
Motor starting and protection





Electrification products

ABB is a global leader in power and automation technologies that enable utility and industry customers to improve performance while lowering environmental impact. ABB in India serves customers in process, manufacturing and consumer industries, utilities, the oil & gas sector and infrastructure markets through a wide manufacturing and marketing network.

ABB offers a full range of low- and medium-voltage solutions to connect, protect, control and measure a wide range of electrical systems for all major industries, including the residential sector.

The business improves the reliability and efficiency of electrical installations through modular substation packages, distribution automation products, switchgear, circuit breakers, measuring and sensing devices, control products, wiring accessories, and enclosures and

cabling systems, including KNX systems designed to integrate and automate a building's lighting, ventilation, heating, security and data communication networks.

ABB's product range serves the diverse needs of customers, offering value-for-money and high levels of quality and reliability. These products are backed by the technological expertise of ABB's centres of excellence across the globe, each of which excel in a specific range of low voltage products.

ABB's electrification products offering in India are designed, manufactured and tested in-house in conformance with requirements of the ISO 9000 series. These products conform to the latest IEC standards, EN specifications, national standards such as IS, BS, VDE, etc., in addition to the "CE" mark.

ABB's comprehensive range of LV control products

The range of ABB control products ranks amongst the most extensive on the market with a full range of innovative solutions for control & protection, motor starting, intelligent motor management, measurement and monitoring and safety applications.

The business unit is comprised of 3 main product families:

- Control & protection
- Electronic relays
- Safety products

Our products

Our products are already among the most extensive in the market and we are constantly adding new products in order to meet ever changing customer needs. Quality and reliability are built into every device to ensure total performance satisfaction, even in the most demanding applications.

We offer a very modern and competitive range of contactors, starters, manual motor starters, a wide range of electronic relays and overload relays, together with an extended of pilot devices.

Our offering

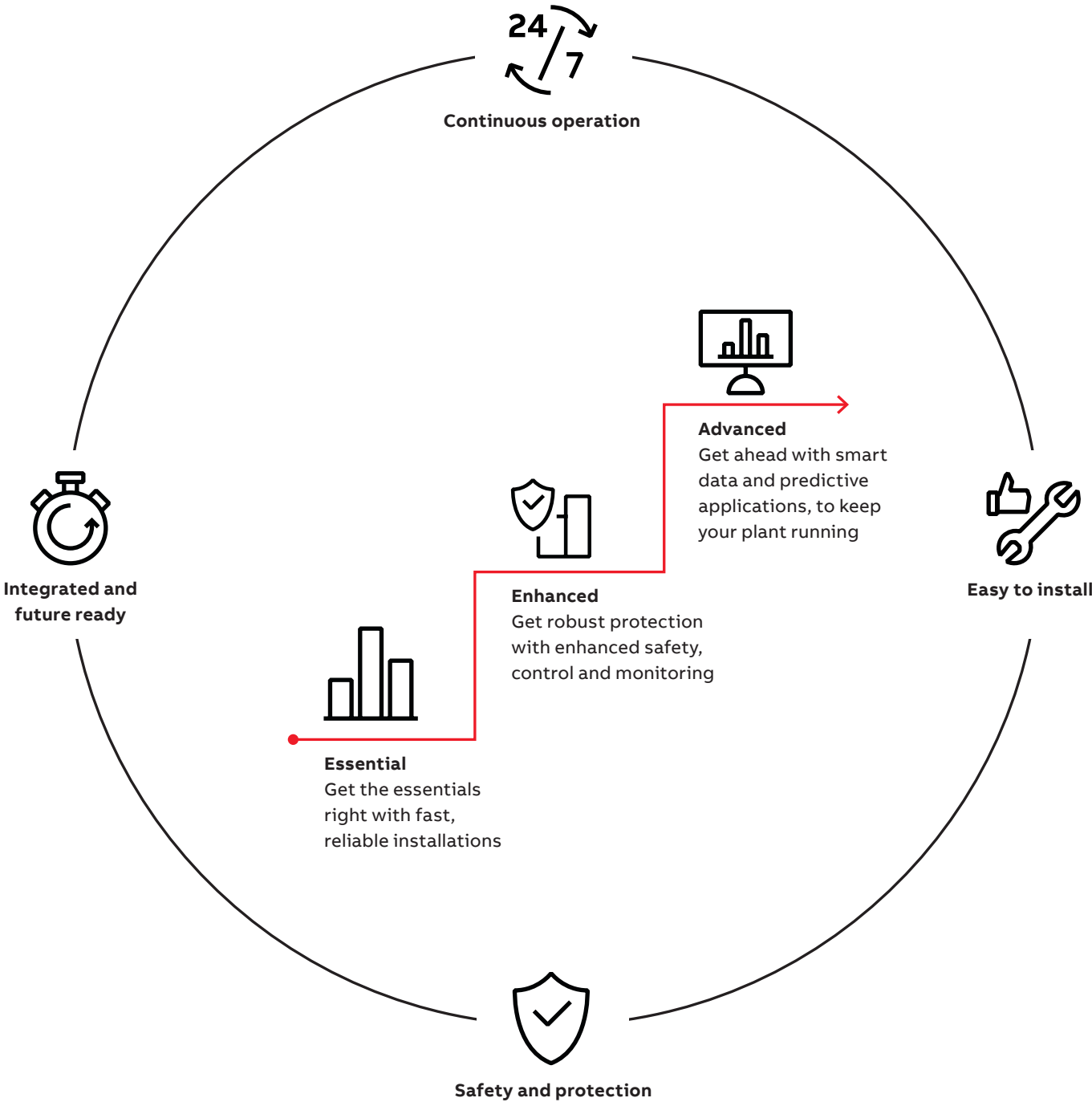
- Contactors
- Manual motor starters
- Thermal overload relays
- Electronic overload relays
- Intelligent motor management systems
 - Universal motor controllers
 - Communication fieldbus plugs
- Electronic products and relays
 - Timers
 - Measuring and monitoring relays
 - Power supplies
 - Interface relays & optocouplers
- Jokab safety systems
- Pilot devices
- Arc guard systems



Motor starting and protection

Keep things moving with protection and control - at every level.

Our broad portfolio of motor starting and protection solutions are fully scalable, allowing you to keep things moving whatever the extent of your operations.



Advanced solutions

Get ahead with intelligent, predictive operations thanks to integrated data and advanced connectivity



Integrated and future ready

Data and precise measurements accessible via flexible communication options ensure reliable operations and efficient energy management. Adapt to future needs without big investments.

- The UMC100.3 is compatible with more communication protocols than any other motor controller. This allows you to have software that enables predictive maintenance and acts as an intelligent data hub
- The SACE Tmax XT range enables you to monitor and manage a wealth of information easily, no matter where you are and allows you to easily upgrade trip units to suit your changing needs



Continuous operation

Detect problems earlier and prevent plant stand-stills with integrated protection functions as well as extensive diagnostic and status information.

- Protect your motors at all times with the UMC100.3, even if your control or communication system (Ethernet or Fieldbus) breaks down
- With the SACE Tmax XT up to 30% more data is available on the cloud, making diagnosis and maintenance much easier
- Ensure continuity of service and equipment protection at all times with the advanced electronic trip unit and intelligent motor management systems



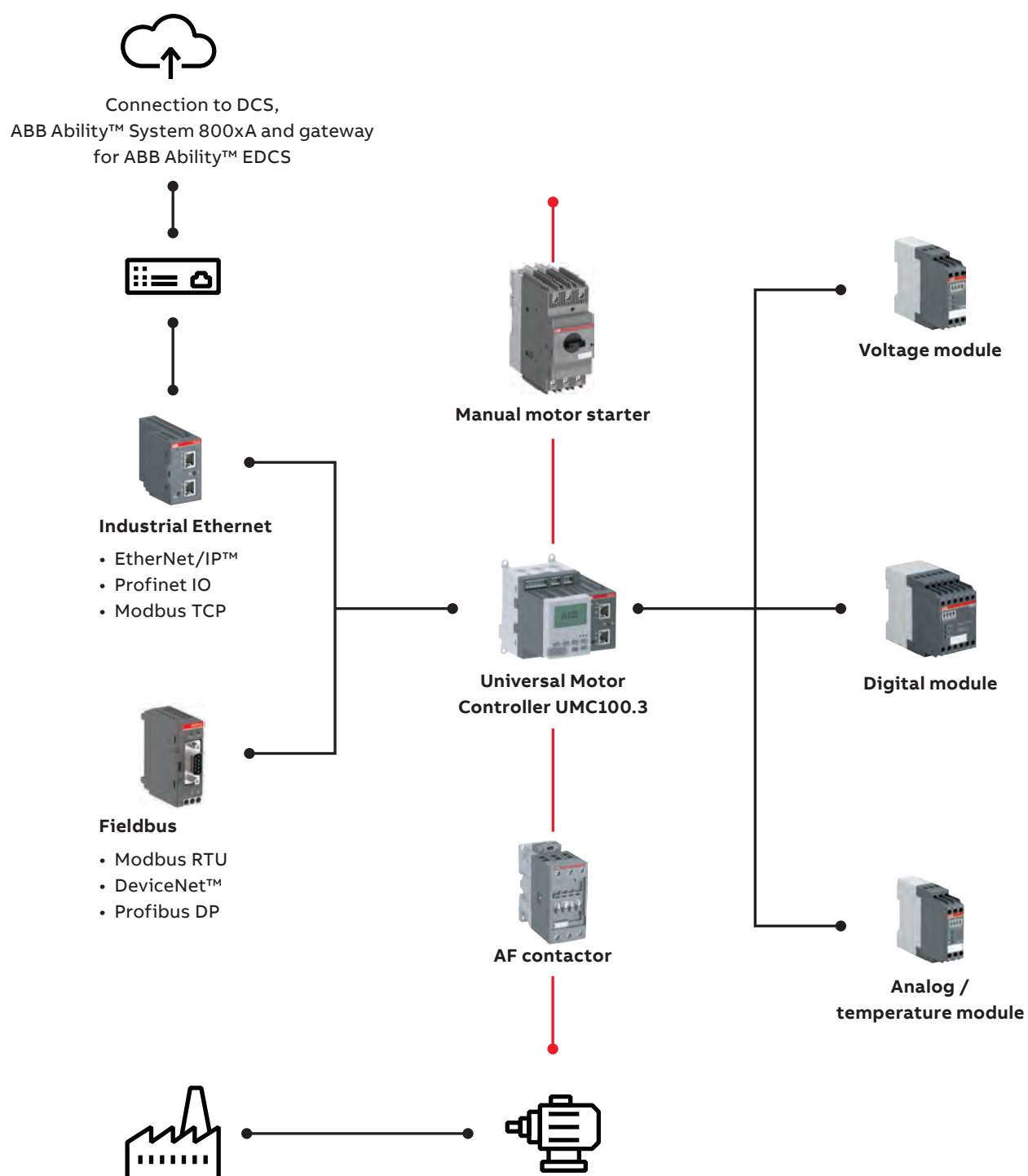
Speed up your project

Design, commissioning and maintenance are easy, cutting costs and saving you time. Flexible design allows you to find a tailor made solution.

- With the UMC100.3, simple software configuration means that you're always in control. Parameters can be set via quality FDI-based software or directly using the operating panel
- With the SACE Tmax XT range, simplified installation of frames, integration of circuit breakers into a communication network, trip unit settings performed via front display and bluetooth and Ekip Mobile connectivity, can save you up to 40% time overall

Advanced solutions

UMC100.3 application example



Auxiliary contactors



Standard control contactors

No: of contacts	Contact configuration		Type code reference	Ordering code	L.P.(₹)	Type code reference	Ordering code	L.P.(₹)
	NO	NC						
4	2	2	N22E **	1SBH141001R□□22 ■	1,290	NL22E **	1SBH143001R□□22 ■	1,970
4	3	1	N31E **	1SBH141001R□□31 ■		NL31E **	1SBH143001R□□31 ■	
4	4	0	N40E **	1SBH141001R□□40 ■		NL40E **	1SBH143001R□□40 ■	

Refer coil voltage & codes mentioned below.

No: of contacts	Contact configuration		Type code reference	Ordering code	L.P.(₹)
	NO	NC			
4	2	2	NX22E	1SBH901074R□□22 ■	1,050
4	3	1	NX31E	1SBH901074R□□31 ■	
4	4	0	NX40E	1SBH901074R□□40 ■	

Refer coil voltage & codes mentioned below.

No: of contacts	Contact configuration		Type code reference	Ordering code	L.P.(₹)	Type code reference	Ordering code	L.P.(₹)
	NO	NC						
4	2	2	NF22E **	1SBH137001R□□22 ■	2,290	NFZ22E **	1SBH136001R□□22	2,880
4	3	1	NF31E **	1SBH137001R□□31 ■		NFZ31E **	1SBH136001R□□31	
4	4	0	NF40E **	1SBH137001R□□40 ■		NFZ40E **	1SBH136001R□□40	

Refer coil voltage & codes mentioned below.

#Allows direct control by PLC output ≥ 24 V DC 500 mA

Coil voltages and codes

N & NX range (AC operated)

Voltage	Voltage	Code
V - 50Hz	V - 60Hz	□□
24	24	8 1 ■
110	110 ... 120	8 4 ■
220 ... 230	230 ... 240	8 0 ■
400 ... 415	415 ... 440	8 6 ■

NF range (AC/DC operated)

Voltage	Voltage	Code
V 50/60 Hz	V DC	□□
24...60	20...60	1 1 ■
48...130	48...130	1 2 ■
100...250	100...250	1 3 ■
250...500	250...500	1 4 ■

NL (DC operated)

Voltage	Code
V DC	□□
24	8 1 ■
48	8 3 ■
110	8 6 ■
240	8 9 ■

NFZ range (AC/DC operated)

Voltage	Voltage	Code
V 50/60 Hz	V DC	□□
-	12...20	2 0
24...60	20...60	2 1
48...130	48...130	2 2
100...250	100...250	2 3

■ Stock items

3 pole contactors: AX09...AX370 : AC operated



AX09



AX95



AX185



AX370

AX Contactor

AX contactors are mainly used for controlling 3-phase motors and power circuits up to 690 V AC.

These contactors are of the block type design with:

- 3 main poles and built-in auxiliary contact
- Control circuit: AC operated
- Add-on auxiliary contact blocks for front or side mounting and a wide range of accessories

Contactors: 3-pole – AC operated

AC1 duty Amps	AC3 rating at 415V		Auxiliary contacts		Type code	Ordering code	L.P.(₹)
Amps	Amps	kW					
22	9	4	1NO	-	AX09-30-10	1SBL901074R□□10 ■	960
22	9	4	-	1NC	AX09-30-01	1SBL901074R□□01 ■	960
25	12	5.5	1NO	-	AX12-30-10	1SBL911074R□□10 ■	1,080
25	12	5.5	-	1NC	AX12-30-01	1SBL911074R□□01 ■	1,080
27	18	9	1NO	-	AX18-30-10	1SBL921074R□□10 ■	1,170
27	18	9	-	1NC	AX18-30-01	1SBL921074R□□01 ■	1,170
32	25	11	1NO	-	AX25-30-10	1SBL931074R□□10 ■	1,690
32	25	11	-	1NC	AX25-30-01	1SBL931074R□□01 ■	1,690
55	32	15	1NO	-	AX32-30-10	1SBL281074R□□10 ■	3,490
55	32	15	-	1NC	AX32-30-01	1SBL281074R□□01 ■	3,490
60	40	18.5	1NO	-	AX40-30-10	1SBL321074R□□10 ■	5,430
60	40	18.5	-	1NC	AX40-30-01	1SBL321074R□□01 ■	5,430
100	50	25	1NO	1NC	AX50-30-11	1SBL351074R□□11 ■	6,820
115	65	30	1NO	1NC	AX65-30-11	1SBL371074R□□11 ■	9,210
125	80	37	1NO	1NC	AX80-30-11	1SBL411074R□□11 ■	11,370
145	96	45	1NO	1NC	AX95-30-11	1SFL431074R□□11 ■	13,190
160	115	55	1NO	1NC	AX115-30-11	1SFL981074R□□11 ■	16,370
190	150	75	1NO	1NC	AX150-30-11	1SFL991074R□□11 ■	21,900
250	185	90	1NO	1NC	AX185-30-11	1SFL491074R□□11 ■	25,690
275	205	110	1NO	1NC	AX205-30-11	1SFL501074R□□11 ■	30,920
400	265	132	1NO	1NC	AX260-30-11	1SFL547074R□□11 ■	37,180
500	305	160	1NO	1NC	AX300-30-11	1SFL587074R□□11 ■	44,790
600	370	200	1NO	1NC	AX370-30-11	1SFL607074R□□11 ■	55,360

Note: Complete the contactor code by replacing □□ with desired coil voltages as per above table.

Coil voltages and codes AX range

Voltage	Voltage	Code
□□ V - 50Hz	□□ V - 60Hz	□□
24	24	8 1 ■
110	110	8 4 ■
220 ... 230	220 ... 230	8 0 ■
400 ... 415	400 ... 415	8 6 ■

■ Stock items

3 pole contactors: AC operated



Contactors: 3-pole – AC operated

AC1duty Amps	AC3 rating at 415V			Auxiliary contacts		Type code	Ordering code	L.P.(₹)
	Amps	hP	kW					
25	9	5.5	4	1NO	-	A09-30-10 **	1SBL141001R□□10 ■	1,120
25	9	5.5	4	-	1NC	A09-30-01 **	1SBL141001R□□01 ■	1,120
27	12	7.5	5.5	1NO	-	A12-30-10 **	1SBL161001R□□10 ■	1,270
27	12	7.5	5.5	-	1NC	A12-30-01 **	1SBL161001R□□01 ■	1,270
30	17	12.5	7.5	1NO	-	A16-30-10 **	1SBL181001R□□10 ■	1,460
30	17	12.5	7.5	-	1NC	A16-30-01 **	1SBL181001R□□01 ■	1,460
45	26	15	11	1NO	-	A26-30-10 **	1SBL241001R□□10 ■	2,090
45	26	15	11	-	1NC	A26-30-01 **	1SBL241001R□□01 ■	2,090
55	32	20	15	1NO	-	A30-30-10 **	1SBL281001R□□10 ■	4,020
55	32	20	15	-	1NC	A30-30-01 **	1SBL281001R□□01 ■	4,020
60	37	30	18.5	1NO	-	A40-30-10 **	1SBL321001R□□10 ■	6,430
60	37	30	18.5	-	1NC	A40-30-01 **	1SBL321001R□□01 ■	6,430
100	50	40	25	-	-	A50-30-00 **	1SBL351001R□□00 ■	7,280
115	65	50	37	-	-	A63-30-00 **	1SBL371001R□□00 ■	10,240
125	75	60	40	-	-	A75-30-00 **	1SBL411001R□□00 ■	12,860
145	96	70	55	1NO	1NC	A95-30-11**	1SFL431001R□□11 ■	16,320
160	110	75	59	1NO	1NC	A110-30-11**	1SFL451001R□□11 ■	19,840
250	145	100	75	1NO	1NC	A145-30-11**	1SFL471001R□□11 ■	26,270
275	185	115	90	1NO	1NC	A185-30-11**	1SFL491001R□□11 ■	32,460
350	205	150	110	1NO	1NC	AF205-30-11**	1SFL527002R□□11 ■	37,450
400	265	175	140	1NO	1NC	AF265-30-11**	1SFL547002R□□11 ■	42,630
500	305	215	160	1NO	1NC	AF305-30-11**	1SFL587002R□□11 ■	49,460
600	370	270	200	1NO	1NC	AF370-30-11**	1SFL607002R□□11 ■	63,040
600	400	300	220	1NO	1NC	AF400-30-11**	1SFL577001R□□11 ■	67,060
700	460	340	250	1NO	1NC	AF460-30-11**	1SFL597001R□□11 ■	84,110
800	580	470	355	1NO	1NC	AF580-30-11**	1SFL617001R□□11 ■	1,20,740
1050	750	570	425	1NO	1NC	AF750-30-11**	1SFL637001R□□11 ■	1,84,080
1260	-	-	-	1NO	1NC	AF1250-30-11**	1SFL647001R□□11	Upon request
1350	860	-	500	1NO	1NC	AF1350-30-11**	1SFL657001R□□11	
1650	1050	-	600	1NO	1NC	AF1650-30-11**	1SFL677001R□□11	
2050	-	-	-	1NO	1NC	AF2050-30-11**	1SFL707001R□□11	
2650	-	-	-	1NO	1NC	AF2650-30-11**	1SFL667001R□□11	
2850	-	-	-	1NO	1NC	AF2850-30-11**	1SFL687001R□□11	

NEW

Complete the contactor type code by replacing ** with desired coil voltage, AF contactors have advanced electronic coil interface with wideband AC/DC coil

Coil voltages and codes: A09 ... A185 range

Voltage	Voltage	Code
V - 50Hz	V - 60Hz	□□
24	24	8 1■
110	110 ... 120	8 4■
220 ... 230	230 ... 240	8 0■
400 ... 415	415 ... 440	8 6■

New AF205...AF370 range (AC/DC operated)

Voltage	Voltage	Code
V 50/60 Hz	V DC	□□
24...60	20...60	1 1
48...130	48...130	1 2
100...250	100...250	1 3
250...500	250...500	1 4

AF400...AF1250 range (AC/DC operated)

Voltage	Voltage	Code
V 50/60 Hz	V DC	□□
-	24...60	6 8
48...130	48...130	6 9
100...250	100...250	7 0
250...500	250...500	7 1

AF1350...AF2850 range (AC/DC operated)

Voltage	Voltage	Code
V 50/60 Hz	DC	□□
100...250	100...250	7 0

Note: For non-standard coil voltage, other than this contact us for price.

4 pole contactors: AC operated



Contactors: 4-pole (AC operated)

Rating at 415V AC1 Amps	Main contact arrangement		Auxiliary contacts		Type code reference	Ordering code	L.P.(₹)
25	4NO	-	-	-	A09-40-00 **	1SBL141201R□□00 ■	1,490
25	2NO	2NC	-	-	A09-22-00 **	1SBL141501R□□00 ■	1,760
30	4NO	-	-	-	A16-40-00 **	1SBL181201R□□00 ■	1,570
30	2NO	2NC	-	-	A16-22-00 **	1SBL181501R□□00 ■	1,860
45	4NO	-	-	-	A26-40-00 **	1SBL241201R□□00 ■	2,820
45	2NO	2NC	-	-	A26-22-00 **	1SBL241501R□□00 ■	3,530
70	4NO	-	-	-	A45-40-00**	1SBL331201R□□00 ■	7,410
70	2NO	2NC	-	-	A45-22-00**	1SBL331501R□□00	10,590
100	4NO	-	-	-	A50-40-00**	1SBL351201R□□00 ■	10,590
125	4NO	-	-	-	A75-40-00**	1SBL411201R□□00 ■	14,090
125	2NO	2NC	-	-	A75-22-00**	1SBL411501R□□00	16,140
160	4NO	-	-	-	AF116-40-00	1SFL427102R□□00	23,320
200	4NO	-	-	-	AF140-40-00	1SFL447102R□□00	28,970
275	4NO	-	-	-	AF190-40-00	1SFL487102R□□00 ■	42,830
350	4NO	-	-	-	AF205-40-00	1SFL527102R□□00 ■	50,130
400	4NO	-	-	-	AF265-40-00	1SFL547102R□□00 ■	60,120
500	4NO	-	-	-	AF305-40-00	1SFL587102R□□00 ■	73,350
525	4NO	-	-	-	AF370-40-00	1SFL607102R□□00 ■	81,840
800	4NO	-	1NO	1NC	EK550-40-11 **	SK827041 - □□ ■	1,30,710
1000	4NO	-	1NO	1NC	EK1000-40-11 **	SK827044 - □□	1,81,860

Complete the contactor type code by replacing ** with desired coil voltage

Coil voltages and codes:

A09 ... A 75 range

Voltage	Voltage	Code
V - 50Hz	V - 60Hz	□□
24	24	8 1
110	110 ... 120	8 4
220 ... 230	230 ... 240	8 0
400 ... 415	415 ... 440	8 6

Note: For non-standard coil voltage, other than this contact us for price.

Coil voltages and codes: EK550 ... EK1000

Voltage	Voltage	Code
□□ V - 50Hz	□□ V - 60Hz	□□
-	110	A E
110	120	A F
220 ... 230	*	A L ■
230 ... 240	-	A M
400 ... 415	-	A R

■ Stock items

Coil voltages and codes:

New AF116 - AF370 (AC/DC operated)

Voltage	Voltage	Code
V 50/60 Hz	V DC	□□
24...60	20...60	1 1
48...130	48...130	1 2
100...250	100...250	1 3
250...500	250...500	1 4

3 pole contactors AL and TAL range: DC operated



AL contactors

AC 1 duty Amps	AC3 rating at 415V			Auxiliary contacts		Type code reference	Ordering code	L.P.(₹)
	Amps	hP	kW					
25	9	5	4	1NO	-	AL9-30-10	1SBL143001R□□10 ■	1,910
25	9	5	4	-	1NC	AL9-30-01	1SBL143001R□□01 ■	1,910
27	12	7.5	5.5	1NO	-	AL12-30-10	1SBL163001R□□10	2,080
27	12	7.5	5.5	-	1NC	AL12-30-01	1SBL163001R□□01	2,080
30	17	10	7.5	1NO	-	AL16-30-10	1SBL183001R□□10 ■	2,630
30	17	10	7.5	-	1NC	AL16-30-01	1SBL183001R□□01	2,630
45	26	20	11	1NO	-	AL26-30-10	1SBL243001R□□10 ■	3,420
45	26	20	11	-	1NC	AL26-30-01	1SBL243001R□□01	3,420
55	32	25	15	1NO	-	AL30-30-10	1SBL283001R□□10	7,110
55	32	25	15	-	1NC	AL30-30-01	1SBL283001R□□01	7,110
60	37	30	18.5	1NO	-	AL40-30-10	1SBL323001R□□10	8,610
60	37	30	18.5	-	1NC	AL40-30-01	1SBL323001R□□01	8,610



TAL contactors

AC 1 duty Amps	AC3 rating at 415V			Auxiliary contacts		Type code reference	Ordering code	L.P.(₹)
	Amps	hP	kW					
25	9	5	4	1NO	-	TAL9-30-10	1SBL143061R□□10 ■	2,250
25	9	5	4	-	1NC	TAL9-30-01	1SBL163061R□□10 ■	2,250
27	12	7.5	5.5	1NO	-	TAL12-30-10	1SBL163061R□□10	2,760
27	12	7.5	5.5	-	1NC	TAL12-30-01	1SBL163061R□□01	2,760
30	17	10	7.5	1NO	-	TAL16-30-10	1SBL183061R□□10 ■	2,950
30	17	10	7.5	-	1NC	TAL16-30-01	1SBL183061R□□01 ■	2,950
45	26	20	11	1NO	-	TAL26-30-10	1SBL243061R□□10 ■	4,030
45	26	20	11	-	1NC	TAL26-30-01	1SBL243061R□□01	4,030
55	32	25	15	1NO	-	TAL30-30-10	1SBL283061R□□10	7,930
55	32	25	15	-	1NC	TAL30-30-01	1SBL283061R□□01	7,930
60	37	30	18.5	1NO	-	TAL40-30-10	1SBL323061R□□10 ■	8,850
60	37	30	18.5	-	1NC	TAL40-30-01	1SBL323061R□□01	8,850

Coil voltages and codes: AL

Voltage	Code
□□ V DC	□□
24	8 1
110	8 6 ■
240	8 9

Coil voltages and codes: TAL

Voltage	Code
□□ V DC	□□
77...143	6 2 ■

Other voltages: contact nearest ABB sales office.

■ Stock items

Contactors for special application - capacitors switching



Contactors for capacitor switching: 3 pole – AC operated:

kVAR Rating at 415V	Auxiliary contacts	Type code reference	Ordering code	L.P.(₹)
Type UA...RA with in-built damping resistors:				
12.5	1NO	UA16-30-10RA **	1SBL181024R□□10 ■	2,800
22	1NO	UA26-30-10RA **	1SBL241024R□□10 ■	4,670
30	1NO	UA30-30-10RA**	1SBL281024R□□10 ■	5,350
40	--	UA50-30-00RA	1SBL351024R□□10 ■	14,790
50	--	UA63-30-00RA**	1SBL371024R□□00 ■	15,920
60	--	UA75-30-00RA**	1SBL411024R□□00 ■	17,410
70	--	UA95-30-00RA**	1SFL431024R□□00 ■	20,240
80	--	UA110-30-00RA**	1SFL451024R□□00 ■	23,070

Type UA...RA with in-built damping resistors

Complete the contactor type code by replacing ** with desired coil voltage.

Peak current $\hat{I} \leq 100$ times the rms current

kVAR rating at 415V	Max peak current $\hat{I}$	Auxiliary contacts fitted		Type	Ordering code	L.P.(₹)
kvar	kA	NO	NC			
12.5	1.8	1	0	UA16-30-10	1SBL181022R□□10 ■	2,250
20	3	1	0	UA26-30-10	1SBL241022R□□10 ■	2,800
27.5	33.5	1	0	UA30-30-10	1SBL281022R□□10 ■	4,790
33	5	0	0	UA50-30-00	1SBL351022R□□00 ■	10,810
45	6.5	0	0	UA63-30-00	1SBL371022R□□00 ■	11,370
50	7.5	0	0	UA75-30-00	1SBL411022R□□00 ■	13,540
65	9.3	1	1	UA95-30-11	1SFL431022R□□11 ■	17,040
75	10.5	1	1	UA110-30-11	1SFL451022R□□11 ■	21,330

Single step - Peak current $\hat{I} \leq 30$ times the RMS current

kVAR Rating at 415V	Type code	Ordering code	L.P.(₹)
60	A95-30-11**	1SFL431001R□□11 ■	16,320
70	A110-30-11**	1SFL451001R□□11 ■	19,840
90	A145-30-11**	1SFL471001R□□11 ■	26,270
110	A185-30-11**	1SFL491001R□□11 ■	32,460
130	AF205-30-11**	1SFL527002R□□11 ■	37,450
145	AF265-30-11**	1SFL547002R□□11 ■	42,630
165	AF305-30-11**	1SFL587002R□□11 ■	49,460
200	AF370-30-11**	1SFL607002R□□11 ■	63,040
210	AF400-30-11**	1SFL577001R□□11 ■	67,060
240	AF460-30-11**	1SFL597001R□□11 ■	84,110
285	AF580-30-11**	1SFL617001R□□11 ■	1,20,740
400	AF750-30-11**	1SFL637001R□□11 ■	1,84,080

Note: Refer page no 88 for selection of AF contactor coil voltage

Coil voltages and codes UA...RA & UA

Voltage	Voltage	Code
V - 50Hz	V - 60Hz	□□
24	24	8 1 ■
110	110 ... 120	8 4 ■
220 ... 230	230 ... 240	8 0 ■
400 ... 415	415 ... 440	8 6 ■

■ Stock items

Coil	Current ratings at 440V DC			Type code reference	Ordering code	L.P.(₹)
	DC-1	DC-3	DC-5			
AC	100A	85A	50A	GA75-10-11 **	1SBL411025R□□11	Upon request
DC	100A	85A	50A	GAE75-10-11 **	1SBL419025R□□11	

Complete the contactor type code by replacing ** with desired coil voltage

Coil	Current ratings at 1000V DC		Type code reference	Ordering code	L.P.(₹)
	DC-1 L/R 1 ms				
AC/DC	275A		GAF185-10-11	1SFL497025R□□11	Upon request
	450A		GAF300-10-11	1SFL557025R□□11	
	700A		GAF460-10-11	1SFL597025R□□11	
	1050A		GAF750-10-11	1SFL637025R□□11	
	1250A		GAF1250-10-11	1SFL647025R□□11	
	1650A		GAF1650-10-11	1SFL677025R□□11	
	2050A		GAF2050-10-11	1SFL707025R□□11	

For DC3, DC5 ratings refer technical catalog

Coil voltages and codes: GA 75

Voltage	Voltage	Code
 V - 50Hz	 V - 60Hz	□□
24	24	8 1
110	110 ... 120	8 4
220 ... 230	230 ... 240	8 0
400 ... 415	415 ... 440	8 6

Coil voltages and codes: GAE 75

Voltage	Code
 V d.c.	□□
12	8 0
24	8 2
42	8 1
110	8 6
240	8 9

Coil voltages and codes: GAF range (AC/DC operated)

Voltage	Voltage	Code
 V 50/60 Hz	 V DC	□□
-	24...60	6 8
48...130	48...130	6 9
100...250	100...250	7 0
250...500	250...500	7 1

Accessories for contactors



Auxiliary contact block

Description	Mounting on contactors	Contact configuration		Type code reference	Ordering code	L.P.(₹)
		NO	NC			
Front mounted single pole add-on blocks	A9....A110 AL9...AL40, TAL9...TAL40 N,NL &UA	1NO	-	CA5-10	1SBN010010R1010 ■	200
		-	1NC	CA5-01	1SBN010010R1001 ■	200
		4NO	-	CA 5-40 E	1SBN010040R1040	930
		3NO	1NC	CA 5-31 E	1SBN010040R1031	
		2NO	2NC	CA 5-22 E	1SBN010040R1022 ■	
		4NC	CA 5-04 E	1SBN010040R1004		
Side mounted 2 pole add-on blocks	A9....A75, AL9...AL40, TAL9...TAL40, N, NL & UA 16..75	1NO	1NC	CAL5-11	1SBN010020R1011 ■	680
	A95...A185, UA95...UA110, AF400...AF2050	1NO	1NC	CAL18-11	1SFN010720R1011 ■	760
	A145...A185 AF400...AF2050	1NO	1NC	CAL18-11B	1SFN010720R3311 ■	
	AF205...AF370	1NO	1NC	CAL19-11	1SFN010820R1011 ■	
		1NO	1NC	CAL 19-11B	1SFN010820R3311	

Auxiliary contact blocks for EK range of contactors:

Description	Mounting on contactors	Contact configuration		Type code reference	Ordering code	L.P.(₹)
		NO	NC			
Side mounting Two pole auxiliary contact blocks	EK110 ... EK1000	1NO	1NC	CAL16-11A	SK829002-A ■	770
		1NO	1NC	CAL16-11B	SK829002-B ■	
		1NO	1NC	CAL16-11C	SK829002-C	
		1NO	1NC	CAL16-11D	SK829002-D	

* Refer technical catalogue for proper selection.

■ Stock items

Accessories for contactors



Auxiliary contact block

Description	Mounting on contactors	Contact configuration		Type code reference	Ordering code	L.P.(₹)
		NO	NC			
Front mounted single pole add-on blocks	AX09...AX150, NX 4-pole	1NO	-	CA5X-10	1SBN019010R1010 ■	190
		-	1NC	CA5X-01	1SBN019010R1001 ■	190
Front mounted Four pole add-on blocks	AX09...AX150, NX 4-pole	2NO	2NC	CA5X-22E	1SBN019040R1022 ■	700
		3NO	1NC	CA5X-31E	1SBN019040R1031	
		4NO	-	CA5X-40E	1SBN019040R1040	
		-	4NC	CA5X-04E	1SBN019040R1004	
Side mounted 2 pole add-on blocks	AX09...AX80, NX 4-pole	1NO	1NC	CAL5X-11	1SBN019020R1011 ■	630
	AX95...AX205	1NO	1NC	CAL18X-11	1SFN019820R1011 ■	640
		1NO	1NC	CAL18X-11B	1SFN019820R3311 ■	640
	AX260...AX370	1NO	1NC	CAL19-11	1SFN010820R1011	760
		1NO	1NC	CAL19-11B	1SFN010820R3311	760

Surge suppressors



For contactor types	Voltage range	Type code reference	Ordering code	L.P.(₹)
AL9...AL40, TAL9...TAL40 NL	12...32 DC	RT5/32	1SBN050020R1000 ■	800
	25...65 DC	RT5/65	1SBN050020R1001	
	50...90 DC	RT5/90	1SBN050020R1002	
	77...150 DC	RT5/150	1SBN050020R1003 ■	
	150...264 DC	RT5/264	1SBN050020R1004	
A9...A110, AL9...AL40, TAL9...TAL40, N/NL AX09...AX150	24...50V AC/DC	RV5/50	1SBN050010R1000	800
	50...133V AC/DC	RV5/133	1SBN050010R1001	
	110...250V AC/DC	RV5/250	1SBN050010R1002	
	250...440V AC/DC	RV5/440	1SBN050010R1003	
A9...A40, N AX09...AX40	24...50V AC	RC5-1/50	1SBN050100R1000	800
	50...133V AC	RC5-1/133	1SBN050100R1001	
	110...250V AC	RC5-1/250	1SBN050100R1002 ■	
	250...440V AC	RC5-1/440	1SBN050100R1003 ■	
A45...A110 AX50...AX150	24...50V AC	RC5-2/50	1SBN050200R1000	800
	50...133V AC	RC5-2/133	1SBN050200R1001	
	110...250V AC	RC5-2/250	1SBN050200R1002 ■	
	250...440V AC	RC5-2/440	1SBN050200R1003 ■	
A145...A185, AX185...AX205	250...440	RC5-3/440	1SFN050300R1003 ■	2,300
EK550.....EK1000	48...110V/AC	RC-EH 800/110	SK829007-C	3,400
	220...600V/AC	RC-EH 800/600	SK829007-D	

■ Stock items

Accessories for contactors



VM5-1



VM300

Mechanical interlocks

For contactor types	Description	Type code reference	Ordering code	L.P.(₹)
A9...A40, AL9...AL40 AX09...AX40	Horizontal Mechanical Interlock	VM5-1	1SBN030100R1000 ■	520
A9...A40, AL9...AL40 AX09...AX40	Horizontal Mechanical & Electrical Interlock with 2NC contacts	VE5-1	1SBN030110R1000 ■	790
A30...A110 AX50...AX115	Horizontal Mechanical & Electrical Interlock with 2NC contacts	VE5-2	1SBN030210R1000 ■	1,590
A95...A185, AX185...AX205	Horizontal with 2NC contacts	VM300H	1SFN034700R1000	3,340
EK110...EK150	Horizontal Mechanical Interlock	VH145	SK829071-A	4,430
EK175...EK210	Horizontal Mechanical Interlock	VH300	SK829071-B	5,160
AF116...AF146 and AF190. AF205	Horizontal Mechanical Interlock	VM140/190	1SFN034403R1000 ■	3,340
AF190, AF205 and AF265 ... AF370	Horizontal Mechanical Interlock	VM205/265	1SFN035203R1000 ■	3,340
AF116...AF370 AX260...AX370	Horizontal Mechanical Interlock	VM19	1SFN030300R1000	3,450

Note: Refer technical catalogue for proper selection.

Mechanical latching units description

For converting standard contactors into latched contactors. The WB75-A block contains a mechanical latching device with electromagnetic impulse unlatching (AC or DC) or manual unlatching.

Ordering details



For contactors	Rated control circuit voltage Uc		Type	Ordering code	L.P.(₹)
	V 50 Hz or DC	V 60 Hz			
N, NL, A9-A75	24	24...28	WB75-A	FPTN372726R1001	6,090
	220...230	220...255	WB75-A	FPTN372726R1006	6,090

For contactors	Time delay range selected by switch	Delay type	Auxiliary contacts	Type	Ordering code	L.P.(₹)
Electronic timers						
A9...A75	0.1...1 s	ON-delay	1	TEF5 ON	1SBN020312R1000	6,340
	1...10 s 10...100 s	OFF-delay	1	TEF5 OFF	1SBN020314R1000	6,030

■ Stock items

Contactors: Wide band AC/DC operated

NF/AF contactors

Wide band AC/DC operated - with screw terminals

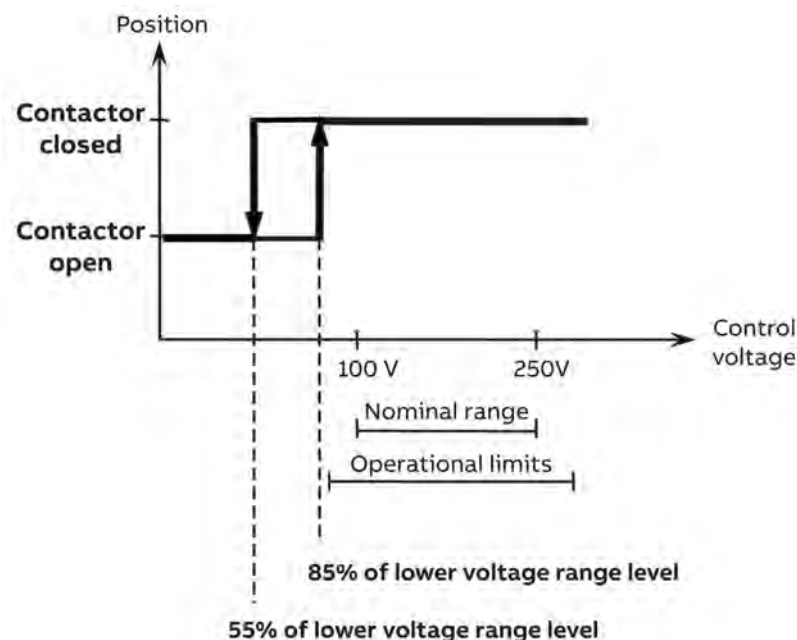
Description

- NF/AF contactors include an electronic coil interface accepting a wide control voltage U_c min. ... U_c max. only four coils cover control voltages between 24...500 V 50/60 Hz or 20...500 V DC
- NF/AF contactors can manage large control voltage variations. One coil (e.g. 100...250 V 50/60 Hz - DC) can be used for different control voltages used worldwide without any coil change.
- NF...Z/AF...Z contactor equipped with a Z coil type allows direct control by 24 V DC 500 mA PLC-output and obtain a reduced holding coil consumption.
- NF/AF contactors have built-in surge protection and do not require additional surge suppressors.



Innovative solution from ABB

- Electronically controlled coil
- Distinct drop out- and pick up value
- 20 ms sags and dip immunity
- Fulfills SEMI - F47- 0200 surge suppressors.
- Specification for processing equipment regarding voltage drop immunity.



3 pole contactors AF range: Wide band AC/DC operated

AF contactors are built in with:

- Universal coil operable on wide band AC / DC voltages
- Surge suppressors
- Low power consumption coil



AC1 duty Amps	AC3 rating at 415V			Auxiliary contacts		Type code	Ordering code	L.P.(₹)
	Amps	hP	kW					
25	9	5.5	4	1NO	-	AF09-30-10-□□	1SBL137001R□□10 ■	2,210
				-	1NC	AF09-30-01-□□	1SBL137001R□□01 ■	2,210
28	12	7.5	5.5	1NO	-	AF12-30-10-□□	1SBL157001R□□10 ■	2,380
				-	1NC	AF12-30-01-□□	1SBL157001R□□01 ■	2,380
30	18	12.5	7.5	1NO	-	AF16-30-10-□□	1SBL177001R□□10 ■	2,990
				-	1NC	AF16-30-01-□□	1SBL177001R□□01 ■	2,990
45	26	15	11	-	-	AF26-30-00-□□	1SBL237001R□□00 ■	3,840
50	32	20	18	-	-	AF30-30-00-□□	1SBL277001R□□00 ■	8,080
50	38	25	18.5	-	-	AF38-30-00-□□	1SBL297001R□□00 ■	9,370
70	40	30	18.5	-	-	AF40-30-00-□□	1SBL347001R□□00 ■	10,350
100	53	40	22	-	-	AF52-30-00-□□	1SBL367001R□□00 ■	12,640
105	65	50	30	-	-	AF65-30-00-□□	1SBL387001R□□00 ■	14,790
125	80	60	37	-	-	AF80-30-00-□□	1SBL397001R□□00 ■	17,970
130	96	70	45	-	-	AF96-30-00-□□	1SBL407001R□□00 ■	21,590
160	116	75	55	1NO	1NC	AF116-30-11-□□	1SFL427001R□□11 ■	23,090
200	140	100	75	1NO	1NC	AF140-30-11-□□	1SFL447001R□□11 ■	29,280
225	146	100	75	1NO	1NC	AF146-30-11-□□	1SFL467001R□□11 ■	30,700
275	190	120	90	1NO	1NC	AF190-30-11-□□	1SFL487002R□□11 ■	36,360
350	205	150	110	1NO	1NC	AF205-30-11-□□	1SFL527002R□□11 ■	37,450
400	265	175	140	1NO	1NC	AF265-30-11-□□	1SFL547002R□□11 ■	42,630
500	305	215	160	1NO	1NC	AF305-30-11-□□	1SFL587002R□□11 ■	49,460
600	370	270	200	1NO	1NC	AF370-30-11-□□	1SFL607002R□□11 ■	63,040
600	400	300	220	1NO	1NC	AF400-30-11**	1SFL577001R□□11 ■	67,060
700	460	340	250	1NO	1NC	AF460-30-11**	1SFL597001R□□11 ■	84,110
800	580	470	355	1NO	1NC	AF580-30-11**	1SFL617001R□□11 ■	1,20,740
1050	750	570	425	1NO	1NC	AF750-30-11**	1SFL637001R□□11 ■	1,84,080
1260	-	-	-	1NO	1NC	AF1250-30-11**	1SFL647001R□□11 ■	Upon request
1350	860	-	500	1NO	1NC	AF1350-30-11**	1SFL657001R□□11 ■	
1650	1050	-	600	1NO	1NC	AF1650-30-11**	1SFL677001R□□11 ■	
2050	-	-	-	1NO	1NC	AF2050-30-11**	1SFL707001R□□11 ■	
2650	-	-	-	1NO	1NC	AF2650-30-11**	1SFL667001R□□11 ■	
2850	-	-	-	1NO	1NC	AF2850-30-11**	1SFL687001R□□11 ■	

Complete the contactor type code by replacing ** with desired coil voltage, AF contactors have advanced electronic coil interface with wideband AC/DC coil

Coil voltages and codes:

New AF09...AF370 range (AC/DC operated)

Voltage	Voltage	Code
V 50/60 Hz	V DC	□□
24...60	20...60	1 1 ■
48...130	48...130	1 2 ■
100...250	100...250	1 3 ■
250...500	250...500	1 4 ■

AF400...AF1250 range (AC/DC operated)

Voltage	Voltage	Code
V 50/60 Hz	V DC	□□
-	24...60	6 8
48...130	48...130	6 9
100...250	100...250	7 0 ■
250...500	250...500	7 1 ■

AF1350...AF2850 range

(AC/DC operated)

Voltage	Voltage	Code
V 50/60 Hz	DC	□□
100...250	100...250	7 0

Note: For non-standard coil voltage, other than this contact us for price.

■ Stock items

4 pole contactors: Wide band AC/DC operated

New AF Contactors: 4 pole – AC / DC Operated

Rating at 415V AC1 Amps	Main contact arrangement	Auxiliary contacts	Type code reference	Ordering code	L.P.(₹)
25	4NO - - -	- - -	AF09-40-00-□□	1SBL137201R□□00 ■	2,630
	2NO 2NC - -	- - -	AF09-22-00-□□	1SBL137501R□□00	3,310
30	4NO - - -	- - -	AF16-40-00-□□	1SBL177201R□□00	3,070
	2NO 2NC - -	- - -	AF16-22-00-□□	1SBL177501R□□00 ■	4,050
45	4NO - - -	- - -	AF26-40-00-□□	1SBL237201R□□00	5,010
	2NO 2NC - -	- - -	AF26-22-00-□□	1SBL237501R□□00	6,190
55	4NO - - -	- - -	AF38-40-00-□□	1SBL297201R□□00 ■	10,070
	2NO 2NC - -	- - -	AF38-22-00-□□	1SBL297501R□□00	12,480
70	4NO - - -	- - -	AF40-40-00-□□	1SBL347201R□□00	16,260
	2NO 2NC - -	- - -	AF40-22-00-□□	1SBL347501R□□00	17,980
100	4NO - - -	- - -	AF52-40-00-□□	1SBL367201R□□00 ■	16,720
125	4NO - - -	- - -	AF80-40-00-□□	1SBL397201R□□00	20,330
	2NO 2NC - -	- - -	AF80-22-00-□□	1SBL397501R□□00	22,790
160	4NO - - -	- - -	AF116-40-00-□□	1SFL427102R□□00 ■	23,320
200	4NO - - -	- - -	AF140-40-00-□□	1SFL447102R□□00 ■	28,970
275	4NO - - -	- - -	AF190-40-00-□□	1SFL487102R□□00 ■	42,830
350	4NO - - -	- - -	AF205-40-00-□□	1SFL527102R□□00 ■	50,130
400	4NO - - -	- - -	AF265-40-00-□□	1SFL547102R□□00 ■	60,120
500	4NO - - -	- - -	AF305-40-00-□□	1SFL587102R□□00 ■	73,350
525	4NO - - -	- - -	AF370-40-00-□□	1SFL607102R□□00 ■	81,840

Coil voltages and codes: New AF range (AC/DC operated)

Voltage V 50/60 Hz	Voltage V DC	Code □□
24...60	20...60	1 1 ■
48...130	48...130	1 2 ■
100...250	100...250	1 3 ■
250...500	250...500	1 4 ■

Accessories for AF contactors



Auxiliary contact block

Description	Mounting on contactors	Contact configuration		Type code reference	Ordering code	L.P.(₹)
		NO	NC			
Front mounted 1 pole add-on blocks	AF09....AF96 / NF	1NO	-	CA4-10	1SBN010110R1010 ■	240
		-	1NC	CA4-01	1SBN010110R1001 ■	240
Front mounted 4 pole add-on blocks	AF09....AF80 / NF	4NO	-	CA4-40E	1SBN010140R1040 ■	1,010
		3NO	1NC	CA4-31E	1SBN010140R1031	1,010
		2NO	2NC	CA4-22E	1SBN010140R1022 ■	1,010
		-	4NC	CA4-04E	1SBN010140R1004	1,010
Side mounted 2 pole add-on blocks	AF09....AF96 / NF	1NO	1NC	CAL4-11	1SBN010120R1011 ■	650
	AF96....AF370	1NO	1NC	CAL19-11	1SFN010820R1011 ■	760
		1NO	1NC	CAL19-11B	1SFN010820R3311 ■	760

* Refer technical catalogue for proper selection.

■ Stock items

Accessories for AF contactors



Mechanical interlocks

Description	For contactor types	Type Code reference	Ordering code	L.P.(₹)
Horizontal Mechanical Interlock	AF09...AF38	VM 4	1SBN030105T1000	640
Horizontal Mechanical & Electrical Interlock	AF09...AF38	VEM 4	1SBN030111R1000	1,130
Horizontal Mechanical Interlock	AF40...AF96	VM96-4	1SBN033405T1000	2,300
Horizontal Mechanical Interlock	AF116...AF146 and AF190, AF205	VM140/190	1SFN034403R1000	3,340
Horizontal Mechanical Interlock	AF190, AF205 and AF265 ... AF370	VM205/265	1SFN034403R1000	3,340
Horizontal Mechanical Interlock	AF116...AF370	VM19	1SFN030300R1000	3,450

Note: Refer technical catalogue for proper selection.

Ordering details

For contactors	Rated control circuit voltage Uc	Type	Ordering code	L.P.(₹)
NF(Z),AF(Z)09...38,AF40...65	24V DC	WA4-10	1SBN040100R1010	2,490
NF(Z),AF(Z)09...38,AF40...65	24-60V50/60HZ-DC	WA4-11	1SBN040100R1011	2,490
NF(Z),AF(Z)09...38,AF40...65	48-130V50/60HZ-DC	WA4-12	1SBN040100R1012	2,490
NF(Z),AF(Z)09...38,AF40...65	100-250V50/60HZ-DC	WA4-13	1SBN040100R1013	2,490
NF(Z),AF(Z)09...38,AF40...65	250-500V50/60HZ-DC	WA4-14	1SBN040100R1014	2,490
AF80...96	24-60V50/60HZ-DC	WA4-96-11	1SBN040200R1011	2,490
AF80...96	48-130V50/60HZ-DC	WA4-96-12	1SBN040200R1012	2,490
AF80...96	100-250V50/60HZ-DC	WA4-96-13	1SBN040200R1013	2,490
AF80...96	250-500V50/60HZ-DC	WA4-96-14	1SBN040200R1014	2,490



Electronic timers

For contactor types	Time delay range selected by switch	Delay type	Auxiliary contacts	Type	Ordering code	L.P.(₹)
AF09 ... AF96	0.1...1 s	ON-delay	1NO + 1NC	TEF4-ON	1SBN020112R1000	6,280
	1...10 s	OFF-delay	1NO + 1NC	TEF4-OFF	1SBN020114R1000	5,970
	10...100 s					

Note: Rated control circuit voltage Uc 24...240 V 50/60 Hz or DC.

Connecting links with manual motor starters

For contactor types	Used with	Type	Ordering code	L.P.(₹)
AF09 ... AF16	MS116-0.16 ... MS116-25, MS132-0.16 ... MS132-25	BEA16-4	1SBN081306T1000	430
AF26 ... AF30	MS116-0.16 ... MS116-16, MS132-0.16 ... MS132-10	BEA26-4	1SBN082306T1000	500
	MS116-20 ... MS116-32, MS132-12 ... MS132-32	BEA38-4	1SBN082306T2000	540

Connection sets for reversing contactors

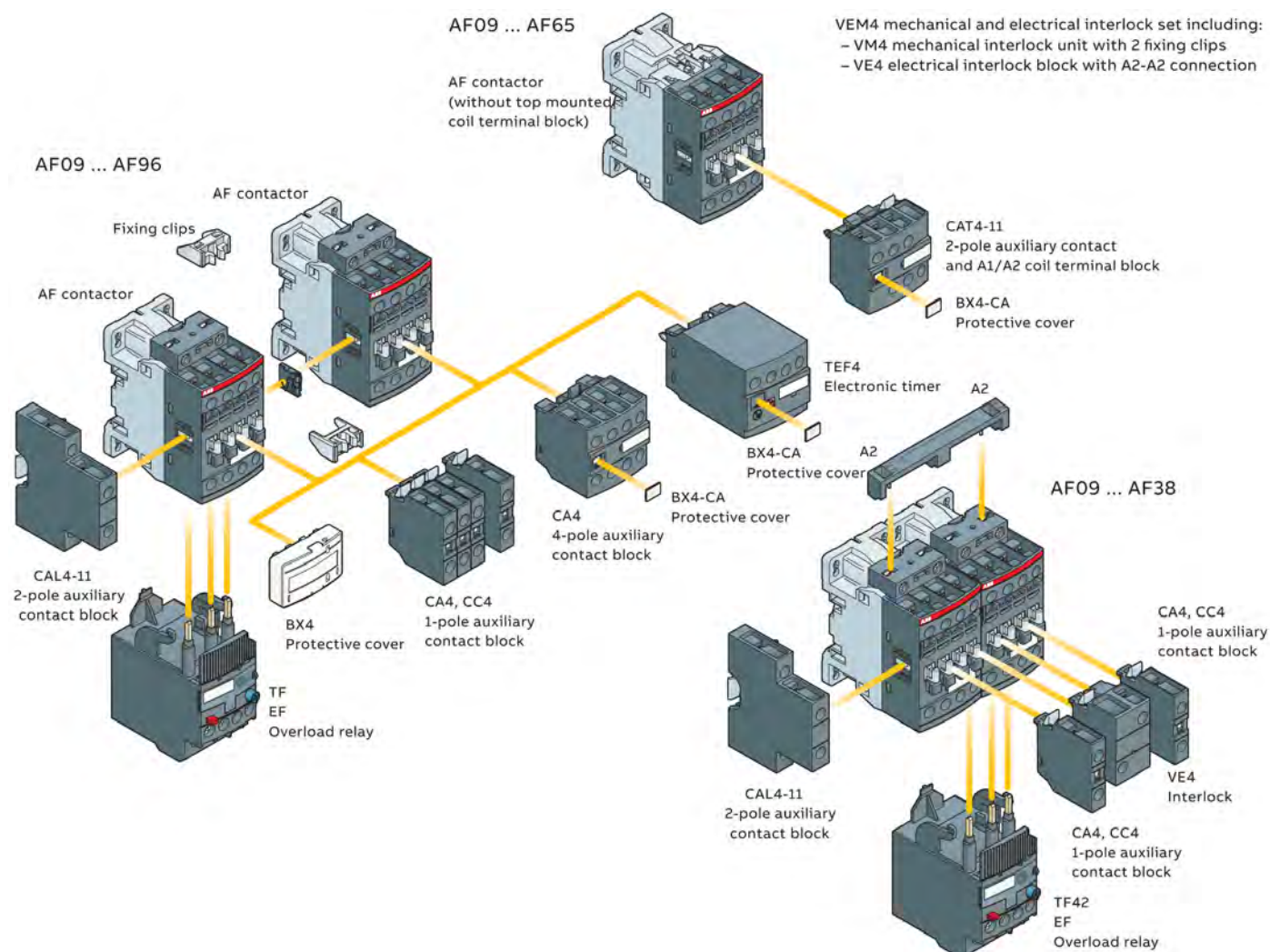
For contactor types	Type	Ordering code	L.P.(₹)
AF09 ... AF16	BER16-4	1SBN081311R1000	1,100
AF26 ... AF30	BER38-4	1SBN082311R1000	1,490
AF40 ... AF65	BER65-4	1SBN083411R1000	1,780
AF80 ... AF96	BER96-4	1SBN083911R1000	3,100

Connection sets for star-delta starting

For contactor types	Type	Ordering code	L.P.(₹)
AF09 ... AF16	BEY16-4	1SBN081313R2000	1,490
AF26 ... AF30	BEY38-4	1SBN082713R2000	2,300
AF40 ... AF65	BEY65-4	1SBN083413R2000	2,950
AF80 ... AF96	BEY96-4	1SBN083913R2000	3,790

■ Stock items

Accessories for AF contactors



AF the premium range



The AF contactor is compact

The AF contactor is compact in size and has had its width reduced by up to 30% thanks to an 80% reduction of the coil's energy consumption.

The AF contactor is flexible

AF09...AF370 is perfect for motor starting applications and for solutions where space is limited. Interlocked reversing pairs require no spacing between contactors can fit more functions meaning you fit more into cabinets or other small enclosures.



Powerful light switching made easy **NEW** ESB and EN installation contactors

ABB's hum-free installation contactor designs offer a wide range of ratings from 16 A to 100 A. With an innovative AC/DC coil design that eliminates hum, a broad selection of common accessories as well as manual and automatic versions, ESB..N contactors cover all your needs in both domestic and residential applications. Find out more at abb.com/lowvoltage

ABB

ESB and EN Installation contactors **NEW**



Hum-free operation



Tool-free to save time



More choice,
less inventory



Comprehensive solution



Optimum interface



Easy to install



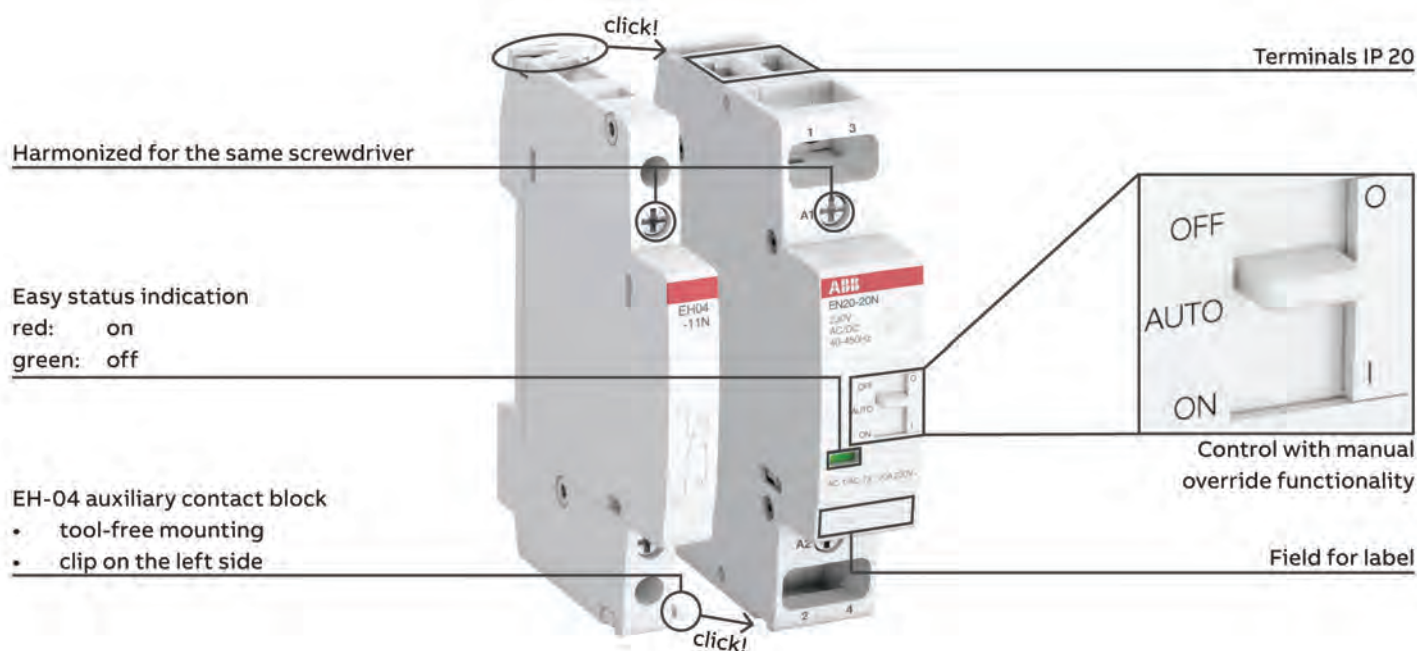
Group mounting
saves space



Global
availability



Easy identification



ESB and EN Installation contactors

ABB's installation contactor range comes with a host of features to make installation and maintenance easier. A mechanical indicator shows the status in green or red color to make system diagnostics quicker. Some speciality types also feature a manual override functionality with a toggle switch providing independent control. Accessories such as auxiliaries, space holders, as well as safety covers can be mounted tool-free onto the contactor.

Main contacts	Width in number of modular spacings	Rated control circuit voltage ⁽¹⁾ VAC / DC	Type	Ordering code	L.P.(₹)
	1	24	ESB16-20N-01	1SBE111111R0120	2,700
	1	230	ESB16-20N-06	1SBE111111R0620	2,700
	1	24	ESB16-02N-01	1SBE111111R0102	2,820
	1	230	ESB16-02N-06	1SBE111111R0602	2,820
	1	24	ESB16-11N-01	1SBE111111R0111	2,750
	1	230	ESB16-11N-06	1SBE111111R0611	2,750

Main contacts	Width in number of modular spacings	Rated control circuit voltage ⁽¹⁾ VAC / DC	Type	Ordering code	L.P.(₹)
	2	24	ESB25-40N-01	1SAE231111R0140	3,050
	2	230 ... 240	ESB25-40N-06	1SAE231111R0640	3,050
	2	24	ESB25-04N-01	1SAE231111R0104	3,150
	2	230 ... 240	ESB25-04N-06	1SAE231111R0604	3,150
	2	24	ESB25-22N-01	1SAE231111R0122	3,150
	2	230 ... 240	ESB25-22N-06	1SAE231111R0622	3,150
	2	24	ESB25-31N-01	1SAE231111R0131	3,150
	2	230 ... 240	ESB25-31N-06	1SAE231111R0631	3,150
	2	24	ESB25-13N-01	1SAE231111R0113	3,150
	2	230 ... 240	ESB25-13N-06	1SAE231111R0613	3,150

Main contacts	Width in number of modular spacings	Rated control circuit voltage ⁽¹⁾ VAC / DC	Type	Ordering code	L.P.(₹)
	3	24	ESB63-40N-01	1SAE351111R0140	7,300
	3	230	ESB63-40N-06	1SAE351111R0640	7,300
	3	230	ESB63-31N-06	1SAE351111R0631	7,500
	3	230	ESB63-30N-06	1SAE351111R0630	7,100
	3	24	ESB63-20N-01	1SAE351111R0120	7,000
	3	230	ESB63-20N-06	1SAE351111R0620	7,000

Main contacts	Width in number of modular spacings	Rated control circuit voltage ⁽¹⁾ VAC / DC	Type	Ordering code	L.P.(₹)
	1	24	ESB20-20N-01	1SBE121111R0120	2,990
	1	230	ESB20-20N-06	1SBE121111R0620	2,990
	1	24	ESB20-02N-01	1SBE121111R0102	3,120
	1	230	ESB20-02N-06	1SBE121111R0602	3,120
	1	24	ESB20-11N-01	1SBE121111R0111	3,020
	1	230	ESB20-11N-06	1SBE121111R0611	3,020

Main contacts	Width in number of modular spacings	Rated control circuit voltage ⁽¹⁾ VAC / DC	Type	Ordering code	L.P.(₹)
	3	24	ESB40-40N-01	1SAE341111R0140	5,600
	3	230	ESB40-40N-06	1SAE341111R0640	5,600
	3	24	ESB40-22N-01	1SAE341111R0122	5,700
	3	230	ESB40-22N-06	1SAE341111R0622	5,700
	3	24	ESB40-31N-01	1SAE341111R0131	5,700
	3	230	ESB40-31N-06	1SAE341111R0631	5,700
	3	24	ESB40-30N-01	1SAE341111R0130	5,400
	3	230	ESB40-30N-06	1SAE341111R0630	5,400
	3	24	ESB40-20N-01	1SAE341111R0120	5,200
	3	230	ESB40-20N-06	1SAE341111R0620	5,200

Main contacts	Width in number of modular spacings	Rated control circuit voltage ⁽¹⁾ VAC / DC	Type	Ordering code	L.P.(₹)
	6	24	ESB100-40N-01	1SAE661111R0140	24,950
	6	230	ESB100-40N-06	1SAE661111R0640	24,950
	3	24	ESB100-20N-01	1SAE361111R0120	23,900
	3	230	ESB100-20N-06	1SAE361111R0620	23,900

ESB and EN Installation contactors

Main contacts	Width in number of modular spacings	Rated control circuit voltage ⁽¹⁾ V AC / DC	Type	Ordering code	L.P.(₹)
	1	24	EN20-20N-01	1SBE122111R0120	4,200
		230	EN20-20N-06	1SBE122111R0620	4,200

Main contacts	Width in number of modular spacings	Rated control circuit voltage ⁽¹⁾ V AC / DC	Type	Ordering code	L.P.(₹)
	2	24	EN25-40N-01	1SAE232111R0140	12,550
		230 ... 240	EN25-40N-06	1SAE232111R0640	12,800
	2	24	EN25-31N-01	1SAE232111R0131	12,900
		230 ... 240	EN25-31N-06	1SAE232111R0631	12,900
	2	230 ... 240	EN25-30N-06	1SAE232111R0630	11,200

Main contacts	Width in number of modular spacings	Rated control circuit voltage ⁽¹⁾ V AC / DC	Type	Ordering code	L.P.(₹)
	3	24	EN40-40N-01	1SAE342111R0140	12,850
		230	EN40-40N-06	1SAE342111R0640	12,850
	3	24	EN40-31N-01	1SAE342111R0131	12,950
		230	EN40-31N-06	1SAE342111R0631	12,950
	3	230	EN40-30N-06	1SAE342111R0630	11,500
	3	230	EN40-20N-06	1SAE342111R0620	11,200

Auxiliary contact blocks

Auxiliary contacts	Suitable for	Type	Ordering code	L.P.(₹)
Single packaging				
	ESB16..N, ESB20..N, ESB25..N, ESB40..N, ESB63..N, ESB100..N, EN20..N, EN25..N, EN40..N	EH04-11N	1SAE901901R1011	990
		EH04-20N	1SAE901901R1020	990

Distant piece

Suitable for	Type	Ordering code	L.P.(₹)
Single packaging			
ESB25..N, ESB40..N, ESB63..N, EN25..N, EN40..N, ESB100..N, EN100..N	ESB-DIS	GHE3201902R0001	190

Mini contactors



Mini contactors with screw connection: 3 pole - AC operated

AC1 duty Amps	AC3 rating at 415V Amps	hP	kW	Auxiliary contacts	Type code reference	Ordering code	L.P.(₹)
16A	9	5.5	4	1NO -	B06-30-10 **	GJL1211001R□10□ ■	1,130
16A	9	5.5	4	- 1NC	B06-30-01 **	GJL1211001R□01□ ■	
20A	12	7.5	5.5	1NO -	B07-30-10 **	GJL1311001R□10□ ■	1,230
20A	12	7.5	5.5	- 1NC	B07-30-01 **	GJL1311001R□01□ ■	

Complete the contactor type code by replacing ** with desired coil voltage

3 pole - DC operated

Type code reference	Ordering code	L.P.(₹)
BC6-30-10 **	GJL1213001R□10□ ■	1,580
BC6-30-01 **	GJL1213001R□01□ ■	
BC7-30-10 **	GJL1313001R□10□ ■	1,710
BC7-30-01 **	GJL1313001R□01□ ■	

Mini reversing contactors with screw connection:

3 pole - AC operated

AC1 duty Amps	AC3 rating at 415V Amps	hP	kW	Auxiliary contacts	Type code reference	Ordering code	L.P.(₹)
16A	9	5.5	4	1NO -	VB06-30-10 **	GJL1211901R□10□ □	3,290
16A	9	5.5	4	- 1NC	VB06-30-01 **	GJL1211901R□01□ □	3,290
20A	12	7.5	5.5	1NO -	VB07-30-10 **	GJL1311901R□10□ □	3,470
20A	12	7.5	5.5	- 1NC	VB07-30-01 **	GJL1311901R□01□ □	3,470

Complete the contactor type code by replacing ** with desired coil voltage

3 pole - DC operated

Type code reference	Ordering code	L.P.(₹)
VBC6-30-10 **	GJL1213901R□10□ □	3,500
VBC6-30-01 **	GJL1213901R□01□ ■	3,500
VBC7-30-10 **	GJL1313901R□10□ □	3,750
VBC7-30-01 **	GJL1313901R□01□ □	3,750

Mini contactors are also available in 4 pole (4NO / 2NO + 2NC)

Mini auxiliary contactor 4 pole with screw connection

Control circuit	Contact configuration		Type code reference	Ordering code	L.P.(₹)
	NO	NC			
AC	2NO	2NC	K6-22Z**	GJH1211001R□22□	1,260
	3NO	1NC	K6-31Z **	GJH1211001R□31□ ■	
	4NO	-	K6-40E **	GJH1211001R□40□	
DC	2NO	2NC	KC6-22Z**	GJH1213001R□22□ ■	1,620
	3NO	1NC	KC6-31Z **	GJH1213001R□31□	
	4NO	-	KC6-40E **	GJH1213001R□40□	

Complete the contactor type code by replacing ** with desired coil voltage

Coil voltage for mini contactors

AC		DC	
50-60Hz	Code	DC V	Code
24	0 ... 1 ■	24	0 ... 1 ■
48	0 ... 3	110 ... 125	0 ... 4 ■
110 ... 127	8 ... 4 ■	220 ... 240	0 ... 5
220 ... 240	8 ... 0 ■		
380 ... 415	8 ... 5		

Auxiliary contact blocks for mini contactors

Ordering details

For contactor types	Auxiliary contacts	Type	Ordering code	L.P.(₹)
Front mounted instantaneous auxiliary contact blocks				
B6-, B7-30-10, BC6-, BC7-30-10	1NO + 1NC	CAF6-11M	GJL1201330R0003	690
VB6, VB7, VBC6, VBC7, VB6A, VB7A	2NO	CAF6-20M	GJL1201330R0007	
VBC6A, VBC7A	2NC	CAF6-02M	GJL1201330R0011	
Side mounted instantaneous auxiliary contact block				
B6-, B7-30-10, BC6-, BC7-30-10	1NO + 1NC	CA6-11M	GJL1201317R0003	690

■ Stock items

Spares for contactors

Spare coils for A range

For contactor types	Type code reference	Ordering code	L.P.(₹)
N, A9.....A16, UA16..RA	ZA16 **	1SBN151410R□□06	820
A26..A40;UA26..UA30 RA	ZA40 **	1SBN152410R□□06	1,020
A45..A75;UA50..UA75 RA	ZA75 **	1SBN153510R□□06	3,190
A95..A110; UA95..UA110 RA	ZA110 **	1SFN154310R□□06	4,180
A145...A185	ZA185 **	1SFN154710R□□06	6,830
A210...A300	ZA300 **	1SFN155110R□□06	7,560

Spare coils for AF range

For contactor types	Type code reference	Ordering code	L.P.(₹)
AF45...AF75	ZAF75	1SBN153570R□□06	8,720
AF95...AF110	ZAF110	1SFN153370R□□06	11,710
AF145...AF185	ZAF185	1SFN154770R□□06	13,700
AF210,AF260 &AF300	ZAF300	1SFN155170R□□06	24,910
AF400...AF460	ZAF460**	1SFN155770R□□06	29,260
AF580...AF750**	ZAF750**	1SFN156170R□□06	37,970

Coil voltages & codes

N range, A09.....A300, UA....RA, AX09...AX205			AF45...AF300			AF400...AF750		
Voltage V-50 Hz	Voltage V-60 Hz	Code	Voltage V-50/60 Hz	Voltage V..dc	Code	Voltage V-50/60 Hz	Voltage V..dc	Code
24	24	81		20....60	72*		24....60	68
110	110....120	84	48....130	48....130	69	48....130	48....130	69
220....230	230....240	80	100....250	100....250	70	100....250	100....250	70
400....415	415....440	86				250....500	250....500	71

* For contactor AF95...AF300

Spare contact sets for 3 pole

Description	For contactor types	Type code reference	Ordering code	L.P.(₹)
Contact set for 3 -pole contactors consisting of 6 fixed contacts, 3 moving contacts, springs and the required screws.	A/AF/AE/TAE50	ZL 50	1SBN163503R1000 ■	4,400
	A/AF/AE/TAE63	ZL 63	1SBN163703R1000 ■	6,380
	A/AF/AE/TAE75	ZL 75	1SBN164103R1000 ■	8,000
	A/AF/AE/TAE95	ZL 95	1SFN164303R1000 ■	10,530
	A/AF/AE/TAE110	ZL 110	1SFN164503R1000 ■	11,530
	A/AF145	ZL 145	1SFN164703R1000 ■	14,620
	A/AF185	ZL 185	1SFN164903R1000 ■	18,360
	A/AF210	ZL 210	1SFN165103R1000 ■	23,650
	A/AF260	ZL 260	1SFN165303R1000 ■	28,630
	A/AF300	ZL 300	1SFN165503R1000 ■	34,240
	AF400	ZL 400	1SFN165703R1000 ■	38,570
	AF460	ZL 460	1SFN165903R1000 ■	47,580
	AF 580	ZL 580	1SFN166103R1000 ■	80,080
	AF 750	ZL 750	1SFN166303R1000 ■	1,00,540
	UA 50	ZLU 50	1SBN163502R1000	5,060
	UA 63	ZLU 63	1SBN163702R1000	7,050
	UA 75	ZLU 75	1SBN164102R1000	8,850

Spare contact sets for 3 pole for AX

For contactor types	Type code reference	Ordering code	L.P.(₹)
AX50	ZLX50	1SBN163506R1000	4,070
AX65	ZLX65	1SBN163706R1000	5,400
AX80	ZLX80	1SBN164106R1000	7,030
AX95	ZLX95	1SFN164306R1000	8,200
AX115	ZLX115	1SFN169806R1000	9,980
AX150	ZLX150	1SFN169906R1000	13,230
AX185	ZLX185	1SFN164906R1000	15,570
AX205	ZLX205	1SFN165006R1000	18,940

Spare coils for AX range

For contactor types	Type code reference	Ordering code	L.P.(₹)
AX25	ZAX25	1SBN158910R□□36	760
AX40	ZAX40	1SBN152810R□□36	1,000
AX80	ZAX80	1SBN153510R□□36	3,120
AX150	ZAX150	1SFN159910R□□36	4,740
AX205	ZAX205	1SFN155010R□□36	6,720

Complete the contactor type code by replacing□□ with desired coil voltage from above mentioned table

■ Stock items

DOL and star delta starters



Direct on line starter:

Rating at 415V 50Hz		Back - up Fuse rating (A)	Type code reference	Ordering code	L.P.(₹)
HP	kW				
0.25	0.18	4A	MA-0.25 **	1SYN140318R□□25	3,440
0.50	0.37	4A	MA-0.50 **	1SYN140318R□□05	3,440
0.75	0.52	6A	MA-0.75 **	1SYN140318R□□75	3,440
1.00	0.75	6A	MA-1.00 **	1SYN140318R□□10 ■	3,440
1.50	1.10	10A	MA-1.50 **	1SYN140318R□□15	3,440
2.00	1.50	10A	MA-2.00 **	1SYN140318R□□20 ■	3,440
3.00	2.20	16A	MA-3.00 **	1SYN140318R□□30 ■	3,440
5.00	3.70	25A	MA-5.00 **	1SYN140318R□□50 ■	3,440
7.50	5.50	32A	MA-7.50 **	1SYN16018R□□75 ■	3,440
10.00	7.50	32A	MA-10.00 **	1SYN180318R□□10 ■	3,720



Fully automatic Star Delta starter:

Rating at 415V 50Hz		Type code reference	Ordering code	L.P.(₹)
HP	kW			
12.5	12.5/9.3	SDA-12.5 **	1SYN184322R□□00 ■	12,830
15	15/11	SDA-15 **	1SYN242322R□□00 ■	13,950
20	20/15	SDA- 20 **	1SYN244322R□□00 ■	16,180
25	25/18.5	SDA-25 **	1SYN246322R□□00	16,850
30	30/22	SDA-30 **	1SYN282322R□□00	20,360
35	35/26	SDA-35 **	1SYN284322R□□00	22,590
40	40/30	SDA-40 **	1SYN322322R□□00	27,410
50	50/37	SDA-50 **	1SYN352342R□□00	32,910
60	60/45	SDA-60 **	1SYN372342R□□00	42,330
75	75/55	SDA-75 **	1SYN412342R□□00	49,630

Complete the starter type code by replacing the ** with the desired coil voltage.

Voltage	Code
□□□	□□
220 ... 230 V coil	3 8
400 ... 415 V coil	8 6 ■

DOL Starter with IP65 enclosure



4KE 7.5KW 415V, IP65 compact plastic enclosure with double insulation



Description	Ordering code	L.P.(₹)
DRAS09-29P 4.0 kW 415V, 415V coil	1SBK104035R2900	6,140
DRAS12-29P 5.5 kW 415V, 415V coil	1SBK114035R2900	6,590
DRAS16-29P 7.5 kW 415V, 415V coil	1SBK124035R2900	8,860

Note: T16 OLR to be ordered separately. Plz refer page no. 106 for reference.

■ Stock items

Manual motor starter

With thermal and electromagnetic protection



MS116 Manual motor starters with short circuit, overload and phase loss protection

Rated power 415V KW	Ie current setting range Amp	S/C Icu breaking capacity kA	Type	Ordering code	L.P.(₹)
0.03	0.10 ... 0.16	50	MS116-0.16	1SAM250000R1001 ■	3,160
0.06	0.16 ... 0.25	50	MS116-0.25	1SAM250000R1002 ■	3,160
0.09	0.25 ... 0.40	50	MS116-0.4	1SAM250000R1003 ■	3,160
0.12	0.40 ... 0.63	50	MS116-0.63	1SAM250000R1004 ■	3,590
0.25	0.63 ... 1.00	50	MS116-1.0	1SAM250000R1005 ■	3,590
0.55	1.00 ... 1.60	50	MS116-1.6	1SAM250000R1006 ■	3,600
0.75	1.60 ... 2.50	50	MS116-2.5	1SAM250000R1007 ■	3,600
1.5	2.50 ... 4.00	50	MS116-4.0	1SAM250000R1008 ■	3,670
2.2	4.00 ... 6.30	50	MS116-6.3	1SAM250000R1009 ■	3,670
4.0	6.30 ... 10.0	50	MS116-10	1SAM250000R1010 ■	3,770
5.5	8.00 ... 12.0	25	MS116-12	1SAM250000R1012 ■	4,290
7.5	10.0 ... 16.0	16	MS116-16	1SAM250000R1011 ■	4,760
9.0	16.0 ... 20.0	15	MS116-20	1SAM250000R1013 ■	5,170
12.5	20.0 ... 25.0	15	MS116-25	1SAM250000R1014 ■	5,330
15.5	25.0 ... 32.0	10	MS116-32	1SAM250000R1015 ■	9,300



MS132 Manual motor starters with short circuit, overload and phase loss protection

0.03	0.10 ... 0.16	100	MS132-0.16	1SAM350000R1001	4,040
0.06	0.16 ... 0.25	100	MS132-0.25	1SAM350000R1002 ■	4,040
0.09	0.25 ... 0.40	100	MS132-0.4	1SAM350000R1003 ■	4,040
0.12	0.40 ... 0.63	100	MS132-0.63	1SAM350000R1004 ■	4,380
0.25	0.63 ... 1.00	100	MS132-1.0	1SAM350000R1005 ■	4,420
0.55	1.00 ... 1.60	100	MS132-1.6	1SAM350000R1006 ■	4,620
0.75	1.60 ... 2.50	100	MS132-2.5	1SAM350000R1007 ■	4,620
1.5	2.50 ... 4.00	100	MS132-4.0	1SAM350000R1008 ■	4,640
2.2	4.00 ... 6.30	100	MS132-6.3	1SAM350000R1009 ■	4,700
4.0	6.30 ... 10.0	100	MS132-10	1SAM350000R1010 ■	5,040
5.5	8.00 ... 12.0	100	MS132-12	1SAM350000R1012 ■	5,530
7.5	10.0 ... 16.0	100	MS132-16	1SAM350000R1011 ■	6,130
9.0	16.0 ... 20.0	100	MS132-20	1SAM350000R1013 ■	6,580
12.5	20.0 ... 25.0	50	MS132-25	1SAM350000R1014 ■	6,710
15.5	25.0 ... 32.0	50	MS132-32	1SAM350000R1015 ■	10,680

■ Stock items

Manual motor starter

With thermal and electromagnetic protection



MS165 manual motor starters with short circuit, overload and phase loss protection

Ie current setting range Amp	S/C Icu breaking capacity kA	Type	Ordering code	L.P.(₹)
10 ... 16	100	MS165-16	1SAM451000R1011	11,460
14 ... 20	100	MS165-20	1SAM451000R1012	11,990
18 ... 25	100	MS165-25	1SAM451000R1013	12,290
23 ... 32	100	MS165-32	1SAM451000R1014 ■	13,170
30 ... 42	50	MS165-42	1SAM451000R1015 ■	13,170
40 ... 54	50	MS165-54	1SAM451000R1016 ■	16,000
52 ... 65	50	MS165-65	1SAM451000R1017 ■	17,030
62 ... 73	-	MS165-73	1SAM451000R1018	19,500
70 ... 80	-	MS165-80	1SAM451000R1019	21,400

MO132 Manual motor starters with short circuit protection only



0.03	0.16	100	MO132-0.16	1SAM360000R1001	3,920
0.06	0.25	100	MO132-0.25	1SAM360000R1002	3,920
0.09	0.40	100	MO132-0.4	1SAM360000R1003	3,920
0.12	0.63	100	MO132-0.63	1SAM360000R1004	4,190
0.25	1.0	100	MO132-1.0	1SAM360000R1005 ■	4,240
0.55	1.6	100	MO132-1.6	1SAM360000R1006 ■	4,240
0.75	2.5	100	MO132-2.5	1SAM360000R1007 ■	4,240
1.5	4.0	100	MO132-4.0	1SAM360000R1008 ■	4,290
2.2	6.3	100	MO132-6.3	1SAM360000R1009 ■	4,290
4.0	10	100	MO132-10	1SAM360000R1010 ■	4,450
5.5	12	100	MO132-12	1SAM360000R1012 ■	4,450
7.5	16	100	MO132-16	1SAM360000R1011 ■	4,450
9.0	20	100	MO132-20	1SAM360000R1013 ■	4,870
12.5	25	50	MO132-25	1SAM360000R1014 ■	5,040
15.5	32	50	MO132-32	1SAM360000R1015 ■	10,380

■ Stock items

Manual motor starter

MO132, MO165, MO495 and MO497 Manual motor starters

MO165 manual motor starters with short circuit protection only

Rated operational current Amp	S/C Icu breaking capacity kA	Type	Ordering code	L.P.(₹)
16	100	MO165-16	1SAM461000R1011	11,020
20	100	MO165-20	1SAM461000R1012	11,580
32	100	MO165-32	1SAM461000R1014 ■	11,810
42	50	MO165-42	1SAM461000R1015	12,170
54	50	MO165-54	1SAM461000R1016 ■	13,420
65	50	MO165-65	1SAM461000R1017	13,940
73	30	MO165-73	1SAM461000R1018	17,550
80	30	MO165-80	1SAM461000R1019	19,250

MS132-T circuit breakers for transformer protection



Description

MS132-T Circuit breakers for transformer protection are electro-mechanical protection devices specially designed to protect control transformers on the primary side.

The short-circuit current setting is fixed to 20 times the operating current to handle the high inrush current generated by transformers.

Ie current setting range Amp	S/C Icu breaking capacity kA	Type	Ordering code	L.P.(₹)
0.10 ... 0.16	100	MS132-0.16T	1SAM340000R1001	4,560
0.16 ... 0.25	100	MS132-0.25T	1SAM340000R1002	4,560
0.25 ... 0.40	100	MS132-0.4T	1SAM340000R1003	4,560
0.40 ... 0.63	100	MS132-0.63T	1SAM340000R1004	4,950
0.63 ... 1.00	100	MS132-1.0T	1SAM340000R1005	4,990
1.00 ... 1.60	100	MS132-1.6T	1SAM340000R1006	5,230
1.60 ... 2.50	100	MS132-2.5T	1SAM340000R1007	5,230
2.50 ... 4.00	100	MS132-4.0T	1SAM340000R1008 ■	5,250
4.00 ... 6.30	100	MS132-6.3T	1SAM340000R1009 ■	5,320
6.30 ... 10.0	100	MS132-10T	1SAM340000R1010 ■	5,690
8.00 ... 12.0	100	MS132-12T	1SAM340000R1012	6,280
10.0 ... 16.0	100	MS132-16T	1SAM340000R1011 ■	6,280
16.0 ... 20.0	100	MS132-20T	1SAM340000R1013	7,580
20.0 ... 25.0	50	MS132-25T	1SAM340000R1014	7,610

Description

Manual motor starters with short Circuit protection only



Rated power 415V KW	Ie current setting range Amp	S/C Icu breaking capacity kA	Type	Ordering code	Unit L.P.(₹)
MO495 Manual motor starters with short circuit protection only					
37	75	50	MO495-75	1SAM560000R1008	Upon request
45	90	50	MO495-90	1SAM560000R1009	
55	100	50	MO495-100	1SAM560000R1010	
MO497 Manual motor starters with short circuit protection only					
37	75	100	MO497-75	1SAM590000R1008	Upon request
45	90	100	MO497-90	1SAM590000R1009	
55	100	100	MO497-100	1SAM590000R1010	

Manual motor starter

MS116, MS132, MO132, MS165, MO165, MS4xx, MO4xx

General accessories

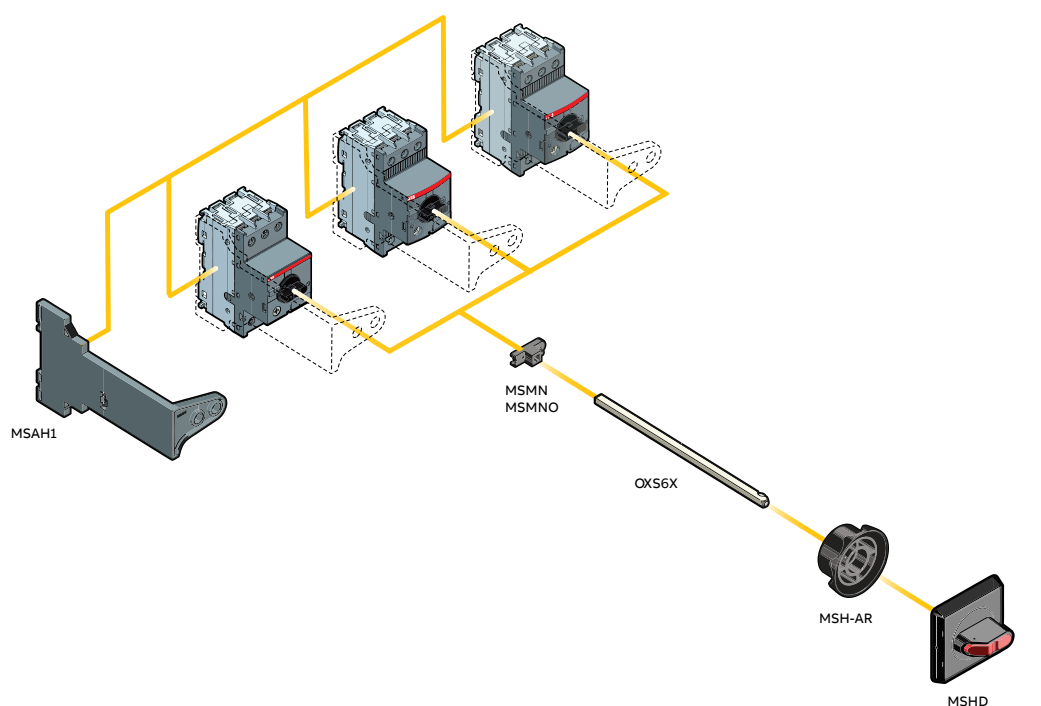
Description

With this solution of door coupling rotary mechanism it is possible to operate a Manual Motor Starter in the back of a switch cabinet from outside. The door coupling mechanism prevents opening of the door of a switch cabinet with the Manual Motor Starter in ON position. The complete mechanism includes handle, shaft, driver, shaft alignment ring and shaft supporter. All accessories fit for 6 mm shafts with a maximum length of 180 mm. The degree of protection for handles MSHD is IP64.

Ordering details

Frame	Description	Type	Ordering code	L.P.(₹)
MS116 MS132 MO132	SHAFT - Shaft diameter 6 mm. Shaft extension for door coupling driver	OXS6X130	1SCA101655R1001	420
MS165 MO165 MS4xx, MO4xx	MSHD - Handle	MSHD-LB ¹	1SAM201920R1001 ■	1,280
		MSHD-LY ²	1SAM201920R1002	1,280
		MSHD-LTB ³	1SAM201920R1011 ■	1,280
		MSHD-LTY ³	1SAM201920R1012	1,280
		MSMN- Driver	MSMN ⁴	190
		MSMNO ⁵	1SAM101923R0012 ■	190
	MSH-AR Shaft alignment ring	MSH-AR	1SAM201920R1000 ■	210
MS116, MS132	MSAH1-Shaft supporter	MSAH1	1SAM201909R1021 ■	850

- 1) Black in colour
- 2) Yellow in colour
- 3) Indication I-O and ON-OFF+Trip indication
- 4) Positioning of ON indication dependent from mounting orientation of the MMS
- 5) Positioning of ON indication independent from mounting orientation of the MMS



■ Stock items

Manual motor starter

Accessories for MS116, MS132, MO132, MS132-T, MS165, MO165



AA1-24

Suitable for	Shunt trip				Undervoltage release			
	Rated voltage	Type	Ordering code	L.P.(₹)	Rated voltage	Type	Ordering code	L.P.(₹)
MS116, MS132, MO132, MS132-T MS165 MO165	20 ... 24	AA1-24	1SAM201910R1001	3,280	24	UA1-24	1SAM201904R1001	2,690
	110	AA1-110	1SAM201910R1002 ■	3,280	110	UA1-110	1SAM201904R1004	2,690
	200-240	AA1-230	1SAM201910R1003 ■	3,280	230	UA1-230	1SAM201904R1005	2,690
	350-415	AA1-400	1SAM201910R1004	3,280	415	UA1-415	1SAM201904R1007	2,690



HKF1-11

Suitable for	Auxiliary contacts – mountable on the front				Auxiliary contacts – mountable on the right		
	Aux contacts	Type	Ordering code	L.P.(₹)	Type	Ordering code	L.P.(₹)
MS116, MS132, MO132, MS132-T MS165 MO165	1NO+1NC	HKF1-11	1SAM201901R1001 ■	680	HK1-11	1SAM201902R1001 ■	910
	2 NO	HKF1-20	1SAM201901R1002 ■	680	HK1-20	1SAM201902R1002 ■	910
	2NC	-	-	-	HK1-02	1SAM201902R1003 ■	910
	1NO	HKF1-10	1SAM201901R1003 ■	420			
	1NC	HKF1-01	1SAM201901R1004 ■	420			



SK1-11

Suitable for	Aux contacts	Type	Ordering code	L.P.(₹)
MS116, MS132, MO132, MS 165 MO 165 MS132-T	1NO+1NC	SK1-11**	1SAM201903R1001 ■	1,200
	2 NO	SK1-20**	1SAM201903R1002 ■	1,200
	2 NC	SK1-02**	1SAM201903R1003	1,200
MS132	1NO+1NC	CK1-11#	1SAM301901R1001 ■	1,680
MS132-T	2 NO	CK1-20#	1SAM301901R1002 ■	1,680
MS165	2 NC	CK1-02#	1SAM301901R1003	1,680

**for tripped alarm, max 2 piece

#for short-circuit alarm, max. 2 pieces



CK1-11

Manual motor starter

Accessories for MS4xx



HK4-11

Auxiliary contacts – mountable on the front				
Suitable for	Aux contacts	Type	Ordering code	L.P.(₹)
MS49x, MO49x	1NO+1NC	HK4-11	1SAM401901R1001 ■	1,040

Auxiliary contacts – mountable on the right			
Rated voltage	Type	Ordering code	L.P.(₹)
1NO+1NC	HKS4-11	1SAM401902R1001 ■	1,040
2 NO	HKS4-20	1SAM401902R1002 ■	1,040
2 NC	HKS4-02	1SAM401902R1003	1,040



SK4-11

Signaling contacts – mountable on the right*				
Suitable for	Aux contacts	Type	Ordering code	L.P.(₹)
MS49x, MO49x	1NO+1NC	SK4-11	1SAM401904R1001 ■	1,880

*for tripped alarm, max 2 piece



AA4-24

Suitable for	Shunt trip units – mountable on the right				Undervoltage release mountable on the right			
	Rated voltage	Type	Ordering code	L.P.(₹)	Rated voltage	Type	Ordering code	L.P.(₹)
MS49x, MO49x	20 ... 24	AA4-24	1SAM401907R1001	3,300	24	UA4-24	1SAM401905R1004	3,650
	110	AA4-110	1SAM401907R1002	3,650	110	UA4-110	1SAM401905R1001	3,650
	200-240	AA4-230	1SAM401907R1003	3,650	230	UA4-230	1SAM401905R1002	3,650
	350-415	AA4-400	1SAM401907R1004	3,650	415	UA4-415	1SAM401905R1002	3,650

■ Stock items

Thermal overload relays



TA25, TA42 and TA75 relays

Relay range in Amps	Direct mounting on contactors	Type code reference	Ordering code	L.P.(₹)
0.1 ... 0.16	A9...A40 AX9...AX40 AL9...AL40 TAL9...TAL40	TA25DU 0.16M	1SAZ211201R2005 ■	1,510
0.16 ... 0.25		TA25DU 0.25M	1SAZ211201R2009 ■	1,510
0.25 ... 0.4		TA25DU 0.4M	1SAZ211201R2013 ■	1,510
0.4 ... 0.63		TA25DU 0.63M	1SAZ211201R2017 ■	1,510
0.63 ... 1.0		TA25DU 1.0M	1SAZ211201R2021 ■	1,510
1.0 ... 1.4		TA25DU 1.4M	1SAZ211201R2023 ■	1,510
1.3 ... 1.8		TA25DU 1.8M	1SAZ211201R2025 ■	1,510
1.7 ... 2.4		TA25DU 2.4M	1SAZ211201R2028 ■	1,510
2.2 ... 3.1		TA25DU 3.1M	1SAZ211201R2031 ■	1,510
2.8 ... 4.0		TA25DU 4.0M	1SAZ211201R2033 ■	1,510
3.5 ... 5.0		TA25DU 5.0M	1SAZ211201R2035 ■	1,510
4.5 ... 6.5		TA25DU 6.5M	1SAZ211201R2038 ■	1,510
6.0 ... 8.5		TA25DU 8.5M	1SAZ211201R2040 ■	1,510
7.5 ... 11.0		TA25DU 11M	1SAZ211201R2043 ■	1,510
10.0 ... 14.0		TA25DU 14M	1SAZ211201R2045 ■	1,510
13.0 ... 19.0		TA25DU 19M	1SAZ211201R2047 ■	1,870
18.0 ... 25.0		TA25DU 25M	1SAZ211201R2051 ■	1,870
24.0 ... 32.0		TA25DU 32M	1SAZ211201R2053 ■	2,610

TA42DU

18.0 ... 25.0	A30,A40,	TA42DU 25	1SAZ311201R2001 ■	3,100
22.0 ... 32.0	AX32...AX40	TA42DU 32	1SAZ311201R2002 ■	3,370
29.0 ... 42.0	AL30,AL40, TAL30,TAL 40	TA42DU 42	1SAZ311201R2003 ■	3,410

TA75DU

22 ... 32	A50...A75 AX50...AX80	TA75DU 32	1SAZ321201R2002 ■	3,900
29 ... 42		TA75DU 42	1SAZ321201R2003 ■	4,580
36 ... 52		TA75DU 52	1SAZ321201R2004 ■	4,580
45 ... 63		TA75DU 63	1SAZ321201R2005 ■	4,580
60 ... 80		TA75DU 80	1SAZ321201R2006 ■	4,910

TA80DU

36 ... 52	A95...A110, AX95...AX150	TA80DU-52	1SAZ331201R1004 ■	5,530
45 ... 63		TA80DU-63	1SAZ331201R1005 ■	5,530
60 ... 80		TA80DU-80	1SAZ331201R1006 ■	5,940

TA25/TA42/TA75/TA80/TA110/TA200 are direct operated relays with trip class 10A

TA110DU

66 ... 90	A95...A110,	TA110DU-90	1SAZ411201R1001 ■	9,210
80 ... 110	AX95...AX150	TA110DU-110	1SAZ411201R1002 ■	10,070

TA200DU

66 ... 90	A145...A185 AX185...AX205 AF190, AF205	TA200DU-90	1SAZ421201R1001 ■	10,600
80 ... 110		TA200DU-110	1SAZ421201R1002 ■	11,470
100 ... 135		TA200DU-135	1SAZ421201R1003 ■	12,240
110 ... 150		TA200DU-150	1SAZ421201R1004 ■	13,330
130 ... 175		TA200DU-175	1SAZ421201R1005 ■	13,880
150 ... 200		TA200DU-200	1SAZ421201R1006 ■	14,500

Accessories

Independent Mounting Kit	TA25DU0.16..25A	DB25/25	1SAZ201108R0001 ■	390
	TA25DU32	DB25/32	1SAZ201108R0002	810
	TA42DU, TA75DU, TA80DU	DB80	1SAZ301110R0001 ■	3,520
	TA110DU, TA200DU	DB200	1SAZ401110R0001 ■	3,640

■ Stock items

Thermal overload relays



TF42

T16 Relays

Relay range in Amps	Direct mounting on contactors	Type code reference	Ordering code	L.P.(₹)
0.10 ... 0.13	B6/BC6 B7/BC7 VB6/VBC6 VB7/VBC7 AS/ASL DOL starter IP65	T16-0.13	1SAZ711201R1005	Upon request
0.13 ... 0.17		T16-0.17	1SAZ711201R1008	
0.17 ... 0.23		T16-0.23	1SAZ711201R1009	
0.23 ... 0.31		T16-0.31	1SAZ711201R1013	
0.31 ... 0.41		T16-0.41	1SAZ711201R1014	
0.41 ... 0.55		T16-0.55	1SAZ711201R1017	
0.55 ... 0.74		T16-0.74	1SAZ711201R1021	
0.74 ... 1.00		T16-1.0	1SAZ711201R1023	
1.00 ... 1.30		T16-1.3	1SAZ711201R1025	
1.30 ... 1.70		T16-1.7	1SAZ711201R1028	
1.70 ... 2.30		T16-2.3	1SAZ711201R1031	
2.30 ... 3.10		T16-3.1	1SAZ711201R1033	
3.10 ... 4.20		T16-4.2	1SAZ711201R1035	
4.20 ... 5.70		T16-5.7	1SAZ711201R1038 ■	
5.70 ... 7.60		T16-7.6	1SAZ711201R1040	
7.60 ... 10.0		T16-10	1SAZ711201R1043	
10.0 ... 13.0		T16-13	1SAZ711201R1045	
13.0 ... 16.0		T16-16	1SAZ711201R1047	

TF42 Relays

Relay range in Amps	Direct mounting on contactors	Type code reference	Ordering code	L.P.(₹)
0.10 ... 0.13	AF09...AF38	TF42-0.13	1SAZ721201R1005	Upon request
0.13 ... 0.17		TF42-0.17	1SAZ721201R1008	
0.17 ... 0.23		TF42-0.23	1SAZ721201R1009	
0.23 ... 0.31		TF42-0.31	1SAZ721201R1013	
0.31 ... 0.41		TF42-0.41	1SAZ721201R1014	
0.41 ... 0.55		TF42-0.55	1SAZ721201R1017	
0.55 ... 0.74		TF42-0.74	1SAZ721201R1021	
0.74 ... 1.00		TF42-1.0	1SAZ721201R1023	
1.00 ... 1.30		TF42-1.3	1SAZ721201R1025	
1.30 ... 1.70		TF42-1.7	1SAZ721201R1028 ■	
1.70 ... 2.30		TF42-2.3	1SAZ721201R1031 ■	
2.30 ... 3.10		TF42-3.1	1SAZ721201R1033 ■	
3.10 ... 4.20		TF42-4.2	1SAZ721201R1035 ■	
4.20 ... 5.70		TF42-5.7	1SAZ721201R1038 ■	
5.70 ... 7.60		TF42-7.6	1SAZ721201R1040 ■	
7.60 ... 10.0		TF42-10	1SAZ721201R1043	
10.0 ... 13.0		TF42-13	1SAZ721201R1045 ■	
13.0 ... 16.0		TF42-16	1SAZ721201R1047 ■	
16.0 ... 20.0		TF42-20	1SAZ721201R1049	
20.0 ... 24.0		TF42-24	1SAZ721201R1051	
24.0 ... 29.0		TF42-29	1SAZ721201R1052	
29.0 ... 35.0		TF42-35	1SAZ721201R1053	
35.0 ... 38.0/40.0		TF42-38	1SAZ721201R1055	

■ Stock items

Thermal overload relays



TF42

TF65/TF96/TF140 Relay

Relay range in Amps	Direct mounting on contactors	Type code reference	Ordering code	L.P.(₹)
22.0...28.0	AF40, AF52, AF65	TF65-28	1SAZ811201R1001	Upon request
25.0...33.0		TF65-33	1SAZ811201R1002	
30.0...40.0		TF65-40	1SAZ811201R1003	
36.0...47.0		TF65-47	1SAZ811201R1004	
44.0...53.0		TF65-53	1SAZ811201R1005	
50.0...60.0		TF65-60	1SAZ811201R1006	
57.0...67.0		TF65-67	1SAZ811201R1007	
40.0...51.0	AF80, AF96	TF96-51	1SAZ911201R1001	
48.0...60.0		TF96-60	1SAZ911201R1002	
57.0...68.0		TF96-68	1SAZ911201R1003	
65.0...78.0		TF96-78	1SAZ911201R1004	
75.0...87.0		TF96-87	1SAZ911201R1005	
84.0...96.0	AF116, AF140	TF96-96	1SAZ911201R1006	
66...90		TF140DU-90	1SAZ431201R1001	
80...110		TF140DU-110	1SAZ431201R1002	
100...135		TF140DU-135	1SAZ431201R1003	
110...142		TF140DU-142	1SAZ431201R1004	

For AF190 and AF205 use TA200DU OLR

Description	Type	Ordering code	L.P.(₹)
Separate mounting kit	DB16E	1SAX101110R0001 ■	Upon request
Separate mounting kit	DB42	1SAZ701902R0001 ■	
Separate mounting kit for TF65	DB65	1SAZ801901R1001	
Separate mounting kit for TF96	DB96	1SAZ901901R1001	

Electronic overload relays and suitable contactors

Suitable for Contactor	A9 ... A16 TAL9...TAL16	A26 ... A40	A50 ... A75	A95, A110	AF190, AF205			
	AL9 ... AL16	AL30 ... AL40						
EOLR	E16DU	E45DU	E80DU	E140DU	EF205			
Suitable for Contactor	AF400,	AF580,	AF1350,		B6/BC6			
	AF460	AF750	AF1650		B7/BC7			
EOLR	EF460	EF750	E1250DU		E16DU, T16			
Suitable for Contactor	AF09 ... AF16	AF26, AF38	AF40, AF52, AF65	AF80, AF96	AF116, AF140, AF146	AF265, AF305, AF370	AF400, AF460,	AF580, AF750, AF1250
EOLR	EF19	EF45	EF65	EF96	EF146	EF370	EF460	EF750

■ Stock items

Electronic overload relays class 10, 20, 30



Electronic overload relays

Trip class 10, 20, 30 selectable

Setting range	Trip class	Type	Ordering code	L.P.(₹)
0.1... 0.32A	Selecatable 10E, 20E and 30E	E16DU 0.32	1SAX111001R1101	8,060
0.3 ... 1.0A		E16DU 1.0	1SAX111001R1102	8,060
0.8 ... 2.7A		E16DU 2.7	1SAX111001R1103 ■	8,060
1.9 ... 6.3A		E16DU 6.3	1SAX111001R1104 ■	8,900
5.7... 18.9A		E16DU 18.9	1SAX111001R1105 ■	8,900
9 ... 30A		E45DU 30	1SAX211001R1101 ■	11,460
15 ... 45A		E45DU 45	1SAX211001R1102 ■	12,480
27 ... 80A		E80DU 80	1SAX311001R1101 ■	16,390
50 ... 140A		E140DU 140	1SAX321001R1101 ■	19,740
63 ... 210A		EF205-210	1SAX531001R1101	27,680
115 ... 380A		EF370-380	1SAX611001R1101	31,080
150 ... 500A		EF460	1SAX721001R1101 ■	31,320
250 ... 800A		EF750	1SAX821001R1101	Upon request
375 ... 1250A		E1250DU 375 - 1250 A	1SFA739001R1000	Upon request
0.10...0.32A	Selecatable 10E, 20E and 30E	EF19-0.32	1SAX121001R1101	Upon request
0.30...1.00A		EF19-1.0	1SAX121001R1102	
0.80...2.70A		EF19-2.7	1SAX121001R1103 ■	
1.90...6.30A		EF19-6.3	1SAX121001R1104 ■	
5.70...18.9A		EF19-18.9	1SAX121001R1105 ■	
9.00...30.0A		EF45-30	1SAX221001R1101 ■	
15.0...45.0A		EF45-45	1SAX221001R1102 ■	
25...70A		EF65-70	1SAX331001R1101 ■	
36...100A		EF96-100	1SAX341001R1101 ■	
54...150A		EF146-150	1SAX351001R1101 ■	
63 ... 210A		EF205-210	1SAX531001R1101 ■	
115 ... 380A		EF370-380	1SAX611001R1101 ■	
150 ... 500A		EF460	1SAX721001R1101	
250 ... 800A		EF750	1SAX821001R1101	

Accessories

Description	Type	Ordering code	L.P.(₹)
Separate mounting kit	DB16E	1SAX101110R0001	2,530
Separate mounting kit - EF19	DB19EF	1SAX101910R1001 ■	2,560
Separate mounting kit - EF45	DB45EF	1SAX201910R0001 ■	4,090
Separate mounting kit	DB45E	1SAX201110R1001	4,090
Separate mounting kit	DB80E	1SAX301110R1001 ■	5,100
Separate mounting kit	DB140E	1SAX301110R1002	7,370

For suitable contactors refer page no. 97

■ Stock items

Just push it

Push-in Spring motor starting solution

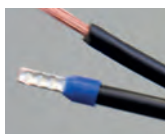
- Faster than ever installation
- Easier than ever wiring
- Reliable as ever connections



Push-in Spring motor starting solution

Complete range, complete efficiency

With the new Push-in Spring motor starting solution, one push is all you need for extremely fast wiring. No tool is required, so you can save up to 50% wiring time with Push-in Spring compared to conventional spring solutions. And the connections are just as reliable. So for speed, ease and reliability, just push it.



2-in-1

Benefit from both Push-in mode and Spring mode and use ferruled cables or cables without ferrules in the same terminal.



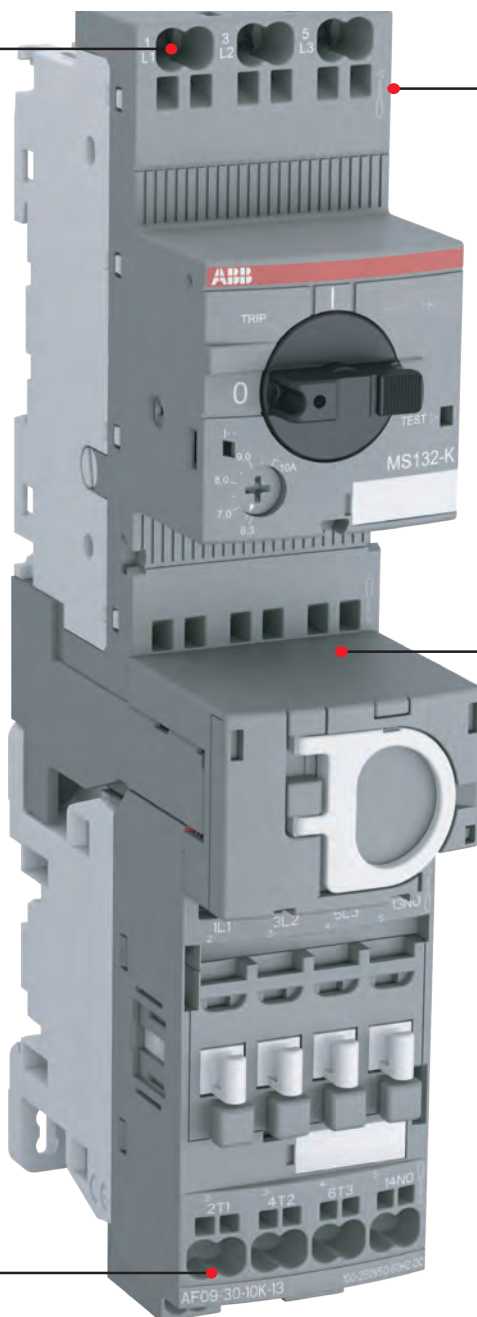
Compatible with screw range

Mount accessories for control circuits on the screw range up to 30 kW AC-3 400 V on manual motor starters and up to 45 kW AC-3 400 V, 130 A AC-1 on contactors.



Robust by design

Contact robustness by design, independent from operator.



Just one tool for everything

You only need a 3 mm screwdriver in Spring mode as well as for de-wiring the complete solution.



Tool-less connecting links

100% tool-less mounting and dismounting connecting links.



Higher connecting capacity

The solution ranges up to 18.5 kW 400 V AC-3 and 50 A AC-1 (25 hp 480 V and 45 A 600 V general use).

Note: Contact our nearest sales office for more information

AFS contactors with front-mounted auxiliary contact blocks

Dedicated for safety applications

ABB's complete range of safety components make protection systems easier to build. Designed for machine safety applications, AFS contactors come with fixed front auxiliary

contact blocks, making them ideal for monitoring and controlling circuits. Mechanically linked and mirror contacts help make your system safer.



Safety and protection

Safety in all things

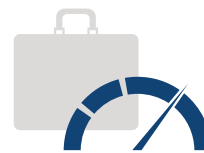
ABB's AFS contactors can be easily integrated in machine manufacturer's systems complying with main safety standards EN ISO 13849 and EN 62061 guaranteeing the safe use of your machinery and equipment. The AFS contactor range is an integral part of ABB's comprehensive range of safety products.



Continuous operation

Secure uptime

The AFS contactor secures system uptime. It allows direct control by relay outputs of safety PLCs and safety relays to ensure the safety performance customers require. A low energy auxiliary contact guarantees system status feedback.



Speed up your projects

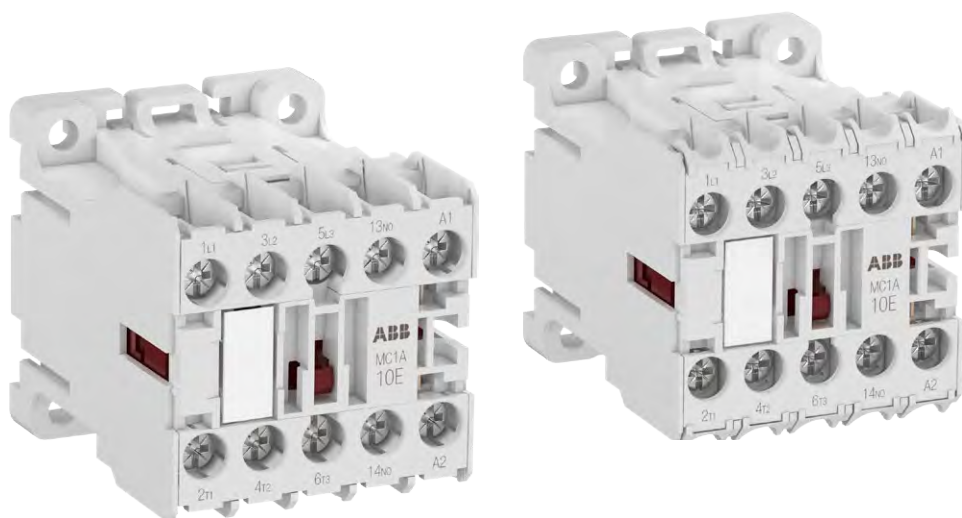
Simplify design

Perfect design makes integration easier. ABB's distinctive yellow auxiliary contact block makes identifying the right product quicker. By reducing the contactor coil's power consumption, panels can also be made smaller and transformers more compact. In addition, all the safety data for the contactors are readily available using safety design tools.

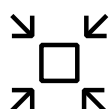
Note: Contact our nearest sales office for more information

M mini contactors and contactor relays **NEW**

Reliability, always



The M contactors range is a performance-dimension optimized solution for all the purposes. Its high reliability, even in extreme conditions, combined to the small sizes and the safe connections lead to easy design and compact panels.



Space-saving

Small dimensions for big projects

The M range devices are a great solution when high performances are needed but the space is limited. The small dimensions of the products and the possibility to mount them side by side will maximize the cost efficiency of the cabinets without making compromises.



Reliability in extreme conditions

Made for all the applications

The technology used in the design of the contactors and the wide set of variants available guarantee reliability of operation with heavy working conditions as well. Instability of the network, high altitude and extreme temperatures will not be a limit anymore.



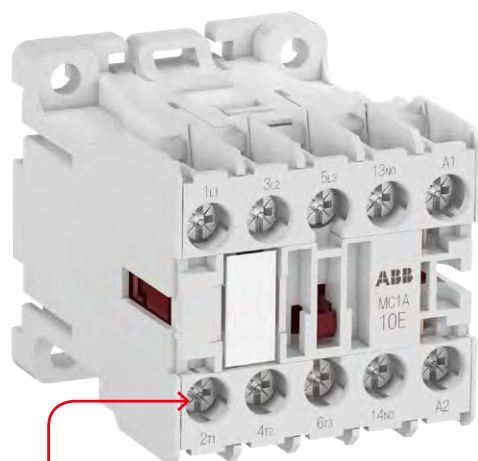
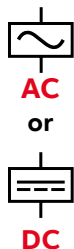
Optimum interface

Never without a solution

A wide set of coils is provided for matching all the requirements: pure AC or DC for very fast switching, with low energy consumption for direct control by PLC and with extended operating limits to face voltage fluctuations. A complete offer for realizing your projects.

M mini contactors and contactor relays **NEW**

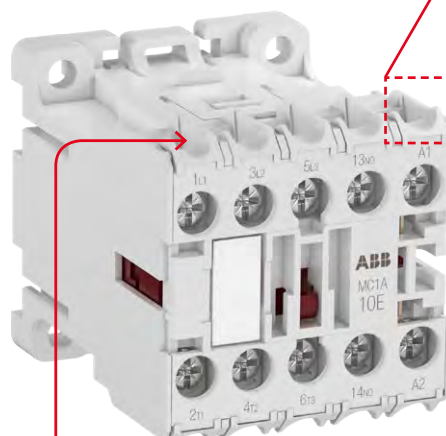
Efficient - High performances in small dimensions



Screw

Screw terminals

The same screw is used for all the terminals and circuits of the device for an efficient and fast screwing. The connection is always stable, the range of usable wire dimensions wide and the maintenance easy.

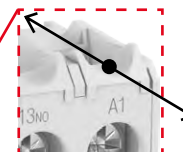


Ring tongue ferrules

With specific screw terminal

A large set of contactors and contactor relays is equipped with specific screw terminals; these allow quick and simple installations using ring tongue ferrules. A must for applications with shocks and vibrations and when the solidity of the connection is a crucial factor.

Lugs easy connection



Wide range of accessories

Up to 6 auxiliary contacts can be mounted on the devices, on the side or the front and with both the connection types. Electronic timers, surge suppressors and parallel connection links are also available in the assortment.



Assemble your reversing starter

Thanks to the mechanical interlock and the connection sets a compact reversing starter can be easily assembled for motor controlling in both directions. Auxiliary contact blocks can be installed on the front or on both sides of the reversing contactor.



Compact protection

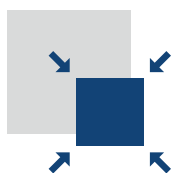
The M mini contactors are fully compatible with the T16 thermal overload relays for creating a very compact but still effective solution to defend your loads against current overloads and phase failures.

Electronic compact starters: HF range

A compact solution with great functionality

ABB's electronic compact starter, up to 3 kW / 400 V, is a 22.5 mm wide product. Even though its compact, it has, direct-on-line, reversed starting, motor overload protection,

and emergency stop all included. It is well suited for paper machines, conveyors or machine tools.



Space saving

Up to 90% less space required

Decrease your cabinet size.

ABB's electronic compact starter is 22.5 mm wide while still containing motor starting functionalities and embedding motor protection and safety.



Safety and protection

Integrated safety function

Protect your personnel with emergency stop version complying with SIL3, PL e safety standards. Extend equipment life time and decrease maintenance cost as our starters service life is 10 times higher than electromechanical solutions.



Easy to install

Up to 75% reduced time in wiring

Wiring time upon installation is reduced to a minimum as motor protection, reversing function and emergency stop are already part of the product. Only one component to install reduces the risk of wiring errors.

Pilot devices

Pilot Devices Offering

ABB Pilot Devices offers both modular and compact range of pushbuttons. Both feature the same front-of-panel design and appear consistent when combined.

Modular range, features a wide range of operators that can be combined with high flexibility. The unique snap-on design promotes simple and fast assembly.

Compact range features an all-in-one construction and rugged design for added simplicity and ease of installation.



Modular range

Technical data compact range

Standard and approvals	
IEC / EN 60947-1	Low-voltage switchgear and controlgear - Part 1: General rules
IEC / EN 60947-5-1	Low-voltage switchgear and controlgear - Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices
IEC / EN 60947-5-5	Low-voltage switchgear and controlgear - Part 5-5: Control circuit devices and switching elements - Electrical emergency stop device with mechanical latching function
IEC / EN 60073	Basic and safety principles for man-machine
IEC / EN 60529	Degrees of protection provided by enclosures (IP Code)
EN 50013	Low-voltage switchgear and controlgear for industrial use - Terminal marking and distinctive number for particular control switches
DIN 40050-9	Road vehicles; degrees of protection (IP-code); protection against foreign objects; water and contact; electrical equipment
UL 508	Industrial control equipment
CSA C22.2 No 14	Industrial control equipment

Environmental data

Degrees of protection

Pilot device:	IEC/EN DIN	UL/CSA
Pushbutton	IP66, IP67 and IP69K	Type 1, 3R, 4, 4X, 12, 13
Selector switch	IP66, IP67 and IP69K	Type 1, 3R, 4, 4X, 12, 13
Pilot light	IP66, IP67 and IP69K	Type 1, 3R, 4, 4X, 12, 13
Emergency stops	IP66, IP67 and IP69K	Type 1, 3R, 4, 4X, 12, 13
Terminals	IP20	

Temperature

Ambient temperature during operation	-25 to +70 °C
Storage temperature	-40 to +85 °C

Technical data

Cable connections

Operator	Cable terminal
Pushbutton	Plus-minus Pozidriv No. 2
Selector switch	Connectable area:
Emergency stop	min. 1 x 0.5 mm ² /1 x AWG22 max. 2 x 1.5 mm ² /2 x AWG14

Tightening torque

Operators, M22	Min. 2 Nm / Max. 2.3 Nm
Pushbutton and selector switch	Cable terminals M3, 0.8 Nm
Pilot light	Cable terminals M3.5, 0.9 Nm
Emergency stop	Cable terminals M3, 0.8 Nm

Electrical data

Electrical ratings

Contacts

Ratings as per IEC 60947-5-1

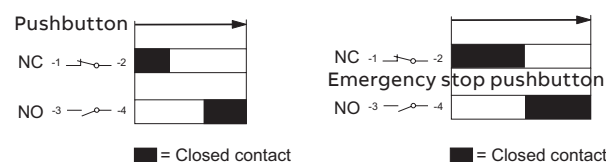
Rated insulation voltage, U _i	300 V
Rated thermal current, I _{th}	5 A
Rated operational current, I _e utilisation category AC-15	at: 240 V 1 A
Rated operational current, I _e utilization category DC-13,	at: 24 V 0.3 A at: 125 V 0.2 A

Ratings as per UL, CSA, NEMA

	C300 AC	R300 DC
Rated insulation voltage	250 V	250 V
Rated thermal current	2.5 A	1 A
Rated operational current	at: 120 V 1.5 A at: 125 V 0.75 A at: 250 V	0.22 A 0.11 A

Short circuit protection

Max. fuse at 1 kA	gG 10A
Make-and-break contacts	



LEDs (for both compact and modular)

Service life for LED's means number of service hours until the brightness has been reduced down 50 %. Service life 50 000 h

White LEDs	x=0.31 Y=3.2 means the position of color in the ICI Chromaticity Diagram
Over voltage on LEDs	10 % overvoltage is acceptable without affecting the service life
Voltage peaks on LEDs	Voltage peaks up to 1000 V Current peaks up to 500 mA during a few msec
Gloaming light	All integrated LEDs have a function built in to cut leakage currents

Mechanical data

Mechanical life

Pushbuttons, selector switches	500 000 operations
Emergency stop pushbutton	50 000 operations

Pilot devices

Compact range

Order example:

Ex 1: Type CP1-10 ■-10, to order color red replace ■ with R: CP1-10 R-10

Ex 2: Ordering code 1SFA619100R101 □ To order color red replace □ with 1: 1SFA619100R1011 ■

Color codes							
	Red ●	Green ●	Yellow ●	Blue ●	White ○	Black ●	Grey ●
Type ■	R	G	Y	L	W	B	U
Ordering code □	1	2	3	4	5	6	7



Non-illuminated flush Push-button with black plastic bezel

Non-illuminated flush pushbutton				
	Type	Pack size	Ordering code	L.P.(₹)
Momentary				
1 NO	CP1-10 □-10	1 X 10	1SFA619100R101 □	95
2 NO	CP1-10 □-20	1 X 10	1SFA619100R102 □	142
1 NC	CP1-10 □-01	1 X 10	1SFA619100R104 □	95
2 NC	CP1-10 □-02	1 X 10	1SFA619100R105 □	142
1 NO+1 NC	CP1-10 □-11	1 X 10	1SFA619100R107 □	
Maintained				
1 NO	CP2-10 □-10	1 X 10	1SFA619101R101 □	131
2 NO	CP2-10 □-20	1 X 10	1SFA619101R102 □	184
1 NC	CP2-10 □-01	1 X 10	1SFA619101R104 □	131
2 NC	CP2-10 □-02	1 X 10	1SFA619101R105 □	184
1 NO+1 NC	CP2-10 □-11	1 X 10	1SFA619101R107 □	



Non-illuminated extended Push-button with black plastic bezel

Non-illuminated extended pushbutton				
	Type	Pack size	Ordering code	L.P.(₹)
Momentary				
1 NO	CP3-10 ■-10	1 X 10	1SFA619102R101 □	131
2 NO	CP3-10 ■-20	1 X 10	1SFA619102R102 □	173
1 NC	CP3-10 ■-01	1 X 10	1SFA619102R104 □	131
2 NC	CP3-10 ■-02	1 X 10	1SFA619102R105 □	173
1 NO+1 NC	CP3-10 ■-11	1 X 10	1SFA619102R107 □	
Maintained				
1 NO	CP4-10 ■-10	1 X 10	1SFA619103R101 □	142
2 NO	CP4-10 ■-20	1 X 10	1SFA619103R102 □	173
1 NC	CP4-10 ■-01	1 X 10	1SFA619103R104 □	142
2 NC	CP4-10 ■-02	1 X 10	1SFA619103R105 □	173
1 NO+1 NC	CP4-10 ■-11	1 X 10	1SFA619103R107 □	

Pilot devices

Compact range



Pilot Light with intergrated LED,
with leakage current protection



Pilot Light with intergrated LED,
with leakage current protection



Pilot Light with intergrated LED,
with leakage current protection

Color codes						
	Red ●	Green ●	Yellow ●	Blue ●	White ○	Amber ●
Type ■	R	G	Y	L	W	A
Ordering code □	1	2	3	4	5	9

Pilot light with integrated LED			
Type	Pack size	Ordering code	L.P.(₹)
24 V, AC/DC			
CL-502R	1 X 10	1SFA619402R5021 ■	152
CL-502G	1 X 10	1SFA619402R5022 ■	
CL-502Y	1 X 10	1SFA619402R5023 ■	
CL-502L	1 X 10	1SFA619402R5024 ■	294
CL-502W	1 X 10	1SFA619402R5025 ■	152
CL-502A	1 X 10	1SFA619402R5029 ■	
110-130 V, AC			
CL-513R	1 X 10	1SFA619402R5131 ■	152
CL-513G	1 X 10	1SFA619402R5132 ■	
CL-513Y	1 X 10	1SFA619402R5133 ■	
CL-513L	1 X 10	1SFA619402R5134 ■	294
CL-513W	1 X 10	1SFA619402R5135 ■	152
CL-513A	1 X 10	1SFA619402R5139 ■	
110-130 V, DC			
CL-515R	1 X 10	1SFA619402R5151 ■	152
CL-515G	1 X 10	1SFA619402R5152 ■	
CL-515Y	1 X 10	1SFA619402R5153 ■	
CL-515L	1 X 10	1SFA619402R5154 ■	294
CL-515W	1 X 10	1SFA619402R5155 ■	152
CL-515A	1 X 10	1SFA619402R5159 ■	
220 V, DC			
CL-520R	1 X 10	1SFA619402R5201 ■	152
CL-520G	1 X 10	1SFA619402R5202 ■	
CL-520Y	1 X 10	1SFA619402R5203 ■	
CL-520L	1 X 10	1SFA619402R5204 ■	294
CL-520W	1 X 10	1SFA619402R5205 ■	152
CL-520A	1 X 10	1SFA619402R5209 ■	
230 V, AC			
CL-523R	1 X 10	1SFA619402R5231 ■	152
CL-523G	1 X 10	1SFA619402R5232 ■	
CL-523Y	1 X 10	1SFA619402R5233 ■	
CL-523L	1 X 10	1SFA619402R5234 ■	294
CL-523W	1 X 10	1SFA619402R5235 ■	152
CL-523A	1 X 10	1SFA619402R5239 ■	

Note:
48 V AC/DC, 60 V AC/DC, 380 V AC and 415 V AC Pilot devices are available with ABB range of Pilot lamps L.P.(₹)s will be available upon request

■ Stock items

Pilot devices

Compact range



Non-illuminated black selector switch with plastic bezel

Selector switch				
	Type	Pack size	Ordering code	L.P.(₹)
Maintained / Two-positions 				
1 NO	C2SS1-10B-10	1 X 10	1SFA619200R1016	257
2 NO	C2SS1-10B-20	1 X 10	1SFA619200R1026	283
1 NC	C2SS1-10B-01	1 X 10	1SFA619200R1046	257
2 NC	C2SS1-10B-02	1 X 10	1SFA619200R1056	284
1 NO+1 NC	C2SS1-10B-11	1 X 10	1SFA619200R1076	
Maintained / Two-positions 				
1 NO	C2SS2-10B-10	1 X 10	1SFA619201R1016	257
2 NO	C2SS2-10B-20	1 X 10	1SFA619201R1026	284
1 NC	C2SS2-10B-01	1 X 10	1SFA619201R1046	257
2 NC	C2SS2-10B-02	1 X 10	1SFA619201R1056	284
1 NO+1 NC	C2SS2-10B-11	1 X 10	1SFA619201R1076	
Momentary / Two-positions 				
1 NO	C2SS3-10B-10	1 X 10	1SFA619202R1016	247
2 NO	C2SS3-10B-20	1 X 10	1SFA619202R1026	284
1 NC	C2SS3-10B-01	1 X 10	1SFA619202R1046	247
2 NC	C2SS3-10B-02	1 X 10	1SFA619202R1056	284
1 NO+1 NC	C2SS3-10B-11	1 X 10	1SFA619202R1076	
Maintained / Three-positions 				
2 NO	C3SS1-10B-20	1 X 10	1SFA619210R1026	284
2 NC	C3SS1-10B-02	1 X 10	1SFA619210R1056	
1 NO+1 NC	C3SS1-10B-11	1 X 10	1SFA619210R1076	
Momentary / Three-positions 				
2 NO	C3SS2-10B-20	1 X 10	1SFA619211R1026	284
2 NC	C3SS2-10B-02	1 X 10	1SFA619211R1056	
1 NO+1 NC	C3SS2-10B-11	1 X 10	1SFA619211R1076	
Momentary / Three-positions 				
2 NO	C3SS3-10B-20	1 X 10	1SFA619212R1026	284
2 NC	C3SS3-10B-02	1 X 10	1SFA619212R1056	
1 NO+1 NC	C3SS3-10B-11		1SFA619212R1076	

Pilot devices

Compact range



Non-illuminated emergency stop pushbutton, 30 mm



Non-illuminated emergency stop pushbutton, 40 mm



Non-illuminated machine stop pushbutton, pull release, 30 mm



Non-illuminated machine stop pushbutton, push release, 30 mm

Emergency stop pushbutton					
Description	Type	Pack size	Ordering code	L.P.(₹)	
●	Twist release				
1 NC Ø 30 mm	CE3T-10R-01	1	1SFA619500R1041 ■	184	
2 NC Ø 30 mm	CE3T-10R-02	1	1SFA619500R1051	247	
1NO+1NC Ø 30 mm	CE3T-10R-11	1	1SFA619500R1071		
	Pull release				
2 NC Ø 30 mm	CE3P-10R-02	1	1SFA619501R1051	247	
1NO+1NC Ø 30 mm	CE3P-10R-11	1	1SFA619501R1071		
	Key release: Ronis 455, key code 71				
2 NC Ø 30 mm	CE3K1-10R-02	1	1SFA619502R1051	714	
1NO+1NC Ø 30 mm	CE3K1-10R-11	1	1SFA619502R1071		
	Twist release				
1 NC Ø 40 mm	CE4T-10R-01	1	1SFA619550R1041 ■	194	
2 NC Ø 40 mm	CE4T-10R-02	1	1SFA619550R1051 ■	247	
1NO+1NC Ø 40 mm	CE4T-10R-11	1	1SFA619550R1071 ■		
	Pull release				
2 NC Ø 40 mm	CE4P-10R-02	1	1SFA619551R1051 ■	247	
1NO+1NC Ø 40 mm	CE4P-10R-11	1	1SFA619551R1071		
	Key release: Ronis 455, key code 71				
2 NC Ø 40 mm	CE4K1-10R-02	1	1SFA619552R1051	777	
1NO+1NC Ø 40 mm	CE4K1-10R-11	1	1SFA619552R1071		

Machine stop					
Description	Type	Pack size	Ordering code	L.P.(₹)	
●	Twist release				
1NO+1NC Ø 30 mm	CE3T-10B-11	1	1SFA619500R1076	247	
	Pull release				
1NO+1NC Ø 30 mm	CE3P-10B-11	1	1SFA619501R1076	247	
	Key release: Ronis 455, Key code 71				
1NO+1NC Ø 30 mm	CE3K1-10B-11	1	1SFA619502R1076	714	
	Twist release				
1NO+1NC Ø 40 mm	CE4T-10B-11	1	1SFA619550R1076	247	
	Pull release				
1NO+1NC Ø 40 mm	CE4P-10B-11	1	1SFA619551R1076	247	
	Key release: Ronis 455, Key code 71				
1NO+1NC Ø 40 mm	CE4K1-10B-11	1	1SFA619552R1076	777	

■ Stock items

Pilot devices

Compact range



Buzzer						
Description	Sound output	Rated current mA	Type	Pack size	Ordering code	L.P.(₹)
Rated voltage 24 V, AC/DC						
● Black	Continuous	40	CB1-620B	1	1SFA619600R6206	1,181
● Black	Pulsation	48	CB1-630B	1	1SFA619600R6306	
Rated voltage 230 V, AC						
● Black	Continuous	40	CB1-623B	1	1SFA619600R6236	1,181
● Black	Pulsation	40	CB1-633B	1	1SFA619600R6336	
Rated voltage 110-130 V, DC						
● Black	Continuous	15	CB1-622B	1	1SFA619600R6226	1,181
● Black	Pulsation	15	CB1-632B	1	1SFA619600R6326	
Rated voltage 110-130 V, AC						
● Black	Continuous	40	CB1-621B	1	1SFA619600R6216	1,181
● Black	Pulsation	45	CB1-631B	1	1SFA619600R6316	



Assembled compact emergency stop enclosures					
Description	Type	Pack size	Ordering code	L.P.(₹)	
1-seat plastic enclosure (yellow)					
  Twist release. Red button 2 NC	CEPY1-1001	1	1SFA619821R1001	1,412	
  Pull release. Red button 2 NC	CEPY1-1002	1	1SFA619821R1002		
Emergency stop enclosure with shroud					
  Twist release. Red button 2 NC	CEPY1-2002	1	1SFA619821R2002	1,701	
  Pull release. Red button 2 NC	CEPY1-2001	1	1SFA619821R2001		



Assembled compact emergency stop enclosures					
Description	Type	Pack size	Ordering code	L.P.(₹)	
1-seat plastic enclosure with black mushroom pushbutton (dark grey)					
■ □ Twist release. Black button 1 NO + 1 NC	CEP1-1001	1	1SFA619811R1001	1,412	
■ □ Pull release. Black button 1 NO + 1 NC	CEP1-1002	1	1SFA619811R1002		
Machine stop enclosure with shroud					
■ □ Twist release. Black button 1 NO + 1 NC	CEP1-2001	1	1SFA619811R2001	1,701	
■ □ Pull release. Black button 1 NO + 1 NC	CEP1-2002	1	1SFA619811R2002		

Pilot devices

Technical data modular range

Standard and approvals	
IEC / EN 60947-1	Low-voltage switchgear and controlgear - Part 1: General rules
IEC / EN 60947-5-1	Low-voltage switchgear and controlgear - Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices
IEC / EN 60947-5-5	Low-voltage switchgear and controlgear - Part 5-5: Control circuit devices and switching elements - Electrical emergency stop device with mechanical latching function
IEC / EN 60073	Basic and safety principles for man-machine interface, marking and identification - Coding principles for indicators and actuators
IEC / EN 60529	Degrees of protection provided by enclosures (IP Code)
EN 50013	Low-voltage switchgear and controlgear for industrial use - Terminal marking and distinctive number for particular control switches
UL 508	Industrial control equipment
CSA C22.2 No 14	Industrial control equipment

Environmental data		
Degrees of protection		
Operators	IEC/EN	UL/CSA
Pushbutton	IP 66	Type 1, 3R, 4, 4X, 12, 13
Double pushbutton	IP 66	Type 1, 3R, 4, 4X, 12, 13
Mushroom	IP 66	Type 1, 3R, 4, 4X, 12, 13
Emergency stop	IP 66	Type 1, 3R, 4, 4X, 12, 13
Selector switch	IP 66	Type 1, 3R, 4, 4X, 12, 13
Key operated selector switch	IP 66	Type 1, 3R, 4, 4X, 12
Toggle switch	IP 66	Type 1, 3R, 4, 4X, 12, 13
Extreme duty pushbutton	-	Type 1, 3R, 4, 4X
Reset button	IP 66	Type 1, 3R, 4, 4X, 12, 13
Joystick	IP 66, 67, 69K	Type 1, 4X (indoor), 12, 13
Pilot lights	IP 66	Type 1, 3R, 4, 4X, 12, 13
Buzzer	IP 65	Type 4X
Potentiometer	IP 66	Type 1, 3R, 4, 4X, 12, 13
Contact block and transformer block	IP 20	-
Plastic enclosures	IP 66	Type 1, 3R, 4, 4X, 12, 13
Metallic enclosures	IP 66, 67, 69K	-

Temperature	
Ambient temperature during operation	-25 to +70 °C
Storage temperature	-40 to +85 °C

Technical data	
Terminals	
Plus-minus Pozidriv No.2 screw with DIN-washer	
Connectable area	min. 1 x 0.5 mm ² AWG 20 max. 2 x 2.5 mm ² /2 x AWG14

Tightening torque	
Operators, M22	Min. 2 Nm / Max. 2.3 Nm
Cable terminals	0.9 Nm
Recommended maximum number of blocks: 6	

Electrical data	
Standards contact blocks	
Mechanical endurance	10 million operations
Self cleaning contacts of silver, NC contact with positive opening. At voltages and currents below 24 V and 5.6 mA we recommended our micro switch blocks or as an alternative, gold plated contacts.	

Ratings as per IEC 60947-5-1		
Rated insulation voltage, U _i	690 V	
Rated thermal current, I _{th}	10 A	
Rated operational current, I _e utilisation category AC 15,	at: 120 V	8 A
	at: 230 V	6 A
	at: 400 V	4 A
	at: 690 V	2 A
Rated operational current, I _e utilisation category DC 13,	at: 24 V	5 A
	at: 125 V	1.1 A
	at: 250 V	0.55 A

Ratings as per UL, CSA, NEMA		A600 AC	Q600 DC
Rated insulation voltage		600 V	600 V
Rated thermal current		10 A	2.5 A
Rated operational current	at: 120 V	6 A	at: 125 V 0.55 A
	at: 240 V	3 A	at: 250 V 0.27 A
	at: 480 V	1.5 A	at: 480 V 0.10 A
	at: 600 V	1.2 A	at: 600 V 0.10 A

Contact resistance	< 25 mΩ	
Compulsory functiontest	at: 5V, 16 mA	
Micro switch block / ratings as per IEC 60947-5-1		
Rated insulation voltage, U _i	125 V	
Rated thermal current, I _{th}	3 A	
Rated operational current, I _e utilisation category AC 14,	at: 125 V	0.5 A
Rated operational current, I _e utilization category DC 13,	at: 24 V	0.3 A
Rated operational current, I _e utilization category DC 12,	at: 24 V	0.1 A
Minimum switching capacity	3 V DC	1 mA

Ratings as per UL 508		
	125 V AC	3 A
	60 V DC	0.2 A
	48 V DC	0.1 A

Short circuit protection	
Max. fuse at 1 kA	gG 16A
Note: LEDs see technical data compact range	

Mechanical data	
Mechanical life	
Pushbuttons, momentary mushroom	2 million operations
Selector switches. Present standard (no operation of center contact)	500 000 operations
With operation of center contact	250 000 operations
	150 000 operations
Maintained mushroom, pushbutton, key operated selector switch and double pushbutton	500 000 operations
Emergency stop	100 000 operations
Toggle switch	1 million operations

Pilot devices

Modular range

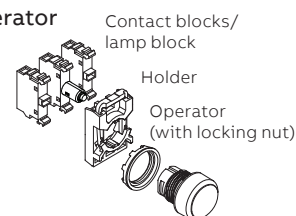


Modular product features

- Widest range of integrated LEDs on the market
- Parts of Range IP 66, 67, 69K
- All range & UL Type 1, 3R, 4, 4X, 12, 13
- Snap-on feature reduces installation time
- Quick release contact holder
- Several bezel colors
- Unique low energy solutions, including wiping action

How to order standard operators:

- Non-illuminated operator + holder
- Contact block(s)
- Illuminated operator + holder
- Contact block(s)
- Lamp block



*Only for illuminated operator

How to order Bezel:

Bezel options	Type	Ordering code
Black plastic	MPX-10X	1SFA611 10X R1XXX

Color codes

	Red ●	Green ●	Yellow ●	Blue ●	White ○	Black ●	Grey ●
Type ■	R	G	Y	L	W	B	U
Ordering code □	1	2	3	4	5	6	7

Ordering example:

Ex 1: Type MP1-10 ■, to order color red replace ■ with R: MP1-10R

Ex 2: Ordering code 1SFA611100R1001 n, to order color red replace □ with 1: 1SFA619100R1001

Operator : Flush button Non-illuminated push button

	Type	Pack size	Ordering code	L.P.(₹)
Momentary	MP1-10 ■	1 X 10	1SFA611100R100 □	47
Maintained	MP2-10 ■	1 X 10	1SFA611101R100 □	74

Operator : Extended button Non-illuminated push button

Momentary	MP3-10 ■	1 X 10	1SFA611102R100 □	74
Maintained	MP4-10 ■	1 X 10	1SFA611103R100 □	74

Color codes

	Red ●	Green ●	Yellow ●	Blue ●	White ○	Black ●	Grey ●	Amber ●
Type ■	R	G	Y	L	W	B	U	AN
Ordering code □	1	2	3	4	5	6	7	9

	Type	Pack size	Ordering code	L.P.(₹)
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Operator : Flush button illuminated push button

Momentary	MP1-11 ■	1 X 10	1SFA611100R110 □	68
	MP1-11AN	1 X 10	1SIN611100R1109	63
Maintained	MP2-11 ■	1 X 10	1SFA611101R110 □	89
	MP2-11AN	1 X 10	1SIN611101R1109	

Operator : Extended button illuminated push button

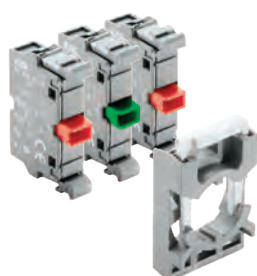
Momentary	MP3-11 ■	1 X 10	1SFA611102R110 □	
	MP3-11AN	1 X 10	1SIN611102R1109	
Maintained	MP4-11 ■	1 X 10	1SFA611103R110 □	89
	MP4-11AN	1 X 10	1SIN611103R1109	

Note:

1. Integrated LED block to be considered from MLBL range of suitable voltage from page no. 109

Separate holder

Holders for three blocks	MCBH-00	1 X 10	1SFA611605R1100	16
Contact blocks only (without holder)				
1 NO	MCB-10	1 X 10	1SFA611610R1001 ■	58
1 NC	MCB-01	1 X 10	1SFA611610R1010 ■	58



Blocks and holder

■ Stock items

Pilot devices

Modular range



LED lamp block with built in leakage currage protection

Operator : Pilot lights				
	Type	Pack size	Ordering code	L.P.(₹)
● Red	ML1-100R	1 X 10	1SFA611400R1001 ■	53
● Green	ML1-100G	1 X 10	1SFA611400R1002 ■	
● Yellow	ML1-100Y	1 X 10	1SFA611400R1003 ■	
● Blue	ML1-100L	1 X 10	1SFA611400R1004	
○ White	ML1-100W	1 X 10	1SFA611400R1005	
● Amber	ML1-100AN	1 X 10	1SIN611400R1009	
Separate holder				
	Type	Pack size	Ordering code	L.P.(₹)
Holders for three blocks	MCBH-00	1 X 10	1SFA611605R1100 ■	16
Lamp blocks with integrated LED				
Rated voltage 24 V, AC/DC				
	Type	Pack size	Ordering code	L.P.(₹)
● Red	MLBL-01R	1 X 10	1SFA611621R1011 ■	131
● Green	MLBL-01G	1 X 10	1SFA611621R1012 ■	
● Yellow	MLBL-01YN	1 X 10	1SIN611621R1013	
● Blue	MLBL-01L	1 X 10	1SFA611621R1014 ■	294
○ White	MLBL-01W	1 X 10	1SFA611621R1015 ■	131
● Amber	MLBL-01A	1 X 10	1SFA611621R1016	
Rated voltage 110-130 V, AC				
	Type	Pack size	Ordering code	L.P.(₹)
● Red	MLBL-04R	1 X 10	1SFA611621R1041	131
● Green	MLBL-04G	1 X 10	1SFA611621R1042	
● Yellow	MLBL-04YN	1 X 10	1SIN611621R1043	
● Blue	MLBL-04L	1 X 10	1SFA611621R1044	294
○ White	MLBL-04W	1 X 10	1SFA611621R1045	131
● Amber	MLBL-04A	1 X 10	1SFA611621R1046	
Rated voltage 110-130 V, DC				
	Type	Pack size	Ordering code	L.P.(₹)
● Red	MLBL-05R	1 X 10	1SFA611621R1051	131
● Green	MLBL-05G	1 X 10	1SFA611621R1052	
● Yellow	MLBL-05YN	1 X 10	1SIN611621R1053	
● Blue	MLBL-05L	1 X 10	1SFA611621R1054	294
○ White	MLBL-05W	1 X 10	1SFA611621R1055	131
● Amber	MLBL-05A	1 X 10	1SFA611621R1056	
Rated voltage 220 V, DC				
	Type	Pack size	Ordering code	L.P.(₹)
● Red	MLBL-06R	1 X 10	1SFA611621R1061	131
● Green	MLBL-06G	1 X 10	1SFA611621R1062	
● Yellow	MLBL-06YN	1 X 10	1SIN611621R1063	
● Blue	MLBL-06L	1 X 10	1SFA611621R1064	294
○ White	MLBL-06W	1 X 10	1SFA611621R1065	131
● Amber	MLBL-06A	1 X 10	1SFA611621R1066	
Rated voltage 230 V, AC				
	Type	Pack size	Ordering code	L.P.(₹)
● Red	MLBL-07R	1 X 10	1SFA611621R1071	131
● Green	MLBL-07G	1 X 10	1SFA611621R1072 ■	
● Yellow	MLBL-07YN	1 X 10	1SIN611621R1073	
● Blue	MLBL-07L	1 X 10	1SFA611621R1074 ■	294
○ White	MLBL-07W	1 X 10	1SFA611621R1075	131
● Amber	MLBL-07A	1 X 10	1SFA611621R1076	

Note: 48 V AC/DC, 60 V AC/DC, 380 V AC and 415 V AC L.P.(₹)S will be available upon request

■ Stock items

Pilot devices

Modular range



Operator : Emergency stop pushbutton				
	Type	Pack size	Ordering code	L.P.(₹)
●	Ø 30 mm / Non-illuminated			
Twist release	MPET3-10R	1	1SFA611520R1001	367
Pull release	MPEP3-10R	1	1SFA611521R1001	
Key release code 71/Ronis 455	MPEK3-11R	1	1SFA611522R1101	767
Key release code 72/ Ronis 421	MPEK3-12R	1	1SFA611522R1201	
Key release code 73/ Ronis 3433-E	MPEK3-13R	1	1SFA611522R1301	
Ø 40 mm / Non-illuminated				
Twist release	MPET4-10R	1	1SFA611523R1001	320
Pull release	MPEP4-10R	1	1SFA611524R1001	727
Key release code 71/Ronis 455	MPEK4-11R	1	1SFA611525R1101	
Key release code 72/ Ronis 421	MPEK4-12R	1	1SFA611525R1201	
Key release code 73/ Ronis 3433-E	MPEK4-13R	1	1SFA611525R1301	
Ø 60 mm /Non-illuminated				
Twist release	MPMT4-10R	1	1SFA611513R1001	614
Pull release	MPMP4-10R	1	1SFA611514R1001	509
Ø 40 mm / Illuminated				
Twist release	MPMT3-11R	1	1SFA611510R1101 ■	588
Pull release	MPMP3-11R	1	1SFA611511R1101	473
Ø 60 mm / Illuminated				
Twist release	MPMT4-11R	1	1SFA611513R1101	803
Pull release	MPMP4-11R		1SFA611514R1101	646

Refer holder and contact block configuration for standard operator from page no. 108



Operator : Machine stop pushbutton				
	Type	Pack size	Ordering code	L.P.(₹)
●	Ø 30 mm			
Twist release	MPET3-10B	1	1SFA611520R1006	368
Pull release	MPEP3-10B	1	1SFA611521R1006	
Key release	MPEK3-10B	1	1SFA611522R1106	767
	Ø 40 mm			
Twist release	MPET4-10B	1	1SFA611523R1006	368
Pull release	MPEP4-10B	1	1SFA611524R1006	
Key release	MPEK4-10B	1	1SFA611525R1061	767

Refer holder and contact block configuration for standard operator from page no. 108



Operator : Double pushbutton				
	Type	Pack size	Ordering code	L.P.(₹)
● Upper ● Lower	Extended lower button / Non-illuminated			
I / O	MPD13-11B	1	1SFA611142R1106	368
START / STOP	MPD15-11B	1	1SFA611144R1106	
● Upper ● Lower	Extended lower button / Illuminated			
I / O	MPD13-11C	1	1SFA611142R1108	546
START / STOP	MPD15-11C	1	1SFA611144R1108	
● Upper ● Lower	○ Upper Extended lower button / ● Lower Non-illuminated			
I / O	MPD17-11B	1	1SFA611146R1106	368

Refer holder and contact block configuration for standard operator

■ Stock items

Pilot devices

Modular range



Operator: non-illuminated black two-position selector switch

Type	Pack size	Ordering code	L.P.(₹)
Maintained / Short handle			
M2SS1-10B	1	1SFA611200R1006	247
Maintained / Short handle			
M2SS2-10B	1	1SFA611201R1006	247
Momentary / Short handle, spring return from C to B			
M2SS3-10B	1	1SFA611202R1006	257
Maintained / Long handle			
M2SS4-10B	1	1SFA611203R1006	756
Maintained / Long handle			
M2SS5-10B	1	1SFA611204R1006	756
Momentary / Long handle, spring return from C to B			
M2SS6-10B	1	1SFA611205R1006	777

Refer holder and contact block configuration for standard operator

Operator: non-illuminated black three-position selector switch

Type	Pack size	Ordering code	L.P.(₹)
Maintained / Short handle			
M3SS1-10B	1	1SFA611210R1006	247
Momentary / Short handle, spring return from A to B and C to B			
M3SS2-10B	1	1SFA611211R1006	257
Momentary / Short handle, spring return from C to B			
M3SS3-10B	1	1SFA611212R1006	257
Momentary / Short handle, spring return from A to B			
M2SS7-10B	1	1SFA611216R1006	257
Maintained / Long handle			
M3SS4-10B	1	1SFA611213R1006	756
Momentary / Long handle, spring return from A to B and C to B			
M3SS5-10B	1	1SFA611214R1006	777
Momentary / Long handle, spring return from C to B			
M3SS6-10B	1	1SFA611215R1006	981
Momentary / Long handle, spring return from A to B			
M2SS8-10B	1	1SFA611217R1006	704

Refer holder and contact block configuration for standard operator

Operator: non-illuminated black three-position selector switch with operation of center position

Type	Pack size	Ordering code	L.P.(₹)
Short handle			
M3SSC1-10B	1	1SFA611250R1006	273
M3SSC2-10B	1	1SFA611251R1006	
M3SSC3-10B	1	1SFA611252R1006	
M3SSC7-10B	1	1SFA611256R1006	
Long handle			
M3SSC4-10B	1	1SFA611253R1006	803
M3SSC5-10B	1	1SFA611254R1006	
M3SSC6-10B	1	1SFA611255R1006	
M3SSC8-10B	1	1SFA611258R1006	

Refer holder and contact block configuration for standard operator

Pilot devices

Modular range



Operator : Key operated selector switch					
	Type		Pack size	Ordering code	L.P.(₹)
●	Maintained / Two positions (The key can be removed in both position)				
71/Ronis 455	M2SSK1-101		1	1SFA611280R1001	588
72/Ronis 421	M2SSK1-102		1	1SFA611280R1002	
73/Ronis 3433-E	M2SSK1-103		1	1SFA611280R1003	
Random selection*)	M2SSK1-104		1	1SFA611280R1004	
	Maintained / Two positions (The key can be removed in position B only)				
71/Ronis 455	M2SSK2-101		1	1SFA611281R1001	588
72/Ronis 421	M2SSK2-102		1	1SFA611281R1002	
73/Ronis 3433-E	M2SSK2-103		1	1SFA611281R1003	
Random selection*)	M2SSK2-104		1	1SFA611281R1004	
	Momentary / Two positions, spring return from C to B (The key can be removed in position B only)				
71/Ronis 455	M2SSK3-101		1	1SFA611282R1001	646
72/Ronis 421	M2SSK3-102		1	1SFA611282R1002	
73/Ronis 3433-E	M2SSK3-103		1	1SFA611282R1003	
Random selection*)	M2SSK3-104		1	1SFA611282R1004	

Refer holder and contact block configuration for standard operator

Operator : Key operated selector switch					
	Type		Pack size	Ordering code	L.P.(₹)
●	Maintained / Three positions (The key can be removed in both position)				
71/Ronis 455	M3SSK1-101		1	1SFA611283R1001	588
72/Ronis 421	M3SSK1-102		1	1SFA611283R1002	
73/Ronis 3433-E	M3SSK1-103		1	1SFA611283R1003	
Random selection*)	M3SSK1-104		1	1SFA611280R1004	
	Maintained / Three positions (The key can be removed in position B only)				
71/Ronis 455	M3SSK2-101		1	1SFA611284R1001	588
72/Ronis 421	M3SSK2-102		1	1SFA611284R1002	
73/Ronis 3433-E	M3SSK2-103		1	1SFA611284R1003	
Random selection*)	M3SSK2-104		1	1SFA611284R1004	
	Momentary / Three positions, spring return from C to B (The key can be removed in position B only)				
71/Ronis 455	M3SSK3-101		1	1SFA611285R1001	646
72/Ronis 421	M3SSK3-102		1	1SFA611285R1002	
73/Ronis 3433-E	M3SSK3-103		1	1SFA611285R1003	
Random selection*)	M3SSK3-104		1	1SFA611285R1004	

Refer holder and contact block configuration for standard operator

Potentiometer				
	Type	Pack size	Ordering code	L.P.(₹)
●	with resistor 5 kohm			
Black plastic	MT-105B	1	1SFA611410R1056	3,371
●	with resistor 10 kohm			
Black plastic	MT-110B	1	1SFA611410R1106	3,371
●	with resistor 50 kohm			
Black plastic	MT-150B	1	1SFA611410R1506	3,539

Toggle switch*				
	Type	Pack size	Ordering code	L.P.(₹)
●	Maintained / Two-positions			
Black plastic	MTS1-10B	1	1SFA611300R1006	567
●	Momentary / Three-positions			
Black plastic	MTS2-10B	1	1SFA611301R1006	735
●	Maintained / Three-positions			
Black plastic	MTS3-10B	1	1SFA611302R1006	567

1)



2)



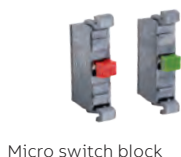
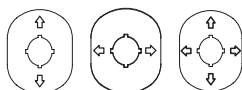
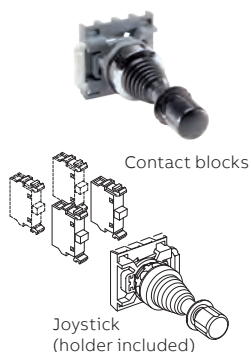
3)



Pilot devices

Modular range

• Joystick (holder included)
+ contact blocks



Micro switch block



Mounting tool



Protective cover



30 mm adaptor



Membrane of silicon rubber

Joystick				
●	Type	Pack size	Ordering code	L.P.(₹)
Maintained				
2 - position	MJS1-60B	1	1SFA611701R6006	3,229
4 - position	MJS5-60B	1	1SFA611705R6006	3,549
Spring return				
2 - position	MJS2-60B	1	1SFA611702R6006	3,229
4 - position	MJS6-60B	1	1SFA611706R6006	3,549
Maintained / Latching function				
2 - position	MJS7-60B	1	1SFA611707R6006	3,549
4 - position	MJS11-60B	1	1SFA611711R6006	4,106
Spring return / Latching function				
2 - position	MJS8-60B	1	1SFA611708R6006	3,549
4 - position	MJS12-60B	1	1SFA611712R6006	4,106

Legend plates for joystick

Description	Type	Pack size	Ordering code	L.P.(₹)
2 - position	MA6-1240	1	1SFA611930R1240	273
2 - position	MA6-1241	1	1SFA611930R1241	
4 - position	MA6-1242	1	1SFA611930R1242	

Refer holder and contact block configuration for standard operator

Micro switch blocks

Description	Type	Pack size	Ordering code	L.P.(₹)
1 NO	MCBL-10	1	1SFA611612R1010	473
1 NC	MCBL-01	1	1SFA611612R1001	

Extreme duty pushbutton

	Type	Pack size	Ordering code	L.P.(₹)
● ● ●	For Ø 30 mm mounting hole			
	KP6-40 ■	1	1SFA616105R400 □	1,370

Refer contact block configuration for standard operator

Reset pushbutton

	Type	Pack size	Ordering code	L.P.(₹)
● ○	With shaft			
No text	KPR3-100 ■	1	1SFA616162R100 □	425
● ○	Without shaft			
No text	KPR1-100 ■	1	1SFA616160R100 □	320
● ○	Accessories: Shaft (black)			
No text	KA1-8046	1	1SFA616920R8046	131

Accessories

	Type	Pack size	Ordering code	L.P.(₹)
Mounting tool	MA1-8015	1	1SFA611920R8015	294
Membrane of silicone flush button	KA1-8052	1	1SFA611920R8052	184
Membrane of silicone extended button	KA1-8002	1	1SFA611920R8002	347
Locking nut	MA1-8019	1	1SFA611920R8019	226

*Spacer is needed when legendplates are not used in plastic enclosures

Pilot devices

Enclosures



Empty enclosures



Shroud



DIN-rail adaptor

Empty plastic enclosures for modular and compact range				
Description	Type	Pack size	Ordering code	L.P.(₹)
■ □ 1-seat	MEPY1-0	1	1SFA611821R1000	1,680
■ □ 1-seat	MEP1-0	1	1SFA611811R1000	1,649
■ □ 2-seat	MEP2-0	1	1SFA611812R1000	1,523
■ □ 3-seat	MEP3-0	1	1SFA611813R1000	2,158
■ □ 4-seat	MEP4-0	1	1SFA611814R1000	2,930
■ □ 6-seat	MEP6-0	1	1SFA611816R1000	4,463
Shroud for modular range push button operator				
■ Yellow	MA1-8053	1	1SFA611920R8053	473
■ Grey	MA1-8128	1	1SFA611920R8128	1,423
Empty enclosures for compact range				
■ □ Yellow/Light grey	CEPY1-0	1	1SFA619821R1000	1,433
■ □ Dark grey/Light grey	CEP1-0	1	1SFA619811R1000	1,171
Shroud for compact range push buttons				
■ Yellow	CA1-8053	1	1SFA619920R8053	294
■ Grey	CA1-8054	1	1SFA619920R8054	294
DIN-rail adaptor				
DIN-rail adaptor	MA1-8131	1	1SFA611920R8131	793

Signal towers and signal beacons*



* Price on request

Signal tower and beacons



KL70-401B

1SFC151507F0001



KL70-401Y

1SFC151508F0001



KA4-102...

1SFC151509F0001

Description					
Colors	Red	Green	Yellow	Blue	Clear
Replace ■ in type with	R	G	Y	B	C
Replace □ in Ordering code with	1	2	3	4	8

Description	Type	Ordering code	L.P.(₹)
Light element			
Available in red, green, yellow, blue and clear			
Permanent light, 12-240 V AC/DC For bulb BA 15d. Bulb not included	KL70-401 ■	1SFA616070R401 □	1,760
Blinking light, 24 V AC/DC with integrated LED	KL70-306 ■	1SFA616070R306 □	7,335
Flashing light, 24 V AC/DC with integrated xenon tube	KL70-203 ■	1SFA616070R203 □	10,158
Blinking light, 115 V AC with integrated LED	KL70-342 ■	1SFA616070R342 □	6,595
Flashing light, 115 V AC with integrated xenon tube	KL70-113 ■	1SFA616070R113 □	8,228
Blinking light, 230 V AC with integrated LED	KL70-352 ■	1SFA616070R352 □	7,335
Flashing light, 230 V AC with integrated xenon tube	KL70-123 ■	1SFA616070R123 □	7,875
LED permanent light, 24 V AC/DC with integrated LED	KL70-305 ■	1SFA616070R305 □	6,900
LED rotating light, 24 V AC/DC with integrated LED	KL70-307 ■	1SFA616070R307 □	15,500

Bulbs: Bulb Ba 15d, 42mm, max 7 W for permanent or blinking light			
24 V, 5 W, AC/DC	KA4-1021	1SFA616923R1028	138
115 V, 5 W, AC/DC	KA4-1118	1SFA616923R1118	210
230 V, 5 W, AC/DC	KA4-1148	1SFA616923R1148	220

LED bulbs Ba 15d, 40mA			
Available in red, green, yellow, blue and white			
24 V AC/DC	KA4-102 ■	1SFA616924R102 □	4,310

Audible modules buzzer element. 85 dB, continuous or pulsating tone, adjustable			
24 V AC/DC	KB70-3001	1SFA616071R3001	4,525
115 V AC	KB70-3101	1SFA616071R3101	5,165
115 V AC	KB70-1201	1SFA616071R1201	4,800



Signal towers



KT70-10...

1SFC151510F0001



KA70-1001

1SFC151511F0001



KA70-1034

1SFC151512F0001

Description	Type	Ordering code	LP
Siren element			
Multi function, 8 diff. Tones adjustable, volume adjustable 100 dB, 115 V AC	KS70-1104	1SFA616073R1104	7,565
Multi function, 8 diff. Tones adjustable, volume adjustable 100 dB, 230 V AC	KS70-1204	1SFA616073R1204	7,565
Multi function, 7 diff. Tones adjustable, volume adjustable, 100 dB, 24 V DC	KS70-2004	1SFA616073R2004	8,304
Multi function, 8 diff. Tones adjustable, volume adjustable 100 dB, 24 V AC/DC	KS70-3004	1SFA616073R3004	6,390
Continuous tone alternating 108 dB, 24 V DC	KS70-2002	1SFA616073R2002	4,915
Terminal elements			
For tube mounting, including cap	KT70-1001	1SFA616075R1001	2,580
For bracket or base, including cap	KT70-1002	1SFA616075R1002	2,580
Special parts			
Contact box			
Cable exit at side	KA70-1001	1SFA616077R1001	540
Magnetic base	KA70-1002	1SFA616077R1002	3,365
Base with tube			
D=25 mm L=110 mm	KA70-1011	1SFA616077R1011	1,366
Base for tube			
D=25 mm, plastic	KA70-1012	1SFA616077R1012	655
D=25 mm, metal	KA70-1013	1SFA616077R1013	2,135
Tube, anodized aluminum			
D=25 mm L=250 mm	KA70-1021	1SFA616077R1021	1,098
D=25 mm L=400 mm	KA70-1022	1SFA616077R1022	1,323
D=25 mm L=800 mm	KA70-1023	1SFA616077R1023	2,645
Bracket			
1-sided mounting	KA70-1031	1SFA616077R1031	955
2-sided mounting	KA70-1032	1SFA616077R1032	955
For tube mounting	KA70-1033	1SFA616077R1033	1,010
For surface mounting	KA70-1034	1SFA616077R1034	1,010

Signal beacons



KSB-401G

SFC151513F0001



KASB-100

SFC151514F0001

Description					
Colors	Red	Green	Yellow	Blue	Clear
Replace ■ in type with	R	G	Y	B	C
Replace □ in Ordering code with	1	2	3	4	8

Light element: Available in red, green, yellow, blue and clear

Permanent light, 12-240 V AC/DC. For Bulb BA 15dBulb not included	KSB-401 ■	1SFA616080R401 □	11,220
Flashing light, 24 V DC. With integrated xenon tube	KSB-203 ■	1SFA616080R203 □	11,270
Flashing light, 115 V AC. With integrated xenon tube	KSB-113 ■	1SFA616080R113 □	9,600
Flashing light, 230 V AC. With integrated xenon tube	KSB-123 ■	1SFA616080R123 □	9,600

Light element LED: Available in red, green and yellow

LED permanent light, 24 V AC/DC. With integrated LED	KSB-305 ■	1SFA616080R305 □	12,428
LED blinking light, 24 V AC/DC. With integrated LED	KSB-306 ■	1SFA616080R306 □	12,428
LED rotation light, 24 V AC/DC. With integrated LED	KSB-307 ■	1SFA616080R307 □	11,220

Special parts

Anti-twist device	KASB-100	1SFA616087R1000	428
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Bulbs for signal beacons max 10 W. For permanent light Bulb Ba 15d, 52mm

12 V, 7 W, AC/DC	KA3-1018	1SFA616922R1018	162
24 V, 7 W, AC/DC	KA3-1028	1SFA616922R1028	221
115 V, 7 W, AC/DC	KA3-1118	1SFA616922R1118	258
220-260 V, 7-10 W, AC/DC	KA3-1148	1SFA616922R1118	266

Electronic products and relays

The product range



Time relays, CT range

Three ranges of electronic timers provide timing functions for all applications: the CT-D range with a width of just 17.5 mm; the CT-E and CT-C range, the ideal solution for serial applications; and the CT-S range that has two different types of connection terminals and is ideally suited for universal use. The CT range has a wide variety of timing functions (from ON or OFF delay to star-delta changeover). The time relays are available with output relays, solid-state outputs and precise direct time adjustment.



Measuring and monitoring relays, CM range

State-of-the-art monitors for single and three-phase systems. Monitoring of: voltage, current, frequency, power factor (motor load), thermistors, temperature, liquid level, insulation resistance, and grid feeding. ABB has one of the world's widest product ranges of measuring and monitoring relays. The CM range is a key product line of the EPR range.



Power supplies, CP range

Modern power supply units are a vital component in most areas of energy management and automation technology. As your global partner in this area, ABB pays close attention to corresponding requirements. Innovation is the key to the substantial enlargement of our power supply product range. ABB offers four different product lines for single and three-phase supplies, output voltages 5/12/24, and 48 VDC in plastic and metal enclosure, as well as various accessories.



Interface relays and optocouplers, CR range and R600

Interface relays and optocouplers are widely used in various industrial applications. As an interface, they link the controller, e.g. PLC (programmable logic controller), PC or field bus systems to the sensor/actuator level. Here, they have various functions: switching AC or DC loads with different resistive, inductive and capacitive parts, switching voltages from a few mV up to 250 V, switching currents from a few mA up to 16 A, amplification of weak control signals, electrical isolation of control and load circuits, and signal multiplying.



Logic relays, CL range

CL range logic relays are suitable for small and medium-sized control tasks and can substitute logic wiring quickly and easily. Three different ranges are available: stand alone, expandable and the display systems.

Time relays

CT-C, CT-S and CT-D



CT-C range

Ordering details



CT-MFC.12

2CDC51030V0018



CT-ERC.22

2CDC51029V0018

- M Control input with voltage-related triggering
- No triggering

Description

The CT-C range combines lower cost with higher value and performance in a slim 17.5 mm-wide housing. All relays have a wide time setting range from 0.05 seconds up to 100 hours. Combined with a wide voltage range they are the perfect choice for applications worldwide.

Ordering details

Timing function	Rated control supply voltage	Time ranges	Control input	Output	Type	Order code	L.P.(₹)
Multi ¹⁾	24-240 V AC 24-48 V DC	7 (0.05 s - 100 h)	M	1 c/o	CT-MFC.12	1SVR508020R0000	Upon request
Multi ¹⁾	12-240 V AC/DC	7 (0.05 s - 100 h)	M	2 c/o	CT-MFC.21	1SVR508020R1100	
ON-delay	24-240 V AC 24-48 V DC	7 (0.05 s - 100 h)	-	1 c/o	CT-ERC.12	1SVR508100R0000	
				2 c/o	CT-ERC.22	1SVR508100R0100	
OFF-delay			M	1 c/o	CT-AHC.12	1SVR508110R0000	
			M	2 c/o	CT-AHC.22	1SVR508110R0100	
Impulse-ON			-	1 c/o	CT-VWC.12	1SVR508130R0000	
Pulse generator		2x7 (0.05 s - 100 h)	M		CT-TGC.12 ²⁾	1SVR508160R0000	
			M	2 c/o	CT-TGC.22 ²⁾	1SVR508160R0100	
Star-delta change-over		4 (0.05 s - 10 min)	-	2 n/o	CT-SDC.22 ³⁾	1SVR508211R0100	
			-		CT-SAC.22 ⁴⁾	1SVR508210R0100	

¹⁾ Functions: ON-delay, OFF-delay with auxiliary voltage, Impulse-ON, Impulse-OFF with auxiliary voltage, Flasher starting with ON, Flasher starting with OFF, Pulse former

²⁾ ON and OFF times adjustable independently: 2 x 7 time ranges 0.05 s - 100 h

³⁾ Transition time 50 ms fixed

⁴⁾ Transition time adjustable



CT-C Range

Electronic products and relays

Electronic timer



ON-delay timers

CT-ERE : 1 c/o contact, 2 LEDs

Type	Rated control supply voltage	Time range	Ordering code	L.P.(₹)*
CT-ERE	24 V AC / DC, 220-240 V AC	0.1-10 s	1SVR550107R1100	1,640
		0.3-30 s	1SVR550107R4100 ■	
		3-300 s	1SVR550107R2100 ■	
		0.3-30 min	1SVR550107R5100 ■	
	110-130 V AC	0.1-10 s	1SVR550100R1100	
		0.3-30 s	1SVR550100R4100 ■	
		3-300 s	1SVR550100R2100	
		0.3-30 min	1SVR550100R5100	

OFF-delay timers

CT-AHE : 1 c/o contact, 2 LEDs

Type	Rated control supply voltage	Time range	Ordering code	L.P.(₹)*
CT-AHE	24 V AC/DC	0.1-10 s	1SVR550118R1100	1,700
		0.3-30 s	1SVR550118R4100	
		3-300 s	1SVR550118R2100	
	110-130 V AC	0.1-10 s	1SVR550110R1100	
		0.3-30 s	1SVR550110R4100 ■	
		3-300 s	1SVR550110R2100	
	220-240 V AC	0.1-10 s	1SVR550111R1100	
		0.3-30 s	1SVR550111R4100 ■	
		3-300 s	1SVR550111R2100 ■	

CT-ARE : without auxiliary voltage, 1 c/o contact, 1 LED

Type	Rated control supply voltage	Time range	Ordering code	L.P.(₹)*
CT-ARE	"24 V AC/DC, 220-240 V AC"	0.1-10 s	1SVR550127R1100	2,350
		0.3-30 s	1SVR550127R4100 ■	
	110-130 V AC	0.1-10 s	1SVR550120R1100	
		0.3-30 s	1SVR550120R4100 ■	

Multifunction timer

CT-MFE : 6 functions, 8 time ranges (0.05 s - 100 h), 1 c/o contact, 2 LEDs

Type	Rated control supply voltage	Time range	Ordering code	L.P.(₹)*
CT-MFE	24-240 V AC/DC	0.05 s - 100 h	1SVR550029R8100 ■	3,090

Star Delta timers

CT-YDE : ON-delayed, OFF-delayed without auxiliary voltage, 1 c/o contact, 2 LEDs

Type	Rated control supply voltage	Time range	Ordering code	L.P.(₹)*
CT-YDE	24 V AC/DC, 220 - 240 V AC	0.1-10 s	1SVR550207R1100	2,900
		0.3-30 s	1SVR550207R4100 ■	
		3-300 s	1SVR550207R2100 ■	
	110-130 V AC	0.1-10 s	1SVR550200R1100	
		0.3-30 s	1SVR550200R4100	
		3-300 s	1SVR550200R2100	

* Price valid upto June 2020

■ Stock items

Electronic products and relays

Electronic timer



CT-SDE: ON-delayed with fixed transition time, 1 n/c contact, 1 n/o contact, internally wired, 2 LEDs

Type	Rated control supply voltage	Time range	Ordering code	L.P.(₹)*
CT- SDE	24 V AC/DC, 220 -240V AC	0.3-30 s	1SVR550217R4100 ■	1,890
	110-130V AC		1SVR550210R4100	
	380-415V AC		1SVR550212R4100 ■	

CT-VWE: Impulse-ON, 1 c/o contact

Type	Rated control supply voltage	Time range	Ordering code	L.P.(₹)*
CT-VWE	24 V AC/DC, 220-240 V AC	0.1-10 s	1SVR550137R1100	3,520
		0.3-30 s	1SVR550137R4100	
		3-300 s	1SVR550137R2100	
	110-130 V AC	0.1-10 s	1SVR550130R1100	
		0.3-30 s	1SVR550130R4100	
		3-300 s	1SVR550130R2100	

CT-AWE: Impulse-OFF, 1 c/o contact

Type	Rated control supply voltage	Time range	Ordering code	L.P.(₹)*
CT-AWE w/o Aux.	24 V AC/DC	0.05-1 s	1SVR550158R3100	4,600
	110-130 V AC		1SVR550150R3100	
	220-240 V AC		1SVR550151R3100	
CT-AWE with Aux.	24 V AC/DC	0.1-10 s	1SVR550148R1100	
		0.3-30 s	1SVR550148R4100	
		3-300 s	1SVR550148R2100	
	110-130 V AC	0.1-10 s	1SVR550140R1100	
		0.3-30 s	1SVR550140R4100	
		3-300 s	1SVR550140R2100	
	220-240 V AC	0.1-10 s	1SVR550141R1100	
		0.3-30 s	1SVR550141R4100	
		3-300 s	1SVR550141R2100	

CT-EBE: Flasher starting with OFF, 1 c/o contact

Type	Rated control supply voltage	Time range	Ordering code	L.P.(₹)*
CT-EBE	24 V AC/DC, 220-240 V AC	0.1-10 s	1SVR550167R1100	3,520
	110-130 V AC		1SVR550160R1100	1,400

CT-MFS.21: ON-delay (accumulative), OFF-delay without aux., Symmetrical ON-delay and OFF-delay and Impulse-ON, ON/OFF function, pulse former, star-delta changeover with impulse, Flasher starting with OFF, Flasher starting with ON, impulse -OFF, 2 c/o



Type	Rated control supply voltage	Time range	Ordering code	L.P.(₹)
CT-MFS.21S	24-240 V AC/DC	10 (0.05 s- 300 h)	1SVR730010R0200	4,920

CT-ERS.22: ON-delay (accumulative), 2 c/o

Type	Rated control supply voltage	Time range	Ordering code	L.P.(₹)
CT-ERS.22S	24-48 V DC, 24-240 V AC	10 (0.05 s- 300 h)	1SVR730100R3300	3,300

■ Stock items

* Price valid upto June 2020

Electronic products and relays

Measuring and monitoring relays



Single and three phase monitoring relays for phase failure detection

Type	Rated control supply voltage = measuring voltage	Ordering code	L.P.(₹)
With neutral monitoring			
CM-PBE	3x380-440 V AC, 220-240 V AC	1SVR550881R9400	5,010
Without neutral monitoring			
CM-PBE	3x380-440 V AC	1SVR550882R9500	5,010

Single and three phase monitoring relays for over / undervoltage and phase failure detection

Type	Rated control supply voltage = measuring voltage	Ordering code	L.P.(₹)
With neutral monitoring			
CM-PVE	3x320-460 V AC, 185-265 V AC	1SVR550870R9400 ■	5,010
Without neutral monitoring			
CM-PVE	3x320-460 V AC	1SVR550871R9500	5,010

Three phase monitoring relays for phase sequence monitoring and phase failure detection

Type	Rated control supply voltage = measuring voltage	Ordering code	L.P.(₹)
CM-PFS.S	3x200-500 V AC	1SVR730824R9300	2,290

Three phase monitoring relays for over and undervoltage with adjustable threshold values

Type	Rated control supply voltage = measuring voltage	Ordering code	L.P.(₹)
CM-PVS.31P	3x160-300 V AC	1SVR740794R1300	16,920
CM-PVS.31S		1SVR730794R1300	13,960
CM-PVS.41P	3x300-500 V AC	1SVR740794R3300	15,060
CM-PVS.41S		1SVR730794R3300	15,060



Three phase monitoring relays for phase unbalance

Type	Rated control supply voltage = measuring voltage	Ordering code	L.P.(₹)
CM-PAS.31P	3x160-300 V AC	1SVR740774R1300	16,090
CM-PAS.31S		1SVR730774R1300	13,960
CM-PAS.41P	3x300-500 V AC	1SVR740774R3300	16,090
CM-PAS.41S		1SVR730774R3300	13,960

Multifunctional three phase monitoring relays (phase failure detection, phase sequence monitoring, overvoltage, undervoltage, phase unbalance)

Type	Rated control supply voltage = measuring voltage	Ordering code	L.P.(₹)
With interrupted neutral monitoring			
CM-MPS.11P	3x90-170 V AC	1SVR740885R1300	16,750
CM-MPS.11S		1SVR730885R1300	15,620
CM-MPS.21P	3x180-280 V AC	1SVR740885R3300	16,180
CM-MPS.21S		1SVR730885R3300	15,360
Without interrupted neutral monitoring			
CM-MPS.41S	3x300-500 V AC	1SVR730884R3300 ■	6,400

Electronic products and relays

Measuring and monitoring relays

Three phase monitoring relays



Multifunctional three phase monitoring relays, automatic phase sequence correction and separate monitoring of over and undervoltage (window monitoring) configurable

Type	Rated control supply voltage = measuring voltage	Ordering code	L.P.(₹)
With interrupted neutral monitoring			
CM-MPS.23P	3x180-280 V AC	1SVR740885R4300	21,300
CM-MPS.23S		1SVR730885R4300	18,750
Without interrupted neutral monitoring			
CM-MPS.43P	3x300-500 V AC	1SVR740884R4300	20,540
CM-MPS.43S		1SVR730884R4300	17,010

Multifunctional three phase monitoring relays, automatic phase sequence correction and separate monitoring of over and undervoltage (window monitoring) configurable

Type	Rated control supply voltage = measuring voltage	Ordering code	L.P.(₹)
CM-MPN.52P	3x350-580 V AC	1SVR760487R8300	23,380
CM-MPN.52S		1SVR750487R8300	19,860
CM-MPN.62P	3x450-720 V AC	1SVR760488R8300	23,380
CM-MPN.62S		1SVR750488R8300	20,540
CM-MPN.72P	3x530-820 V AC	1SVR760489R8300	23,380
CM-MPN.72S		1SVR750489R8300 ■	20,540

Insulation monitors for unearthed supply systems



Type	Nominal voltage Un of the distribution system to be monitored	Rated control supply voltage	Ordering code	L.P.(₹)
CM-IWS.1P	0-250 V AC / 0-300 V DC	24-240 V AC/DC	1SVR740660R0100	26,800
CM-IWS.1S			1SVR730660R0100 ■	25,800
CM-IWS.2P	0-400 V AC	24-240 V AC/DC	1SVR740670R0200	23,750
CM-IWS.2S			1SVR730670R0200 ■	21,200
CM-IWN.1P	0-400 V AC / 0-600 V DC	24-240 V AC/DC	1SVR760660R0200	67,460
CM-IWN.1S			1SVR750660R0200	49,100
Coupling unit				
CM-IVN.S	Passive device, no control supply voltage needed	0-690 V AC / 0-1000 V DC	1SVR750669R9400 ■	25,680
CM-IVN.P			1SVR760669R9400	31,260

Thermistor motor protection relays



Type	Rated control supply voltage	Ordering code	L.P.(₹)
CM-MSE	24 V AC	1SVR550805R9300	5,580
	110-130 V AC	1SVR550800R9300 ■	4,240
	220-240 V AC	1SVR550801R9300 ■	5,580
CM-MSS.12S	24 V AC/DC	1SVR730700R0100	7,100
CM-MSS.12P	24 V AC/DC	1SVR740700R0100	7,490
CM-MSS.13S	110-130 V AC/220-240 V AC	1SVR730700R2100	6,690
CM-MSS.13P	110-130 V AC/220-240 V AC	1SVR740700R2100	7,490
CM-MSS.22S	24 V AC/DC	1SVR730700R0200	7,140
CM-MSS.22P	24 V AC/DC	1SVR740700R0200	8,200
CM-MSS.23S	110-130 V AC/220-240 V AC	1SVR730700R2200	7,140
CM-MSS.23P	110-130 V AC/220-240 V AC	1SVR740700R2200	8,200

■ Stock items

Electronic products and relays

Pluggable interface relays



CR-M

Ordering details - CR-M range without LED

Version	Outputs	Type	Ordering code	L.P.(₹)
12 V DC	2 c/o (SPDT)	CR-M012DC2	1SVR405611R4000	620
24 V DC		CR-M024DC2	1SVR405611R1000 ■	620
48 V DC		CR-M048DC2	1SVR405611R6000	620
60 V DC		CR-M060DC2	1SVR405611R4200	620
110 V DC		CR-M110DC2	1SVR405611R8000 ■	690
125 V DC		CR-M125DC2	1SVR405611R8200	680
220 V DC		CR-M220DC2	1SVR405611R9000	650
24 V AC		CR-M024AC2	1SVR405611R0000	650
48 V AC		CR-M048AC2	1SVR405611R5000	650
110 V AC		CR-M110AC2	1SVR405611R7000	650
120 V AC		CR-M120AC2	1SVR405611R2000	650
230 V AC		CR-M230AC2	1SVR405611R3000 ■	720
12 V DC	4 c/o (SPDT)	CR-M012DC4	1SVR405613R4000	620
24 V DC		CR-M024DC4	1SVR405613R1000 ■	620
48 V DC		CR-M048DC4	1SVR405613R6000	660
60 V DC		CR-M060DC4	1SVR405613R4200	630
110 V DC		CR-M110DC4	1SVR405613R8000 ■	720
125 V DC		CR-M125DC4	1SVR405613R8200 ■	730
220 V DC		CR-M220DC4	1SVR405613R9000 ■	760
24 V AC		CR-M024AC4	1SVR405613R0000	730
48 V AC		CR-M048AC4	1SVR405613R5000	680
110 V AC		CR-M110AC4	1SVR405613R7000 ■	730
120 V AC		CR-M120AC4	1SVR405613R2000	730
230 V AC		CR-M230AC4	1SVR405613R3000 ■	760

Ordering details - CR-M range with LED

Version	Outputs	Type	Ordering code	L.P.(₹)
12 V DC	2 c/o (SPDT)	CR-M012DC2L	1SVR405611R4100	620
24 V DC		CR-M024DC2L	1SVR405611R1100 ■	640
48 V DC		CR-M048DC2L	1SVR405611R6100	650
60 V DC		CR-M060DC2L	1SVR405611R4300	650
110 V DC		CR-M110DC2L	1SVR405611R8100	730
125 V DC		CR-M125DC2L	1SVR405611R8300	730
220 V DC		CR-M220DC2L	1SVR405611R9100	750
24 V AC		CR-M024AC2L	1SVR405611R0100	720
48 V AC		CR-M048AC2L	1SVR405611R5100	660
110 V AC		CR-M110AC2L	1SVR405611R7100	720
120 V AC	4 c/o (SPDT)	CR-M120AC2L	1SVR405611R2100	730
230 V AC		CR-M230AC2L	1SVR405611R3100	760
12 V DC		CR-M012DC4L	1SVR405613R4100	770
24 V DC		CR-M024DC4L	1SVR405613R1100 ■	770
48 V DC		CR-M048DC4L	1SVR405613R6100	770
60 V DC		CR-M060DC4L	1SVR405613R4300	680
110 V DC		CR-M110DC4L	1SVR405613R8100 ■	860
125 V DC		CR-M125DC4L	1SVR405613R8300	860
220 V DC		CR-M220DC4L	1SVR405613R9100 ■	900
24 V AC		CR-M024AC4L	1SVR405613R0100	860
48 V AC		CR-M048AC4L	1SVR405613R5100	860
110 V AC		CR-M110AC4L	1SVR405613R7100	860
120 V AC		CR-M120AC4L	1SVR405613R2100	780
230 V AC		CR-M230AC4L	1SVR405613R3100 ■	900



CR-M



CR-M4SS

Ordering details - CR-M range accessories

Version	Type	Ordering code	L.P.(₹)
Standard socket for 2 c/o	CR-M2SS	1SVR405651R1000 ■	390
Standard socket for 2/4 c/o	CR-M4SS	1SVR405651R3000 ■	420
Plastic holder	CR-MH	1SVR405659R1000 ■	50
Metal holder	CR-MH1	1SVR405659R1100 ■	40

■ Stock items

Electronic products and relays

Pluggable interface relays



CR-MX with
Base and
Holder

Ordering details - CR-M range with LED

Version	Outputs	Type	Ordering code	L.P.(₹)
12 V DC	2 c/o (SPDT), 250 V, 7 A	CR-MX012DC2L	1SVR405631R4100	260
24 V DC		CR-MX024DC2L	1SVR405631R1100 ■	280
48 V DC		CR-MX048DC2L	1SVR405631R6100	300
110 V DC		CR-MX110DC2L	1SVR405631R8100 ■	280
24 V AC		CR-MX024AC2L	1SVR405631R0100 ■	260
110 V AC		CR-MX110AC2L	1SVR405631R7100	260
230 V AC	4 c/o (SPDT), 250 V, 5 A	CR-MX230AC2L	1SVR405631R3100 ■	300
12 V DC		CR-MX012DC4L	1SVR405633R4100	300
24 V DC		CR-MX024DC4L	1SVR405633R1100 ■	320
48 V DC		CR-MX048DC4L	1SVR405633R6100	330
110 V DC		CR-MX110DC4L	1SVR405633R8100 ■	330
24 V AC		CR-MX024AC4L	1SVR405633R0100 ■	330
110 V AC		CR-MX110AC4L	1SVR405633R7100 ■	350
230 V AC		CR-MX230AC4L	1SVR405633R3100 ■	350

Accessories* - CR-MX range

Version	Type	Ordering code	L.P.(₹)
For 2 c/o (SPDT) contacts, black	CR-M2SFB	1SVR405651R1400 ■	140
For 2 or 4 c/o (SPDT) contacts, black	CR-M4SFB	1SVR405651R3400 ■	180
Metal holder	CR-MH1	1SVR405659R1100 ■	40

■ Stock items

Electronic products and relays

Power supplies

Overview

Modern power supply units are vital components in most areas of energy management and automation technology. ABB as your global partner in these areas pays the utmost attention to the resulting requirements. Innovation is the key to a substantial enlargement of our power supply product program:

CP-D

The CP-D range of power supply units in MDRC design (modular DIN rail components) fits into all domestic installation and distribution panels.

CP-E

The CP-E range offers enhanced functionality while the number of different types has been considerably reduced. Now all power supply units can be operated at an ambient temperature of up to +70 °C.

CP-T

The CP-T range of three-phase power supply units is ABB's youngest member of the power supply family.

CP-C.1

The CP-C.1 power supplies are ABB's high-performance and most advanced range. With excellent efficiency, high reliability and innovative functionality, it is prepared for the most demanding industrial applications. These power supplies have up to 50% integrated power reserve and operate at an efficiency of up to 94%. They are equipped with overheat protection and active power factor correction. Combined with a broad AC and DC input range and extensive worldwide approvals the CP-C.1 power supplies are the preferred choice for professional DC applications.

CP-E range



Rated I/P voltage	Rated O/P Voltage/Current	Type	Ordering code	L.P.(₹)
100-240 V AC	5 V DC / 3 A	CP-E 5/3.0	1SVR427033R3000	4,690
100-240 V AC	12 V DC / 2.5 A	CP-E 12/2.5	1SVR427032R1000 ■	4,860
115 / 230 V AC auto select	12 V DC / 10 A	CP-E 12/10.0	1SVR427035R1000 ■	8,930
100-240 V AC	24 V DC / 0.75 A	CP-E 24/0.75	1SVR427030R0000	3,570
100-240 V AC	24 V DC / 1.25 A	CP-E 24/1.25	1SVR427031R0000 ■	3,900
100-240 V AC	24 V DC / 2.5 A	CP-E 24/2.5	1SVR427032R0000 ■	4,020
115 / 230 V AC auto select	24 V DC / 5 A	CP-E 24/5.0	1SVR427034R0000 ■	7,240
115 / 230 V AC auto select	24 V DC / 10 A	CP-E 24/10.0	1SVR427035R0000 ■	10,600
115 / 230 V AC	24 V DC / 20 A	CP-E 24/20.0	1SVR427036R0000 ■	18,970
100-240 V AC	48 V DC / 0.625 A	CP-E 48/0.62	1SVR427030R2000	5,010
100-240 V AC	48 V DC / 1.25 A	CP-E 48/1.25	1SVR427031R2000	6,390
115 / 230 V AC auto select	48 V DC / 5 A	CP-E 48/5.0	1SVR427034R2000	12,930
115 / 230 V AC	48 V DC / 10 A	CP-E 48/10.0	1SVR427035R2000 ■	18,420

Note: Refer technical data sheet for DC voltage input range

CP-C.1

Input voltage range	Rated output Voltage/Current	Type	Ordering code	L.P.(₹)w
100-240 V AC, 90-300 V DC	24 V DC / 5 A	CP-C.1 24/5.0	1SVR360563R1001	Upon request
100-240 V AC, 90-300 V DC	24 V DC / 10 A	CP-C.1 24/10.0	1SVR360663R1001	
100-240 V AC, 90-300 V DC	24 V DC / 20 A	CP-C.1 24/20.0	1SVR360763R1001	

CP-T range

Rated I/P voltage	Rated O/P Voltage/Current	Type	Ordering code	L.P.(₹)w
340-575 V AC/ 480-820 V DC	24 V DC / 5 A	CP-T 24/5.0	1SVR427054R0000	12,900
340-575 V AC/ 480-820 V DC	24 V DC / 10 A	CP-T 24/10.0	1SVR427055R0000	16,420
340-575 V AC/ 480-820 V DC	24 V DC / 20 A	CP-T 24/20.0	1SVR427056R0000	20,370
340-575 V AC/ 480-820 V DC	24 V DC / 40 A	CP-T 24/40.0	1SVR427057R0000	30,140
340-575 V AC/ 480-820 V DC	48 V DC / 5 A	CP-T 48/5.0	1SVR427054R2000	17,850
340-575 V AC/ 480-820 V DC	48 V DC / 10 A	CP-T 48/10.0	1SVR427055R2000	24,400
340-575 V AC/ 480-820 V DC	48 V DC / 20 A	CP-T 48/20.0	1SVR427056R2000	35,700

■ Stock items

Intelligent motor management system - UMC100.3

Ordering details - Universal Motor Controller UMC100.3



UMC100.3 DC



UMC100.3 UC



UMC100-PAN

Description

Intelligent motor management system for single and three-phase motors with $I_e = 0.24 - 63$ A in one single device. Compact housing with integrated current transformer for cable cross section up to 25 mm^2 (max. $\varnothing$ with Insulation 11 mm). Higher currents with additional external current transformer. Thermal overload protection according to EN/IEC 60947-4-1, selectable trip classes 5E, 10E, 20E, 30E, 40E. Some functions require an additional expansion module.

- **Motor protection functions:**
Over-/underload, over-/undercurrent, over-/undervoltage, rotor blocking, phase failure/imbalance/sequence Earth fault detection integrated or with external sensor CEM11
Hot motor protection with thermistor or temperature measurement
- **Motor control functions:**
Easily configurable motor control functions: direct, reverse, star-delta starter, pole-changing, overload relay, actuator mode, softstarter mode. Additionally free programmable application specific logic with function blocks
- **Service and diagnostic data:**
Operating hours, number of motor starts and overload trips, energy, standstill and operation hours supervision, motor status, faults and warnings, fault history (16 events)
Motor current, phase voltages, thermal load, power factor (cos), active power, apparent power, energy, total harmonic distortion (THD).
- **Integrated I/Os:**
6 digital inputs, 1 PTC input, 4 digital outputs. Maximum number of I/Os with expansion modules:
14 digital inputs, 1 PTC input, 9 digital outputs, 6 analogue inputs, 1 analogue output
- **Communication interfaces** for fieldbuses and ethernet networks, interface for operator panel UMC100-PAN, bus interface for connection of expansion modules
- **Versions** for supply voltage 24 V DC and 110 – 240 V AC/DC and with ATEX approval

Ordering details

Designation	Supply voltage	Type	Ordering code	L.P.(₹)
Universal Motor Controller	24 V DC	UMC100.3 DC	1SAJ530000R0100	Upon request
Universal Motor Controller	110-240 V AC/DC	UMC100.3 UC	1SAJ530000R1100	
Universal Motor Controller, ATEX	24 V DC	UMC100.3 DC EX	1SAJ530000R0200	
Universal Motor Controller, ATEX	110-240 V AC/DC	UMC100.3 UC EX	1SAJ530000R1200	
Universal Motor Controller, DC, ATEX, Conformal Coating	24 V DC	UMC100.3 DC EX	1SAJ530000R0210	
Universal Motor Controller, UC, ATEX, Conformal Coating	110-240 V AC/DC	UMC100.3 DC EX	1SAJ530000R1210	

Operating panel UMC100-PAN

Operator panel for Universal Motor Controller UMC100. Backlit graphical and multilingual fulltext display, LEDs for status. Assembly directly on UMC100 or on the control cabinet door via extension cable and door mounting set.

Functions:

- **Monitoring:** Shows motor status and diagnostics
- **Operate:** Start, stop, fault reset
- **Parametrize:** Setting and changing of motor and fieldbus parameters (password protection possible)
- **Copy settings**
- **USB port** for up/download of parameters and logic

Supports 8 languages: English, French, German, Italian, Spanish, Polish, Portuguese, Russian
Replaces all former UMC100 operator panels

Ordering details

Designation	Type	Ordering code	L.P.(₹)
Operating panel	UMC100-PAN	1SAJ590000R0103	Upon request
0.7 m ext. cable with door mounting set	UMCPAN-CAB.070	1SAJ510003R0002	
1.5 m ext. cable with door mounting set	UMCPAN-CAB.150	1SAJ510004R0002	
3 m ext. cable with door mounting set	UMCPAN-CAB.300	1SAJ510002R0002	

Intelligent motor management system - UMC100.3

Ordering details - Expansion modules



DX111-FBP

2CDC 341 005 F0009



DX122-FBP

2CDC 341 004 F0009



VI150-FBP

2CDC 345 001 S0011



VI155-FBP

2CDC 345 002 S0011

Description

Up to 4 expansion-modules can be connected to one UMC100.3

- 1 digital expansion module DX111 or DX122
- 1 voltage expansion module VI150 or VI155
- 2 analog/temperature expansion modules AI111 possible)

Supply voltage is 24 V DC; the 110-240 V AC/DC version of the UMC100.3 provides the 24 V DC supply for expansion modules

DX111

I/O-expansion module with 8 digital inputs 24 V DC, 4 relay outputs, 1 analog output 0/4-20 mA or 0...10 V

DX122

I/O-expansion module with 8 digital inputs 110 / 230 V AC, 4 relay outputs, 1 analog output 0/4-0 mA or 0-10 V

VI15x

Voltage modules for the determination of phase voltages, power factor ($\cos \phi$), apparent power, energy, total harmonic distortion (THD).

For use in grounded networks (VI150) or in all networks (VI155), 150-690 V AC

AI111

Analog / temperature expansion module, 3 inputs PT100, PT1000, KTY83, KTY84, NTC, 0-10 V, 0/4-20 mA

1 or 2 modules AI111 can be connected to an UMC100.3.

Ordering details

Designation	Type	Ordering code	L.P.(₹)
I/O module for UMC100, 24 V DC digital input	DX111	1SAJ611000R0101	Upon request
I/O module for UMC100, 110 – 230 V AC digital input	DX122	1SAJ622000R0101	
3 phase voltage module for grounded networks	VI150	1SAJ650000R0100	
3 phase voltage module for all networks	VI155	1SAJ655000R0100	
Analog/temperature module 3 analogue inputs	AI111	1SAJ613000R0101	
Connection cable UMC100 - I/O module, length 0.30 m	UMCIO-CAB.030	1SAJ691000R0001	
Connection cable IO-module - IO-module, length 0,30 m	IOIO-CAB.030	1SAJ692000R0001	
Terminal set for UMC100.3 DC (spare parts)	UMCTB	1SAJ929160R0001	
Terminal set for UMC100.3 UC (spare parts)	UMCTB	1SAJ929160R0002	

Fieldbus interfaces

Ordering details



PDP32.0



MRP31.0



DNP31.0



PDR31.0

Description

Fieldbus communication interfaces enable the UMC100.3 to communicate via fieldbus. The interfaces can be used in two ways:

- Mounted directly on an UMC100.3 – the interface is supplied from the UMC100.3 and no additional accessory is required
- Mounted separately on a SMK3.0 adapter in the cable chamber of an MCC, the interface plugged on SMK3.0 requires a 24 V DC supply. Ready-made cables for applications in withdrawable systems are available, as well as terminal blocks for other cables:
CDP18.150: Cable for use inside the drawer CDP24.150: Cable from SMK3.0 to drawer outside

PDP32.0

- Communication interface for PROFIBUS DP; supports the protocols PROFIBUS DP/V0 and V1
- PNO-certified PROFIBUS slave
- Data transfer rate up to 12 Mbit/s
- Diagnostic LEDs
- Fieldbus connection via nine-pole Sub-D connector or terminal blocks
- GSD download from UMC100.3 webpage

MRP31.0

- Communication interface for Modbus RTU
- Data transfer rate up to 57.6 kbit/s
- Diagnostic LEDs
- Fieldbus connection via terminal blocks

DNP31.0

- Communication interface for DeviceNet
- ODVA-certified DeviceNet slave
- Data transfer rate up to 500 kbit/s
- Diagnostic LEDs
- Fieldbus connection via terminal blocks
- EDS download from UMC100.3 webpage

PDR31.0

- External active fieldbus termination for Profibus DP; the PDR31.0 needs to be mounted on a SMK3.0 adapter and supplied by 24 V DC

Description	Type	Order code	L.P. (₹)
Profibus DP communication interface	PDP32.0	1SAJ242000R0001	Upon request
Modbus RTU communication interface; terminal block for fieldbus connection included	MRP31.0	1SAJ251000R0001	
DeviceNet communication interface; terminal block for fieldbus connection included	DNP31.0	1SAJ231000R0001	
Profibus DP active bus termination	PDR31.0	1SAJ243000R0001	

Ethernet interfaces

Ordering details



MTQ22-FBP.0



PNQ22-FBP.0



EIU32.0

Description

Ethernet communication interfaces enable the UMC100.3 to communicate via an Ethernet network. There are two types of interfaces:

Interfaces for the connection of one to four Universal Motor Controllers UMC100.3:

- MTQ22-FBP.0 for Modbus TCP
- PNQ22-FBP.0 for Profinet IO

Interface for a single universal motor controller UMC100.3:

- EIU32.0 for EtherNet/IP™

MTQ22-FBP.0

- Protocol Modbus TCP
- For one to four UMC100.3
- Master supervision with timeout control for up to four masters
- Micro USB-port for configuration via PC (configuration software downloaded from UMC100.3 webpage)
- Integrated Ethernet switch
- Supports all network topologies
- Ring topology with redundancy (MRP protocol)
- Easy to use in withdrawable applications
- No special Ethernet connectors required in MCCs
- 24 V DC supply voltage
- DIN-rail mounting

PNQ22-FBP.0

- Protocol Profinet IO
- PNO-certified
- For one to four UMC100.3 devices
- Integrated Ethernet switch
- Supports all network topologies
- Ring topology with redundancy (MRP protocol)
- Easy to use in withdrawable applications
- No special Ethernet connectors required in MCCs
- Fully integrated into ABB 800xA
- Time-stamped events with ABB 800xA
- 24 V DC supply voltage
- DIN-rail mounting
- GSDML downloaded from UMC100.3 webpage

EIU32.0

- Protocol EtherNet/IP™
- ODVA-certified
- For one motor controller UMC100.3
- Mounting directly on an UMC100.3 (supplied by UMC100.3) or remotely on a SMK3.0 adapter (24 V DC supply required)
- Integrated Ethernet switch
- Supports all network topologies
- DLR (Device Level Ring) function for redundancy
- Easy to use in withdrawable applications
- No special Ethernet connectors required in MCCs
- EDS download from UMC100.3 webpage

Description	Type	Order code	L.P. (₹)
Ethernet Modbus TCP interface	MTQ22-FBP.0	1SAJ260000R0100	Upon request
Ethernet Profinet IO interface	PNQ22-FBP.0	1SAJ261000R0100	
EtherNet/IP™ interface	EIU32.0	1SAJ262000R0100	

Adapter and accessories

Ordering details



SMK3.0



CDP18.150

2CDC34007F001B



PDP32.0 on SMK3.0

2CDC34508V0014

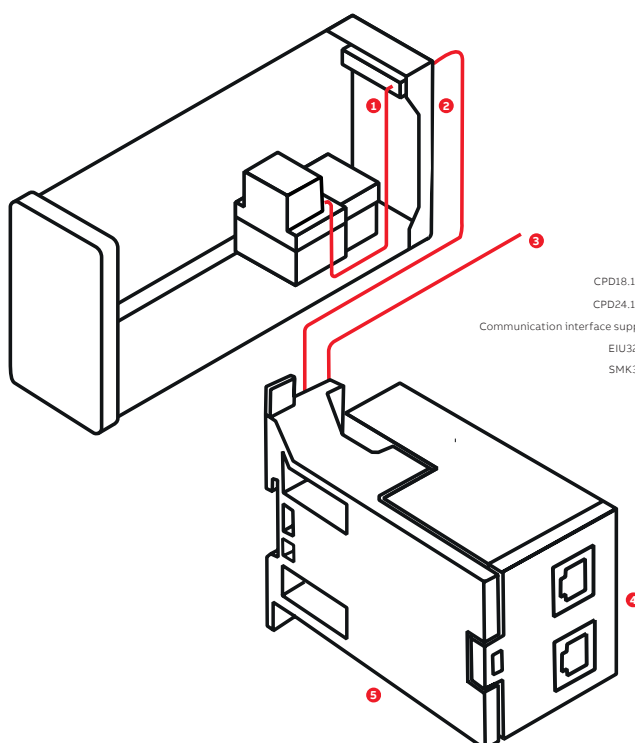


EIU32.0 on SMK3.0

2CDC34010V001B

Adapter and ready-made cables

Adapter SMK3.0 for external mounting of a fieldbus or EtherNet/IP™ interface EIU32.0 outside a drawer. SMK3.0 can be mounted on a DIN-rail or fixed by screws. 24 V DC supply is required. Ready-made cables for inside and outside the drawer, including a terminal block on one side and open end on the other. Terminal blocks are also separately available for making own cables.



- CPD18.150 1
- CPD24.150 2
- Communication interface supply 3
- EIU32.0 4
- SMK3.0 5

Separate wiring of the EtherNet/IP™ communication interface EIU32.0

Description	Type	Order code	L.P. (₹)
Adapter for separate mounting of a communication interface; terminal block for 24 V DC supply included	SMK3.0	1SAJ929600R0001	Upon request
Cable for use inside drawer, length 1.5 m	CDP18.150	1SAJ929180R0015	
Cable from SMK3.0 to drawer's outside, length 1.5 m	CDP24.150	1SAJ929240R0015	
Terminal block 2-pole for SMK3.0 supply (spare parts)	SMK3-X2.10	1SAJ929610R0001	
Terminal block 5-pole for SMK3.0 comm. (spare parts)	SMK3-X1.10	1SAJ929620R0001	
Cable for inside and outside drawer, length 1.5 m	CDP18.150	1SAJ929180R0015	
Cable Ethernet interface - UMC100.3, length 1.5 m	CDP23.150	1SAJ929230R0015	
Cable Ethernet interface - UMC100.3, length 3 m	CDP23.300	1SAJ929230R0030	
Cable from SMK3.0 to drawer's outside, length 1.5 m	CDP24.150	1SAJ929240R0015	
Terminal blocks for MTQ22/PNQ22 X1...X4	ETHTB-FBP.4	1SAJ929200R0001	
Terminal blocks for MTQ22/PNQ22 X1...X4	ETHTB-FBP.50	1SAJ929200R0002	

Earth fault monitors, current transformers

Ordering details



CEM11-FBP.xxx

2CDC345011F0008

Earth fault monitors CEM11-FBP.xxx for use with the Universal Motor Controller UMC100.3

The CEM11-FBP.xxx device monitors if the sum of the currents flowing through it is zero (factorial addition). If the sum is zero, no residual current is present. If the residual current is above an adjusted threshold value, the output signal of the CEM11-FBP.xxx changes. It can be used in motor feeders to detect leakage currents, as well as ground faults, caused for example by insulation breakdowns.

- CEM11-FBP.xxx is connected to a digital input of the UMC100.3
- Earth fault current threshold can be set in eight steps with a screwdriver
- Test position for easy control of the wiring

CEM11-FBP.xxx is delivered with adapters for DIN-rail or wall mounting.

CEM-11.FBP.120 is for wall-mounting only.



CT4L185R/4, CT4L310R/4

2CDC3400150012



CT5L500R/4, CT5L850R/4

2CDC3400250012

Earth fault currents [mA]	Through-hole diameter	Type	Order code	L.P. (₹)
80 ¹⁾ , 300, 550, 750, 1000, 1200, 1500, 1700	20 mm	CEM11-FBP.20	1SAJ929200R0020	Upon request
100 ¹⁾ , 500, 1000, 1400, 2000, 2400, 3000, 3400	35 mm	CEM11-FBP.35	1SAJ929200R0035	
120 ¹⁾ , 1000, 2000, 2800, 4000, 4800, 6000, 6800	60 mm	CEM11-FBP.60	1SAJ929200R0060	
300 ¹⁾ , 2000, 4000, 5600, 8000, 9600, 12000, 13600	120 mm	CEM11-FBP.120	1SAJ929200R0120	

¹⁾ Lower values have higher inaccuracy

Current transformers for use with the Universal Motor Controller UMC100.3

Linear type three-phase transformers, for use with the UMC100.3 and nominal motor currents >63 A. Terminal blocks for conductors Cu 2.5 mm² for wiring on the UMC100.3 side.

Description	Recommended current range	Type	Order code	L.P. (₹)
Current transformer	60...185 A AC	CT4L185R/4	1SAJ929500R0185	Upon request
Current transformer	180...310 A AC	CT4L310R/4	1SAJ929500R0310	
Current transformer	300...500 A AC	CT5L500R/4	1SAJ929501R0500	
Current transformer	500...850 A AC	CT5L850R/4	1SAJ929501R0850	

UMC100-FBP.0 and FBP system accessories are being phased out. Please contact your local ABB contact for spare parts or retrofit solutions.



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Type 2 co-ordination

MS132/MS165 DOL-NS-IE1/IE2/IE3

SCPD type : MMS

Rated voltage : 400/415 V.

Short circuit current: 50 kA

Starting type : DOL-NS

Co-ordination type: IEC Type 2

Overload relay: embedded

Frequency: 50-60 Hz

Motor			Manual motor starter		Contactor
Rated power	Rated current		Instantaneous tripping current	Current setting range	
[kW]	[A]	Type	[A]	[A]	Type
0.06	0.2	MS132-0,25	2.44	0.16 - 0.25	A9
0.09	0.3	MS132-0,40	3.9	0.25 - 0.40	A9
0.12	0.44	MS132-0,63	6.14	0.40 - 0.63	A9
0.18	0.6	MS132-0,63	6.14	0.40 - 0.63	A9
0.25	0.85	MS132-1,0	11.5	0.63 - 1.00	A9
0.37	1.1	MS132-1,6	18.4	1.00 - 1.60	A9
0.55	1.5	MS132-1,6	18.4	1.00 - 1.60	A9
0.75	1.9	MS132-2,5	28.75	1.60 - 2.50	A9
1.1	2.7	MS132-4,0	50	2.50 - 4.00	A16
1.5	3.6	MS132-4,0	50	2.50 - 4.00	A16
2.2	4.9	MS132-6,3	78.75	4.00 - 6.30	A26
3	6.5	MS132-10	150	6.30 - 10.00	A26
4	8.5	MS132-10	150	6.30 - 10.00	A26
5.5	11.5	MS132-12	180	8.00 - 12.00	A26
7.5	15.5	MS132-16	240	10.00 - 16.00	A30
11	22	MS132-25	375	20.00 - 25.00	A30
15	29	MS132-32	480	25.00 - 32.00	A30
18.5	35	MS165-42	630	30.00 - 42.00	A63
22	41	MS165-54	810	40.00 - 54.00	A63
25	46.6	MS165-54	810	40.00-54.00	A75
30	45.5	MS165-65	975	52.00-65.00	A75

Type 2 co-ordination

MS132/MS165 SD-NS-IE1/IE2/IE3

Co-ordination type: IEC Type 2
 SCPD type: MMS
 Rated voltage : 400/415 V
 Short circuit current: 50 kA.
 Starting type : SD-NS
 Overload relay: Embedded
 Frequency : 50-60 Hz

Rated power	Rated current	Instantaneous tripping current		Current setting range			
[kW]	[A]	Type	[A]	[A]	Line	Delta	Star
0.06	0.20	MS132-0,25	3.13	0.16 - 0.25	A9	A9	A9
0.09	0.30	MS132-0,40	5.0	0.25 - 0.40	A9	A9	A9
0.12	0.44	MS132-0,63	7.88	0.40 - 0.63	A9	A9	A9
0.18	0.60	MS132-0.63	7.88	0.40 - 0.63	A9	A9	A9
0.25	0.85	MS132-1,00	12.5	0.63 - 1.00	A9	A9	A9
0.37	1.10	MS132-1,60	20.0	1.00 - 1.60	A9	A9	A9
0.55	1.50	MS132-1,60	20.0	1.00 - 1.60	A9	A9	A9
0.75	1.90	MS132-2,50	31.25	1.60 - 2.50	A9	A9	A9
1.1	2.70	MS132-4,00	50	2.50 - 4.00	A26	A26	A26
1.5	3.60	MS132-4,00	50	2.50 - 4.00	A26	A26	A26
2.2	4.90	MS132-6,30	78.75	4.00 - 6.30	A26	A26	A26
3.0	6.5	MS132-10.00	150	6.30-10.00	A26	A26	A26
4.0	8.5	MS132-10.00	150	6.30-10.00	A26	A26	A26
5.5	11.5	MS132-16.00	240	10.00-16.00	A26	A26	A26
7.5	18.5	MS132-20.00	300	16.00-20.00	A30	A26	A26
11.0	22.0	MS132- 25.00	375	20.00-25.00	A30	A26	A26
15.0	29.0	MS132- 32.00	480	25.00-32.00	A30	A26	A26
15.0	29.0	MS165 -32.00	480	23.00-32.00	A40	A40	A40
18.5	35.0	MS165 -42.00	630	30.00-42.00	A40	A40	A40
22.0	41.0	MS165 -54.00	810	40.00-54.00	A50	A40	A40
25.0	46.6	MS165 -54.00	810	40.00-54.00	A63	A40	A40
30.0	55.0	MS165 -65.00	975	52.00-65.00	A63	A40	A40

Type 2 co-ordination

MCCB DOL-NS

SCPD type: MCCB
 Rated voltage: 400/415 V
 Short circuit current: 50 kA
 Starting type: DOL-NS
 Coordination type: IEC Type 2 / IE1 /IE2
 Overload relay: TOL
 Frequency: 50-60 Hz

Motor		Moulded case circuit breakers		Contactor		Overload relay
Rated power	Rated current	Instantaneous tripping current				Current setting range
[kW]	[A]	Type	[A]	Type	Type	[A]
0.37	1.1	XT2S160 MF 2	28	A9	TA25DU1.4	1 - 1.4
0.55	1.5	XT2S160 MF 2	28	A9	TA25DU1.8	1.3 - 1.8
0.75	1.9	XT2S160 MF 2	28	A9	TA25DU2.4	1.7 - 2.4
1.1	2.7	XT2S160 MF 4	56	A9	TA25DU4	2.8 - 4
1.5	3.6	XT2S160 MF 4	56	A16	TA25DU5	3.5 - 5
2.2	4.9	XT2S160 MF 8.5	120	A26	TA25DU6.5	4.5 - 6.5
3	6.5	XT2S160 MF 8.5	120	A26	TA25DU8.5	6 - 8.5
4	8.5	XT2S160 MF 12.5	175	A30	TA25DU11	7.5 - 11
5.5	11.5	XT2S160 MF 12.5	175	A30	TA25DU14	10 - 14
7.5	15.5	XT2S160 MA 20	210	A30	TA25DU19	13 - 19
11	22	XT2S160 MA 32	288	A30	TA42DU25	18 - 25
15	29	XT2S160 MA 52	392	A50	TA75DU42	29 - 42
18.5	35	XT2S160 MA 52	469	A50	TA75DU52	36 - 52
22	41	XT2S160 MA 52	547	A50	TA75DU52	36 - 52
30	55	XT2S160 MA 80	840	A63	TA75DU80	60 - 80
37	66	XT2S160 MA 80	960	A75	TA75DU80	60 - 80
45	80	XT2S160 MA 100	1200	A95	TA110DU110	80 - 110
55	97	XT3S250 MA 160	1440	A110	TA110DU110	80 - 110
75	132	XT3S250 MA 200	1800	A145	TA200DU175	130 - 175
90	160	XT3S250 MA 200	2400	A185	TA200DU200	150 - 200
110	193	T5S400 PR221-I In320	2720	AF205	EF205-210	63 - 210
132	230	T5S400 PR221-I In400	3200	AF265	EF370-380	115 - 380
160	280	T5S400 PR221-I In400	4000	AF305	EF370-380	115 - 380
200	350	T5S630 PR221-I In630	5040	AF370	EF370-380	115 - 380
250	430	T6S630 PR221-I In630	6300	AF460	EF460-500	150 - 500
290	520	T6S800 PR221-I In800	8000	AF580	EF750-800	250 - 800
315	540	T6S800 PR221-I In800	8000	AF580	EF750-800	250 - 800
355	610	T6S800 PR221-I In800	8000	AF750	EF750-800	250 - 800

Type 2 co-ordination

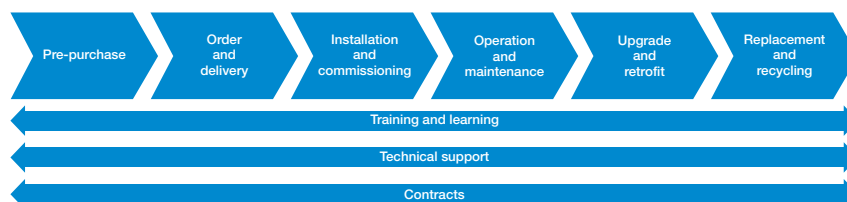
MCCB SD-NS

SCPD type: MCCB
 Rated voltage: 400/415 V
 Short circuit current: 50 kA
 Starting type: SD-NS
 Coordination type: IEC Type 2 / IE1 / IE2
 Overload relay: TOL
 Frequency: 50-60 Hz

Motor		MCCB		Contactor			Thermal release	
Pe [kW]	Ie [A]	Type	Im [A]	Line type	Delta type	Star type	Type	[A]
18.5	35	XT2S160 MA52	469	A50	A50	A26	TA75DU25	18-25
22	41	XT2S160 MA52	547	A50	A50	A26	TA75DU32	22-32
30	55	XT2S160 MA80	720	A63	A63	A30	TA75DU42	29-42
37	66	XT2S160 MA80	840	A75	A75	A30	TA75DU52	36-52
45	80	XT2S160 MA100	1050	A75	A75	A30	TA75DU63	45-63
55	97	XT2S160 MA100	1200	A75	A75	A40	TA75DU63	45-63
75	132	XT3S250 MA160	1700	A95	A95	A75	TA110DU90	66-90
90	160	XT3S250 MA200	2000	A110	A110	A95	TA110DU110	80-110
110	195	XT3S250 MA200	2400	A145	A145	A95	TA200DU135	100-135
132	232	T5S400 PR221-I In320	2880	A145	A145	A110	EF205-210	60-200
160	282	T5S400 PR221-I In400	3600	A185	A185	A145	EF205-210	60-200
200	350	T5S630 PR221-I In630	5040	AF265	AF265	AF190	EF370-380	115-380
250	430	T6S630 PR221-I In630	6300	AF265	AF265	AF190	EF370-380	115-380
290	520	T6S630 PR221-I In630	8000	AF580	AF580	AF400	EF750-800	250-800
315	540	T6S800 PR221-I In800	8000	AF580	AF580	AF400	EF750-800	250-800
355	610	T6S800 PR221-I In800	8000	AF580	AF580	AF400	EF750-800	250-800

Service portfolio

Low voltage products division delivers a vast range of services to cover the whole product lifecycle. The services offered by ABB's low voltage products and systems span the entire value chain, from the moment a customer makes the first enquiry to disposal and recycling of the product. Throughout the value chain, ABB provides training, technical support and customized contracts. All of this is supported by one of the most extensive country sales and service network.



Installation and commissioning

ABB provides comprehensive installation and commissioning services to achieve a problem-free start up, by following installation and commissioning procedures. The use of service personnel from ABB LP service ensures that the switchgear is installed in a safe and correct way.

Operation and maintenance

ABB can guide the customer through a fast and efficient fault finding procedure as well as analyze the operation of the product and the customer's process. From site surveys to preventive, predictive maintenance and reconditioning, ABB has all the options covered to keep its customers' processes operational.

Upgrade and retrofits

Upgrades

An existing ABB product can often be upgraded to the latest software or hardware to improve the performance of the application. Existing processes can be economically modernized by upgrading with the latest technology.

Retrofits

Replacing old LV Switchgear of any make with ABB's latest versions can be done using the ABB special conversion kits which enable quick installation without structural modifications to the original compartment. In addition complete "turnkey" solutions are available. Specific conversion kits have been developed in order to replace old components with new ones that can be found in the latest switchgears.

Replacement and Recycling

ABB can advise on the best replacement products while ensuring that the existing products are disposed of in a way that meets all local regulations.

Entire value chain services

The main services available throughout the entire value chain include:

Training and learning – Hands on

ABB LP service carries out training programs. Those trainings can be either general or bespoke and have the aim of providing the personnel in charge of management/maintenance with the necessary know-how to achieve an excellent level of operating ability in certain situations. The manager of an electrical

site can find it convenient to have certain maintenance capabilities available within his own team.

The courses mainly cover:

- Operating equipment
- Maintenance principles
- Repairs for small faults

Technical support

At each stage of the value chain, an ABB expert is available to offer advice to keep the customer's process or plant operational.

Spare parts

Availability of original spare parts is essential for fast and efficient maintenance activities. This becomes even more critical when the product was produced some years ago and has components in it which are no longer in production.

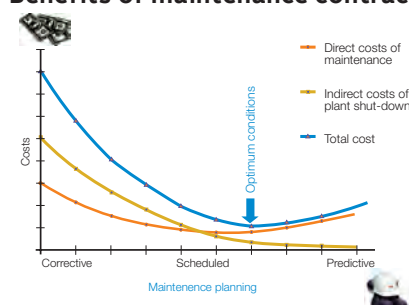
ABB LP service is the only one able to supply original and guaranteed spare parts. These can be easily selected and ordered through the authorized channel.

Maintenance contracts

In addition to the corrective maintenance of a faulty unit, which includes any type of emergency intervention, there is a complete preventive maintenance service package, ensuring those who manage the plant gain considerable advantages in terms of reliability, safety and reduction of costs. Also customized contracts can be devised between the customer and ABB. Depending on the severity of the intervention needed, it can often be done on-site by our skilled and experienced engineers and is a faster way of resolution.

ABB LP service has an effective service network across the country and dedicated service workshops. For all your service requirements, contact our nearest Sales office.

Benefits of maintenance contracts



General conditions of sale

General terms and conditions of sale:

- All prices mentioned in this price list are in Indian Rupees (INR) and this supersedes all previous price lists
- Prices are based on Ex-work basis
- Maximum retail prices (MRPs) mentioned in the publication are maximum recommended selling prices
- List prices (LPs) mentioned are exclusive of all taxes
- Prices are subject to revision without prior notice

Terms of delivery: Ex- work, Nelamangala or any other ABB warehouse in India

Standard delivery terms

Ex-stock or 30 working days

Address of Nelamangala warehouse

ABB INDIA LIMITED

#126, Hanchipura Village, Kasaba Hobli
Nelamangala Taluk, Bangalore-562 123

Tel: +91 80 2770 0081

Tel: +91 80 2770 0082

Tel: +91 80 2770 0083

Address of Works

Nelamangala

Survey No: 88/3, 88/4, Basavanhalli, Kasaba Hobli,
Nelamangala Taluk, Bangalore - 562 123

Karnataka, India

Tel: +91 80 2294 6618

Tel: +91 80 2294 6619

Fax: +91 80 2294 9999

Peenya

Plot No. 5 & 6, II Phase,

Peenya Industrial Area, Bangalore - 560 058

Karnataka, India

Tel: +91 80 22949354/9585

Fax: +91 80 22949389

Vadodara

Maneja Works, Maneja,

Vadodara - 390 013

Gujarat, India

E-mail: in-da.sales@abb.com

Tollfree No: 1800-4200-707

Warranty policy

ABB guarantees the supply according to the law. Upon expiration, the warranty expires even if the devices have not been operated for any reason. In the case of faults, as long as this does not depend on assembly errors by the customer or third parties, on incorrect use of the materials, lack of or incorrect maintenance, normal wear and tear, faults caused by inexperience or negligence by the purchaser or by transport, by the improper storage of the materials, or failure by the customer to adopt measures to reduce eventual dysfunction, overload with respect to the contractual limits, by unauthorized intervention, by tampering or action effected by the customer, to force majeure, ABB will, throughout the warranty period, repair or replace any defective part of supply free of charge, in the shortest possible time, at its premises. Where the repair cannot be executed at ABB premises, except as otherwise agreed, all the supplementary or relevant expenses shall be borne by the customer.

Repair or replacement will be executed only if the customer has performed all the obligations to that date. The customer may not suspend performance of the obligations in any case in which this warranty is invoked. The term for the repair or replacement of the faulty supply will be agreed by ABB and the customer. The shipment of any supply claimed to be faulty by the customer to ABB and subsequently by ABB to the customer, shall be at the risk and under the responsibility of the customer, who shall arrange adequate insurance coverage. The supply repaired or replaced is shipped at the expense and risk of the customer. Any dispute about a shipment has no effect on the remainder of the supply. The products replaced by ABB become the property of ABB.

General conditions of sale

Any claim regarding the supply, machinery, plant or components not compliant with the specifications or the contractual documentation must be raised in writing, within a maximum term of 8 days from delivery, when the time limit for action expires. In the case of systems, this term is 60 days from execution of the disputed service when the time limit for action expires.

In the case of latent defects, the terms indicated above run from the date of discovery. Once the warranty period has expired, claims are not accepted, even for latent defect. Where the claim is timely and justified, ABB's obligation is limited to replacement of the goods found not in compliance or repetition of execution of the non-compliant service, excluding all rights to the Customer to seek termination of the contract and/or compensation of damages.

With reference to the provision of spare parts, ABB reserves the right to provide materials either from the original supplier or from equivalent supplier.

Warranty period:

- 1. Breakers & switches:** The warranty period is 12 months from the date of commissioning or 18 months from the date of ABB's invoice, whichever is earlier.
- 2. Control products:** The warranty period is 12 months from the date of commissioning or 18 months from the date of ABB's invoice, whichever is earlier.
- 3. Enclosures & Din Rail components:** The warranty period is 5 years from the date of ABB's invoice if the components are used in ABB's enclosure. If non- ABB enclosure is used, Warranty period is 12 months from the date of commissioning or 18 months from the date of ABB's invoice, whichever is earlier.

4a. Wiring accessories: 10 years of warranty.

The company at its discretion will repair or replace products if they have any manufacturing defect within 10 years from date of purchases for switches (without LED Lamp) and power sockets. For other ABB wiring accessories, the warranty will be for 2 years. ABB mounting boxes are not covered under warranty. Warranty for all the products will not be valid: If devices are not used with original ABB mounting boxes. If devices are altered, dismantled, rectified or tampered. Warranty states company's entire liability. This does not extend to cover consequential losses or damage or installation cost arising from defective products. Since product improvement is a continuous process, the data furnished in this brochure may undergo revision. For the latest information, you may contact our nearest sales office.

4b. Plug & sockets: The warranty period is 12 months from the date of commissioning or 18 months from the date of ABB's invoice, whichever is earlier.

Liability clause:

The manufacturer shall not be liable for any consequential loss, injury or damages attributable to defect or failure of its products.









ABB India Helpline.

Technical telephone support for customers
and channel partners.

Toll free: (BSNL) +91 1800 420 07 07

website: new.abb.com/low-voltage

