm	200 mm	PNP, analog current output	150 ms	2 Hz	20 V	126 mm
UC3500-30GM70S-UE2R2-V15	Swivel head	3500 mm	200 mm	PNP, analog voltage output	150 ms	2 Hz	20 V	126 mm
UC6000-30GM70-2E2R2-V15	Straight head	6000 mm	350 mm	2 * PNP	275 ms	1 Hz	12 V	121.2 mm
UC6000-30GM70-IE2R2-V15	Straight head	6000 mm	350 mm	PNP, analog current output	275 ms	1 Hz	20 V	121.2 mm
UC6000-30GM70-UE2R2-V15	Straight head	6000 mm	350 mm	PNP, analog voltage output	275 ms	1 Hz	20 V	121.2 mm
UC6000-30GM70S-2E2R2-V15	Swivel head	6000 mm	350 mm	2 * PNP	275 ms	1 Hz	12 V	143.5 mm
UC6000-30GM70S-IE2R2-V15	Swivel head	6000 mm	350 mm	PNP, analog current output	275 ms	1 Hz	20 V	143.5 mm
UC6000-30GM70S-UE2R2-V15	Swivel head	6000 mm	350 mm	PNP, analog voltage output	275 ms	1 Hz	20 V	143.5 mm

Highlights

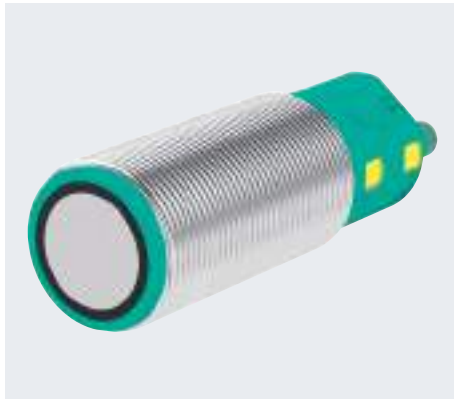
- Graduated detection ranges for different object distances
- Infrared interface allows direct sensor access for parameterization or diagnosis
- Reaction-free parameterization during operation avoids process interruptions
- Various transducer versions to handle any installation situation

Accessories

BF 18	Mounting adapter, 18 mm
BF 30	Mounting adapter, 30 mm
BF 5-30	Universal mounting bracket for cylindrical sensors with a diameter of 5 mm ... 30 mm
UC-PROG-IR-USB	Interface cable to parameterize sensors with IrDA interface
V15-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 5-pin, PUR cable, gray

Cylindrical Ultrasonic Sensors

30GM-IO Series Diffuse Mode Sensors



Common Technical Data

Design	Straight head
Housing design	cylindrical
Switching element function	Normally-open/normally-closed (selectable)
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

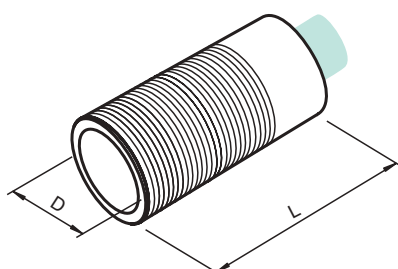
Model Number	Detection Range	Dead Band	Type of Output	Response Time [ms]	Switching Frequency	Length L	Diameter D
UC500-30GM-2EP-IO-V15	500 mm	30 mm	IO-Link, push-pull	25 ms	11 Hz	93 mm	30 mm
UC500-30GM-IUEP-IO-V15	500 mm	30 mm	IO-Link, analog current output, push-pull	25 ms	11 Hz	93 mm	30 mm
UC2000-30GM-2EP-IO-V15	2000 mm	90 mm	IO-Link, push-pull	65 ms	4 Hz	93 mm	30 mm
UC2000-30GM-IUEP-IO-V15	2000 mm	90 mm	IO-Link, analog current output, push-pull	65 ms	4 Hz	93 mm	30 mm
UC4000-30GM-2EP-IO-V15	4000 mm	200 mm	IO-Link, push-pull	115 ms	2 Hz	108 mm	40 mm
UC4000-30GM-IUEP-IO-V15	4000 mm	200 mm	IO-Link, analog current output, push-pull	115 ms	2 Hz	100 mm	40 mm
UC6000-30GM-2EP-IO-V15	6000 mm	350 mm	IO-Link, push-pull	140 ms	1.5 Hz	112 mm	73 mm
UC6000-30GM-IUEP-IO-V15	6000 mm	350 mm	IO-Link, analog current output, push-pull	140 ms	1.5 Hz	106 mm	73 mm

Highlights

- Simple integration in the control panel via IO-Link
- Integrated diagnostics and flexible parameterization
- Outstanding process reliability through direct access to process data and diagnostic data
- Wide array of graduated detection ranges

Brief Description

The 30GM-IO series diffuse mode sensors are the multifunctional solutions for a range of application scenarios, from fill level measurement and presence detection to object counting and distance measurement. They are incredibly simple to parameterize, either using the buttons on the sensor or via the IO-Link interface. The sensors can be integrated easily into the control environment via this communication channel to exchange both process and service data. Various sound beam widths can be set via teach-in to suit the respective detection application. The IP67 degree of protection ensures optimal availability at all times.



Accessories

BF 30	Mounting adapter, 30 mm
BF 30-F	Plastic mounting adapter, 30 mm
BF 5-30	Universal mounting bracket for cylindrical sensors with a diameter of 5 mm ... 30 mm
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 connector for sensor connection
M30K-VE	Plastic nuts with centering ring for vibration-decoupled mounting of cylindrical sensors
UVW90-K30	Ultrasonic deviation reflector
UVW90-M30	Ultrasonic deviation reflector
V15-G-2M-PVC	Single-ended female cordset, M12, straight, A-coded, 5-pin, PVC cable, gray

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Cubic Ultrasonic Sensors

F77 Series

Thru-Beam Sensor and Diffuse Mode Sensor



Common Technical Data

Housing design	rectangular
Type of voltage	DC
Operating voltage (max)	30 V
Housing length L	23 mm
Housing height H	31 mm
UL	■
EAC	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Design	Detection Range [mm]	Dead Band [mm]	Type of Output	Switching Element Function	Response time [ms]	Switching Frequency	UB (Min)	Connection Type	Width W
UB100-F77-E0-V31	Front-looker	100	10	NPN	Normally-open (NO)	50	10 Hz	20 V	M8 connector plug	12 mm
UB100-F77-E1-V31	Front-looker	100	10	NPN	Normally-closed (NC)	50	10 Hz	20 V	M8 connector plug	12 mm
UB100-F77-E2-V31	Front-looker	100	10	PNP	Normally-open (NO)	50	10 Hz	20 V	M8 connector plug	12 mm
UB100-F77-E3-V31	Front-looker	100	10	PNP	Normally-closed (NC)	50	10 Hz	20 V	M8 connector plug	12 mm
UB250-F77-E0-V31	Front-looker	250	20	NPN	Normally-open (NO)	50	10 Hz	20 V	M8 connector plug	12 mm
UB250-F77-E1-V31	Front-looker	250	20	NPN	Normally-closed (NC)	50	10 Hz	20 V	M8 connector plug	12 mm
UB250-F77-E2-V31	Front-looker	250	20	PNP	Normally-open (NO)	50	10 Hz	20 V	M8 connector plug	12 mm
UB250-F77-E3-V31	Front-looker	250	20	PNP	Normally-closed (NC)	50	10 Hz	20 V	M8 connector plug	12 mm
UB250-F77-F-V31	Front-looker	250	35	PNP, frequency output		50		20 V	M8 connector plug	12 mm
UB400-F77-E0-V31	Front-looker	400	25	NPN	Normally-open (NO)	75	5 Hz	20 V	M8 connector plug	12 mm
UB400-F77-E1-V31	Front-looker	400	25	NPN	Normally-closed (NC)	75	5 Hz	20 V	M8 connector plug	12 mm
UB400-F77-E2-V31	Front-looker	400	25	PNP	Normally-open (NO)	75	5 Hz	20 V	M8 connector plug	12 mm
UB400-F77-E3-V31	Front-looker	400	25	PNP	Normally-closed (NC)	75	5 Hz	20 V	M8 connector plug	12 mm
UB400-F77-F-V31	Front-looker	400	40	PNP, frequency output		75		20 V	M8 connector plug	12 mm
UBR250-F77-E0-V31	Front-looker	250		NPN	Normally-open (NO)	50	10 Hz	20 V	M8 connector plug	12 mm
UBR250-F77-E2-V31	Front-looker	250		PNP	Normally-open (NO)	50	10 Hz	20 V	M8 connector plug	12 mm
UBR250-F77-E3-V31	Front-looker	250		PNP	Normally-closed (NC)	50	10 Hz	20 V	M8 connector plug	12 mm
UBR400-F77-E0-V31	Front-looker	400		NPN	Normally-open (NO)	75	5 Hz	20 V	M8 connector plug	12 mm
UBR400-F77-E2-V31	Front-looker	400		PNP	Normally-open (NO)	75	5 Hz	20 V	M8 connector plug	12 mm
UBR400-F77-E3-V31	Front-looker	400		PNP	Normally-closed (NC)	75	5 Hz	20 V	M8 connector plug	12 mm
UBE800-F77-SE2-V31	Front-looker	800		PNP	Normally-open (NO)	5	100 Hz	20 V	M8 connector plug	12 mm
UBE800-F77-SE3-V31	Front-looker	800		PNP	Normally-closed (NC)	5	100 Hz	20 V	M8 connector plug	12 mm
UC250-F77-EP-IO-V31	Front-looker	250	20	IO-Link, push-pull	Normally-open/normally-closed (selectable)	8	20 Hz	10 V	M8 connector plug	12 mm
UC250-F77-IU-IO-2M	Front-looker	250	20	IO-Link, analog voltage output, analog current output	Analog	8		18 V	Fixed cable	12 mm
UC250-F77-IU-IO-5M	Front-looker	250	20	IO-Link, analog voltage output, analog current output	Analog	8		18 V	Fixed cable	12 mm
UC250-F77-IU-IO-V31	Front-looker	250	20	IO-Link, analog voltage output, analog current output	Analog	8		18 V	M8 connector plug	12 mm
UC400-F77-EP-IO-V31	Front-looker	400	30	IO-Link, push-pull	Normally-open/normally-closed (selectable)	10	16 Hz	10 V	M8 connector plug	12 mm
UC400-F77-IU-IO-0,2M-V1	Front-looker	400	30	IO-Link, analog voltage output, analog current output	Analog	10		18 V	Fixed cable with M12 plug	12 mm
UC400-F77-IU-IO-V31	Front-looker	400	30	IO-Link, analog voltage output, analog current output	Analog	10		18 V	M8 connector plug	12 mm
UC800-F77S-EP-IO-V31	Sidelooker	800	60	IO-Link, push-pull	Normally-open/normally-closed (selectable)	13	12 Hz	10 V	M8 connector plug	21 mm
UC800-F77S-IU-IO-V31	Sidelooker	800	60	IO-Link, analog voltage output, analog current output	Analog	13 ms		18 V	M8 connector plug	21 mm

Cubic Ultrasonic Sensors

L2 Series Diffuse Mode Sensors



Common Technical Data

Housing design	rectangular
Type of voltage	DC
Operating voltage (max)	30 V
Housing length L	40 mm
Housing width W	40 mm
Housing height H	40 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Dead Band	Type of Output	Switching Element Function	Switching Frequency	UB (Min)	Connection Type	EAC	UL
UC500-L2-E4-V15	500 mm	35 mm	NPN	Normally-open/normally-closed (selectable)	14 Hz	10 V	M12 connector plug	■	■
UC500-L2-E5-V15	500 mm	35 mm	PNP	Normally-open/normally-closed (selectable)	14 Hz	10 V	M12 connector plug	■	■
UC500-L2-E6-V15	500 mm	35 mm	2 * PNP, PNP	Normally-open/normally-closed (selectable)	14 Hz	10 V	M12 connector plug	■	■
UC500-L2-E7-V15	500 mm	35 mm	2 * NPN, NPN	Normally-open/normally-closed (selectable)	14 Hz	10 V	M12 connector plug	■	■
UC500-L2-I-V15	500 mm	35 mm	Analog current output	Analog		10 V	M12 connector plug	■	■
UC500-L2-U-V15	500 mm	35 mm	Analog voltage output	Analog		12 V	M12 connector plug	■	■
UC500-L2M-E6-T-2M	500 mm	35 mm	2 * PNP, PNP	Normally-open/normally-closed (selectable)	14 Hz	10 V	Fixed cable	■	■
UC500-L2M-E7-T-2M	500 mm	35 mm	2 * NPN, NPN	Normally-open/normally-closed (selectable)	14 Hz	10 V	Fixed cable	■	■
UC500-L2M-I-T-2M	500 mm	35 mm	Analog current output	Analog		10 V	Fixed cable	■	■
UC500-L2M-U-T-2M	500 mm	35 mm	Analog voltage output	Analog		12 V	Fixed cable	■	■
UC2000-L2-E4-V15	2000 mm	60 mm	NPN	Normally-open/normally-closed (selectable)	5 Hz	10 V	M12 connector plug	■	■
UC2000-L2-E5-V15	2000 mm	60 mm	PNP	Normally-open/normally-closed (selectable)	5 Hz	10 V	M12 connector plug	■	■
UC2000-L2-E6-V15	2000 mm	60 mm	2 * PNP, PNP	Normally-open/normally-closed (selectable)	5 Hz	10 V	M12 connector plug	■	■
UC2000-L2-E7-V15	2000 mm	60 mm	2 * NPN, NPN	Normally-open/normally-closed (selectable)	5 Hz	10 V	M12 connector plug	■	■
UC2000-L2-I-V15	2000 mm	60 mm	Analog current output	Analog		10 V	M12 connector plug	■	■
UC2000-L2-U-V15	2000 mm	60 mm	Analog voltage output	Analog		12 V	M12 connector plug	■	■
UC2000-L2M-E6-T-2M	2000 mm	60 mm	2 * PNP, PNP	Normally-open/normally-closed (selectable)	5 Hz	10 V	Fixed cable	■	■
UC2000-L2M-E7-T-2M	2000 mm	60 mm	2 * NPN, NPN	Normally-open/normally-closed (selectable)	5 Hz	10 V	Fixed cable	■	■
UC2000-L2M-I-T-2M	2000 mm	60 mm	Analog current output	Analog		10 V	Fixed cable	■	■
UC2000-L2M-U-T-2M	2000 mm	60 mm	Analog voltage output	Analog		12 V	Fixed cable	■	■
UC2000-L2M-E5-V15	2000 mm	60 mm	PNP	Normally-open/normally-closed (selectable)	5 Hz	10 V	M12 connector plug	■	■
UC4000-L2-E4-V15	4000 mm	200 mm	NPN	Normally-open/normally-closed (selectable)	2.8 Hz	10 V	M12 connector plug	■	■
UC4000-L2-E5-V15	4000 mm	200 mm	PNP	Normally-open/normally-closed (selectable)	2.8 Hz	10 V	M12 connector plug	■	■
UC4000-L2-E6-V15	4000 mm	200 mm	2 * PNP, PNP	Normally-open/normally-closed (selectable)	2.8 Hz	10 V	M12 connector plug	■	■
UC4000-L2-I-V15	4000 mm	200 mm	Analog current output	Analog		10 V	M12 connector plug	■	■
UC4000-L2-U-V15	4000 mm	200 mm	Analog voltage output	Analog		12 V	M12 connector plug	■	■
UC4000-L2M-E6-T-2M	4000 mm	200 mm	2 * PNP, PNP	Normally-open/normally-closed (selectable)	2.8 Hz	10 V	Fixed cable	■	■
UC4000-L2M-E7-T-2M	4000 mm	200 mm	2 * NPN, NPN	Normally-open/normally-closed (selectable)	2.8 Hz	10 V	Fixed cable	■	■
UC4000-L2M-I-T-2M	4000 mm	200 mm	Analog current output	Analog		10 V	Fixed cable	■	■
UC4000-L2M-U-T-2M	4000 mm	200 mm	Analog voltage output	Analog		12 V	Fixed cable	■	■

Highlights

- A wide spectrum of detection ranges also enables use in wide-range applications
- Variable, rotating sensor head for installation in special conditions
- Independent sensor synchronization for optimal functional safety during the operation of multiple neighboring sensors
- Mounting and connections are compatible with the equivalent inductive proximity switches in the VariKont L series
- -T models have an extended temperature range

Accessories

UB-PROG2	Programming unit
UC-PROG1-USB	Programming Device
V15-G-2M-PVC	Single-ended female cordset, M12, straight, A-coded, 5-pin, PVC cable, gray
V15S-G-0,3M-PUR-WAGO	Single-ended male cordset, M12, 5-pin, PUR cable with WAGO terminals

Cubic Ultrasonic Sensors

F54 Series

Thru-Beam Sensor and Diffuse Mode Sensor



Common Technical Data

Housing design	rectangular
Type of voltage	DC
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	25 mm
Housing width W	105 mm
Housing height H	31 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

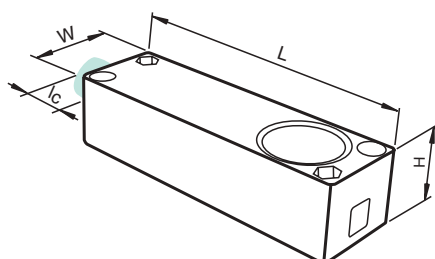
Model Number	Detection Range	Dead Band	Type of Output	Switching Element Function	Response Time [ms]	Switching Frequency	UB (Min)	EAC
UB500-F54-E4-V15	500 mm	30 mm	NPN	Normally-open/normally-closed (selectable)	50 ms	10 Hz	10 V	
UB500-F54-E5-V15	500 mm	30 mm	PNP	Normally-open/normally-closed (selectable)	50 ms	10 Hz	10 V	
UB500-F54-I-V15	500 mm	30 mm	Analog current output	Analog	50 ms		10 V	
UB500-F54-U-V15	500 mm	30 mm	Analog voltage output	Analog	50 ms		15 V	■
UB2000-F54-E4-V15	2000 mm	80 mm	NPN	Normally-open/normally-closed (selectable)	150 ms	3 Hz	10 V	
UB2000-F54-E5-V15	2000 mm	80 mm	PNP	Normally-open/normally-closed (selectable)	150 ms	3 Hz	10 V	
UB2000-F54-I-V15	2000 mm	80 mm	Analog current output	Analog	150 ms		10 V	
UB2000-F54-U-V15	2000 mm	80 mm	Analog voltage output	Analog	150 ms		15 V	
UBE15M-F54-H1-V1	15,000 mm						16 V	
UBE15M-F54-H2-V1	15,000 mm		NPN, pulse output				10 V	

Highlights

- High measurement density with a detection range of up to 2 m in an especially space-saving housing design
- User-friendly teach-in input
- Highly robust with IP65 degree of protection for excellent availability
- Autonomous sensor synchronization prevents cross-talk between multiple sensors

Brief Description

The F54 diffuse mode sensor really shows its strengths in narrow mounting spaces, while offering synchronization capabilities and a long detection range of up to two meters. The teach-in input makes configuration especially user friendly. The F54 can be used in applications such as bottle return machines and in the detection of roll diameters, for example when handling continuous roll materials such as aluminum, film, and nonwoven fabrics. The sensor continuously detects the diameter and gives the user early warning when the roller falls below the minimum diameter and must be changed.



Accessories

UB-PROG2	Programming unit
V15-G-2M-PVC	Single-ended female cordset, M12, straight, A-coded, 5-pin, PVC cable, gray

Cubic Ultrasonic Sensors

F42 Series Diffuse Mode Sensors



Common Technical Data

Housing design	rectangular
Housing height H	80 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Design	Detection Range [mm]	Dead Band [mm]	Type of Output	Switching Element Function	Response Time [ms]	Switching Frequency [Hz]	Type of Voltage	UB (Min)	UB (Max)	Device Plug	EAC	UL
UB400-F42-UK-V95	Front-looker	400	40	Relay	Normally-open (NO)	50	8	AC/DC	22 V	253 V	7/8 inch	■	
UB400-F42S-UK-V95	Sidelooker	400	40	Relay	Normally-open (NO)	50	8	AC/DC	22 V	253 V	7/8 inch	■	
UB500-F42-E4-V15	Front-looker	500	30	NPN	Normally-open/normally-closed (selectable)	50	8	DC	10 V	30 V	M12		■
UB500-F42-E5-V15	Front-looker	500	30	PNP	Normally-open/normally-closed (selectable)	50	8	DC	10 V	30 V	M12		■
UB500-F42-E6-V15	Front-looker	500	30	2 * PNP, PNP	Normally-open/normally-closed (selectable)	50	8	DC	10 V	30 V	M12		■
UB500-F42-E7-V15	Front-looker	500	30	2 * NPN, NPN	Normally-open/normally-closed (selectable)	50	8	DC	10 V	30 V	M12		■
UB500-F42-I-V15	Front-looker	500	30	Analog current output	Analog	50		DC	10 V	30 V	M12		■
UB500-F42-U-V15	Front-looker	500	30	Analog voltage output	Analog	50		DC	17 V	30 V	M12		■
UB500-F42S-E4-V15	Sidelooker	500	30	NPN	Normally-open/normally-closed (selectable)	50	8	DC	10 V	30 V	M12		■
UB500-F42S-E5-V15	Sidelooker	500	30	PNP	Normally-open/normally-closed (selectable)	50	8	DC	10 V	30 V	M12		■
UB500-F42S-E6-V15	Sidelooker	500	30	2 * PNP, PNP	Normally-open/normally-closed (selectable)	50	8	DC	10 V	30 V	M12		■
UB500-F42S-E7-V15	Sidelooker	500	30	2 * NPN, NPN	Normally-open/normally-closed (selectable)	50	8	DC	10 V	30 V	M12		■
UB500-F42S-I-V15	Sidelooker	500	30	Analog current output	Analog	50		DC	10 V	30 V	M12		■
UB500-F42S-U-V15	Sidelooker	500	30	Analog voltage output	Analog	50		DC	17 V	30 V	M12		■
UB1500-F42-UK-V95	Front-looker	1500	70	Relay	Normally-open (NO)	150	3	AC/DC	22 V	253 V	7/8 inch	■	
UB1500-F42S-UK-V95	Sidelooker	1500	70	Relay	Normally-open (NO)	150	3	AC/DC	22 V	253 V	7/8 inch	■	
UB2000-F42-E4-V15	Front-looker	2000	60	NPN	Normally-open/normally-closed (selectable)	150	2.7	DC	10 V	30 V	M12		■
UB2000-F42-E5-V15	Front-looker	2000	60	PNP	Normally-open/normally-closed (selectable)	150	2.7	DC	10 V	30 V	M12		■
UB2000-F42-E6-V15	Front-looker	2000	60	2 * PNP, PNP	Normally-open/normally-closed (selectable)	150	2.7	DC	10 V	30 V	M12		■
UB2000-F42-E7-V15	Front-looker	2000	60	2 * NPN, NPN	Normally-open/normally-closed (selectable)	150	2.7	DC	10 V	30 V	M12		■
UB2000-F42-I-V15	Front-looker	2000	60	Analog current output	Analog	150		DC	10 V	30 V	M12		■
UB2000-F42-U-V15	Front-looker	2000	60	Analog voltage output	Analog	150		DC	17 V	30 V	M12		■
UB2000-F42S-E4-V15	Sidelooker	2000	60	NPN	Normally-open/normally-closed (selectable)	150	2.7	DC	10 V	30 V	M12		■
UB2000-F42S-E5-V15	Sidelooker	2000	60	PNP	Normally-open/normally-closed (selectable)	150	2.7	DC	10 V	30 V	M12		■
UB2000-F42S-E6-V15	Sidelooker	2000	60	2 * PNP, PNP	Normally-open/normally-closed (selectable)	150	2.7	DC	10 V	30 V	M12		■
UB2000-F42S-E7-V15	Sidelooker	2000	60	2 * NPN, NPN	Normally-open/normally-closed (selectable)	150	2.7	DC	10 V	30 V	M12		■
UB2000-F42S-I-V15	Sidelooker	2000	60	Analog current output	Analog	150		DC	10 V	30 V	M12		■
UB2000-F42S-U-V15	Sidelooker	2000	60	Analog voltage output	Analog	150		DC	17 V	30 V	M12		■
UB3000-F42-UK-V95	Front-looker	3000	200	Relay	Normally-open (NO)	325	1.5	AC/DC	22 V	253 V	7/8 inch	■	
UB4000-F42-E4-V15	Front-looker	4000	200	NPN	Normally-open/normally-closed (selectable)	325	1.2	DC	10 V	30 V	M12		■
UB4000-F42-E5-V15	Front-looker	4000	200	PNP	Normally-open/normally-closed (selectable)	325	1.2	DC	10 V	30 V	M12		■
UB4000-F42-E6-V15	Front-looker	4000	200	2 * PNP, PNP	Normally-open/normally-closed (selectable)	325	1.2	DC	10 V	30 V	M12		■
UB4000-F42-E7-V15	Front-looker	4000	200	2 * NPN, NPN	Normally-open/normally-closed (selectable)	325	1.2	DC	10 V	30 V	M12		■
UB4000-F42-I-V15	Front-looker	4000	200	Analog current output	Analog	325		DC	10 V	30 V	M12		■
UB4000-F42-U-V15	Front-looker	4000	200	Analog voltage output	Analog	325		DC	17 V	30 V	M12		■
UB5000-F42-UK-V95	Front-looker	5000	350	Relay	Normally-open (NO)	650	0.6	AC/DC	22 V	253 V	7/8 inch	■	
UB6000-F42-E4-V15	Front-looker	6000	350	NPN	Normally-open/normally-closed (selectable)	650	0.6	DC	10 V	30 V	M12		■
UB6000-F42-E5-V15	Front-looker	6000	350	PNP	Normally-open/normally-closed (selectable)	650	0.6	DC	10 V	30 V	M12		■
UB6000-F42-E6-V15	Front-looker	6000	350	2 * PNP, PNP	Normally-open/normally-closed (selectable)	650	0.6	DC	10 V	30 V	M12		■
UB6000-F42-E7-V15	Front-looker	6000	350	2 * NPN, NPN	Normally-open/normally-closed (selectable)	650	0.6	DC	10 V	30 V	M12		■
UB6000-F42-I-V15	Front-looker	6000	350	Analog current output	Analog	650		DC	10 V	30 V	M12		■
UB6000-F42-U-V15	Front-looker	6000	350	Analog voltage output	Analog	650		DC	17 V	30 V	M12		■

Cubic Ultrasonic Sensors

F65 Series Diffuse Mode Sensors



Common Technical Data

Housing design	rectangular
Switching element function	Normally-open (NO)
Type of voltage	DC
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing length L	64.4 mm
Housing width W	125 mm
Housing height H	30 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

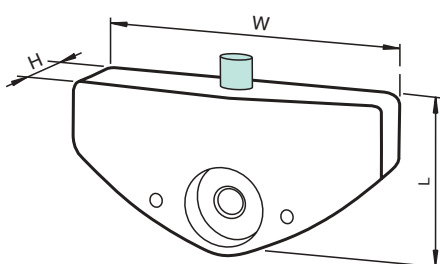
Model Number	Detection Range	Dead Band	Type of Output	UB (Min)
UC500-F65-E8R2-V15	500 mm	60 mm	2 * PNP, PNP	12 V
UC500-F65-UE2R2-V15	500 mm	60 mm	PNP, analog voltage output	15 V
UC500-F65-IE2R2-V15	500 mm	60 mm	PNP, analog current output	15 V
UC1500-F65-E8R2-V15	1500 mm	200 mm	2 * PNP, PNP	12 V
UC1500-F65-IE2R2-V15	1500 mm	200 mm	PNP, analog current output	15 V
UC1500-F65-UE2R2-V15	1500 mm	200 mm	PNP, analog voltage output	15 V
UC2500-F65-E8R2-V15	2500 mm	250 mm	2 * PNP, PNP	12 V
UC2500-F65-IE2R2-V15	2500 mm	250 mm	PNP, analog current output	15 V
UC2500-F65-UE2R2-V15	2500 mm	250 mm	PNP, analog voltage output	15 V

Highlights

- Special sensor design seals the measurement opening in the tank to prevent water and odor leakage
- Variety of potential applications with a range of up to 2.5 m
- Teach-in at the sensor or via parameterization software for rapid configuration
- Analog output and switching output in one device for impressive flexibility in the measured value output
- Highly robust with IP65 degree of protection

Brief Description

From the housing design to the mounting technology and measured value output, the sophisticated, application-specific concept of the F65 series ultrasonic diffuse mode sensors makes them the ideal solution for fill level detection in containers. The rounded housing design has no protruding elements, allowing it to be installed near the container side wall. The sensor seals the tank opening with its integrated O-ring, preventing water and odor leakage from the container. One single device provides the user with both a digital and an analog output, meaning the fill level can be continually measured in the container and limit levels can be detected.



Accessories

V15-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 5-pin, PUR cable, gray
V15-G-2M-PVC	Single-ended female cordset, M12, straight, A-coded, 5-pin, PVC cable, gray
V15-W-2M-PVC	Single-ended female cordset, M12, angled A-coded, 5-pin, PVC cable, gray

Cubic Ultrasonic Sensors

F260 Series Diffuse Mode Sensors



Common Technical Data	
Housing design	rectangular
Detection range	10,000 mm
Dead band	800 mm
Type of voltage	DC
Operating voltage (min)	15 V
Operating voltage (max)	30 V
Connection type	Terminal compartment
Housing length L	112 mm
Housing diameter D	160 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

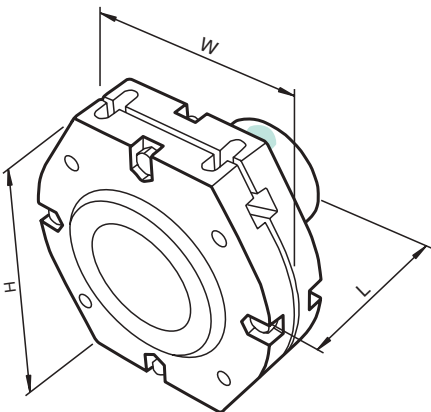
Model Number	Type of Output	Switching Element Function
UC10000-F260-IE8R2	2 * PNP, analog current output	Normally-open (NO)
UC10000-F260-IE9R2	2 * PNP, analog current output	Normally-closed (NC)
UC10000-F260-UE8R2	2 * PNP, analog voltage output	Normally-open (NO)
UC10000-F260-UE9R2	2 * PNP, analog voltage output	Normally-closed (NC)

Highlights

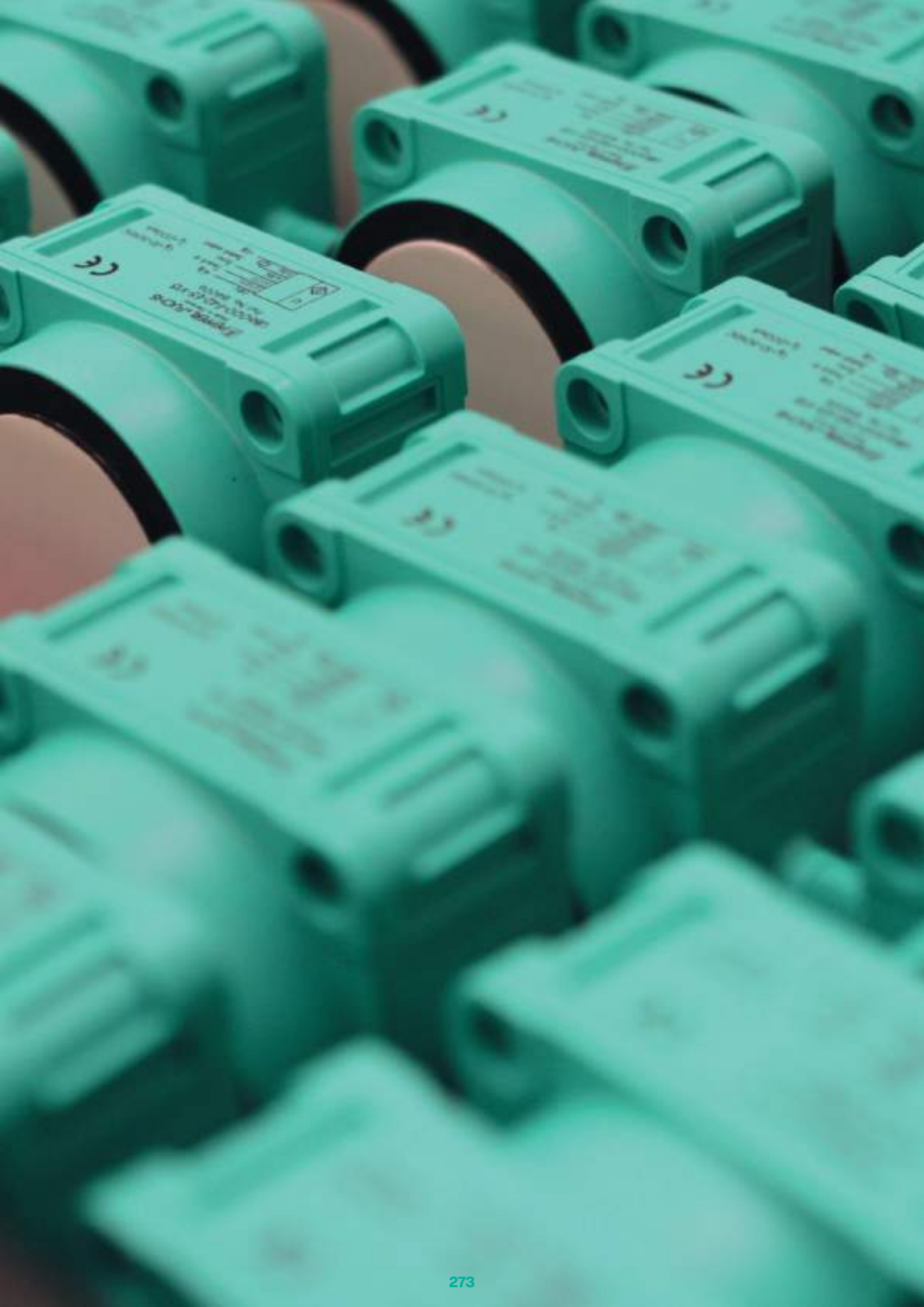
- Robust design ensures highest level of availability in heavy-duty applications
- Detection range of up to 10 m enables reliable long-range detection
- Simple adjustment via potentiometer and user-friendly software
- One analog output and two switching outputs in the sensor allow application-specific measured value output

Brief Description

Heavy-duty applications push many sensors past their limits—but not the F260 series. Whether facing shocks and vibrations, like those in construction machinery applications, excavators, and cranes, or the dust of a gravel works or cement silo, these challenges are no problem for this extra-robust ultrasonic diffuse mode sensor. The sensor can be parameterized via the software, and the switching points can be configured using the potentiometer. The extra-long detection range of up to 10 m is ideal for outdoor use in bunkers and silos, and the F260 is perfect for collision protection of crane booms.



Accessories	
V1-M20-80	Receptacle, M12/M20; plastic version
V15S-G-2M-PVC	Single-ended male cordset, M12, straight A-coded, 5-pin, PVC cable, gray



Robust Design for Extreme Conditions



In addition to solutions for standard industrial applications, the ultrasonic portfolio stands out with its application-specific solutions, offering the user excellent flexibility for an optimal application solution—including in wet or hygienic applications, in chemically aggressive environments or in double-material detection.

Hygienic Ultrasonic Sensors

With its fully stainless steel design, hermetically sealed construction, and food-safe materials in accordance with FDA, ECOLAB, and EHEDG regulations, the hygienic ultrasonic sensors are ideal for the food and pharmaceutical industry.

Typical Applications

- Food industry: performing presence and content checks on thermoformed trays for foods such as meat, fish, and vegetables
- Pharmaceutical industry: level monitoring during the manufacture and packaging of medical products

Your Benefits at a Glance

- Fully encapsulated stainless steel housing AISI 316L (1.4404) withstands steam jets and permanently high temperatures up to +85 °C (IP68/IP69K degree of protection)
- EHEDG certificate for sensor and bracket in hygienic design for use in product-contact zones
- Split-free construction and chemical resistance to aggressive substances and cleaning agents (ECOLAB certified)

Chemically Resistant Ultrasonic Sensors

The chemically resistant ultrasonic sensors offer outstanding material resistance for ultimate availability even in the toughest operational conditions. They are hermetically sealed against the ingress of aggressive media and are exceptionally easy to parameterize.

Typical Applications

- Level measurement of chemicals such as acids and alkalis
- Presence check in processes with corrosive fumes/aggressive vapors, e.g., in tire production

Your Benefits at a Glance

- High level of chemical resistance for excellent availability and durability
- Housing made of high-quality stainless steel (V2A or V4A) and coated ultrasonic transducer
- Very high degree of protection; IP68/IP69K for the harshest applications
- Also suitable for long-range applications of up to 6 m



Double Material Detection

Ultrasonic sensors for double material detection protect against a faulty material feed and ensure reliable processes and a high level of plant availability. This technology can be used in the detection of double sheets, labels, and splices.

Typical Applications

- Double sheet control: on printing machines, in sheet metal processing, and when applying veneer to chipboard to prevent the infeed of double sheets or incorrect sheets
- Splice control: detection of material transitions in paper, sheet metal, or textile rolls
- Label control: detection and counting of labels in labeling systems

Your Benefits at a Glance

- Flexible deployment due to wide range of materials and thicknesses
- Extremely short response delay for excellent detection reliability even at high process speeds
- Specially adapted splice detection available for especially inhomogeneous materials

USi®-safety: Ultrasonic Sensor System According to Category 3 PL d

With unique technology through the most adverse environmental conditions for maximum safety. The USi-safety Ultrasonic Sensor System opens up new ground for safety applications. Thanks to state-of-the-art ultrasonic technology and all its proven advantages, machines and vehicles are reliably secured. Whether wood, metal or plastic, colored, reflective or transparent, objects or people—the application possibilities of ultrasonic technology are almost limitless. This ensures reliable detection regardless of material, surface structure and colors.

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Autonomous wireless sensor combined with unique ultrasonic competence—your competitive advantage for smart business processes.

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**ULB/UGB-18GM50
Series**

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Hygienic Ultrasonic Sensors

UMC3000 Series Diffuse Mode Sensors



Common Technical Data

Housing design	cylindrical
Detection range	3000 mm
Dead band	200 mm
Response time	200 ms
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	Fixed cable
Housing length L	100 mm
Housing diameter D	30 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Type of Output	Switching Element Function	Switching Frequency	ATEX
UMC3000-30H-E5-5M	PNP	Normally-open/normally-closed (selectable)	2.8 Hz	
UMC3000-30H-E5-5M-3G-3D	PNP	Normally-open/normally-closed (selectable)	2.8 Hz	■
UMC3000-30H-I-5M	Analog current output	Analog		
UMC3000-30H-I-5M-3G-3D	Analog current output	Analog		■

Highlights

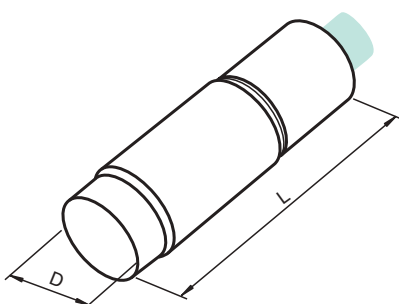
- Product and process reliability through hygienic design and FDA-compliant materials
- Flexible parameterization via teach-in input or serial interface for easy commissioning
- Chemically resistant to aggressive substances and cleaning agents
- Very high degree of protection IP68/IP69K

Brief Description

The sensors are hermetically sealed in V4A stainless steel and are therefore ideally suited to chemically aggressive application environments. The devices are also very easy to clean due to their smooth surface and therefore increase machine availability. Device versions with ATEX approval even allow use in zones 2 and 22 (ATEX 3G/3D).

Accessories

MH-30H-01	Assembly aid, 30 mm
UC-PROG1-USB	Programming Device
V15S-G-0,3M-PUR-WAGO	Single-ended male cordset, M12, 5-pin, PUR cable with WAGO terminals



Hygienic Ultrasonic Sensors

UMB800 Series

Diffuse Mode Sensors



Common Technical Data

Housing design	cylindrical
Detection range	800 mm
Dead band	70 mm
Response time	100 ms
Type of voltage	DC
Operating voltage (max)	30 V
Connection type	Fixed cable
Housing length L	55 mm
Housing diameter D	18 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

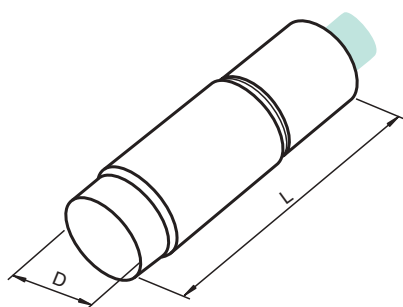
Model Number	Type of Output	Switching Element Function	Switching Frequency	UB (Min)
UMB800-18H40-E4-2M	NPN	Normally-open/normally-closed (selectable)	4 Hz	10 V
UMB800-18H40-E5-2M	PNP	Normally-open/normally-closed (selectable)	4 Hz	10 V
UMB800-18H40-I-2M	Analog current output	Analog		10 V
UMB800-18H40-U-2M	Analog voltage output	Analog		15 V

Highlights

- Compact ultrasonic sensor in fully encapsulated stainless steel housing AISI 316L (1.4404)
- Chemically resistant to aggressive substances and cleaning agents
- IP68/IP69K degree of protection to withstand jets of steam and continuous high temperatures of up to +85 °C

Brief Description

Excellent in extreme operating conditions—the ultrasonic sensor UMB800 impresses with its completely hermetically sealed housing with V4A stainless steel and the resulting maximum robustness - chemical as well as mechanical. It is optimized for detection and measurement tasks in chemically aggressive application environments. The UMB800 also stands out due to its high availability and long service life in the harsh machine environment of process engineering plants.



Accessories

MH-18H-01	Assembly aid, 18 mm

Chemically Resistant Ultrasonic Sensors

UCC Series Diffuse Mode Sensors



Common Technical Data

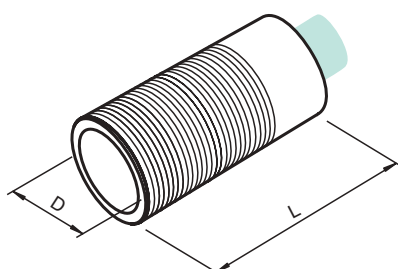
Housing design	cylindrical
Type of voltage	DC
Operating voltage (max)	30 V
Connection type	M12 connector plug
Housing diameter D	30 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Design	Detection Range [mm]	Dead Band [mm]	Type of Output	Switching Element Function	Response Time [ms]	Switching Frequency	UB (Min)	Length L [mm]	EAC	UKCA
UCC500-30GH70-IE2R2-K-V15	Straight head	500	45	PNP, analog current output	Normally-open/normally-closed (selectable)	60 ms	5 Hz	20 V	111,3	■	■
UCC500-30GH70-IE2R2-V15	Straight head	500	45	PNP, analog current output	Normally-open/normally-closed (selectable)	60 ms	5 Hz	20 V	99,3	■	■
UCC500-30GH70S-IE2R2-V15	Swivel head	500	45	PNP, analog current output	Normally-open/normally-closed (selectable)	60 ms	5 Hz	20 V	126	■	■
UCC1000-30GM-E6R2-V15	Straight head	1000	80	2 * PNP, PNP	Normally-open/normally-closed (selectable)		2,5 Hz	10 V	96		
UCC1000-30GM-IUR2-V15	Straight head	1000	80	Analog current output, Analog voltage output	Analog			10 V	115		
UCC2000-30GH70-IE2R2-K-V15	Straight head	2000	100	PNP, analog current output	Normally-open/normally-closed (selectable)	100 ms	4 Hz	20 V	111,3	■	■
UCC2000-30GH70-IE2R2-V15	Straight head	2000	100	PNP, analog current output	Normally-open/normally-closed (selectable)	100 ms	4 Hz	20 V	99,3	■	■
UCC2000-30GH70S-IE2R2-V15	Swivel head	2000	100	PNP, analog current output	Normally-open/normally-closed (selectable)	100 ms	4 Hz	20 V	126	■	■
UCC3500-30GH70-IE2R2-V15	Straight head	3500	200	PNP, analog current output	Normally-open/normally-closed (selectable)	150 ms	2 Hz	20 V	99,3	■	■
UCC3500-30GH70S-IE2R2-V15	Swivel head	3500	200	PNP, analog current output	Normally-open/normally-closed (selectable)	150 ms	2 Hz	20 V	126	■	■
UCC6000-30GH70-IE2R2-V15	Straight head	6000	350	PNP, analog current output	Normally-open/normally-closed (selectable)	275 ms	1 Hz	20 V	121,2	■	■
UCC6000-30GH70S-IE2R2-V15	Swivel head	6000	350	PNP, analog current output	Normally-open/normally-closed (selectable)	275 ms	1 Hz	20 V	143,5	■	■

Highlights

- Detection ranges of up to 6 m open up a wide range of application options
- Simple parameterization allows optimal adaptation to detection and measuring applications
- High chemical resistance for highest availability and durability thanks to housing made of high-quality stainless steel (V2A or V4A) and coated ultrasonic transducer



Brief Description

Complementing the UBC series, these sensors offer impressive adaptability to a wide range of applications. All surfaces that are exposed to aggressive media and atmospheres exhibit a high degree of resistance to chemical agents. Comprehensive, easy-to-use parameterization functions allow the sensors to be adapted to any application, and synchronized if necessary. The diffuse mode sensors are available with graduated detection ranges of up to six meters. Different output options provide additional flexibility in terms of electrical integration.

Accessories

BF 18	Mounting adapter, 18 mm
BF 30	Mounting adapter, 30 mm
BF 30-F	Plastic mounting adapter, 30 mm
BF 5-30	Universal mounting bracket for cylindrical sensors with a diameter of 5 mm ... 30 mm
M30K-VE	Plastic nuts with centering ring for vibration-decoupled mounting of cylindrical sensors
UC-PROG-IR-USB	Interface cable to parameterize sensors with IrDA interface
UVW90-K30	Ultrasonic deviation reflector

Chemically Resistant Ultrasonic Sensors

UBC Series

Thru-Beam Sensor and Diffuse Mode Sensor



Common Technical Data

Housing design	cylindrical
Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Connection type	M12 connector plug
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Detection Range	Dead Band	Type of Output	Switching Element Function	Response Time [ms]	Switching Frequency	Length L	Diameter D
UBC250-12GM-E5-V1	250 mm	30 mm	PNP	Normally-open/normally-closed (selectable)	50 ms	8 Hz	70 mm	12 mm
UBC250-12GM-I-V1	250 mm	30 mm	Analog current output	Analog	50 ms		70 mm	12 mm
UBEC300-18GH40-SE2-V1	300 mm		PNP	Normally-open (NO)		100 Hz	40 mm	18 mm
UBC400-18GH40-I-V1	400 mm	40 mm	Analog current output	Analog	100 ms		40 mm	18 mm

Highlights

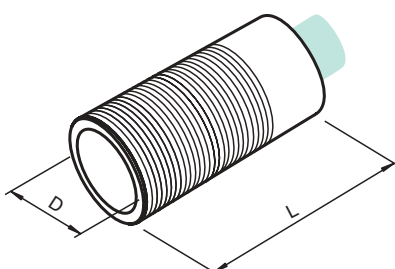
- High level of chemical resistance for excellent availability and durability
- Housing made of high-quality stainless steel (V4A)
- PTFE-coated ultrasonic transducer
- Very high degree of protection IP68/IP69K
- Easy to configure via teach-in input

Brief Description

The UBC series ultrasonic sensors offer outstanding material resistance for excellent availability even in the toughest operational conditions. The thru-beam sensor and diffuse mode sensor come with the highest degree of protection and are hermetically sealed against aggressive atmospheres, for example when measuring the fill level of acids and alkaline solutions. The different housing designs, detection ranges and output configurations make these durable sensors very versatile. Configuration via the teach-in input is especially quick and easy.

Accessories

BF 12	Mounting adapter, 12 mm
BF 18	Mounting adapter, 18 mm
BF 18-F	Plastic mounting adapter, 18 mm
BF 5-30	Universal mounting bracket for cylindrical sensors with a diameter of 5 mm ... 30 mm
M12K-VE	Plastic nuts with centering ring for vibration-decoupled mounting of cylindrical sensors
OMH-04	Mounting bracket for circular profiles $\varnothing$ 12 mm or flat profiles 1.5 mm ... 3 mm
UB-PROG2	Programming unit
UVW90-M12	Ultrasonic deviation reflector



Wireless Ultrasonic Sensors

WILSEN.sonic.level Series



Common Technical Data

Housing length L	182 mm
Housing width W	81 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number

Sensing Range

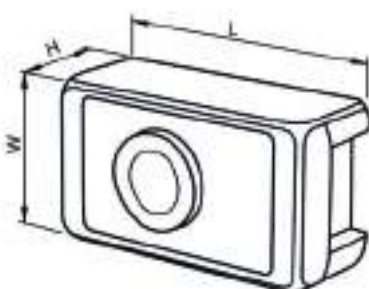
WS-UCC2500-F406-B15-B41-01-02	150 mm ... 2500 mm
WS-UCC4000-F406-B15-B41-01-02	250 mm ... 4000 mm

Highlights

- Industrial-grade wireless IoT sensors for level applications
- Geolocation of containers, tanks or silos at any time
- Globally standardized LoRaWAN® technology for extensive and efficient signal transmission
- Easy installation and operation: Mobile app simplifies device and system configuration
- Robust solution ready for use in harsh environments

Brief Description

The battery-operated wireless level sensor WILSEN.sonic.level is used in various IoT applications. Adjustable sensor parameters such as the width of the sound beam and the easy-to-use mobile device app allow the sensor to be set up individually for the application directly at the operating location via Bluetooth® LE. The standardized, energy-efficient LoRaWAN® technology allows the sensor to autonomously transmit the relevant data over a range of many kilometers for several years. The WILSEN.sonic.level records not only the level but also the geoposition and transmits this data securely to the Internet. It also provides temperature readings and battery charge level.



Ultrasonic Safety Sensors

F262 Series Diffuse Mode Sensors



Common Technical Data

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Type of Voltage	UB (Min)	UB (Max)	Connection Type	Length L	Width W	Height H
USI-F262-2E5-V19-S2D3	DC	21 V	28 V	M12 connector plug	125 mm	91 mm	41 mm
USI2500-27X13E-1,5M-V3					21 mm	126 mm	266 mm

Highlights

- Unique ultrasonic technology to meet safety standards in accordance with category 3 PL d even in harsh environments
- Decoupled sensor unit in miniature housing design for flexible use in confined installation situations
- Reliable protection regardless of material, surface structure, and surface color
- Elliptical three-dimensional detection area with opening angles of $\pm 17^\circ$ and $\pm 5^\circ$ for optimal protection
- High tamper protection provided by an easy process for teaching in a reference target

Brief Description

The USi-safety ultrasonic sensor system enables safe application in accordance with category 3 PL d with just one ultrasonic sensor. Either one or two decoupled ultrasonic sensor units can be connected to the control interface, and each unit has a miniature housing design to enable installation in very confined spaces. The ultrasonic sensor system has a distinctly elliptical, three-dimensional sound field with opening angles of $\pm 17^\circ$ and $\pm 5^\circ$ to ensure optimal protection. Comprehensive parameterization software and documentation make commissioning quick and simple for users.

The high level of resistance to dirt, temperature, air currents, and humidity, combined with the rugged miniature housing, makes the system suitable for use in areas that were previously considered too dangerous—such as in the fork arms of an auto-guided forklift.

Accessories

USI-MH-27X13-H-01	Horizontal mounting bracket exclusively for USi-safety ultrasonic transducers
USI-MH-27X13-V-01	Vertical mounting bracket exclusively for USi-safety ultrasonic transducers
USI-TEMP-1,5M-V312	Temperature sensor exclusively for USi-safety control interface
V19-G-BK2M-PUR-U/ABG	Single-ended female cordset, M12, straight, A-coded, 8-pin, PUR cable, black, shielded, UL-approved

Double Sheet Control

UDC-18GS/30GS Series Thru-Beam Sensor



Common Technical Data

Housing design	cylindrical
Type of output	IO-Link, push-pull
Type of voltage	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number

UDC-18GS-3EP-IO-0,2M-V19
UDC-18GS-3EP1-IO-0,2M-V19
UDC-30GS-3EP-IO-0,2M-V19
UDC-30GS-3EP1-IO-0,2M-V19

Detection Range

60 mm
60 mm
150 mm
150 mm

Switching Element Function

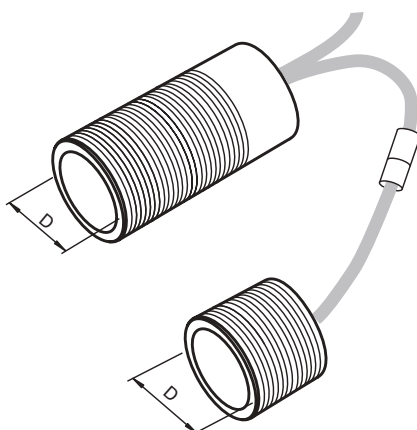
Normally-open (NO)
Normally-closed (NC)
Normally-open (NO)
Normally-closed (NC)

Highlights

- Flexible: detections of a wide range of materials and material thicknesses using just one configuration
- High machine availability: Integrated IO-Link interface enables access to sensor parameters, diagnostic data, and process data
- Quick commissioning via the set of default threshold values, IO-Link, or simple teach-in with feedback
- Maximum process reliability: Automatic sensor synchronization when using multiple sensors in a confined space

Brief Description

The UDC-18GS-*IO-* series double sheet sensors are ideal for monitoring the material feed on printing and paper machines. Whether it is thin paper or thick cardboard, the sensors can handle a wide variety of materials and thicknesses using just one configuration due to their preset threshold values. If necessary, it is possible to change to another set of threshold values or to adapt the devices to the application via the teach-in function. The IO-Link interface ensures high machine availability and enables access to all sensor parameters, diagnostic data, and process data. The automatic synchronization function provides maximum process safety when using several sensors in a confined space.



Accessories

AA-UDB-18GM-01	Alignment aid for double sheet sensor
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 connector for sensor connection
MH-UDB01	Mounting bracket for ultrasonic double sheet detection
MH-UDB02	Mounting bracket for ultrasonic double sheet detection
V19-G-BK0,6M-PUR-U-V1-G-YIOL	Double-ended cordset for IO-Link M12 socket, straight, A-coded, 8-pin, to M12 plug, straight, A-coded 4-pin, PUR cable, black, UL-approved, suitable for drag chains
V19-G-BK2M-PUR-U	Single-ended female cordset, M12, straight, A-coded, 8-pin, PUR cable, black, UL-approved

Double Sheet Control

UDCM-30GS Series

Thru-Beam Sensor



Common Technical Data	
Housing design	cylindrical
Detection range	150 mm
Type of output	IO-Link, push-pull
Type of voltage	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
EAC	■
UL	■
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

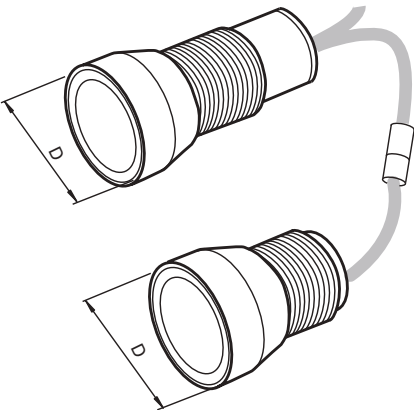
Model Number	Switching Element Function
UDCM-30GS-3EP-IO-0,2M-V19	Normally-open (NO)
UDCM-30GS-3EP1-IO-0,2M-V19	Normally-closed (NC)

Highlights

- Ideal for thick materials: reliable detection of metal sheets, duplex corrugated paper, parquet, wooden boards, or oriented strand boards
- Multipurpose: versions available for detecting metal sheets up to 3.5 mm thick
- High machine availability: Integrated IO-Link interface enables access to sensor parameters, diagnostic data, and process data
- Quick commissioning via the set of default threshold values, IO-Link, or simple teach-in with feedback
- Maximum process reliability: Automatic sensor synchronization when using multiple sensors in a confined space

Brief Description

Double sheet sensors in the UDC(M)-30GS series ensure process reliability when feeding especially thick materials. For example, double sheet detection allows individual sheets up to a thickness of 3.5 mm to be appropriately prepared for metal-forming presses. When processing solid and multi-layer parquet in a saw-mill, or wooden panels and chipboard in furniture manufacturing, these sensors reliably detect incorrect or double sheets, avoiding machine downtime and material waste. The devices have a short response time of just 30 ms, which means that they can also be used in applications with high infeed rates.



Accessories	
IO-Link-Master02-USB	IO-Link master, supply via USB port or separate voltage supply, LED indicators, M12 connector for sensor connection
MH-UDB02	Mounting bracket for ultrasonic double sheet detection
V19-G-BK0,6M-PUR-U-V1-G-YIOL	Double-ended cordset for IO-Link M12 socket, straight, A-coded, 8-pin, to M12 plug, straight, A-coded 4-pin, PUR cable, black, UL-approved, suitable for drag chains
V19-G-BK2M-PUR-U	Single-ended female cordset, M12, straight, A-coded, 8-pin, PUR cable, black, UL-approved

Double Sheet Control

ULB/UGB-18GM50 Series Thru-Beam Sensor



Common Technical Data

Housing design	cylindrical
Detection range	60 mm
Switching element function	Normally-closed (NC)
Type of voltage	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
Connection type	Fixed cable
Housing length L	53 mm
Housing diameter D	18 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number

Type of Output

UGB-18GM50-255-2E1	2 * NPN, NPN
UGB-18GM50-255-2E3	2 * PNP, PNP
ULB-18GM50-255-2E1	2 * NPN, NPN
ULB-18GM50-255-2E3	2 * PNP, PNP

Highlights

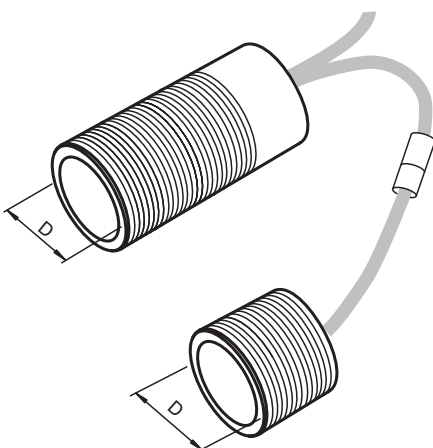
- Compact housing design, ideal for confined installation situations
- Extremely short response delay for excellent detection reliability even at high process speeds
- Easy operation through teach-in of the roll material
- Ideal for transparent materials
- Specially adapted splice detection available for especially inhomogeneous materials

Brief Description

The sensor solutions in the ULB-18GM50 and ULG-18GM50 series have been specially developed to reliably detect materials that have been glued together. The label sensors can very precisely determine the transition points between the carrier material and the label and detect, position, or count these reliably. The roll material should be fed to the packaging and roll printing machines without interruption. For this reason, when changing a roll, the roll that is running out and the initial material on the new roll are glued together. In the subsequent process, the ULG-18GM50 splice detection sensors detect this transition point and enable the targeted removal of this double layer.

Accessories

M18K-VE	Plastic nuts with centering ring for vibration-decoupled mounting of cylindrical sensors
MH-UDB01	Mounting bracket for ultrasonic double sheet detection
UVW90-K18	Ultrasonic deviation reflector



Versatile Technologies for Impressive Transparency

Identification systems guarantee reliable, transparent processes and offer the user a decisive competitive advantage. Depending on your requirements, you can opt for camera-based or wireless systems from Pepperl+Fuchs and benefit from the specific advantages of both technologies. Our experts will help you to find the perfect identification solution for every situation.

RFID—Flexible System Solution for End-To-End Process Transparency

If your application demands the highest level of flexibility, RFID (radio frequency identification) is the clear choice. Wireless technology makes it possible not only to read object information, but to adapt this information as required. Furthermore, there is no need for visual contact between the reader and tag.

With Pepperl+Fuchs, you receive a system solution that includes perfectly coordinated components across all frequency ranges. Decades of application expertise combined with an extensive portfolio of control interfaces, read/write heads, and tags in the standard LF, HF, and UHF frequency ranges enable us to guarantee the perfect solution for every identification task.

Optical Identification—Cost-Effective Solution for Track-and-Trace Applications

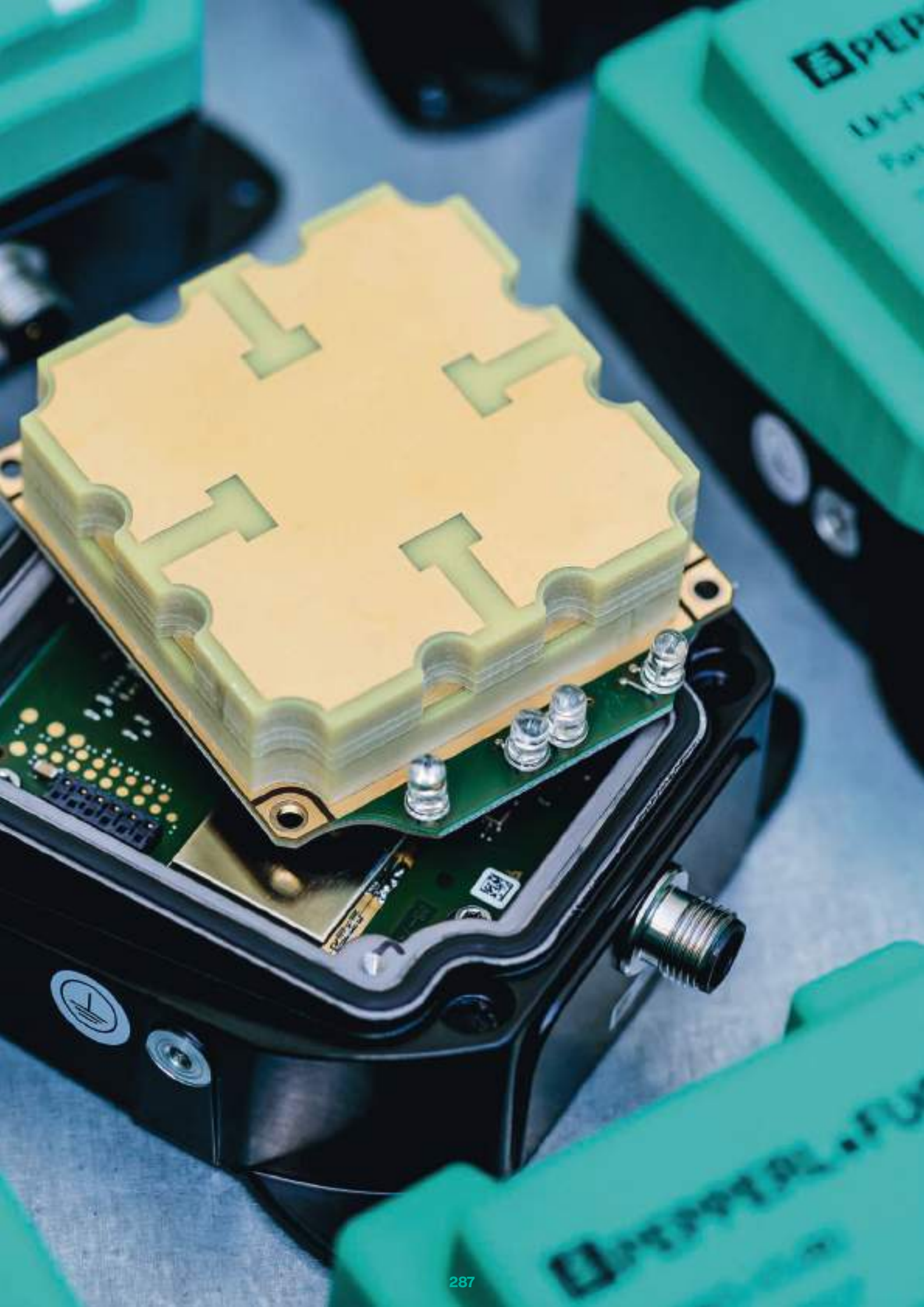
Optical identification systems are the perfect solution for applications that focus on cost-effectiveness. DPM (direct part marking) codes that are printed and directly marked are a highly economical solution.

The optical identification systems from Pepperl+Fuchs guarantee an impressive reading performance and operate at a high level of reliability, even under difficult conditions. Whether they are used for stationary reading or high-speed reading, mobile identification, or in applications with extreme conditions such as high temperature, these powerful devices always provide optimal transparency.



More information is available at:
pepperl-fuchs.com/fa-ident





Identification Systems

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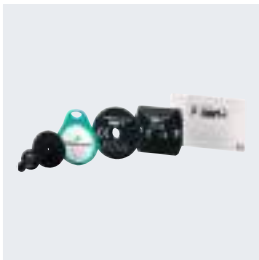
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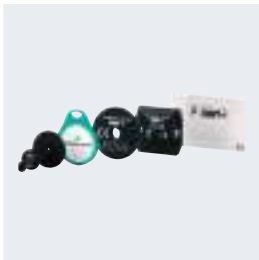
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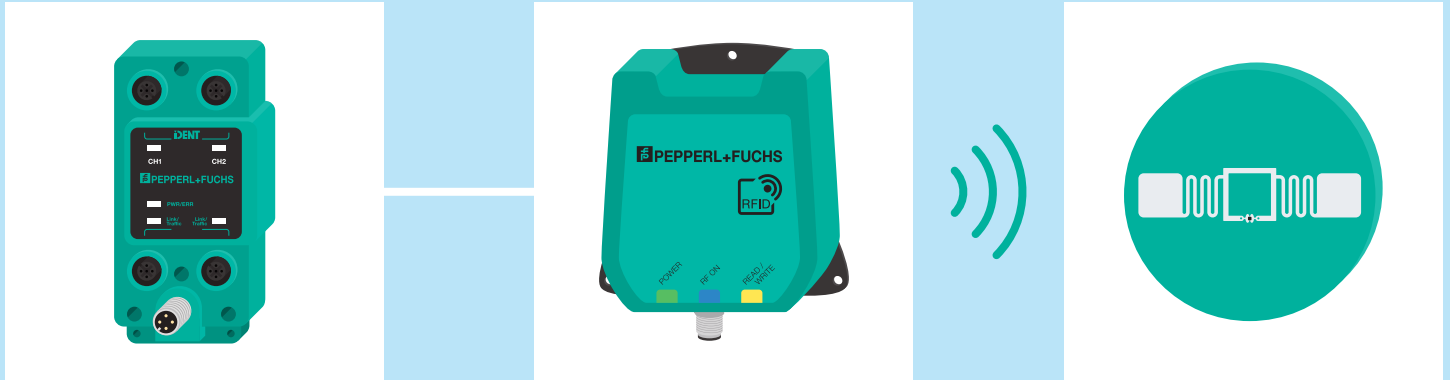


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IDENTControl: One System for Outstanding Compatibility



The control interfaces in the IDENTControl system are perfect for integrating into almost any system environment. Integration is simple and incredibly flexible. Furthermore, the control interfaces can be combined with a variety of read/write heads and tags, and are therefore ideal for global use. In addition, the system's wide-ranging compatibility grants the user complete freedom when expanding their own system.

Multiple read/write heads of varying frequencies from the Pepperl+Fuchs IDENTControl product family can be connected to the IDENTControl and IDENTControl Compact control interfaces. Connecting the devices is simple and hassle-free, ensuring the highest level of compatibility.

When a read/write head receives the data stored in a tag via its electromagnetic field, this data is automatically forwarded to the control interface and processed.

IDENTControl Control Interfaces



Common Technical Data

Ambient temperature (min)	-25 °C
Ambient temperature (max)	70 °C
EAC	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Number of Read/Write Heads	Interface	Connection Type	Degree of Protection	Length L	Width W	Height H
IC-KP-B6-SUBD	Max. 4	PROFIBUS	D-sub 9 pin	IP40	148 mm	105 mm	73 mm
IC-KP-B6-V15B	Max. 4	PROFIBUS	M12 connector plug	IP67	148 mm	105 mm	73 mm
IC-KP-B6-2V15B	Max. 4	PROFIBUS	M12 connector plug	IP67	148 mm	105 mm	73 mm
IC-KP2-2HB6-V15B	Max. 2	PROFIBUS	M12 connector plug	IP67	137 mm	62 mm	42 mm
IC-KP2-1HB6-V15B	Max. 1	PROFIBUS	M12 connector plug	IP67	137 mm	62 mm	42 mm
IC-KP2-1HB6-2V15B	Max. 1	PROFIBUS	M12 connector plug	IP67	137 mm	62 mm	42 mm
IC-KP-B17-AIDA1	Max. 4	EtherNet/IP, MODBUS/TCP, PROFINET, TCP/IP	AIDA	IP67	148 mm	105 mm	73 mm
IC-KP2-2HB17-2V1D	Max. 2	EtherNet/IP, MODBUS/TCP, PROFINET, TCP/IP	M12 connector plug	IP67	137 mm	62 mm	42 mm
IC-KP2-1HB17-2V1D	Max. 1	EtherNet/IP, MODBUS/TCP, PROFINET, TCP/IP	M12 connector plug	IP67	137 mm	62 mm	42 mm
IC-KP-B7-V95	Max. 4	DeviceNet	Mini style	IP67	148 mm	105 mm	73 mm
IC-KP2-2HB18-2V1	Max. 2	CC-Link	M12 connector plug	IP67	142 mm	62 mm	42 mm
IC-KP2-2HB21-2V1D	Max. 2	EtherCAT	M12 connector plug	IP67	142 mm	62 mm	42 mm
IC-KP-R2-V1	Max. 4	RS-232	M12 connector plug	IP67	148 mm	105 mm	73 mm
IC-KP2-2HRX-2V1	Max. 2	RS-232, RS-485	M12 connector plug	IP67	137 mm	62 mm	42 mm
IC-KP2-1HRX-2V1	Max. 1	RS-232, RS-485	M12 connector plug	IP67	137 mm	62 mm	42 mm

Highlights

- Connection/evaluation of all RFID frequencies on a single device
- EMC protection and sturdy, fully encapsulated metal housing for total noise immunity
- Simple system integration—can be connected to all standard fieldbuses
- Compact version for decentralized field mounting
- Display and function keys for easy commissioning
- Plug-in connections for simple handling

Brief Description

The control interfaces in the IDENTControl series allow up to four read/write heads of varying RFID frequencies to be connected at the same time. In addition, it is possible to operate the separate devices jointly and connect trigger sensors. The devices are available for all standard fieldbus types and Ethernet protocols (PROFIBUS, PROFINET, EtherNet/IP, TCP/IP, MODBUS TCP), and can therefore be used around the world.

Accessories

CBL-PUR-E1S-GN-04x034-100M	Cable, PUR/PP, 4-wire, green, Cat5e, shielded, UL-approved, suitable for drag chains
ICZ-2T/TR-0,2M-PUR ABG-V15B-G	Terminal cable for PROFIBUS with terminator
ICZ-3T-0,3M-PUR ABG-V15B-G	Y-splitter cordset for PROFIBUS
ICZ-3T-0,3M-PVC-CCL-V1-G	Y-splitter cordset for CC-Link
ICZ-AIDA1-B	Dummy plug for IC-KP-B17-AIDA1
ICZ-AIDA1-V45	Connector for RJ-45
ICZ-AIDA2-V45	Connector for RJ-45
ICZ-AIDA2-V45-0,2M-PUR-V1D-G	Cordset RJ-45 to M12 D-coded



LF Read/Write Heads

Read/Write Heads—Frequency Range LF



Common Technical Data

Frequency	LF (125 kHz)
Interface	IDENTControl
Ambient temperature (min)	-25 °C
EAC	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Max. Read Distance	Connection Type	Degree of Protection	Ambient Temperature (max)	Length L	Width W	Height H	Diameter D	RCM
IPH-18GM-V1	50 mm	M12 connector plug	IP67	70 °C	66 mm			18 mm	■
IPH-30GM-V1	65 mm	M12 connector plug	IP67	70 °C	66 mm			30 mm	■
IPH-F15-V1	155 mm	M12 connector plug	IP67	70 °C	190 mm	140 mm	40.5 mm		
IPH-F61-V1	45 mm	M12 connector plug	IP67	70 °C	80 mm	28 mm	12 mm		■
IPH-F90A-V1	90 mm	M12 connector plug	IP67	55 °C	144.5 mm	43.5 mm	21 mm		■
IPH-F97-V1	70 mm	M12 connector plug	IP67	55 °C	540 mm	50 mm	34 mm		■
IPH-FP-V1	100 mm	M12 connector plug	IP67	70 °C	113 mm	80 mm	40 mm		■
IPH-FP7V4A	100 mm	Terminals	IP69K	70 °C	103 mm	80 mm	40 mm		■
IPH-L2-V1	75 mm	M12 connector plug	IP67	70 °C	55.5 mm	40 mm	40 mm		■

Highlights

- Wide variety of housing designs (cubic/cylindrical) for optimal integration
- Smaller housing designs with minimal space requirements
- Extra-compact versions for flush mounting on metal
- Special housing designs, optimized for integration into roller conveyor systems
- For demanding applications (e.g., in the food industry)

Brief Description

For applications with an operating distance of 0 millimeters to 100 millimeters, read/write heads in the low frequency range (125 kHz) are the perfect solution. Pepperl+Fuchs offers a complete portfolio of devices for such applications. These devices boast an impressively high level of reliability, even when used in metallic environments. The wide variety of cylindrical or cubic designs are available in various sizes and housing designs and are guaranteed to bring the highest degree of flexibility to any application. In addition, Pepperl+Fuchs offers a number of special housing designs that have been optimized to meet requirements specific to each industry. The portfolio includes solutions such as the LF systems in cylindrical housing designs with an M18/30 thread, specially designed to be flush mounted on metal.

Accessories

IC-KP-B17-AIDA1	IDENTControl control interface with Ethernet interface for TCP/IP, PROFINET, Ethernet/IP, and MODBUS TCP protocols
IC-KP-B6-V15B	IDENTControl control interface with PROFIBUS-DP interface
IC-KP2-2HB17-2V1D	IDENTControl Compact control interface with Ethernet interface for TCP/IP, PROFINET, Ethernet/IP, and MODBUS TCP protocols
IC-KP2-2HB21-2V1D	IDENTControl Compact control interface with EtherCAT interface
IC-KP2-2HB6-V15B	IDENTControl Compact control interface with interface for PROFIBUS DP
IC-KP2-2HRX-2V1	IDENTControl Compact control interface with RS-232 and RS-485 serial interface
IPC02-12 50pcs	Tag
IPC02-26-T6 10pcs	Tag

HF Read/Write Heads

Read/Write Heads—Frequency Range HF



Common Technical Data

Frequency	HF (13.56 MHz)
HF protocol	ISO 15693
Ambient temperature (min)	-25 °C
Ambient temperature (max)	70 °C
EAC	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Max. Read Distance	Interface	Connection Type	Degree of Protection	Length L	Width W	Height H	Diameter D	KCC	UL	FCC	NCC	RCM
IQH1-18GM-V1	50 mm	IDENTControl	M12 connector plug	IP67	66 mm			18 mm	■	■	■	■	■
IQH1-F61-V1	55 mm	IDENTControl	M12 connector plug	IP67	80 mm	28 mm	12 mm		■	■	■	■	■
IQH1-FP-V1	130 mm	IDENTControl	M12 connector plug	IP67	108.5 mm	80 mm	40 mm		■	■	■	■	■
IQH1-FP7V4A	130 mm	IDENTControl	Terminals	IP69K	108.5 mm	80 mm	40 mm			■			
IQH1-F198-V1	150 mm	IDENTControl	M12 connector plug	IP67	190.5 mm	175 mm	12 mm			■	■		■
IQH1-F198-M-V1	150 mm	IDENTControl	M12 connector plug	IP67	190.5 mm	175 mm	12 mm						■
IQT1-18GM-IO-V1	50 mm	IO-Link	M12 connector plug	IP67	63.5 mm			18 mm		■	■		
IQT1-F61-IO-V1	55 mm	IO-Link	M12 connector plug	IP67	80 mm	28 mm	12 mm			■	■		
IQT1-FP-IO-V1	130 mm	IO-Link	M12 connector plug	IP67	108.5 mm	80 mm	40 mm			■	■		
IQT1-18GM-R4-V1	50 mm	RS-485	M12 connector plug	IP67	66 mm			18 mm		■			
IQT1-F61-R4-V1	55 mm	RS-485	M12 connector plug	IP67	80 mm	28 mm	12 mm			■	■		
IQT1-FP-R4-V1	130 mm	RS-485	M12 connector plug	IP67	108.5 mm	80 mm	40 mm			■		■	■

Highlights

- IO-Link for Industry 4.0 applications
- Wide variety of housing designs (cubic and cylindrical) for optimal integration
- Smaller housing designs with minimal space requirements
- Extra-compact versions for flush mounting on metal
- Special housing designs, optimized for the tire manufacturing industry
- Supports the global standard ISO 15693

Brief Description

High-speed applications in which large amounts of data are being transferred call for read/write heads in the high-frequency range (13.56 MHz). These read/write heads offer fully reliable read results in all near-field applications up to 15 centimeters, making them the ideal solution for identifying pallets or trays in material handling, for instance. The Pepperl+Fuchs portfolio offers a wide variety of cylindrical and cubic designs for this purpose, available in various sizes and designs of housing. In addition, the portfolio includes versions designed for specific applications, such as the F198 with its ring-shaped design, which is perfectly tailored to the requirements of the tire industry. Another feature of this latest generation of HF RFID read/write heads is an IO-Link interface for connecting to all standard IO-Link masters. This interface provides the foundation for establishing cross-hierarchical connectivity in line with Industry 4.0.

Accessories

IC-KP-B17-AIDA1	IDENTControl control interface with Ethernet interface for TCP/IP, PROFINET, Ethernet/IP, and MODBUS TCP protocols
IC-KP-B6-V15B	IDENTControl control interface with PROFIBUS-DP interface
IC-KP2-2HB17-2V1D	IDENTControl Compact control interface with Ethernet interface for TCP/IP, PROFINET, Ethernet/IP, and MODBUS TCP protocols
IC-KP2-2HB21-2V1D	IDENTControl Compact control interface with EtherCAT interface
IC-KP2-2HB6-V15B	IDENTControl Compact control interface with interface for PROFIBUS DP

UHF Read/Write Heads

Read/Write Heads—Frequency Range UHF



Common Technical Data

Frequency	UHF (865 MHz ... 928 MHz)
Connection type	M12 connector plug
Degree of protection	IP67
Ambient temperature (max)	70 °C

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Transmission License	Transmission Power	Interface	Ambient Temperature (min)	Length L	Width W	Height H	EAC	UL	FCC	RCM
IUH-F190-V1-FR1-01	Turkey	3 mW ... 1000 mW	IDENTControl	-20 °C	114 mm	112 mm	63 mm				
IUH-F190-V1-FR2-02	Argentina	3 mW ... 1250 mW	IDENTControl	-20 °C	114 mm	112 mm	63 mm		■	■	
IUH-F190-V1-FR2-03	China	3 mW ... 800 mW	IDENTControl	-20 °C	114 mm	112 mm	63 mm		■		
IUH-F190-V1-FR1-04	India	3 mW ... 800 mW	IDENTControl	-20 °C	114 mm	112 mm	63 mm				
IUH-F190-V1-FR1-05	Vietnam	3 mW ... 500 mW	IDENTControl	-20 °C	114 mm	112 mm	63 mm				
IUH-F190-V1-FR1-06	Russia	3 mW ... 800 mW	IDENTControl	-20 °C	114 mm	112 mm	63 mm	■			
IUH-F190-V1-FR2-07	Brazil	3 mW ... 1250 mW	IDENTControl	-20 °C	114 mm	112 mm	63 mm				
IUH-F190-V1-FR2-08	Japan	3 mW ... 125 mW	IDENTControl	-20 °C	114 mm	112 mm	63 mm				
IUH-F190-V1-FR2-10	Australia	3 mW ... 1000 mW	IDENTControl	-20 °C	114 mm	112 mm	63 mm				■
IUH-F190-V1-FR2-12	Thailand	3 mW ... 1250 mW	IDENTControl	-20 °C	114 mm	112 mm	63 mm				
IUH-F190-V1-FR2-13	Malaysia	3 mW ... 800 mW	IDENTControl	-20 °C	114 mm	112 mm	63 mm				
IUH-F190-V1-FR2-14	Vietnam	3 mW ... 500 mW	IDENTControl	-20 °C	114 mm	112 mm	63 mm				
IUH-F192-V1-FR1	Turkey	10 mW ... 2000 mW	IDENTControl	-25 °C	268 mm	270 mm	81 mm	■			
IUH-F192-V1-FR2	New Zealand	10 mW ... 4000 mW	IDENTControl	-25 °C	268 mm	270 mm	81 mm			■	■
IUH-F192-V1-FR2-02	USA	10 mW ... 4000 mW	IDENTControl	-25 °C	268 mm	270 mm	81 mm				
IUT-F190-R4-V1-FR1-01	Turkey	3 mW ... 1000 mW	RS-485	-20 °C	114 mm	112 mm	63 mm				
IUT-F190-R4-V1-FR2-02	USA	3 mW ... 1250 mW	RS-485	-20 °C	114 mm	112 mm	63 mm		■	■	
IUT-F190-R4-V1-FR2-03	China	3 mW ... 800 mW	RS-485	-20 °C	114 mm	112 mm	63 mm		■		
IUT-F190-R4-V1-FR1-05	Vietnam	3 mW ... 500 mW	RS-485	-20 °C	114 mm	112 mm	63 mm				
IUT-F190-R4-V1-FR1-06	Russia	3 mW ... 800 mW	RS-485	-20 °C	114 mm	112 mm	63 mm	■			
IUT-F190-R4-V1-FR2-07	Brazil	3 mW ... 1250 mW	RS-485	-20 °C	114 mm	112 mm	63 mm				
IUT-F190-R4-V1-FR2-14	Vietnam	3 mW ... 500 mW	RS-485	-20 °C	114 mm	112 mm	63 mm				
IUT-F190-B40-2V1D-FR1-01	Turkey	3 mW ... 1000 mW	EtherNet/IP, PROFINET	-20 °C	114 mm	112 mm	63 mm				
IUT-F190-B40-2V1D-FR2-02	USA	3 mW ... 1250 mW	EtherNet/IP, PROFINET	-20 °C	114 mm	112 mm	63 mm		■	■	
IUT-F190-B40-2V1D-FR2-03	China	3 mW ... 800 mW	EtherNet/IP, PROFINET	-20 °C	114 mm	112 mm	63 mm		■		

Highlights

- For medium to large detection ranges and global use
- Preassembled function blocks for quick and simple system integration
- Compact, durable housing with a wide range of applications
- Switchable antenna polarization for accurate tag identification and reliable process flows
- Multi tag reading for impressive productivity

Brief Description

The UHF systems (865 MHz – 928 MHz) from Pepperl+Fuchs are the perfect choice for all long-distance applications requiring long detection ranges of up to 6 meters. Their compact design featuring an integrated antenna means these devices are also ideal for use in confined spaces.

Tags—Frequency Range LF



Common Technical Data

Mounting style	Non-conductive material
Frequency	LF (125 kHz)
EAC	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Special Features	Memory Size	Housing Design	Degree of Protection	Length L	Width W	Height H	Diameter D
IPC02-12 50pcs	High temperature	ROM 40 bit	Cylindrical	IP68			2.2 mm	12.4 mm
IPC02-16 50pcs	High temperature	ROM 40 bit	Cylindrical	IP68			3 mm	16 mm
IPC02-26-T6 10pcs	High temperature	ROM 40 bit	Cylindrical	IP68			4 mm	26 mm
IPC02-20P		ROM 40 bit	Cylindrical	IP68/IP69K			3 mm	20 mm
IPC02-30P	High temperature	ROM 40 bit	Cylindrical	IP68			3 mm	30 mm
IPC02-50 25pcs		ROM 40 bit	Cylindrical	IP68			3 mm	50 mm
IPC02-C1 10pcs		ROM 40 bit	Card	IP68	85.6 mm	54 mm	0.8 mm	
IPC03-12.4 10pcs		ROM 32 bit	Cylindrical	IP67			6 mm	12.1 mm
IPC03-30P	High temperature	ROM 32 bit	Cylindrical	IP68			3 mm	30 mm
IPC03-50P	High temperature	ROM 32 bit	Cylindrical	IP68			5 mm	50 mm
IPC03-54-T8	High temperature	ROM 32 bit	Cylindrical	IP67			15 mm	54 mm
IPC03-58	High temperature	ROM 32 bit	Cylindrical	IP67			20.1 mm	58 mm
IPC03-C1 10pcs		ROM 32 bit	Card	IP68	85.6 mm	54 mm	0.8 mm	
IPC11-50CD 10pcs		EEPROM 40 Bit	Label	IP67			2 mm	50 mm
IPC03-10 10pcs		ROM 32 bit	Cylindrical	IP67			4.5 mm	10 mm
IPC03-16GK 10pcs		ROM 32 bit	Cylindrical	IP67			6 mm	16 mm
IPC03-30GK 10pcs		ROM 32 bit	Cylindrical	IP67			20 mm	30 mm
IPC03-8 10pcs		ROM 32 bit	Cylindrical	IP67			5 mm	8 mm
IPC11-12 50pcs	High temperature	EEPROM 40 Bit	Cylindrical	IP68			2 mm	12.4 mm

Tags—Frequency Range HF



Common Technical Data

Mounting style	Non-conductive material
Frequency	HF (13.56 MHz)
HF protocol	ISO 15693
EAC	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Special Features	Memory Size	Housing Design	Degree of Protection	Length L	Width W	Height H	Diameter D
IQC21-10 10pcs		EEPROM 896 bit	Cylindrical	IP67			4.5 mm	10 mm
IQC21-16 50pcs		EEPROM 896 bit	Cylindrical	IP68			2.9 mm	16 mm
IQC21-30 25pcs	High temperature	EEPROM 896 bit	Cylindrical	IP68			3 mm	30 mm
IQC21-50 25pcs		EEPROM 896 bit	Cylindrical	IP68			3 mm	50 mm
IQC21-58		EEPROM 896 bit	Cylindrical	IP67			20.1 mm	58 mm
IQC21-50F-T10	High temperature	EEPROM 896 bit	Rectangular	IP68	51.5 mm	51.5 mm	6.4 mm	
IQC21-15L15 500pcs		EEPROM 896 bit	Label	IP67	14.5 mm	14.5 mm	0.2 mm	
IQC21-18L35-M 500pcs		EEPROM 896 bit	Label	IP67	35 mm	18 mm	0.5 mm	
IQC21-51L51 500pcs		EEPROM 896 bit	Label	IP67	50.8 mm	50.8 mm	0.2 mm	
IQC22-22-T9 50pcs	High temperature	EEPROM 2000 bit	Cylindrical	IP68			3 mm	22 mm
IQC24-27-T12	High temperature	EEPROM 7936 Bit	Cylindrical	IP67			4 mm	27 mm
IQC33-20 50pcs	High storage capacity		Cylindrical	IP68			2.5 mm	20 mm
IQC33-30 25pcs	High temperature		Cylindrical	IP68			2.5 mm	30 mm
IQC33-50 25pcs	High storage capacity		Cylindrical	IP68			3 mm	50 mm
IQC33-ST22	High storage capacity		Cylindrical	IP68			20.5 mm	22 mm
IQC35-10 50pcs	High temperature	EEPROM 1280 Bit	Cylindrical	IP68			2 mm	10 mm
IQC21-12 50pcs		EEPROM 896 bit	Cylindrical	IP67			6 mm	12.1 mm
IQC21-12.4 10pcs		EEPROM 896 bit	Cylindrical	IP67			6 mm	12.1 mm
IQC21-38L 500pcs		EEPROM 896 bit	Label	IP67			0.2 mm	38 mm
IQC21-39		EEPROM 896 bit	Cylindrical	IP67			21.5 mm	39 mm
IQC21-39-T1	High temperature	EEPROM 896 bit	Cylindrical	IP67			21.5 mm	39 mm
IQC21-8 10pcs		EEPROM 896 bit	Cylindrical	IP67			5 mm	8 mm
IQC21-85-T13	High temperature	EEPROM 896 bit	Cylindrical	IP68/IP69K			15 mm	85 mm
IQC21-C1 10pcs		EEPROM 896 bit	Card	IP68	85.6 mm	54 mm	0.8 mm	
IQC21-F125 10pcs		EEPROM 896 bit	Rectangular	IP65	65 mm	25 mm	3 mm	
IQC24-15 10pcs	High storage capacity	EEPROM 7936 Bit	Cylindrical	IP67			8 mm	15 mm
IQC24-50F 10pcs	High storage capacity	EEPROM 7936 Bit	Rectangular	IP68	51.5 mm	51.5 mm	6.4 mm	
IQC24-50F-T10	High temperature	EEPROM 7936 Bit	Rectangular	IP68	51.5 mm	51.5 mm	6.4 mm	
IQC24-C1 10pcs	High storage capacity	EEPROM 7936 Bit	Card	IP68	85.6 mm	54 mm	0.8 mm	
IQC33-10 10pcs	High storage capacity		Cylindrical	IP67			4.5 mm	10 mm
IQC33-9.5 50pcs	High storage capacity		Cylindrical	IP67			1 mm	9.5 mm
IQC35-16GK		EEPROM 1280 Bit	Cylindrical	IP68			6 mm	16 mm

Tags—Frequency Range UHF



Common Technical Data

Frequency	UHF (865 MHz ... 928 MHz)

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Special Features	Housing Design	Mounting Style	Region UHF	Degree of Protection	Length L	Width W	Height H	Diameter D	EAC
IUC76-F157-T17-M-FR1	High temperature	Rectangular	On metal	ETSI (865 MHz ... 868 MHz)	IP68	51 mm	36.3 mm	7.5 mm		■
IUC76-F157-T17-M-FR2	High temperature	Rectangular	On metal	FCC (902 MHz ... 928 MHz)	IP68	51 mm	36.3 mm	7.5 mm		■
IUC76-F157-T18-M-FR1	High temperature	Rectangular	On metal	ETSI (865 MHz ... 868 MHz)	IP68	51 mm	36.3 mm	7.5 mm		■
IUC76-F157-T18-M-FR2	High temperature	Rectangular	On metal	FCC (902 MHz ... 928 MHz)	IP68	51 mm	36.3 mm	7.5 mm		■
IUC76-F157-T19-M-FR1	High temperature	Rectangular	On metal	ETSI (865 MHz ... 868 MHz)	IP69K	51 mm	36.3 mm	7.5 mm		■
IUC76-F157-T19-M-FR2	High temperature	Rectangular	On metal	FCC (902 MHz ... 928 MHz)	IP69K	51 mm	36.3 mm	7.5 mm		■
IUC76-F203-M-FR1 10pcs	High temperature	Rectangular	On metal	ETSI (865 MHz ... 868 MHz)	IP68	31.7 mm	12.8 mm	4.8 mm		■
IUC76-F203-M-FR2 10pcs	High temperature	Rectangular	On metal	FCC (902 MHz ... 928 MHz)	IP68	31.7 mm	12.8 mm	4.8 mm		■
IUC76-F204-M-FR1 10pcs	High temperature	Rectangular	In metal	ETSI (865 MHz ... 868 MHz)	IP68	10 mm	5 mm	3 mm		■
IUC76-F204-M-FR2 10pcs	High temperature	Rectangular	In metal	FCC (902 MHz ... 928 MHz)	IP68	10 mm	5 mm	3 mm		■
IUC76-F205-M-FR1 10pcs	High temperature	Rectangular	On metal	ETSI (865 MHz ... 868 MHz)	IP68	12.8 mm	7.1 mm	3.1 mm		■
IUC76-F205-M-FR2 10pcs	High temperature	Rectangular	On metal	FCC (902 MHz ... 928 MHz)	IP68	12.8 mm	7.1 mm	3.1 mm		■
IUC76-F208-M-FR1 10pcs	High temperature	Rectangular	In metal	ETSI (865 MHz ... 868 MHz)	IP68	25 mm	25 mm	3 mm		■
IUC76-F208-M-FR2 10pcs	High temperature	Rectangular	In metal	FCC (902 MHz ... 928 MHz)	IP68	25 mm	25 mm	3 mm		■
IUC76-F209-M-FR1 10pcs	High temperature	Rectangular	In metal	ETSI (865 MHz ... 868 MHz)	IP68	12.8 mm	7.1 mm	3.1 mm		■
IUC76-F209-M-FR2 10pcs	High temperature	Rectangular	In metal	FCC (902 MHz ... 928 MHz)	IP68	12.8 mm	7.1 mm	3.1 mm		■
IUC76-28FST-M-FR1	High temperature	Special version	On metal	ETSI (865 MHz ... 868 MHz)	IP69K	48 mm	28 mm	13.5 mm		■
IUC76-28FST-M-FR2	High temperature	Special version	On metal	FCC (902 MHz ... 928 MHz)	IP69K	48 mm	28 mm	13.5 mm		■
IUC76-28ST-M-FR1	High temperature	Cylindrical	In metal	ETSI (865 MHz ... 868 MHz)	IP69K			8.5 mm	28 mm	■
IUC76-28ST-M-FR2	High temperature	Cylindrical	In metal	FCC (902 MHz ... 928 MHz)	IP69K			8.5 mm	28 mm	■
IUC76-F290-M-FR1 10pcs	High temperature	Rectangular	In metal	ETSI (865 MHz ... 868 MHz)	IP68	25 mm	9 mm	3 mm		■
IUC76-F290-M-FR2 10pcs	High temperature	Rectangular	In metal	FCC (902 MHz ... 928 MHz)	IP68	25 mm	9 mm	3 mm		■
IUC77-25L100-GBL 1000pcs		Label	Non-conductive material	Global (865 MHz ... 928 MHz)	IP67	100 mm	25 mm	0.2 mm		■
IUC77-28L90-M-FR1 25pcs		Label	On metal	ETSI (865 MHz ... 868 MHz)	IP68	90 mm	28 mm	0.9 mm		■
IUC77-28L90-M-FR2 25pcs		Label	On metal	FCC (902 MHz ... 928 MHz)	IP68	90 mm	28 mm	0.9 mm		■
IUC77-34-M-FR1 10pcs	High temperature	Cylindrical	On metal	ETSI (865 MHz ... 868 MHz)	IP68			6 mm	34 mm	■
IUC77-34-M-FR2 10pcs	High temperature	Cylindrical	On metal	FCC (902 MHz ... 928 MHz)	IP68			6 mm	34 mm	■
IUC77-50-FR1 10pcs	High temperature	Cylindrical	Non-conductive material	ETSI (865 MHz ... 868 MHz)	IP68			8 mm	50 mm	■
IUC77-50-FR2 10pcs	High temperature	Cylindrical	Non-conductive material	FCC (902 MHz ... 928 MHz)	IP68			8 mm	50 mm	■
IUC82-23L50-M-FR1 500pcs		Label	On metal	ETSI (865 MHz ... 868 MHz)	IP67	50 mm	22.5 mm	1.5 mm		■
IUC82-23L50-M-FR2 500pcs		Label	On metal	FCC (902 MHz ... 928 MHz)	IP67	50 mm	22.5 mm	1.5 mm		■



Handhelds

HH50 Series



Common Technical Data

Degree of protection	IP54
Ambient temperature (min)	-20 °C
Ambient temperature (max)	50 °C

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Frequency	Trans- mission License	Transmission Power	HF Proto- col	Region UHF	Length L	Width W	Height H	FCC	RCM
IC-HH51						174 mm	82 mm	28 mm	■	
IC-HH52						174 mm	82 mm	28 mm	■	
IPH-HH50	LF (125 kHz)					43.8 mm	84.2 mm	33.5 mm	■	■
IQH1-HH50	HF (13.56 MHz)			ISO 15693		43.8 mm	84.2 mm	33.5 mm	■	■
IUH-HH50-FR1-01	UHF (865 MHz ... 928 MHz)	Turkey	6 mW ... 200 mW		ETSI (865 MHz ... 868 MHz)	52 mm	85 mm	27 mm		
IUH-HH50-FR2-02	UHF (865 MHz ... 928 MHz)	USA	6 mW ... 200 mW		FCC (902 MHz ... 928 MHz)	52 mm	85 mm	27 mm	■	

Highlights

- Robust design, suitable for indoor and outdoor use
- Simple handling via large touch display
- Wide variety of helpful functions already available in the standard software
- Option to create application-specific software
- Sliding mechanism for tool-free module replacement

Brief Description

RFID handhelds from Pepperl+Fuchs enable you to read RFID tags independently of permanently installed reading stations. This results in a whole range of applications. Use our handhelds, for example, for manual quality control or for verification of maintenance work. Using a sophisticated mechanism, RFID read/write heads for different frequencies (LF, HF, UHF) can be quickly and easily pushed onto the base module of the handheld without any tools.

Accessories

ICZ-HH50-BAT	Lithium Ion Battery
ICZ-HH50-CHARGER	Docking Station
IPH-HH50	Read/write head
IQH1-HH50	Read/write head
IUH-HH50-FR1-01	Read/write head
IUH-HH50-FR2-02	Read/write head
IUH-HH50-FR2-03	Read/write head

Efficient Solution for Transparent, Reliable Processes



Optical identification systems from Pepperl+Fuchs are used in almost all areas of industrial automation, helping to improve the transparency and reliability of processes within these industries with lasting results. The systems can be used in any application, be it under challenging ambient conditions, at high scan rates or at extreme temperatures. The extensive portfolio of stationary readers and handhelds offers the right solution for every identification task, guaranteeing reliability and the highest level of read quality.

Powerful Devices, Optimal Performance

Track-and-trace applications play a crucial role in modern manufacturing processes. They ensure maximum transparency, since they allow all processing steps to be planned, carried out, and tracked. To support these tasks, Pepperl+Fuchs offers an extensive portfolio of stationary and mobile camera systems that are suitable for all standard 1-D and 2-D codes. These powerful devices are quick to integrate and simple to commission, and can be perfectly adapted to the individual application requirements of the customer.

The Right Code for Every Application

The code types used in this process are as diverse as the applications in the field of optical identification. They are printed, lasered, punched or needled on a wide variety of surfaces. This includes especially glossy, reflective or metallic materials. What the codes have in common, despite all the differences, is the important track-and-trace information that they carry with them throughout the entire production or processing process. This data must be read reliably—no matter whether it is directly applied to the material (Direct Part Marking—DPM) or whether, for example, die-cut code sheets are used at ambient temperatures of up to 500 °C. Pepperl+Fuchs therefore offers a wide range of code reader variants for optical identification, which impress even in extreme areas with optimal performance.



Pepperl+Fuchs' portfolio of optical identification includes a wide range of code and code reader variants. This way you will always find the right solution—even for extreme applications.

Optical High-Temperature Identification: High Performance under Extreme Conditions

Cyclic changes in temperature, continuous high temperatures, and the effects of dust and paint place high demands on materials and technology. The durable OIT high-temperature identification system was developed with these demands in mind. The system ensures a reliable read performance and therefore smooth process flows, even at temperatures of up to 500 °C.

Typical Applications

- Automotive industry: identification in bodyshell production, painting lines, electroplating plants, and drying systems
- Identification in pigment and paint processing industries
- Baking pan identification in bakeries

Your Benefits at a Glance

- Rugged, durable solution with heat-resistant code sheets for temperatures of up to 500 °C
- Reliable identification, even on contaminated code sheets
- Integrated diagnostic function for reliable process flows
- Maintenance-free with one-piece housing concept and no additional components
- Simple connection to all standard controllers
-

Technical Features

- Identification of up to 1 million objects via robust code sheets
- Easy system integration via Ethernet interface
- Long read distances of up to 1700 mm
- Rugged powder-coated aluminum die-cast housing

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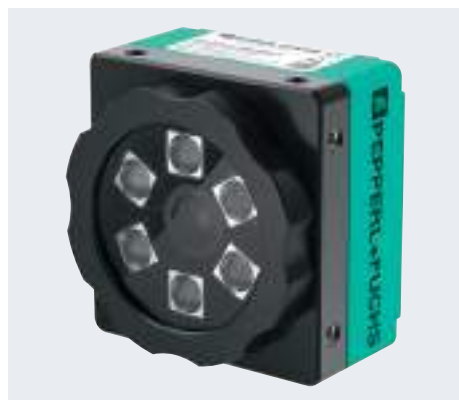


OIT Series

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Stationary 2-D Code Readers

VOS-Ident Series



Common Technical Data

Interface	PROFINET IO, EtherNet TCP/IP, EtherNet/IP, RS-232
Type of voltage	DC
Connection type	2 x connector socket—M12
Degree of protection	IP67
Code symbologies	1-D: BC412, Codabar, Code 11, Code 32, Code 39, Code 128, EAN-8/13, DataBar, Interleaved 2 of 5, MSI Plessey, Pharmacode, Plessey, Telepen, UPC-A/E, Postcode, Trioptic 2-D: Aztec code, DataMatrix code, dot code, grid Matrix, Han Xin Code, Maxi Code, Micro PDF417, Micro QRCode, PDF417, QR code

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Hardware	Reading Range	Reading Distance	Object Speed	Readings per Second	Min. Module Size
VOS2000-F226W-8MM-I	1.2 megapixels, White LED lighting	Max. 355 mm x 266 mm (1-D: 0.48 mm bar width; 2-D: 0.64 mm module size)	Max. 600 mm	Max. 4 m/s	Max. 30 Hz	0.1 mm
VOS2000-F226W-16MM-I	1.2 megapixels, White LED lighting	Max. 295 mm x 221 mm (1-D: 0.4 mm bar width; 2-D: 0.54 mm module size)	Max. 1,000 mm	Max. 4 m/s	Max. 30 Hz	0.1 mm
VOS2000-F226-C-I	1.2 megapixels, C-mount lens cap	Max. 376 mm x 282 mm (1-D: 0.5 mm bar width) Max. 278 mm x 208 mm (2-D: 0.5 mm module size)	Max. 2,000 mm (with external lighting)	Max. 4 m/s	Max. 30 Hz	0.1 mm
VOS5000-F227-C-I	5.2 megapixels, C-mount lens cap	Max. 752 mm x 602 mm (1-D: 0.5 mm bar width) Max. 556 mm x 445 mm (2-D: 0.5 mm module size)	Max. 2,000 mm (with external lighting)	Max. 4 m/s	Max. 25 Hz	0.1 mm

Highlights

- Large distance and sensing ranges
- Multifunctional: parameterization of up to 32 jobs, match code, multi-code, multi-window and multi-sensor mode, output string formatting, and code quality output
- Hardware and software can be easily customized
- Interfaces: Ethernet TCP/IP, PROFINET IO, EtherNet/IP, RS-232, and IOs
- Code quality output according to ISO 15415, ISO 16022, ISO/IEC TR 29158 (AIM DPM)
- Emulator for offline testing and parameter optimization
- Extensive range of external lighting options and lenses

Brief Description

As a true universal genius, the VOS Ident boasts numerous functions and customization options. The devices are reliable at reading all standard 1-D or 2-D codes (including laser-inscribed / needle-punched DPM and match codes). For total efficiency, multiple reading windows can be created via a multi-window and up to 64 codes can be detected in each window using a multi-code function. Multiple sensors can also be combined depending on the application requirements. All devices allow convenient remote access and storage of up to 32 jobs. Images can be stored on the sensor and the FTP server. The Vision Configurator can be used to customize the output string and integrate it into the system. The device inputs and outputs also offer flexible definition options.

Accessories

V112-G-BK3M-PUR-ABG-V112-G	Cordset, M12 socket to M12 plug, A-coded, 12-pin, PUR cable, black, shielded
V112S-G-BK5M-PUR-ABG	Single-ended male cordset, M12, straight, A-coded, 12-pin, PUR cable, black, shielded
V19S-G-GN5M-PUR-ABG-V45-G	Bus cable Ethernet M12 plug, straight, A-coded, 8-pin to RJ45 plug, straight 8-pin, PUR cable, green, Cat6A, shielded in pairs and complete shield, for connecting VOS cameras
V19SX-G-GN5M-PUR-ABG-V45-G	Bus cable, Ethernet, M12 plug, straight, X-coded to RJ45 plug, straight, Ethernet-coded, 8-pin, PUR cable, green, Cat5e, shielded in pairs and complete shield
VOS-IL-F236W-10	Ring lights are components of VOS sensors and are used to evenly illuminate flat, matte, and reflective surfaces.
VOS-IL-F236W-49	Ring lights are components of VOS sensors and are used to evenly illuminate flat, matte, and reflective surfaces.
VOS-LE-C-12MM-HC	Manually regulated, high-resolution and small megapixel lens with fixing screws, C-mount cameras

Stationary 2-D Code Readers

OPC Series



Common Technical Data

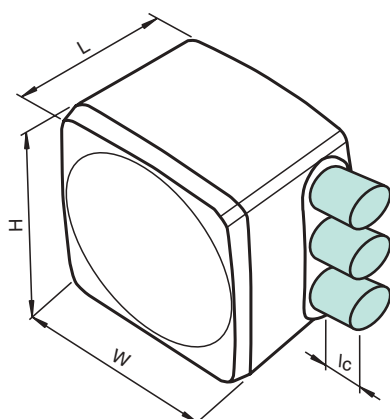
Light type	White LED
Type of output	PNP
Type of voltage	DC
Operating voltage (min)	24 V
Operating voltage (max)	24 V
Connection type	M12 connector plug, 2 x M12 connector socket
Degree of protection	IP67
Housing width W	70 mm
Housing height H	70 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Reading Range	Reading Distance	Object Speed	Code Symbolologies	Min. Module Size	Special Equipment	Interface
OPC70P-F201-R2-45	Max. 35 mm x 55 mm	45 mm to 90 mm	10 m/s	Code 128, Code 39, Data Matrix code, EAN13, Int 2 of 5, Pharmacode	0.15 mm	Pole filter technology	EtherNet TCP/IP, RS-232
OPC120P-F201-B17	Max. 105 mm x 65 mm	70 mm to 180 mm	10 m/s	Data Matrix	0.2 mm	Pole filter technology	PROFINET IO
OPC120P-F201-R2	Max. 105 mm x 65 mm	70 mm to 180 mm	10 m/s	Code 128, Code 39, Data Matrix Code,	0.2 mm	Pole filter technology	EtherNet TCP/IP, RS-232
OPC120W-F200-R2	Max. 105 mm x 65 mm	70 mm to 180 mm	6 m/s	Code 128, Code 39, Data Matrix code, EAN13, Int 2 of 5, Pharmacode	0.2 mm		EtherNet TCP/IP, RS-232

Highlights

- Reliable 1-D/2-D code reading on highly reflective surfaces
- High-speed code reading of up to 10 m/s at 100 readings/s
- Intelligent functions such as print presence detection, logo comparison, and multi-window



Brief Description

Whether reading standard 1-D and 2-D codes or reading at high speeds, the stationary readers in the OPC120 series are true performance artists, covering the entire bandwidth of demanding applications perfectly. Even under the most challenging conditions, these readers deliver a top performance both when stationary and at high speed. Features such as print presence detection, logo comparison, and multi-window with up to four windows ensure optimal efficiency and reliability in the reading process. In addition, the devices are incredibly user-friendly, offer an automatic fault pattern memory, and are capable of reading codes on reflective surfaces.

Accessories

PCV-MB1	Mounting bracket for PCV* read head
V15S-G-5M-PUR-ABG	Single-ended male cordset, M12, straight, A-coded, 5-pin, PUR cable, gray, shielded
V19-G-0,2M-YOPC-0,2M-V1S/V31-G	Y-splitter cordset
V19-G-2M-PUR-ABG	Single-ended female cordset, M12, straight, A-coded, 8-pin, PUR cable, gray, shielded
V19-G-ABG-PG9	M12 single-ended female cordset, 8-pin, shielded, field-attachable

Stationary Barcode Scanners

VB14/VB34 Series



Common Technical Data

Light type	Red laser diode
Type of voltage	DC
Operating voltage (max)	30 V
Connection type	D-sub connector plug

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Reading Distance	Min. Resolution	Scan Rate	Interface	UB (Min)	Length L	Width W	Height H
VB14N-300	40 mm to 300 mm	0.2 mm (8 mils)	500 scans/s to 800 scans/s	RS-232, RS-485	10 V	84 mm	68 mm	34 mm
VB14N-300-R	40 mm to 300 mm	0.2 mm (8 mils)	500 scans/s to 800 scans/s	RS-232, RS-485	10 V	84 mm	68 mm	34 mm
VB14N-400-T	60 mm to 400 mm	0.2 mm (8 mils)	600 scans/s to 1000 scans/s	RS-232, RS-485	10 V	84 mm	68 mm	34 mm
VB14N-400-T-R	60 mm to 400 mm	0.2 mm (8 mils)	600 scans/s to 1000 scans/s	RS-232, RS-485	10 V	84 mm	68 mm	34 mm
VB14N-600	190 mm to 600 mm	0.35 mm (14 mils)	600 scans/s to 1000 scans/s	RS-232, RS-485	10 V	84 mm	68 mm	34 mm
VB14N-600-R	190 mm to 600 mm	0.35 mm (14 mils)	600 scans/s to 1000 scans/s	RS-232, RS-485	10 V	84 mm	68 mm	34 mm
VB14N-600-T	190 mm to 600 mm	0.35 mm (14 mils)	600 scans/s to 1000 scans/s	RS-232, RS-485	10 V	84 mm	68 mm	34 mm
VB14N-600-T-R	190 mm to 600 mm	0.35 mm (14 mils)	600 scans/s to 1000 scans/s	RS-232, RS-485	10 V	84 mm	68 mm	34 mm
VB34-2500	Max. 2,500 mm	0.2 mm (8 mils)	600 scans/s up to 1,200 scan/s (programmable)	RS-232, RS-485	15 V	110 mm	113 mm	99 mm
VB34-2500-OM	Max. 2,500 mm	0.2 mm (8 mils)	600 scans/s up to 1,200 scan/s (programmable)	RS-232, RS-485	15 V	180 mm	113 mm	99 mm
VB34-2500-OM-P	Max. 2,500 mm	0.2 mm (8 mils)	600 scans/s up to 1,200 scan/s (programmable)	PROFIBUS DP, RS-232, RS-485	15 V	180 mm	113 mm	99 mm
VB34-2500-P	Max. 2,500 mm	0.2 mm (8 mils)	600 scans/s up to 1,200 scan/s (programmable)	PROFIBUS DP, RS-232, RS-485	15 V	110 mm	113 mm	99 mm

Highlights

- Networking of up to 32 scanners for high-speed applications
- High scan rates of up to 1200 scans per second for the fastest processing speeds
- Automatic and programmable focus setting for continuous process flows
- Reliable code reconstruction for reading damaged or rotated barcodes
- Wide range of applications through an extended temperature range of up to -35 °C

Brief Description

Barcodes are now ubiquitous in industry and trade—but when it comes to reading barcodes, every application has its own special requirements. Different sizes and distances, variable speeds and varying levels of damage: Pepperl+Fuchs has got this vast spectrum of requirements covered through its two extremely powerful series. Read distances of up to 2.5 meters, scan rates of up to 1200 scans per second, and code sizes of just 0.2 millimeters are processed with complete accuracy and the highest level of efficiency. Up to 32 scanners can be networked to form an integrated overall solution. A reliable process flow and optimal read performance is guaranteed at all times, even at temperatures as low as -35 °C.

Accessories

CBX100	Connector Box for Barcode Readers
CBX500-KIT-B17	PROFINET connection box for barcode scanners
CBX500-KIT-B19-IP54	EtherNet/IP connection box for barcode scanners
CBX500-KIT-B19-IP65	EtherNet/IP connection box for barcode scanners
CBX500-KIT-B6	PROFIBUS connection box for barcode scanners
DM-VB14N-102	Deviation mirror for VB14 series barcode scanners
DM-VB14N-90	Deviation mirror for VB14 series barcode scanners
OM-VB14N	Oscillating mirror for VB14N series barcode scanners

Mobile 2-D Code Readers

OHV Series



Common Technical Data

Light type	Red LED
Type of voltage	DC
Code symbologies	1-D: Codabar, Code 11, Code 32, Code 39, Code 93, Code 128, IATA 2 of 5, Interleaved 2 of 5, GS1 DataBar (RSS), Hong Kong 2 of 5, Matrix 2 of 5, MSI Plessey, NEC 2 of 5, Pharmacode, Plessey, Straight 2 Of 5, Telepen, Trioptic, UPC/EAN/JAN Stacked 1-D: Codablock F, Micro PDF, PDF417, GS1 COMPOSITE (CC-A/CC-B/CC-C) 2-D: Aztec Code, DataMatrix, Han Xin Code, Maxi Code, Micro QR Code, QR Code Post codes: Australia Post, Intelligent Mail, Japan Post Group, KIX Code, Korea Post, Planet, Postnet, Royal Mail Group Ltd, UPU ID tags

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	DPM Codes	Reading Distance	Depth of Focus	Interface	Connection Type	FCC
OHV10-F228-R2		40 mm to 310 mm	0.2 mm	RS-232, USB		
OHV110-F228-R2		40 mm to 310 mm	0.1 mm	RS-232, USB	Bluetooth, USB (via charger)	
OHV200-F220-B15		40 mm to 310 mm	0.1 mm	Bluetooth, USB	Bluetooth, USB (via charger)	■
OHV200-F221-B15		40 mm to 310 mm	0.1 mm	Bluetooth, USB		■
OHV1000-F223-R2	■	0 mm to 200 mm	0.1 mm	RS-232, USB	Bluetooth, USB (via charger)	
OHV2000-F221-B15	■	40 mm to 310 mm	0.1 mm	Bluetooth, USB		■

Highlights

- Excellent read quality of printed and DPM Codes
- Reliable 1-D/2-D code reading on reflective surfaces
- Versatile applications thanks to a sturdy housing and high degree of protection (IP65)
- Highest level of process reliability through user feedback (acoustic, tactile, and visual signals)
- Can be programmed individually for specific application requirements

Brief Description

OHV series handheld readers offer outstanding reading performance, simple operation and perfect adaptation to customer-specific requirements. The devices read 1-D and 2-D codes reliably even on reflective surfaces, covering all common code symbologies. A patented dual lens allows codes of various sizes to be read using just one setting. To ensure optimal process reliability, each read operation is confirmed by acoustic, tactile, and visual feedback. Various programming options allow the device to be effectively adapted to the individual application, either via control codes on the device itself, via the Vision Configurator graphical user interface, or via JavaScript. This means that the manual handheld readers from Pepperl+Fuchs offer perfect solutions for any application requirements in the field of mobile identification.

Accessories

OHV-BAT	Lithium ion battery, 1300 mAh
OHV-BRACKET	End stop for OHV100-F222-R2
OHV-CHARGER-B15	Charger for OHV200 with built-in Bluetooth modem
OHV-F230-B17	PROFINET gateway for OHV handheld
OHV1000-BRACKET	Bracket for OHV1000-F223-R2
V19S-G-1.7/3M-PVC-V50	Adapter cable, M12 8-pin to RS 232
V45-G-2M-PVC-ABG-USB-G	Adapter cable, RJ50 to USB
V45-G-2M-PVC-SUBD9	Adapter cable, RJ45 to RS 232

OIT High-Temperature Identification System

OIT Series



Common Technical Data

Light type	Infrared LED
Interface	EtherNet TCP/IP
Type of voltage	DC
Operating voltage (min)	24 V
Operating voltage (max)	24 V
Housing length L	171 mm
Housing width W	261 mm
Housing height H	101 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

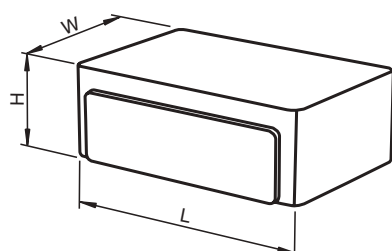
Model Number	Reading Distance	Interfaces	Code Sheet	EAC
OIT500-F113-B12-CB3	CB1: 300 to 450 mm, CB3: 350 to 400 mm	Ethernet TCP/IP	CB1: perforated matrix 6 × 6; 6 decimal digits 0 to 999.999 CB3: hole pattern 3 × 12; 12 digits binary 1 to 4,095	■
OIT500-F113-B17-CB	CB1: 300 to 450 mm, CB3: 350 to 400 mm	Ethernet TCP/IP, Profinet IO	CB1: perforated matrix 6 × 6; 6 decimal digits 0 to 999.999 CB2: perforated matrix 5 × 5; 4 digits decimal 1 to 4,095 CB3: hole pattern 3 × 12; 12 digits binary 1 to 4,095	

Highlights

- Heat-resistant code sheets for temperatures up to 500 °C
- Reliable identification, even on contaminated code sheets
- Integrated diagnostic function for reliable process flows
- Maintenance-free with one-piece housing, no additional components
- Simple connection to all standard controllers

Brief Description

Drying systems, painting lines, electroplating plants, and bakeries operate under special production conditions in terms of temperature and contamination. Cyclical temperature changes, continuous temperatures, and the effects of dust and paint place high demands on materials and technology. Specifically designed to withstand these extreme conditions, the robust OIT high-temperature identification system from Pepperl+Fuchs ensures smooth process sequences under the toughest conditions. Highly reliable read performance is guaranteed, even at temperatures up to 500 °C.



Accessories

OIC-C10V2A-CB1-xxxxxx-yyyyyy	Read-only tag for optical high-temperature identification system, stainless steel
OIZ-FG500	Replacement glass for OIT300, OIT500, and OIT1500
V19-G-2M-PUR-ABG	Single-ended female cordset, M12, straight, A-coded, 8-pin, PUR cable, gray, shielded
V19-G-ABG-PG9	M12 single-ended female cordset, 8-pin, shielded, field-attachable
V1S-G-10M-PVC	Single-ended male cordset, M12, straight, A-coded, 4-pin, PVC cable, gray
V1S-G-2M-PUR	Single-ended male cordset, M12, straight, A-coded, 4-pin, PUR cable, gray
V45-G	Single-ended male cordset, plug RJ45 straight, 4-pin, Cat5, shielded, field-attachable
V45-GP	Single-ended male cordset, plug RJ45, straight, 4-pin, Cat5, shielded, field-attachable, outdoor

Sensor and System Solutions from a Single Source

Sheet verification, profile comparison, range monitoring, and high-precision measurement—these are just a few of the applications that can be implemented with image processing. From easy-to-integrate vision sensors to high-performance vision systems, Pepperl+Fuchs offers all of the solutions required in an industrial environment.

Light Section Sensors from Pepperl+Fuchs

The light section process uses the triangulation principle to detect and measure surface profiles. Pepperl+Fuchs offers light section sensors for a range of applications, including profile detection, profile calibration, and field monitoring.

Vision Sensors from Pepperl+Fuchs

Our vision sensors are specifically designed for easy installation and operation and can be easily integrated into new and existing systems. The use of switching outputs and teach-in mean no additional programming or software is required in most cases.

Vision Systems from VMT

Our subsidiary VMT Vision Machine Technik Bildverarbeitungssysteme GmbH supplies individual turnkey image processing and laser sensor systems for all industrial sectors. As part of the powerful Pepperl+Fuchs Group, VMT offers top-of-the-range technology combined with the highest level of investment security.



More information is available at:
pepperl-fuchs.com/fa-vision





Complex Technology Made Simple



At Pepperl+Fuchs, our goal is to make image evaluation technology as easy to use and integrate as a sensor. Vision sensors with switching outputs and teach-in make it easier than ever before to benefit from this complex technology.

Light Section Sensors with SmartRunner Technology

By combining the reliable light section method for height profile detection with a 2-D vision sensor, Pepperl+Fuchs has produced highly specialized sensors tailored to specific applications. Our SmartRunner technology transforms complex profile data into easy-to-process switching signals—making these sensors exceptionally simple to integrate and use.

Your Benefits at a Glance

- A unique combination of the light section process and 2-D vision sensors with integrated LED lighting opens up many new fields of application
- Application-specific sensors—for direct and optimal use in the application
- Quick integration into the overall process by transforming complex measurement data into easy-to-process switching signals
- Simple commissioning through parameterization via Data Matrix control codes or teach-in

Typical Applications

SmartRunner Matcher—

The Specialist for Profile Comparisons:

- Presence and completeness checking on one or multiple components
- Quality control in packaging technology
- Correctness and position checking on components

SmartRunner Detector—

The Specialist for High-Precision Monitoring:

- Protection of sensitive components in machines
- Checking for overlapping of components
- Overhang monitoring even when stationary

SmartRunner Explorer:

The Specialist for Height Profile Output:

- Measurement and volume detection
- Quality control
- Individual applications using raw data



Vision Sensors for Misfed Sheet Detection

The sheet identification sensor allows quick and easy monitoring of the correct sheet sequence, e.g., in collating, folding, and binding machines. For the first time, the BIS510 combines code recognition and image comparison in a single sensor, promising outstanding flexibility and cost efficiency.

Your Benefits at a Glance

- Fully automated teach-in of reference sheets for exceptional ease of use and shorter changeover times
- Flexibility and cost efficiency through the combination of image comparison and code recognition in a single sensor
- Increased efficiency with reading speeds of 4 m/s at 10 sheets/s
- Outstanding process reliability even on reflective surfaces through innovative polarization filter technology

Typical Applications

- Misfed sheet detection in collating, folding, and binding machines

Other Application-Specific Vision Sensors

Image processing is used in a wide range of fields. In addition to the sensors described above, further application-specific versions can be found in the Identification and Positioning Systems sections.

Image Processing

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VOS 2-D Universal Vision Sensor

VOS Series



Common Technical Data

Interface	EtherNet TCP/IP, EtherNet/IP, MODBUS, PROFINET, RS-232
Type of voltage	DC
Housing material	Plastic material
PWR/GPIO	RS232, 3 inputs: freely parameterizable (e.g., as trigger or for job selection), 3 outputs: freely parameterizable (e.g., as strobe control, fail or pass signal)
Integrated vision software	Graphical user interface with measuring tools for detection and calibration, positioning, optical gauging, code reading, text recognition (OCR), programmable data output, and output logic

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Resolution	Lighting	Read Field Size	Focus	Connection Type
VOS1000-F226R-8MM-S	640 × 480 p	Integrated illumination Red	Type 148 × 111 mm ² With 8-mm S-Mount lens for a 500-mm read distance	Mechanically adjustable focus	2 x connector socket—M12
VOS1000C-F226W-8MM-S	640 × 480 p	Integrated illumination White	Type 148 × 111 mm ² With 8-mm S-Mount lens at a read distance of 500 mm	Mechanically adjustable focus	2 x connector socket—M12
VOS2000-F226R-8MM-S	1280 × 960 p	Integrated illumination Red	Type 295 × 221 mm ² With 8-mm S-mount lens at a read distance of 500 mm	Mechanically adjustable focus	2 x connector socket—M12
VOS2000-F226-C-S	1280 × 960 p	External lighting	Type 200 × 150 mm ² With 35-mm C-mount lens at a read distance of 1500 mm	Adjustable on C-mount lens	2 x connector socket—M12
VOS5000-F227-C-S	2560 × 2048 p	External lighting	536 × 429 mm ² With 35-mm C-mount lens at a read distance of 1500 mm	Adjustable on C-mount lens	3 x M12 connector socket

Highlights

- Comprehensive, flexible vision tool set in one camera—for complex tasks without a vision system
- Analyzer integrated in the sensor—for simple integration and user-defined data output
- Graphical user interface for simple commissioning and sensor parameterization
- Modular camera portfolio with standardized connections consisting of a sensor, lighting, and lens

Brief Description

Optics, Lighting, and Analysis in One Device

Different parameters can play an important role in vision applications. The VOS vision sensors offer a simple solution for the majority of requirements. With integrated optics, lighting, and electronic analysis, all the key components are housed in one compact device. The lenses can be selected to suit the measurement distance, size of the measurement object, and test criteria. Many models feature an integrated ring light, but external lighting is also available in the form of side or rear lighting or light and dark field illumination. Standard interfaces and a comprehensive range of accessories allow the sensor to be optimally adapted to the application.

Accessories

V112-G-BK3M-PUR-ABG-V112-G	Cordset, M12 socket to M12 plug, A-coded, 12-pin, PUR cable, black, shielded
V112S-G-BK5M-PUR-ABG	Single-ended male cordset, M12, straight, A-coded, 12-pin, PUR cable, black, shielded
V19S-G-GN5M-PUR-ABG-V45-G	Bus cable Ethernet M12 plug, straight, A-coded, 8-pin to RJ45 plug, straight 8-pin, PUR cable, green, Cat6A, shielded in pairs and complete shield
V19SX-G-GN5M-PUR-ABG-V45-G	Bus cable, Ethernet, M12 plug, straight, X-coded to RJ45 plug, straight, Ethernet-coded, 8-pin, PUR cable, green, Cat5e, shielded in pairs and complete shield
VOS-IL-F236W-10	Ring lights are components of VOS sensors and are used to evenly illuminate flat, matte, and reflective surfaces.
VOS-IL-F236W-49	Ring lights are components of VOS sensors and are used to evenly illuminate flat, matte, and reflective surfaces.
VOS-LE-C-12MM	Manually regulated, high-resolution and small megapixel lens with fixing screws, C-mount cameras
VOS-LE-C-12MM-HC	Manually regulated, high-resolution and small megapixel lens with fixing screws, C-mount cameras

VOC Industrial Event Camera

VOC Series



Common Technical Data

Connection type	M12 connector plug
Type of voltage	DC
Operating voltage (min)	18 V
Operating voltage (max)	28 V
Housing material	aluminum
Housing length L	35 mm
Housing width W	85 mm
Housing height H	114 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number

VOC10M-F256-B12-V1D-CR03

Highlights

- Fast analysis: Recording of relevant situations with time stamp and individual additional text
- Flexible use due to wide field of vision, high operating temperature range and IP65 degree of protection
- Easy integration into IT systems via REST API and standard HMI displays with RSTP
- High efficiency: Reduced network load through optimized local data storage

Brief Description

The event camera continuously records the last 60 seconds of live video stream in a ring buffer. If the memory is full, the oldest data is overwritten with current data. A video sequence is created if a trigger signal is activated. This 120-second sequence documents the cause of the event and the subsequent status. Since only relevant situations are recorded, the corresponding events can be identified easily and quickly. The device is specifically designed for use in harsh industrial environments and for ensuring lean data streams. The event camera has a large field of view and can be mounted at a distance of 0.5 to over 10 meters from the surveillance area.

Accessories

PCV-MB1	Mounting bracket for PCV* read head
V1-G-2M-PUR	Single-ended female cordset, M12, straight A-coded, 4-pin, PUR cable, gray
V1SD-G-GN2M-PUR-E1S-V45-G	Bus cable, Ethernet, straight, M12 plug, D-coded to RJ45, Ethernet-coded, 4-pin, PUR cable, green, Cat5e, shielded, suitable for drag chains

Vision Sensor for Misfed Sheet Detection



Common Technical Data

Detection range	52 mm
Light type	White LED
Interface	EtherNet TCP/IP
Type of output	PNP
Operating elements	Push-button
Type of voltage	DC
Operating voltage (min)	24 V
Operating voltage (max)	24 V
Connection type	M12 connector plug, 2 x M12 connector socket
Degree of protection	IP67
Housing length L	53.3 mm
Housing width W	70 mm
Housing height H	70 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number

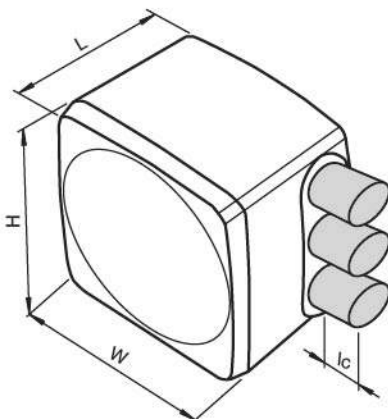
BIS510P-F201A-60

Highlights

- Monitoring correctness of sheet sequences, e.g., in collating and folding machines, based on image comparison or barcode code reading
- Automatic teach-in of reference image
- Permanent storage of the reference image
- Connection of a trigger sensor (ML4.2)
- Error image memory facilitates troubleshooting
- Ethernet interface for fast image and data communication
- Simple integration into graphic user interfaces
- Free PC software simplifies commissioning

Brief Description

An unprinted page in a book is irritating. If the reader finds that important information is missing, they will stop reading the book. A distorted page in an illustrated book will also devalue the copy. But while these kinds of incidents are annoying, they are not as serious as the incorrect insert being placed inside a package of medicine. In all these scenarios, the root cause of the issue is that the bookbinding company has folded, collated, or bound the wrong sheet. For this reason, sheet errors must be reliably detected and rectified as early as possible. Powerful image processing technology can handle this task reliably and with minimum effort from the user.



Accessories

PCV-MB1	Mounting bracket for PCV* read head
V15-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 5-pin, PUR cable, gray
V15-G-2M-PUR-V15-G	Double-ended cordset, M12 socket, straight, to M12 plug, straight, A-coded, 5-pin, PUR cable, gray
V15-G-5M-PUR	Single-ended female cordset, M12, straight, A-coded, 5-pin, PUR cable, gray
V15S-G-5M-PUR-ABG	Single-ended male cordset, M12, straight, A-coded, 5-pin, PUR cable, gray, shielded
V19-G-2M-PUR-ABG	Single-ended female cordset, M12, straight, A-coded, 8-pin, PUR cable, gray, shielded
V19-G-5M-PUR-ABG	Single-ended female cordset, M12, straight, A-coded, 8-pin, PUR cable, gray, shielded
V19-G-ABG-PG9	M12 single-ended female cordset, 8-pin, shielded, field-attachable

Light Section Sensors with SmartRunner Technology

SmartRunner Matcher



Common Technical Data

Light type	Red laser diode
Type of output	PNP
Operating elements	Push-button
Type of voltage	DC
Operating voltage (min)	19.2 V
Operating voltage (max)	28.8 V
Connection type	M12 connector plug
Degree of protection	IP67
Housing length L	55 mm
Housing width W	38 mm
Housing height H	85 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

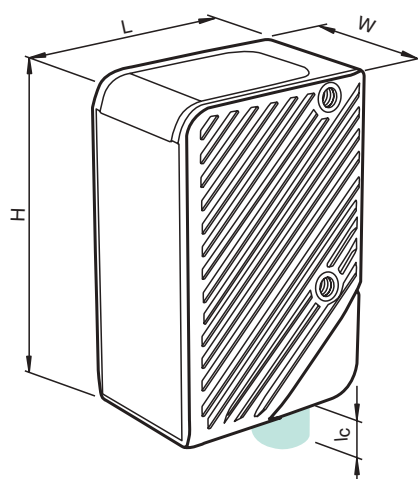
Model Number	Function Range	Capture Range	Resolution	Maximum Scan Rate
VLM350-F280-2E2-1000	Standard	X: 40 mm ... 160 mm Z: 60 mm ... 350 mm	X: 0.44 mm Z: 0.4 mm	10 Hz
VLM350-F280-R4-1001	Extended	X: 40 mm ... 160 mm Z: 60 mm ... 350 mm	X: 0.44 mm Z: 0.4 mm	10 Hz
VLM350-F280-R4-1002	Extended	X: 40 mm ... 160 mm Z: 60 mm ... 350 mm	X: 0.44 mm Z: 0.4 mm	30 Hz
VLM350-F280-R4-1101	Extended	X: 40 mm ... 160 mm Z: 60 mm ... 350 mm	X: 0.25 mm Z: 0.2 mm	30 Hz
VLM700-F280-R4-1102	Extended	X: 60 mm ... 300 mm Z: 100 mm ... 700 mm	X: 0.44 mm Z: 0.4 mm	15 Hz

Highlights

- Reliable and cost-effective checking of the presence, completeness, and position of guided components
- Reliable profile matching, regardless of surface structure, lighting or ambient light—even for objects with especially low contrast
- Independent adjustment of object and displacement tolerances and separate output of data

Brief Description

The integrated control interface of the SmartRunner Matcher has been optimized by the factory to report deviations from a previously programmed contour. The sensor uses profile comparison to verify the detected profile of an object and its correct position and the perfect spacing. For this, a specific height profile is programmed and a trigger executes a reconciliation between the currently recorded contour and the reference contour. If they are identical, a "good" signal is output. If the two profiles are different or if the object is outside the specified position tolerances, a "bad" signal is output.



Accessories

PCV-USB-RS485 Converter Set	USB to RS 485 interface converter
V19-G-5M-PUR-ABG	Single-ended female cordset, M12, straight, A-coded, 8-pin, PUR cable, gray, shielded
V19-G-BK0,6M-PUR-U-V1-G-SRMAT	Cordset for SmartRunner Matcher, M12 to M12, 8/4-pin, PUR cable
VLX-F231-B17	Interface module with PROFINET interface for SmartRunner
VLX-F231-B21	Interface module with EtherCAT interface for SmartRunner
VLX-F231-B25	Interface module with EtherNet/IP interface for SmartRunner
VLX-F231-B6	Interface module with PROFIBUS interface for SmartRunner
VLX-F280-C	Protective cover for protection against welding beads

Light Section Sensors with SmartRunner Technology

SmartRunner Detector



Common Technical Data

Light type	Red laser diode
Type of output	PNP
Operating elements	Push-button
Type of voltage	DC
Operating voltage (min)	19.2 V
Operating voltage (max)	28.8 V
Connection type	M12 connector plug
Degree of protection	IP67
Housing length L	55 mm
Housing width W	38 mm
Housing height H	85 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

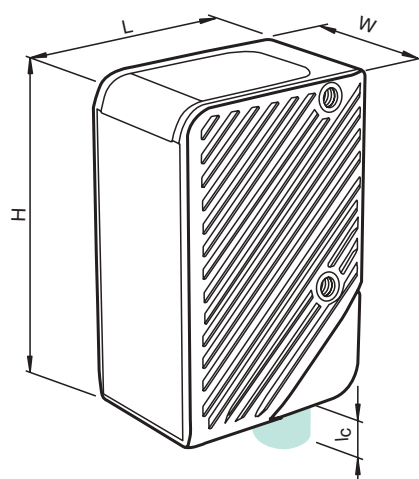
Model Number	Measuring Range	Object Size	Maximum Scan Rate
VLD700-F280-2E2-1000	X: 40 mm ... 310 mm Z: 60 mm ... 700 mm	≥ 0.25 mm	30 Hz

Highlights

- Simple parameterization using Data Matrix control codes or parameterization software
- Teach-in of the background possible via sensor keys or via interface
- Free definition of detectable object sizes and the sensing range Region of Interest (ROI)

Brief Description

Commissioning the detector is extremely easy through the factory-worked optimization for highly accurate monitoring: The user installs the laser line on a wall or a fixed background and easily programs this through Teach-In. Depending on the task, this can be done simply by pressing a button or using the parameterization software. If an obstruction enters the monitoring field, the sensor supplies a switching signal that is easy to evaluate.



Accessories

PCV-USB-RS485 Converter Set	USB to RS 485 interface converter
V19-G-5M-PUR-ABG	Single-ended female cordset, M12, straight, A-coded, 8-pin, PUR cable, gray, shielded
V19-G-BK0,6M-PUR-U-V1-G-SRDET	Cordset for SmartRunner Detector, M12 socket 8-pin to M12 plug 4-pin, PUR cable, black
VLX-F231-B17	Interface module with PROFINET interface for SmartRunner
VLX-F231-B21	Interface module with EtherCAT interface for SmartRunner
VLX-F231-B25	Interface module with EtherNet/IP interface for SmartRunner
VLX-F231-B6	Interface module with PROFIBUS interface for SmartRunner
VLX-F280-C	Protective cover for protection against welding beads

Light Section Sensors with SmartRunner Technology

SmartRunner Explorer



Common Technical Data

Light type	Red laser diode
Operating elements	Sensor
Type of voltage	DC
Operating voltage (min)	19.2 V
Operating voltage (max)	28.8 V
Connection type	M12 connector plug
Degree of protection	IP67
Housing length L	55 mm
Housing width W	38 mm
Housing height H	85 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

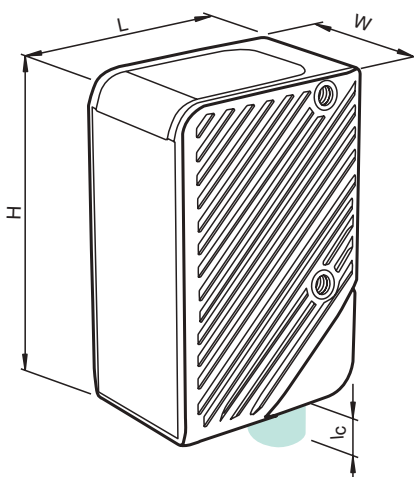
Model Number	Capture Range	Line Data	Image Data	Maximum Scan Rate
VLE350-F280-B12-1100	X: 40 mm ... 160 mm Z: 60 mm ... 350 mm	960 value pairs (world coordinates in 0.01 mm increments)	1280 × 960 px	30 Hz
VLE700-F280-B12-1200	X: 60 mm ... 345 mm Z: 100 mm ... 700 mm	960 value pairs (world coordinates in 0.01 mm increments)	1280 × 960 px	30 Hz

Highlights

- Unique combination of height profile and 2D image output in one sensor
- Raw data output for flexible application implementation
- Easy integration via Ethernet TCP/IP and supplied DLL

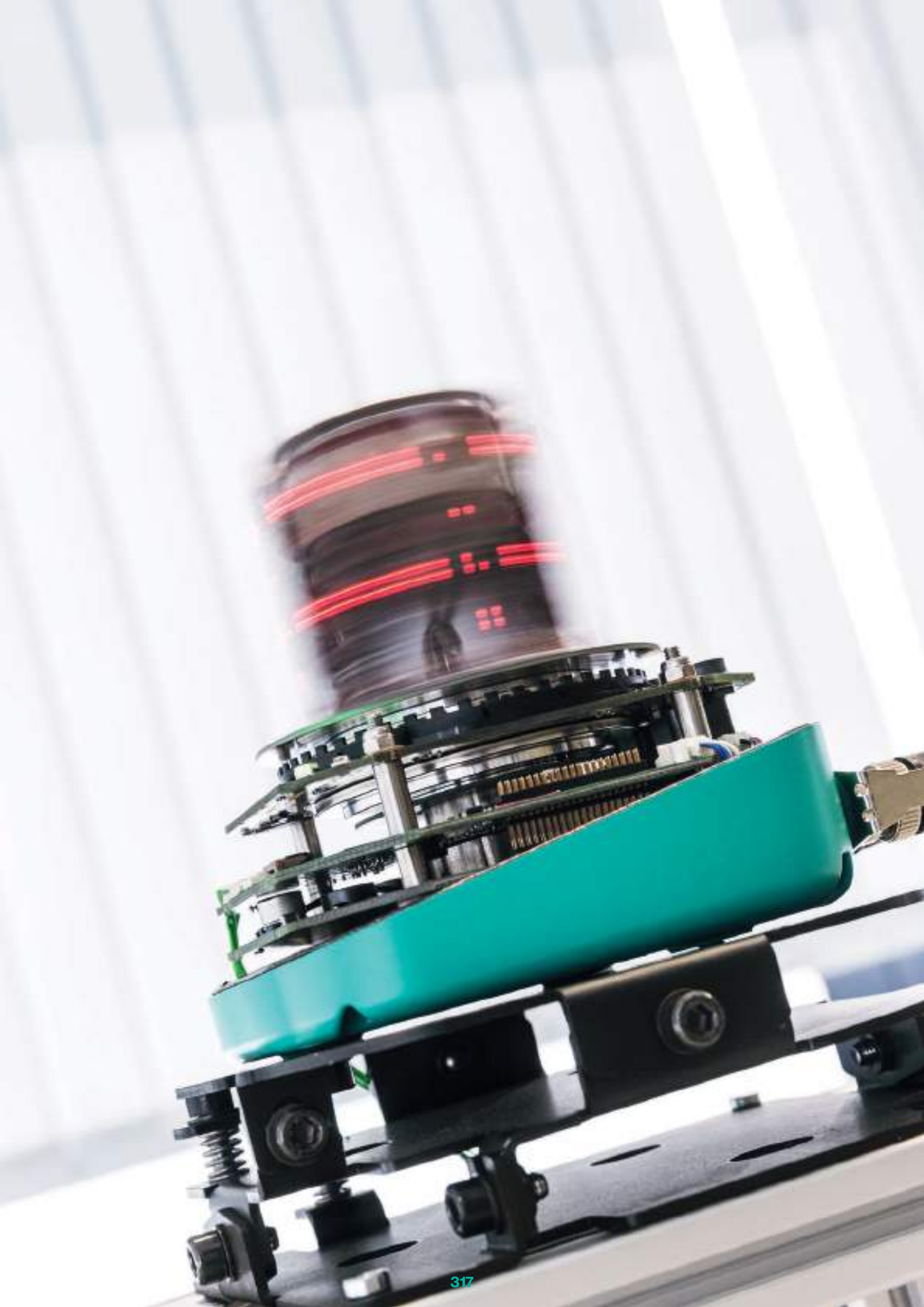
Brief Description

The SmartRunner Explorer offers the unique combination of height profile and 2-D image output in a compact sensor. This can be easily integrated into PC programs via Ethernet TCP/IP and the supplied DLL. This enables the individual implementation of applications such as measurement and quality control of components.



Accessories

V19-G-2M-PUR-ABG	Single-ended female cordset, M12, straight, A-coded, 8-pin, PUR cable, gray, shielded
V19-G-5M-PUR-ABG	Single-ended female cordset, M12, straight, A-coded, 8-pin, PUR cable, gray, shielded
VLX-F280-C	Protective cover for protection against welding beads
VLX-F280-C-GLASS	Replacement glass for SmartRunner protective housing
VLX-MB1	Mounting bracket
VLX-MB2	Mounting bracket



Sophisticated Technologies for Precise Position Detection

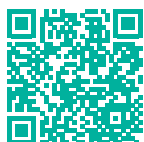
Positioning systems are subject to a wide range of requirements. Regardless of whether the application focuses on precision, process safety, robustness, or cost efficiency, the unique technologies from Pepperl+Fuchs combine the advantages of optical, camera-based, and inductive systems in one portfolio.

Over 25 Years of Technical Perfection

The launch of the world's first absolute positioning system in 1989 marked the start of a success story that continues to this day. Our portfolio is continuously being developed, with individual products tailored to specific applications to produce a range of solutions that have already proven themselves in countless applications.

Diverse Technologies for a Wide Range of Applications

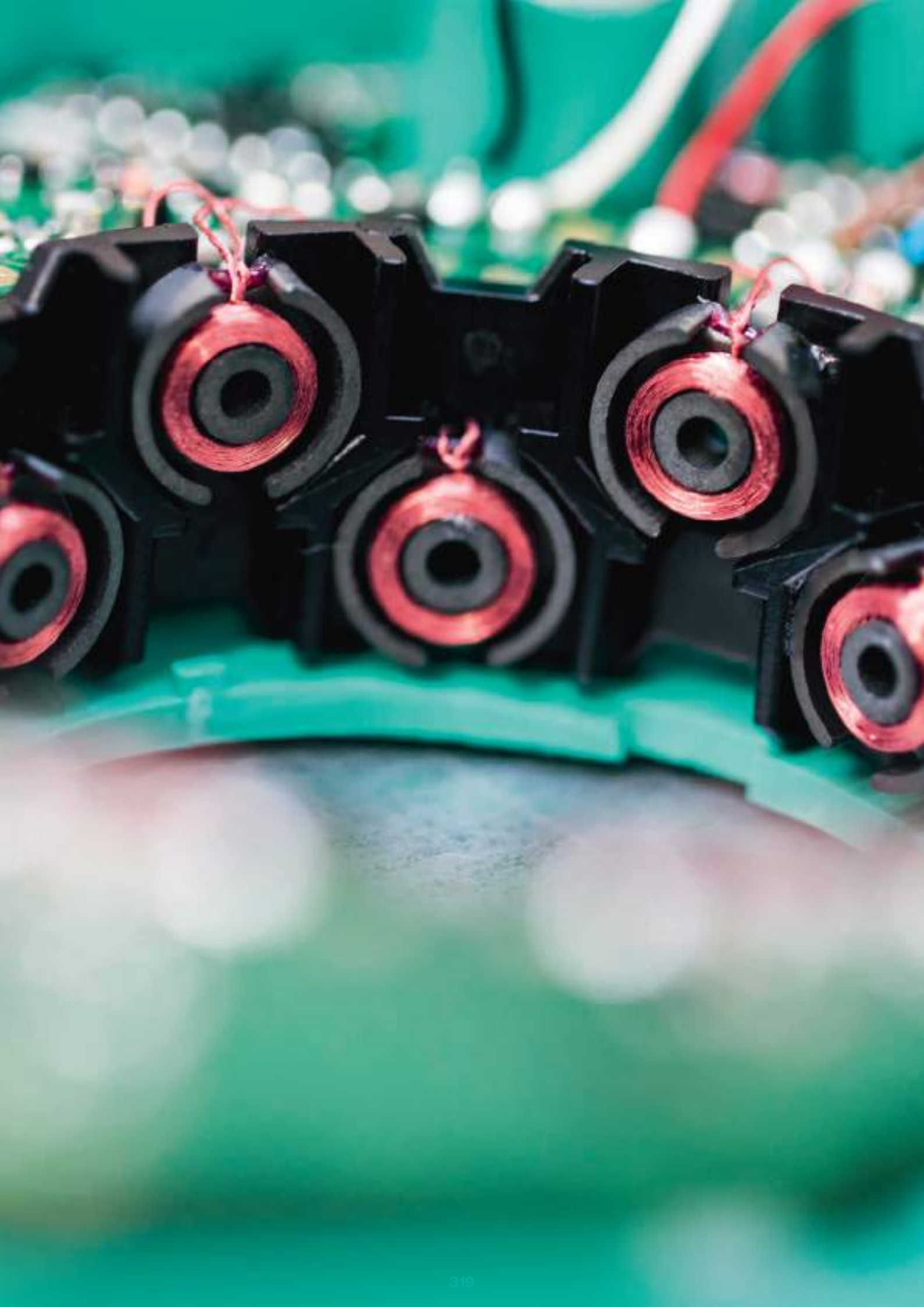
Wherever goods, production materials, or moving machine parts need to be safely and efficiently transported or precisely positioned, our customers can benefit from our unique technological expertise. Depending on the type of application, we offer inductive, optical, or camera-based systems. Whether your application is in harsh outdoor conditions, dusty environments or over long distances, the Pepperl+Fuchs portfolio always offers a solution for your positioning task.



More information is available at:

pepperl-fuchs.com/fa-positioniersysteme





Perfection for Demanding Applications



Can be used universally for linear position detection and for measuring angles of rotation and absolutely reliable even in dusty, dirty applications or extreme temperature fluctuations. The patented PMI inductive positioning system impresses with a wide variety of applications and optimal robustness.

Typical Applications

The PMI positioning system is available for linear and angular measurement. The inductive principle does not require a special target, but only a steel actuator. This makes it suitable for an infinite variety of applications.

Typical examples include:

- Mobile equipment: positioning of the wheel steering, position detection of crane booms
- Positioning of metal parts in mechanical engineering
- Print and paper industry: dancer control in roll printing machines, rotation detection in pile turners
- Control of packaging or filling cycles

Your Benefits at a Glance

- Excellent robustness and durability thanks to noncontact, maintenance-free, and contamination-resistant technology
- Flexibility thanks to the wide range of functions and programmable measuring and switching range
- A wide range of application possibilities using simple steel actuators as accessories or for in-house design
- Variety of different housing designs: small housing designs (14 mm), e.g., for machine tools, to large housing designs (960 mm) for large-scale mechanical engineering
- Process reliability due to immunity to interference
- Cost efficiency thanks to measuring and switching functions in a single device



Technical Features

- A wide range of functions thanks to programmable measurement range and switching area
- IO-Link versions available for customer-specific parameterization
- Versions available for linear or angle measurement
- Position detection independent of distance from 0 mm ... 2.5 mm to 0 mm ... 6 mm
- Fully encapsulated sensors up to IP67 for outdoor applications

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Inductive Positioning Systems

F90 Series



Common Technical Data

Connection type	M12 connector plug
Type of voltage	DC
Operating voltage (max)	30 V
Housing material	Plastic material
Housing width W	23 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Interface	Measuring Range	Type of Output	UB (Min)	Length L	Height H	EAC	UL	ATEX	IECEX
PMI40-F90-3EP-IO-V15	IO-Link	40 mm	3 push-pull outputs	12 V	60.3 mm	40 mm		■		
PMI40-F90-IU-IO-V15	IO-Link	40 mm	Analog current output	12 V	60.3 mm	40 mm		■		
PMI40-F90-IU2EP-IO-V15	IO-Link	40 mm	2 push-pull outputs	12 V	60.3 mm	40 mm		■		
PMI40-F90-U-V15		40 mm	Analog voltage output	12 V	60.3 mm	40 mm		■		
PMI40-F90-IU2EP-IO-V15-3G-3D	IO-Link	40 mm	2 push-pull outputs	12 V	60.3 mm	40 mm		■	■	■
PMI80-F90-3EP-IO-V15	IO-Link	80 mm	3 push-pull outputs	12 V	95.1 mm	40 mm		■		
PMI80-F90-IE8-V15		80 mm	2 PNP switching outputs	18 V	102 mm	41 mm		■		
PMI80-F90-IU-IO-V15	IO-Link	80 mm	Analog current output	12 V	95.1 mm	40 mm		■		
PMI80-F90-IU-V1		80 mm	Analog current output	18 V	102 mm	41 mm		■		
PMI80-F90-IU2EP-IO-V15	IO-Link	80 mm	2 push-pull outputs	12 V	95.1 mm	40 mm		■		
PMI80-F90-IU2EP-IO-V15-3G-3D	IO-Link	80 mm	2 push-pull outputs	12 V	95.1 mm	40 mm		■	■	■
PMI104-F90-IE8-V15		104 mm	2 PNP switching outputs	18 V	126 mm	41 mm		■		
PMI104-F90-IU-V1		104 mm	Analog current output	18 V	126 mm	41 mm	■	■		
PMI120-F90-3EP-IO-V15	IO-Link	120 mm	3 push-pull outputs	12 V	135.2 mm	40 mm		■		
PMI120-F90-IE8-V15		120 mm	2 PNP switching outputs	18 V	142 mm	41 mm		■		
PMI120-F90-IU-IO-V15	IO-Link	120 mm	Analog current output	12 V	135.2 mm	40 mm		■		
PMI120-F90-IU-V1		120 mm	Analog current output	18 V	142 mm	41 mm		■		
PMI120-F90-IU2EP-IO-V15	IO-Link	120 mm	2 push-pull outputs	12 V	135.2 mm	40 mm		■		
PMI120-F90-IU2EP-IO-V15-3G-3D	IO-Link	120 mm	2 push-pull outputs	12 V	135.2 mm	40 mm		■	■	■

Highlights

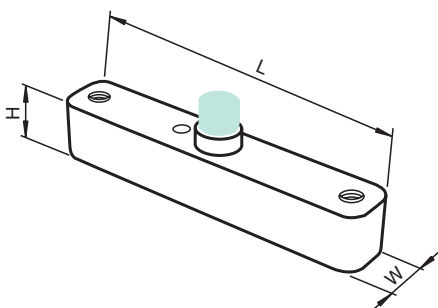
- New application possibilities thanks to IO-Link
- Measurement of the distance between two targets for solving complex applications with a single sensor
- Savings on additional sensors through simultaneous measuring and switching functions in one device
- ATEX/IECEX versions for safe use in Ex zone 2/22 (3G ec, 3D tc)

Brief Description

IO-Link, simultaneous detection of two attenuator elements, and a measuring and switching function in one device—the F90 series offers an unprecedented variety of features for use in your machine. Available in four measuring lengths (40 mm, 80 mm, 104 mm, and 120 mm), there is always a perfect solution for your application. With ATEX versions for Zone 2/22 (3G ec, 3D tc), the device can even be used in hazardous areas.

Accessories

BT-F90-G	Damping element for sensors of the F90, F112, and F166 series; front hole
BT-F90-W	Damping element for F90, F112, and F166 series sensors; side hole
ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE2-8IOL-G65L-V1D	Ethernet/IP IO-Link module with 8 inputs/outputs



Inductive Positioning Systems

F112 Series



Common Technical Data

Measuring range	14 mm
Type of voltage	DC
Operating voltage (max)	30 V
Housing length L	35 mm
Housing width W	35 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

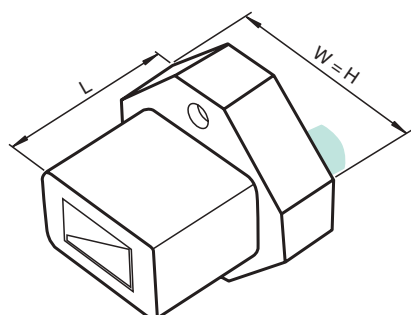
Model Number	Interface	Connection Type	Type of Output	UB (Min)	Height H
PMI14V-F112-2EP-IO-V31	IO-Link	M8 connector plug	2 push-pull outputs	10 V	30.5 mm
PMI14V-F112-2EPE2-IO	IO-Link	Fixed cable	2 push-pull outputs	10 V	30.5 mm
PMI14V-F112-2EPE2-IO-V15	IO-Link	M12 connector plug	2 push-pull outputs	10 V	30.5 mm
PMI14V-F112-U-200MM-V3		Fixed cable	Analog voltage output	18 V	30.5 mm
PMI14V-F112-U-IO	IO-Link	Fixed cable	Analog voltage output	18 V	30.5 mm
PMI14V-F112-U-IO-2M-V31	IO-Link	Fixed cable	Analog voltage output	18 V	30.5 mm
PMI14V-F112-U-IO-V31	IO-Link	M8 connector plug	Analog voltage output	18 V	30.5 mm
PMI14V-F112-U-V3		M8 connector plug	Analog voltage output	18 V	30 mm

Highlights

- New application possibilities thanks to IO-Link—even in challenging installation conditions
- Small and robust metal enclosure for use in extreme ambient conditions
- Flexible application by adjusting the detection range and the parameterization of switching points and windows

Brief Description

With a measurement length of 14 mm, the F112 series provides high-precision position data, or switching points or windows. Fully encapsulated with IP67 protection and equipped with a robust metal housing, the sensor withstands all external influences and offers new possibilities with IO-Link—even in applications where installation space is limited.



Accessories

BT-F90-G	Damping element for sensors of the F90, F112, and F166 series; front hole
BT-F90-W	Damping element for F90, F112, and F166 series sensors; side hole
ICE1-8IOL-G30L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE1-8IOL-G60L-V1D	Ethernet IO-Link module with 8 inputs/outputs
ICE2-8IOL-G65L-V1D	Ethernet/IP IO-Link module with 8 inputs/outputs
ICE2-8IOL-K45P-RJ45	EtherNet/IP IO-Link master with 8 inputs/outputs, DIN rail, push-in connector
ICE2-8IOL-K45S-RJ45	Ethernet/IP IO-Link master with 8 inputs/outputs, DIN rail, screw terminal
ICE3-8IOL-G65L-V1D	PROFINET IO IO-Link master with 8 inputs/outputs

Inductive Positioning Systems

F166 Series



Common Technical Data

Connection type	Fixed cable
Type of voltage	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
Housing material	Die-cast zinc
Housing length L	39 mm
Housing width W	30 mm
Housing height H	17.7 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Interface	Measuring Range	Type of Output	UL
PMI14V-F166-2E2		14 mm	2 PNP switching outputs	■
PMI14V-F166-2E2-1M-V15		14 mm	2 PNP switching outputs	
PMI14V-F166-U		14 mm	Analog voltage output	■
PMI14V-F166-U-1M-V15		14 mm	Analog voltage output	
PMI15V-F166-EP-IO	IO-Link	15 mm	1 push-pull output	■
PMI15V-F166-EP-IO-1M-V1	IO-Link	15 mm	1 push-pull output	■

Highlights

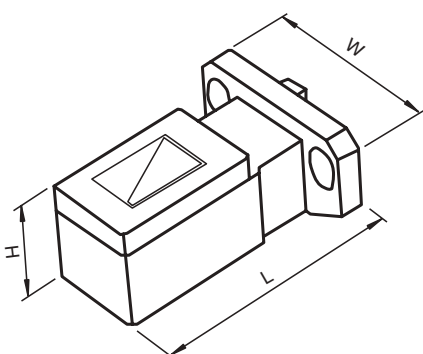
- Especially small housing design for integration in the smallest spaces
- Robust metal enclosure for use in extreme ambient conditions

Brief Description

With an especially compact design and robust metal housing, the F166 series has all the features required for basic applications with limited installation space. These advantages are demonstrated especially well in the typical application in a tool spindle. With its small dimensions, the robust metal housing is easy to integrate into the compact spindle. It withstands lubricants or abrasion and guarantees that processes run smoothly.

Accessories

BT-F90-G	Damping element for sensors of the F90, F112, and F166 series; front hole
BT-F90-W	Damping element for F90, F112, and F166 series sensors; side hole
PMI14V-Teach	PMI14V-Teach



Inductive Positioning Systems

F110 Series



Common Technical Data

Connection type	M12 connector plug
Type of output	Analog current output
Type of voltage	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
Housing width W	41 mm
Housing height H	30 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

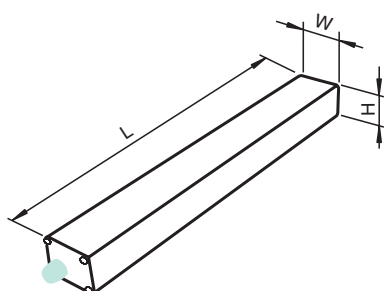
Model Number	Measuring Range	Length L
PMI210-F110-IU-V1	210 mm	250 mm
PMI360-F110-IU-V1	360 mm	400 mm
PMI510-F110-IU-V1	510 mm	550 mm
PMI810-F110-IU-V1	810 mm	850 mm

Highlights

- Reliable position detection via inductive measuring principle at lengths of up to 810 mm
- Exact positioning, even in the case of larger mechanical tolerances
- Simple and flexible mounting using sliding blocks
- Robust metal housing for use in mechanically demanding ambient conditions

Brief Description

The F110 guarantees optimal reliability in position detection, even over longer distances. Available in several lengths between 210 mm and 810 mm, the series is ideal for basic applications in large-scale and heavy machine construction. The especially long reading distance of up to 6 mm even copes with large mechanical tolerances without affecting the precise measurement result. Mounting is also simple, as the fixing points can be freely selected using a T-slot nut for flexible installation of the sensor.



Accessories

BT-F110-G	Damping element for sensors of the F110 series, front hole
BT-F110-W	Damping element for sensors of the F110 series, side hole
MH-F110	Mounting bracket for mounting sensors of the F110 series
V1-G-2M-PVC	Single-ended female cordset, M12, straight A-coded, 4-pin, PVC cable, gray

Inductive Positioning Systems

F130 Series



Common Technical Data

Connection type	M12 connector plug
Type of voltage	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
Housing material	Plastic material
Housing length L	120 mm
Housing width W	76.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

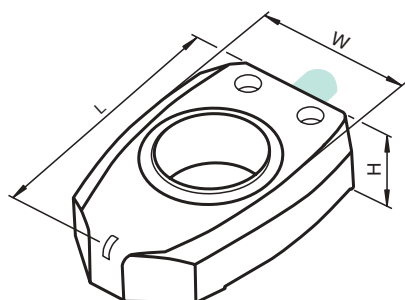
Model Number	Measuring Range	Type of Output	Height H
PMI360DV-F130-3E2-V15	360°	3 PNP switching outputs	26.5 mm
PMI360D-F130-IE8-V15	360°	2 PNP switching outputs	22 mm
PMI360DV-F130-IU-V15	360°	Analog current output	26 mm
PMI360DV-F130-IU2E2-V15	360°	2 PNP switching outputs	26.5 mm
PMI90DV-F130-I2E2-V15	90°	2 PNP switching outputs	26.5 mm

Highlights

- Noncontact, wear-free angle measurement system with a measuring range from 0° to 360°
- Efficient angle position feedback thanks to optimized product versions and standardized drilling template for position feedback detectors
- Robust, fully encapsulated sensors up to IP67 for outdoor applications

Brief Description

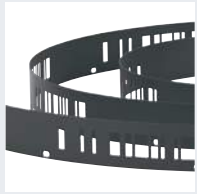
Unlike the linear-measuring PMIs, F130 sensors convert a measuring angle from 0° to 360° into a 4 mA to 20 mA analog signal, making them ideal for valve position feedback on swivel drives and a range of other applications. The sensor can be operated either clockwise or counter-clockwise with its own steel or special standard actuator from the Pepperl+Fuchs accessories portfolio. The scalable measuring range, along with the freely parameterizable switch points and windows, complete the unique housing design, making the F130 series the perfect solution for angle detection.



Accessories

BT-F130-A	Activator for F130 series
V15-G-2M-PVC	Single-ended female cordset, M12, straight, A-coded, 5-pin, PVC cable, gray
V15-W-2M-PVC	Single-ended female cordset, M12, angled A-coded, 5-pin, PVC cable, gray

Reliable Even Over Long Distances



Whether used in standard or special applications, these optical positioning systems offer excellent reliability. The range includes the position encoding system (WCS) for harsh outdoor conditions, the DataMatrix positioning system (PCV) for uncompromising process safety, the position guided vision (PGV) for automated guided vehicle navigation, and the PHA for high-precision positioning.

WCS—Robust Positioning Since 1989

The system combines a metal or plastic code rail with optoelectronic sensors for scanning to guarantee precise positioning even in the most hostile environments.

Typical Applications

- Storage and material handling in harsh ambient conditions
- Electroplating plants and port facilities
- Elevator technology

Your Benefits at a Glance

- Solid, dirt-resistant code rail and high-performance emitter LEDs for outstanding robustness
- Over 25 years of application experience and continuous development ensure impressive reliability

Technical Features

- Compatible with all control panels
- Code rail length of up to 327 m (modular expansion)
- Suitable for curved paths, uphill slopes, interruptions, and lane changes
- Special outdoor version available

PCV—Redundancy for Outstanding Process Reliability

The unique combination of a 2-D camera system with a multi-redundant Data Matrix code tape ensures precise position detection and uncompromising process reliability.

Typical Applications

- Positioning of skid units and monorail conveyor systems
- Lifting and elevator equipment

Your Benefits at a Glance

- Unaffected by contamination or damage to the code tape due to code redundancy and extra-wide reading window
- Quick commissioning through parameterization via Data Matrix control codes, a PC, or directly from the control panel

Technical Features

- Self-adhesive code tape with a length of up to 10,000 m
- Extensive diagnostic information, e.g., on the pollution degree or destruction of individual codes
- Additional evaluation of the Y and Z axes



PGV—Future-Proof Navigation

Optical colored tape tracking for driving, DataMatrix codes for positioning, and control codes for navigation—position guided vision (PGV) is the ideal solution for automated guided vehicles.

Your Benefits at a Glance

- Flexible navigation using colored tape, track tape, DataMatrix code tape, DataMatrix tags, or a combination of these technologies for excellent investment security
- Process safety through reliable tracking of different tracks even on highly reflective surfaces and in the event of contamination or destruction

Technical Features

- Can be used with any track tapes of different colors and widths
- Compatible with all control panels

PHA—Cost-Effective Precision Shelf Positioning

Specially developed for the high-precision positioning of shelves in high-bay warehouses, the PHA uses existing holes below the shelves to ensure accurate positioning regardless of interference factors such as contamination, extraneous light, and material fatigue.

Your Benefits at a Glance

- Outstanding reliability irrespective of warehouse lighting or contamination thanks to automatic exposure time control
- High-precision positioning for efficient use of storage space
- Carrier material savings through reliable positioning even in the event of material fatigue or warpage

Technical Features

- Range of 200 mm – 800 mm with a large detection/capture range
- Can also be used in deep-freeze storage down to -30 °C

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WCS Interface

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WCS—Robust Positioning Since 1989

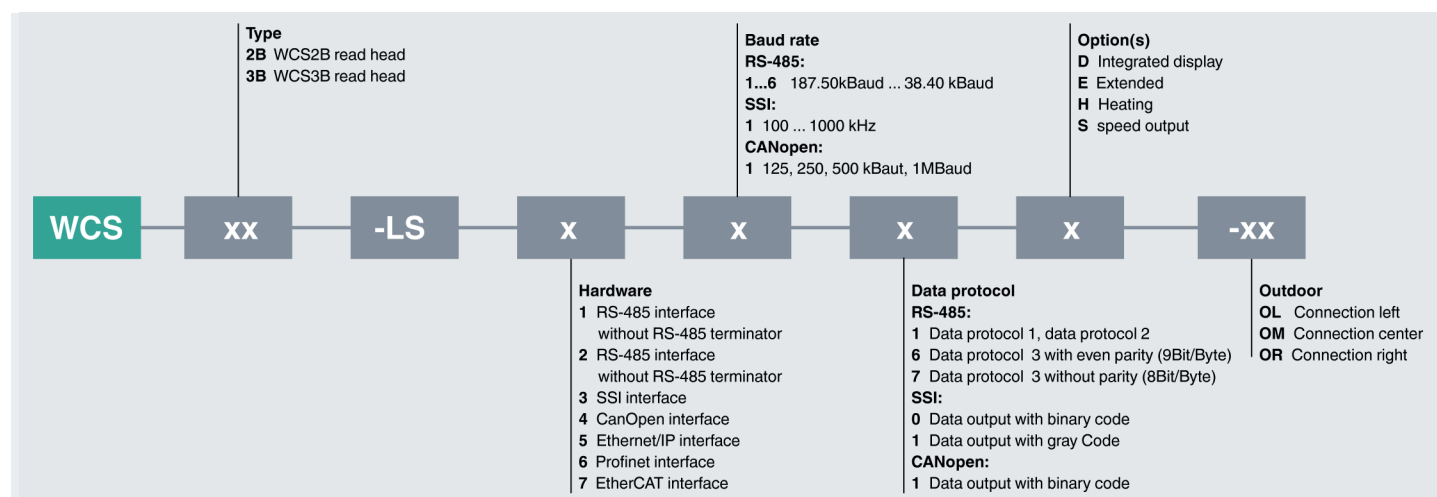
WCS Series



Common Technical Data

Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing material	Plastic material

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

- Reliable absolute position detection with the advanced WCS position encoding system
- Precise position data despite curved paths, inclines, declines, interruptions, and lane changes
- Flexible integration thanks to compatibility with all common control systems
- IP69 protective housing: optimized for use in extreme outdoor conditions (e.g., port facilities and electroplating plants)
- Simple commissioning concept and immediate error notification thanks to highly visible displays and indicator LEDs
- Extended option: precise positioning on traverse distances of up to 629 m

Accessories

V15S-G-ABG-PG9	Single-ended male cordset, M12, 5-pin, shielded, field-attachable
V15S-W-ABG-PG9	Single-ended male cordset, M12, 5-pin, shielded, field-attachable
V19SY-Y-V1D/V1S	Y-splitter, M12 plug Y-coded to A-coded M12 plug/D-coded socket

Brief Description

With its specially designed code rail and noncontact scanning of the read head, the WCS reliably detects a new position value every 0.8 mm in real time and even at high travel speeds. Powerful transmission LEDs make the sensors especially resistant to contamination and insensitive to smoke, fog or dusty environments. The position data is reliably recorded and transmitted to the control via standard interfaces. In addition to the internal interfaces, a wide range of interface modules is available for connection to various bus systems. The WCS Outdoor for outdoor use and WCS Extended product versions offer sophisticated solutions for especially demanding or very long traverse distances. The two options can be combined, even in harsh environments, such as port facilities.

WCS—Robust Positioning Since 1989

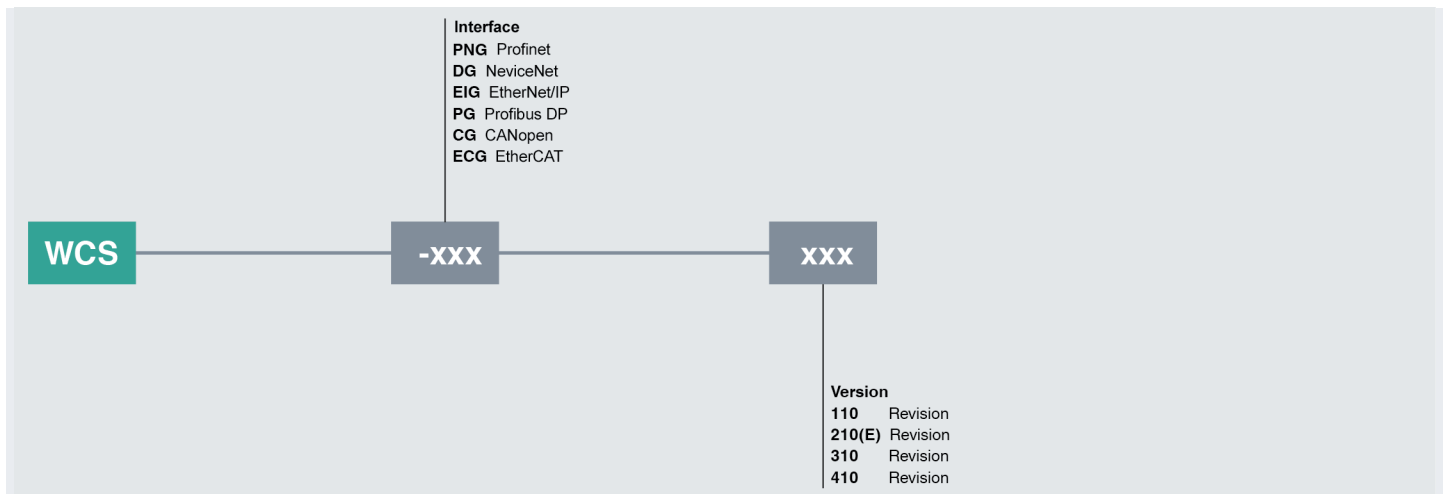
WCS Interface



Common Technical Data

Type of voltage	DC
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Housing material	Plastic material
Housing length L	115 mm
Housing width W	23 mm
EAC	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

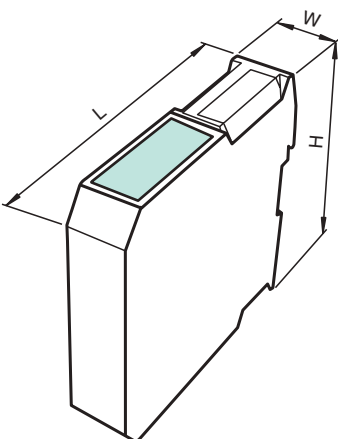


Highlights

- Wide range of interface modules available
- Can accommodate up to four RS-485 read heads
- Enables simplified system expansion

Brief Description

The system combines a metal or plastic code rail with optoelectronic sensors for scanning. This guarantees precise positioning even in the most hostile environments. In addition to the internal interfaces, a wide range of interface modules is available for connection to various bus systems.



PCV—Redundancy for Outstanding Process Reliability

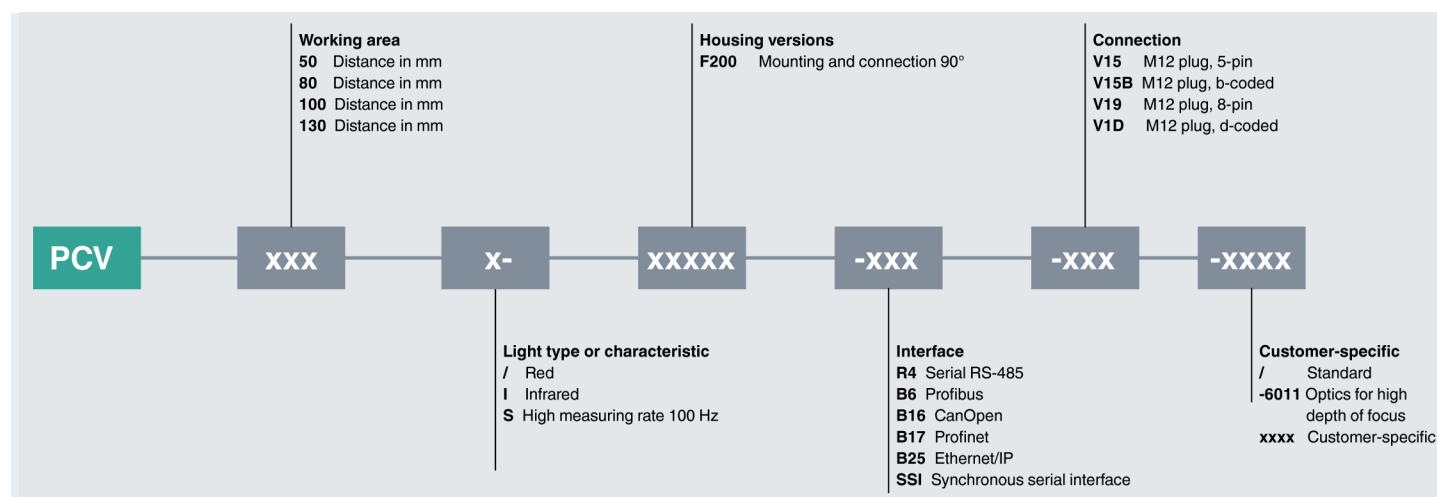
PCV Series



Common Technical Data

Type of voltage	DC
Operating voltage (min)	15 V
Operating voltage (max)	30 V
Housing material	Plastic material
Housing length L	50 mm
Housing width W	70 mm
Housing height H	70 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

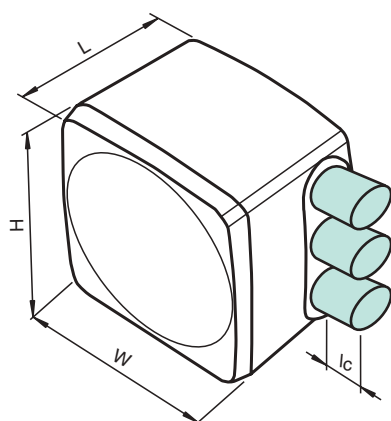


Highlights

- Self-adhesive code tape with a length of up to 10,000 m
- Extensive diagnostic information, e.g., on the pollution degree or destruction of individual codes
- Additional evaluation of the Y and Z axes

Brief Description

The unique combination of a 2-D camera system with a multi-redundant Data Matrix code tape ensures precise position detection and uncompromising process reliability.



Accessories

PCV-AG100	Alignment guide for PCV100-* read head
PCV-AG80	Alignment guide for PCV80-* read head
PCV-CM20-001-001-SET	Event marker for PCV system
PCV*-CA10-*	Code Tape
PCV*-CA20-*	Code Tape
PCV-CM20-*	Code tape marker
PCV-CR20	Repair tape
PCV-CR40	Repair tape

PXV—Redundancy for Outstanding Process Reliability

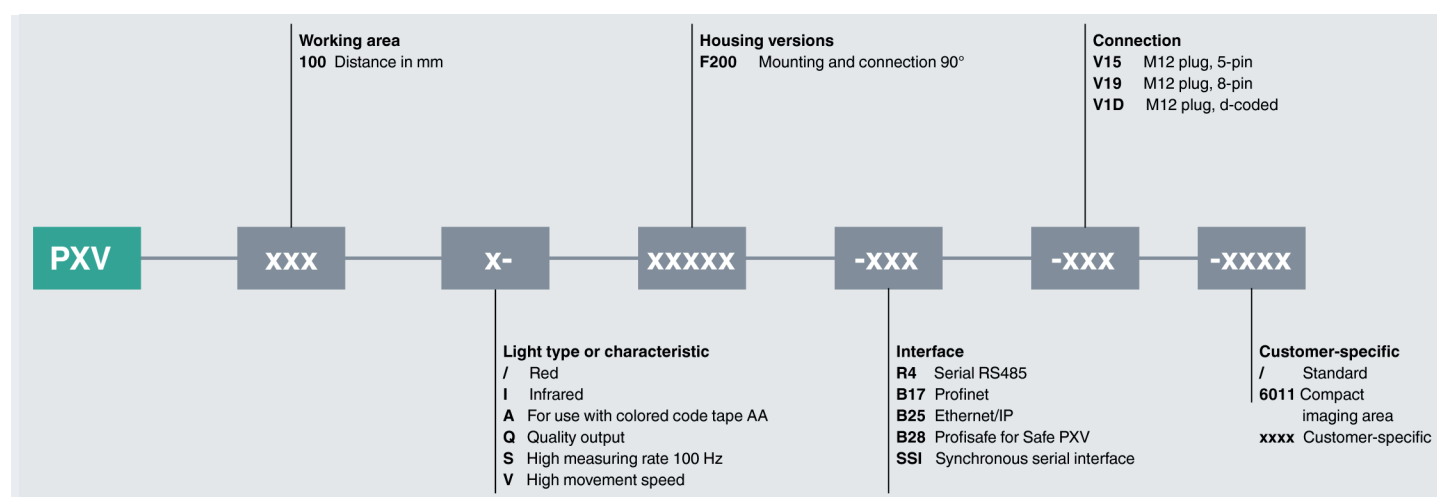
PXV Series



Common Technical Data

Type of voltage	DC
Operating voltage (max)	30 V
Housing material	Plastic material
Housing length L	50 mm
Housing width W	70 mm
Housing height H	70 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

- Non-contact positioning on Data Matrix code tape
- Mechanical robustness: no wear, long service life, maintenance-free
- High resolution and precise positioning, especially for facilities with curves and switch points as well as inclines and declines.
- Traverse distance up to 100 km

Brief Description

The DataMatrix positioning system (PXV) is the positioning system in the Pepperl+Fuchs incident light process. The heart of the system is the 2-D reading head. Among other things, it consists of a camera module with an integrated lighting unit. This enables the read head to detect position markers printed onto a self-adhesive code tape in the form of 2-D Data Matrix codes. The PXV positioning system has a 120 mm x 80 mm reading window which can read up to five Data Matrix codes at once. Using Data Matrix codes as information carriers allows redundancy in data representation. This multiple redundancy makes the PXV extremely reliable.

Accessories

PCV-AG100	Alignment guide for PCV100-* read head
PXV*-CA25*	Code Tape
PCV-KBL-V19-STR-USB	USB cable unit with power supply
PCV-LM25	Marker head for 25 mm code tape
PCV-MB1	Mounting bracket for PCV* read head
PCV-SC12	Grounding clip for PCV system
PCV-SC12A	Grounding clip for PCV system
PCV-USB-RS485 Converter Set	USB to RS 485 interface converter

PGV—Future-Proof Navigation

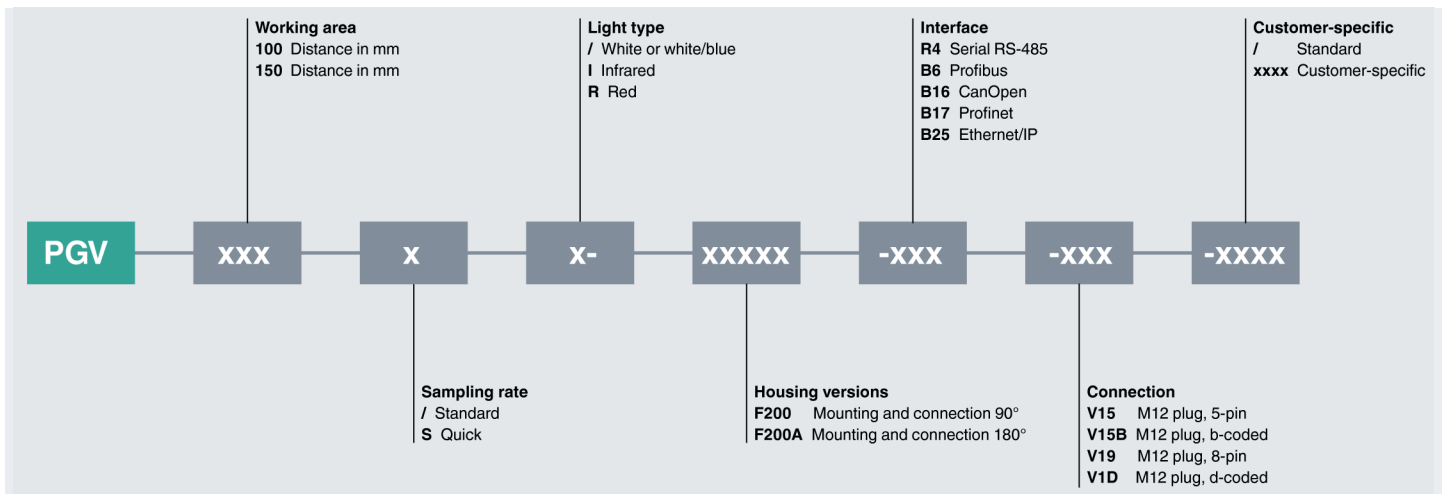
PGV Series



Common Technical Data

Type of voltage	DC
Housing material	Plastic material
Housing length L	50 mm
Housing width W	70 mm
Housing height H	70 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

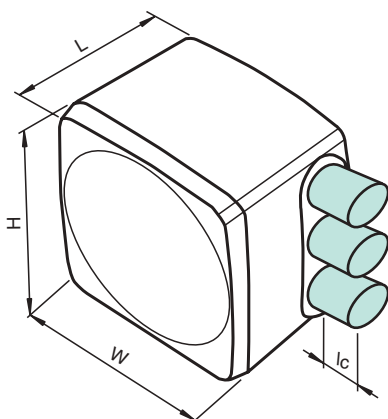


Highlights

- Non-contact positioning on Data Matrix code tape
- Reading of Data Matrix control codes
- Mechanical robustness: no wear, long service life, maintenance-free
- Can be used with any track tapes of different colors and widths
- Compatible with all control panels

Brief Description

Optical colored tape tracking for driving, DataMatrix codes for positioning, and control codes for navigation—position guided vision (PGV) is the ideal solution for automated guided vehicles.



Accessories

PCV-AG100	Alignment guide for PCV100-* read head
PCV-KBL-V19-STR-USB	USB cable unit with power supply
PCV-LM25	Marker head for 25 mm code tape
PCV-MB1	Mounting bracket for PCV* read head
PCV-SC12	Grounding clip for PCV system
PGV25M-CD100-CLEAR	Protective film for PGV code tape
PGV25M-CD120-CLEAR	Protective film for PGV code tape
PGV25M-CD160-CLEAR	Protective film for PGV code tape

PHA—Cost-Effective Precision Shelf Positioning

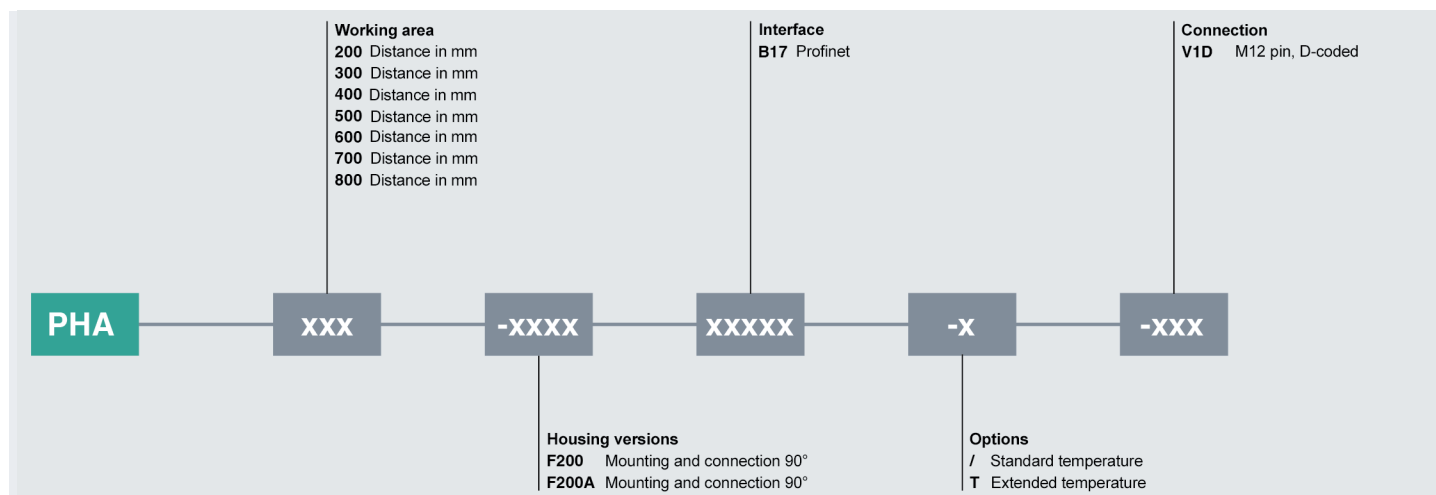
PHA Series



Common Technical Data

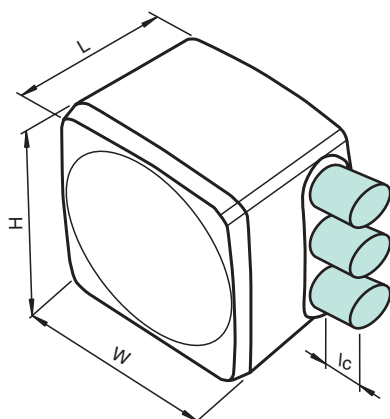
Interface	PROFINET IO, USB, RS-232
Connection type	2 x M12 connector plug, M12 connector socket
Type of voltage	DC
Operating voltage (min)	24 V
Operating voltage (max)	24 V
Housing material	Plastic material
Housing length L	50 mm
Housing width W	70 mm
Housing height H	70 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

- Detects the position of an index hole
- Range of 200 mm ... 800 mm with a large detection/capture range
- Can also be used in deep-freeze storage down to -30 °C
- Integrated illumination



Brief Description

The PHA vision sensors from Pepperl+Fuchs are the right solution for the safe and efficient transport and positioning of goods and production materials. Developed specifically for the precise positioning of stacker cranes, they boast a variety of high-performance product features. The PHA positioning systems are equipped with a unique camera system. With this, they detect the circular holes already present in the racking system and determine their position deviation in the X and Y directions relative to the target position. Positioning through existing holes allows consistently precise position detection and eliminates the use of additional special targets.

Accessories

PCV-MB1	Mounting bracket for PCV* read head
PCV-SC12	Grounding clip for PCV system
PCV-SC12A	Grounding clip for PCV system
V19-G-2M-PUR-ABG	Single-ended female cordset, M12, straight, A-coded, 8-pin, PUR cable, gray, shielded
V19-G-5M-PUR-ABG	Single-ended female cordset, M12, straight, A-coded, 8-pin, PUR cable, gray, shielded



Highly Resistant—in Any Environment

Whether for leveling cranes, for acceleration control in elevators or for monitoring the condition of large plants, inclination and acceleration sensors from Pepperl+Fuchs always guarantee precise measurements—even in harsh outdoor conditions.

Uniquely Robust in Two Mounting Versions

Inclination and acceleration sensors from Pepperl+Fuchs are available in two mounting versions: with a one-piece housing (F199) or in a unique two-part concept (F99). Based on a two-part mounting concept, the inclination and acceleration sensors always consist of the sensor module and a particularly robust metal retaining bracket. This combination brings many advantages: The metal retaining bracket offers optimal impact protection and simple installation thanks to the integrated hexagon head screw. This makes the entire system even more resistant to mechanical force. It can also be replaced quickly and easily if required. It is not necessary to re-adjust or calibrate.

The Right Sensor Version for Every Requirement

Each application has different requirements for the sensor technology. The portfolio of inclination and acceleration sensors from Pepperl+Fuchs therefore consists of different versions which can be selected depending on the application requirement.

In addition to sensors for inclination and acceleration detection, the F99 Fusion inertial measurement units are also available. Specifically designed for use in dynamic applications, they provide precise inclination and acceleration data in 360° at any time thanks to their compensation for external acceleration.



More information is available at:
pepperl-fuchs.com/fa-f99





Highly Precise Even with Dynamic Motion



Inclination sensor



Acceleration sensor

The F99 Fusion inertial measurement unit guarantees error-free inclination detection in dynamic applications. The intelligent combination of the acceleration sensor and gyroscope compensates for external accelerations. This increases efficiency and opens up completely new opportunities.

Typical Applications

Inclination Sensors:

- Leveling of working platforms
- Ensuring optimal alignment of solar systems

Acceleration Sensors:

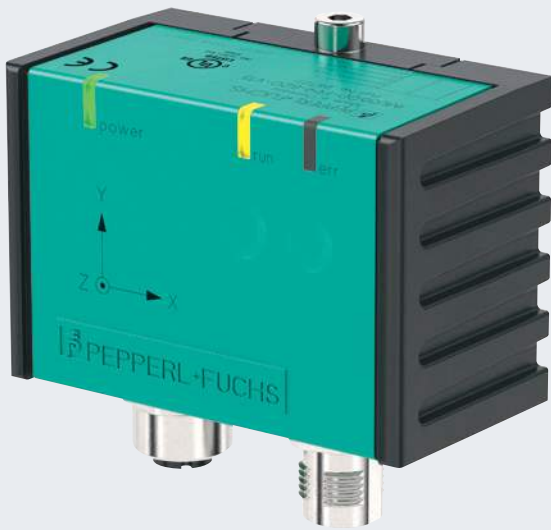
- Monitoring of upper vibration limits in wind energy plants
- Monitoring acceleration in elevators

F99 Fusion Inertial Measurement Unit:

- Steering angle limitation in an inclined position on construction machines or material handling equipment
- On-board weighing systems in port crane facilities

Your Benefits at a Glance

- Precise inclination measurement, even in motion, thanks to compensation for dynamic acceleration without loss of time (F99 Fusion)
- Variable output values and parameterizable filters for optimum adjustment to suit the application (F99 Fusion)
- Simplified installation: 360° inclination and acceleration sensors in three axes in one device. Mounting is independent of the orientation (F99 Fusion)
- Sophisticated mounting concept as well as IP68/IP69K degree of protection for incredible robustness, even when used outdoors
- Wide range of applications: E1 and GL approvals enable use on public roads as well as on the high seas

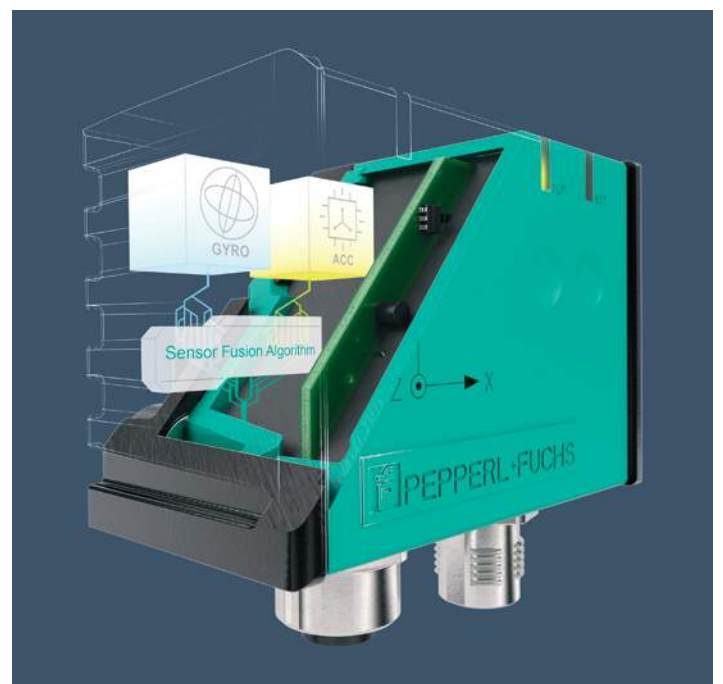


F99 Fusion inertial measurement unit

Technical Features

- Optimal sealing due to degree of protection IP68/IP69K
- Increased EMC immunity: Tested according to ISO 7637 and ISO 11452
- Increased shock and vibration resistance of up to 100 g

F99 Fusion inertial measurement unit: Intelligent combination of acceleration sensor and gyroscopes for maximum precision in dynamic motion



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Inclination Sensors

F99 Series Inclination Sensors



Common Technical Data

Housing design	rectangular
Operating voltage (max)	30 V
Housing material	Plastic material
Housing length L	65 mm
Housing width W	45 mm
Housing height H	37 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Measuring Range	Measuring Axes	Measurement Accuracy [± °]	Interface	Type of Output	UB (Min)	Operating Elements	Connection Type	10
INX360D-F99-B16-V15	0° ... 360°	1	0.5°	CANopen		10 V		1 x M12 connector plug	■
INX360D-F99-B20-V15	0° ... 360°	1	0.5°	J1939		5 V		1 x M12 connector plug, 1 x M12 connector socket	■
INX360D-F99-I2E2-5M	0° ... 360°	1	0.5°	Analog	2 x PNP	10 V	Sensor	Cable	■
INX360D-F99-I2E2-V15	0° ... 360°	1	0.5°	Analog	2 x PNP	10 V	Sensor	1 x M12 connector plug	■
INX360D-F99-U2E2-5M	0° ... 360°	1	0.5°	Analog	2 x PNP	10 V	Sensor	Cable	■
INX360D-F99-U2E2-V15	0° ... 360°	1	0.5°	Analog	2 x PNP	10 V	Sensor	1 x M12 connector plug	■
INY030D-F99-2I2E2-25M	-15° ... +15°	2	0.2°	Analog	2 x PNP	10 V		Cable	■
INY030D-F99-2I2E2-5M	-15° ... +15°	2	0.2°	Analog	2 x PNP	10 V		Cable	■
INY030D-F99-2I2E2-V17	-15° ... +15°	2	0.2°	Analog	2 x PNP	10 V		1 x M12 connector plug	■
INY030D-F99-B16-V15	-15° ... +15°	2	0.2°	CANopen		10 V		1 x M12 connector plug	■
INY030D-F99-B20-V15	-15° ... +15°	2	0.2°	J1939		5 V		1 x M12 connector plug, 1 x M12 connector socket	■
INY060D-F99-2I2E2-V17	-30° ... +30°	2	0.2°	Analog	2 x PNP	10 V		1 x M12 connector plug	■
INY120D-F99-B20-V15	-60° ... +60°	2	0.5°	J1939		5 V		1 x M12 connector plug, 1 x M12 connector socket	■
INY360D-F99-2I2E2-5M	0° ... 360°	2	0.5°	Analog	2 x PNP	10 V	Sensor	Cable	■
INY360D-F99-2I2E2-V17	0° ... 360°	2	0.5°	Analog	2 x PNP	10 V	Sensor	1 x M12 connector plug	■
INY360D-F99-2U2E2-5M	0° ... 360°	2	0.5°	Analog	2 x PNP	10 V	Sensor	Cable	■
INY360D-F99-2U2E2-V17	0° ... 360°	2	0.5°	Analog	2 x PNP	10 V	Sensor	1 x M12 connector plug	■
INY360D-F99-B16-V15	0° ... 360°	2	0.5°	CANopen		10 V		1 x M12 connector plug	■
INY360D-F99-B20-V15	0° ... 360°	2	0.5°	J1939		5 V		1 x M12 connector plug, 1 x M12 connector socket	■

Highlights

- Variable output values and parameterizable filters for optimum adjustment to suit the application for products with CAN or J1939 interface
- Simplified installation: 360° inclination sensors in two axes in one device. Mounting is independent of the orientation
- Sophisticated mounting concept as well as IP68/69 degree of protection for maximum robustness, even when used outdoors
- Wide range of applications: E1 and GL approvals enable use on public roads as well as on the high seas

Brief Description

Based on a two-part mounting concept, F99 series inclination and acceleration sensors are always equipped with a sensor module and an especially robust metal retaining bracket. This combination brings many advantages: The metal retaining bracket offers optimal impact protection and simple installation thanks to the integrated hexagon head screw. This makes the entire system even more resistant to mechanical force.

Accessories

V15-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 5-pin, PUR cable, gray
V15S-T-CAN/DN-V15	Y-splitter, M12 socket to M12 plug/socket
V15S-TR-CAN/DN-120R	Terminator for DeviceNet, CANopen
V17-G-10M-PUR	Single-ended female cordset, M12, straight, A-coded, 8-pin, PUR cable, gray, shielded
V17-G-10M-PVC-ABG	Single-ended female cordset, M12, 8-pin, shielded, PVC cable
V17-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 8-pin, PUR cable, gray, shielded
V17-G-5M-PUR	Single-ended female cordset, M12, straight, A-coded, 8-pin, PUR cable, gray, shielded

Inclination Sensors

F199 Series Inclination Sensors



Common Technical Data

Housing design	rectangular
Measurement accuracy	0.15°
Operating voltage (max)	30 V
Housing material	aluminum
Housing length L	107.9 mm
Housing width W	81 mm
Housing height H	27 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Measuring Range	Measuring Axes	Interface	Type of Output	UB (Min)	Connection Type
INX360DH-F199-B16-2V15	0° ... 360°	1	CANopen		10 V	1 x M12 connector plug, 1 x M12 connector socket
INX360DH-F199-B16-V15	0° ... 360°	1	CANopen		10 V	1 x M12 connector plug
INX360DH-F199-B30-2V15	0° ... 360°	1	MODBUS RTU		4.5 V	1 x M12 connector plug, 1 x M12 connector socket
INX360DH-F199-B30-V15	0° ... 360°	1	MODBUS RTU		4.5 V	1 x M12 connector plug
INX360DH-F199-IE2-V19	0° ... 360°	1	Analog	Current output	10 V	1 x M12 connector plug
INY100DH-F199-IE2-V19	-50° ... +50°	2	Analog	Current output	10 V	1 x M12 connector plug
INY160DH-F199-B16-2V15	-80° ... +80°	2	CANopen		10 V	1 x M12 connector plug, 1 x M12 connector socket
INY160DH-F199-B16-V15	-80° ... +80°	2	CANopen		10 V	1 x M12 connector plug
INY160DH-F199-B30-2V15	-80° ... +80°	2	MODBUS RTU		4.5 V	1 x M12 connector plug, 1 x M12 connector socket
INY160DH-F199-B30-V15	-80° ... +80°	2	MODBUS RTU		4.5 V	1 x M12 connector plug
INY160DH-F199-IE2-V19	-80° ... +80°	2	Analog	Current output	10 V	1 x M12 connector plug

Highlights

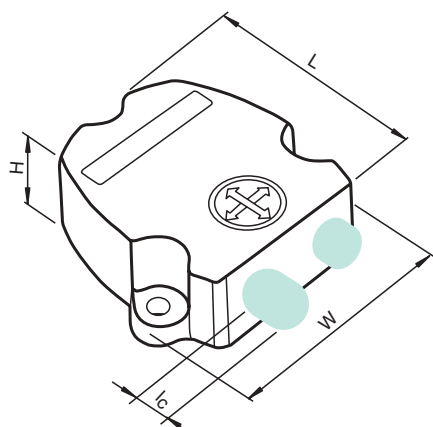
- High angular accuracy up to 0.15° for precise inclination measurement when used with CANopen, Modbus or analog current signal
- Simplified installation: 360° inclination sensors in two axes in one device. Mounting is independent of the orientation
- Degree of protection IP68/69 and robust aluminum for maximum ruggedness even in outdoor applications
- Wide range of applications: E1 and GL approvals enable use on public roads as well as on the high seas

Brief Description

The F199 inclination sensor series from Pepperl+Fuchs has a high static angle accuracy. In addition, special software filters can improve the angular stability and can be individually adapted to the applications. Furthermore, the rugged metal housing (aluminum) protects against environmental influences over a very long service life. The entire portfolio of inclination and acceleration sensors from Pepperl+Fuchs therefore consists of various versions that can be selected depending on the application requirements.

Accessories

V15S-T-CAN/DN-V15	Y-splitter, M12 socket to M12 plug/socket
V15S-TR-CAN/DN-120R	Terminator for DeviceNet, CANopen
V19-G-0.5M-PVC-SUBD9	Adapter cable, M12 socket, straight, A-coded, 8-pin to D-Sub connector 9-pin with DC coupling, PVC cable, gray
V19-G-2M-PUR-ABG	Single-ended female cordset, M12, straight, A-coded, 8-pin, PUR cable, gray, shielded
V19-G-2M-PUR-ABG-V19-G	Cordset, M12 socket, straight, to M12 plug, straight, A-coded, 8-pin, PUR cable, gray, shielded



F99 Series Acceleration Sensors



Common Technical Data	
Housing design	rectangular
Measuring range	-2 g ... 2 g
Interface	Analog
Operating voltage (min)	10 V
Operating voltage (max)	30 V
Type of output	Current output
Connection type	1 x M12 connector plug
Housing material	Plastic material
Housing length L	65 mm
Housing width W	45 mm
Housing height H	37 mm
UL	■
e1 type approval	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Measuring Axes
ACX04-F99-I-V15	1
ACY04-F99-2I-V15	2

Highlights

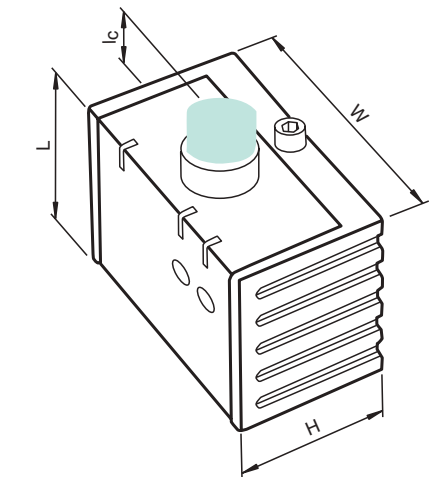
- Acceleration measurement in two axes
- Repeat accuracy of measured values up to 0.005 g
- Frequency range from 0 Hz ... 100 Hz. This ensures that low-frequency signals can also be detected
- Degree of protection IP68/69 and additional black metal frames for maximum ruggedness even when used outdoors
- Wide range of applications: E1 and GL approvals enable use on public roads as well as on the high seas

Brief Description

The F99 series of acceleration sensors allows accelerations in up to two axes and a measuring range of up to -2 g to +2 g to be detected. The available frequency range of 0 Hz ... 100 Hz also enables measurements of motion that also occur in low frequency ranges.

The metal retaining bracket offers optimal impact protection and simple installation thanks to the integrated hexagon head screw. This makes the entire system even more resistant to mechanical force. It can also be replaced quickly and easily if required. It is not necessary to re-adjust or calibrate. E1 approval for use on public roads and GL approval for use on the high seas mean that the inclination and acceleration sensors from Pepperl+Fuchs reliably contribute to the efficient realization of countless projects across industry sectors around the world.

Accessories	
V15-G-2M-PUR	Single-ended female cordset, M12, straight, A-coded, 5-pin, PUR cable, gray



F99 Series Inertial Measurement Units



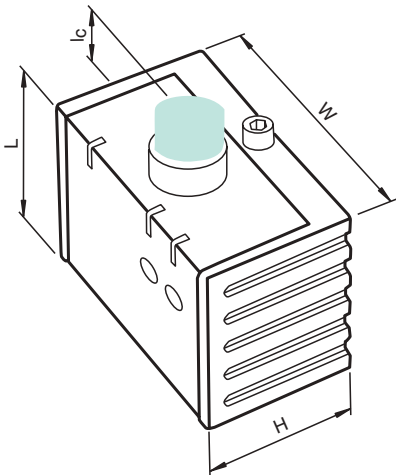
Common Technical Data	
Housing design	rectangular
Measuring range	0° ... 360°
Measuring axes	3
Interface	J1939
Operating voltage (min)	5 V
Operating voltage (max)	30 V
Connection type	1 x M12 connector plug, 1 x M12 connector socket
Housing material	Plastic material
Housing length L	65 mm
Housing width W	45 mm
Housing height H	37 mm
UL	■
e1 type approval	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	
IMU360D-F99-B20-V15	

Highlights

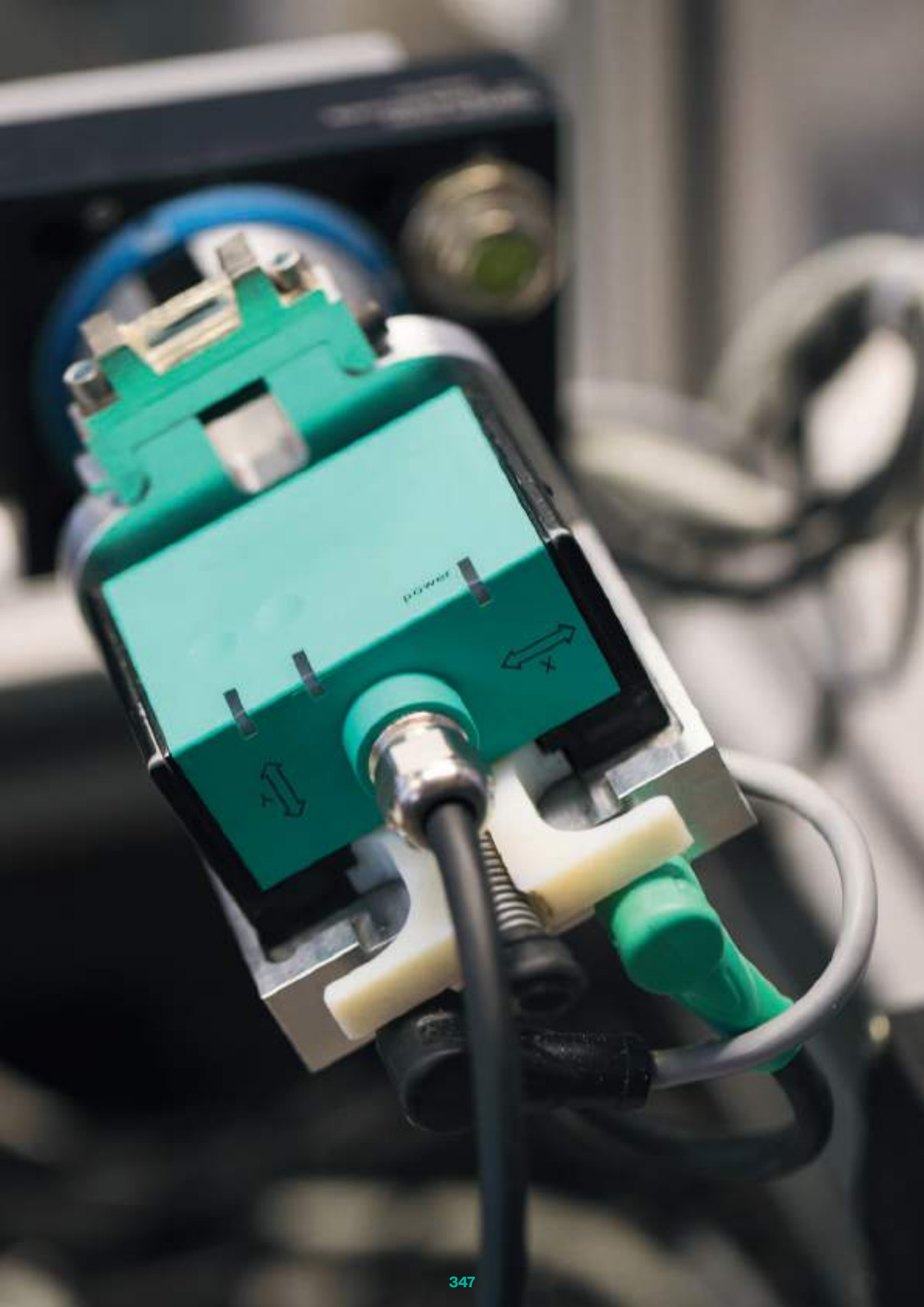
- Inclination, acceleration and yaw rate measurement in three axes
- Adjustable compensation of dynamic faults for stable inclination measurement
- Adjustable flags for easy monitoring of measuring overranges
- Automatic position detection by gravity flags to prevent angular drift
- CAN bus with SAE J1939 protocol
- Increased EMC resistance



Brief Description

Conventional (static) inclination sensors are based on the principle of acceleration measurement and provide reliable information about the current orientation of the sensor. However, this principle of measurement reaches its limits when, in addition to gravity, other forces—such as those generated by acceleration, braking or cornering—are acting on the sensor. This results in measurement errors, which in the worst case lead to damage, but certainly to a loss of efficiency. The IMU-F99 has therefore been specially developed to compensate for these external accelerations using yaw rate measurements and to provide precise inclination data even during dynamic motion. The quality of the dynamic inclination measurement always depends on the type and occurrence of the external accelerations (individual driving profile of the application). Using software parameterization, the type of compensation can be changed and the dynamic angular stability can be optimally adapted to the driving profile. At the same time, the measured yaw rate values and acceleration values are also available in three axes.

Accessories	
V15S-TR-CAN/ DN-120R	Terminator for DeviceNet, CANopen



Condition Monitoring at the highest level



Where machines are in operation, vibrations occur, the intensity of which can increase considerably, for example, due to misalignment or imbalance. Vibration sensors from Pepperl+Fuchs very reliably record these changed measured values. Preventive maintenance can be initiated before costly damage and downtime occurs.

Detecting Faults Early to Prevent Downtimes

Every machine generates a certain amount of vibration during operation. Changes may indicate misalignment, wear or impending failure. Vibration sensors from Pepperl+Fuchs enable the safe acquisition and evaluation of this data. The current machine status is continuously recorded, forwarded and, in the event of deviations, reported as a warning message to the control system or IT infrastructure. This enables plant operators to intervene before expensive machine damage and downtimes occur – proactive maintenance that guarantees maximum availability and process safety.



Broad Portfolio, Suitable For All Applications

Pepperl+Fuchs offers a wide range of vibration sensors with extensive accessories for every specific application requirement. The devices provide reliable vibration measurement and analysis data required for highly efficient "condition monitoring" and "predictive maintenance". For example, vibration velocity data is available to identify low frequency oscillations caused by imbalances, mechanical loose parts or misalignment. The sensors also record vibration acceleration data for vibrations in higher frequency ranges that occur in the event of bearing damage and gearbox errors. Configurable switching signals ensure highly convenient handling of all sensors and easy integration into machine control or IT infrastructure.

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IO-Link**

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Standard Application Vibration Sensors

Series VIM3 – analog and with IO-Link



General Technical Data

Design	VIM3 (diameter 23.8 mm)

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

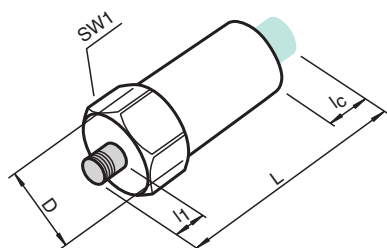
Housing material	Adaption	Measured variable	Functional safety	Interface	Parameterization status			
V2A steel 2 V4A steel 4 Duplex steel D	External thread E Internal thread I	Velocity V Acceleration G Velocity+ A Acceleration+ D Temperature Velocity+ D Acceleration+ bearing status parameter+ Temperature	without Functional safety 0 SIL1/PLc rating 1	IO-Link IO 4 ... 20 mA 142	P+F Standard 01 customer specific xx			
VIM3	X	XX-	X	X	RE-	xxx	1V14	-xx
Series Performance Line PL Performance Plus Line PP	Frequency range 1 ... 1000 Hz 0 10 ... 1000 Hz 1	Measurement range 16 mm/s (rms) 16 128 mm/s (rms) C8 2 g (rms) 02 10 g (rms) 10 14 g (rms) 14 48 g (rms) 48	Ex-capability I Temperature range No Ex-capability I R -40 °C ... +85 °C Degree of protection IP 66/67 E	Switching output 1 switching output, 1 Switch limit 10% 1 switching output, 2 Switch limit 20% 1 switching output, 3 Switch limit 30%	Connection type V14 M12, 4-pin			

Highlights

- Vibration measurement using root mean square (RMS)
- IO-Link interface for process data, parameterization and diagnosis
- Suitable for SIL 1/PLC applications
- Additional temperature value output

Brief description

The vibration sensor determines the vibration magnitude using RMS. This form of quadratic averaging or pre-filtering allows precise trend statements to be made about the status of the application. The integrated IO-Link interface enables optimal adaptation to different applications through parameterization and process data transfer for condition monitoring.



Accessories

EMCAD-M08-1.25-M08-1.25/36	EMC adapter for VIM3*/VIM6* vibration sensors, internal thread M8 x 1.25 x 10, external thread M10 x 1.25, screw-in depth 18
MONAD-M08-1.25-1.2Z-BSPT/36	Mounting adapter for VIM3*/VIM6* vibration sensors, internal thread M8 x 1.25 x 10, external thread NPT 1/2", screw-in depth 24
MONAD-M08-1.25-M08-1.25K/368	Mounting adapter for VIM3*/VIM6* vibration sensors, internal thread M8 x 1.25 x 10, external thread M10 x 1.25, screw-in depth 19.5
MONAD-M08-1.25-M10-1.5/36	Mounting adapter for VIM3*/VIM6* vibration sensors, internal thread M8 x 1.25 x 10, external thread M10 x 1.5, screw-in depth 18
MONAD-M08-1.25-M30-3.5/368	Mounting adapter for VIM3*/VIM6* vibration sensors, internal thread M8 x 1.25 x 10, external thread M30 x 3.5, screw-in depth 45
V1-G-3M-PUR-ABG0	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray, shielded

Vibration sensors with increased temperature range

Series VIM6



General Technical Data

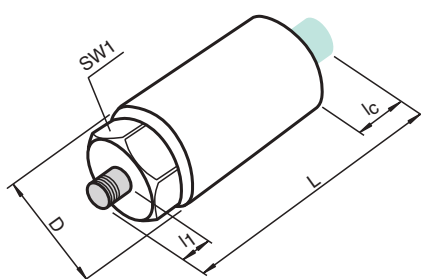
Output type	Analog output
Design	VIM6 (diameter 31.0 mm)
Housing diameter D	31 mm
Housing material	Stainless steel - 1.4305
UKCA	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Housing material	Adaption	Measured variable	Functional safety	Degree of protection	Switching output
V2A steel 2 V4A steel 4 Duplex steel D	External thread E Internal thread I	Velocity V Acceleration G Velocity+ Temperature T	without Functional safety 0	IP 66/67 E	0 no switching output
VIM6	X	XX-	X	X	X
Series Performance Line PL Performance Plus Line PP	Frequency range 1 ... 1000 Hz 0 10 ... 1000 Hz 1	Measurement range 8 mm/s (rms) 08 16 mm/s (rms) 16 32 mm/s (rms) 32 64 mm/s (rms) 64 128 mm/s (rms) C8 2 g (rms) 02 4 g (rms) 04 6 g (rms) 06 8 g (rms) 08 10 g (rms) 10	Ex-capability I Temperature range No Ex-capability I M -40°C ... +125 °C Ex d/t Zone 1/21 I N -40°C ... +125 °C Ex i Zone 1/21 I P -40°C ... +125 °C	Interface 4 ... 20 mA 142	Connection type M12, 4-pin V14 2 m cable, 4 lead K24 5 m cable, 4 lead K54 10 m cable, 4 lead KA4 2 m cable, 4 lead with pre-mounted flexible metal conduit Kabel, 5m, 4 lead with M54 pre-mounted flexible metal conduit Kabel, 10m, 4 lead with MA4 pre-mounted flexible metal conduit

Highlights

- Vibration measurement using root mean square (RMS)
- Extended temperature range
- Rugged due to stainless steel housing
- Easy mounting thanks to screw-in thread



Brief description

The vibration sensor determines the vibration magnitude using RMS. This form of quadratic averaging or pre-filtering allows precise trend statements to be made about the status of the application. The vibration sensor also impresses with its robustness against environmental influences. A stainless steel housing provides optimal protection against corrosion. The wide temperature range provides reliable readings even in harsh conditions.

Accessories

EMCAD-M08-1.25-M08-1.25/36	EMC adapter for VIM3*/VIM6* vibration sensors, internal thread M8 x 1.25 x 10, external thread M10 x 1.25, screw-in depth 18
MONAD-M08-1.25-1.2Z-BSPT/36	Mounting adapter for VIM3*/VIM6* vibration sensors, internal thread M8 x 1.25 x 10, external thread NPT 1/2", screw-in depth 24
MONAD-M08-1.25-M08-1.25K/368	Mounting adapter for VIM3*/VIM6* vibration sensors, internal thread M8 x 1.25 x 10, external thread M10 x 1.25, screw-in depth 19.5
MONAD-M08-1.25-M10-1.5/36	Mounting adapter for VIM3*/VIM6* vibration sensors, internal thread M8 x 1.25 x 10, external thread M10 x 1.5, screw-in depth 18
MONAD-M08-1.25-M30-3.5/368	Mounting adapter for VIM3*/VIM6* vibration sensors, internal thread M8 x 1.25 x 10, external thread M30 x 3.5, screw-in depth 45
V1-G-3M-PUR-ABG0	Single-ended female cordset, M12, straight, A-coded, 4-pin, PUR cable, gray, shielded

Vibration Sensors with SIL 2 evaluation

Series VIM8



General Technical Data

Design	VIM8 (diameter 62.0 mm)

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

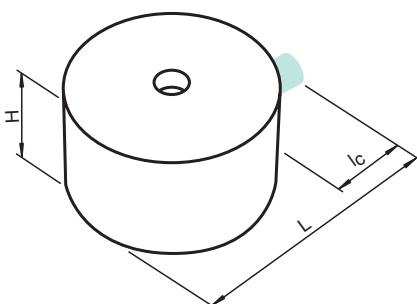
Housing material	Adaption screw	Measured variable	Functional safety	Degree of protection	Switching output
V2A steel 2 Duplex steel D	S	V Velocity G Acceleration C Velocity + bearing status parameter B Acceleration + bearing status parameter	2 SIL2/PLd rating	E IP 66/67	2 2 relay without window mode W 2 relay with window mode
VIM8	x	xx-	0	E	0
Series Pure Line PU Performance Line PL Performance Plus Line PP	Frequency range 1 ... 1000 Hz 0 10 ... 1000 Hz 1	Measurement range 8 mm/s (rms) 08 16 mm/s (rms) 16 20 mm/s (rms) 20 25 mm/s (rms) 25 32 mm/s (rms) 32 50 mm/s (rms) 50 64 mm/s (rms) 64 128 mm/s (rms) C8 2 g (rms) 02 4 g (rms) 04 6 g (rms) 06 8 g (rms) 08 10 g (rms) 10	Ex-capability I Temperature range No Ex-capability I 0 -40°C ... +85 °C Ex d/t Zone 1/21 I 1 -40°C ... +85 °C Ex e/t Zone 2/22 I 2 -40°C ... +85 °C No Ex-capability I A -35°C ... +125 °C Ex d/t Zone 1/21 I B -20°C ... +125 °C Ex e/t Zone 2/22 I C -35°C ... +125 °C	Interface 4 ... 20 mA 142	Connection type M12 connector, 8-pin V19 2 m cable, 8 lead C28 5 m cable, 8 lead C58 10 m cable, 8 lead CA8 2 m cable, 8 lead, K28 compatible with flexible metal conduit 5 m cable, 8 lead, K58 compatible with flexible metal conduit 10 m cable, 8 lead, KA8 compatible with flexible metal conduit

Highlights

- Vibration measurement using root mean square (RMS)
- Suitable for SIL 2/PLd applications
- Two relay outputs for safety functions with independently adjustable switching thresholds, so that monitoring of a pre-/main alarm or a window range is possible
- Rugged due to stainless steel housing

Brief description

The vibration sensor determines the vibration magnitude using RMS. This form of quadratic averaging or pre-filtering allows precise trend statements to be made about the status of the application. Averaging or pre-filtering can be used to make precise trend statements about the status of the application. The vibration sensor has a safety integrity level (SIL 2) for applications within the scope of functional safety. Two relay outputs with independently adjustable switching thresholds are available for monitoring tasks.



Extremely Versatile from Standard to Special Applications

Extremely flexible product selection, well-founded engineering knowledge and fully resistant sensors. Regardless of application and industry, the portfolio for rotary motion measurement offers perfectly tailored rotary encoder solutions that meet the requirements of every application—even in extreme areas.

Benefit from Every Technology

Complex applications require technology that works reliably under all circumstances, regardless of the environment. Pepperl+Fuchs offers several established technologies for the optimal application solution. Whether for standard industrial or special applications, with incremental or absolute rotary encoders, the broad portfolio consists of countless configuration options and offers maximum flexibility in configuring the perfect rotary encoder.

With Application Knowledge for Customized Solutions

Our experts also develop individual customer solutions. Pepperl+Fuchs relies on close cooperation, coupled with reliable and informed advice from our application experts. They have many years of technology and application knowledge, plus they are also on hand to provide advice on difficult tasks. Countless solutions have already been implemented for extreme areas such as offshore, explosive, and safety applications.



More information is available at:
pepperl-fuchs.com/fa-encoder

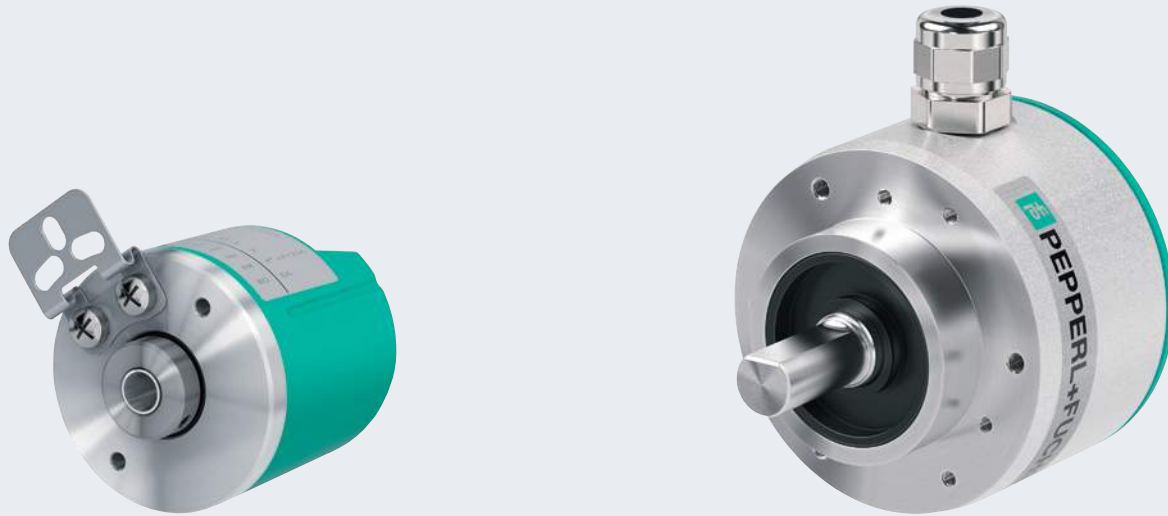




Ser.no: 06/15 816287
Part-Nr: 236710
Vers: 1
IP rate: IP66

8192
4096
FUCHS
FUCHS
FUCHS

Precision for Reliable Automation



Applications where success depends on plant availability and efficiency require high-performance sensors that always work reliably. The industrial standard portfolio from Pepperl+Fuchs contains high-performance devices with various technologies, detection principles, and mechanical and electrical interfaces, enabling configuration of the optimal rotary encoder.

BlueBeam Technology for Unique Levels of Precision

For the first time, Pepperl+Fuchs has integrated Blue-Beam technology into incremental rotary encoders, setting a new market standard for precision and reliability.



More information is available at
pepperl-fuchs.com/fa-bluebeam

Optical Rotary Encoders

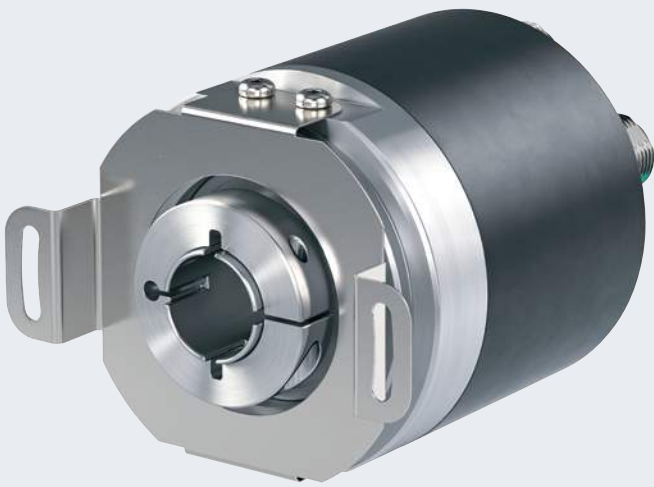
With accuracy of up to 0.01° , optical rotary encoders are ideal for applications with the highest demands on dynamics and precision.

Typical Applications

- Elevator technology, shaft positioning, medical technology, CNC machining centers
- Warehousing and material handling, e.g., on forklift trucks for monitoring lift height

Your Benefits at a Glance

- Broad portfolio—a variety of designs ranging from cost-effective standard rotary encoders to high-end versions
- Highly flexible system integration with a wide range of electrical and mechanical interfaces
- BlueBeam technology for unique levels of precision even in the highest speed ranges



Magnetic Rotary Encoders

Magnetic technology sets new standards in the field of industry standard rotary encoders. It allows accuracy of up to 0.1° , more compact construction, and a wear-free design for outstanding service life.

Typical Applications

- Robotics: control of robot arm rotation
- Print and paper industry: speed monitoring of print rollers and motors
- Machinery and plant construction: bottle conveyors, machine tools

Your Benefits at a Glance

- Magnetic rotary encoders with advanced Hall technology for highly dynamic processes
- High resolution and absolute accuracy of $< 0.1^\circ$ for precision applications
- Robust, wear-free technology for high reliability

Bearing-Free Rotary Encoders

The bearing-free rotary encoders are characterized by their especially small size and combine a robust measuring system with intelligent assistance functions. The scanning is noncontact, wear-free and allows reliable continuous operation.

Typical Applications

Rotation speed monitoring on a machine tool motor
Position feedback of a solar tower
Speed monitoring for drive motors with limited space

Your Benefits at a Glance

- Resistant to dirt and thermal and mechanical shocks
- Efficient solution with long service life at high rotational speed and temperature
- Assistance function and LED indicator for simplified installation and testing

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**58 mm Series
Optical Rotary
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**MNI20 and MNI40
Series**

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Incremental Rotary Encoders—40 mm Housing Design

TVI40, TSI40 and THI40 Series



Common Technical Data

Scanning method	optical
Type of output	Push-pull or RS-422
Pulse count	Max. 1024 pulses
Connection type	Cable, fixed cable with plug
Housing design	Ø 40 mm
Shaft type	Solid, recessed hollow, and hollow shaft
Rotational speed	max. 6,000 rpm
Degree of protection	IP54
Operating temperature	-10 °C ... +70 °C
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Shaft type	Shaft dimensions	Shaft dimensions	Connection type	Signal output	Pulse count
H Hollow shaft	Recessed hollow shaft	Hollow shaft	K0 0.5 m cable	6 A+B+0 and /A+/B+/0	25, 50, 60, 100, 150, 180, 200, 250, 360, 400, 500, 600, 1000, 1024
S Recessed hollow shaft	Ø4 x 15 mm 16	0S Ø6 mm; clamping ring on flange	K2 2 m cable		
V Solid shaft	Ø6 x 15 mm 14	0U Ø6.35 mm; clamping ring on flange	BI 0.2 m fixed cable with M12 plug, 8-pin		
	Ø8 x 15 mm 27	0C Ø8 mm; clamping ring on flange			
	Ø3/8" x 15 mm 20	0X Ø3/16"; clamping ring on flange			
	Ø3/16" x 15 mm 21	2A Ø5/16"; clamping ring on flange			
	Ø5/16" x 15 mm 22	1S Ø6 mm; clamping ring on cover			
	Solid shaft	1U Ø6.35 mm; clamping ring on cover			
	Ø1/8" x 15 mm 19	1C Ø8 mm; clamping ring on cover			
	Ø5 x 15 mm 23	1X Ø3/16"; clamping ring on cover			
	Ø6 x 15 mm 14	3A Ø5/16"; clamping ring on cover			
	Ø1/4" x 15 mm 17				
	Ø8 x 15 mm 09				

T x I40N-	XX	X	XX	X	X	X	N-	XXXX
Housing material Hollow shaft: aluminum Recessed hollow shaft / solid shaft: plastic material		Flange type A Hollow shaft / recessed hollow shaft T Clamping flange		Connection direction T Tangential R Radial		Output circuit T 4.75 V...30 V, PP		

Highlights

- Compact housing design for use in confined spaces
- Flexible cable routing and mounting with tangential cable outlet
- Simple electrical integration through utilization of RS422 functionality
- Complete solution for elevator construction

Brief Description

Performance in a Compact Size

With a diameter of only 40 mm, the rotary encoder is ideal for shaft positioning in elevators. It is available in different shaft versions and therefore fits a wide range of applications. Due to its RS-422 functionality with 5 V operation, electrical integration is also very simple.

Accessories

9401/9402	Spring steel coupling
9404	Spring disk coupling
9408	Double-loop coupling
9409	Bellows coupling
9410	Precision coupling
9460	Stainless steel bellows coupling
CW	Helix coupling

Example: 9404 10*10 (D1*D2 coupling)

Incremental Rotary Encoders—58 mm Housing Design

ENI58IL Series



Common Technical Data

Scanning method	optical
Type of output	Push-pull or RS-422
Pulse count	Max. 5000 pulses
Connection type	Plug, cable, fixed cable with plug
Housing design	Ø 58 mm
Shaft type	Solid, recessed hollow, and hollow shaft
Rotational speed	max. 12,000 rpm
Degree of protection	IP65/IP67
Operating temperature	-40 °C ... +85 °C
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Shaft dimension	Flange	Pulse count	Connection direction
Solid shaft S Recessed hollow shaft R Hollow shaft H	Clamping flange CA Servo flange SA Square flange QA Spring plate, individual, long BA Spring plate, double DA Spring plate, individual, short JA	0100, 0120, 0125, 0200, 0256, 0360, 0500, 1000, 1024, 1250, 1500, 1800, 2000, 2048, 2500, 3600, 4000, 4096, 5000, other pulse counts available on request	Axial A Radial R
ENI58IL-	X	XX	XX
Shaft dimensions Recessed hollow shaft / hollow shaft	Shaft dimensions Solid shaft	Degree of protection	Electrical interface
6 mm 06 8 mm 08 10 mm 10 12 mm 12 14 mm 14 15 mm 15 1/4" U2 3/8" U3 1/2" U4	06 6 x 10 mm 08 8 x 20 mm 10 10 x 20 mm 12 12 x 20 mm U2 1/4" U3 3/8"	IP65 5 IP67 7	Universal current driver, 5 ... 30 V UD1 RS-422, 5 ... 30 V UD2
			Connection type
			1 m cable C1 2 m cable C2 5 m cable C5 M23, cw AA M23, ccw AB M12, 5-pin BD M12, 8-pin BR MIL7 MA MIL10 MB 1 m fixed cable with M12 plug, 8-pin B2 1 m fixed cable with M12 plug, 5-pin B4

Highlights

- BlueBeam technology: Unmatched precision even at the highest speeds up to 12,000 rpm
- Optimal application solution through a complete portfolio with a wide range of shaft, flange and connection options
- Especially robust design with blocked bearing unit for permanently high bearing loads and long service life
- High shock and vibration resistance coupled with EMC protective circuitry for maximum plant availability and process safety

Accessories

9401/9402	Spring steel coupling
9404	Spring disk coupling
9408	Double-loop coupling
9409	Bellows coupling
9410	Precision coupling
9460	Stainless steel bellows coupling
CW	Helix coupling

Example: 9404 10*10 (D1*D2 coupling)

Brief Description

Impressive Features Profile

The BlueBeam technology in combination with a precisely adjusted code disk enables maximum signal quality and precision. The broad portfolio makes these advantages available for almost every application: Thanks to the wide range of shaft, flange and connection options—also for worldwide use—you always get the right configuration. The especially robust design ensures plant availability and maximum process reliability at all times. In addition to the extreme resistance to vibration and shock, the special EMC protection circuit enables impressive immunity to interference. The blocked bearing unit permits permanently high bearing loads and prevents the ball bearings from being pressed out.

Incremental Rotary Encoders—58 mm Housing Design

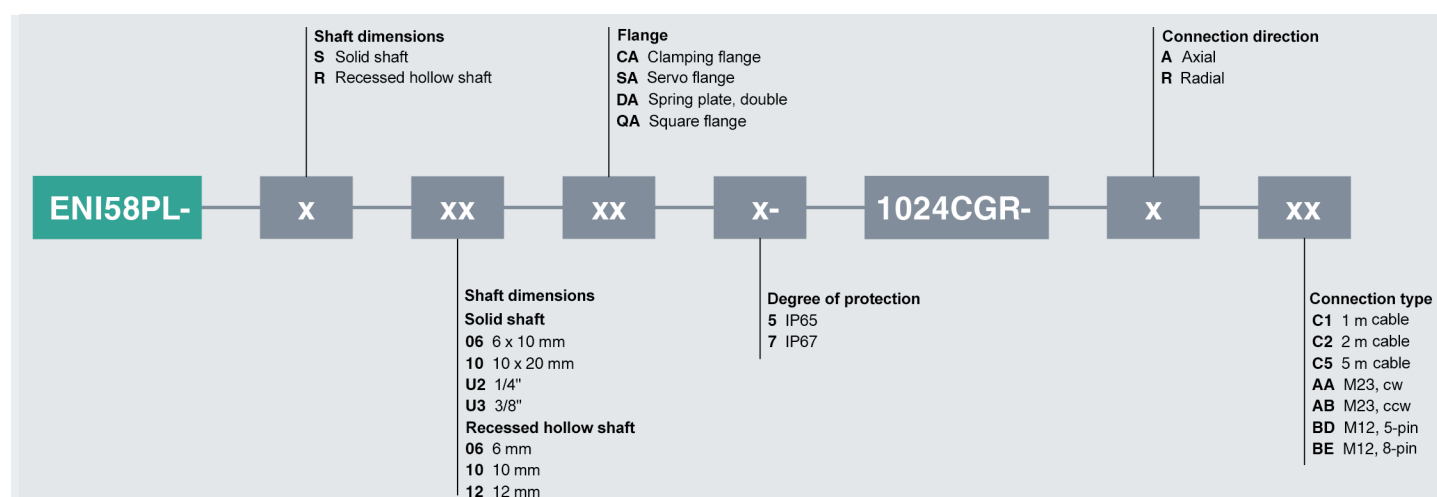
ENI58PL Series



Common Technical Data

Scanning method	magnetic
Type of output	Push-pull or RS-422
Pulse count	Programmable from 1...16,384 pulses
Connection type	Plug, cable
Housing design	Ø 58 mm
Shaft type	Solid and recessed hollow shaft
Rotational speed	max. 12,000 rpm
Degree of protection	IP65/IP67
Operating temperature	-40 °C ... +85 °C

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

- Optimal adaptation to the respective application through simple and flexible configuration of the rotary encoder
- Configuration at the customer site reduces the number of versions in storage and allows changes in the production and process sequence without having to replace the rotary encoder

Brief Description

Flexible Application Possibilities through Programming

The ENI58PL is a robust, high-quality, and versatile incremental rotary encoder with various electrical and mechanical interfaces. As the pulse count, direction of rotation and type of output can be programmed via the standardized IO-Link interface, the ENI58PL can be adjusted to perfectly suit changing and specific application conditions. In addition to optimal adaptation to the application, this enables more efficient storage by reducing the number of versions in stock.

Accessories

9416	Single-ended female cordset
9416L	Single-ended female cordset
IO-Link-Master02-USB	IO-Link master
V15S-G-0,5M-CGR-AA	Adapter cable
V15S-G-0,5M-CGR-AB	Adapter cable
V15S-G-0,5M-CGR-BD	Adapter cable
V15S-G-0,5M-CGR-BE	Adapter cable
V15S-G-0,5M-CGR-TC	Adapter cable

Incremental Rotary Encoders—90 mm Housing Design

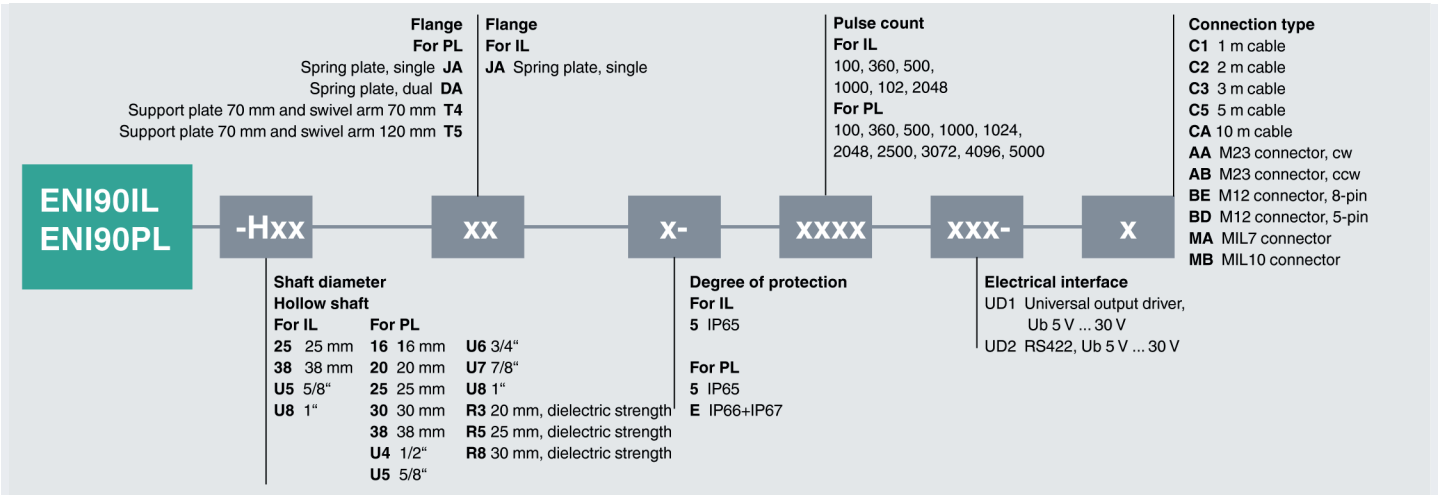
ENI90 Series



Common Technical Data

Scanning method	optical
Type of output	Push-pull or RS-422
Pulse count	Max. 5000 pulses
Connection type	Plug, cable
Housing design	Ø 93 mm
Shaft type	Hollow shaft
Rotational speed	max. 6,000 rpm
Degree of protection	IP65 and IP66/67
Operating temperature	-40 °C ... 85 °C
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

- Unique precision due to BlueBeam technology—whether for standard or heavy-duty applications
- Rugged and compact: enclosure design focused on the essentials
- High resistance in rotational speed ranges up to 6000 rpm makes the devices especially durable
- High mounting flexibility due to tapped holes in 60° increments and a comprehensive range of accessories

Brief Description

Maximum Precision, Irrespective of the Version

The encoder can accommodate both very small and large drive shafts from 16 mm to 45 mm. It impresses with its comparatively small outer diameter, which permits installation in confined spaces. A hollow shaft version with a flat surface on both sides ensures a positive and backlash-free connection, and it also prevents slippage and twisting of the shafts. This makes the rotary encoder ideally suited for dynamic applications. In addition, the high immunity to interference prevents the failure of the rotary encoder even in environments with high electromagnetic loads.

Absolute Rotary Encoders—36 mm Housing Design

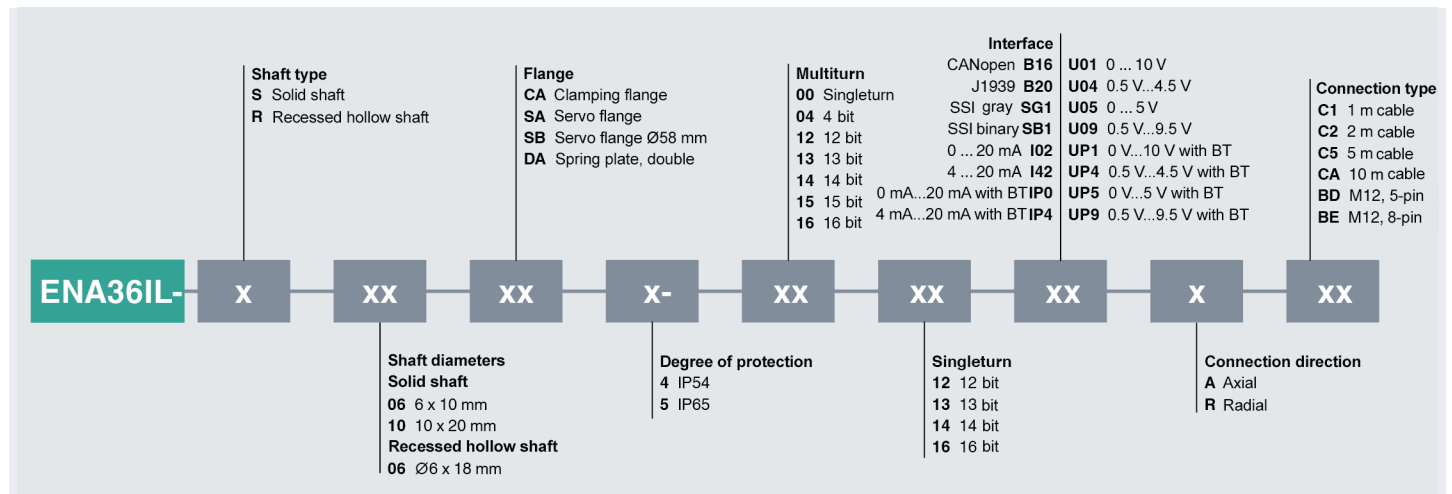
ENA36IL Series



Common Technical Data

Scanning method	magnetic
Type of output	Analog, CANopen, J1939, SSI
Singleturn	Up to 16 bit
Multiturn	Up to 16 bit
Connection type	Plug, cable
Housing design	Ø 36 mm
Shaft type	Solid and recessed hollow shaft
Rotational speed	max. 12,000 rpm
Degree of protection	IP54/IP65
Operating temperature	-40 °C ... +85 °C (plug)/-30 °C ... +70 °C (cable)
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

- Magnetic rotary encoder technology with Hall effect sensor for highly dynamic processes
- Very high resolution and absolute accuracy of <0.1° for high-precision applications
- Compact housing design for confined spaces
- Wear-free technology allows a long service life and reduces maintenance demands

Brief Description

Accuracy for Precise Applications

With a total resolution of up to 32 bits and an accuracy of < 0.1°, the encoder is the ideal solution for dynamic applications where precise positioning is important. Its consistently robust technology makes it completely insensitive to shocks and vibrations. An ideal sensor in robotics, for example, but also in drive technology for speed monitoring.

Accessories

9401/9402	Spring steel coupling
9404	Spring disk coupling
9408	Double-loop coupling
9409	Bellows coupling
9410	Precision coupling
9460	Stainless steel bellows coupling
CW	Helix coupling

Example: 9404 10*10 (D1*D2 coupling)

Absolute Rotary Encoders—58 mm Housing Design

58 mm Series Optical Rotary Encoders



Common Technical Data

Scanning method	optical
Type of output	Analog, CANopen, J1939, SSI, PROFIBUS, ProFINET, EtherNet/IP, Powerlink, TCP/IP, EtherCAT
Singleturn	Up to 16 bit
Multiturn	Up to 14 bit
Connection type	Plug, cable
Housing design	Ø 58 mm
Shaft type	Solid, recessed hollow, and hollow shaft
Rotational speed	max. 12,000 rpm
Degree of protection	IP65 and IP66/67
Operating temperature	-40 °C ... +85 °C
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Interface A SSI C CAN-Bus D DeviceNet E Ethernet P Profibus	Housing material N Aluminum I Stainless steel 1.4305 A Stainless steel 1.4404 W Aluminum	Connection type K1 1 m cable AA M23, cw AB M23, ccw AZ aG, 3 x M12x1 AG aG, terminal compartment AN aG, 1 x M12 x 1 EC CANopen, 2 sockets / 1 plug IZ EtherNet/IP, 2 sockets / 1 plug PN Profinet, 1 socket / 1 plug PZ Powerlink, 2 sockets / 1 plug TZ TCP/IP, 1 socket / 1 plug	Option 1 0 None H Hardware encoder 0 Preset function K Preset function with preset button	Option 2 N Normal T -40° ... +85°C 1 1024 pulse, pp 2 2048 pulse, pp 3 4096 pulse, pp 4 1024 pulse, RS422 5 2048 pulse, RS422 6 4096 pulse, RS422	Singleturn 12 bit 12 13 bit 13 16 bit 16				
Function principle S Singleturn M Multiturn									
x x x 58-	x	xxx	xx	x	x	x	x	xx	xx
Shaft type H Hollow shaft S Recessed hollow shaft V Solid shaft	Recessed hollow shaft Ø10 mm F1A Ø12 mm F2A Ø15 mm F3A	Shaft dimensions Solid shaft 011 Ø10 x 20 mm clamping flange 032 Ø06 x 10 mm Servo flange Hollow shaft 0AA Ø10 mm 0BA Ø12 mm	Connection direction A Axial R Radial	Output code B Binary G Gray	Multiturn 00 Sinaleturn 12 12 bit 14 14 bit				

Highlights

- Very high resolution and accuracy of up to 0.01° for precise and dynamic applications
- Flexible system integration via standard fieldbus interfaces
- Simplified installation and maintenance via removable bus cover
- The corrosion-resistant design opens up a wide variety of applications, even in extreme conditions

Brief Description

Versatile and Highly Precise

The features of this rotary encoder speak for themselves: A total resolution of up to 30 bits, a wide range of flange, shaft and connection versions, and all common fieldbus interfaces. It is not only flexible for integration into any system environment, the removable bus cover also allows easy handling during installation and maintenance in the field. Its high degree of flexibility and a comprehensive range of accessories allow specific adaptation to a wide range of applications.

Accessories

9401/9402	Spring steel coupling
9404	Spring disk coupling for servo flange
9408	Double-loop coupling
9409	Bellows coupling
9410	Precision coupling
9460	Stainless steel bellows coupling
CW	Helix coupling

Example: 9404 10*10 (D1*D2 coupling)

Absolute Rotary Encoders—58 mm Housing Design

ENA58IL Series



Common Technical Data

Scanning method	magnetic
Type of output	Analog, CANopen, J1939, SSI, EtherCAT, ProfiNET, PROFIBUS
Singleturn	Up to 16 bit
Multiturn	Up to 16 bit
Connection type	Plug, cable
Housing design	Ø 58 mm
Shaft type	Solid and recessed hollow shaft
Rotational speed	max. 12,000 rpm
Operating temperature	-40 °C ... +85 °C
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Shaft type		Flange		Degree of protection		Singleturn resolution		Connection direction	
Solid shaft S		Clamping flange CA		IP54 4		12 bit 12		Axial A	
Recessed hollow shaft R		Servo flange SA		IP65 5		13 bit 13		Radial R	
		Spring plate, double DA		IP67 7		16 bit 16			
ENA58IL- X XX XX X- XX XX XXX- X XX									
Shaft diameter				Multiturn resolution				Electrical interface	
Solid shaft				Singleturn 00				Profibus B06	
6 mm 06				12 bit 12				CANopen B16	
10 mm 10				14 bit 14				Profinet B17	
12 mm 12				16 bit 16				J1939 B20	
Recessed hollow shaft								EtherCAT B21	
6 mm 06								SSI gray SG1	
10 mm 10								SSI binary SB1	
12 mm 12								SSI gray push buttons SG2	
14 mm 14								SSI binary push buttons SB2	
15 mm 15								SSI + incremental track Slx	
								Connection type	
								1 m cable C1	
								2 m cable C2	
								5 m cable C5	
								10 m cable CA	
								cw, M23 AA	
								ccw, M23 AB	
								5-pin; M12 BD	
								8-pin; M12 BE	
								2 sockets / 1 M12 plug M12 BP	

Highlights

- First magnetic rotary encoder technology with Hall effect sensor for highly dynamic processes
- Very high resolution and absolute accuracy of <0.1° for high-precision applications
- Compact design in all standard interfaces for flexible use
- Wear-free technology allows a long service life and reduces maintenance demands
- The corrosion-resistant design opens up a wide variety of applications, even in extreme conditions

Brief Description

Robust Performance

With a diameter of 58 mm, the magnetic rotary encoder is ideal for use in numerous industrial applications. It is available with both a solid and a hollow shaft and thus ensures optimal adaptation to numerous applications. With its high total resolution of up to 32 bits and high resistance to shock and vibration, it also sets a new bar for the industry standard.

Accessories

9203	Mounting bracket
MBT-36ALS	Sprung mounting bracket
MBT-36ALS120	Spring arm
9401/9402	Spring steel coupling
9404	Spring disk coupling
9408	Double-loop coupling
9409	Bellows coupling
9410	Precision coupling
9460	Stainless steel bellows coupling
CW	Helix coupling
Example: 9404 10*10 (D1*D2 coupling)	

Bearing-Free Rotary Encoders

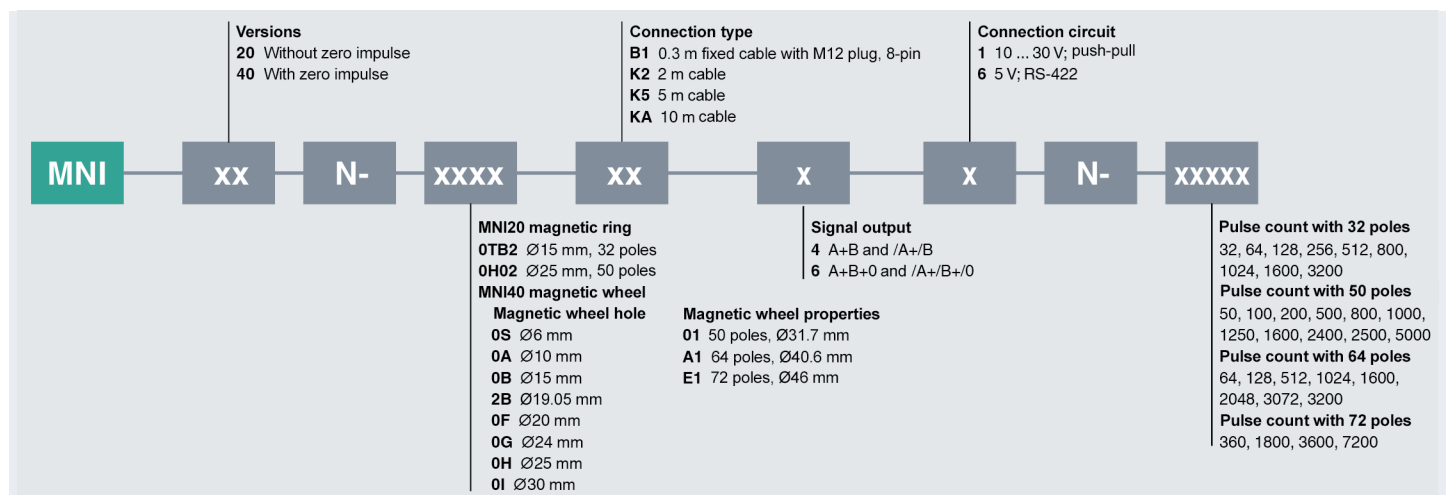
MNI20 and MNI40 Series



Common Technical Data

Scanning method	magnetic, noncontact
Type of output	Push-pull or RS-422
Pulse count	Max. 10,000 pulses
Connection type	Cable, fixed cable with plug
Rotational speed	max. 30,000 rpm
Degree of protection	IP67/IP68/IP69K
Operating temperature	-40 °C ... 100 °C
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

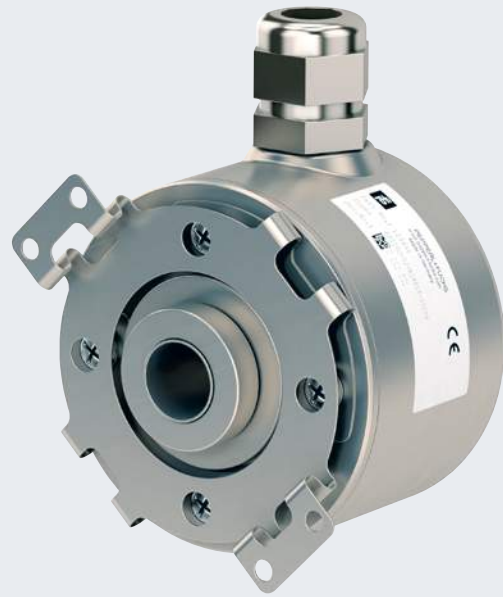
- Assistance function and LED indicator for simplified installation and testing
- Quality assurance provided by full self-diagnosis, including for the magnetic wheel
- Resistant to dirt, thermal and mechanical shocks, and high-pressure cleaners
- Efficient solution with long service life at high rotational speed and temperature
- Variant with magnetic ring allows the cable to be guided through the hollow shaft
- Reliable functionality even with large shaft play or large bearing gap
- Also suitable for heavy-duty applications

Brief Description

Noncontact and Wear-Free

Robust technology, reliable continuous function and easy installation—these are the main features of the special technology of the bearing-free incremental rotary encoder. The bearing-free rotary encoder is available in versions with a magnetic ring or magnetic wheel. With a noncontact connection between the sensor and the magnetic wheel, the rotary encoder eliminates the need for ball bearings. This guarantees a long service life, even at high rotational speeds up to 30,000 rpm. Accommodating significantly larger hollow shaft diameters than with conventional rotary encoder solutions is also possible.

Impressive Performance in Extreme Conditions



Beyond the industry standard, there are many extreme environments that demand especially robust designs. For these areas, Pepperl+Fuchs offers an optimized portfolio of durable rotary encoder solutions and highly informed practical knowledge.

Safety Rotary Encoders

The certified safety rotary encoders make a decisive contribution to the safety of a machine or plant. They are based on innovative technical concepts, complemented by the use of existing communication paths. This supports the safety category certification up to SIL 3/PL e.

Typical Applications

- Plants in major industries with areas of application that come under the auspices of Machinery Directive 2006/42/EC
- Positioning of turntable ladders, e.g., on fire trucks
- Positioning of hangers on monorail conveyors

Your Benefits at a Glance

- Ensuring safety to protect man, machinery, and the environment
- Reduction of safety-related downtimes
- Continuous plant operation during maintenance or conversions

Offshore Rotary Encoders

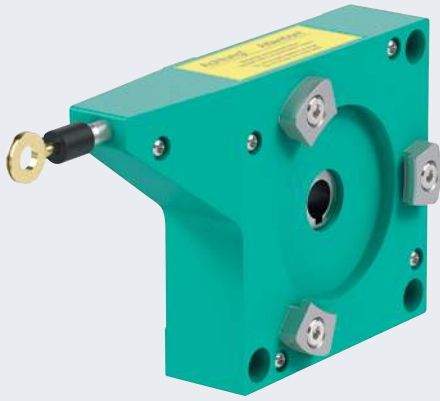
Specifically designed for use in marine environments and in especially cold environments, these rotary encoders resist shocks, vibrations, high humidity and temperatures down to -40°C .

Typical Applications

- Offshore and shipbuilding: Wind turbines on the high seas, gantry systems or spreaders
- Renewable energies: Rotation monitoring of the nacelle and blades of wind turbines, speed monitoring of generators
- Mobile equipment: Use in portal cranes and lift trucks

Your Benefits at a Glance

- Extremely resistant to high humidity and corrosion due to special housing coating
- Total immunity for environments exposed to especially high EMC loads
- Long service life due to robust sensor construction with special shaft construction and high degree of protection (IP69K)



Cable Pulls

The cable pull portfolio is characterized by a modular product architecture and enables the perfect coordination of cable pulls, rotary encoders and accessory components. It ranges from the decidedly compact housing design to the extremely robust version for almost every application area.

Typical Applications

- Linear distance measurement, e.g., in scissor lift tables, cranes, and stacker cranes

Your Benefits at a Glance

- Wide range of versions with measuring lengths up to 60 m—from especially compact housing designs up to the robust heavy-duty version
- Various housing materials from plastic to anodized aluminum for extreme operating conditions
- Comprehensive accessories such as rope mounts, attachments and guide pulleys allow flexible use in any environment

Heavy-Duty Rotary Encoders

Designed for the harshest outdoor use, these versions resist heat, cold, dirt, extreme vibration, strong shocks and electro-magnetic interference. The heavy-duty rotary encoders also provide reliable resistance to increased forces and extremely high shaft loads.

Typical Applications

- Steel and rolling mills, sawmills
- Outdoor lifting equipment
- Mobile equipment: Construction machinery such as cranes, crane vehicles, excavators, rollers and lifting vehicles

Your Benefits at a Glance

- Extremely robust and shock-resistant rotary encoders with high immunity to interference for environments with EMC loads
- Can be used in the most adverse conditions due to the highest degree of protection IP69K and especially resistant housing materials
- Increased service life due to wear-free technology and absorption of large shaft loads up to 400 N (axial) and 300 N (radial)

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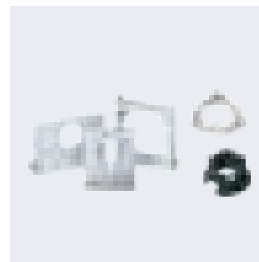
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Cable Pulls

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Rotary Encoder Accessories

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Safety Incremental Rotary Encoders

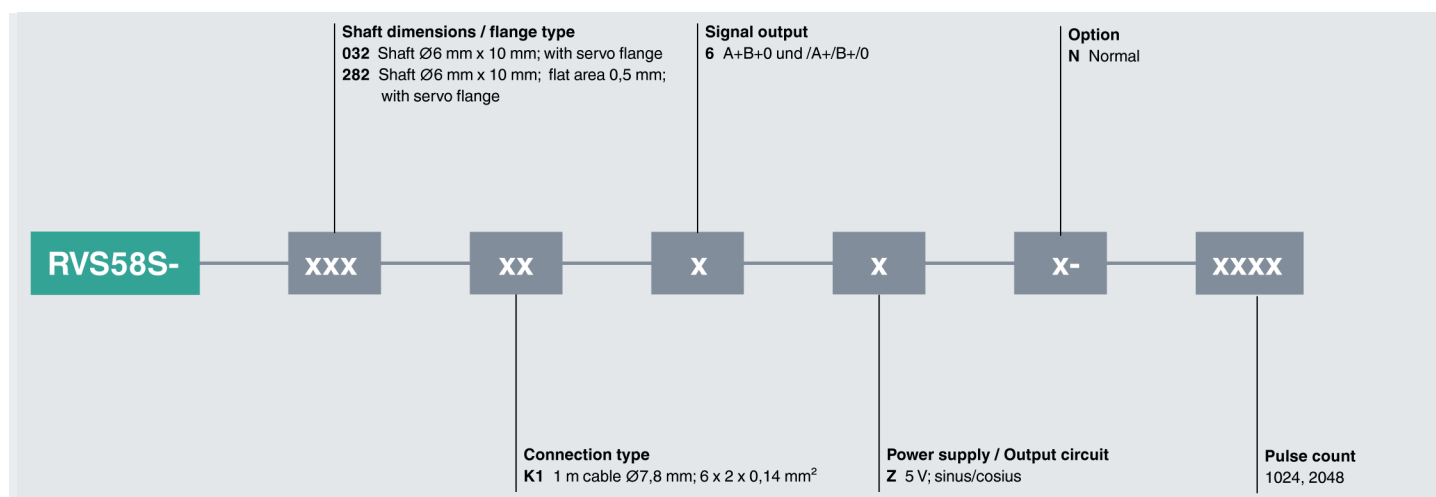
RVS58S Series



Common Technical Data

Scanning method	optical
Type of output	Sine/Cosine
Pulse count	1024 or 2048
Connection type	Cable
Housing design	Ø 58 mm
Shaft type	Solid shaft
Rotational speed	max. 12,000 rpm
Degree of protection	IP65
Operating temperature	-20 °C ... +80 °C
SIL	3
TÜV	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

- Ensuring safety to protect man, machinery, and the environment
- Continuous plant operation during servicing or conversions
- Reduction of safety-related downtimes
- Monitoring of: safe standstill, safe speed, and safe direction of rotation
- Elimination of mechanical safety devices
- Minimization of safety areas

Brief Description

Protection against Hazards in the Process Flow

The encoder has a sine-cosine interface and provides 1024 or 2048 signal periods. It is able to detect malfunctions and communicate safely. This allows machines to be put into safe condition and avoids hazards for operating personnel. If required, an extended temperature range of up to 115 °C is also possible.

Accessories

9203	Mounting bracket
MBT-36ALS	Sprung mounting bracket
MBT-36ALS120	Spring arm
9401/9402	Spring steel coupling
9404	Spring disk coupling
9408	Double-loop coupling
9409	Bellows coupling
9410	Precision coupling
9460	Stainless steel bellows coupling
CW	Helix coupling

Example: 9404 10*10 (D1*D2 coupling)

Heavy-Duty Incremental Rotary Encoders

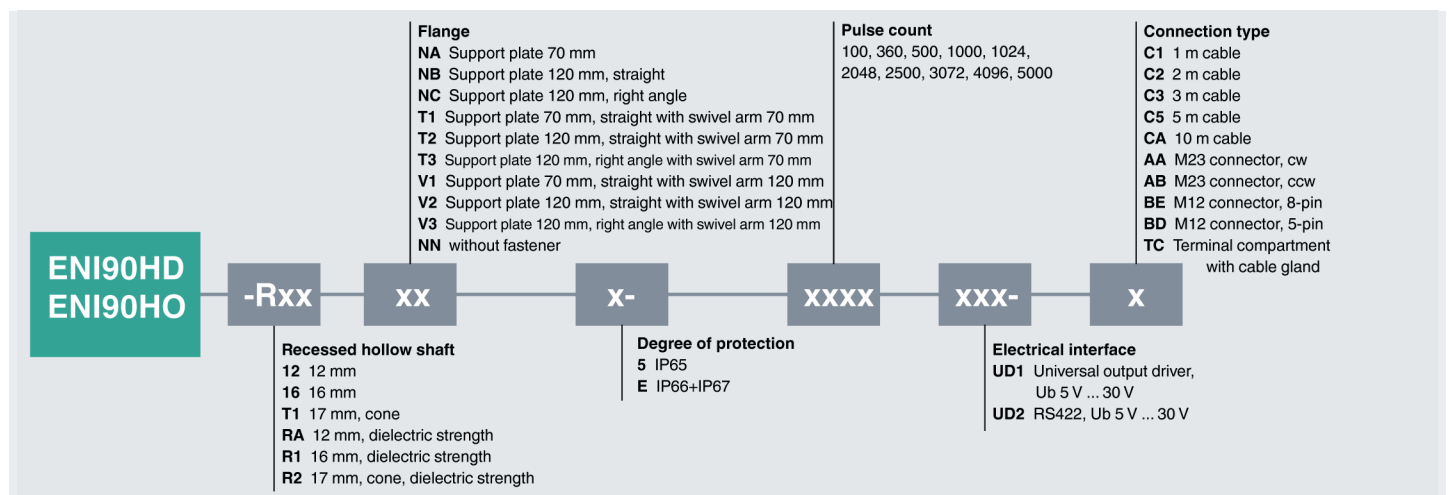
ENI90HD Series



Common Technical Data

Scanning method	optical
Type of output	Push-pull or RS-422
Pulse count	Max. 5000 pulses
Connection type	Cable, plug
Housing design	Ø 93 mm
Shaft type	Recessed hollow shaft
Rotational speed	max. 6,000 rpm
Degree of protection	IP65 and IP66/67
Operating temperature	-40 °C ... +85 °C

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

- Unique precision due to BlueBeam technology—whether for standard or heavy-duty applications
- Insulated shaft for high dielectric strength
- High resistance in rotational speed ranges up to 6000 rpm makes the devices especially durable
- High mounting flexibility due to tapped holes in 60° increments and a comprehensive range of accessories

Brief Description

Precise and Robust

The ENI90 impresses with its compact housing design and its high load capacity against shaft currents. The blocked bearing unit creates additional reserves for exceptional peak loads. A comprehensive range of accessories for connection options and torque arms is available for optimal customization to your application.

Accessories

ACC-ROD-ENI90HD-070	Articulated arm, 70 mm
ACC-TOR-ENI90HD-070	Support plate, 70 mm
ACC-TOR-ENI90HD-120A	Support plate, 120 mm, angled
ACC-SET-ENI90HD-GASKET	Seal insert set for cable glands
ACC-SET-ENI90HD-EARTH	Grounding set

Heavy-Duty Incremental Rotary Encoders

ENI11HD Series



Common Technical Data

Scanning method	optical
Type of output	Push-pull or RS-422
Pulse count	Max. 2500 pulses
Connection type	Cable, plug
Housing design	Ø 110 mm
Shaft type	Recessed hollow and hollow shaft
Rotational speed	max. 3000 rpm
Degree of protection	IP66/IP67 and IP69K
Operating temperature	-40 °C ... +80 °C

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Shaft dimensions		Mechanical coupling		Resolution	
H Hollow shaft R Recessed hollow shaft		NA Support plate 70 mm T1 Torque rest 70 mm		20, 100, 125, 360, 500, 512, 600, 1000, 1024, 1250, 2048, 2500	
ENI11HD-		XX		XXXX	
X		XX		XXX	
XX		X-		-T	
XX		XX		XX	
Shaft diameter		Degree of protection		Electrical interface	
16 mm 16		IP66/IP76 E		5 V; RS-422 increased EMC RS4	
20 mm 20		IP69K 9		10 V...30 V; RS-422 increased EMC RS6	
25 mm 25				10 V...30 V; PP increased EMC PP5	
28 mm 28					
16 mm dielectric strength R1				Electrical connection	
20 mm dielectric strength R3				1 m cable C1	
25 mm dielectric strength R5				2 m cable C2	
28 mm dielectric strength R6				5 m cable C5	
Recessed hollow shaft				10 m cable CA	
16 mm 16				M23; cw AA	
17 mm tapered T1				M23; ccw AB	
16 mm dielectric strength R1				Terminal box TC	
17 mm dielectric strength R2					
20 mm dielectric strength R3					

Highlights

- High failure reliability due to protection against shaft currents
- Extremely easy installation and maintenance due to a 4 x 90° swiveling junction box
- Long service life due to extremely high resistance to vibrations and shocks
- Can be used even in adverse environmental conditions due to the high degree of protection from IP66/IP67 and IP69K
- Reliable immunity for environments exposed to particularly high EMC loads
- High dielectric strength at wave currents up to 2.5 kV

Brief Description

Completely Flexible and Reliable

Comprehensive protection against wave currents and high EMC loads, and extreme vibration and shock resistance make this heavy-duty rotary encoder a highly robust component that guarantees optimum process reliability and a minimum risk of failure. The terminal box, which can be rotated by 4x 90°, simplifies handling and enables quick and flexible installation and replacement of the cable in the field.

Accessories

9416	Single-ended female cordset
9416L	Single-ended female cordset
ACC-ROD-ENI11HD-070	Articulated arm, 70 mm
ACC-ROD-ENI11HD-120	Articulated arm, 120 mm
ACC-SET-ENI11HD-DISMOUNTING	Dismounting set for ENI11HD rotary encoder
ACC-SET-ENI11HD-EARTH	Grounding kit for ENI11HD rotary encoder
ACC-SET-ENI11HD-GASKET	Seal insert set for cable glands
ACC-SET-ENI11HD-R16	Mounting accessory for 16-mm recessed hollow shaft

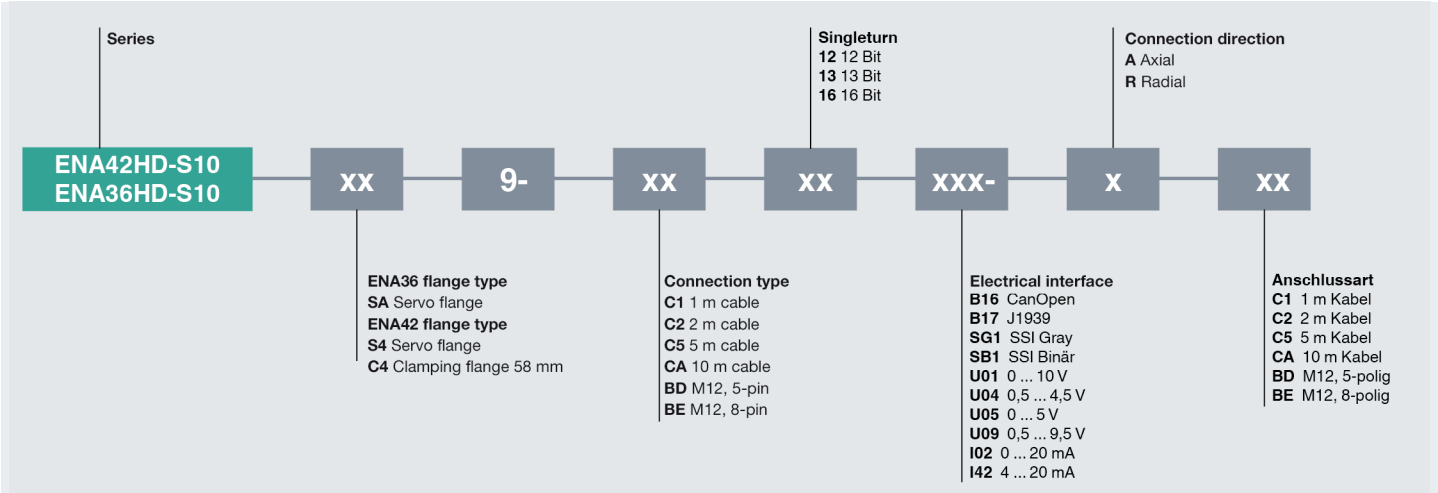
Heavy-Duty Incremental Rotary Encoders

ENA36HD and ENA42HD Series



Common Technical Data	
Scanning method	magnetic
Type of output	Analog, CANopen, J1939, SSI
Singleturn	Up to 16 bit
Multiturn	Up to 16 bit
Connection type	Plug, cable
Housing design	Ø 36 mm or Ø 42 mm
Shaft type	Solid shaft
Rotational speed	max. 6,000 rpm
Degree of protection	IP68/IP69K
Operating temperature	-40 °C ... +85 °C
Shaft load	Ø36: Axial/Radial: 180 N Ø42: Axial/Radial: 270 N
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

- Rugged design ensures long service life under extreme operating conditions
- Optimized for mobile equipment and offshore applications with stainless steel housing and IP69K degree of protection
- Compact housing design for confined spaces
- Wear-free technology for high reliability

Brief Description

Rugged Design for Increased Service Life

These two sensors combine compact dimensions with simple mounting. The robust housing construction is also able to cope with high shaft loads. The sensors are also resistant to continual shocks and vibrations. The accuracy of up to 1° provides the best conditions for the exact positioning of moving tools on lifting or crane systems. This is true even in offshore and other adverse environments.

Accessories	
9401/9402	Spring steel coupling
9404	Spring disk coupling
9408	Double-loop coupling
9409	Bellows coupling
9410	Precision coupling
9460	Stainless steel bellows coupling
CW	Helix coupling
Example: 9404 10*10 (D1*D2 coupling)	

Incremental Ex Rotary Encoders

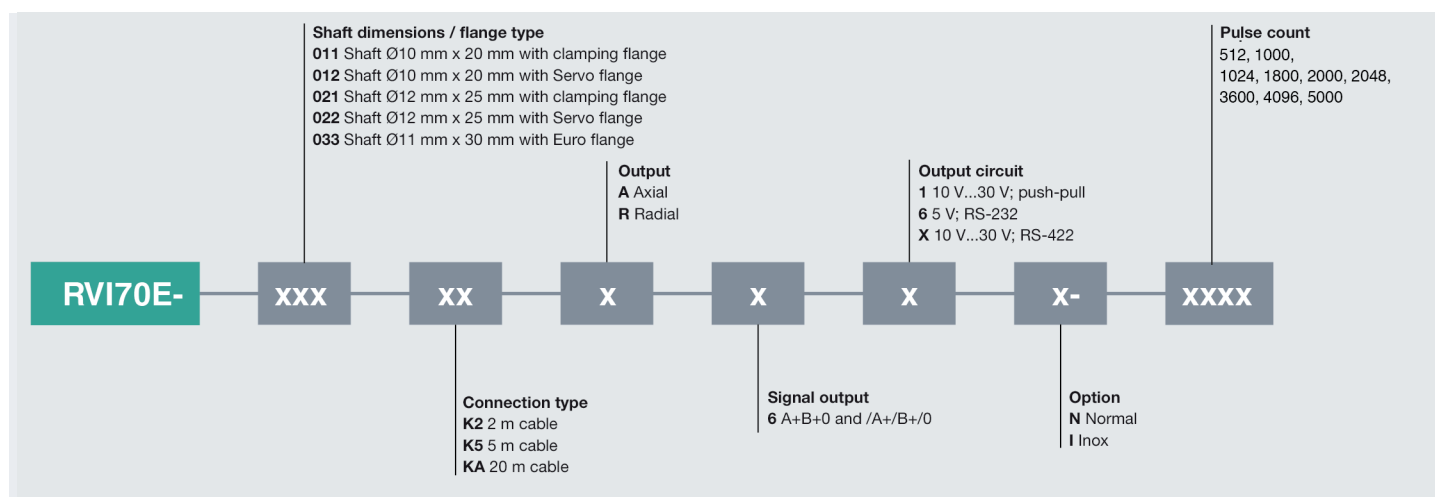
RVI70E Series



Common Technical Data

Scanning method	optical
Type of output	Push-pull or RS-422
Pulse count	Max. 5000 pulses
Connection type	Cable
Housing design	Ø 70 mm
Shaft type	Solid shaft and recessed hollow shaft
Degree of protection	IP66/IP67
Rotational speed	max. 6,000 rpm
ATEX	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



Highlights

- Global certification: ATEX, IECEx, KOSHA, NEPSI
- Robust bearing design ensures a long service life and reduced maintenance
- Compact housing design, ideal for confined spaces
- Suitable for use in demanding environments thanks to a high degree of protection and a sea water-resistant housing
- Large range of applications due to extended temperature range of -40 °C to 70 °C and high rotational speeds
- Wide range of variants for easy adaptation to any application

Brief Description

Suitable for Any Climate

The Ex rotary encoder with ATEX, IECEx, Ex-NEPSI and KOSHA certification offers more than just a high degree of protection. With its seawater-resistant housing, it is also suitable for use in offshore applications. The high rotational speed of 6000 rpm with an extended temperature range from -40 °C to 70 °C allows reliable deployment even under extreme climatic conditions. The compact housing design ensures efficient use of space. The rotary encoder is certified for explosion-hazardous areas (Group II) and for firedamp-sensitive mines (Group I).

Incremental Ex Rotary Encoders

78E Series



Common Technical Data

Scanning method	optical
Type of output	Analog, CANopen, DeviceNet, Ethernet, PROFIBUS
Singleturn	Up to 16 bit
Multiturn	Up to 14 bit
Connection type	Cable, cable gland
Housing design	Ø 78 mm
Shaft type	Solid and recessed hollow shaft
Rotational speed	max. 3000 rpm
Degree of protection	IP66

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Data format	Shaft dimensions	Connection type	Option	Housing material	Singleturn
A SSI C CANopen D DeviceNet E Ethernet I Analog current output P Profibus	Solid shaft	K2 2 m cable K5 5 m cable DR 2 cable glands KR 1 cable gland, 1 stopping plug	0 None/zeroing P Profinet E EtherCAT	N Aluminum I Stainless steel 1.4404	4096 12 8192 13 65536 16
Function principle	Recessed hollow shaft				
S Singleturn M Multiturn					
x x x 78E-	xx	x	xx	x	x
Shaft type S Recessed hollow shaft V Solid shaft	Flange type A Recessed hollow shaft 1 Clamping flange 2 Servo flange	Connection direction A Axial R Radial	Output code B Binary G Gray 5 4 mA...20 mA 6 0 mA...20 mA	Multiturn 00 Singleturn 04 16 12 4096 14 16384	

Highlights

- Removable connection cover: flexible mounting and cabling on-site
- Simple maintenance: separation of the cable and rotary encoder means there is no need to replace the entire device
- ATEX, IECEx, and Ex NEPSI certification for worldwide use in Zone 1/Zone 21
- Wide range of variants for easy adaptation to any application
- Specially developed for the offshore sector
- Robust design for use in extreme conditions

Brief Description

Flexible Mounting and Cabling

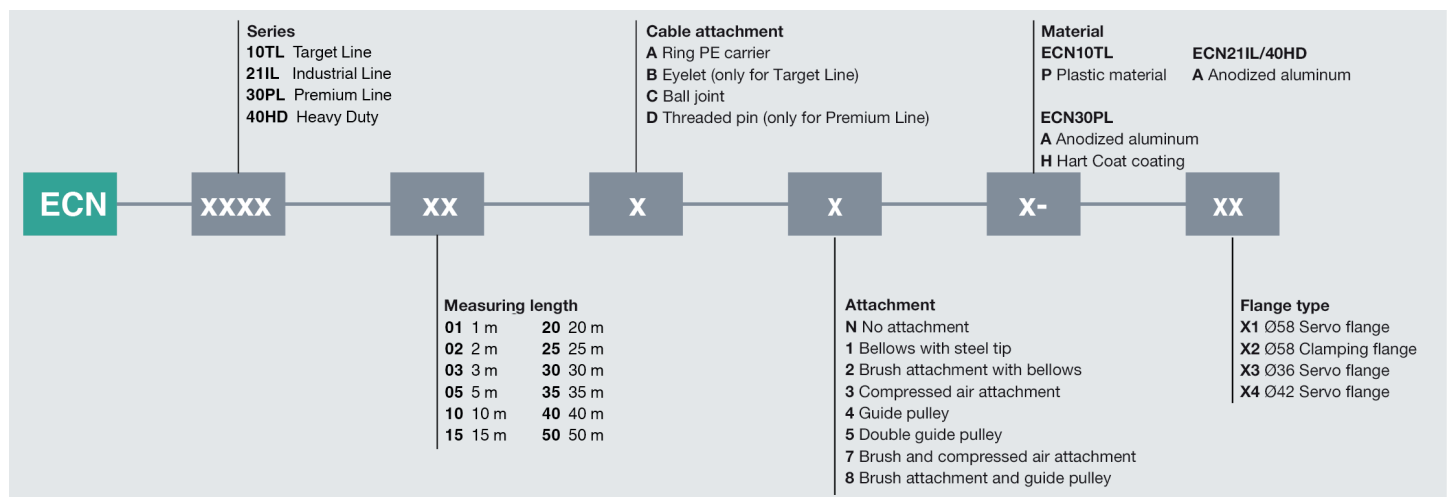
The sensor is suitable for speeds of up to 3000 rpm and is designed for a temperature range of -40 °C to 70 °C. It complies with protection type Ex d and meets the international ATEX, IECEx and Ex-NEPSI requirements for gases according to Zones 1 and 2, and for dusts according to Zones 21 and 22. The modular design with removable connection hood facilitates installation and maintenance. With the fieldbus versions, bus coding can be freely programmed directly on-site. The rotary encoder is certified for explosion-hazardous areas (Group II) and firedamp-sensitive mines (Group I).

Cable-Pull Rotary Encoders

Cable Pulls



For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.



EC*10TL

- Most affordable version
- Solid and lightweight plastic design
- Flat housing design for confined spaces
- Coupling-free adaptation for precise information feedback

EC*21IL

- Rugged aluminum drum housing
- Compact housing design
- Bellows with steel tip for increased protection and to prevent ice formation

EC*30PL

- Rugged aluminum drum housing (optional: Hart Coat coating)
- Drum movement when cable retracted using threaded spindle for high measurement accuracy
- Versatile attachments—suitable for every application
- Very low hysteresis

EC*40HD

- For extremely harsh weather and environmental conditions
- Open cable pull system simplifies easy cleaning

Brief Description

The range of cable-pull rotary encoders from Pepperl+Fuchs is characterized by a modular product architecture. It offers a wide range of versions for almost any application area. Optimally matched components guarantee a long service life and ensure reliable processes for linear distance measurement and positioning.

Accessories

ACC-PUL-ECN-SEP2

Guide pulley

ACC-PUL-ECN-SEP4

Guide pulley

Rotary Encoder Accessories



Only perfectly coordinated connection and mounting technology ensures optimum integration of a rotary encoder. The comprehensive range of accessories from Pepperl+Fuchs supplies all the necessary components for a perfect ready-to-install solution.

Brief Description

Mounting Accessories for Rotary Encoders with Hollow and Recessed Hollow Shafts

To connect the rotary encoder and motor shaft, you will be provided with stator couplings, torque spring plates, and torque rests.

Mounting Accessories for Rotary Encoders with Solid Shaft

Shaft couplings, mounting and eccentric clamping elements, mounting brackets and domes, and adapter flanges ensure that the rotary encoder is adapted safely and stays firmly in place.

Electrical Connection

For optimal connection of the rotary encoder, you will be provided with the appropriate single-ended female cordset, connector and connecting cable.

Measuring Wheels

Equipped for any surface with measuring wheels in various sizes, coatings, and running surface textures.

Evaluation

Various counters are available for visualizing rotary encoder signals such as display, pre-selection, and counters.

Cable Pull Accessories

The comprehensive range of accessories for cable suspensions, cable pull attachments, and guide pulleys enables consistently reliable measurement results with an increased service life even under difficult environmental conditions.

Simple and Efficient Plant Wiring



Proven millions of times, the AS-Interface enables especially fast and efficient connection of automation components. The simplified control system, topology-free optimized cabling and improved diagnostic capabilities result in significantly higher productivity.

AS-Interface Flat Cable

The flat cable for AS-Interface and AUX is ideal for easy, fast wiring. All end devices in automation technology can be connected especially efficiently using piercing technology.



Your Benefits at a Glance

- Complete solutions consisting of AS-Interface components and corresponding sensors from Pepperl+Fuchs
- Easy installation and operation: one flat cable for voltage supply and data transfer
- Impressive flexibility through topology-free optimized cabling
- Safe and error-free mounting thanks to piercing technology
- Flexible integration of safety components up to SIL 3/PL e without network changes
- Investment security through an established and manufacturer-independent system
- Cost-effective connection of all I/O signals



Typical Applications

- Efficient wiring of complex conveyor systems
- Subsequent integration of sensors and actuators into existing systems
- End-to-end wiring of large plants in the process industry
- Flexible use of safety components in the automotive industry

Technical Features

- Interoperable system with connection to almost all controllers
- Can be extended at any point on the flat cable
- Automatic addressing for module replacement
- Reverse polarity-protected flat cable design
- Extensive diagnostic function
- Transmission of secure and non-secure signals on one line
- Standardized wiring in mechanical engineering with integrated safety function
- Cost-effective, compact wiring in packaging technology

Master and Gateways

Pepperl+Fuchs offers suitable gateways for all standard field-bus systems: PROFINET, Ethernet/IP, EtherCAT, PROFIBUS, DeviceNet, CC-Link, etc. This enables data to be transferred to the higher-level controller simply and in a standardized way. In addition, gateways with an integrated safety monitor are available, which reliably monitor both AS-Interface segments.

Power Supplies

Each AS-Interface segment requires a power supply. These include data decoupling for interference-free communication on the AS-Interface secondary side. Alternatively, double masters with integrated data decoupling are available, which can be operated with a single power supply.

AS-Interface

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AS-Interface

K20 Series—Gateway



Common Technical Data

Housing design	K20
Installation conditions	Switch cabinet mounting
Operating voltage (min)	20 V
Operating voltage (max)	31.6 V
Degree of protection	IP20
Housing height H	120 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Number of AS-Interface Networks	Interface	Data Decoupling	Diagnostics Interface	Integrated Control Function	Length L	Width W	EAC
VBG-CCL-K20-D-BV	1	CC-Link				83 mm	85 mm	■
VBG-DN-K20-D	1	DeviceNet		RS-232	optional	76 mm	85 mm	■
VBG-DN-K20-DMD	1	DeviceNet		RS-232	optional	76 mm	85 mm	■
VBG-DN-K20-DMD-BV	2	DeviceNet			optional	76 mm	85 mm	
VBG-ENX-K20-D	1	MODBUS-TCP, EtherNet/IP		RS-232	optional	76 mm	85 mm	■
VBG-ENX-K20-D-EV24	1	MODBUS-TCP, EtherNet/IP	yes	Ethernet	optional	83 mm	85 mm	
VBG-ENX-K20-DMD	2	EtherNet/IP, MODBUS TCP		RS-232	optional	76 mm	85 mm	■
VBG-ENX-K20-DMD-EV	2	EtherNet/IP, MODBUS TCP	yes	RS-232	optional	76 mm	85 mm	
VBG-MOD-K20-D	1	MODBUS RTU		RS-232	optional	76 mm	75 mm	
VBG-PB-K20-D-BV	1	PROFIBUS				83 mm	75 mm	
VBG-PB-K20-D-EV1	1	PROFIBUS		Ethernet	optional	93 mm	75 mm	
VBG-PB-K20-D-EV24	1	PROFIBUS	yes		optional	83 mm	75 mm	
VBG-PB-K20-DMD-BV	2	PROFIBUS			optional	76 mm	75 mm	
VBG-PB-K20-DMD-EV	2	PROFIBUS	yes	Ethernet	optional	93 mm	75 mm	
VBG-PB-K20-DMD-EV1	2	PROFIBUS		Ethernet	optional	93 mm	75 mm	
VBG-PN-K20-D	1	PROFINET		RS-232		76 mm	85 mm	■
VBG-PN-K20-D-BV	1	PROFINET			optional	76 mm	85 mm	
VBG-PN-K20-D-EV24	1	PROFINET	yes			83 mm	85 mm	
VBG-PN-K20-DMD	2	PROFINET		RS-232		76 mm	85 mm	■
VBG-PN-K20-DMD-EV	2	PROFINET	yes	RS-232	optional	76 mm	85 mm	
VBG-PN-K20-DMD-EV2	2	PROFINET				76 mm	85 mm	
VBM-CTR-K20-R2	1	RS-232			enabled	76 mm	75 mm	

Highlights

- Up to 2 x 62 participants
- LCD and function keys
- Memory Card
- Color coded, removable terminals
- Double address detection
- Earth fault detection
- Diagnosis of bus communication
- Optionally with integrated data decoupling

Brief Description

Many masters/gateways offer a separate diagnostic interface, an earth-fault detector, and double address detection on the AS-Interface segment.

Accessories

USB-0,8M-PVC ABG-SUBD9	USB to RS 232 interface converter
VAZ-PB-DB9-W	PROFIBUS D-sub connector with switchable terminator
VAZ-PB-SIM	PROFIBUS master simulator
VAZ-SW-ACT32	Full version of the AS-i control tools incl. connection cable

AS-Interface

K30 Series—Gateway



Common Technical Data

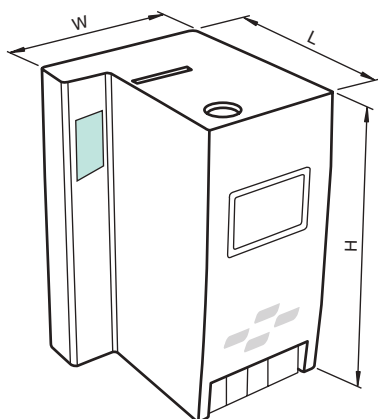
Housing design	K30
Installation conditions	Switch cabinet mounting
Operating voltage (max)	31.6 V
Degree of protection	IP20
SIL	3
Housing height H	120 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Number of AS-Interface Networks	Interface	Number of Inputs per Module	Number of Outputs per Module	Number/Type of Secure Outputs	Data Decoupling	Diagnostics Interface	Integrated Control Function	UB (Min)	Length L	Width W
VBG-ENX-K30-DMD-S16	2	EtherNet/IP, MODBUS TCP	4	2	2/PNP; 2/normally-open		RS-232	optional	26.5 V	89 mm	110 mm
VBG-ENX-K30-DMD-S16-EV	2	EtherNet/IP, MODBUS TCP	4	2	2/PNP; 2/normally-open	yes	Ethernet	optional	26.5 V	89 mm	110 mm
VBG-PB-K30-D-S16	1	PROFIBUS	4	2	2/PNP; 2/normally-open		RS-232	optional	26.5 V	89 mm	100 mm
VBG-PB-K30-DMD-S16	2	PROFIBUS	4	2	2/PNP; 2/normally-open		RS-232	optional	26.5 V	89 mm	100 mm
VBG-PB-K30-DMD-S16-EV	2	EtherNet/IP, PROFIBUS	4	2	2/PNP; 2/normally-open	yes	Ethernet	optional	20 V	89 mm	100 mm
VBG-PBS-K30-DMD	2	PROFIBUS, PROFIsafe	4	2	2/PNP; 2/normally-open		RS-232		26.5 V	89 mm	100 mm
VBG-PN-K30-DMD-S16	2	PROFINET	4	2	2/PNP; 2/normally-open		RS-232	optional	26.5 V	120 mm	100 mm
VBG-PN-K30-DMD-S32-EV	2	PROFINET	6		6/PNP	yes	Ethernet	optional	26.5 V	120 mm	110 mm
VBG-PNS-K30-DMD	2	PROFINET, PROFIsafe	4	2	2/PNP; 2/normally-open		RS-232		26.5 V	89 mm	110 mm

Highlights

- Up to 2 x 31 secure modules per gateway
- Integrated secure electronic or relay outputs
- PL e, SIL 3, Cat. 4 approved
- Extended diagnostic function from the PLC to the module
- Comprehensive software package VAZ-SW-SIMON+ for especially simple configuration and thorough diagnosis



Brief Description

In addition to the single or double master, the safety monitor is integrated in the same housing, which reliably monitors both AS-Interface segments.

Accessories

USB-0,8M-PVC ABG-SUBD9	USB to RS 232 interface converter
VAZ-PB-DB9-W	PROFIBUS D-sub connector with switchable terminator
VAZ-SIMON+-R2-1,8M-PS/2	Interface cable for connecting the K30/K31 safety monitor to a PC
VAZ-SW-SIMON+	Software for configuring K30 master monitors/K31 and KE4 safety monitors

AS-Interface

Power Supplies



Common Technical Data	
Installation conditions	Switch cabinet mounting
Degree of protection	IP20
Connection type	Screw terminals

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

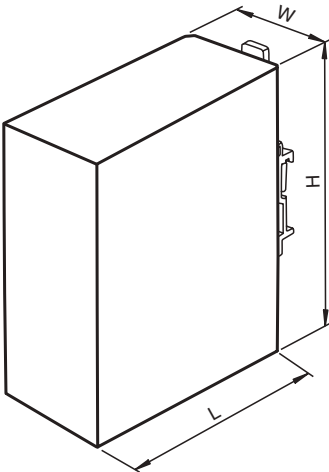
Model Number	Output Voltage	Output Current	Type of Voltage	UB (Min)	UB (Max)	Length L	Width W	Height H	UL
VAN-115/230AC-K16	30.55 V	8.00 A	AC/DC	85 V	264 V	102 mm	91 mm	124 mm	■
VAN-115/230AC-K19	30.55 V	2.80 A	AC	85 V	264 V	102 mm	49 mm	124 mm	■
VAN-115/230AC-K27	30.50 V	4.00 A	AC/DC	85 V	264 V	102 mm	73 mm	124 mm	■
VAN-230/500AC-K24	31.20 V	8.00 A	AC	195 V	500 V	151 mm	70 mm	141 mm	
VAN-24DC-K28	30.55 V	4.00 A	DC	24 V	24 V	102 mm	40 mm	124 mm	■

Highlights

- Each AS-Interface segment requires an AS-Interface power supply (30.5 V)
- Various versions from 2.8 A to 8 A
- With power factor correction and high efficiency factor
- Can be used worldwide thanks to wide range voltage input
- Integrated, cyclical overload protection

Brief Description

AS-Interface power supplies contain data decoupling for interference-free communication on the AS-Interface secondary side. Each AS-Interface segment requires a power supply. Alternatively, double masters with integrated data decoupling are available, which can be operated with one power supply.



K31 Series— Safety Monitors



Common Technical Data	
Housing design	K31
Number of AS-Interface networks	2
Installation conditions	Switch cabinet mounting
Number of inputs per module	4
Number of outputs per module	2
Interface	RS-232
Number/type of secure outputs	2/PNP; 2/normally-open
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP20
SIL	3
Housing material	Stainless steel (V2A)
Housing length L	89 mm
Housing width W	85 mm
Housing height H	120 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number

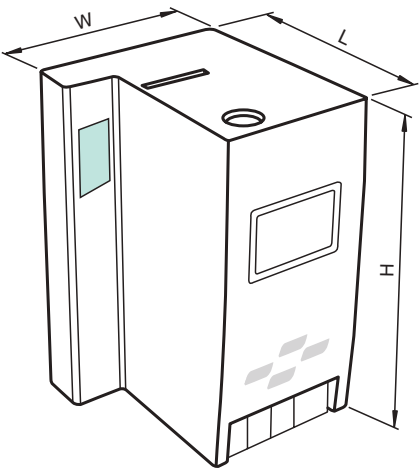
VAS-4A16L-K31

Highlights

- Certified to SIL 3 in accordance with IEC 61508 and EN 62061 and to PLe in accordance with EN 13849
- Stainless steel housing
- LC display for slave addresses and error messages

Brief Description

The K31 series has four inputs and four outputs. Two inputs are used for extended device monitoring (EDM). Several safe AS-Interface outputs are possible on one address thanks to the 16 independent AS-Interface enabling circuits. The K31 series is especially suitable for use in switch cabinets. The connected loads are safely switched by two safety relays.



Accessories	
USB-0,8M-PVC ABG-SUBD9	USB to RS 232 interface converter
VAZ-SIMON+-R2-1,8M-PS/2	Interface cable for connecting the K30/K31 safety monitor to a PC
VAZ-SW-SIMON+	Software for configuring K30 master monitors/K31 and KE4 safety monitors

KE4 Series—Safety Monitors



Common Technical Data	
Housing design	KE4
Installation conditions	Switch cabinet mounting
Number of outputs per module	2
Supply for inputs	External (from AUX)
Supply for outputs	External (from AUX)
Operating voltage (min)	18 V
Operating voltage (max)	31.6 V
Degree of protection	IP20
SIL	3
Housing material	Polyamide
Housing length L	113 mm
Housing width W	22.5 mm
Housing height H	99 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

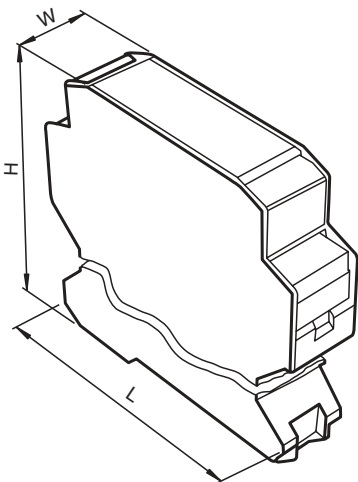
Model Number	Number of Inputs per Module	Data Decoupling	Programming Interface
VAS/M-2A8L-KE4-6SE-EV	6	yes	Ethernet
VAS/M-2A8L-KE4-8SE-C1	8	yes	USB
VAS-2A8L-KE4-8SE	8		USB

Highlights

- For distributed safety applications as a replacement for small safe PLC solutions
- Can be integrated into existing AS-Interface systems for implementing safety requirements
- Integrated chip card for storing the configuration and for easy device exchange
- Eight logical, secure, switchable output groups

Brief Description

KE4 safety monitors can be used as a stand-alone solution and can be integrated into an AS-Interface segment to implement local safety logic and safe inputs/outputs.



Accessories	
VAZ-SIMON-USB	USB type A to micro USB plug
VAZ-SW-SIMON+	Software for configuring K30 master monitors/K31 and KE4 safety monitors
VAZ-SW-SUITE	Combined software for configuration, diagnostics, and programming, for masters and safety monitors (KE4, K20, K30, K31 series)

I/O Modules for Field Applications

G10 Series



Common Technical Data

Housing design	G10
Installation conditions	Field mounting
Participant type	A/B participants
Operating voltage (min)	18.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP67
Housing material	PBT
Housing length L	40.5 mm
Housing width W	27.7 mm
Housing height H	21.5 mm
ECOLAB	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Connection Type	Number of Inputs per Module	Number of Outputs per Module	Current-Carrying Capacity per Output	Power Supply Inputs	Power Supply - Outputs
VBA-1E1A-G10-ZAL/E2L-1M-2V3-G	M8 connector plug	1	1		External (from AUX)	External (from AUX)
VBA-2A-G10-E2L-1M-2V1-W	M12 connector plug		2	2 A		External (from AUX)
VBA-2E-G10-ZAJ-1M-V1-W	M12 connector plug	2			Internal (from AS-i)	
VBA-2E-G10-ZAL-1M-2V31-G	M8 connector plug	2			External (from AUX)	
VBA-2E-G10-ZEJ-0,1M-2V3-G	M8 connector plug	2			Internal (from AS-i)	
VBA-2E-G10-ZEJ-1M-2V1-W	M12 connector plug	2			Internal (from AS-i)	
VBA-2E-G10-ZEJ-2X3M	M12 connector plug	2			Internal (from AS-i)	
VBA-2E1A-G10-ZAL/E2L-1M-2V1-W	M12 connector plug	2	1	1 A	External (from AUX)	External (from AUX)
VBA-2E1A-G10-ZAL/E2L-P1	M8 connector plug	2	1	1 A	External (from AUX)	External (from AUX)
VBA-2E2A-G10-Z/E2J-1M-V15-G	M12 connector plug	2	2	0.075 A	Internal (from AS-i)	Internal (from AS-i)
VBA-4A-G10-E2J-1M-V15-G	M12 connector plug		4	0.025 A		Internal (from AS-i)

Highlights

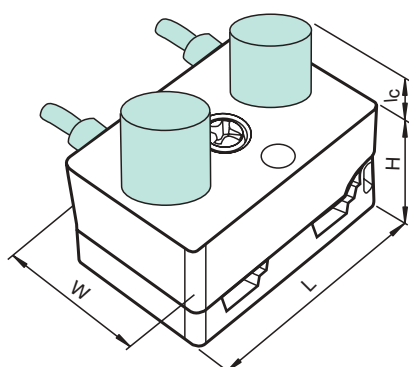
- Simple, quick mounting
- One-piece housing concept
- No loose parts—nothing to be mounted or lost
- Can even be mounted in confined spaces
- Perfect wiring optimization right up to the sensor
- Direct connection makes the connection line unnecessary

Brief Description

G10 modules are the perfect solution for connecting distributed I/Os and offer space-saving installation in cable ducts, for example. Thanks to the one-piece housing concept, G10 modules can be installed within seconds and have a direct connection.

Accessories

VAZ-PK-FK-0,2M-V1-W	Adapter cable G10 module/handheld programming unit



I/O Modules for Field Applications

G11 Series—Analog I/O Module



Common Technical Data

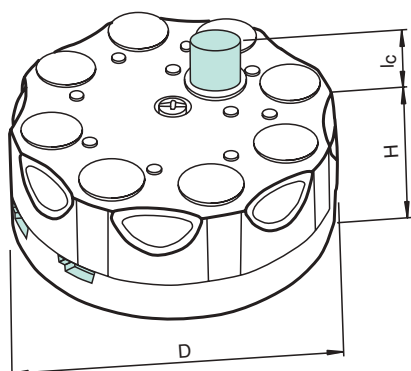
Housing design	G11
Installation conditions	Field mounting
Participant type	Standard participants
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP68/IP69K
Housing material	PBT
Housing height H	35 mm
Housing diameter D	85 mm
ECOLAB	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Number of Inputs per Module	Number of Outputs per Module	Supply for Inputs	Supply for Outputs
VBA-2A-G11-I-F		2 (current: 0 mA ... 20 mA)		Internal (from AS-i)
VBA-2A-G11-I-V1		2 (current: 0 mA ... 20 mA)		Internal (from AS-i)
VBA-2A-G11-IL-V1		2 (current: 0 mA ... 20 mA)		External (from AUX)
VBA-2E-G11-I/U/PT100-F	2 (Current: 0/4 mA ... 20 mA; voltage: 0 V ... 10 V; Pt100: -200 °C ... 850 °C)		Internal (from AS-i) / external (from AUX)	
VBA-2E-G11-I/U/PT100-V1	2 (Current: 0/4 mA ... 20 mA; voltage: 0 V ... 10 V; Pt100: -200 °C ... 850 °C)		Internal (from AS-i) / external (from AUX)	
VBA-4A-G11-I/U-F		4 (current: 0 mA ... 20 mA/voltage: 0 V ... 10 V)		Internal (from AS-i) / external (from AUX)
VBA-4E-G11-I-F	4 (current: 0/4 mA ... 20 mA)		Internal (from AS-i) / external (from AUX)	

Highlights

- Sensor connection via M12 plug
- Easy to mount in different housing designs
- Different module types with the required I/O quantity
- Integrated dual LED for per-channel diagnostics indicator in case of output overload or sensor overload
- The G11 series offers the option of connecting analog sensors



Brief Description

G11 module with innovative sealing concept and compact, round housing design—especially suitable for applications in mechanical engineering and for harsh process environments

Accessories

V1-G-0,3M-PUR-ABG-V1-W-Y	Double-ended cordset, M12 to M12, PUR cable, 4-pin, bridged, shielded
V1-G-42-0,3M-PUR-ABG-V1-W-Y	Double-ended cordset, M12 to M12, PUR cable, 4-pin, bridged, shielded
VAZ-PK-1.5M-V1-G	Adapter cable module/handheld programming unit
VAZ-V1-B3	Stopping plug for M12 sockets

I/O Modules for Field Applications

G11 Series—Digital I/O Module



Common Technical Data

Housing design	G11
Installation conditions	Field mounting
Supply for inputs	Internal (from AS-i)
Operating voltage (min)	18 V
Operating voltage (max)	31.6 V
Degree of protection	IP68/IP69K
Housing material	PBT
Housing height H	35 mm
Housing diameter D	85 mm
ECOLAB	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

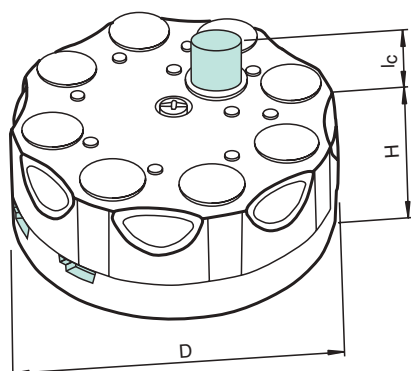
Model Number	Number of Inputs per Module	Number of Outputs per Module	Current-Carrying Capacity per Output	Supply for Outputs	Participant Type
VAA-4E4A-G11-ZAJ/EA2L-F	4	4	2 A	External (from AUX)	Standard participants
VAA-4E4A-G11-ZAJ/EA2L-V1	4	4	2 A	External (from AUX)	Standard participants
VBA-4E-G11-ZAJ-F	4				A/B participants
VBA-4E-G11-ZAJ-V1	4				A/B participants
VBA-4E4A-G11-ZAJ/EA2L-F	4	4	2 A	External (from AUX)	A/B participants
VBA-4E4A-G11-ZAJ/EA2L-V1	4	4	2 A	External (from AUX)	A/B participants
VBA-4E4E-G11-ZAJ-F	8				A/B participants

Highlights

- Sensor connection via M12 plug
- Easy to mount in different housing designs
- Different module types with the required I/O quantity
- Integrated dual LED for per-channel diagnostics indicator in case of output overload or sensor overload

Brief Description

G11 module with innovative sealing concept and compact, round housing design—especially suitable for applications in mechanical engineering and for harsh process environments



Accessories

VAZ-PK-1.5M-V1-G	Adapter cable module/handheld programming unit
VAZ-V1-B3	Stopping plug for M12 sockets

I/O Modules for Field Applications

G12 Series



Common Technical Data

Housing design	G12
Installation conditions	Field mounting
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP67
Housing material	PBT
Housing width W	57.4 mm
Housing height H	35 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Number of Inputs per Module	Number of Outputs per Module	Current-Carrying Capacity per Output	Supply for Inputs	Supply for Outputs	Participant Type	Length L
VAA-4A-G12-EA2L		4	2 A		External (from AUX)	Standard participants	118 mm
VAA-4E4A-G12-ZAJ/EA2L	4	4	2 A	Internal (from AS-i)	External (from AUX)	Standard participants	151.6 mm
VAA-4E4A-G12-ZAL/EA2L	4	4	2 A	External (from AUX)	External (from AUX)	Standard participants	151.6 mm
VBA-2E2A-G12-ZAJ/EA2L	2	2	2 A	Internal (from AS-i)	External (from AUX)	A/B participants	118 mm
VBA-2E2A-G12-ZEJ/EA2L	2	2	2 A	Internal (from AS-i)	External (from AUX)	A/B participants	118 mm
VBA-4E-G12-ZAJ	4			Internal (from AS-i)		A/B participants	118 mm
VBA-4E-G12-ZAL	4			External (from AUX)		A/B participants	118 mm
VBA-4E-G12-ZEJ	4			Internal (from AS-i)		A/B participants	118 mm
VBA-4E3A-G12-ZAJ/EA2L	4	3	2 A	Internal (from AS-i)	External (from AUX)	A/B participants	151.6 mm
VBA-4E4A-G12-XEL	4	4	1 A	External (from AUX)	External (from AUX)	A/B participants	118 mm
VBA-4E4A-G12-ZAJ/EA2L	4	4	2 A	Internal (from AS-i)	External (from AUX)	A/B participants	151.6 mm
VBA-4E4A-G12-ZAL/EA2L	4	4	2 A	External (from AUX)	External (from AUX)	A/B participants	151.6 mm
VBA-4E4A-G12-ZEJ/EA2L	4	4	2 A	Internal (from AS-i)	External (from AUX)	A/B participants	151.6 mm
VBA-4E4E-G12-ZAJ	8			Internal (from AS-i)		Double A/B participant	151.6 mm

Highlights

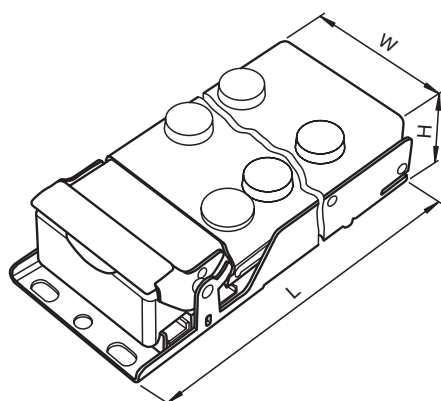
- Sensor connection via M12 plug
- Easy to mount in different housing designs
- The G12 module offers tool-free mounting
- Different module types with the required I/O quantity
- Integrated dual LED for per-channel diagnostics indicator in case of output overload or sensor overload

Brief Description

G12 module with one-piece housing and tool-free mounting

Accessories

VAZ-CLIP-G12	Lock for G12 module
VAZ-PK-1.5M-V1-G	Adapter cable module/handheld programming unit
VAZ-V1-B3	Stopping plug for M12 sockets



I/O Modules for Field Applications

G16 Series



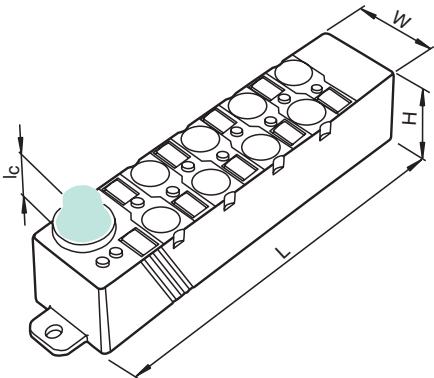
Common Technical Data	
Housing design	G16
Installation conditions	Field mounting
Number of inputs per module	4
Participant type	A/B participants
Supply for inputs	Internal (from AS-i)
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP67
Housing material	PBT
Housing width W	30 mm
Housing height H	29.35 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Number of Outputs per Module	Current-Carrying Capacity per Output	Supply for Outputs	Length L
VBA-4E-G16-ZEJ	4	1 A	External (from AUX)	103 mm
VBA-4E4A-G16-ZEJ/E2L				143 mm

Highlights

- Sensor connection via M8 plug
- Easy to mount in different housing designs
- Different module types with the required I/O quantity
- Integrated dual LED for per-channel diagnostics indicator in case of output overload or sensor overload



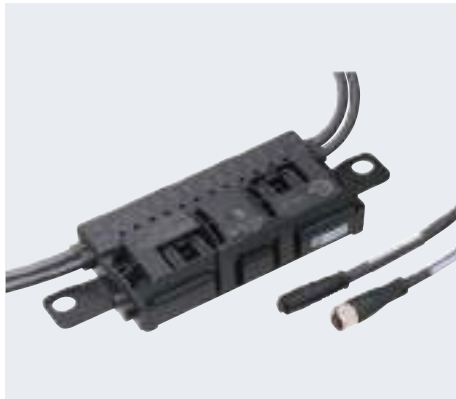
Brief Description

G16 compact module with M8 connection—for confined spaces

Accessories	
VAZ-V3-B	Stopping plug for M8 sockets

I/O Modules

G20 Series



Common Technical Data

Housing design	G20
Installation conditions	Field mounting
Participant type	A/B participants
Supply for outputs	External (from AUX)
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP54
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

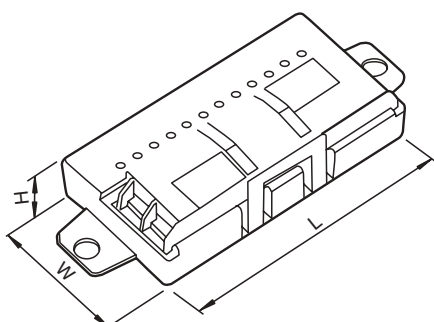
Model Number	Connection Type	Number of Inputs per Module	Number of Outputs per Module	Current-Carrying Capacity per Output	Supply for Inputs	Length L	Width W	Height H
VBA-3E3A-G20-ZEL/E2L-P1	M8 connector plug	3	3	2 A	External (from AUX)	54 mm	131.5 mm	27.5 mm
VBA-4E3A-G20-ZEL/E2L-P11	M12 connector plug	4	3	2 A	External (from AUX)	54 mm	131.5 mm	27.5 mm
VBA-4E3A-G20-ZEL/E2L-P5	M12 connector plug	4	3	2 A	External (from AUX)	54 mm	131.5 mm	27.5 mm
VBA-4E3A-G20-ZEL/M1L-P2	M8 connector plug	2	2 (for DC roller motors)	3.5 A	External (from AUX)	54 mm	131.5 mm	27.5 mm
VBA-4E3A-G20-ZEL/M1L-P6	M8 connector plug	2	2 (for DC roller motors)	3.5 A	External (from AUX)	54 mm	135.5 mm	27.5 mm
VBA-4E4A-G20-ZEJ/M3L-P10	M8 connector plug	2	2 (for DC roller motors)	3.5 A	Internal (from AS-i)	54 mm	131.5 mm	27.5 mm
VBA-4E4A-G20-ZEJ/M3L-P9	M8 connector plug	2	2 (for DC roller motors)	3.5 A	Internal (from AS-i)	54 mm	131.5 mm	27.5 mm

Highlights

- G20 housing design can be mounted directly in the mounting strip
- Allows pre-assembly of material handling segments
- Insertion of the flat cable as the last installation step directly on site
- Inputs for three-wire sensors and outputs for roller motors integrated in the module
- /M version controls 24 V DC motor rollers: start/stop, speeds, accelerations, direction of rotation
- Versions for Interroll EC310/EC5000, Itoh Denki PM500XE/XP and Rulmeca BL3

Brief Description

The G20 modules are available with digital inputs/outputs and also for controlling 24 V DC motor rollers (Interroll, Itoh Denki, Rulmeca). The innovative housing concept with integrated cables enables the pre-assembly of conveyor segments with the insertion of the flat cable as a last step directly at the destination. The motor control modules allow easy control of start/stop ramps, speeds, accelerations and the direction of rotation directly from the PLC.



Accessories

VAZ-G10-LIMITER	Voltage limiter G10
VAZ-G20-MH	Mounting aid
VAZ-PK/G20-1M-V1-G	Adapter cable G20 module/handheld programming unit

I/O Modules

CB10 Series



Common Technical Data

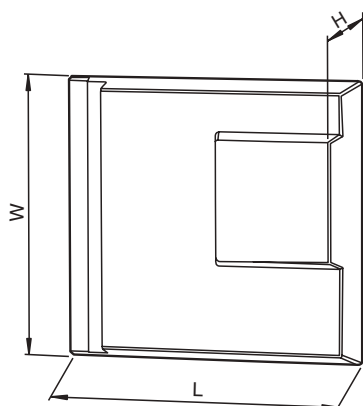
Current-carrying capacity per output	0.1 A
Housing design	CB
Installation conditions	Switch cabinet mounting
Supply for inputs	Internal (from AS-i)
Supply for outputs	Internal (from AS-i)
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP20
Housing material	Polyamide
Housing length L	39.5 mm
Housing width W	36 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Number of Inputs per Module	Number of Outputs per Module	Participant Type	Height H
VAA-2E1A-CB10-SJ/E2J-FL	2	1	Safety participants	10.1 mm
VAA-2E2A-CB10-SJ/E2J-FL	2	2	Safety participants	10.1 mm
VBA-4E4A-CB10-ZEJ/E0J-FL	4	4	A/B participants	10 mm
VBA-4E4A-CB10-ZJ/E1J-FL	4	4	A/B participants	10 mm

Highlights

- Integrated communication monitoring function
- Versions available for mechanical contacts, three-wire sensors and safety-related inputs
- Short-circuit-proof and overload-proof outputs
- Supply of inputs and outputs from AS-Interface
- Function indicator for bus, inputs and outputs
- Connection via stranded wires



Brief Description

The CB10 connecting module is ideally suited to the integration of customer-specific electronics, e.g., illuminated buttons, emergency stop buttons or LED lights. The printed circuit board is supplied completely from the AS-Interface. The inputs and outputs are short-circuit- and overload-proof. The indicator and operating elements and also the AS-Interface are connected via stranded cable. Output overload is signaled to the AS-Interface master via the "peripheral fault" function. Communication via AS-Interface remains active. Communication monitoring is built in. This function disconnects the outputs from the power supply when no communication is taking place on the AS-Interface line.

Accessories

VAZ-PK-FK-0,2M-V1-W	Adapter cable G10 module/handheld programming unit

I/O Modules

KE Series



Common Technical Data	
Housing design	KE
Installation conditions	Switch cabinet mounting
Number of inputs per module	4
Supply for inputs	Internal (from AS-i) / external (from AUX)
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP20
Housing material	Polyamide
Housing length L	102 mm
Housing width W	22.5 mm
Housing height H	99 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

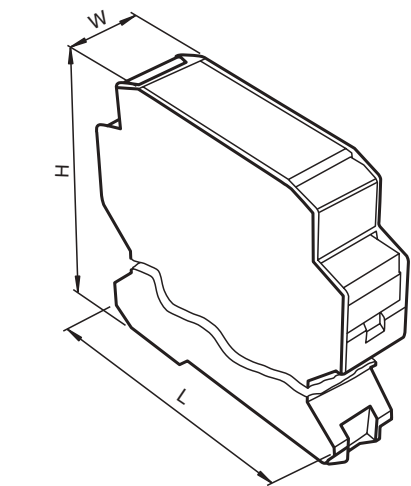
Model Number	Number of Outputs per Module	Current-Carrying Capacity per Output	Supply for Outputs	Participant Type
VAA-4E4A-KE-ZEJQ/E2L	4	0.5 A	External (from AUX)	Standard participants
VBA-4E-KE-ZEJQ				A/B participants
VBA-4E3A-KE-ZEJQ/E2L	3	2 A	External (from AUX)	A/B participants
VBA-4E4A-KE-ZEJQ/E2L	4	0.5 A	External (from AUX)	A/B participants

Highlights

- 24 terminal connections
- Up to four inputs and four outputs

Brief Description

The switch cabinet modules from the KE series are available in different sizes and with different numbers of terminal connections. Color-coded and removable terminals guarantee fast and error-free replacement.



Accessories	
VAZ-PK-1.5M-V1-G	Adapter cable module/handheld programming unit
VAZ-CHAIN-BU/ BN70MM/1,0-25	Distributor with 25 connections for switch cabinet modules with screw terminals

I/O Modules

KE1 Series



Common Technical Data

Housing design	KE1
Installation conditions	Switch cabinet mounting
Number of inputs per module	4
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP20
Housing material	Polyamide
Housing length L	99.6 mm
Housing width W	22.5 mm
Housing height H	48.5 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

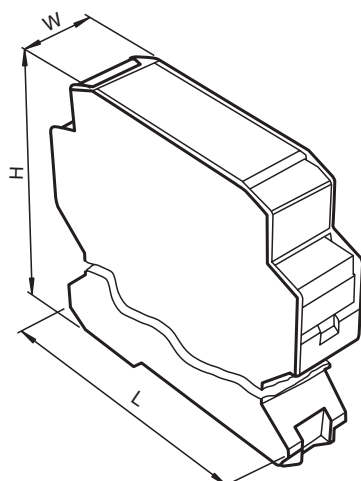
Model Number	Connection Type	Number of Outputs per Module	Current-Carrying Capacity per Output	Power Supply Inputs	Power Supply - Outputs	Participant Type
VAA-4E4A-KE1-Z/E2	Plug-in spring terminals	4	0.5 A	External (from AUX)	External (from AUX)	Standard participants
VBA-4E-KE1-Z	Plug-in screw terminals			Internal (from AS-i)		A/B participants
VBA-4E2A-KE1-Z/E2	Plug-in screw terminals	2	1 A	Internal (from AS-i)	External (from AUX)	A/B participants
VBA-4E4A-KE1-Z/E2	Plug-in spring terminals	4	0.5 A	External (from AUX)	External (from AUX)	A/B participants

Highlights

- Fits perfectly even in very flat switch boxes with 50-mm installation dimensions
- Easy mounting by snapping onto standard rails
- LED indicators for diagnostics and all inputs/outputs

Brief Description

KE1 modules can also be easily installed in flat switch boxes.



Accessories

VAZ-PK-1.5M-V1-G	Adapter cable module/handheld programming unit
VAZ-CHAIN-BU/ BN70MM/1,0-25	Distributor with 25 connections for switch cabinet modules with screw terminals

I/O Modules for Switch Cabinet Mounting

KE2 Series



Common Technical Data

Housing design	KE2
Installation conditions	Switch cabinet mounting
Number of inputs per module	4
Number of outputs per module	4
Participant type	Standard participants
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP20
Housing material	Polyamide
Housing length L	99 mm
Housing width W	22.5 mm
Housing height H	85 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number

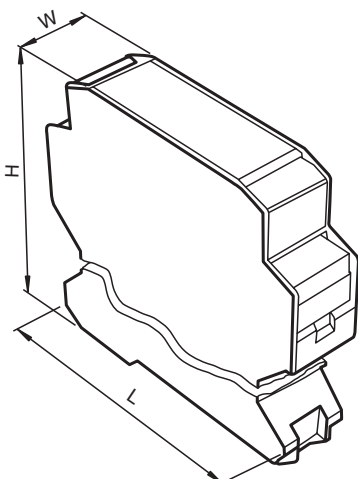
VAA-4E4A-KE2-DK

Highlights

- Module for bidirectional data exchange between two AS-Interface circuits
- Two AS-Interface connections
- Four inputs/four outputs per slave (internally connected)
- Housing with removable terminals
- Function indicator for all outputs
- Communication Monitoring
- Addressing via two sockets in the front panel

Brief Description

The data coupler interface module is used to exchange data between two AS-Interface circuits. The data coupler consists of two 4E4A slaves in one housing. The output bits of AS-Interface circuit 1 are represented on AS-Interface circuit 2 as input bits and vice versa. This means that data exchange can be carried out bidirectionally without having to transfer the data via a higher-level controller, which is especially advantageous for time-critical applications. The two integrated AS-Interface slaves are independent of each other in terms of addressing. There are two front address sockets for this purpose.

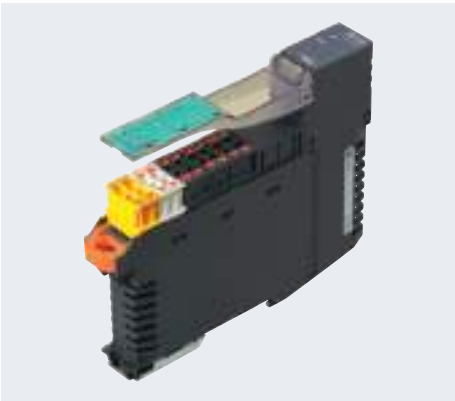


Accessories

VAZ-PK-1.5M-V1-G	Adapter cable module/handheld programming unit
VAZ-CHAIN-BU/BN70MM/1,0-25	Distributor with 25 connections for switch cabinet modules with screw terminals

I/O Modules for Switch Cabinet Mounting

KE5 Series—Analog I/O Module



Common Technical Data	
Housing design	KE5
Installation conditions	Switch cabinet mounting
Participant type	Standard participants
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP20
Housing material	Polyamide
Housing length L	124 mm
Housing width W	18.9 mm
Housing height H	100 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Number of Inputs per Module	Number of Outputs per Module	Supply for Inputs	Supply for Outputs
VBA-2A-KE5-IL/UL		2 (current: 0 mA ... 20 mA/ voltage: 0 V ... 10 V)		External (from AUX)
VBA-2E-KE5-IJL/UJL	2 (current: 0/4 mA ... 20 mA/ voltage: 0 V ... 10 V)		Internal (from AS-i) / external (from AUX)	
VBA-4A-KE5-IJL/UJL		4 (current: 0 mA ... 20 mA/ voltage: 0 V ... 10 V)		Internal (from AS-i) / external (from AUX)
VBA-4E-KE5-IL	4 (current: 0/4 mA ... 20 mA)		External (from AUX)	

Highlights

- Time-saving front connection
- Backlit, multi-color numeric display with per-channel diagnostic function
- Compact housing requires up to 50 % less space
- Clear terminal identification in the front panel
- Sensor supply can be selected from ASi or external supply

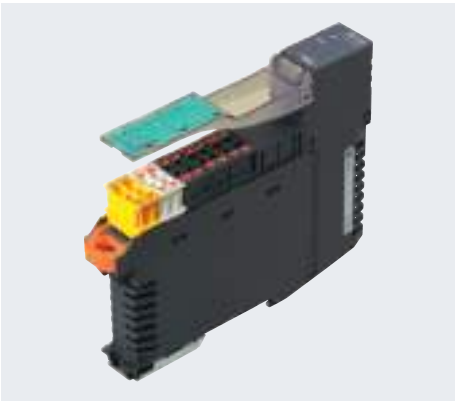
Brief Description

In particular, the KE5 module with front connection and cable connection from below offers time-saving and space-saving installation. The product family offers individually removable, coded terminals and a per-channel diagnostics indicator with dual LEDs on the affected input/output. This simplifies diagnostics in the event of a fault.

Accessories	
VAZ-BRIDGE-BU/ BN60MM/0.75-100	Jumper for switch cabinet modules with spring terminals or screw terminals
VAZ-PK-1.5M-V1-G	Adapter cable module/handheld programming unit

I/O Modules for Switch Cabinet Mounting

KE5 Series—Digital I/O Module



Common Technical Data	
Housing design	KE5
Installation conditions	Switch cabinet mounting
Number of inputs per module	4
Supply for inputs	Internal (from AS-i) / external (from AUX)
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP20
Housing material	Polyamide
Housing length L	124 mm
Housing width W	18.9 mm
Housing height H	100 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Number of Outputs per Module	Current-Carrying Capacity per Output	Supply for Outputs	Participant Type
VAA-4E4A-KE5-ZEJQ/E2L	4 (PNP)	2 A	External (from AUX)	Standard participants
VAA-4E4A-KE5-ZEJQ/R	4 (relay)	2 A		Standard participants
VBA-4E-KE5-ZEJQ				A/B participants
VBA-4E4A-KE5-ZEJQ/E2L	4 (PNP)	2 A	External (from AUX)	A/B participants
VBA-4E4A-KE5-ZEJQ/R	4 (relay)	2 A		A/B participants

Highlights

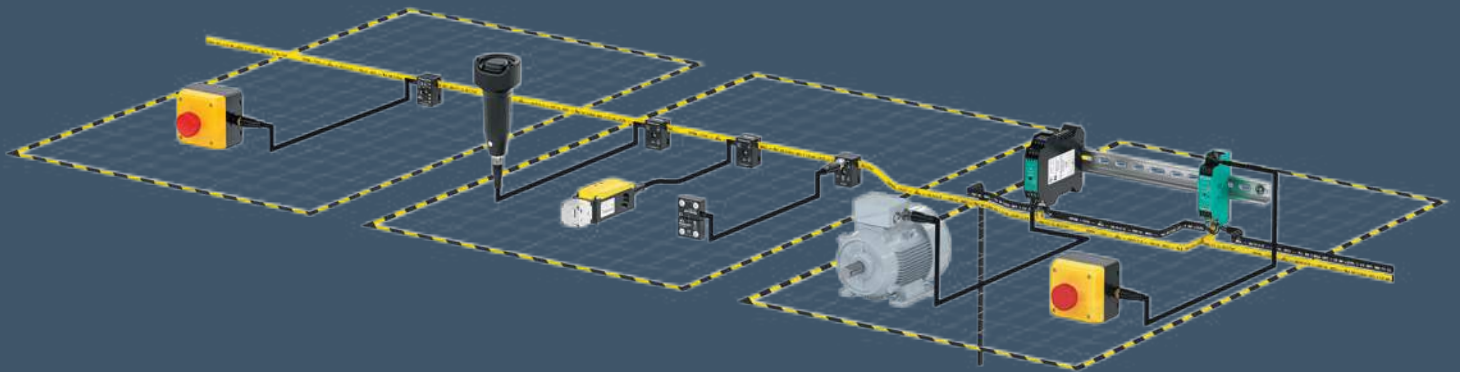
- Housing with push-in connection technology and mechanically coded terminal blocks
- Housing width W 19 mm, installation in the switch cabinet on DIN mounting rail
- Sensors supplied either externally or from the module
- Function indicator for the bus, external auxiliary voltage, internal sensor supply, inputs and outputs
- Per-channel red LED indicator for output overload

Brief Description

In particular, the KE5 module with front connection and cable connection from below offers time-saving and space-saving installation. The product family offers individually removable, coded terminals and a per-channel diagnostics indicator with dual LEDs on the affected input/output. This simplifies diagnostics in the event of a fault.

Accessories	
VAZ-BRIDGE-BU/ BN60MM/0.75-100	Jumper for switch cabinet modules with spring terminals or screw terminals
VAZ-PK-1.5M-V1-G	Adapter cable module/handheld programming unit

Why Safety Technology Is Best Resolved with AS-Interface



AS-Interface offers secure data communication up to PL e/SIL 3. Safety components are especially easy to implement with AS-Interface and meet the latest safety requirements up to PL e (EN ISO 13849) and up to SIL 3 (IEC 61508/EN 62061). Even older AS-Interface networks can be quickly retrofitted with a monitor as a security network. This is due to the unique backwards compatibility. As a result, AS-Interface also ensures a high level of investment security for the future.

The Benefits of AS-Interface Safety at Work

- Safety devices such as door switches, emergency stop buttons and light grids can be connected to any standard AS-Interface network
- Secure and non-secure data can be transferred together on only one bus line
- The highest safety classes can be achieved
- Distributed safety solutions are possible
- No secure PLC is required
- Even a complex safety logic can be easily implemented

Why Also Safe Link?

- Safe Link enables secure data exchange via Ethernet for diagnostic purposes
- Several AS-Interface networks can be securely coupled with one another over long distances
- Safety-relevant dependencies can be implemented efficiently in this way

Safety relays are often used to build simple safety solutions for machines. The safety logic is implemented by hardware wiring. This is confusing, inflexible and makes future adjustments difficult. The time required for wiring is considerable and there is no detailed diagnostic function.

Configuration and Diagnosis

With the PC configuration software VAZ-SW-SUITE, a safety logic can be implemented in just a few steps with completed function blocks. Operation is clear and intuitive. The system status can be displayed in color via diagnostics. Maintenance work is simplified by removable clamps and the integrated memory card, which immediately configures the replacement unit correctly.

Safe Input/Output Modules

Safety at Work G10 Series



Common Technical Data

Current-carrying capacity per output	0.05 A
Housing design	G10
Installation conditions	Field mounting
Number of inputs per module	2
Number of outputs per module	1
Participant type	Safety participants
Supply for inputs	Internal (from AS-i)
Supply for outputs	Internal (from AS-i)
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP67
Housing material	PBT
Housing length L	40.5 mm
Housing width W	27.7 mm
Housing height H	21.5 mm
ECOLAB	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number

Connection Type

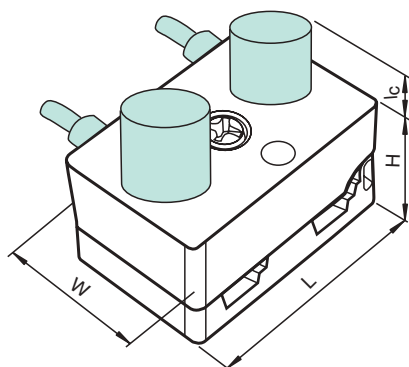
VAA-2E1A-G10-SAJ/EA2J-1M	Fixed cable
VAA-2E1A-G10-SAJ/EA2J-2M-V1-G	M12 connector socket
VAA-2E1A-G10-SAJ/EA2J-2X1M	Fixed cable

Highlights

- Connection of contact-related safety switches, e.g., emergency stop buttons
- Safe modules with two secure inputs and one standard output
- Applications up to PLe
- Modular safety solution
- Ultra-compact enclosure
- IP67 protection

Brief Description

The G10 safety module simply disappears into the cable duct and allows direct connection of safety devices up to performance level e (PL_e). Magnet, position, key, and cable pull switches are fully integrated into AS-Interface Safety. The same applies to emergency stop buttons, door locks, and even light grids with relay output. Simply insert the ribbon cable, close it, and tighten the screw—and you're ready! Fast, simple, modular, and without complicated parallel cabling.



Accessories

VAZ-2E1A-F85A-S	Emergency-stop buttons
VAZ-PK-FK-0,2M-V1-W	Adapter cable G10 module/handheld programming unit
VAZ-V1-B3	Stopping plug for M12 sockets

Safety at Work G12 Series



Common Technical Data

Current-carrying capacity per output	1.5 A
Housing design	G12
Installation conditions	Field mounting
Number of inputs per module	2
Number of outputs per module	2
Participant type	Safety participants
Supply for inputs	Internal (from AS-i)
Supply for outputs	External (from AUX)
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP67
SIL	3
Housing material	PBT
Housing length L	118 mm
Housing width W	57.4 mm
Housing height H	35 mm

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number

VAA-2E2A-G12-SAJ/EA2L

Highlights

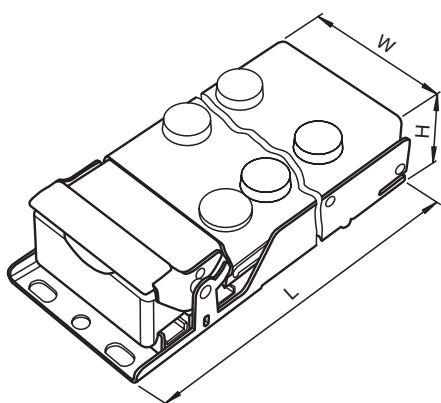
- A/B slave with extended addressing capability for up to 62 slaves
- Safe modules with two secure inputs and two standard outputs
- One-piece housing with stainless steel base
- Flat cable connection with piercing technology, variable flat cable routing
- Communication monitoring, configurable
- DIN rail mountable

Brief Description

The G12 safety module enables connection of all contact-type safety switches and offers additional standard outputs.

Accessories

VAZ-CLIP-G12	Lock for G12 module
VAZ-PK-1.5M-V1-G	Adapter cable module/handheld programming unit
VAZ-V1-B3	Stopping plug for M12 sockets



Safe Input/Output Modules

Safety at Work KE1 Series



Common Technical Data	
Housing design	KE1
Installation conditions	Switch cabinet mounting
Number of inputs per module	2
Participant type	Safety participants
Operating voltage (max)	31.6 V
Degree of protection	IP20
Housing material	Polyamide
Housing length L	48.5 mm
Housing width W	22.5 mm
Housing height H	99.6 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

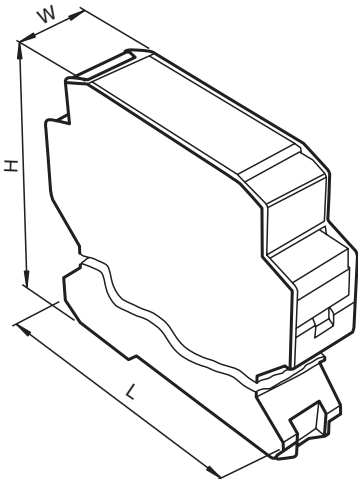
Model Number	Connection Type	Inputs suitable for	Number of Outputs per Module	Current-Carrying Capacity per Output	Supply for Inputs	Power Supply - Outputs	UB (Min)	SIL
VAA-2E-KE1-S	Plug-in screw terminals	Mechanical contacts			Internal (from AS-i)		26.5 V	3
VAA-2E2A-KE1-SE	Plug-in screw terminals	OSSD	2	1 A	External (from AUX)	External (from AUX)	22 V	3
VAA-2E2A-KE1P-S/E2	Plug-in spring terminals	Mechanical contacts	2	0.5 A	Internal (from AS-i)	External (from AUX)	26.5 V	3

Highlights

- Housing with removable terminals
- Communication Monitoring
- Power supply of the inputs from the module
- Addressing socket
- Inputs for two-wire sensors and mechanical contacts
- Function indicator for the bus, external auxiliary voltage, inputs, and outputs

Brief Description

All contact-related safety switches can also be connected in the low-profile, safe KE1 module in IP20. A version is also available for the connection of electronic protective equipment in this housing.



Accessories	
VAZ-PK-1.5M-V1-G	Adapter cable module/handheld programming unit
VAZ-CHAIN-BU/BN70MM/1,0-25	Distributor with 25 connections for switch cabinet modules with screw terminals

Safe Input/Output Modules

Safety at Work KE3 Series



Common Technical Data	
Housing design	KE3
Installation conditions	Switch cabinet mounting
Operating voltage (min)	26.5 V
Operating voltage (max)	31.6 V
Degree of protection	IP20
SIL	3
Housing material	Polyamide
Housing length L	107 mm
Housing width W	22.5 mm
Housing height H	99 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

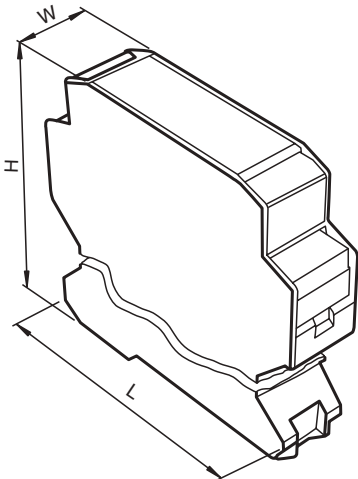
Model Number	Number of Inputs per Module	Number of Outputs per Module	Power supply - inputs	Power Supply - Outputs	Participant Type
VBA-4E1A-KE3-ZEJ/SR	4	1	Internal (from AS-i)	Internal (from AS-i)	A/B participants
VBA-4E2A1A-KE3-ZEL/E2L/SEL	3	2	External (from AUX)	External (from AUX)	Standard participants

Highlights

- Multiple secure output modules grouped into one release circuit
- Two galvanically isolated contact sets
- Four conventional inputs, one of which can be switched as a contactor feedback circuit
- SIL3 (IEC 61508)
- Addressing socket
- Assigns a complete address for the safe output and one A/B address for the four inputs

Brief Description

The safe KE3 output module contains a safe relay output. This safe output can be used to safely switch off several downstream outputs together for operation-related switching.



Accessories	
VAZ-PK-1.5M-V1-G	Adapter cable module/handheld programming unit
VAZ-CHAIN-BU/BN70MM/1,0-25	Distributor with 25 connections for switch cabinet modules with screw terminals

Safe Input/Output Modules

Safety at Work KE4 Series



Common Technical Data	
Housing design	KE4
Installation conditions	Switch cabinet mounting
Operating voltage (min)	18 V
Operating voltage (max)	31.6 V
Degree of protection	IP20
Housing material	Polyamide
Housing length L	113 mm
Housing width W	22.5 mm
Housing height H	99 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

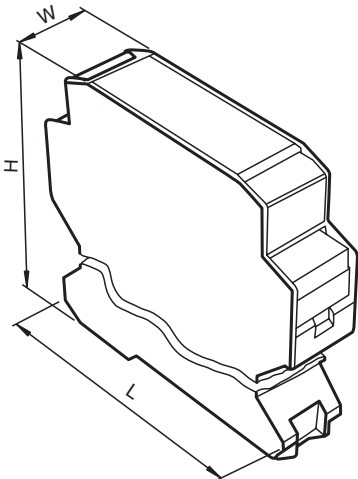
Model Number	Number of Inputs per Module	Number of Outputs per Module	Power Supply Inputs	Power Supply - Outputs	Participant Type	SIL
VBA-2E-KE4-ENC-S	2				A/B participants	3
VBA-2E2A-KE4-ENC/SSI-S	8	2		External (from AUX)	A/B participants	3
VBA-8E8A8A-KE4-ZEL/E2L/SEL	8	8	External (from AUX)	External (from AUX)	Standard participants	

Highlights

- Two integrated, secure outputs (OSSDs)
- Eight logical, secure, switchable output groups
- Can be extended via the AS-Interface port
- Configurable muting, timer and logic functions using SIMON+ software
- Integrated data decoupling

Brief Description

The KE4 speed module can safely monitor the secure position, position-dependent velocities, standstill, a speed band or a direction of rotation for up to two axes.



Accessories	
VAZ-2T-KE4-ENC-2V45	KE4 switch cabinet module for rotary encoder Adapter for two rotary encoders to rotation speed monitor and control panel
VAZ-ENC-1,5M-PVC	Connection cable for connecting rotary encoders to a rotation speed monitor
VAZ-PK-1.5M-V1-G	Adapter cable module/handheld programming unit
VAZ-SW-SIMON+	Software for configuring K30 master monitors/K31 and KE4 safety monitors
VAZ-SW-SUITE	Combined software for configuration, diagnostics, and programming, for masters and safety monitors (KE4, K20, K30, K31 series)
VAZ-CHAIN-BU/BN70MM/1,0-25	Distributor with 25 connections for switch cabinet modules with screw terminals

Safety Switches

Door Monitoring



Common Technical Data

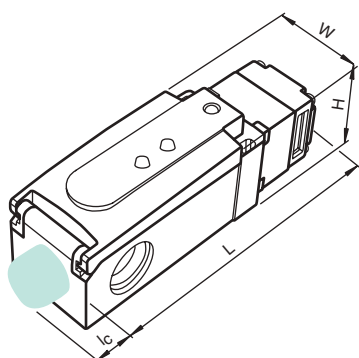
Participant type	Safety participants
Operating voltage (max)	31.6 V

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Type	Connection Type	Inputs per module	Outputs per module	Supply for Inputs	Supply for Outputs	UB (Min)	SIL	Degree of Protection	Length L	Width W	Height H	UL
VAA-1E-IEI3-READER1-S-V31	RFID monitoring	M8 connector plug				Internal (from AS-i)	18 V	3	IP65	40	29.5		
VAA-2E-IER2-S-1M-V1	Mechanical monitoring	M12 connector plug					26.5 V	3	IP67	36	26.2		■
VAA-2E2A-IM1-J-S-V1	Locking	M12 connector plug	2		Internal (from AS-i)		26.5 V		IP67	123	40	42	■
VAA-2E3A-LIM1-PL-J-S-V1	Interlocking	M12 connector plug	2	1	Internal (from AS-i)	Internal (from AS-i)	26.5 V		IP67	190	40	42	
VAA-2E3A-LIM1-PL-L-S-V1	Interlocking	M12 connector plug	2	1	Internal (from AS-i)	External (from AUX)	26.5 V		IP67	190	40	42	■
VAA-2E3A-LIM1-PU-J-S-V1	Interlocking	M12 connector plug	2	1	Internal (from AS-i)	Internal (from AS-i)	26.5 V		IP67	190	40	42	
VAA-2E3A-LIM1-PU-L-S-V1	Interlocking	M12 connector plug	2	1	Internal (from AS-i)	External (from AUX)	26.5 V		IP67	190	40	42	■

Brief Description

In accordance with EN 1088, the correct function of moveable protective devices has to be assured by the use of products that have force-guided contacts. The machine builder is required to prepare a risk analysis in accordance with EN 1050 and take appropriate measures to avoid potential danger. Safety switches are frequently used as locking or guard locking devices. Locking devices monitor the protective device for the "open" position and "lock" the control system when necessary. Guard locking devices prevent protective doors from being opened easily. This function is often employed to avoid unintentional interruption of a process, or to bring an active plant to a standstill before access is possible. Often, actuators and safety switches are two separate components, and they are typically Type 2 devices.



Highlights

- Mechanical locking or mechanical guard locking
- Choice of power supply from AS-Interface or from AUX
- Robust steel head guarantees long service life
- Multi-position actuator head provides flexibility, allowing an approach from any direction
- Slim, 40 mm wide housing design
- Coded mechanical actuator
- Connection via M12 plug

Accessories

V31-GM-1M-PUR-V1-G	Double-ended cordset, M8 socket, straight, to M12 plug, straight, A-coded, 4-pin
V31-GM-2M-PUR-V1-G	Double-ended cordset, M8 socket, straight, to M12 plug, straight, A-coded, 4-pin
V31-GM-3M-PUR-V1-G	Double-ended cordset, M8 socket, straight, to M12 plug, straight, A-coded, 4-pin
VAZ-IEI3-TAG1-S	Actuators for noncontact AS-Interface safety switches
VAZ-IER2-ACTUATOR2-S	Actuators for noncontact AS-Interface reed safety switches
VAZ-IM1-90°-BOLT-S	Actuator angled, for AS-Interface safety switches
VAZ-IM1-BASE-BOLT-S	Latch for mechanical safety switches (LIM1 and IM1)
VAZ-IM1-BASE-S	Switch mount for mechanical safety switches (LIM1 and IM1)

Handheld Programming Unit



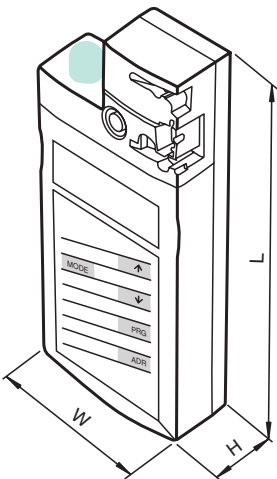
Model Number	Connection	Extra
VBP-HH1-V3.0-110V	Charger plug, 120 V AC, in the scope of delivery	
VBP-HH1-V3.0-KIT	Charger plug, 230 V AC, in the scope of delivery	with double-ended cordset VAZ-PK-1.5M-V1-G in a matching case
VBP-HH1-V3.0-V1	Charger plug, 230 V AC, in the scope of delivery	Additional M12 connector for external voltage supply for AS-Interface and AUX

Highlights

- Addressing and parameterization of AS-Interface slaves
- Displaying the assigned slave addresses and the status of the inputs
- Setting outputs at the AS-Interface slave
- Also supports Profile S-7.7.A.7 (Spec 3.0) as well as S-0.B and S-7.B (AS-Interface Safety at Work)
- The slave connection is short-circuit-proof and over-load-proof
- Battery charger in scope of delivery

Brief Description

With the AS-Interface handheld programming device, AS-Interface nodes in the network can be addressed especially easily and quickly. It can also be used for diagnostics, parameterization, reading inputs, and setting outputs.



Accessories	
VAZ-PK-1.5M-V1-G	Adapter cable module/handheld programming unit
VAZ-PK-FK-0,2M-V1-W	Adapter cable G10 module/handheld programming unit
VAZ-PK/G20-1M-V1-G	Adapter cable G20 module/handheld programming unit

Stack Lights

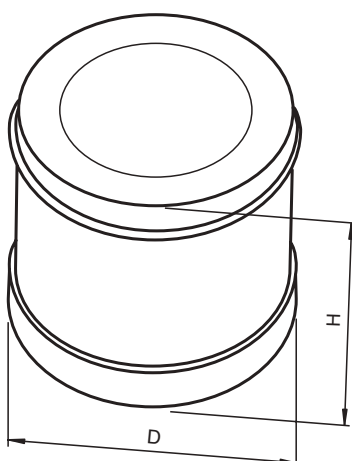


Common Technical Data

Housing design	Other
Operating voltage (min)	24 V
Operating voltage (max)	24 V

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Type	Degree of Protection	Height H	Diameter D	UL
VAZ-HORN-40MM-85DBA-2TONE	Acoustic (siren)	IP66	44 mm	40 mm	■
VAZ-LED-40MM-CLD-BU	Blue LED	IP66	59 mm	40 mm	■
VAZ-LED-40MM-CLD-GN	Green LED	IP66	59 mm	40 mm	■
VAZ-LED-40MM-CLD-RD	Red LED	IP66	59 mm	40 mm	■
VAZ-LED-40MM-CLD-WH	White LED	IP66	59 mm	40 mm	■
VAZ-LED-40MM-CLD-YE	Yellow LED	IP66	59 mm	40 mm	■
VAZ-HORN-70MM-0..100DBA-8TONE	Acoustic (siren)	IP65	72 mm	70 mm	■
VAZ-HORN-70MM-105DBA	Acoustic (buzzer)	IP65	54 mm	70 mm	■
VAZ-LAMP-70MM-BU	Blue lamp	IP65	65 mm	70 mm	■
VAZ-LAMP-70MM-CL	Clear lamp	IP65	65 mm	70 mm	■
VAZ-LAMP-70MM-GN	Green lamp	IP65	65 mm	70 mm	■
VAZ-LAMP-70MM-RD	Red lamp	IP65	65 mm	70 mm	■
VAZ-LAMP-70MM-YE	Yellow lamp	IP65	65 mm	70 mm	■
VAZ-LED-70MM-BU	Blue LED	IP65	70 mm	70 mm	■
VAZ-LED-70MM-CL	Clear LED	IP65	70 mm	70 mm	■
VAZ-LED-70MM-GN	Green LED	IP65	70 mm	70 mm	■
VAZ-LED-70MM-LM	Yellow LED	IP65	70 mm	70 mm	■
VAZ-LED-70MM-RD	Red LED	IP65	70 mm	70 mm	■
VAZ-LED-70MM-YE	Yellow LED	IP65	70 mm	70 mm	■



Accessories

VAZ-70MM-IO	Signal tower connection element IO-Link with cover
VAZ-CLAMP-40MM	Stack light connection element with end cover
VAZ-CLAMP-40MM-IO	Signal tower connection element IO-Link with cover
VAZ-CLAMP-70MM	Stack light connection element with end cover
VAZ-CLAMP-70MM-90°	Stack light connection element with end cover
VAZ-LAMP-70MM-BULB-5W/24V	Bulb for stack light permanent light element

Cables



Model Number	Cable Length [mm]	Cable Material	Cable Color	Core Cross-Section [mm ²]	Ambient Temperature (Min)	Ambient Temperature (Max)	UL
VAZ-FK-PUR-BK-2,5MM	100,000 mm	PUR	black	2.5 mm ²	-40 °C	80 °C	■
VAZ-FK-PUR-BK-SUP	100,000 mm	PUR	black	1.5 mm ²	-40 °C	80 °C	■
VAZ-FK-PUR-GY-2,5MM	100,000 mm	PUR	gray	2.5 mm ²	-40 °C	80 °C	■
VAZ-FK-R-BK	100,000 mm	TPE	black	1.5 mm ²			■
VAZ-FK-R-YE	100,000 mm	TPE	yellow	1.5 mm ²			■
VAZ-FK-S-BK	100,000 mm	EPDM	black	1.5 mm ²			
VAZ-FK-S-BK-2,5MM	100,000 mm	EPDM	black	2.5 mm ²			
VAZ-FK-S-BK-2,5MM-500M	500,000 mm	EPDM	black	2.5 mm ²			
VAZ-FK-S-BK-500M	500,000 mm	EPDM	black	1.5 mm ²			
VAZ-FK-S-BK-SUP	100,000 mm	EPDM	black	1.5 mm ²			
VAZ-FK-S-BK-SUP-500M	100,000 mm	EPDM	black	1.5 mm ²			
VAZ-FK-S-GY-2,5MM	100,000 mm	EPDM	gray	2.5 mm ²			
VAZ-FK-S-YE	100,000 mm	EPDM	yellow	1.5 mm ²			
VAZ-FK-S-YE-500M	500,000 mm	EPDM	yellow	1.5 mm ²			
VAZ-FK-S-YE-SAFETY	100,000 mm	EPDM	black	1.5 mm ²			

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Accessories

VAZ-FK-ED3

AS-Interface end seal for flat cable



BUS LINK
BUS TX / RX
BUS ERR
PWR / ADJ
SYSERR / NO COMM
OUT1 / ADJ V
OUT2 / ADJ Z
INTERNAL
DIAGNOSTIC

Efficient, Innovative and Durable



In order to benefit from IO-Link advantages, other components are required in addition to IO-Link devices: The IO-Link infrastructure. Pepperl+Fuchs therefore offers a variety of devices for different applications: Various IO-Link masters for connecting to higher-level fieldbuses or IO-Link masters with OPC UA for applications even without a classic control system. The portfolio is rounded off with suitable software and perfectly matched connection technology.

Maximum Process Reliability and Standardization

Designed for classic control-based applications, the ICE1* modules offer maximum process reliability. The integrated web server can be enabled or disabled if needed. This means that access to the module is only possible via the controller—external access is excluded.

Thanks to their multiprotocol capability, the IO-Link masters offer maximum efficiency in the standardization of machines and plants. The innovative, high-performance connection technology optimizes the installation.

Highlights

- Machine standardization through multiple protocols: all standard Ethernet communication protocols in a single module
- Innovative M12 power connector for reduced installation costs due to higher current-carrying capacity up to 2x 16 A (for sensor and actuator supply)
- Integrated IO-Link master function for continuous diagnostics and parameterization from the control panel down to the sensor/actuator level



Flexibility for the Future

Optimized for IoT, the ICE2* and ICE3* modules provide everything you need for flexible cloud applications. MultiLink allows multiple sources to access the device in parallel, providing the right data where it's needed. Whether it be with a classic control system, in operation with an industrial PC, or as a pure cloud application. The IO-Link masters from Pepperl+Fuchs offer maximum flexibility and planning reliability.

Highlights

- OPC UA and MQTT interface for future-oriented cloud-based applications in the field of Industry 4.0
- MultiLink—parallel control and cloud communication for outstanding flexibility in automation systems
- Integrated web server and IODD interpreter enable simple configuration via a web browser
- PortVision® DX software offers network configuration, device management, and cloning/backup of settings in one application

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IO-Link Masters



Common Technical Data

Type	Ethernet IO-Link module
Type of voltage	DC
Operating voltage (max)	30 V
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Installation Conditions	Protocol	Input	Output	Transfer Rate [MBit/s]	UB (Min)	Degree of Protection	Length L	Width W	Height H
ICE1-8IOL-G30L-V1D	Field mounting	EtherNet/IP, PROFINET	8 x IO-Link + 4 x digital inputs	8 x IO-Link + 4 x digital outputs	10/100	18 V	IP65/IP67/IP69K	33.4 mm	30 mm	225 mm
ICE1-8IOL-G60L-V1D	Field mounting	EtherNet/IP, PROFINET	8 x IO-Link + 4 x digital inputs	8 x IO-Link + 4 x digital outputs	10/100	18 V	IP65/IP67/IP69K	21 mm	59.6 mm	200 mm
ICE1-8IOL-S2-G60L-V1D	Field mounting	EtherNet/IP, PROFINET	8 x IO-Link + 4 x digital inputs	8 x IO-Link + 4 x digital outputs	10/100	18 V	IP65/IP67/IP69K	21 mm	59.6 mm	200 mm
ICE2-8IOL-G65L-V1D	Field mounting	EtherNet/IP, MODBUS, OPC UA, MQTT	8 x IO-Link + 8 x digital inputs	8 x IO-Link	10/100	20 V	IP67	29.8 mm	65 mm	212 mm
ICE2-8IOL-K45P-RJ45	Switch cabinet mounting	EtherNet/IP, MODBUS, OPC UA, MQTT	8 x IO-Link + 8 x digital inputs	8 x IO-Link	10/100	18 V	IP20	113.6 mm	45.2 mm	118.2 mm
ICE2-8IOL-K45S-RJ45	Switch cabinet mounting	EtherNet/IP, MODBUS, OPC UA, MQTT	8 x IO-Link + 8 x digital inputs	8 x IO-Link	10/100	18 V	IP20	113.6 mm	45.2 mm	104.6 mm
ICE3-8IOL-G65L-V1D	Field mounting	MODBUS, PROFINET, OPC UA, MQTT	8 x IO-Link + 8 x digital inputs	8 x IO-Link	10/100	20 V	IP67	29.8 mm	65 mm	212 mm
ICE3-8IOL-K45P-RJ45	Switch cabinet mounting	MODBUS, PROFINET, OPC UA, MQTT	8 x IO-Link + 8 x digital inputs	8 x IO-Link	10/100	18 V	IP20	113.6 mm	45.2 mm	118.2 mm
ICE3-8IOL-K45S-RJ45	Switch cabinet mounting	MODBUS, PROFINET, OPC UA, MQTT	8 x IO-Link + 8 x digital inputs	8 x IO-Link	10/100	18 V	IP20	113.6 mm	45.2 mm	104.6 mm

Highlights

- Integrated IO-Link master function for continuous diagnostics and configuration from the control panel down to the sensor/actuator level
- Extensive diagnostic options either on the device itself or via web server for greater transparency and increased process reliability
- ICE1 modules can be used for control-related applications thanks to multiprotocol function (PROFINET and EtherNet/IP in one device)
- ICE2/3 modules with OPC UA, MQTT and multilink technology are perfectly suited to future-oriented IIoT solutions

Brief Description

The standard IO-Link can be used with devices from any manufacturer and makes full use of the intelligence of sensors. Pepperl+Fuchs therefore offers Ethernet IO modules with an integrated IO-Link master for the optimal connection of IO-Link devices. The modules support the standard and widely used industrial protocols PROFINET and EtherNet/IP, which means that they can be used easily with many standard controllers. In order to make maximum use of the advantages of this technology, a large number of IO-Link I/O hubs are available alongside the modules for also integrating binary sensor technology into the intelligent IO-Link system.

Accessories

ICA-10DI6DO-G60A-IO	I/O hub with IO-Link interface for 10 digital inputs and 6 digital outputs
ICA-16DI-G60A-IO	I/O hub with IO-Link interface for 16 digital inputs
ICA-16DIO-G60AL-IO	I/O hub with IO-Link interface for 16 digital inputs/outputs
ICA-AI-I/U-IO-V1	IO-Link converter with analog input (current/voltage)
ICA-AO-I/U-IO-V1	IO-Link converter with analog output (current/voltage)

Ethernet IO Modules for Digital Inputs/Outputs



Common Technical Data

Installation conditions	Field mounting
Protocol	EtherCAT, EtherNet/IP, PROFINET
Transfer rate	10/100
Type	Digital fieldbus module
Type of voltage	DC
Operating voltage (min)	18 V
Operating voltage (max)	30 V
Degree of protection	IP65/IP67/IP69K
Ambient temperature (min)	-20 °C
Ambient temperature (max)	70 °C
Housing length L	21 mm
Housing width W	59.6 mm
Housing height H	200 mm
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Input	Output
ICE1-16DI-G60L-V1D	16 digital inputs	
ICE1-16DIO-G60L-C1-V1D	16 digital inputs	16 digital outputs
ICE1-16DIO-G60L-V1D	16 digital inputs	16 digital outputs
ICE1-8DI8DO-G60L-C1-V1D	8 digital inputs	8 digital outputs
ICE1-8DI8DO-G60L-V1D	8 digital inputs	8 digital outputs

Highlights

- Easy connection of digital inputs/outputs to higher-level systems
- Multiprotocol function with PROFINET, EtherNet/IP and EtherCAT in one device
- Modules with 16DI, 8DI8DO and 16DIO (configurable) available
- Versions with integrated logic function for distributed intelligence

Brief Description

The Ethernet IO modules for digital inputs/outputs are ideal for connecting digital sensors and actuators to higher-level control systems. Thanks to the multiprotocol functionality, the modules support PROFINET, EtherNet/IP and EtherCAT in one device, enabling simple machine standardization. Thanks to the L-coded power connector for up to 2 x 16A, several modules can be connected in series cost-effectively and actuators with increased current requirements can also be operated without any problems. The fully encapsulated metal housing with a wide temperature range and IP69k degree of protection withstands even the toughest industrial requirements.

Accessories

MH V1-BIT M12	Plug-in attachment for M12
MH V1-SCREWDRIVER	Torque screwdriver (0.6 Nm)
V1-G-BK1M-PUR-A-T-V1-G	Y-splitter cordset, M12 plug, straight, A-coded, 4-pin, to 2x M12 socket, straight, A-coded, 4-pin, 2x PUR cable, weld-splatter resistant black, UL-approved, suitable for drag chains, torsion-proof
V15L-G-0,6M-PUR-U-V15L-G	Cordset, M12 to M12, L-coded, 5-pin, PUR cable
V15L-G-1M-PUR-U-V15L-G	Cordset, M12 to M12, L-coded, 5-pin, PUR cable
V15L-G-2M-PUR-U-V15L-G	Cordset, M12 to M12, L-coded, 5-pin, PUR cable
V15L-G-5M-PUR-U	Single-ended female cordset, M12, L-coded, 5-pin, PUR cable
V15L-G-BK	Single-ended female cordset, M12, L-coded, field-attachable

Ethernet Switches



Common Technical Data

Installation conditions	Switch cabinet mounting
Type of voltage	DC
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Number of Ports	Transfer Rate [MBit/s]	UB (Min)	UB (Max)	Degree of Protection	Length L	Width W	Height H
ICRL-M-16RJ45/4CP-G-DIN	20 x RJ45	10/100/1000	10 V	60 V	IP30	112 mm	114 mm	147 mm
ICRL-M-8RJ45/4SFP-G-DIN	8 x RJ45	10/100/1000	10 V	36 V	IP30	127 mm	84 mm	160 mm
ICRL-U-10RJ45-PoE-B-DIN	8 x RJ45	10/100/1000	8 V	32 V	IP30	149 mm	66 mm	131.2 mm
ICRL-U-4RJ45/SFP-G-DIN	4 x RJ45, 1x SFP	10/100/1000	10 V	60 V	IP30	99 mm	30 mm	120 mm
ICRL-U-4RJ45/SFP-PoE-G-DIN	4 x RJ45, 1x SFP	10/100/1000	44 V	57 V	IP30	99 mm	30 mm	120 mm
ICRL-U-5RJ45-DIN	5 x RJ45	10/100	18 V	32 V	IP30	99 mm	30.5 mm	112 mm
ICRL-U-5RJ45-DIN-NT	5 x RJ45	10/100	18 V	32 V	IP30	99 mm	30.5 mm	112 mm
ICRL-U-5RJ45-G-DIN	5 x RJ45	10/100/1000	10 V	60 V	IP30	99 mm	30 mm	120 mm
ICRL-U-5RJ45-PoE-G-DIN	5 x RJ45	10/100/1000	44 V	57 V	IP30	99 mm	30 mm	120 mm
ICRL-U-6RJ45-PoE-B-DIN	6 x RJ45	10/100/1000	12 V	24 V	IP30	149 mm	66 mm	131.2 mm
ICRL-U-8M12-G60	6 x RJ45	10/100	9.6 V	45 V	IP65	31 mm	60 mm	200 mm
ICRL-U-8RJ45-DIN	8 x RJ45	10/100	10 V	60 V	IP30	120 mm	55 mm	108 mm
ICRL-U-8RJ45-DIN-NT	8 x RJ45	10/100	10 V	60 V	IP30	120 mm	55 mm	108 mm

Highlights

- Robust housing for use in adverse ambient conditions
- Managed Ethernet switches with the latest security and Layer 2 performance standards
- Unmanaged models with Broadcast Storm Packet Filtering
- Alarm relay for customizable event notifications
- DC power input
- Extended Temperature Range

Brief Description

A growing portfolio for high-performance networks. The RocketLinX ICRL series has been developed especially for the particularly demanding requirements of industrial network applications and consists of managed and unmanaged Ethernet switches. Unmanaged devices provide cost-effective plug-and-play installation for fast network expansion at the field level without complex configuration. Managed Ethernet switches, on the other hand, provide connectivity from the field to the enterprise level where advanced management capabilities, IT security, network redundancy, and maximum reliability are essential.

Accessories

SFP-M-2KM-F-N	Multimode 2 km 100BASE-FX Fast Ethernet glass fiber optics SFP
SFP-M-2KM-F-W	Multimode 2 km 100BASE-FX Fast Ethernet glass fiber optic SFP
SFP-M-2KM-G-W	Multimode 2 km 100BASE-LX Gigabit Ethernet glass fiber optic SFP

Flexible Plant Modernization with Maximum Investment Security



Maintaining proven serial solutions while keeping pace with the shift to modern Ethernet network structures: The DeviceMaster® serial gateways from Pepperl+Fuchs are the ideal solution when it comes to paving the way to Industry 4.0 while safeguarding existing investments in the long term. The large variety of versions, combined with the integrated web server for flexible setting of all serial communication parameters, allows the connection of almost all common serial solutions on the market.

Easy Connection to Modern Networks

The serial gateways enable simple and flexible integration of serial devices such as barcode scanners, RFID readers, scales, printers or vision systems into Ethernet-based fieldbus systems such as PROFINET and EtherNet/IP.

The gateways support RS-232, RS-422 and RS-485 serial communication protocols in a single device. An integrated web server enables the simple configuration of network settings and port parameters for communication via TCP/IP and with Industrial Ethernet systems. Windows and Linux drivers are available for PC-based applications.



Variety of Applications

The various device versions support the MODBUS, PROFINET, EtherNet/IP, TCP/IP, EtherNet/IP to MODBUS or PROFINET to MODBUS protocols. In addition, depending on the application, it is possible to choose between versions with a different number of ports and connections (screw terminals, DB9 or RJ45) and DIN rail, switch panel and rack mounting. In this way, the serial gateways meet all customer requirements.

Serial Gateways (DeviceMaster)



Common Technical Data

Installation conditions	Switch cabinet mounting
Transfer rate	10/100
Degree of protection	IP20
Ambient temperature (min)	-40 °C
Ambient temperature (max)	75 °C
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Type	Protocol	Type of Voltage	UB (Min)	UB (Max)	Length L	Width W	Height H
ICDM-RX/EN-2DB9/RJ45-DIN	EtherNet/IP Gateway	EtherNet/IP	DC	5 V	30 V	116.8 mm	22.9 mm	99.1 mm
ICDM-RX/EN-2ST/RJ45-DIN	EtherNet/IP Gateway	EtherNet/IP	DC	5 V	30 V	111 mm	22.6 mm	99 mm
ICDM-RX/EN-4DB9/2RJ45-DIN	EtherNet/IP Gateway	EtherNet/IP	DC	5 V	30 V	116.8 mm	45.7 mm	99.1 mm
ICDM-RX/EN-DB9/RJ45-DIN	EtherNet/IP Gateway	EtherNet/IP	DC	5 V	30 V	114.8 mm	22.9 mm	99.1 mm
ICDM-RX/EN-DB9/RJ45-PM	EtherNet/IP Gateway	EtherNet/IP	DC	5 V	30 V	91.4 mm	20.3 mm	71.1 mm
ICDM-RX/EN-ST/RJ45-DIN	EtherNet/IP Gateway	EtherNet/IP	DC	5 V	30 V	119.3 mm	22.9 mm	99.1 mm
ICDM-RX/EN1-2DB9/RJ45-DIN	EtherNet/IP to MODBUS-Gateway	EtherNet/IP, MODBUS	DC	5 V	30 V	116.8 mm	22.9 mm	99.1 mm
ICDM-RX/EN1-2ST/RJ45-DIN	EtherNet/IP to MODBUS-Gateway	EtherNet/IP, MODBUS	DC	5 V	30 V	111 mm	22.6 mm	99 mm
ICDM-RX/EN1-4DB9/2RJ45-DIN	EtherNet/IP to MODBUS-Gateway	EtherNet/IP, MODBUS	DC	5 V	30 V	116.8 mm	45.7 mm	99.1 mm
ICDM-RX/EN1-DB9/RJ45-DIN	EtherNet/IP to MODBUS-Gateway	EtherNet/IP, MODBUS	DC	5 V	30 V	114.8 mm	22.9 mm	99.1 mm
ICDM-RX/EN1-DB9/RJ45-PM	EtherNet/IP to MODBUS-Gateway	EtherNet/IP, MODBUS	DC	5 V	30 V	91.4 mm	20.3 mm	71.1 mm
ICDM-RX/EN1-ST/RJ45-DIN	EtherNet/IP to MODBUS-Gateway	EtherNet/IP, MODBUS	DC	5 V	30 V	119.3 mm	22.9 mm	99.1 mm
ICDM-RX/MOD-2DB9/RJ45-DIN	Modbus gateway	MODBUS	DC	5 V	30 V	116.8 mm	22.9 mm	99.1 mm
ICDM-RX/MOD-2ST/RJ45-DIN	Modbus gateway	MODBUS	DC	5 V	30 V	111 mm	22.6 mm	99 mm
ICDM-RX/MOD-4DB9/2RJ45-DIN	Modbus gateway	MODBUS	DC	5 V	30 V	116.8 mm	45.7 mm	99.1 mm
ICDM-RX/MOD-DB9/RJ45-DIN	Modbus gateway	MODBUS	DC	5 V	30 V	114.8 mm	22.9 mm	99.1 mm
ICDM-RX/MOD-DB9/RJ45-PM	Modbus gateway	MODBUS	DC	5 V	30 V	91.4 mm	20.3 mm	71.1 mm
ICDM-RX/MOD-ST/RJ45-DIN	Modbus gateway	MODBUS	DC	5 V	30 V	119.3 mm	22.9 mm	99.1 mm
ICDM-RX/PN-2DB9/RJ45-DIN	PROFINET IO gateway	PROFINET	DC	5 V	30 V	116.8 mm	22.9 mm	99.1 mm
ICDM-RX/PN-2ST/RJ45-DIN	PROFINET IO gateway	PROFINET	DC	5 V	30 V	111 mm	22.6 mm	99 mm
ICDM-RX/PN-4DB9/2RJ45-DIN	PROFINET IO gateway	PROFINET	DC	5 V	30 V	116.8 mm	45.7 mm	99.1 mm
ICDM-RX/PN-DB9/RJ45-DIN	PROFINET IO gateway	PROFINET	DC	5 V	30 V	114.8 mm	22.9 mm	99.1 mm
ICDM-RX/PN-DB9/RJ45-PM	PROFINET IO gateway	PROFINET	DC	5 V	30 V	91.4 mm	20.3 mm	71.1 mm
ICDM-RX/PN-ST/RJ45-DIN	PROFINET IO gateway	PROFINET	DC	5 V	30 V	119.3 mm	22.9 mm	99.1 mm
ICDM-RX/PN1-2DB9/RJ45-DIN	PROFINET IO to Modbus gateway	MODBUS, PROFINET	DC	5 V	30 V	116.8 mm	22.9 mm	99.1 mm
ICDM-RX/PN1-2ST/RJ45-DIN	PROFINET IO to Modbus gateway	MODBUS, PROFINET	DC	5 V	30 V	111 mm	22.6 mm	99 mm
ICDM-RX/PN1-4DB9/2RJ45-DIN	PROFINET IO to Modbus gateway	MODBUS, PROFINET	DC	5 V	30 V	116.8 mm	45.7 mm	99.1 mm
ICDM-RX/PN1-DB9/RJ45-DIN	PROFINET IO to Modbus gateway	MODBUS, PROFINET	DC	5 V	30 V	114.8 mm	22.9 mm	99.1 mm
ICDM-RX/PN1-DB9/RJ45-PM	PROFINET IO to Modbus gateway	MODBUS, PROFINET	DC	5 V	30 V	91.4 mm	20.3 mm	71.1 mm
ICDM-RX/PN1-ST/RJ45-DIN	PROFINET IO to Modbus gateway	MODBUS, PROFINET	DC	5 V	30 V	119.3 mm	22.9 mm	99.1 mm
ICDM-RX/TCP-16DB9/RJ45-RM	Serial device server	TCP/IP	AC	90 V	260 V	438.2 mm	275.3 mm	44.2 mm
ICDM-RX/TCP-16RJ45/RJ45-RM	Serial device server	TCP/IP	AC	90 V	260 V	438.2 mm	274.3 mm	44.2 mm
ICDM-RX/TCP-2DB9/RJ45-DIN	Serial device server	TCP/IP	DC	5 V	30 V	116.8 mm	22.9 mm	99.1 mm
ICDM-RX/TCP-2ST/RJ45-DIN	Serial device server	TCP/IP	DC	5 V	30 V	111 mm	22.6 mm	99 mm
ICDM-RX/TCP-32RJ45/RJ45-RM	Serial device server	TCP/IP	AC	90 V	260 V	438.2 mm	274.3 mm	44.2 mm
ICDM-RX/TCP-4DB9/ 2RJ45-DIN	Serial device server	TCP/IP	DC	5 V	30 V	116.8 mm	45.7 mm	99.1 mm

Model Number	Type	Protocol	Type of Voltage	UB (Min)	UB (Max)	Length L	Width W	Height H
ICDM-RX/TCP-DB9/ RJ45-DIN	Serial device server	TCP/IP	DC	5 V	30 V	114.8 mm	22.9 mm	99.1 mm
ICDM-RX/TCP-DB9/ RJ45-PM	Serial device server	TCP/IP	DC	5 V	30 V	91.4 mm	20.3 mm	71.1 mm
ICDM-RX/TCP-ST/ RJ45-DIN	Serial device server	TCP/IP	DC	5 V	30 V	119.3 mm	22.9 mm	99.1 mm

Highlights

- Web-based configuration
- RS-232/422/485 interfaces selectable via software
- NEMA TS2 certification
- Versions with 1-32 ports for DIN rail, panel or rack mounting
- Various Ethernet-based protocols are supported

Brief Description

From barcode scanners to measuring devices and RFID readers, DeviceMaster® enables easy connection of devices with RS-232/422/485 serial interfaces to higher-level Ethernet or industrial Ethernet networks such as EtherNet/IP, Modbus TCP and PROFINET. The serial gateways have powerful security mechanisms including SSL key and SSH certificate management and SSL data encryption. They are available with different connection options and for DIN rail, switch panel and rack mounting.

Accessories	
V45-G-C5-GN10M-PUR-E1S	Bus cable Ethernet single-ended male cordset, RJ45, 4-pin, PUR cable, green, Cat5e, shielded, UL-approved, suitable for drag chains
V45-G-C5-GN10M-PUR-E1S-V45-G	Bus cable Ethernet RJ45 to RJ45 PROFINET-coded, 4-pin, PUR cable, green, Cat5e, shielded, UL-approved, suitable for drag chains
V45-G-C5-GN1M-PUR-E1S	Bus cable Ethernet single-ended male cordset, RJ45, 4-pin, PUR cable, green, Cat5e, shielded, UL-approved, suitable for drag chains
V45-G-C5-GN1M-PUR-E1S-V45-G	Bus cable Ethernet RJ45 to RJ45 PROFINET-coded, 4-pin, PUR cable, green, Cat5e, shielded, UL-approved, suitable for drag chains
V45-G-C5-GN20M-PUR-E1S-V45-G	Bus cable Ethernet RJ45 to RJ45 PROFINET-coded, 4-pin, PUR cable, green, Cat5e, shielded, UL-approved, suitable for drag chains
V45-G-C5-GN3M-PUR-E1S	Bus cable Ethernet single-ended male cordset, RJ45, 4-pin, PUR cable, green, Cat5e, shielded, UL-approved, suitable for drag chains

Connectors. Lines. Automation.

Automation is our world: Pepperl+Fuchs develops sensor technology that provides optimum support for your application and keeps your processes running smoothly. However, high-performance sensor technology requires high-performance connection technology. With our connectivity product portfolio, we offer an integrated solution that combines these two elements, with every detail fine-tuned for optimal connectivity.

Harmonized Systems from a Single Source

Innovation, application expertise and proximity to our customers—these are the principles that have made Pepperl+Fuchs a global pioneer and innovator in the field of sensor technology. Our decades of practical experience have allowed us to develop a portfolio of connection technologies that is perfectly adapted to the requirements of automation. With harmonized systems from a single source, we can boost your productivity and increase the availability of machines and plants.

The Highest Quality in Any Environment

Pepperl+Fuchs products are used in a highly diverse range of applications. These applications, including the harshest ambient conditions and hazardous areas, place high demands on sensor technology. This is why we set the highest quality standards for the production of the entire product portfolio. The same applies to our connection technology. Because in the field of automation, only robust, well thought out solutions with maximum reliability will impress customers in the long run.

Suitable Solutions for Your Application

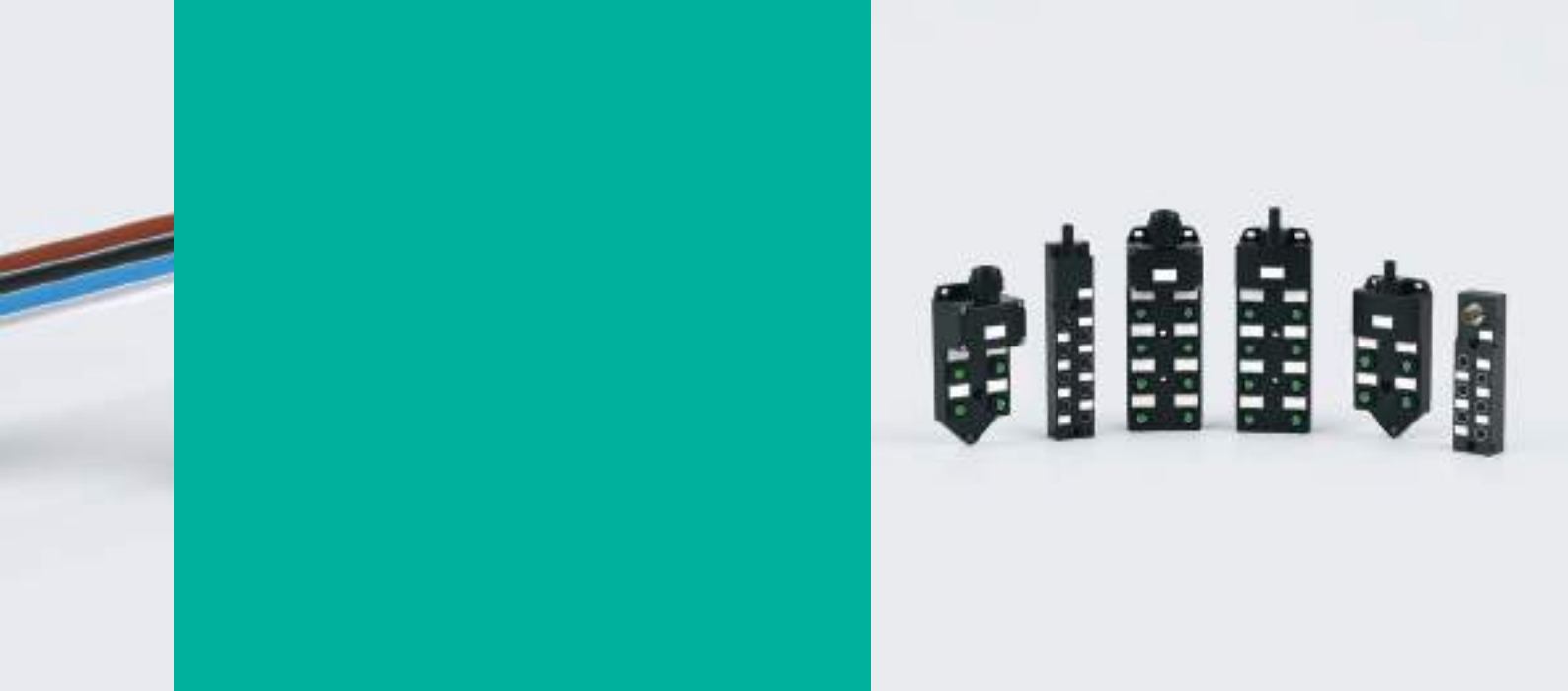
The core aim of our work is to make our customers' applications as simple, efficient, and reliable as possible by developing new products and technologies. Benefit from our huge application expertise: The experts at Pepperl+Fuchs have the exact connection technology to match your application profile.



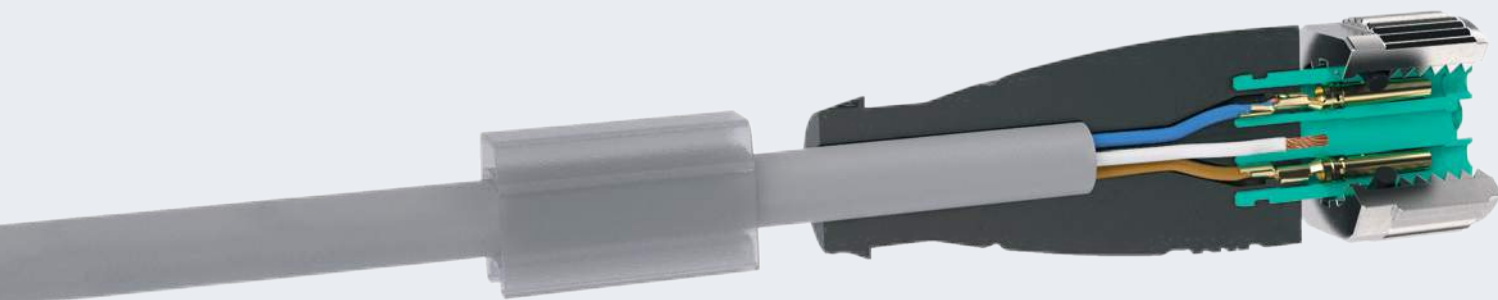
More information is available at:

pepperl-fuchs.com/fa-connectivity





Standardized and Perfected for an Extremely Long Service Life



Developed from decades of application experience, the sensor-actuator cables from Pepperl+Fuchs guarantee process reliability through the highest load capacity and service life. In addition, they are well-considered down to the last detail and enable quick and convenient assembly by hand with a tool.

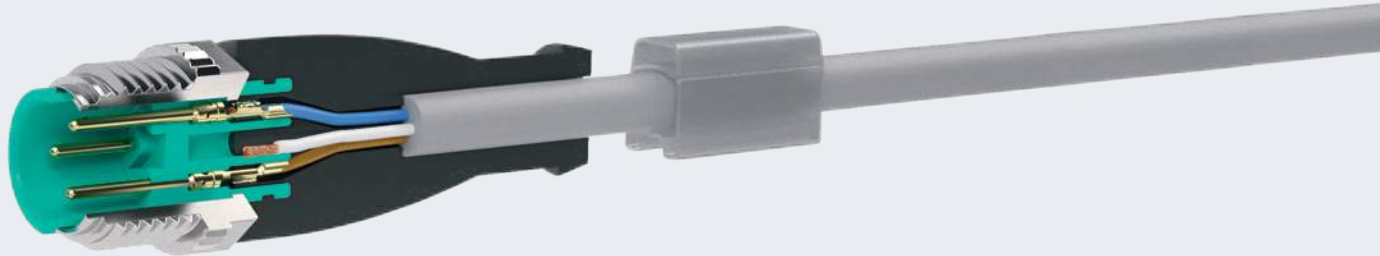
Your Benefits at a Glance

- Screw plug with knurling and hexagonal shape for quick and convenient installation by hand or with a tool
- Captive seal made of FKM for maximum sealing and media resistance
- O-ring is protected by integrated fixed stop for torque values from 0.4 Nm to 1.0 Nm
- High load capacity due to optimized vibration protection and gas-tight crimp connections
- Double creepage distance and protection up to IP68 and IP69K for use even in harsh industrial applications

Large Selection of Available Cable Qualities

No two applications are alike. Each operating environment has its own set of requirements. The mechanical and chemical properties of the connection technology used are a crucial aspect in determining the solution. Pepperl+Fuchs offers exactly the cable quality that you need.

- PVC—Solid and Economical
- PUR—Durable and Highly Flexible
- PUR U—Highly Flexible with UL Approval
- PUR A—Resistant to welding sparks for the automotive industry
- PUR O—Robust for demanding outdoor applications
- PUR-R—Highly flexible for demanding robotics applications
- STOW—Designed Specifically for the American Market
- POC—Specifically for the welding industry



Technical Features

- Mounting without a Datasheet
- Pin assignment is printed in the contact carrier
- Coding easily recognizable through clear arrow on the handle body

Practical and Quick Mounting

- Quick attachment by hand or tool due to combination knurling and hex nut
- Integrated fixed stop for protection of the O-ring and wide torque ranges
- Easy status diagnosis even with bright extraneous light thanks to high-contrast LED variants

100° Angle for Longer Service Life

- Strain relief of individual wires for a longer service life
- Highly prominent corrugated tube latching mechanism allows the use of additional protection for demanding applications

High Durability even in Harsh Industrial Applications

- High vibration resistance due to optimized vibration protection
- Double creepage distance for increased tolerance against contamination even when open

More than Just Connectors and Cables



Fully overmolded sensor-actuator splitters represent the ultimate standard in robustness. Field-attachable connectors provide the individual solution for your application. In addition to connectors and cables, Pepperl+Fuchs offers components which also guarantee long-term functional reliability and machine availability.

Sensor-Actuator Splitters

Splitter enabling you to easily merge two signals to one slot. Also suitable for cost-effective looping of bus signals with minimal wiring.

- Fully overmolded housing in accordance with IP68
- With rear sockets or molded cables
- Various cable lengths available

Field-Attachable Connectors

A wide range of connectors suitable for a diverse range of applications. Also ideal for easy repair or plant expansion on-site.

- Plastic or metal version
- Shielded and unshielded versions available
- Different connection standards including M8, M12, 1/2NPT, 7/8" and others, with screw technology or QUICKON technology
- Enable precise configuration on-site

Junction Blocks

M8 and M12 distributor with a molded master cable for reduced installation costs.

- Fully encapsulated housing in accordance with IP68
- 100 % tested for complete reliability
- Integrated LEDs for easier diagnostics
- Large socket spacings (M12) or offset sockets (M8) for easy fitting of connection
- Also available as an especially robust outdoor version

Receptacles

Signal routing from the control cabinet directly into the field. Also attractive as a flexible, separable connection for service engineers.

- Permanent impermeability in accordance with IP67/IP68
- Different connections
- Available with PG or metric thread
- Also available as a positionable version



Data Connectors

Fieldbus cables enable you to create a permanently reliable network between the different components of an automation system.

- PROFIBUS
- PROFINET/Ethernet
- CAN/DeviceNet

Valve Connectors

As a system provider, Pepperl+Fuchs provides ready-made components with exceptionally robust designs.

- Fully overmolded housing design in accordance with IP68
- Overmolded, captive seal
- Different circuits for secure EMC suppression
- Different versions in accordance with DIN and industry standard
- Also available as a robust outdoor version with stainless steel screw and silicone seal

Tools

Speed and precision are also crucial for installation and maintenance. Pepperl+Fuchs therefore also offers accessories that facilitate and speed up these routine tasks, such as the mounting aid for connectors to allow the secure attachment of connectors by thumbscrew to exactly the right torque.

Industry-Specific Connectivity Solutions

Each industry has individual requirements for connection technology. In addition to universal standard products, Pepperl+Fuchs therefore also offers specialized solutions tailored to individual requirements. One example is the Mobile Equipment Connectivity (MEC) series, which includes DEUTSCH plugs and other components specially designed for mobile use under extreme outdoor conditions.

Sensor-Actuator Cables

Factory Automation



Common Technical Data

Mechanical and plant engineering	■
Locking	Screw connection
Pollution degree	3
Degree of protection	IP67/68 & M12 IP69
Tool assembly	P+F tool plus SW14
Mating cycles	at least 100
EAC	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Operating Voltage	Operating Current	Status Indicator	Tightening Torque	Bending Radius	Stationary Operating Temperature	Shielding	Halo- gen-Free	Oil resis- tance	Trans- mission Charac- teristics	UL
V1-G-2M-PVC-V1-G	max. 250 VAC/VDC	max. 4 A		0.6 Nm	> 10 x cable diameter, movable 8 x cable diameter, fixed	-25 °C ... 70 °C					
V1-G-2M-PUR-V1-G	max. 250 VAC/VDC	max. 4 A		0.6 Nm	> 10 x cable diameter, movable 8 x cable diameter, fixed	-40 °C ... 80 °C		■			
V3-GM-2M-PUR-V3-GM	max. 48 V AC/60 V DC	max. 3 A		0.4 Nm	> 15 x cable diameter, movable 8 x cable diameter, fixed	-40 °C ... 80 °C		■			
V1-W-E2-5M-PUR	max. 24 V DC	max. 4 A	■	0.6 Nm	> 10 x cable diameter, movable 8 x cable diameter, fixed	-40 °C ... 80 °C		■			
V1-G-BK2M-PUR-U/ABG	max. 250 VAC/VDC	max. 4 A		0.6 Nm	> 10 x cable diameter, movable 5 x cable diameter, fixed	-20 °C ... 80 °C -40 °C ... 80 °C	on the cable gland	■	■		■
V15-G-VT2M-PUR-U/CAN-V15-G	max. 48 V AC/60 V DC	max. 4 A		0.6 Nm	> 8 x cable diameter, movable 4 x cable diameter, fixed	-20 °C ... 80 °C	on pin1 and cable gland	■	■	DeviceNet/ CANopen	■

Highlights

- M12 and M8 connectors
- Standard lengths in stock
- Raw cable from German and EU production
- Product Made in EU
- Perfectly adapted to the requirements of the industry
- Standardized stripping forces allow rapid processing in the field

Brief Description

PVC sheathed cables are designed for use in areas with medium mechanical stress. Cables with PUR sheathing are characterized by an especially long lasting flexibility, as is required, for example, for continuous use in machine tools.

Accessories

MH V1-BIT M12	Plug-in attachment for M12
MH V1 holder	Modular universal holder for M12 connectors
MH V1-SCREWDRIVER	Torque screwdriver (0.6 Nm)
MH V3-BIT M8	Plug-in attachment for M8
MH V3 holder	Modular universal holder for M8 connectors
MH V3 SCREWDRIVER	Torque screwdriver (0.4 Nm)
V1-CLIP	Unlocking protection for M12 connector
V1/V3 LABEL	License plate

Sensor-Actuator Cables

Automotive



Common Technical Data

Mechanical and plant engineering	■
Automotive industry	■
Locking	Screw connection
Pollution degree	3
Degree of protection	IP67/68 & M12 IP69
Tool assembly	P+F tool plus SW14
Mating cycles	at least 100
LABS-free	■
Halogen-free	■
EAC	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Operating Voltage	Operating Current	Status Indicator	Tightening Torque	Stationary Operating Temperature	Robotic	Direct Welding Area	Drag Chain Cycles	Torsion Cycles	VASS6-Compliant	UL
V1-G-BK5M-PUR-U	max. 250 VAC/VDC	max. 4 A		0.6 Nm	-40 °C ... 80 °C	■		min. 5,000,000	min. 1,000,000	■	■
V1-G-BK2M-PUR-R1-V1-G	max. 250 VAC/VDC	max. 4 A		0.6 Nm	-40 °C ... 80 °C	■		min. 10,000,000	min. 10,000,000		■
V1-G-BK2M-PUR-A-V1-G	max. 250 VAC/VDC	max. 4 A		0.6 Nm	-40 °C ... 80 °C	■		min. 5,000,000	min. 1,000,000		■
V1-G-OR2M-POC-V1-G	max. 250 VAC/VDC	max. 4 A		0.6 Nm	-40 °C ... 120 °C for 20,000 h -40 °C ... 150 °C for 3000 h		■		min. 300,000		
V1-W-E8-OR2M-PUR-A1-V1-G	max. 24 V DC	max. 4 A	Pin 4/ Pin 2	0.6 Nm	-40 °C ... 80 °C	■	■	min. 5,000,000	min. 1,000,000	■	■

Highlights

- M12 and M8 connectors
- Standard lengths in stock
- Raw cable from German and EU production
- Product Made in EU
- Perfectly matched to the requirements of the automotive industry
- Standardized stripping forces allow rapid processing in the field

Brief Description

PUR-A cables are an alternative to radiation-networked PUR cables. Due to their resistance to welding sparks, they are primarily used in the automotive industry. PUR-R are highly flexible cables that are used primarily in robotics. The highly resistant POC special cables are used in close proximity to welding processes. They are used where even radiation-networked PUR sheathing can no longer be used. Here also the focus is primarily on the automotive industry.

Accessories

MH V1-BIT M12	Plug-in attachment for M12
MH V1 holder	Modular universal holder for M12 connectors
MH V1-SCREWDRIVER	Torque screwdriver (0.6 Nm)
V1-CLIP	Unlocking protection for M12 connector
V1/V3 LABEL	License plate
V1/V3-LABELHOLDER	Cable identification sleeve

Sensor-Actuator Cables

Food and Beverage



Common Technical Data

Food industry	■
Stainless steel screw connection in V4A	■
Locking	Screw connection
Pollution degree	3
Degree of protection	IP67/IP68/IP69
Tool assembly	SW14
Ecolab tested/FDA-compliant	■
Halogen-free	■
Mating cycles	min. 100
EAC	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Operating Voltage	Operating Current	Tightening Torque	Stationary Operating Temperature	Design/Use	Drag Chain Cycles	Torsion Cycles	Seal
V1-GV4A-2M-PP-H1	max. 250 VAC/VDC	max. 4 A	0.4 Nm ... 0.6 Nm	Cable, movable: -25 °C ... 105 °C cable, fixed: -40 °C ... 105 °C	Hygienic design	min. 4,000,000	min. 4,000,000	FKM
V1-WV4A-2M-PP-H1-V1-WV4A	max. 250 VAC/VDC	max. 4 A	0.4 Nm ... 0.6 Nm	Cable, movable: -25 °C ... 105 °C cable, fixed: -40 °C ... 105 °C	Wash down	min. 4,000,000	min. 4,000,000	FKM
V3-GMV4A-2M-PP-W1	max. 48 V AC/60 V DC	max. 4 A	0.4 Nm ... 0.6 Nm	Cable, movable: -25 °C ... 105 °C cable, fixed: -40 °C ... 105 °C	Wash down	min. 4,000,000	min. 4,000,000	FKM

Highlights

- M12 and M8 connectors
- Standard lengths in stock
- Raw cable from German and EU production
- Product Made in EU
- Perfectly adapted to the requirements of the food industry
- Standardized stripping forces allow rapid processing in the field
- Ecolab tested/FDA-compliant
- Wide temperature range

Brief Description

Pepperl+Fuchs offers two product series adapted to the individual conditions of the product contact and injection zone. These are used especially in the food industry in hygienically demanding environments. They meet the requirements in terms of degree of protection, corrosion resistance and hygiene and also have a high temperature resistance of up to 105 °C. In addition, these products are characterized by their specific design, are PVC-free, halogen-free, FDA-compliant and certified according to ECOLAB.

Accessories

MH V1-BIT M12-W14-HEX	Plug-in attachment for M12 with hex stainless steel knurled nut
MH V1-SCREWDRIVER	Torque screwdriver (0.6 Nm)

Sensor-Actuator Cables

Ethernet



Common Technical Data	
For all Ethernet communication protocols	■
Locking	Screw connection
Halogen-free	■
LABS-free	■
Mating cycles	min. 100
EAC	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Ethernet Type	Component Category	Connection 1	Coding	Connection 2	Coding	Stationary Operating Temperature	Bending Radius	Drag Chain Cycles	UL
V19SX-G-GN2M-PUR-E2S-V45-G		CAT6A	M12 plug	X-coded	RJ45 plug	EtherNet/IP	-40 °C ... 85 °C	max. 50 mm movable max. 25 mm fixed		■
V1SD-G-GN2M-PUR-E1S-V1D-G	PROFINET	CAT5, CAT5e	M12 plug	D-coded	M12 plug	D-coded	-30 °C ... 70 °C	> 10 x cable diameter, movable 8 x cable diameter, fixed	max. 1,000,000	
V1SD-G-GN2M-PUR-E2S-V1SD-G		CAT5, CAT5e	M12 plug	D-coded	M12 plug	D-coded	-40 °C ... 80 °C	> 12 x cable diameter, movable 6 x cable diameter, fixed		
V45-G-C5-GN2M-PUR-E1S-V45-G	PROFINET	CAT5, CAT5e	RJ45 plug	PROFINET	RJ45 plug	PROFINET	-30 °C ... 70 °C, UL: -20 °C ... 70 °C	> 10 x cable diameter, movable 8 x cable diameter, fixed	max. 1,000,000	■

Highlights

- Connector M12 and RJ45
- Standard lengths in stock
- Raw cable from German and EU production
- PROFINET-compliant
- Suitable for all Ethernet communication protocols

Brief Description

Fieldbus cables enable you to create a permanently reliable network between the different components of an automation system. With its CAT5e and CAT6a connection cables, Pepperl+Fuchs offers connectivity solutions for all Ethernet-based systems and even PROFINET-compliant versions.

Accessories	
MH V1-BIT M12	Plug-in attachment for M12
MH V1 holder	Modular universal holder for M12 connectors
MH V1-SCREWDRIVER	Torque screwdriver (0.6 Nm)
V1-CLIP	Unlocking protection for M12 connector
V1/V3 LABEL	License plate
V1/V3-LABELHOLDER	Cable identification sleeve

Sensor-Actuator Cables

MEC



Common Technical Data

Optimized for agriculture, construction and agricultural machinery	■
Pollution degree	3
Degree of protection	IP67/68
UV-resistant	■
Saltwater-resistant	■
Oil-resistant	■
Mating cycles	min. 100

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Connection 1	Number of Pins	Locking	Stationary Operating Temperature	Operating Voltage	Operating Current	Bending Radius	Transmission Characteristics	EAC	UL
DT3P-G-BK1,5M-PUR-O1	Plug	3	Snap-locking	-50 °C ... 105 °C	max. 48 V AC/60 V DC	max. 8 A per contact	> 10 x cable diameter, movable 8 x cable diameter, fixed		■	
JPT2-G/V2-BK5M-PUR	Socket	2		-20 °C ... 80 °C	10 V ... 30 V	max. 2 A				
V15-G-BK0,3M-PUR-O1-DT6P-G	Socket	5		Cable, fixed: -50 °C ... 105 °C Cable, movable: -30 °C ... 105 °C	max. 48 V AC/60 V DC	max. 4 A per contact	> 10 x cable diameter, movable 5 x cable diameter, fixed			
V15-G-BK2M-PUR-O2/CAN-V15-G	Socket	5	Snap-locking	-50 °C ... 105 °C	max. 48 V AC/60 V DC	max. 4 A	> 10 x cable diameter, movable 5 x cable diameter when bent once	DeviceNet, CANopen	■	■
VMA-2+P/Z2-2M-PUR-V1-G	Valve connector	2+PE		Cable, movable: -20 °C ... 80 °C Cable, fixed: -40 °C ... 80 °C	24 V AC/DC	max. 4 A	> 50 mm > 22.5 mm, fixed			

Highlights

- Many well-known automotive connectors
- Fully molded, ideal for harsh environments
- Longitudinally watertight and mechanically protected
- UV-, oil- and salt-resistant
- Standard lengths in stock
- Raw cable from German and EU production

Brief Description

PUR-O cables are very robust. For this reason, these cables, which are designed especially for outdoor applications, are used predominantly in the mobile equipment field.

Accessories

MH V1-BIT M12	Plug-in attachment for M12
MH V1 holder	Modular universal holder for M12 connectors
MH V1-SCREWDRIVER	Torque screwdriver (0.6 Nm)
V1-CLIP	Interlock protection for M12 plug
V1/V3 LABEL	License plate
V1/V3-LABELHOLDER	Cable identification sleeve

Field-Attachable Connectors

Field-Attachable Connectors



Model Number	Connection 1	Thread	Housing Design	Connection 2	Operating Voltage	Operating Current	Stationary Operating Temperature	Transmission Characteristics	EAC	UL
V1-G-BK	Socket	M12	Straight	Screw terminals for max. 0.75 mm ²	max. 250 VAC/VDC	max. 4 A	-40 °C ... 85 °C		■	■
V1SD-G-ABG-PG9	Plug	M12	Straight	Screw terminals for max. 0.75 mm ²	max. 250 VAC/VDC	max. 4 A	-40 °C ... 85 °C	Ethernet/PROFINET	■	■
V19SX-G-ABG	Plug	M12	Straight	Core manager included in the scope of delivery	max. 50 V AC/60 V DC	max. 0.5 A	-40 °C ... 85 °C		■	
VMA-2+P	DIN valve connector		Angled	Form A valve connector screw terminals for max. 1.5 mm ²	250 V AC/300 V DC	max. 16 A	-40 °C ... 90 °C			
VMA-2+P/D2	DIN valve connector		Angled	Form A valve connector screw terminals for 0.75 mm ² ... 1.5 mm ² , cable gland M16	24 V DC	max. 16 A	-40 °C ... 90 °C			
V1-G-Q2	Socket	M12	Straight		max. 250 V	max. 4 A	-25 °C ... 80 °C			■

Highlights

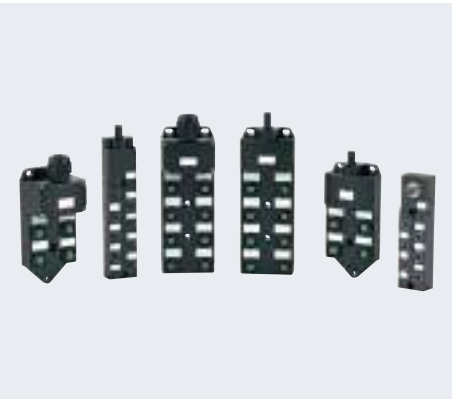
- Plastic or metal version
- Shielded and unshielded versions available
- Different connection standards such as M8, M12, 1/2 NPT, 7/8" and others in screw or QUICKON technology enable precise attachment on site

Brief Description

A wide range of connectors suitable for a diverse range of applications. Also ideal for easy repair or plant expansion on-site.

Sensor-Actuator Splitters

Junction Blocks



Common Technical Data	
Operating voltage	max. 24 V DC -20%/+25%
Operating current	< 5 mA per channel display element
Degree of protection	IP65/IP67
Number of pins	5
EAC	■
UL	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Connection	Status Indicator	Number/Type	Stationary Operating Temperature	Connection Type
V1-8/16A-E2-2M-PUR	Master cable	■	8, double assigned	Cable, movable: -5 °C ... 80 °C Cable, fixed: -40 °C ... 90 °C	8 x M12 socket x 15-pin; master cable
V1-8/16A-E2	Terminal compartment	■	8, double assigned	-25 °C ... 80 °C	8 x M12 socket x 15-pin; 1 x terminal compartment
V1-4/8A-E2	Terminal compartment	■	4, double assigned	-25 °C ... 80 °C	4 x M12 socket x 15-pin; 1 x terminal compartment

Highlights

- fully encapsulated housing in accordance with IP68
- 100% tested for complete reliability
- integrated LEDs for easier diagnostics
- large socket spacings (M12) or offset sockets (M8) for easy fitting of connection
- also available as an especially robust outdoor version

Brief Description

M8 and M12 distributor with a molded master cable for reduced installation costs.

Accessories	
CBL-PUR-BK-16x050/3x100-50M	Cable, PUR/PVC, 19-core black, suitable for drag chains, oil-resistant
MH 05-SACB-4	Mounting aid for passive distributor for DIN mounting rail
MH 05-SACB-8	Mounting aid for passive distributor for DIN mounting rail
MH V1-BIT M12	Plug-in attachment for M12
MH V1-SCREWDRIVER	Torque screwdriver (0.6 Nm)
V15S-Y-V15/V15	Y-Splitter, M12 plug to 2 x M12 socket

Sensor-Actuator Splitters

Y-Splitters



Common Technical Data	
Tightening torque	0.6 Nm
Mating cycles	min. 100

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Connection Type	Stationary Operating Temperature	Transmission Characteristics	EAC	UL
V1S-Y-V11/V11	2 x socket 3-pin, A-coded to plug 4-pin, A-coded	-40 °C ... 90 °C	DeviceNet/CANopen	■	■
V15S-YAND-V15/V15	2 x socket 4-pin, A-coded to plug 5-pin, A-coded	-25 °C ... 90 °C		■	■
V15S-YEE-V15/V15	2 x socket 5-pin, A-coded to plug 5-pin, A-coded	-25 °C ... 90 °C	DeviceNet/CANopen	■	
V15S-Y-TQ-V15/V15	2 x socket 4-pin, A-coded to plug 5-pin, A-coded	-40 °C ... 90 °C			

Highlights

- fully overmolded housing in accordance with IP68
- with rear sockets or molded cables
- various cable lengths available

Brief Description

Easy merging of two signals to one slot. Also suitable for cost-effective looping of bus signals with minimal wiring effort.

Accessories	
MH V1-BIT M12	Plug-in attachment for M12
MH V1-SCREWDRIVER	Torque screwdriver (0.6 Nm)

Sensor-Actuator Splitters

T-Splitters



Common Technical Data	
Potential application	Automotive industry
Connection	2 x socket to 1 x plug
Operating current	max. 4 A
EAC	■

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number	Connection Type	Operating Voltage	Stationary Operating Temperature	Use	UL
V1-G-BK0,3M-PUR-A-T-V1-G	2 x M12 socket, 4-pin, A-coded to M12 plug, 4-pin, A-coded	max. 30 V AC/DC	-40 °C ... 80 °C	Mechanical and plant engineering Indirect welding area Robotic	■
V1-G-OR0,3M-POC-T-0,6M-V1-G	2 x M12 socket, 4-pin, A-coded to M12 plug, 4-pin, A-coded	max. 48 V AC/60 V DC	-40 °C ... 120 °C		
V1-G-T-BK0,6M-PUR-A-V1-G	2 x M12 socket, 4-pin, A-coded to M12 plug, 4-pin, A-coded	max. 30 V AC/DC	-40 °C ... 80 °C	Mechanical and plant engineering Indirect welding area Robotic	■

Highlights

- fully overmolded housing in accordance with IP68
- with rear sockets or molded cables
- various cable lengths available

Brief Description

Easy merging of two signals to one slot. Also suitable for cost-effective looping of bus signals with minimal wiring effort.

Accessories	
MH V1-BIT M12	Plug-in attachment for M12
MH V1 holder	Modular universal holder for M12 connectors
MH V1-SCREWDRIVER	Torque screwdriver (0.6 Nm)
MH Y+T-SPLITTER HOLDER	Modular universal holder for M12 T-splitter cordsets and M12 Y-splitter cordsets
V1-CLIP	Interlock protection for M12 plug
V1/V3 LABEL	License plate
V1/V3-LABELHOLDER	Cable identification sleeve

Sensor Testers and Tools



Common Technical Data

Accessories for the connectivity field

For detailed data and description, see the datasheet. Further products can be found online at www.pepperl-fuchs.com.

Model Number

MH V1-SCREWDRIVER

Model Number

Torque screwdriver (0.6 Nm)

MH V1-BIT M12

Plug-in attachment for M12

V1-MARKING-RING-ORANGE

Marking ring for M12 connector

MH V1 holder

Modular universal holder for M12 connectors

Highlights

- Tool for securing all M12 round plug connectors with circumferential knurling
- Acoustic signal when the preset torque is reached
- Preset torque of 0.6 Nm
- Simply turn the attachment to loosen the connector
- Modular universal holder

Brief Description

Speed and precision are also crucial for installation and maintenance. Pepperl+Fuchs therefore also offers accessories that make these routine tasks easier and faster.

One example is the mounting aid for connectors. This allows the secure fixing of connectors with a thumb screw to exactly the right torque.

Your automation, our passion.

Explosion Protection

- Intrinsic Safety Barriers
- Signal Conditioners
- FieldConnex® Fieldbus Infrastructure
- Remote I/O Systems
- Electrical Explosion Protection Equipment
- Purge and Pressurization Systems
- HMI Systems
- Mobile Computing and Communications
- HART Interface Solutions
- Surge Protection
- Wireless Solutions
- Level Measurement

Industrial Sensors

- Proximity Sensors
- Photoelectric Sensors
- Industrial Vision
- Ultrasonic Sensors
- Rotary Encoders
- Positioning Systems
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- Vibration Monitoring
- Industrial Ethernet
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