TEST EQUIPMENT FOR MAINTENANCE AND SERVICE

PCE Instruments

Discover our new test instruments and their functions.

TESTING

TEST INSTRUMENTS FROM GERMANY

Maintenance and Service

The company PCE Instruments based in Meschede-Freienohl in the German Sauerland region was founded in 1999 by three engineers. With more than 120 employees and several branches around the world, the company focuses on the development, production and distribution of high-performance and innovative products from the fields of measuring instruments, control systems, weighing equipment and laboratory technology.

PCE Instruments‘ wide range of products and services offers high precision and flexibility in any application as well as outstanding quality and functionality. The different fields can be seen in the overview.

MEASURING INSTRUMENTS

The field of measuring instruments covers a multitude of innovative portable products as well as products for fixed installation that measure electrical, mechanical, biological and chemical parameters.

CONTROL SYSTEMS

The range of control systems covers the complete demand for sensors, displays, controllers and paperless recorders.

WEIGHING EQUIPMENT

The field of weighing equipment comprises a wide standard range of high-quality scales and balances that can be calibrated and/or verified for trade.

LABORATORY TECHNOLOGY

High-end analytical and laboratory devices have been developed for professional applications and in particular for use in laboratories.






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DEVELOPMENT

In order to develop modified test equipment in line with customers‘ specifications, proficient engineers and technicians cooperate closely with the customer.

PRODUCTION

PCE Instruments manufactures industrial test instruments that help improving process analysis and optimisation.

CALIBRATION

Our DIN EN ISO 9001:2015 certified calibration laboratory verifies the measuring accuracy of our products. They calibrate pressure, hardness, force, material thickness, sound pressure, conductivity, redox, vibration acceleration and more.

VIBRATION MEASUREMENT

VIBRATION METER PCE-VT 3700 / PCE-VT 3700S

Handy entry-level device for vibration monitoring of machines and systems

The vibration meter is ideal for maintenance workers to quickly check vibrating parts, machines and systems. This vibration meter shows the vibration acceleration, vibration velocity and vibration displacement directly on the display. You can use the device to quickly and reliably detect machine imbalances which can lead to, for example, bearing damage. The vibration meter is equipped with a mode that allows a measurement according to ISO 10816-3 to be carried out. The vibration meter analyzes the measured values and automatically shows a good / bad evaluation on the display. The vibration meter is supplied with a sensor on a spiral cable, magnet adapter, service bag and batteries. The ISO factory certificate completes the scope of delivery.

ISO cal option

- automatic ISO 10816-3 evaluation
- easy to handle
- for mobile vibration measurement
- colored graphic display
- peak-hold function

PCE-VT 3700

PCE-VT 3700S

APPLICATION

TECHNICAL SPECIFICATIONS

Measuring range	Acceleration 0.0 ... 399.9 m/s²
Resolution	0.1 m/s²
Accuracy @ 160 Hz	±2 %
Frequency range	10 Hz ... 1 kHz 10 Hz ... 10 kHz
Measuring range	Velocity 0.00 ... 399.9 mm/s
Resolution	0.1 mm/s
Accuracy @ 160 Hz	±2 %
Frequency range	10 Hz ... 1 kHz
Measuring range	Displacement 0.000 ... 3.9 mm
Resolution	1 µm
Accuracy @ 160 Hz	±2 %
Frequency range	10 Hz ... 200 Hz
Measurement parameters	RMS, Peak, Peak-Peak Crest factor
Units	switchable metric / imperial
Display	3.5" LC display
Menu languages	English, German, French Spanish, Italian, Dutch Portuguese, Turkish, Polish Russian, Chinese, Japanese
Power supply	3 x 1.5 V AA batteries
Operating and storage conditions	-20 ... +65 °C / -4 ... 149 °F; 10 ... 95 % r.H.
Dimensions	150 x 80 x 38 mm / 5.9 x 3.1 x 1.5"
Weight	170 g / 6 oz
Sensor PCE-VT 3700	Sensor with spiral cable PCE-VT 3xxx SENSOR Magnet adapter PCE-VT VMH
Sensor PCE-VT 3700S	Sensor with spiral cable PCE-VT 3xxx SENSOR Magnet adapter PCE-VT VMH Needle sensor PCE-VT NP Handgrip PCE-VT 3xxx HANDLE

Technical data vibration sensor

Resonance frequency	30 kHz
Transverse sensitivity	≤5 %
Destruction limit	5000 g (peak)
Operating and storage temperature	-20 ... +80 °C / -4 ... 176 °F; max. 95 % r.H.
Housing material	Stainless steel
Mounting thread	M5
Dimensions	16 x 36 mm / 0.6 x 1.4"
Weight (without cable)	35 g / 1.2 oz

Optional accessories:

PCE-VT NP	Needle sensor for vibration meter
PCE-VT VMH	Magnet adapter
PCE-VT 3xxx HANDLE	Handgrip für vibration meter
PCE-VT 3700 CASE	Case with rigid foam insert
CAL-PCE-VT 3700	ISO-calibration for vibration meter
PCE-VT 3xxx SENSOR	Replacement sensor

Subject to change without notice

VIBRATION MEASUREMENT

VIBRATION ANALYZER PCE-VT 3800 / PCE-VT 3800S

Vibration analyzer with external sensor / data logger function

The vibration analyzer is the ideal companion for checking vibrating parts, machines and plant. With the external vibration sensor of the vibration meter, the vibration displacement up to 3.9 mm, the vibration velocity up to 399.9 mm/s and the vibration acceleration up to 399.9 m/s² can be determined. RMS, peak, peak-to-peak and crest factor are available as measurement parameters on the vibration meter. Another function of the vibration measuring device is the automatic evaluation according to ISO 10816-3. Accordingly, the vibration meter can determine the current vibration state of a machine via a good/bad evaluation. This means that the vibration meter is used, for example, for repair and maintenance work on machines.

ISO cal option

- data logger function
- automatic ISO 10816-3 evaluation
- measuring range up to 399.9 m/s² / 15744 in/s²
- hand-held device for mobile vibration measurement
- rechargeable battery
- 2.48" LC display

PCE-VT 3800

PCE-VT 3800S

APPLICATION

TECHNICAL SPECIFICATIONS

Measuring range	**Acceleration** 0.0 ... 399.9 m/s² / 0.0 - 15744 in/s²	Sensor PCE-VT 3800	Sensor with spiral cable PCE-VT 3xxx SENSOR Magnet adapter PCE-VT VMH
Resolution	0.1 m/s² / 3.94 in/s²		
Accuracy @ 160 Hz	±2 %	Sensor PCE-VT 3800S	Sensor with spiral cable PCE-VT 3xxx SENSOR Magnet adapter PCE-VT VMH Needle sensor PCE-VT NP Handle PCE-VT 3xxx HANDLE
Frequency range	10 Hz ... 10 kHz 1 kHz ... 10 kHz		
Measuring range	**Velocity** 0.00 ... 399.9 mm/s / 0.00 - 15.74 in/s	**Optional accessories:**	
Resolution	0.1 mm/s / 0.0039 in/s		
Accuracy @ 160 Hz	±2 %	PCE-VT NP	Needle sensor for vibration measuring device
Frequency range	10 Hz ... 1 kHz	PCE-VT VMH	Magnet adapter
Measuring range	**Displacement** 0.000 ... 3.9 mm / 0.000 - 0.154 in	CAL-PCE-VT 3xxx	ISO Calibration Certificate for vibration meter
Resolution	1 µm / 39.4 µin	PCE-VT 3xxx SENSOR	Replacement vibration sensor
Accuracy @ 160 Hz	±2 %		
Frequency range	10 Hz ... 200 Hz		

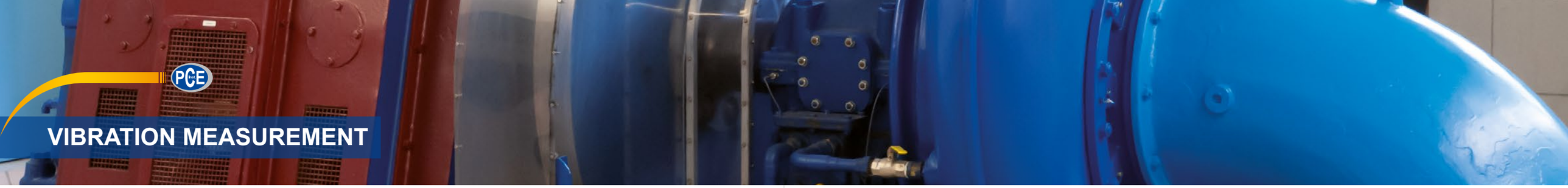
Measurement parameters	RMS, Peak, Peak-Peak Crest factor
Manual memory	99 folders with 50 measured values each
Data logger	Various start/stop triggers Measurement interval between 1 s … 12 h 50 memory locations with 43200 measured values each
Units	can be switched to metric / imperial
Display	2.48" LC display
Menu languages	English, German, French Spanish, Italian, Dutch Portuguese, Turkish, Polish Russian, Chinese, Japanese
Power supply	internal: LiPo battery (3.7 V, 2500 mAh) external: USB 5 VDC, 500 mA
Operating time	ca. 15 … 20 h (depending on display brightness)
Operating and storage conditions	temperature: -20 ... +65 °C / -4 ... 149 °F humidity: 10% RH ... 95% RH, non-condensing
Dimensions	165 x 85 x 32 mm / 6.5 x 3.3 x 1.3"
Weight	239 g / 8.4 oz

Technical Data Vibration Sensor

Resonance frequency	24 kHz
Transverse sensitivity	≤ 5%
Destruction limit	5000 g (peak)
Operating and storage temperature	-55 °C … +150 °C / -67 °F ... 302 °F
Housing material	stainless steel
Mounting thread	¼ - 28“
Dimensions	Ø 17 x 46 mm / 0.67 x 1.8"
Weight (without cable)	52 g / 1.8 oz

PCE-VT 3800 PCE-VT 3800S

Subject to change without notice



VIBRATION MEASUREMENT

VIBRATION ANALYZER PCE-VT 3900 / PCE-VT 3900S

Vibration analyzer with internal memory / route measurement

The vibration analyzer is an ideal measuring device for fast and precise checking of vibrating parts, machines and systems. This vibration meter uses the external vibration sensor to determine the vibration displacement (measuring range 0.000 ... 3.9 mm), the vibration velocity (measuring range 0.00 ... 399.9 mm/s) and the vibration acceleration (measuring range 0.0 ... 399.9 m/s²).

Various measurement parameters are available for the vibration meter, such as RMS, peak, peak-peak and crest factor. The vibration meter is equipped with a mode that allows a measurement to be automatically evaluated according to the limit values of ISO 10816-3.

ISO cal option

- for mobile vibration measurement
- measuring range up to 399.9 m/s² / 15744 in/s²
- FFT analysis
- route measurement
- manual measured value memory
- automatic ISO 10816-3 evaluation
- internal memory
- 2.48" LC display

PCE-VT 3900

PCE-VT 3900S

APPLICATION

TECHNICAL SPECIFICATIONS

Measuring range	**Acceleration** 0.0 ... 399.9 m/s² / 0.0 - 15744 in/s²
Resolution	0.1 m/s² / 3.94 in/s²
Accuracy @ 160 Hz	±2 %
Frequency range	10 Hz ... 10 kHz 1 kHz ... 10 kHz
Measuring range	**Velocity** 0.00 ... 399.9 mm/s / 0.00 - 15.74 in/s
Resolution	0.1 mm/s / 0.0039 in/s
Accuracy @ 160 Hz	±2 %
Frequency range	10 Hz ... 1 kHz
Measuring range	**Rotational Speed** 600 ... 50000 RPM
FFT acceleration	10 Hz ... 8 kHz
FFT velocity	10 Hz… 1 kHz
Accuracy @ 160 Hz	± 2%
Number of FFT lines	2048
Route measurement	100 routes each with 100 machines each with 100 measuring points with 1000 measured values each
Measuring range	**Displacement** 0.000 ... 3.9 mm / 0.000 - 0.154 in
Resolution	1 µm / 39.4 µin
Accuracy @ 160 Hz	±2 %
Frequency range	10 Hz ... 200 Hz
Measurement parameters	RMS, Peak, Peak-Peak Crest factor
Manual memory	99 folders with 50 measured values each
Data logger	Various start/stop triggers Measurement interval between 1 s … 12 h 50 memory locations with 43200 measured values each
Units	can be switched to metric / imperial
Display	2.48" LC display
Menu languages	English, German, French Spanish, Italian, Dutch Portuguese, Turkish, Polish Russian, Chinese, Japanese
Power supply	internal: LiPo battery (3.7 V, 2500 mAh) external: USB 5 VDC, 500 mA
Operating time	ca. 15 … 20 h (depending on display brightness)
Operating / storage conditions	temperature: -20 ... +65 °C / -4 ... 149 °F humidity: 10% RH ... 95% RH, non-condensing
Dimensions	165 x 85 x 32 mm / 6.5 x 3.3 x 1.3"
Weight	239 g / 8.4 oz

Sensor PCE-VT 3900	Sensor with spiral cable PCE-VT 3xxx SENSOR Magnet adapter PCE-VT VMH
Sensor PCE-VT 3900S	Sensor with spiral cable PCE-VT 3xxx SENSOR Magnet adapter PCE-VT VMH Needle sensor PCE-VT NP Handle PCE-VT 3xxx HANDLE

Technical Data Vibration Sensor

Resonance frequency	24 kHz
Transverse sensitivity	≤ 5%
Destruction limit	5000 g (peak)
Operating and storage temperature	-55 °C … +150 °C / -67 °F ... 302 °F
Housing material	stainless steel
Mounting thread	¼ - 28“
Dimensions	Ø 17 x 46 mm / 0.67 x 1.8"
Weight (without cable)	52 g / 1.8 oz

Optional accessories:

PCE-VT NP	Needle sensor for vibration measuring device
PCE-VT VMH	Magnet adapter
CAL-PCE-VT 3xxx	ISO Calibration Certificate for vibration meter
PCE-VT 3xxx SENSOR	Replacement vibration sensor

PCE-VT 3900 PCE-VT 3900S

Subject to change without notice

VIBRATION MEASUREMENT

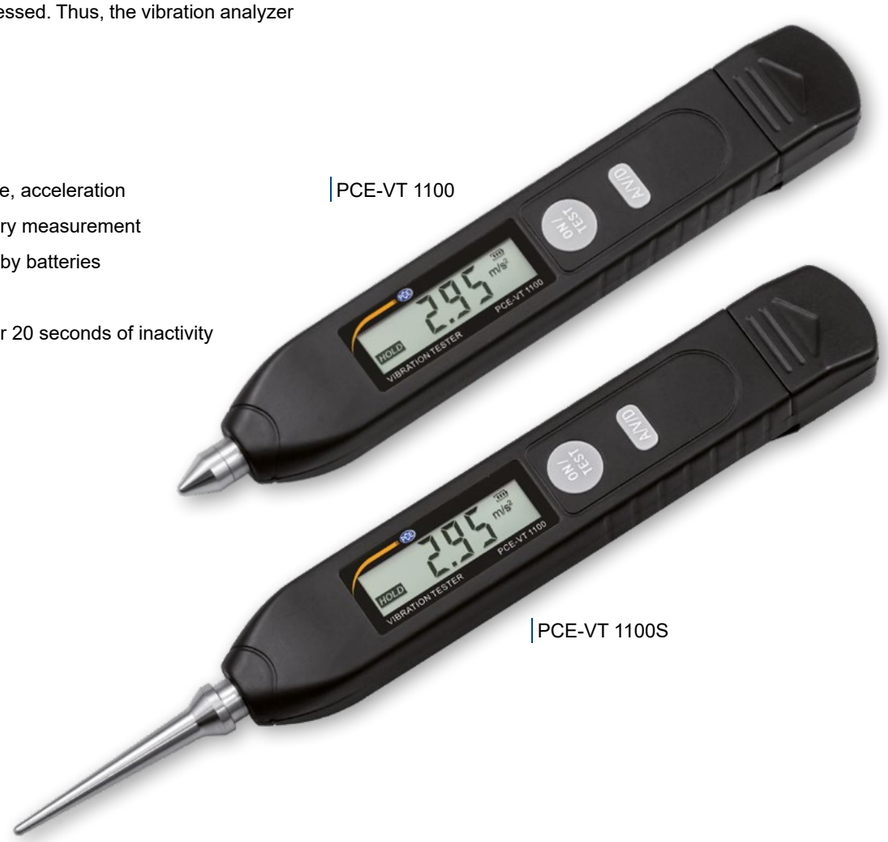
VIBRATION ANALYZER PCE-VT 1100 Series

Measurement of acceleration, vibration velocity and displacement

The vibration analyzer is used as a hand-held measuring device for the individual assessment of vibrations on machines and systems. With the help of this vibration analyzer, the actual state can easily be determined on site. Thus, corresponding changes can be made directly on site after the measurement. Thereafter, the new condition can be assessed. Thus, the vibration analyzer serves as a measuring device for a relative measurement on different machines.The vibration analyzer serves essentially as precautionary or preventive maintenance of production machines. Very often, the vibration analyzer is used to assess the state of smaller electric motors.

ISO cal option

- measures speed, distance, acceleration
- keeps the value after every measurement
- easy to handle, powered by batteries
- wide frequency range
- automatic shut-down after 20 seconds of inactivity to protect battery life
- low battery indicator



PCE-VT 1100

PCE-VT 1100S

APPLICATION

TECHNICAL SPECIFICATIONS

Parameter	Measuring Range	Frequency Range
Acceleration	0.01 ... 199.9 m/s² peak	10 Hz ... 1 kHz
Vibration speed	0.01 ... 199.9 mm/s rms	10 Hz ... 1 kHz
Displacement	0.001 ... 1.999 mm p-p	10 ... 500 Hz

Measurement accuracy	Acceleration: ≤ 3 % Vibration speed: ±5 %, ±2 Digits Displacement: +10/-20 % (10...20 Hz); ±5 % (20...1000 HZ)

General specifications

Display	LCD, Response time approx. 1 second
Power supply	2 x 6 V CR2032 button cell
Battery life	about 5 hours (in continuous operation)
Environmental conditions	0 ... +40 °C / 32 ... 104 °F, 0 ... 84 % r.H.
Dimensions	155 x 24 x 18.7 mm / 6.1 x 0.9 x 0.7 "
Weight	ca. 40 g / 1.4 oz (incl. batteries)

Optional accessories::

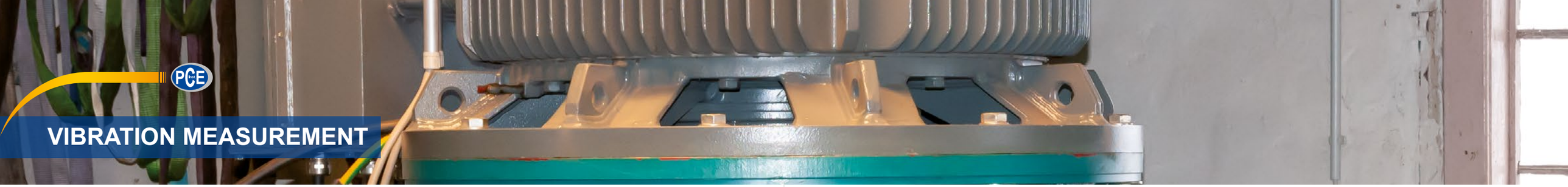
Standard probe	length 10mm	Order no.: PCE-VT-NF-10
Vibration Sensor	length 45 mm	Order no.: PCE-VT-NF-45
1 point calibration at:	159.2 Hz; 10 mm/s; 14.1 m/s²; 0.028 mm	Order no.: CAL-V-I

Model:

PCE-VT 1100	Vibration meter with sensor length 10 mm
PCE-VT 1100S	Vibration meter with sensor length 45 mm
PCE-VT 1100M	Vibration meter with magnetic adaptor plate

PCE-VT 1100M

Subject to change without notice



VIBRATION MEASUREMENT

VIBRATION METER PCE-VT 1350 / PCE-VT 1350S

Later analyzes thanks to data storage

The vibration meter is a measuring device for one-hand operation. This is made possible by the built-in acceleration sensor in the vibration meter. So that the measured values can be read from different angles on the vibration analyzer, the display can be rotated by the vibration meter in 0, 90, 180 and 270 °. The display of the vibration meter is designed so that all measurement parameters such as acceleration, speed and the way can be read. Another special feature of the vibration meter is the vibration evaluation according to ISO 10816-1. The vibration meter thus graphically shows directly on the display in which area the measured value is located.

ISO cal option

- for fast vibration measurement
- display rotatable by 0 °, 90 °, 18 ° and 270 °
- data storage for later analyzes
- carrying case included
- for mobile use
- graphic and numerical representation

APPLICATION

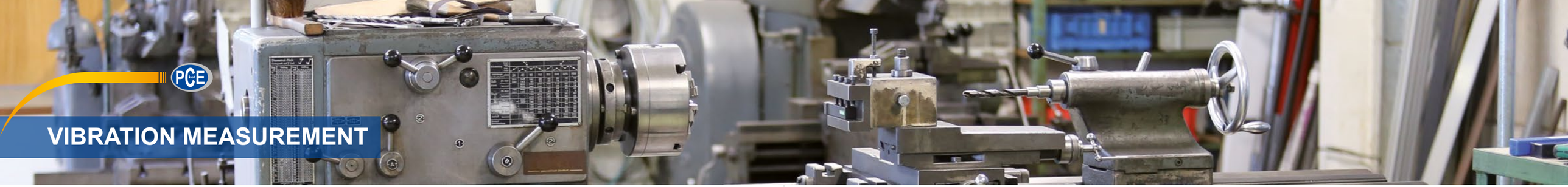
TECHNICAL SPECIFICATIONS

Acceleration measurement function		
Measuring range	**Resolution**	**Accuracy**
0.1 ... 199.9 m (655.8 ft) / s²	0.1 m (3.9 in) / s²	< 2 m (6.6 ft) / s² < ± 10 % > 2 m (6.6 ft) / s² < ± 5 %
Measuring function speed		
Measuring range	**Resolution**	**Accuracy**
0.1 ... 199.9 mm / s	0.1 mm / s	< 2 mm / s < ± 10 % > 2 mm / s < ± 5 %
Measuring function way		
Measuring range	**Resolution**	**Accuracy**
0.001 ... 1.999 mm	0.001 mm	< 0.02 mm < ±10 % > 2 mm < ±5 %
Sensor	Piezoelectric ceramics Accelerometer (shear type)	
Sensor tip	10 mm / 0.4 in attachment	
Frequency range **acceleration**	High frequency: 1 ... 15 KHz (HI) Low frequency: 20 Hz ... 1 KHz (LO)	
Frequency range **speed**	Low frequency: 20 Hz ... 1 KHz (LO)	
Frequency range **path**	Low frequency: 20 Hz ... 1 KHz (LO)	
Display	2 in LCD	
Update rate from the display	1 Hz	
Maximum number of storage spaces	Approx. 100 measuring points	
Maximum number of storage groups	7	
Vibration assessment	According to ISO 10816-1	
Power supply	2 x 1.5 V AAA batteries	
Environmental conditions	0 ... 40 °C / 32 ... 104 °F, 30 ... 90 % RH	
Dimensions	180 x 80 x 38 mm / 7.1 x 3.2 x 1.5 in	
Weight	Approx. 250 g / < 1 lb (without batteries)	

Models:

PCE-VT 1350	Vibration meter with vibration sensor length 10 mm
PCE-VT 1350S	Vibration meter with vibration sensor length 45 mm

Subject to change without notice



VIBRATION MEASUREMENT

VIBRATION METER PCE-VM 20

Vibration meter for vibration measurement on machines

Rotating components in machines generally cause machine vibrations which can go over to the entire machine via mechanically coupled components. This creates a mixture of vibration with different frequencies. This machine vibration can have different effects some of which may be desired (e. g., in conveyors or vibrating sieves) – however, in most cases they are undesirable and cause poor manufacturing qualities and increased wear of the machine. Increased wear and tear due to machine vibrations leads to reduced running times, higher failure rates and higher maintenance expenditure, i. e. to avoidable costs as a whole.

ISO cal option

- real-time FFT analysis
- robust housing
- many vibration parameters
- integrated rechargeable LiPo battery
- direct evaluation of machine vibration in compliance with DIN ISO 10816

APPLICATION

TECHNICAL SPECIFICATIONS

Vibration acceleration	0 ... 200 m/s², RMS and Peak-Peak
Vibration velocity	0 ... 200 mm/s, RMS
Vibration displacement	0 ... 2000 µm, Peak-Peak
Accuracy vibration	±5 %
Operating modes	vibration, temperature, revolutions
Representable measured variables	Frequency Vibration acceleration vibration velocity vibration FFT spectrum
Units	metric, imperial mm/s², mm/s, µm RPM und Hz
Interface	USB 2.0
Memory	4 GB micro SD card
Battery life	up to 8 h continuous operation
Battery type	lithium polymer
Display	128 x 160 pixel colour LCD
Environmental conditions	-10 ... +55 °C ≤ 80 % RH non-condensing
Dimensions	132 x 70 x 33 mm / 5.2 x 2.8 x 1.3 in (L x W x D)
Weight	approx. 150 g

Handset: must not be exposed to strong vibration, magnetic fields, corrosive media or dust

Technical data of the vibration sensor

Sensitivity	100 mV/g
Frequency response (± 3 dB)	0.5 ... 15000 Hz
Frequency response (± 10 %)	2.0 ... 10000 Hz
Dynamic range	±50 g, peak
Power supply (IEPE)	18 ... 30 V DC
Constant current source	2 ... 10 mA
Spectral noise at 10 Hz	14 µg / √Hz
Spectral noise at 100 Hz	2.3 µg / √Hz
Spectral noise at 1000 Hz	2 µg / √Hz
Output impedance	< 100 Ω
Bias voltage	10 ... 14 V DC
Housing insulation	> 100 MΩ
Environmental conditions	-50 ... 121 °C / -58 ... 249.8 °F
Maximum impact protection	5000 g, peak
Resonant frequency	23,000 Hz
Housing material	316L stainless steel
Connection	2-pin MIL-C-5015
Protection class	IP 68
Weight	90 g / < 1 lb

Subject to change without notice

VIBRATION MEASUREMENT

VIBRATION ANALYZER PCE-VM 22

Vibration analyzer with 4 GB data memory / Measuring range 0 ... 200 mm/s²

The vibration analyzer has a measuring range of 0 ... 200 m/s² for acceleration. In addition to acceleration, the vibration meter can also measure speed, displacement, frequency and an ISO 18016-3 measurement. During the vibration measurement, an FFT view is simultaneously displayed on the vibration meter. By pressing a button, it is possible to switch from the FFT analysis to the actual wave view of the vibration. This makes it possible to analyse and evaluate a vibration even better with the vibration meter. The magnetic holder of the vibration sensor of the vibration meter is designed in such a way that it can be attached to curvatures with a minimum radius of 20 mm / 0.78".

ISO cal option

- measuring range 0 ... 200 m/s²
- infrared temperature measurement
- 4 GB data storage
- 8 hours of battery life
- optionally with ISO calibration certificate
- FFT analysis and wave view of the vibration

APPLICATION

TECHNICAL SPECIFICATIONS

Frequency	
Measuring range	**1 ... 10,000 Hz**
Resolution	0.1 Hz
Accuracy	±5 %
Acceleration	
Measuring range	**0 ... 200 m/s²**
Resolution	0.01 m/s²
Accuracy	±5 %
Speed	
Measuring range	**0 ... 200 mm/s**
Resolution	0.01 mm/s
Accuracy	±5 %
Displacement	
Measuring range	**0 ... 2000 µm**
Resolution	0.01 µm
Accuracy	±5 %

Infrared temperature measurement	
Measuring range	**-70 ... 380 °C / -94 ... 716 °F**
Resolution	0.1 °C / °F
Accuracy	±0.5% at (0…+60°C), (32 ... 140 °F)±1% at (-40 ... 0, 60 ... 120 °C), (-40 ... 32, 140 ... 248 °F) ±2% at (-70 … -40, 120 ... 180 °C), (-94 ... -40, 248 ... 356 °F) ±4% at (180 ... +380 °C), (356 ... 716 °F)
Emissivity	1 fixed

Tachometer	
Measuring range	**10 … 200,000 RPM**
Resolution	0.1 RPM
Accuracy	±0.1% and ±1 RPM
Units	RPM, Hz

Further specifications for the handheld device	
FFT spectrum resolution	400, 800, 1600 lines
Dynamic range	106 dB
A/D converter resolution	24 bit
Storage space	4 GB
Display	128 x 160 pixels
Interfaces	Micro USB interface
Power supply battery	3.7 V, 1000 mAh battery
Battery life	ca. 8 hours
Power supply for power pack	5 V DC, 1 A
Operating conditions	0 ... 50 °C / 32 ... 122 °F, <85% RH, non-condensing
Storage conditions	-20 ... 60 °C / -4 ... 140 °F, <85% RH, non-condensing
Dimensions	132 x 70 x 33 mm / 5.2 x 2.7 x 1.3"
Weight	150 g / 5.3 oz

Vibration sensor specifications	
Sensitivity	100 mV/g
Cable length	ca. 1.5 m / 4.9 ft
Connection	2 pin MIL-DTL-5015
Case material	316L stainless steel
Dimensions	Ø25 x 53 mm / Ø0.98 x 2.08"
Weight	86 g / 3.0 oz

Magnetic holder specifications	
Diameter	30 mm / 1.18"
Magnetic force	20 kg / 44 lbs
Connection thread	1/4"-28 UNF female
Smallest radius	20 mm / 0.78"

Infrared and RPM sensor specifications	
Cable length	ca. 1.2 m / 3.9 ft
Dimensions	Ø16 x 83 mm / Ø0.63 x 3.26"
Weight	75 g / 2.6 oz

Subject to change without notice

BELT TENSION TESTING

BELT-TENSION METER PCE-BTM 2000

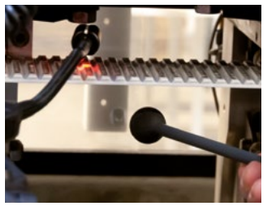
To measure the tension of V-belts or drive belts

The PCE-BTM 2000 is a measuring instrument to determine the tension of V-belts or drive belts. Belt tension can only be measured when the belt is not in operation. A small impulse with the help of a beater is enough to make the belt vibrate. With a measuring probe and a sensor beam, the generated vibration frequency is determined. The belt tension is calculated on the basis of the measuring data of the natural frequency as well as the belt mass and the length of the free belt span. It is not necessary to enter the belt mass and the belt length. The maximum service life of V-belts or drive belts can only be achieved with ideal tension.

ISO cal option

- measures vibration frequency of the belt
- intuitive operation
- calculation of belt tension (trum force)
- displays belt tension in N
- 6 menu languages
- memory for 750 readings
- sensor with gooseneck
- belt length and belt mass can be entered

APPLICATION



TECHNICAL SPECIFICATIONS

Measurement range	10 ... 900 Hz
Accuracy	±(1 % of rdg. + 4 digits)
Repeatability	±1 Hz
Resolution	< 100 Hz: 0.1 Hz > 100 Hz: 1 Hz
Belt length	max. 9.999 m
Belt mass	max. 9.999 kg/m
Memory	750 readings 15 folders, 50 measuring points/folder
Menu languages	English, German, Spanish, French, Italian, Dutch
Power supply	3 x 1.5 V AAA battery
Operating conditions	0 ... 50 °C; max. 95 % RH
Storage conditions	-20 ... 65 °C; max. 95 % RH
Dimensions	150 x 80 x 38 mm
Weight	approx. 200 g incl. batteries

Subject to change without notice

RPM MEASUREMENT

HANDHELD TACHOMETER PCE-T 260

with Optical & Contact speed measurement

The combined tachometer-stroboscope is a measuring device for use in maintenance and production. In addition to the stroboscope function, the tachometer-stroboscope is also able to mesure temperature by an infrared beam. Thus, the tachometer-stroboscope is ideal for testing the rotational speeds and temperatures of centrifuges, motors, fans, and many other machines and systems used in industry and research. The special feature is the combination of these measurement parameters in a single housing. The tachometer-stroboscope has a measuring range of 0.5 ... 99.990 rpm, and the IC circuit in conjunction with a bright red LED lamp ensure the device has a low power consumption and is almost maintenance-free.

ISO cal option

- easy to handle
- powerful LEDs
- non-contact temperature measurement
- temp. measurement with sensor type K o. PT 1000
- robust ABS plastic housing
- 5-digit 10 mm LCD display
- last measured value, min / max memory
- red strobe light

APPLICATION

TECHNICAL SPECIFICATIONS

Technical data of PCE-T 260 optical tachometer	
Measuring range	5 ... 99999 rpm
Resolution	0.5 U/min (< 1000 rpm) 1 rpm (>1000 rpm)
Accuracy	±0.05% + 1 Digit
Distance to the measuring object	50 ... 150 mm / 2 x 5.9 in, max. 300 mm / 12 in (depending on ambient light)

Technical data of PCE-T 260 contact tachometer	
Measuring range	0.5 ... 19999 rpm
Resolution	0.5 rpm (< 1000 rpm) 1 rpm (>1000 rpm) 0.05 m/min (<100 m/min) 0.1 m/min (>100 m/min)
Accuracy	±0.05% + 1 Digit

Technical data of PCE-T 260 stroboscope	
Measuring range	100 ... 99990 FPM
Resolution	0.1 FPM (< 1000 FPM) 1 FPM (1000 ... 30000 FPM) 5 FPM (30000 ... 50000 FPM) 1 FPM (50000 ... 99990 FPM)
Accuracy	±0.1% + 2 Digit
Flash lamp	3 x LED (red)

Technical data of PCE-T 260 temperature Type K	
Measuring range	-100 ... 1300 °C / -148 ... 2372 °F
Resolution	0.1°C
Accuracy (device only)	±0.4 % + 1 °C / 33 °F (-100 ... -50 °C / -148 ... -58 °F) ±0.4 % + 0.5 °C / 32 °F (-50 ... 1300 °C / -148 ... 2372 °F)

Technical data of PCE-T 260 temperature PT 1000	
Measuring range	-10 ... 70°C / 14 ... 158°F
Resolution	0.1°C / 32°F
Accuracy (device only)	±1.2°C / 34°F

Technical data of PCE-T 260 temperature IR	
Measuring range	-30 ... 305 °C / -22 ... 581 °F
Resolution	0.5 °C / 33 °F
Accuracy	±3 % or ±3 °C / ±37 °F
Emissivity	0.95 fixed
Spectral range	6 ... 14 µm
Optical resolution	3:1

General specifications of PCE-T 260	
Display	5 Digits LCD
Interface	RS 232
Power supply	4 x 1.5V AA (UM-3) / Power supply DC 9V
Power consumption	ca. 52-mA
Environmental conditions	0 ... 50 °C / 122°F < 80 % rH.
Memory	Last value, Min, Max
Dimensions	207 x 67 x 39 mm / 8.1 x 2.6 x 1.5 in
Weight	255 g / < 1 lb without batteries

Optional accessories:

Surface probe for thermometer	Order code	TF-101
Magnet.-surface probe	Order code	TF-513
Air probe	Order code	TF-108
Crocodile clip	Order code	TF-109
Isolated surface probe	Order code	TF-102A
High-temperature surface probe	Order code	TF-110A
High-temperature probe (extra long)	Order code	TF-104B
High-temperature probe	Order code	TF-104A
High-temperature wire probe	Order code	TF-121
Flexible temperature probe	Order code	TF-500
Penetration	Order code	TF-106
Screw probe	Order code	TF-119
Compensation / thermo-couple 90 ° C (lfm)	Order code	AGL-90
Compensation / thermo-couple 400 ° C (lfm)	Order code	AGL-400
Compensation / thermo-couple 260 ° C (lfm)	Order code	AGL-260
Reflectiontape 5 m	Order code	REFB

Subject to change without notice

TACHOMETER PCE-T 238

Tachometer for contact and non-contact measurement / For speeds up to 99,999 rpm

The tachometer PCE-T 238 is a battery-powered hand-held device that allows mobile use. The handheld tachometer can perform a contact measurement as well as a non-contact measurement. It is also possible to perform a measurement of the surface velocity. The handheld tachometer allows a measurement of up to 99,999 revolutions per minute. This measuring range is possible with contactless measurements with the optical tachometer. With the contact measurement, values up to 19,999 revolutions per minute can be determined, and the measurement of the surface speed offers the possibility of determining speeds of up to 1999.9 meters per minute.

ISO cal option

- non-contact measurement via a laser
- contact measurement of m/min via surface wheel
- robust ABS plastic housing
- with different rubberized measuring tips (cone shape and funnel shape)
- checking the speed of hard to reach components possible
- independent of rotation direction
- running speed

APPLICATION

TECHNICAL SPECIFICATIONS

Measuring range contactless measurement	5 ... 99,999 RPM
Measuring range contact measurement	0.5 ... 19,999 RPM
Measuring range surface measurement	
0.05 ... 1,999.9 m/min	
Resolution RPM	At <1,000 rpm: 0.1
At ≥1,000 rpm: 1	
Resolution m/min	
At <100 m/min: 0.01	
At ≥1000 m/min: 1	
Display	LCD, size: 32 x 28 mm / 1.2 x
1.1 in, 5 digits	
Measurement accuracy	± (0.1% of rdg. + 1 digit)
Measuring distance for non-contact measurements	Typically 5 ... 150 cm / 2 ... 59
in	
Laser	Class II, power: 1 mW
Operating conditions	0 ... 50°C / 32 ... 122°F, <80
% relative humidity	
Memory	Last value, extreme values
with call function	
Data interface	RS232
Power supply	4 x 1.5V AAA batteries
Power consumption	Contactless measurement:
ca. DC 20-mA	
Contact measurement: ca. DC 9.5-mA	
Dimensions	165 x 50 x 33 mm / 6.5 x 1.9 x
1.3 in	
Weight	182 g / 6.4 oz (incl. batteries)

Subject to change without notice

RPM MEASUREMENT

STROBOSCOPE PCE-LES 100

LED-tachometer with a range of 60 ... 99.990 flashes

The PCE-LES 100 LED stroboscope combines LED technology with compact and accurate electronics which control the sequence and duration of flashes over the entire measuring range. Thanks to LED technology, the LED stroboscope does not required periodical bulbs. The LED handheld stroboscope is ideal for non-contact measurements and to visualize movements on machinery and equipment, giving the viewer the impression that the object is stationary.
Due to its wide frequency range and the different flash durations, the handheld LED stroboscope can be used for a variety of purposes where it is important to make very fast movements visible.

ISO cal option

- handheld stroboscope with LED technology
- (no need to change light bulbs)
- 60 to 99,990 flashes
- possibility to multiply and divide frequency by two
- possibility to work with battery up to 11 h
- 2 bright LEDs (1400 lux @ 50 cm)
- one hand use
- power supply by standard batteries

APPLICATION

TECHNICAL SPECIFICATIONS

Range	60 ... 99,990 rpm
	1 ... 1,666 Hz
Display	5-digit LCD
Impulses/flashes	Possibility of duplication and division/fine tuning
Offset	Yes, 360 º
Accuracy	
60 ... 17,300	±1 LSD
17,300 ... 99,990	±0.009 %
Light source	LED
Light intensity	1400 lux (50 cm distance, 6,000 FPM)
Battery	2 x AA batteries
Operating time	Brightness mode: 8 h, power saving mode: 11 h
Environmental conditions	-10 ... 50 ºC / 14 ... 122 ºF
Dimensions	124 x 71 x 33 mm / 4.9 x 2.8 x 1.3 in
Weight	173 g / < 1 lb

Subject to change without notice

RPM MEASUREMENT

STROBOSCOPE PCE-LES 102

LED tachometer with a range of 60 ... 300.000 flashes

The PCE-LES 102 LED stroboscope combines LED technology with compact and accurate electronics which control the sequence and duration of flashes over the entire measuring range. Thanks to LED technology, the LED stroboscope does not required periodical bulbs. The LED handheld stroboscope is ideal for non-contact measurements and to visualize movements on machinery and equipment, giving the viewer the impression that the object is stationary.
The LED handheld stroboscope can be used for a variety of purposes, where it is important to make very fast movements visible (e.g. vibration), due to its wide frequency range and the different lengths of flash.

ISO cal option

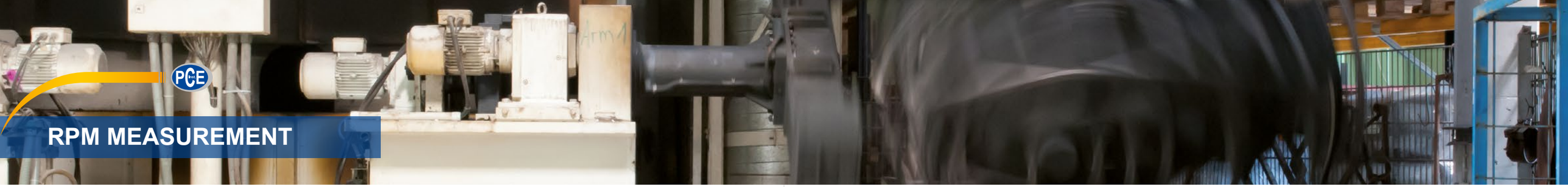
- 2 high-power LEDs
- flash frequency up to 300.000 FPM
- adjustable flash duration and phase shift
- 2.4 ” TFT display
- automatic shutdown

APPLICATION

TECHNICAL SPECIFICATIONS

Technology	2 high-power LEDs
Color temperature	6,500 K
Illuminance	Min. 1,200 lux at 6,000 FPM (distance 30 cm)
Measuring range	60 … 300,000 FPM 1 … 5,000 Hz
Resolution	60 … 999.99 FPM: 0.01 FPM 10,000 … 300,000 FPM: 0.1 FPM 1 … 5,000 Hz: 0.01 Hz
Accuracy	0.001 % of rdg.
Phase shift	-359 ° … 359 ° (Resolution 0.1°)
Battery	5,200 mAh, 12 V Rechargeable Li-Ion battery
Dimensions	(180 x 93 x 36 mm)
Operating conditions	0 … 50 °C
Storage conditions	-20 … 65 °C 35 … 85 % RH, non-condensing
Charging time	3 h
Power adaptor	Input: 100 … 240 VAC; 50/60 Hz Output: 12 V; 3 A
Operating time	21 h at 6000 FPM 36 h at 6000 FPM (display off)

Subject to change without notice



RPM MEASUREMENT

STROBOSCOPE PCE-LES 308

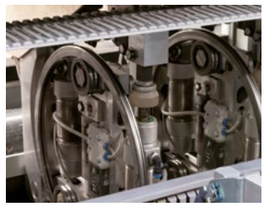
Handheld tachometer stroboscope with 8 high-power LEDs

The stroboscope is ideally suited for the speed determination of rotating machines as well as for the visualization of faulty machine parts and assemblies. The stroboscope can generate static images by means of phase and equal speed periodic illumination of the components to be tested by means of flashes of light. This makes mistakes visible on the rotating or oscillating component during the process. Thanks to the 13 hours operating time, compact design and size of the LED handheld stroboscope, you can always have it with you.
The stroboscope PCE-LES 308 is equipped with 8 high-power LEDs that generate a light intensity of 3100 lux at 6000 FPM at a distance of 30 cm / 11.8 in.

ISO cal option

- 8 high-power LEDs
- flash frequency up to 300.000 FPM
- adjustable flash duration and phase shift
- 2.4 ” TFT display
- automatic shutdown
- external measuring mode
- slow motion mode

APPLICATION



TECHNICAL SPECIFICATIONS

Technology	8 high-power LEDs
Color temperature	5,000 K
Illuminance	Min. 3,100 lux at 6,000 FPM (distance 30 cm)
Measuring range	60 … 300,000 FPM 1 … 5,000 Hz
Resolution	60 … 999.99 FPM: 0.01 FPM 10,000 … 300,000 FPM: 0.1 FPM 1 … 5,000 Hz: 0.01 Hz
Accuracy	0.001 % of rdg.
Phase shift	-359 ° … 359 ° (Resolution 0.1 °)
In- and output	24 V Trigger In- and Output
Battery	Li-ion accu; 5200 mAh, 12 V
Operating conditions	0 … 50 °C
Storage conditions	-20 … 65 °C 35 … 85 % RH, non-condensing
Memory storage	750 measurements
Charging time	3 h
Power adaptor	Input: 100 … 240 VAC; 50/60 Hz Output: 12 V; 3 A
Operating time	13 h at 6,000 FPM 17 h at 6,000 FPM (display off)

Subject to change without notice

ACOUSTIC INSPECTION

MECHANICS STETHOSCOPE PCE-S 42

Machine stethoscope to listen to bearings and motors / 32 sound levels

The automotive-testing mechanics stethoscope PCE-S 42 is designed for listening to individual machine parts, which enables you to carry out maintenance and repair work using the machine stethoscope. The use of a machine stethoscope thus makes it easier to listen to sound phenomena in bearings and motors. This makes it possible to amplify noises that imply that the machine is slightly damaged, which can cause severe impairments and damage to the machine if not observed. The machine stethoscope comes with headphones the shape of which is adapted to the human head and thus are perfectly suitable to be used in noisy environments. The big, padded earpieces have a noise-suppressing effect and at the same time offer wearing comfort.

- two different measuring tips
- non-stationary measuring device
- 32 volume levels
- headphones adapted to the human head
- for preventive maintenance and servicing
- noise-suppressing headphones

APPLICATION

TECHNICAL SPECIFICATIONS

Frequency range	30 Hz ... 15 KHz
Operating temperature	-10 ... +40 °C
Output volume	digitally adjustable (32 levels)
Headphones	32 Ω
Power supply	4 x AAA battery
Battery life	30 h
Dimensions	220 x 35 x 35 mm
Length sensors	70 / 280 mm

Subject to change without notice

DATA LOGGING

VIBRATION METER PCE-VDL 24I

3-axis acceleration up to 1600 Hz

The acceleration sensor of this 3-axis data logger has a sampling rate of 1600 Hz. The sensor mesures the current acceleration (3 axes), for instance in case of a shock or vibration. The measurements are made in pre-set (selectable) time intervals. The data measured with the internal 3-axis acceleration sensor are saved to a 32 GB memory card. This makes the data logger perfectly suitable to determine the acceleration for the purposes of fault diagnostics / stress test of components, machine monitoring, shock measurements and preventive maintenance in general.

ISO cal option

- 3-axis acceleration up to 1600 Hz
- 32 GB SD memory card
- compact design: 86.8 x 44.1 x 22.2 mm
- country of origin Germany

APPLICATION

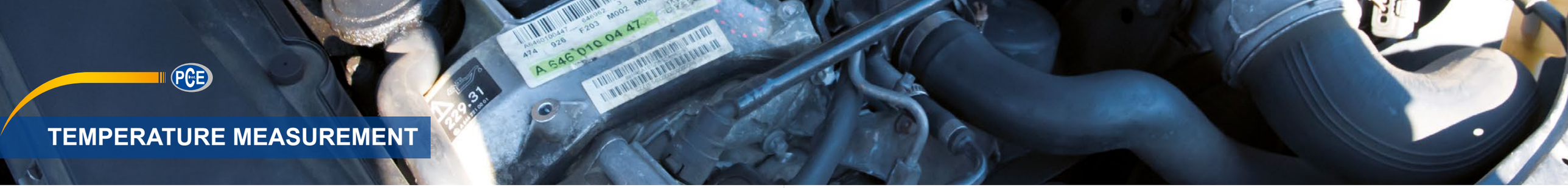
TECHNICAL SPECIFICATIONS

Parameter 3-axis acceleration	
Measurement range	±16 g
Accuracy	±0.24 g
Sampling rate	1600 Hz ... 1 Hz
General technical data of the 3-axis acceleration sensor	
Memory capacity	2.5 readings per measurement, 3.2 billion readings with included 32 GB microSD memory card
Keys	start / stop of a measurement; data logger on / off
LED	Log: operating status Alarm: alarm indicator Charge: charging status USB: status of PC connection
Power supply	integrated rechargeable Li-Ion battery 3.7 V / 500 mAh The meter is charged via the USB interface.
Integrated sensors	3-axis acceleration
Interface	USB
PC software	free setup an evaluation software (Windows XP / Vista / 7 / 8 / 10 32 bit / 64 bit) to record and evaluate data
Operating conditions	temperature -20 ... +65 °C
Storage conditions	temperature +5 ... +45 °C (ideal storage conditions for battery) 10 ... 95 % RH, non-condensing
Standards	complies with EU regulation RoHS/WEEE
Weight	approx. 60 g
Dimensions (L x W x H)	87 x 44 x 23 mm

Optional accessories:

Mounting plate — Order code PCE-VDL MNT

Subject to change without notice



TEMPERATURE MEASUREMENT

INFRARED THERMOMETER PCE-670

Mini handheld thermometer with large measuring range -33 ... 500 °C (-27.4 ... 932 °F)

Simple, handy handheld thermometer for non-contact measurement of surface temperature. The handheld thermometer has a display of the current temperature during the measurement. Within one second you get the surface temperature - the non-contact measuring method even from hot, dangerous or difficult to reach objects. The applications are virtually unlimited. Thus, this handheld thermometer can be used in the control of heating and air conditioning systems, underfloor heating, for detecting hot spots on electrical systems, etc. The emission value of this handheld thermometer is set to 0.95 and thus covers 90 % of all temperature measurement tasks.

ISO cal option

- IR temperature measuring range of -33 ... 500 °C / -27.4 ... 932 °F
- measured value display optionally in °C or °F
- automatic shutdown
- display of the current and maximum temperature
- last measurement is retained for 2 seconds
- measurement spot ratio 9 : 1
- easy to handle
- incl. battery and manual

APPLICATION

TECHNICAL SPECIFICATIONS

Temperature measurement range	-33 ... 500 °C / -27.4 ... 932 °F
Resolution	-9.9 ... 199.9 °C / 14.2 ... 391.8 °F : 0.1 °C / 0.18 °F < 10 °C / 50 °F : 1 °C / 1.8 °F > 200 °C / 392 °F : 1 °C / 1.8 °F
Accuracy	±2 % of rdg. or ±2 °C / 3.6 °F the greater value applies
Optical resolution	9 : 1
Emissivity	0.95 (fixed)
Laser	Circle laser Class 2 <1mW
Operating time	About 30 h
Operating conditions	0 ... 30 °C / 32 ... 86 °F, max. 90 % rh
Storage conditions	-10 ... 40 °C / 14 ... 104 °F, max. 65 % rh
Power supply	1.5 V AA battery
Display	LC display
Dimensions	150 x 25 x 27 mm / 5.9 x 1 x 1.1 in
Weight	About 74 g / < 1 lb

Subject to change without notice

TEMPERATURE MEASUREMENT

INFRARED THERMOMETER PCE-IRT 10

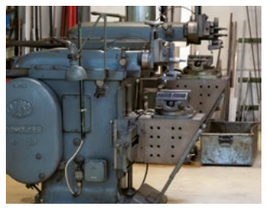
Thermometer for permanent installation / 0 ... 600 °C (32 ... 1112 °F)

The thermometer has been developed for permanent installation. This thermometer has a 4 ... 20-mA output, which is scaled over the measuring range from 0 ... 600 °C / 32 ... 1112 °F. The emissivity is freely adjustable from 0.1 ... 1,000 on the thermometer. With a response time of just 150 ms, the thermometer is ideal for fast processes. The thermometer is supplied with a supply voltage of 12 ... 24 V DC. The analog output signal can also be tapped here. The thermometer has an illuminated display for setting the emission value and the automatic hold function. The measured value is also continuously shown on this display. The thermometer is made of stainless steel and protected according to IP 65.

ISO cal option

- measurements from 0 ... 600 °C / 32 ... 1112 °F
- including mounting bracket
- output signal: 4 ... 20-mA
- easy operation and assembly
- 150 ms response time
- 1 m / 3.3 ft connection cable

APPLICATION



TECHNICAL SPECIFICATIONS

Measuring range	0 ... 600 °C / 32 ... 1112 °F
Measurement accuracy	±1.5 °C / 2.7 °F or 1 % of the measured value, whichever is greater applies
Repeatability	±1 °C / 1.8 °F or 0.5 % of the measured value, the higher value applies
Optical resolution	20 : 1
Output signal	4 ... 20-mA
Spectral sensitivity	8 ... 14 µm
Emissivity	Adjustable 0.100 ... 1.000
Power supply	12 ... 24 V DC max. 20-mA
Burden	500 ohms
Protection class	IP 65
Material	Stainless steel
Operating temperature	0 ... 70 °C / 32 ... 158 °F
Relative humidity	10 ... 85 %
Measurement time	150 ms
Cable length	1 m / 3.3 ft
Display	LCD display
Dimensions	Ø 59.5 x 63.5 mm / 2.3 x 2.5 in
Weight	Approx. 200 g / < 1 lb

Subject to change without notice

DIGITAL THERMOMETER PCE-895

Cross laser thermometer for non-contact measurement tot 1600 °C

The Dual Laser Digital Thermometer PCE-895 is used for fast surface temperature measurement. The two laser points of the dual laser thermometer PCE-895 mark the exact measuring point and thus offer excellent assistance with the temperature measurement. Due to the cross laser function, the two laser spots indicate exactly how large the actual IR spot is. The emissivity of the dual laser thermometer PCE-895 is adjustable in the range of 0.10 ... 1.0. Thus, the dual laser thermometer PCE-895 is suitable for almost all surfaces. The temperature measuring range extends from -35 ... 1600 °C / -31 ... 2912 °F. In addition to the IR function, a type K thermocouple can also be connected to the dual laser thermometer.

ISO cal option

- non-contact temperature measurement
- 60 :1 optics
- temperature measurement up to 1600 °C / 2912 °F
- compact cross laser thermometer
- double laser shows the spot diameter
- adjustable emissivity
- adjustable emissivity
- alarm function

APPLICATION

TECHNICAL SPECIFICATIONS

Infrared

Measuring range	-35 ... 1600 °C / -31 ... 2912 °F
Measuring accuracy (at 23 ... 25 °C ambient temperature)	-35 ... 0 °C / 0 °F: ±2 °C / 3.6 °F + 0.05*TObj 0 ... 1600 °C: ±2 % of rdg. or ±2 °C / 3.6 °F
Resolution	1 °C / 1.8 °F at 1000 .... 1600 °C / 1832 ... 2912 °F

Thermocouple

Measuring range	Type K: -64 ... 1400 °C / -83 ... 2552 °F
Measuring accuracy (at 23 ... 25 °C ambient temperature)	±1 % of rdg. or ± 1 °C / 1.8 °F
Resolution	0.1 °C / 0.18 °F at -64 ... 999.9 °C / -83.2 ... 1831.8 °F

Emissivity	Adjustable 0.10 ... 1.0
Spectral range	8 ... 14 µm
Response time	1 s
Optical resolution / measurement spot ratio	60 :1
Storage	Internal: 24 memory points External (micro-SD card): max. 8 GB supported
Interface	USB
Display	LCD illuminated
Power supply	2 x 1.5 V AA batteries
Operating time	Typical: 14 h Continuous: 10 h
Operating conditions	0 ... 50 °C / 32 ... 122 °F
Weight	ca. 400 g / 14.1 oz
Dimensions	203 x 176 x 89 mm / 7.9 x 6.9 x 3.5 in

Subject to change without notice

THERMAL INSPECTION

THERMAL IMAGER CAMERA PCE-TC 29

Measuring range temperature -20 ... 300°C / -4 ... 572°F / IR resolution 60 x 60 pixels

PCE-TC 29 is a thermal imager camera used for visual inspection and non-contact IR temperature measurement. Ideal for industrial use in electrical, mechanical, and building installations (such as in the auditing of machines, engines, or heating, ventilation, and air conditioning (HVAC) systems), this affordable thermal imager captures and saves 60 x 60 pixel IR resolution images to the included MicroSD memory card. Locate hot and cold spots with ease by using the thermal imager's picture-in-picture overlay capability. The imager's built-in color camera captures the real-life visual, while the integrated thermography camera acquires the IR temperature signature.

ISO cal option

- integrated color camera offers picture-in-picture overlay of real-life visual and infrared (IR) images
- different color palettes for viewing IR temperature signatures
- easy-to-read 2.5" TFT color LCD screen
- display of min / max measured values
- adjustable emissivity from 0.1 ... 1.0
- compact, lightweight design
- user-friendly interface

APPLICATION

TECHNICAL SPECIFICATIONS

Display	2.5" TFT color LCD screen
IR resolution	60 x 60 pixels
Color camera resolution	300,000 pixels
FOV	20 x 20°
Thermal sensitivity	0.15°C / 0.27°F
Measuring range temperature	-20 ... 300°C / -4 ... 572°F
Temperature measurement accuracy	± 2% or ± 2°C / 3.6°F
Emissivity	Adjustable from 0.1 ... 1.0
Image acquisition frequency	6 Hz
Infrared spectral band	8 ... 14 µm
Mechanism of focus	Fixed focus
Color palettes	Iron, rainbow, rainbow (strong contrast), grey, grey-inverted
Picture-in-picture overlay increments	0 / 25 / 50 / 75 / 100%
File format	.bmp
Data storage	MicroSD card memory
Power-saving automatic shutdown	Yes, after 12 minutes of inactivity
Operating temperature	-50 ... 40°C / -58 ... 104°F
Storage temperature	-20 ... 55°C / -4 ... 131°F
Operating and storage relative humidity (RH)	10 ... 80% RH
Standard compliance	EN 61326-1: 2006
Overflow indication	High
Power supply	4 x AA batteries
Battery life	Approximately 6 hours of continuous use at full charge
Dimensions	223 x 88 x 65 mm / 8.78 x 3.47 x 2.56 in
Weight	310 g / < 1 lb

Subject to change without notice

THERMAL INSPECTION

THERMAL IMAGER PCE-TC 30N

Temperature range -20 ... 450°C / -4 ... 842°F / Resolution 160 x 120 pixels

The PCE-TC 30N thermal imaging camera for preventive maintenance is the ideal tool for preventative maintenance. This thermal imaging camera is a must-have for electricians, fitters, or general maintenance personnel for trouble shooting and fault prevention on electrical equipment, electromechanical equipment, production process machinery, heating, ventilation, and air conditioning systems, especially when working in harsh environments. The operator can use the PCE-TC 30N high-resolution thermal imaging camera for preventive maintenance, to detect evolving faults on machinery and equipment. The preventive maintenance and service is thus made easy.

ISO cal option

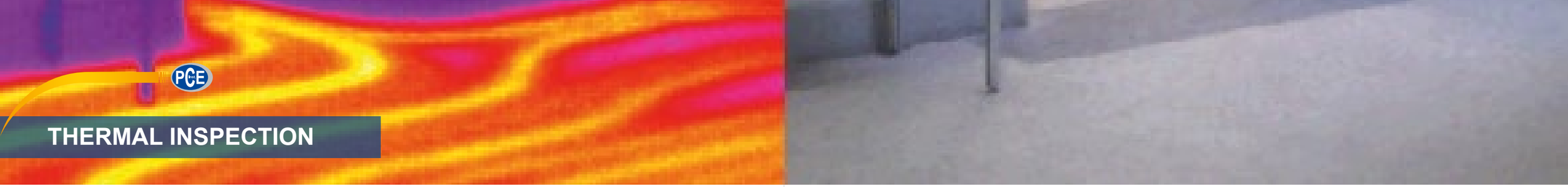
- IR resolution: 160 x 120 pixels
- measuring range: -20 ... 450°C / -4 ... 842°F
- thermal sensitivity: 70 mK
- memory: 3 GB memory for more than 20,000 pictures
- 5 different color palettes
- hot and cold spot location
- picture in Picture function

APPLICATION

TECHNICAL SPECIFICATIONS

Infrared sensor	
Resolution	160 x 120 pixels
Wavelength	8 ... 14 µm
Thermal sensitivity	70 mk
Refresh rate	9 Hz
Field of view (FOV)	35° x 26°
Focusing	Firm focus
Smallest distance	0.15 m / 5.9 in
Temperature range	-20 ... 450°C / -4 ... 842°F
Accuracy	± 2°C / 3.6°F, ± 2% From 300°C / 572°C, ± 5%
Calibration of the measurement	Auto
Number of spots	1
Number of measuring ranges	1
Emissivity	Range: 0.01 ... 1.00
Color palettes	Rainbow, iron oxide red, cold color, black & white, white & black
Other specifications	
Picture in picture function	Adjustable 25%, 50%, 75%, 100%
Camera resolution	300,000 pixels
Screen	2.8" TFT
Screen resolution	320 x 240 pixels
Image memory	Built-in SD card with 3 Gb for more than 20,000 images
Image format	JPG
Power supply battery	Built-in 18650 battery, about 2800-mAh
Power supply power supply	Primary: 100 ... 240V AC 50/60 Hz Secondary: 5V / 2 ADC
Interface	Micro USB for charging and memory readout on a PC
Operating time	Between 2 ... 3 hours
Menu languages	English, Chinese, Italian, German
Automatic shutdown	After 5, 20 minutes or disabled
Ambient temperature	0 ... 45°C / 32 ... 113°F
Storage conditions	-20 ... 60°C / -4 ... 140°F
Humidity	≤ 85% RH (non-condensing)
Dimensions	96 x 72 x 226 mm / 3.8 x 4.1 x 8.9 in
Weight	389 g / < 1 lb

Subject to change without notice



THERMAL INSPECTION

DIGITAL THERMOMETER PCE-TC 33N

Measuring range up to 300 °C / Thermal sensitivity 70 mK

The infrared thermometer PCE-TC 33N is the ideal tool for repair work and prevention measures. This thermal imager is a must-have for electricians, fire fighters, locksmiths, or general service personnel for trouble shooting and fault prevention on electrical equipment, electromechanical equipment, production process machinery, heating, ventilation, and air conditioning systems, especially when working in harsh environments. In preventative maintenance, the high-resolution PCE-TC 33N thermal imager is ideal for maintaining or repairing machinery or other equipment. At the heart of the PCE-TC 33N high-resolution thermography camera is an uncooled microbolometer (uncooled focal plane array) with a resolution of 220 x 160 pixels.

ISO cal option

- IR resolution: 220 x 160 pixels
- measuring range: -20 ... 300 °C / -4 ... 572 °F
- thermal sensitivity: 70 mK
- memory: 3 GB memory for more than 20,000 pictures
- 5 different color palettes
- hot and cold point location
- picture in Picture function

APPLICATION

TECHNICAL SPECIFICATIONS

Infrared sensor	
Resolution	220 x 160 pixels
Wavelength	8 ... 14 µm
Thermal sensitivity	70 mk
Refresh rate	9 Hz
Field of view (FOV)	35 ° x 26 °
Focusing	Firm focus
Smallest distance	0.15 m / 5.9 in
Temperature range	-20 ... 300 °C / -4 ... 572 °F
Accuracy	±2 °C / 3.6 °F, ±2 %
Calibration of the measurement	Auto
Number of spots	1
Number of measuring ranges	1
Emissivity	Range: 0.01 ... 1.00
Color palettes	Rainbow, iron oxide red, cold color, black & white,
white & black	
Other specifications	
Picture in picture function	Adjustable 25 %, 50 %, 75 %, 100 %
Camera resolution	300,000 pixels
Screen	3.2 " TFT
Screen resolution	320 x 240 pixels
Image memory	Built-in SD card with 3 Gb for more than 20,000
images	
Image format	JPG
Power supply battery	Built-in 18650 battery, about 2800-mAh
Power supply power supply	Primary: 100 ... 240 V AC 50/60 Hz
	Secondary: 5 V / 2 ADC
Interface	Micro USB for charging and memory readout on a
PC	
Operating time	Between 2 ... 3 hours
Menu languages	English, Chinese, Italian, German
Automatic shutdown	After 5, 20 minutes or disabled
Ambient temperature	0 ... 45 °C / 32 ... 113 °F
Storage conditions	-20 ... 60 °C / -4 ... 140 °F
Humidity	≤ 85 % RH (non-condensing)
Dimensions	90 x 103 x 223 mm / 3.5 x 4.1 x 8.8 in
Weight	424 g / < 1 lb

Subject to change without notice

INSPECTION CAMERA PCE-VE 270HR

Battery-operated inspection camera with 2.8 mm diameter

The inspection camera gives you new, visual insights into the interior of motors and systems. The inspection camera is the ideal tool for maintenance and repair in workshops or industrial companies. Optical analysis with an inspection camera has never been so easy. Guide the flexible cable through a hole or a cavity near the point to be inspected and look at everything on the display a the inspection camera. Thanks to the flexible guidance, the low weight and the excellent optics, you can use this inspection camera to identify weak spots and problem areas very easily and early and thus take preventive measures without having to carry out complex disassembly first.

- 2 m / 6.56 ft cable length
- 2.8 mm / 0.11 in cable diameter
- storage function on micro SD card
- LED light
- 0 ° viewing angle
- miniature probe cable with 90° viewing angle option

APPLICATION

TECHNICAL SPECIFICATIONS

Cable length	2 m / 6.56 ft
Cable type	Flexible
Cable diameter	2.8 mm / 0.11 in
Protection class	IP 67
Field of view depth	5 ... 50 mm / 0.2 ... 1.98 in
Field of view	120 °
Perspective	0 °
Lighting	4 LEDs
Exposure	Automatically
Anti-reflection coating	Automatically
Image sensor	1/18 " CMOS
Camera resolution / image sensor	400 x 400 px
Display	5 " TFT screen
Interface	Micro USB, HDMI
Memory option	Image and video
Memory	Micro SD memory card (incl.)
Picture format	JPEG (400 x 400 Px)
Video format	MP4 (400 x 400 Px)
Video output	HDMI
Menu languages	German, English, Chinese, Spanish, Portuguese, French, Russian, Japanese, Korean
Operating and storage temperature	-10 ... 50 °C / 14 ... 122 °F
Power supply	3.7 V Li-ion battery, 5200-mAh
Battery life	Min. 6 h
Dimensions	200 x 130 x 58 mm / 7.9 x 5.1 x 2.3 inch
Weight	595 g / 1.3 lb

Optional accessories:

PCE-VE 270HR-PROBE	Spare endoscope cable	
PCE-VE 270HR-2,1-PROBE	Endoscope cable extremely thin	
PCE-VE 270HR-SV-PROBE	Endoscope cable with lateral camera	

Subject to change without notice

OPTICAL INSPECTION

INDUSTRIAL BORESCOPE PCE-VE 200 SERIES

Videoborescope for NDT machine diagnostics / Ø 4.5 mm or Ø 3.7 mm

The video borescope PCE-VE 200 is a nondestructive inspection camera.Thus, the video borescope is an ideal tool for diagnosing hard-to-reach areas.
For example, the areas of mechanical engineering, plumbing and heating, andthe entire construction / building industry are among the main application fieldsof the video borescope. Also, the video borescope is suitable for the use in the automotive industry. The fact that it has a one-meter camera tube makes it possible to use the video borescope in away that in manycases no disassembly of machines or motors is necessary. There are bright LEDs on thecamera head that can be controlled and adjusted by the user via the device.

- 4.5, 3.7 and 10 mm cable diameter
- 3.5 “ display
- brightness adjustable on the camera head
- 2600 mAh battery
- SD card slot for micro SD card

APPLICATION

TECHNICAL SPECIFICATIONS

Display	3.5 “ LCD
Resolution	video function AVI (640 x 480)
Resolution	image function JPEG (1600 x 1200)
Image rotation	180 ° rotation and mirror function
Freezefunction	yes
Zoom	up to 4 x
Memory	Micro SD card
Menu languages	German, English, Spanish, French, Russian, Japanese, simplified Chinese, traditional Chinese
Interfaces	Micro USB 2.0, TV output, Micro SD card slot
TV output	PAL
Power supply	Li-Ion battery
Battery capacity	2600 mAh
Operating conditions	-10 ... +40 °C, RH < 75 %

Cable specifications (only for PCE-VE 200 and PCE-VE 200-S

Cable diameter	depends on the model 4.5 mm / 0.177 in (PCE-VE 200), 3.7 mm / 0.14 in (PCE-VE 200-S)
Image sensor	1/8 “ CMOS chip
Resolution camera	640 x 480 pixels
Illumination of the cam.	6 white LEDs (intensity can be adjusted)
Field of view or angle	90 °
Field of view depth	15 mm / 0.59 in... 100 mm / 3.93 in
Camera tube length	1 m
Push-cable	semi-flexible (semi-rigid spiral)

Operating temperature:

main unit / probe	in the air:	-10 ... +50 °C / +14 ... +122 °F
	in water:	+5 ... +50 °C / +41... +122 °F
Relative humidity	probe and device	15 ... 90 %
Fluid resistance	probe / device	machine / light oil, saline solution 5%
Intrusion protection	probe	water, oil, dust, protection IP67
	Main unit	rain in windy weather (battery compartment must be closed)not under water

Model	Cable diameter	Cable length
PCE-VE 200	4,5 mm	1 m
PCE-VE 200-S	3,7 mm	1 m
PCE-VE 200-S3	3,7 mm	3 m
PCE-VE 200UV	10 mm	1 m

Optional accessories:

PCE-VE 200-SCSV3	Camera cable with front and side, camera 9 mm, length: 3 m
PCE-VE 200-SCSV1	Camera cable with front and side, camera 9 mm, length: 1 m
PCE-VE 200-SCSV2	Camera cable with front and side, camera 6 mm, length: 1 m
PCE-VE 200-SCUV	UV camera cable 10 mm, length: 1 m
PCE-VE 200-SCS3	Camera cable 3.7 mm, length: 3 m
PCE-VE 200-SCS1	Camera cable 3.7 mm, length: 1 m
PCE-VE 200-SC	Spare camera cable 4,5 mm, length: 1 m

Subject to change without notice

OPTICAL INSPECTION

WIFI INSPECTION CAMERA PCE-VE 500N

WiFi inspection camera for Android and iOS / camera head Ø 4.5 mm

The WiFi inspection camera can be connected to a tablet or smartphone using the Android or iOS app. The WiFi borescope impresses with its simple handling and its robust construction. With the flexible, metal braided borescope cable, examinations under adverse operating conditions are possible with the WiFi borescope. The cable and head diameter is only 4.5 mm. The camera head of the WiFi borescope can be swiveled by 180°. This enables use in narrow cavities and visibility in almost all directions. 5 LEDs ensure that the areas and cavities to be examined are very well illuminated by the WiFi borescope. The brightness of the lighting can be adjusted in stages via the app. Images and videos can be saved in the WiFi borescope app.

- image transmission via WiFi
- for iOS and Android
- memory for pictures and videos via app
- movable camera head Ø 4.5 mm
- cable length 1 m (flexible)
- 5 LEDs with adjustable light intensity

APPLICATION

TECHNICAL SPECIFICATIONS

Cable length	1000 mm / 3 ft 3 "
Cable type	flexible, metal braided camera head swivels 180 °
Cable diameter	4.5 mm
Protection class	IP 67
Field of view depth	10 ... 100 mm
Field of view	90 °
Perspective	0 °
Lighting	5 LEDs dimmable via app
Exposure	automatic
Anti-reflection	automatic
Camera resolution / image sensor	1024 x 768 Px
Interface	USB-C charging socket 5 V / 1 A WIFI IEEE 802,11 b/g/n 2.4 GHz
Memory option	image and video
Memory	via iOS or Android device
Image format	JPEG (1024 x 768 Px)
Video format	MP4 (1024 x 768 Px)
Menu navigation	graphically in App
Operating and storage temperature	-10 ... +60 °C / 14 ... 140 °F (borescope cable) 0 ... 40 °C / 32 ... 104 °F (hand piece)
Power supply	3.7 V Li-Ion battery, 2600 mAh
Operating time	min. 4 h
Recharge time	2 h
Dimensions	207.5 x 35 x 50 mm / 8.1 x 1.3 x 1.9"
Weight	248 g / 8.7 oz

Subject to change without notice

OPTICAL INSPECTION

INSPECTION CAMERA PCE-VE 800N4

4-way camera head / data storage / diameter 2.8 mm

The inspection camera has a 1.5 m / 4.9 ft long borescope cable. With a diameter of only 2.8 mm, cavities with the smallest access can be viewed with the help of this inspection camera. The camera head of the inspection camera can move freely in 4 directions. Especially in the maintenance of engines, turbines, etc., the high-resolution display of the inspection camera offers a good view of cavities and hard-to-reach places. The moveable camera has a resolution of 400 x 400 pixels. The field of view is 80°, which means that with a relatively short distance to the object to be inspected, very large images can still be taken with the inspection camera. All recordings of the inspection camera can be saved as an image or video.

ISO cal option

- 2.8 mm camera head
- 1.5 m / 4.9 ft borescope cable
- 4-way camera
- 5 " monitor
- image and video memory
- IP 58 camera cable
- 400 x 400 pixel image resolution
- 5 ... 50 mm focus distance

APPLICATION

TECHNICAL SPECIFICATIONS

Cable / head diameter	2.8 mm
Direction of movement camera head	4-way
Length of camera head	8 mm
Bending radius	7 mm
Camera head material	Titanium alloy
Camera lens material	Glass
Perspective	80 °
Line of sight	0 °
Focus area	5 ... 50 mm
Image sensor	1/18 " color
Trigger	160000 pixels
Refresh rate	30 Hz
Borescope cable length	1.5 m / 4.9 ft
Borescope cable material	Tungsten
Degree of protection borescope cable	IP 58
Operating conditions	Main unit: 0 ... 45 °C / 32 ... 113 °F, 15 ... 90 % RH Cable: 0 ... 60 °C / 32 ... 140 °F
Display	LCD 5 " 16 : 9 display
Interface	Micro USB
Video output	HDMI
Memory	SDHC memory card up to 64 GB
Power supply	Li-Ion battery 3550 mAh 5 V power supply
Dimensions	33.5 x 14.5 x 8 cm
Weight	Approx. 700 g / 1.5 lbs

Further models:

PCE-VE 400N4	ø 4 mm
PCE-VE 900N4	ø 2 mm

Subject to change without notice

OPTICAL INSPECTION

INDUSTRIAL BORESCOPE PCE-VE 1000

A Versatile 2-way Inspection Instrument

The endoscope PCE-VE 1000 is a versatile inspection instrument. Various endoscope cables with different properties can be connected to the endoscope.
A particular advantage of the endoscope is the large display, which due to its dimensions and resolution offers the user the best possible overview of the surface to be inspected. The endoscope allows the recording of pictures and videos, whereby the videos are additionally stored with an audio recording.
The clear resolution is also good when via button pressing the images are stored on the SD card, inserted in the endoscope. When the SD card is read out on the computer, the recorded pictures and videos are clearly displayed.

ISO cal option

- various endoscope cables are selectable and are optionally available
- storage of images and videos
- 8 GB memory card incl.
- LED lighting
- large 7 “ LC display

APPLICATION

TECHNICAL SPECIFICATIONS

Screen	7 "
LCD	800 x 480 pixels
Photo resolution / format	640 x 480 pixels / JPEG
Video resolution / format	640 x 480 pixels / MPEG(with sound)
Drop test	1 m / 3.3 ft fall
Power supply	Li - on battery
Interface	USB
Memory	Accommodates SD cards up to 32 GB
AV output	NTSC / PAL
Audio input	Built - in microphone
Brightness setting	Adjustable, 10 levels
Run time per battery charge	5 hours
Charging time battery	3 hours
Charging temperature	10 ... 40 °C / 50 ... 104 °F
Operating temperature	0 ... 60 °C / 32 ... 140 °F
Storage temperature	0 ... 60 °C / 32 ... 140 °F
Protection class	IP 57
Dimensions	240 x 154 x 47 mm / 9.4 x 6 x 1.8 in
Weight	1.3 kg / 2.9 lbs

Optional accessories:

Two-Way Articulating Camera Cable	PCE-VE-2W3-HR
Four-Way Articulating Camera Cable	PCE-VE-4W3-HR
Four-Way Articulating Camera Cable	PCE-VE-4W1-HR
Two-in-One Semi-Flexible Camera Cable	PCE-VE-2in1-N
Semi-rigid borescope cable HighRes	PCE-VE-N-SC1-HR
Semi-Flexible Camera Cable	PCE-VE-N-SC2
Semi-Flexible Camera Cable	PCE-VE-N-SC1
Semi-Flexible Camera Cable	PCE-VE-N-SC30
Flexible Camera Cable	PCE-VE-N-SC10
Flexible Borescope Cable	PCE-VE-N-SC2F
Camera probe	PCE-IVE 300-PROBE
Cable reel	PCE-VE-N-ROL
Waterproof Camera Cable	PCE-VE 380N-SC30
Semi-Flexible Camera Cables	PCE-VE-N-SCS
Magnetic Hook Attachment	MAG-H-VE-N
Guide Ball	GB-25-PCE-VE-N
Guide Ball	GB-15-PCE-VE-N
Cable Holder	HT-55-PCE-VE
Centering brush	PCE-VE-CB
Surveying Software	SOFT-M-VE-N

PCE-VE-2W3-HR

PCE-VE-N-SC2F

PCE-IVE 300-PROBE

PCE-VE-N-SC1-HR

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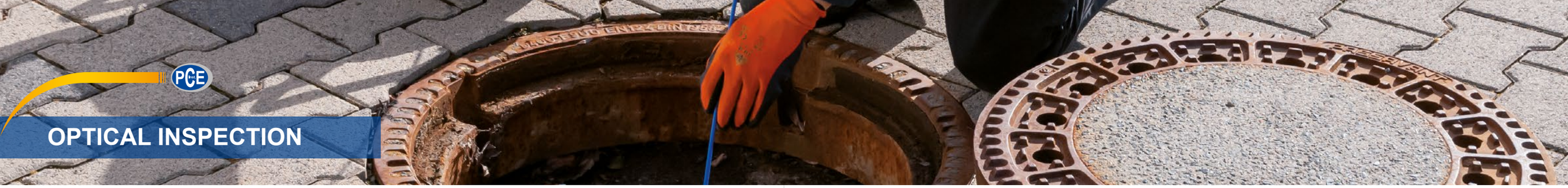


OPTICAL INSPECTION

INDUSTRIAL BORESCOPE PCE-PIC 20

Inspection camera with 20 m (66 ft) push cable

The inspection camera of the PCE-PIC series is an ideal tool for any service technician who needs to visually inspect pipes and ducts. The inspection camera has a 23 mm / 0.9 in camera head, which is attached to a fiberglass push cable. The inspection camera is optimally suited for pipes and ducts DN 40 ... 150 mm / 1.6 ... 5.9 in. The camera of the inspection camera is waterproof up to 20 m / 66 ft. To facilitate the search for damaged areas on canals and pipes, the inspection camera has an electronic meter counter. Recorded pictures and videos can be saved on an SD memory card via the inspection camera. For better documentation, comments can be added to the pictures and videos via the keyboard.

ISO cal option

- 20 m / 66 ft push cable
- electronic meter counting
- 23 mm / 0.9 in camera head
- keyboard for comment input
- braked endoscope line
- 12x LED lighting
- waterproof up to 20 m / 66 ft
- IP66 Carrying Case
- 90 ° radius of curvature at min. Ø 45 mm

APPLICATION

TECHNICAL SPECIFICATIONS

Cable diameter / head diameter	23 mm / 0.9 in
Cable length	PCE-PIC 20 : 20 m / 66 ft
Sight depth	20 ... 100 cm
Perspective	120 °
Lighting	12 x LED (dimmable)
White balance	Automatically
Image sensor	1/3 " Sony CCD 720 x 576 pixels
Display	7 " LC display
Interface	USB 2.0
Memory option	Video, photo and sound
Image memory	SD card up to 32 GB
Video output format	PAL 720 x 576 pixels NTSC 720 x 488 pixels
Menu navigation	Multilingual: German, English, French, Spanish, Italian, Portuguese, Japanese, Chinese, Russian
Length measurement	0 ... 20 m / 0 ... 66 ft
Data entry	By keyboard possible
Operating conditions	-10 ... 50 °C / 14 ... 122 °F, 30 ... 90 % rh
Storage conditions	-20 ... 60 °C / -4 ... 140 °F, 30 ... 90 % rh
Power supply	Power supply 110 V ... 240 V AC / 12 V / 1.2 A DC Li-Ion battery 7.4 / 5400-mAh
Protection class	Display: IP 66 Camera head: waterproof up to 20 m / 66 ft
Dimensions	Complete: 55 x 43.5 x 34.5 cm Camera head: 23 x 45 mm / 0.9 x 1.8 in (total length: 150 mm / 5.9 in)
Weight	About 13 kg / 28.7 lbs

Optional accessories

Self-leveling Camera Head	PCE-PIC-SCH
Camera Head with Transmitter	PCE-PIC-TCH
Locator for videoscope	PCE-VE-LOC

Subject to change without notice

LEAK DETECTOR

LEAK DETECTOR PCE-GA 10

Gas leak detector for flammable gases / Optical, acoustic and haptic alarm

The gas leak detector PCE-GA 10 is used to check for leaks in gas pipes and connections. This gas leak detector is suitable for many flammable gases. The gas leak detector has 5 LEDs that inform the gas intensity. In addition to the visual information, the gas leak detector has an audible and haptic alarm. This means that, depending on the level, the gas leak detector emits an alarm tone and vibrates at the same time. The leak detector is therefore ideal for detecting sporadic gases. The gas leak detector is therefore of great help to employees who want to inspect plants during a plant tour or inspect engines, supply lines or gas lines. The gas leak detector is supplied with a rechargeable battery.

ISO cal option

- LED display
- for flammable gases
- 500 mm sensor
- optical, acoustic and haptic alarm
- fast response time
- rechargeable battery

APPLICATION

TECHNICAL SPECIFICATIONS

Testable gases	Acetaldehyde Ammonia Benzene Ethan Ethanol Ethylene Formaldehyde Hexane ISO-butane Methane Propane P-xylene Hydrogen sulfide Toluene Hydrogen
And compounds in which these gases occur	
Measuring range (methane)	0 ... 10000 ppm
Sensitivity (methane)	< 50 ppm
Display stages	High: 100 / 400 / 700 /1000 ppm Low: 1000 / 4000 / 7000 / 10000 ppm
Response time	< 2 s
Heating time	ca. 50 s
Alarm types	Optical, acoustic, haptic
Power supply	3.7 V Li-ion battery
Lifetime sensor	On average, 5 years
Sensor length	500 mm
Dimensions	211 x 70 x 45 mm / 8.3 x 2.7 x 1.7 in
Weight	ca. 400 g / < 1 lb

Subject to change without notice

LEAK DETECTOR

GAS DETECTOR PCE-GA 12

Gas flammable gas detector / Measured value display up to 10000 ppm

The gas detector PCE-GA 12 is a very easy-to-use measuring device. This gas detector detects combustible gases and emits a vibrating alarm as well as an audible alarm once a combustible gas has been detected by the gas detector. Thanks to the semi-rigid hose on the gas detection device, the sensor can be aligned in almost any position to reach even inaccessible places.

This makes the gas detection device an ideal measuring device for employees who want to detect sporadically escaping gases (testing of plants during a tour of the plant, checking engines and supply lines, testing gas supply lines). A manual setting of the gas detector is not necessary as the gas detector automatically calibrates.

ISO cal option

- audible alarm with 85 dB
- rechargeable battery for mobile use
- automatic calibration
- measuring range up to 10000 ppm
- for the detection of combustible gases
- durability of the sensor about 5 years
- vibrating alarm when detecting gases
- sensor changeable

APPLICATION

TECHNICAL SPECIFICATIONS

Measuring range	At low concentration 0 ... 1000 ppm
(only for methane)	At high concentration 0 ... 10000 ppm
Acoustic alarm	Volume: 85 dB
Sensitivity	< 10 ppm (with methane)
Measuring interval	< 2 seconds
Display	Measurement of combustible gases on the LC display, bar graphs
Calibration	Automatically
Warming up	40 seconds
Battery	Polymer Li-ion battery 18500 3.7V
Power adapter	Primary side: 100 ... 240 V, 50/60 Hz, 0.2 A Secondary side: 5 V, 1 A
Automatic shutdown	Turns off if the battery capacity is too low by itself or after 10 minutes if not used.
Sensor durability	About 5 years (sensor is interchangeable)
Probe	Semi-rigid 400 mm / 16"
Weight	About 430 g / < 1 lb

Subject to change without notice

CONDUCTIVITY MEASUREMENT

CONDUCTIVITY TESTER FOR NFE METALS PCE-COM 20

With wide measuring range of up to 112 % IACS or 65 MS/m

The conductivity tester for measuring the electrical conductivity of non-ferrous metals such as aluminium or copper belongs to the group of NDT devices. The conductivity tester is used in non-destructive material testing. By means of the eddy current measuring principle which has proven for this application, the electrical conductivity of metallic materials can be determined quickly and precisely. With its operating frequency of 60 kHz, the conductivity tester has a wide measuring range of 0.51 … 112 % IACS and reaches an accuracy of +/-0.5 % at 20 °C, with a resolution of up to 0.01 % IACS.

ISO cal option

- user-friendly hand-held meter
- memory for up to 500 groups of measurements
- durable internal rechargeable battery
- lift-off and temperature compensation
- adjustable backlight
- for mobile use
- automatic calibration
- operating frequency of 60 kHz
- incl. 3 calibration plates (titanium 1.03 % IACS, bronze 8.11 % IACS and copper 100 % IACS)

APPLICATION

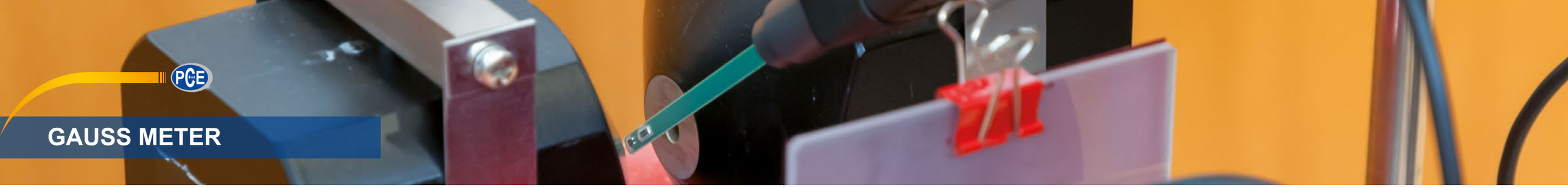
TECHNICAL SPECIFICATIONS

Operating frequency	60 kHz, sine wave
Conductivity measuring range	0.51 % IACS ... 112 % IACS 0.3 MS/m ... 65 MS/m resistance 0.015388 ... 3.33333 Ω•mm²/m
Conductivity resolution	0.01 % IACS (at < 51 % IACS) 0.1 % IACS (at 51 % IACS ... 112 % IACS)
Conductivity accuracy	±0.5 % at +20 °C / 68 °F ±1 % at 0 ... +40 °C / 32 ... 104 °F
Lift-off effect	probe compensation 0.5 mm
Temperature measuring range	0 ... +50 °C / 32 ... 122 °F
Temperature accuracy	±0.5 °C
Automatic compensation	Automatic adjustment of conductivity result to the value at 20 °C / 68 °F
Operating conditions	0 ... 50 °C / 32 ... 122 °F, 0 ... 95 % RH
Display	LCD with backlight
Menu languages	English, German, Chinese (simplified)
Power supply	internal rechargeable battery
Probe	Ø 14 mm / ≈ 0.55 in
Memory	up to 500 groups of measurement values
Data interface	USB
Dimensions	220 x 95 x 35 mm / 8.66 x 3.74 x 1.38 in
Weight	415 g / 1 lb (with probe)

Optional accessories:

Calibration standard titanium	1.02 % IACS	Order code PCE-COM 20-CP1
Calibration standard brass	21.02 % IACS	Order code PCE-COM 20-CP9
Calibration standard magnesium	11.88 % IACS	Order code PCE-COM 20-CP11
Calibration standard magnesium	31.88 % IACS	Order code PCE-COM 20-CP3
Calibration standard copper	87.24 % IACS	Order code PCE-COM 20-CP10
Calibration standard copper	60.69 % IACS	Order code PCE-COM 20-CP8
Calibration standard copper	101.03 % IACS	Order code PCE-COM 20-CP13
Calibration standard bronze	8.47 % IACS	Order code PCE-COM 20-CP12
Calibration standard bronze	10.55 % IACS	Order code PCE-COM 20-CP5
Calibration standard bronze	15.24 % IACS	Order code PCE-COM 20-CP2
Calibration standard aluminium	15.29 % IACS	Order code PCE-COM 20-CP7
Calibration standard aluminium	32.07 % IACS	Order code PCE-COM 20-CP6
Calibration standard aluminium	57.41 % IACS	Order code PCE-COM 20-CP4
Calibration standard aluminium	41.21 % IACS	Order code PCE-COM 20-CP14

Subject to change without notice



GAUSS METER

ELECTROMAGNETIC FIELD GAUGE PCE-MFM 2400 SERIES

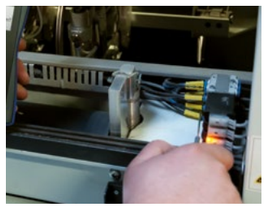
Tesla and Gauss measurement for static magnetic fields

With a measuring range up to 2,400 mT, the electromagnetic field meter covers a wide range of measuring tasks. The electromagnetic field meter has an accuracy of 1 % which makes it a very precise meter. The electromagnetic field meter can be used, for instance, to test relays and permanent magnets for existing magnetic fields. It is therefore often used in production processes or in quality control. With the backlight of the electromagnetic field meter, the measured values are always easy to read even under poor lighting conditions.

ISO cal option

- very precise measurement technology
- measuring range up to 24,000 G and 2,400 mT
- transversal and axial sensor
- measures static magnetic fields
- automatic shutdown

APPLICATION



TECHNICAL SPECIFICATIONS

Measuring range	0… 200 mT 200… 2,400 mT 0 ... 2,000 G 2,000 ... 24,000 G
Accuracy	±1 % of rdg.
Resolution	0.01 mT 0.1 g
Measuring direction	Transversal
Magnetic field	Static (DC)
Unit	mT, G
Power supply	1 x 9 V block battery
Automatic shutdown	Automatic shutdown after 5 minutes in idle status
Modes	Hold mode, measurement mode
Display	Backlight, digital 4-digit display
Operating temperature	32 ... 122 °F, / 0 … 50 °C
Storage temperature	-4 ... 122 °F / 20 … 50 °C
Dimensions	185 x 97 x 40 mm / 7.28 x 3.82 x 1.57 in
Weight	0.68 lb, 310 g

Model

PCE-MFM 2400
Sensor — Hall sensor transversal, cable length approx. 3.28 ft., 1 m

PCE-MFM 2400+
Sensor — Axial Hall sensor, cable length approx. 6.56 ft., 2 m

PCE-MFM 2400

PCE-MFM 2400+

Subject to change without notice

FLOW MEASUREMENT

FLOW METER PCE-TDS 100H

Ultrasonic method for homogeneous liquids

The PCE-TDS 100H is designed for quick and mobile measurements of flow rates within pipes. To make such a measurement, it is not necessary to enter the piping system directly. The ultrasonic flow meter works in line with the transit time difference method. This means that transducers send a directed ultrasonic signal through the pipe diagonally which is then reflected and received by the transducer again. On the basis of the signal's transit time delay that occurs when a pre-defined medium passes through a pipe, the meter can determine the flow if the pipe diameter and material are known.The desired parameters must be set before making a measurement.

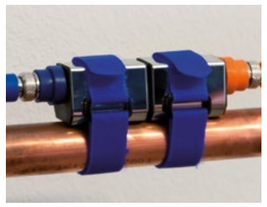
ISO cal option

- ideal for retrofitting
- installation without process interruption
- easy assembly
- accurate and reliable
- no pressure loss
- maintenance-free, no moving parts
- wear-free
- portable device for control measurements
- 2 x sensor TDS-M1 included

TDS-S1

TDS-M1

APPLICATION



TECHNICAL SPECIFICATIONS

Measurement range handheld unit	-32 ... +32 m/s
Resolution	0.0001 m/s
Accuracy for DN ≥50 mm	±3.5 % of reading
for DN <50 mm	±1.0 % of reading
Reproducibility	±1.0 % of reading
Media	All liquids with an impurity < 5 % and a flow > 0.03 m³/h
Flow units	cubic metre [m³] litre [l] gallon (USA) [gal] imperial gallon (UK) [igl] million USA gallon [mgl] cubic foot [cf] barrel (USA) [bal] imperial barrel (UK) [ib] oil barrel [ob]
Time settings	per day [/d] per hour [/h] pro minute [/m] and per second [/s]
Data logger	1800 measurements
Interface	USB (for online measurement and readout of the internal memory)
Protection class	IP 52
Power supply	3 x AA rechargeable NiMH batteries / 2100 mAh (at full charge, 12 h running time) 100 … 240 V AC 50/60 Hz
Dimensions	214 x 104 x 40 mm
Weight	450 g
Sensor (only PCE-TDS 100 H)	nominal width DN 50 … 700, 57 … 720 mm
Temperature of liquid	-30 … 160 °C
Dimensions	50 x 45 x 45 mm
Weight	260 g

Optional accessories:

Standard transducers	Order code TDS-M1 High-
temperature transducers	Order code TDS-S1
On-rail flow transducer	Order code TDS-HS
On-rail flow transducer	Order code TDS-HM Flow
transducers	Order code TDS-L1
Ultrasonic coupling gel	Order code TT-GEL

TDS-HS

TDS-HM

TDS-L1

Further models of the PCE-TDS 100 series:

PCE-TDS 100HSH	**2 x sensor TDS-S1**	nominal width DN 15 … 100, 20 … 108 mm
	2 x sensor TDS-M1	nominal width DN 50 … 700, 57 … 720 mm
PCE-TDS 100HS	**2 x sensor TDS-S1**	nominal width DN 15 … 100, 20 … 108 mm

Subject to change without notice

FLOW METER PCE-TDS 100H+ INCL. TEMPERATURE DATA LOGGER

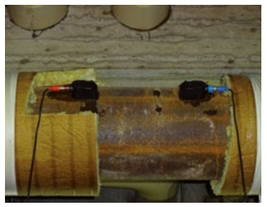
Determination of heat quantity and heat output

This is a portable handheld clamp-on ultrasonic flow meter used for non-invasive, unobstructed and highly accurate measurements of the flow velocity of liquids in metal, plastic and rubber pipes and tubes with a diameter of 57 … 720 mm / approx. 2 ... 28 in. The heat flowmeter kit is ideal for use in the oil and gas, water and wastewater, chemical, food and beverage, pharmaceutical, metals and mining, pulp and paper, power and heating, ventilation, air conditioning and refrigeration (HVACR) industries. This ultrasonic flow meter features user-friendly velcro-strap clamps that allow for quick and easy repositioning of the electroacoustic transducers.

ISO cal option

- ideal for retrofitting
- installation without process interruption
- easy assembly
- accurate and reliable
- no pressure loss
- maintenance-free, no moving parts
- wear-free
- portable devices for control measurements

APPLICATION



TECHNICAL SPECIFICATIONS

Handheld measuring range	-32 ... +32 m/s
Resolution	0.0001 m/s, 0.00033 ft/s
Accuracy for DN ≥ 50 mm:	±3.5 % of rdg.
for DN < 50 mm:	±1.0 % of rdg.
Reproducibility	±1.0 % of rdg.
Media	All liquids with an impurity < 5 % and a flow > 0.03 m³/h
Flow units	Cubic meter [m³]
	Liter [l]
	Gallon (USA) [gal]
	Imperial gallon (UK) [igl]
	Million USA gallon [mgl]
	Cubic foot [cf]
	Barrel (USA) [bal]
	Imperial barrel (UK) [ib]
	Oil barrel [ob]
Time settings	per day [/d]
	per hour [/h]
	per minute [/m]
	and per second [/s]
Data logger	1800 measurements
Interface	USB (for online measurement and read out of the internal memory)
Protection	IP 52
Power supply	3 x AA NiMH rechargeable battery / 2100 mAh (at full charge 12h running time)
	100 … 240 V AC 50/60 Hz
Dimensions	214 x 104 x 40 mm / 8.4 x 4.1 x 1.5 "
Weight	450 g / 15 oz
Sensor (only PCE-TDS 100 H)	nominal width DN 50 … 700, 57 … 720 mm / approx. 2 ... 28 "
Temperature of liquid	-30 … 160 °C / -22 ... 320 °F
Dimensions	50 x 45 x 45 mm / 1.9 x 1.7 x 1.7 "
Weight	260 g / 9 oz

Technical data evaluation software
- Units of power W, kW, MW, J/h, kJ/h, MJ/h, Btu/h, kBtu/h, MBtu/h
- Units of energy J, kJ, MJ, Wh, kWh, MWh, Btu, kBtu, MBtu
- Graphical representation of flow, flow temperature, return temperature, heat output and heat quantity
- Tabular representation of flow, flow temperature, return temperature, heat output and heat quantity
- Mobile and stationary measurement mode
- Real-time data logger with unlimited runtime (only limited by PC memory capacity)
- Data export function
- User-guided software operation with step-by-step instructions for device and software configuration

Technical data temperature data logger PCE-T 330

Measuring range Type K thermocouple	
	-200 ... +1370 °C
Resolution	0.01 °C
Accuracy*	±(0.3 % of rdg. +0.40) °C*
Measuring range	
T-type thermocouple	-200 ... +400 °C
Resolution	0.01 °C
Accuracy*	±(0.3 % of rdg. +0.40) °C*
Measuring range J-type	
thermocouple	-200 ... +1200 °C
Resolution	0.01 °C
Accuracy*	±(0.3 % of rdg. +0.40) °C*
Measuring rate	2/s
Operating temperature	-10 ... +50 °C
Storage temperature	-20 ... +60 °C (without batteries)
Power supply	3 x AAA batteries / 1.2 V rechargeable battery
Battery life	approx 190 h (without backlight. battery capacity 1200 mAh, ambient temperature 25 °C)
Protection class	IP52 (with protective cover and connected sensor)
stanked/certification	CE/EMC ROHS/td

Optional accessories:

Standard transducers	Order code TDS-M1
High-temperature transducers	Order code TDS-S1
On-rail flow transducer	Order code TDS-HS
On-rail flow transducer	Order code TDS-HM
Flow transducers	Order code TDS-L1
Ultrasonic coupling gel	Order code TT-GEL

Further models of the PCE-TDS 100 series:

PCE-TDS 100HSH+	**2 x sensor TDS-S1** nominal width DN 15 … 100, 20 … 108 mm **2 x sensor TDS-M1** nominal width DN 50 … 700, 57 … 720 mm
PCE-TDS 100HS+	**2 x sensor TDS-S1** nominal width DN 15 … 100, 20 … 108 mm

Subject to change without notice

COATING THICKNESS GAUGE PCE-CT 80

Paint layer thickness gauge for Fe and NFe

The paint layer thickness gauge PCE-CT 80 is a measuring device for the non-destructive measurement of coatings (lacquers, paints, plastics ...) on steel / iron and non-ferrous metals. Thanks to the externally connected sensor on the PCE-CT 80 paint coating thickness gauge, even difficult-to-reach measuring locations can be easily reached.

The menu navigation of the paint thickness gauge allows easy adjustment and setting to new parameters and makes this handy paint coating thickness gauge an indispensable tool for control measurements in production, workshop and quality assurance.

ISO cal option

- for many materials such as iron, steel, aluminium, copper, brass and stainless steel
- measurements cannot be influenced by vibrations
- practical V-groove on the measuring heads
- internal data memory
- warning for measurements exceeding the measuring range
- wear-resistant, spring-mounted measuring head for precise measurement results
- incl. ISO laboratory calibration with certificate
- probe PCE-CT 80-FN1.5 included
- Measurement range Fe: 0 … 1500, NFe: 0 … 1500

APPLICATION

TECHNICAL SPECIFICATIONS

Measurement range	Fe: 0 ... 5000 µm / 0 ... 196.9 mils (depending on probe) NFe: 0 ... 3000 µm / 0 ... 118.1 mils (depending on probe)
Accuracy	±(2 % of rdg. + 1 µm / 0.039 mils)
Resolution	0.1 µm (< 100 µm) 1 µm (> 100 µm)
Measurable materials	Non-magnetic layers on steel, iron, ... Non-electrically conductive layers on aluminium, copper, ...
Min. radius of curvature convex	5 mm
Min. radius of curvature concave	25 mm
Min. measuring surface	Ø 17 mm
Min. layer thickness	0.2 mm (on magnetic materials) 0.05 mm (on non-magnetic materials)
Probe mode	Autom. mode with material detection (Fe + NFe) Magnetic mode (Fe) Eddy current mode (NFe)
Measurement modes	Single measurement Continuous measurement
Calibration	Multipoint calibration (1 ... 4 points for each group) zero point calibration
Units	µm, mm, mils
Data transfer	USB 2.0
Memory	One volatile measuring group (DIR mode) Four measuring groups with autom. storage and max. 2000 readings (GEN mode)
Statistical functions	Number of measured values, mean, minimum, maximum, standard deviation
Alarm	Display when the adjustable upper and lower alarm limits are exceeded
Operating time	Auto Power Off mode (3 min)
Power supply	3 x 1.5 V AAA batteries
Display	128 x 128 px LCD
Displayed information	Battery status / flaw detection
Operating conditions	0 ... 50 °C / 32 ... 122 °F 20 ... 90 % RH not condensing
Storage conditions	-10 ... 60 °C / 14 ... 140 °F 20 ... 90 % RH not condensing
Dimensions	143 x 71 x 37 mm / 5.6 x 2.8 x 1.5 in (L x W x H)
Weight	with sensor and batteries: approx. 271 g / <1 lb

Optional accessories:

Probe	PCE-CT 80-FN0.5	Measurement range: Fe: 0 … 500, NFe: 0 … 500
Probe	PCE-CT 80-FN2	Measurement range: Fe: 0 … 2000, NFe: 0 … 2000
Probe	PCE-CT 80-FN2.5	Measurement range: Fe: 0 … 2500, NFe: 0 … 2500
Probe	PCE-CT 80-FN3	Measurement range: Fe: 0 … 3000, NFe: 0 … 3000
Probe	PCE-CT 80-F5N.3	Measurement range: Fe: 0 … 5000, NFe: 0 … 3000

Subject to change without notice

THICKNESS MEASUREMENT

WALL THICKNESS GAUGE PCE-TG 300 WITH BLUETOOTH

With a wide measuring range of up to 600 mm

The PCE-TG 300 is a wall thickness gauge with special probes for various applications. In general, the wall thicknesses of all homogeneous materials can be measured with the PCE-TG 300. For damping or scattering materials such as plastic or cast iron, a special probe is available. An angled 90 ° probe also enables measurements at hard-to-reach measuring positions. The speed of sound can be set freely and thus adapted to a wide variety of materials. The measured values are displayed directly on the easy-to-read TFT colour display.

ISO cal option

- wide measuring range
- various probes available
- battery operation
- fault and cavity detection
- internal measurement data memory
- printing via Bluetooth

APPLICATION

TECHNICAL SPECIFICATIONS

Measuring range	PE: pulse-echo mode 0.65 ... 600 mm (steel) EE: echo-echo mode 2.50 ... 60 mm
Accuracy	±0.04 mm H [mm] (< 10 mm); ±0.4 % H [mm] (> 10 mm) H refers to the material thickness of the workpiece
Resolution	0.1 mm / 0.01 mm / 0.001 mm (adjustable)
Measurable materials	Metals Plastics Ceramics Epoxy resin Glass and all homogeneous materials
Working modes	Pulse echo mode (fault and cavity detection) Echo-Echo mode (hiding layer thicknesses, e.g. lacquers)
Calibration	Sound velocity calibration Zero point calibration Two-point calibration
View mode	Normal mode, scan mode, difference mode
Units	mm / inch
Data transfer	Printing via Bluetooth / USB 2.0
Memory	Non-volatile memory with 100 data groups with 100 data sets each
Operating time	Continuous operation 100 h Automatic stand-by mode (adjustable) Automatic power off mode (adjustable)
Power supply	4 x AA battery 1.5 V
Display	320 x 240 pixel TFT LCD colour display with brightness adjustment
Operating conditions	0 ... 50 °C / 32 ... 122 °F, ≤ 80 % RH non condensing
Storage conditions	-20 ... 70 °C / -4 ... 158 °F, ≤ 80 % RH non-condensing
Dimensions	185 x 97 x 40 mm / 7.3 x 3.8 x 1.6 in
Weight	375 g / < 1 lb

Specifications of the included probe P5EE

Frequency	5 MHz
Diameter	10 mm
Measurement range	P-E: 2 ... 600 mm, E-E: 2,5 ... 100 mm
Minimum pipe diameter	20 x 3 mm
Description	normal measurement and E-E test

Specifications of the optional probes

NO2 (not suitable for curved materials)

Frequency / Ø	2.5 MHz / 14 mm
Measurement range	3 ... 40 mm (steel) 3 ... 300 mm (steel)
Description	For damping / scattering materials (plastics, cast iron)

NO5

Frequency / Ø	5 MHz / 10 mm
Measurement range	1 ... 600 mm (steel)
Minimum pipe diameter	20 x 3 mm
Description	normal measurement

NO5 / 90 °

Frequency / Ø	5 MHz / 10 mm
Measurement range	1 ... 600 mm (steel)
Minimum pipe diameter	20 x 3 mm
Description	normal measurement

NO7

Frequency / Ø	7 MHz / 6 mm
Measurement range	0.65 ... 200 mm (steel)
Minimum pipe diameter	15 x 2 mm
Description	for thin-walled or strongly curved pipes

HT5

Frequency / Ø	5 MHz / 12 mm
Measurement range	1 ... 600 mm (steel)
Minimum pipe diameter	30 mm
Description	for high temperatures (max. 300 °C)

Subject to change without notice

THICKNESS MEASURMENT

COATING THICKNESS GAUGE PCE-CT 100

Non-destructive, precise measurements on ferrous (Fe) & non-ferrous (nFe) metal substrates

The PCE-CT 100 is a coating thickness measuring device with a very compact size. The coating thickness measuring device works according to the magnetic induction (ISO 2178) and according to the eddy current (ISO 2360) methods. These procedures are used for the non-destructive testing of materials. This is used to measure the thickness of magnetically neutral layers on magnetic or non-magnetic base material.

The coating thickness measuring device PCE-CT 100 is ideal for reliable on-site applications. With the external probe, the layer thickness can be measured quickly and easily even in hard-to-reach places.

ISO cal option

- high resolution
- non-destructive measurements
- for ferrous and non-ferrous metals
- data transfer via USB
- graphic display
- peak-hold function

APPLICATION

TECHNICAL SPECIFICATIONS

Resolution	0.1 or <0.2 % of reading (for probes with a measurement range of up to 1.5 mm / 1500 µm / 1.5 mm / 59 mil) 1 µm or <0.2 % of reading (or probes with a measurement range of more than 1.5 mm / 1500 µm / 1.5 mm / 59 mil)
Display	high-resolution colour display with backlight
Menu languages	English, German, French, Italian, Spanish, Turkish, Czech, Chinese
Memory	direct mode: Max. 1,000 measured values in Fe (Type F) and nFe (Type N) mode file memory: max. 100,000 measured values
Calibration	factory calibration zero (one-point calibration) one-foil calibration (two-point calibration)
t	wo-foil calibration cal-through-coat calibration
Zero offset	addition of a constant value to the measured value
Statistical	parameters N, $\bar{x}$, σ, Max, Min, Cp, Cpk, Kvar
On-screen statistics	$\bar{x}$, σ, Max, Min
Alarm limits	adjustable with visual and audible signal Interfaces USB 2.0, Bluetooth 4.0
Operating temperature	0 ... +50 °C
Power supply	3 x Mignon (AA) 1.5 V
Dimensions	approx. 163 x 82 x 40 mm / 6.42 x 3.23 x 1.58 in (H x W x D)
Weight approx.	290 g (incl. batteries)
Protection class	IP 52 (protection against dust and dripping water)

The probes are not included in the standard package!
These must be ordered separately, depending on your application!

Optional accessories:

Angled probe	order code	PCE-CT 100 FN1.5R	measurement range: 0 ... 1500 µm
Angled probe	order code	PCE-CT 100 F3.5	measurement range: 0 ... 3.5 mm
Angled combined probe	order code	PCE-CT 100 FN1.5/90°	measurement range: 0 ... 1500 µm
Angled probe	order code	PCE-CT 100 F10	measurement range: 0 ... 10 mm
Angled probe	order code	PCE-CT 100 F1.5R	measurement range: 0 ... 1500 µm
Angled combined probe	order code	PCE-CT 100 FN3.5	measurement range: Fe: 0 ... 3.5 mm, NFe: 0 ... 3.0 mm
Combined probe	order code	PCE-CT 100 FN1.5	measurement range: 0 ... 1500 µm
Probe	order code	PCE-CT 100 N1.5	measurement range: 0 ... 1500 µm
Probe	order code	PCE-CT 100 F1.5	measurement range: 0 ... 1500 µm
High-precision combined probe	order code	PCE-CT 100 FN0.2	measurement range: 0 ... 200 µm

Subject to change without notice

COATING THICKNESS MEASUREMENT

COATING THICKNESS GAUGE PCE-CT 65

For measuring the colour thickness on ferrous and non-ferrous metals

PCE-CT 65 is a coating thickness gauge that uses magnetic induction (ferrous) or eddy current (non-ferrous) to take non-destructive measurements of coating and dry film thickness (DFT) on metal substrates such as steel and aluminum. This thickness gauge is ideal for painted and powder-coated surface testing, automotive paint inspection, coated material testing, and manufacturing quality control applications. The easy-to-use downloadable PC-compatible software included with this thickness gauge allows for detailed analysis of measurement results via computer. Measurement values are shown in a table and different working modes can be selected for data filtering.

ISO cal option

- for ferrous and non-ferrous metals
- immediately ready to measure
- large measuring range
- measured value memory for up to 1500 measurements
- two measuring modes
- comfortable one-hand operation
- comes with storage case
- calibration plates for accuracy testing

APPLICATION

TECHNICAL SPECIFICATIONS

Ferrous metals	
Principle	Magnetic induction
Measuring range	0 ... 1350 µm / 0 ... 53.1 mils
Accuracy	0 ... 1000 µm: (±2.5 % ±2 µm) 1000 µm ... 1350 µm: ±3.5 % 0 ... 39.3 mils: (±2 % ±0.08 mils) 39.3 mils ... 53.1 mils: ±3.5 %
Resolution	0 ... 100 µm: 0.1 µm 100 µm ... 1000 µm: 1 µm in 1000 mm ... 1350 µm: 0.01 mm 0 ... 10 mils: 0.01 mils 10 mils ... 53.1 mils: 0 ... 1 mils
Smallest surface	Ø 7 mm / Ø 0.3 in
Min. curvature radius	1.5 mm / 0.05 in
Min. substrate thickness	0.5 mm / 0.02 in
Non-ferrous metals	
Principle	Eddy current
Measuring range	0 ... 1350 µm / 0 ... 53.1 mils
Accuracy	0 ... 1000 µm: ±(2.5 % ±2 µm) 1000 µm ... 1350 µm: ±3.5 % 0 ... 39.3 mils: ±(2 % ±0.08 mils) 39.3 mils ... 53.1 mils: ±3.5 %
Resolution	0 ... 100 µm: 0.1 .mu.m 100 µm ... 1000 µm: 1 µm in 1000 mm ... 1350 µm: 0.01 mm 0 ... 10 mils: 0.01 mils 10 mils ... 53.1 mils: 0 ... 1 mils
Smallest surface	Ø 5 mm / Ø 0.2 in
Min. curvature radius	3 mm / 0.1 in
Min. substrate thickness	0.3 mm / 0.01 in
Units	µm, mils
Functions	Alarm function, display lighting, automatic shutdown, calibration, memory function
Memory option	30 storage groups with a capacity of 50 measurements each = 1500 measurements total
Interface	USB
Environmental conditions	0 ... 40 °C / 32 °F ... 104 °F, 20 % ... 90 % rh
Power supply	2 x 1.5 V AAA batteries

Subject to change without notice

COATING THICKNESS GAUGE PCE-CT 26FN

For iron and non-ferrous substrates

The coating thickness gauge PCE-CT 26FN can measure non-destructive coatings (paints, plastics ...) on steel / iron and non-ferrous metals. The coating thickness gauge is ideally suited, for example, to detect accidental damage to the vehicle immediately. But also in the industrial sector, the PCE-CT 26FN coating thickness gauge is used for incoming and outgoing inspection in order to be able to offer consistently consistent product qualities. The ergonomically shaped coating thickness gauge with integrated probe and very simple operation allows you to quickly determine measurement results with high accuracy.

ISO cal option

- immediately ready to measure
- wear-resistant sensor
- V-groove for measurement on pipes
- one-handed operation
- ISO calibration optional
- incl. transport case

APPLICATION

TECHNICAL SPECIFICATIONS

Measuring range	0 ... 1250 µm (0 ... 49.2 mils)
Resolution	1 µm (0.039 mils)
Accuracy	±(3 % + 2 µm) or ± (3 % + 0.079 mils)
Smallest measuring surface	5 x 5 mm / 0.2 in x 0.2 in
Smallest radius of curvature	Convex. 3 mm (0.1 in) / concave: 50 mm (2 in)
Smallest thickness of the base material	Fe: at least 0.5 mm / 0.02 in NFe: at least 0.3 mm / 0.01 in
Display	OLED display
Ambient temperature	0 ... 50 °C / 32 ... 120 °F
Power supply	2 x AAA battery 1.5 V
Dimension	100 x 52 x 29 mm / 4 x 2 x 1.1 in
Weight	About 68 g / < 1 lb (without batteries)

Subject to change without notice

MATERIAL TESTER PCE-CT 22BT

for measurement on ferrous and non-ferrous metals

With this Material Tester, layer thicknesses on metallic surfaces can be reliably determined. The Material Tester has a measuring range of 1500 µm. This means that the Material Tester is used, for example, in a paint shop, for incoming goods inspection or for an expert. With the Bluetooth interface on the Material Tester, all data can be transferred to a mobile iOS or Android device and exported as a CSV, PDF or TXT file. A live view with analysis of the measured values is also possible via the free app with the Material Tester. In addition to the Bluetooth interface, the Material Tester has a micro USB interface. All data can also be transferred to the PC and analyzed via this interface in the Material Tester.

ISO cal option

- micro USB and Bluetooth interface
- calibration foils included
- adjustable alarm gene values
- backlit display
- data storage for up to 600 measured values
- measuring range up to 1500 µm

APPLICATION

TECHNICAL SPECIFICATIONS

Measurable substrates	Fe, NFe
probe	internal
measuring range	0… 1500 µm
resolution	0.1 µm (in the measuring range 0… 99.9 µm) 1 µm (in the measuring range 100… 1500 µm)
accuracy	± (1 µm + 2% of the layer thickness)
units	µm, mil
Smallest curvature	convex 5 mm, concave 5 mm
Smallest measuring area	10 x 10 mm
Minimum thickness of the substrate	0.4 mm
interface	Bluetooth, micro USB
memory	10 groups with 60 measurements each
power supply	2 x 1.5 V AA batteries, 5 V USB interface
Environmental conditions	-10… 50 ° C, 10… 85% RH
Dimensions	126 x 69 x 35 mm (without sensor)
Weight	approx. 97 g (without batteries)

Subject to change without notice

COATING THICKNESS MEASUREMENT

COATING THICKNESS GAUGE PCE-CT 27FN

F / N: also for non-ferrous metals / Measuring range: 0 ... 1250 µm

PCE-CT 27FN is a Coating Thickness Gauge that takes non-destructive measurements of nonmagnetic coating, insulating layer and dry film thickness (DFT) on metal substrates such as steel and aluminum.
Ideal for surface testing, automotive paint inspection, material testing and manufacturing quality control applications, this Coating Thickness Gauge is designed to measure layers of paint, ink, plastic, chrome, copper, zinc, enamel, paper, glass, rubber and similar materials.

ISO cal option

- F / N: also for non-ferrous metals
- immediately ready to measure
- large measuring range
- measuring head for precise measurement results
- practical V-groove on the measuring head
- external measuring probe
- measuring range: 0 ... 1250 µm

APPLICATION

TECHNICAL SPECIFICATIONS

Measuring range	0 ... 1250 µm / 0 ... 50 mils
Accuracy	±(2 % + 2 µm) / ±(2 % + 0.1 mils)
Resolution	0.1 µm / 0.1 mil
Operating temperatures	-10 °C... +50 °C / +14 °F ... +122 °F
Power	2 x 1.5 V batteries
Dimensions	166 mm x 68 mm x 30 mm 6.54 in x 2.68 in x 1.18 in
Weight	0.180 kg / 0.40 lb

Subject to change without notice

FORCE GAUGE PCE-DFG N 500

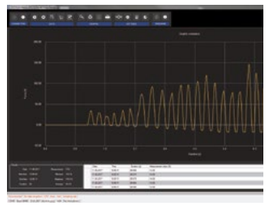
Digital force gauge for tensile and compressive force measurement up to 500 N

The PCE-DFG N 500 is a digital force gauge for tensile and compressive force measurement up to 500 N. It has a resolution of 0.1 N. The measured values are shown on a large display with backlight which is rotatable by 180 °. Therefore, reading the measured values correctly is possible in any position and at any time. The outstanding accuracy of ±0.1 % f. s. is confirmed by the factory calibration certificate that comes with the meter. In addition to the internal memory with sufficient capacity for 100 readings, a USB interface is available for data transfer.

ISO cal option

- tensile and compressive force measurement
- 1600 Hz sampling rate
- error limit 0.1 % of the measuring range
- PEAK function (MIN / MAX)
- limit value function
- various units of measurement
- automatic or manual storage
- graphical evaluation
- display with automatic orientation
- time / date
- control and evaluation software
- auto power off adjustable
- battery level indicator
- mains operation possible
- memory capacity for 100 measurements

APPLICATION



TECHNICAL SPECIFICATIONS

Measurement range	0 ... 500 N
Accuracy	±0.1 % of the measuring range
Resolution	0.1 N
Units	N, kg, lb, KPa
Display	2.8 “ TFT graphical display
Alarm modes	inside, outside, crack, shutdown
Sampling rate	6 ... 1600 Hz
Memory	100 measurements, 8000 values each
Power supply	rechargeable NiMh battery 6 V / 1600 mAh
Battery life	approx. 10 h
Charging adaptor	12 V / 1 A
Outputs	Interface: USB Switching output: 12 V / 50 mA
Protection class	IP 54
Operating and storage conditions	-10 ... 50 °C / 14 ... 122 °F 5 ... 95 % RH non-condensing
Force absorption element	M6 x 7 mm
Dimensions	200 x 97 x 42 mm / 7.9 x 3.8 x 1.7 in
Weight	540 g / 1.2 lbs

Optional accessories:

Clamp for peel-off tests	Order code	PCE-SJJ035
Holder for button and rivet testing	Order code	PCE-SJJ032
Clamping device for bristle testing	Order code	PCE-SJJ029
Clamping device for bristle testing	Order code	PCE-SJJ020
Universal clamping device	Order code	PCE-SJJ017
Clamping device for tensile tests	Order code	PCE-SJJ012
Fork holder for tensile & compr. tests	Order code	PCE-SJJ09
Clamping tool for tensile tests	Order code	PCE-SJJ08
Clamping device for tensile tests	Order code	PCE-SJJ07
Adaptor clamp for tensile tests	Order code	PCE-SJJ010
Adaptor clamp for tensile tests	Order code	PCE-SJJ06
Round adaptor stamp for compr. tests	Order code	PCE-SJJ04
Adaptor for compr. tests	Order code	PCE-SJJ01
Motorised force test stand	Order code	PCE-MTS50
Force test stand	Order code	PCE-FTS50
Clamping device for test stand	Order code	PCE-SJJ03
Adaptor ring for tensile tests	Order code	PCE-SJJ02
Clamping device for test stand	Order code	PCE-SJJ024
Clamping device for test stand	Order code	PCE-SJJ015
Clamping jaw for test stand	Order code	PCE-SJJ13
Clamping jaw for PCE-FTS50, PCE-FM 50/200	Order code	PCE-SJJ05
Clamping jaw for test stand PCE-FTS50	Order code	PCE-SJJ011

Subject to change without notice

FORCE GAUGE PCE-DFG N 10K

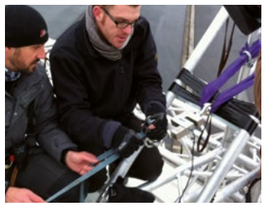
With external measuring cell and USB interface for connection to a PC

The force gauge measures both tensile and compressive forces with a very high resolution. Tensile and compressive forces are often measured in test laboratories, for example to determine the yield strength, the pull-off force and the force required to actuate a push-button or switch. The force gauge is supplied with an external measuring cell. The PCE-DFG N 10K force gauge can measure up to 10,000 N / 2,248 lbs. Models for 1,000 N / 225 lbs, 2,500 N / 562 lbs and 5,000 N / 1,124 lbs are also available. Various eyelets or hooks with M10 or M12 threads can be screwed into the measuring cells but other devices with the same thread can also be attached to the measuring cell.

ISO cal option

- USB interface
- memory capacity for 100 measurements
- incl. ISO calibration certificate
- graphical display
- fast response time
- PC software

APPLICATION



TECHNICAL SPECIFICATIONS

Measurement range	0 ... 10,000 N / 0 ... 2,248 lbs
Resolution	5 N
Accuracy	±0.1 % of the measuring range
Units	N, kg, lb, KPa
Display	2.8 " TFT graphical display
Alarm modes	inside, outside, crack, shutdown
Sampling rate	6 ... 1600 Hz
Memory	100 measurements, 8000 values each
Power supply	rechargeable NiMH battery, 6 V / 1600 mAh
Battery life	approx. 10 h
Mains / charging adaptor	12 V / 1 A
Outputs	Interface: USB Switching output: 12 V / 50 mA
Protection class	IP 54
Operating and storage conditions	-10 ... 50 °C / 14 ... 122 °F 5 ... 95 % RH non-condensing
Mounting thread measuring cell up to 1000 N / 225 lbs 2500 ... 10000 N / 562 ... 2,248 lbs	 M10 M12
Dimensions	200 x 97 x 42 mm / 7.9 x 3.8 x 1.7
Weight	540 g / 1.2 lbs

Optional accessories:

Universal clamping device	Order code	PCE-SJJ017
Clamping device for tensile tests	Order code	PCE-SJJ012
Fork holder for tensile & compr. tests	Order code	PCE-SJJ09
Adaptor clamp for tensile tests	Order code	PCE-SJJ06
Round adaptor stamp for compr. tests	Order code	PCE-SJJ04
Adaptor for compr. tests	Order code	PCE-SJJ01
Clamping device for test stand	Order code	PCE-SJJ015

Further models of the PCE-DFG N series:

PCE-DFG N5	internal measuring	cell meas. range	0 ... 5 N
PCE-DFG N10	internal measuring	cell meas. range	0 ... 10 N
PCE-DFG N20	internal measuring	cell meas. range	0 ... 20 N
PCE-DFG N200	internal measuring	cell meas. range	0 ... 200 N
PCE-DFG N500	internal measuring	cell meas. range	0 ... 500 N
PCE-DFG N 1K	internal measuring	cell meas. range	0 ... 1000 N / 100 kg
PCE-DFG N 2,5K	internal measuring	cell meas. range	0 ... 2500 N / 250 kg
PCE-DFG N 5K	internal measuring	cell meas. range	0 ... 5000 N / 500 kg
PCE-DFG N 20K	internal measuring	cell meas. range	0 ... 20000 N / 2 t
PCE-DFG N 50K	internal measuring	cell meas. range	0 ... 50000 N / 5 t
PCE-DFG N 100K	internal measuring	cell meas. range	0 ... 100000 N / 10 t

Subject to change without notice

FORCE GAUGE PCE-DFG NF 1K

Measurement of compressive forces with external load cell

The force gauge with an external load cell is designed for the measurement of compressive forces in hard-to-reach measuring locations. The pressure cell is connected to the force gauge by a sensor cable of approx. 3 m length and thanks to the small cell dimensions, it ensures versatile applications. The force gauge/ load cell has several threaded holes at the bottom to enable fixed installation. The force gauge can operate at a sampling rate of up to 1600 Hz. The sampled readings are displayed as an instantaneous value as well as in a graph showing the measurement curve directly in the force gauge.

ISO cal option

- USB interface
- graphical display
- fast response time
- PC software
- incl. calibration
- memory for 100 measurements

APPLICATION

TECHNICAL SPECIFICATIONS

Measurement range	0 ... 1000 N
Resolution	0.1 N
Accuracy	±0.5 % of meas. range
Measurement units	N, kg, lb, kPa
Display	2.8 " TFT graphical display
Alarm modes	inside, outside, crack, shutdown
Sampling rate	6 ... 1600 Hz
Memory	100 measurements
Power supply	rechargeable NiMh battery, 6 V / 1600 mAh
Battery life	approx. 10 hours
Power adaptor / charging adaptor	12 V / 1 A
Outputs	interface: USB switching output: 12 V / 50 mA
Protection class	IP 54
Operating and storage conditions	-10 ... 50 °C 5 ... 95 % RH, non-condensing
Dimensions load cell	Ø 20 mm / H 12 mm / M3 thread (see technical drawing)
Cable length pressure cell	approx. 3 m
Dimensions	200 x 97 x 42 mm
Weight	540 g

Further models :

PCE-DFG NF 0,5K	Measurement range 0 ... 500 N
PCE-DFG NF 2K	Measurement range 0 ... 2000 N
PCE-DFG NF 5K	Measurement range 0 ... 5000 N
PCE-DFG NF 10K	Measurement range 0 ... 10000 N / 0 ... 10 kN
PCE-DFG NF 20K	Measurement range 0 ... 20000 N / 0 ... 20 kN
PCE-DFG NF 50K	Measurement range 0 ... 50000 N / 0 ... 50 kN

Subject to change without notice

FORCE MEASUREMENT

DYNAMOMETER PCE-PFG 500

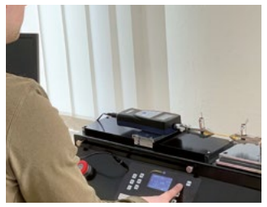
with internal S load cell

The PCE-PFG dynamometer is a handy, digital measuring device for measuring tensile and compressive forces. The force measuring device offers a sampling rate of 500 Hz and various measurement options such as real-time measurement (RT), maximum value measurement (PEAK), configurable average value acquisition (Average) and automatic measurement storage of up to 100 measurements. The measurement data and a statistical evaluation of the data stored in the force measuring device (MIN / MAX / average) are shown on the graphic display and can be transferred to a PC via the USB interface. In addition, the force measuring device offers a limit value function MIN / MAX, which can switch a multi-colored LED and switching contacts.

ISO cal option

- 4 measurement modes (real-time measurement / maximum value / average measurement / automatic memory measurement)
- internal memory for up to 100 measured values
- statistics evaluation (MIN / MAX / average)
- rotatable display
- alarm function with multi-colored LED (yellow / green / red) and switching contact output 2.85 V.
- USB B interface
- battery life up to 36 hours

APPLICATION



TECHNICAL SPECIFICATIONS

Measuring range	0 ... 500 N
Resolution	0.1 N
Accuracy	±0.3 % of the measuring range
Measurement units	N, kgF, lbF
Display	1.8" graphic display
Alarm modes	Below, Inside, Outside
Sampling rate	500 Hz
Memory	100 measurements
Power supply	lithium battery 3.7 V / 1500 mAh
Battery life	up to 36 hours
Power supply / USB charging adapter	5 V / 1 A
Outputs	interface: USB B Switching output / alarm modes: MD6 with 2.85 V if active
Protection class	IP 54
Operating and storage conditions	5 ... 45 °C 35 ... 65 % r.H. not condensing
Force application	M6 x 10 mm thread
Dimensions	189 x 707 x 34 mm
Weight	450 g

Further models of the PCE-DFG NF series:

PCE-PFG 20	Measuring range	0 ... 20 N
PCE-PFG 50	Measuring range	0 ... 50 N
PCE-PFG 100	Measuring range	0 ... 100 N
PCE-PFG 200	Measuring range	0 ... 200 N

Subject to change without notice

FORCE MEASUREMENT

HYDRAULIC FORCE GAUGE PCE-HFG 10K

For the measurement of compression forces in mechanical systems

The hydraulic force transducer PCE HFG series is used for the absorption of static pressure forces and is made of stainless steel. The force transducer can measure forces over a long period of time due to its independence from power sources. With the integrated drag indicator the respective PEAK value is stored for later read out. The force transducer uses the measuring principle of hydraulic transmission of forces. The forces applied to the plunger are transmitted to the dial gauge via the medium and are displayed on the Newton scale [N]. Due to the 27 mm ring opening, it is also possible to use the force transducer axially and to determine axial shaft forces, for example.

ISO cal option

- measurement of static pressure forces
- for stationary maintenance measurements and adjustment work
- independent of power sources
- analogue meter scale
- compact for small installation spaces
- pressure force display in kilonewtons [kN]
- stainless steel
- integrated drag indicators

APPLICATION

TECHNICAL SPECIFICATIONS

Measuring range	0 … 10,000 N
Resolution	200 N
Measuring accuracy	±1.85% of the measuring range
Dimensions of the display	Ø55 mm
Mounting holes	2 x M6
Ambient conditions	0 … 50 °C

Models of the PCE-HFG series:

Measured value: Force [N]

Measuring range	
PCE-HFG 1K	0... 1000 N
PCE-HFG 2.5K	0... 2500 N
PCE-HFG 10K	0... 10000 N
PCE-HFG 25K	0... 25000 N

Resolution:	
PCE-HFG 1K	20 N
PCE-HFG 2.5K	100 N
PCE-HFG 10K	200 N
PCE-HFG 25K	1000 N

Accuracy:	±(1.6 % pressure gauge + 0.25 % reading error) from measuring range
Temperature range:	0... 50 °C
weight:	1.6 kg
Mounting holes:	2 x M6
Inner diameter of the ring:	Ø 27 mm
Display dimensions:	Ø 55 mm

Subject to change without notice

TORQUE MEASUREMENT

TORQUE METER PCE-DFG N 100TW

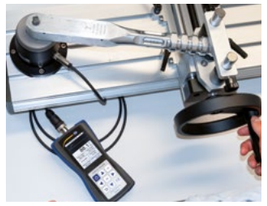
Torque meter up to 100 Nm / external torque transducer 1/2 " internal square

The torque wrench tester consists of a handheld measuring device and an external torque transducer. The torsion transducer is connected to the hand-held device via a 1.5 m / 4.9 ft long cable and thus enables installation in a test stand or direct assembly on a test bench.
The torque measuring device is delivered adjusted so that the control measurements can be started immediately. A calibration certificate is optionally available for the torque measuring device. This certificate is a target / actual comparison on a traceable reference standard and thus serves as proof of the measurement accuracy. The measurement uncertainty of the torque measuring device is only 0.5 % of the measuring range.

ISO cal option

- left / right torsion measurement
- error limit 0.5 % of the measuring range
- graphic display
- PC software
- PEAK / Hold function
- 1600 Hz sampling rate
- power adapter and battery operation possible
- the direction of rotation must be selected

APPLICATION



TECHNICAL SPECIFICATIONS

Measuring range	0 ... 100 Nm
Resolution	0.1 Nm
Accuracy	±0.5 % of the measuring range
Units of measurement	Nm, lbfft, kgfm
Torque sensor mount	1/2 " (12.5 x 12.5 mm) internal square
Torsion measurement	Left / Right
Display	2.8 " TFT graphic display
Alarm modes	Inside Outside
Sampling rate	6 ... 1600 Hz
Storage measurement points each	For 100 measurement series with 8,000
Power supply	NiMh battery, 6 V / 1600-mAh
Battery life	About 10 hours
Power supply / charging adapter	12 V / 1 A
Outputs	Interface: USB Switching output: 12 V / 50-mA
Protection class	IP 54
Operating and storage conditions	-10 ... 50 °C / 14 ... 122 °F 5 ... 95 % RH non-condensing
Torque transducer dimensions	H 85 mm / Ø 72 mm / Ø 104 mm (H 3.3 in / Ø 2.8 in / Ø 4.1 in) (see technical drawing)
Sensor cable length / td>	Approx. 1.5 m / 4.9 ft
Dimensions handset	200 x 97 x 42 mm / 7.9 x 3.8 x 1.7 in
Weight handset	540 g / 1.2 lbs
Weight of the torsion transducer	985 g / 2.2 lbs

Further models of the PCE-DFG N TW series:

PCE-DFG N 50TW	Measuring range	0 ... 50 Nm
PCE-DFG N 10TW	Measuring range	0 ... 10 Nm
PCE-DFG N 5TW	Measuring range	0 ... 5 Nm

Subject to change without notice

DATA LOGGING

DATA LOGGER PCE-VDL 16I

For the parameters temperature, relative humidity, air pressure, light and vibration

The mechanical engineering data logger PCE-VDL 16I from PCE Instruments measures and records the relevant parameters temperature, relative humidity, air pressure, light as well as 3-axis acceleration by means of a vibration sensor. This makes the data logger the ideal tool for monitoring machine vibration and at the same time measuring and recording important environmental conditions of the equipment. Depending on the sampling rate, the data logger can record for several days. The recorded readings are saved to the internal 32 GB SD card and can be transferred to other media for evaluation where required.

ISO cal option

- 3-axis acceleration up to 800 Hz
- measures temperature, humidity, air pressure and light
- 32 GB SD memory card
- compact design: 86.8 x 44.1 x 22.2 mm
- country of origin Germany

APPLICATION

TECHNICAL SPECIFICATIONS

Parameter	
Temperature measuring range	-20 ... +65 °C
Accuracy	±0.2 °C
Sampling rate	1 s ... 1800 s
Relative humidity measuring range	0 ... 100 % RH
Accuracy	±1.8 % RH
Sampling rate	1 s ... 1800 s
Air pressure measuring range	10 ... 2000 mbar
Accuracy	±2 mbar (within range 750 ... 1100 mbar) otherwise ±4 m bar
Sampling rate	1 s ... 1800 s
Light measuring range	0.045 … 188,000 lux
Sampling rate	1 s 1800 s
3-axis acceleration measuring range ±16 g	
Accuracy	±0.24 g
Sampling rate	800 Hz 1 Hz

General technical data of the mini data logger PCE-VDL 16I

Memory capacity	2.5 readings per measurement, 3.2 billion readings with included 32 GB memory card
Keys	start / stop of a measurement; data logger on / off
LED	Log: operating status Alarm: alarm indicator Charge: charging status USB: status of PC connection
Power supply	integrated rechargeable Li-Ion battery 3.7 V / 500 mAh The meter is charged via the USB interface.
Integrated sensors	3-axis acceleration
Interface	USB
PC software	free setup and evaluation software (Windows XP / Vista / 7 / 8 / 10 32 bit / 64 bit) to record and evaluate data
Operating conditions	temperature -20 ... +65 °C
Storage conditions	temperature +5 ... +45 °C (ideal storage conditions for battery) 10 ... 95 % RH, non-condensing
Standards	complies with EU regulation RoHS/WEEE
Weight	approx. 60 g
Dimensions (L x W x H)	87 x 44 x 23 mm

Optional accessories:

Mounting plate — Order code PCE-VDL MNT

Subject to change without notice

MEASURING DATA ACQUISITION

MOISTURE METER PCE-DPM 3

Data memory for approx. 50,000 measurement data

The moisture meter is a mobile testing device for monitoring the quality of compressed air on stationary and mobile compressed air generators. This moisture meter measures the temperature, the relative humidity, H2O and calculates the current dew point up to an ambient pressure of 20 bar. Thanks to the sintered cap, the moisture meter in the pressure lines is protected from dirt, moisture and high flow speeds. This increases the service life of the moisture meter's sensors. The data memory of the moisture meter enables the course of the measurement parameters to be recorded in a pressure line. The data recorded by the moisture meter is permanently stored in the internal memory.

ISO cal option

- data storage with CSV data export
- dew point, H_2O, temperature, humidity measurement
- for inline measurement of pressure pipes
- battery operation for mobile use
- with G1 / 2 "connection thread
- sensors protected with sintered filters

APPLICATION

TECHNICAL SPECIFICATIONS

Measurement	**Temperature**
Measuring range	-10 ... 60 °C / 14 ... 140 °F
Resolution	0.01 °C / 0.018 °F
Accuracy at 20°C / 68°F	-10 ... 50 °C / 14 ... 122 °F: ± 0.3 °C / 0.5 °F
Measurement	**Relative humidity**
Measuring range	0 ... 100 %
Resolution	0.01 %
Accuracy at 20°C / 68°F	< 5 %: ±(0.025 % + 17.5 % of mv) > 5 %: ±(1 % + 5 % of mv) > 15 %: ±(2 % + 3 % of mv)
Measurement	**Dew point***
Measuring range	-50 ... 30 °C / -58 ... 86 °F
Resolution	0.01 °C / 0.018 °F
Accuracy	-40 ... 20 °C / -40 ... 68 °F: ±2 °C / 3.6 °F -50 ... -40 °C / -58 ... -40 °F: ±2.5 °C / 4.5 °F

*The accuracy of the dew point relates to an ambient temperature of 16 ... 25 °C / 61 ... 77 °F

Measurement	**H2O**
Measuring range	40 ... 20,000 ppm
Resolution	1 ppm
Accuracy at 20°C / 68°F	±(7.3 ppm + 8.3 %)
Environmental conditions	-10 ... 60 °C / 14 ... 140 °F 0 ... 20 bar (absolute)
Response time at: 0.2 m / s, 1 bar, 20°C / 68°F, 63% RH [90%]	0 ... 40 °C / 32 ... 104 °F: 20 s [120 s] -40 ... 0 °C / -40 ... 32 °F: 10 s [20 s]
Data storage	For approx. 50,000 measuring points
Adjustable storage rates	10 seconds 1, 5, 10, 20, minutes
Adjustable recording time	1, 5, 12, 24, 48 hours
File format	CSV
Cable length	Approx. 1.5 m / 4.9 ft
Thread	G1 / 2"
Thread length	1.2 cm
Probe length	5.2 cm
Probe width	1.2 cm
Display	2.3" LCD
Power supply	Battery 3.7 V DC, 3000-mAh
Power supply power pack	Primary: 100 ... 240 V AC, 0.25 A Secondary: 5 V DC, 1 A
Interface 7 mains connection	Micro USB
Weight	Approx. 610 g / 1.3 lbs

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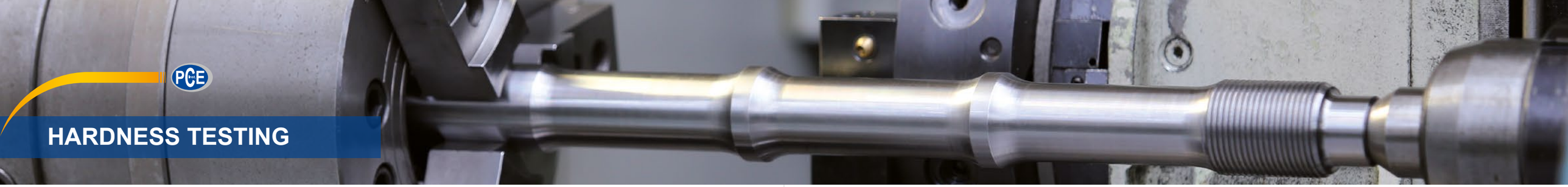

HARDNESS TESTING

HARDNESS TESTER PCE-2000N

Leeb hardness tester for metals

The PCE-2000N hardness tester from PCE-Instruments uses the Leeb rebound method. This is a dynamic hardness test method in which a standardized test specimen, usually a hard metal ball, hits a test surface at a defined impact energy. The impact of the hard metal ball on the test surface results in a plastic deformation of the surface at the point of impact. This deformation results in an energy loss which is proportional to the hardness of the workpiece and which can be determined by means of the ratio of rebound to impact velocity of the specimen.

ISO cal option

- various other impactors as accessories
- measurement in different angles possible
- readings are saved to USB pen drive
- external impact device with 1.5 m cable
- wide measurement range
- 6 different hardness scales

APPLICATION

TECHNICAL SPECIFICATIONS

Measurement ranges	170 ... 960 HLD 17.9 ... 69.5 HRC 19 ... 683 HB 80 ... 1042 HV 30.6 ... 102.6 HS 59.1 ... 88 HRA 13.5 ... 101.7 HRB	Display resolution	128 x 64 pixel OLED
		Data memory	600 averages in 6 data groups
		Data output	USB pen drive
		Power supply	3 x AAA batteries
		Auto Power Off	after 12 min of inactivity
		Operating conditions	+10 ... +50 °C, 20 ... 90 % RH
		Storage conditions	-30 ... +60 °C
		Dimensions	160 x 80 x 40 mm (H x W x D)
		Weight	Meter with batteries: approx. 300 g / <1 lb Impact device: approx. 75 g / <1 lb
Impact device included (optional impact devices)	D (DC, D+15, C, G, DL)		
Cable length impact device	approx. 1.5 m		
Accuracy	±0.5 % (@800 HLD)		
Repeatability	0.8 % (@800 HLD)		
		Material	
		Steel / cold-rolled steel	HRA 59.1 ... 85.8 HRC 20 ... 68.5 HRB 38.4 ... 99.6 HB 127 ... 651 HSD 32.2 ... 99.5 HV 83 ... 976
Hardness scales	HL (Leeb) HV (Vickers) HB (Brinell) HS (Shore) HRA (Rockwell A) HRB (Rockwell B) HRC (Rockwell C)	Alloyed tool steel	HRC 20.4 ... 67.1 HV 80 ... 898
Measurable materials	Steel Cast steel Alloy steel Stainless steel Grey cast iron Spheroidal graphite iron Cast aluminium alloy Cu-zinc (brass) Copper-tin alloy Copper	Stainless steel	HRB 46.5 ... 101.7 HB 85 ... 655 HV 85 ... 802
		Grey cast iron	HB 93 ... 334
		Spheroidal graphite iron	HB 131 ... 387
		Cast aluminium	HRB 23.8 ... 84.6 HB 19 ... 164
		Brass	HRB 13.5 ... 95.3 HB 40 ... 173
		Bronze	HB 60 ... 290
		Copper	HB 45 ... 315

Optional accessories:

Impact device D	Order code	PCE-2000N Probe D
Impact device DC	Order code	PCE-2000N Probe DC
Impact device D+15	Order code	PCE-2000N Probe D+15
Impact device C	Order code	PCE-2000N Probe C
Impact device G	Order code	PCE-2000N Probe G
Impact device DL	Order code	PCE-2000N Probe DL

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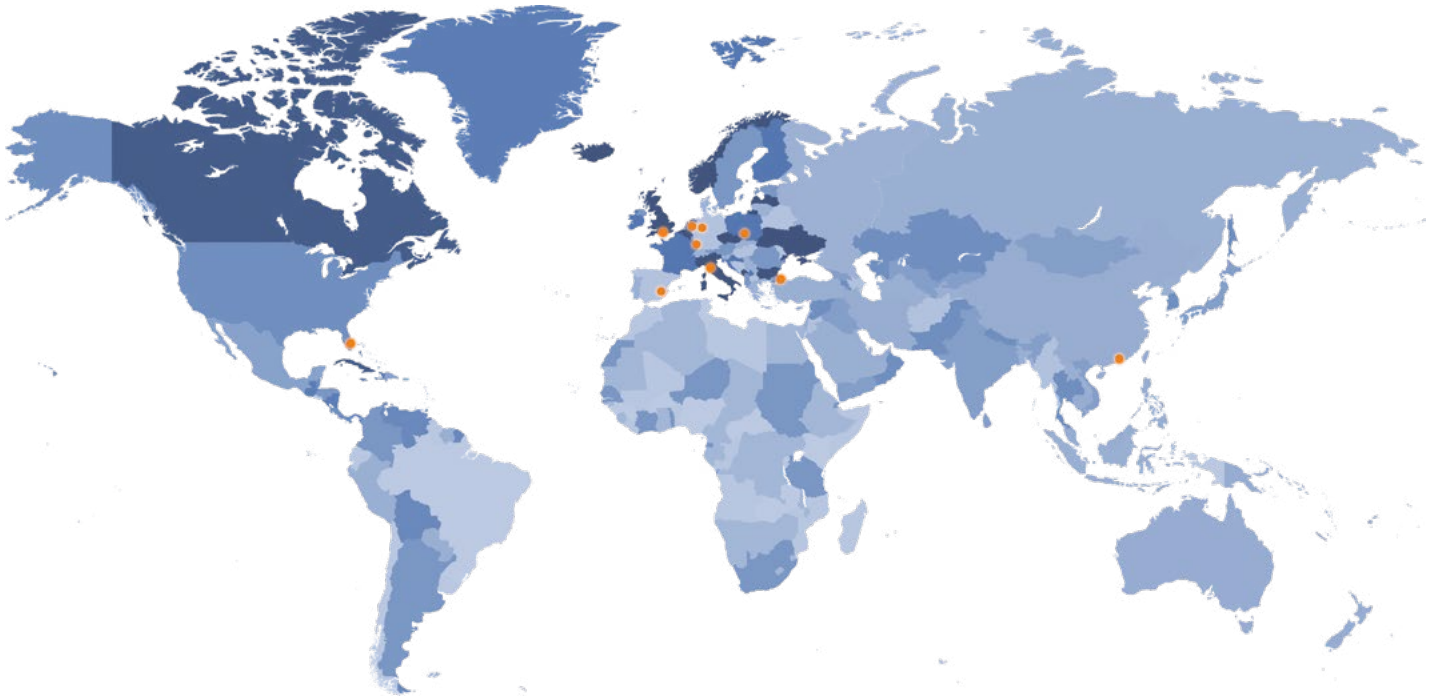
COMPANY LOCATIONS



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