

Power Control



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IEC Motor Control



Powering Business Worldwide

- Easy to Install
- Small Footprint
- Global Approvals
- Type 2 Coordination
- Full range of IEC Motor Control

Power Control

Motor Control

XT/Xstart IEC Motor Control

The XT/XStart range of contactors, overloads & manual motor protectors is a complete range of IEC motor control. XT/XStart is an efficient & effective solution for applications from 7-2000A.

Eaton & Moeller Item Numbers

The XT/XStart range of IEC Motor Control was the result of a joint venture between Eaton & Moeller. This pricebook lists these products side by side because the items are identical, apart from branding. Accessories & components are interchangeable between the XT & XStart ranges.

If you have always ordered these products from Moeller, you can continue to use the part numbers you have always used. Likewise, if you have ordered parts from Eaton, you can order the Eaton part numbers as before.

Key Features

Feature: AC & DC devices with the same dimensions achieved with an electronically controlled coil system.

Benefit: Space savings, reduced engineering design time.

Feature: Twin terminals with separate sockets in contactors up to 400A.

Benefit: Offers installation & application flexibility when using different size wires. The improved integrity of the connections reduces cabling faults.

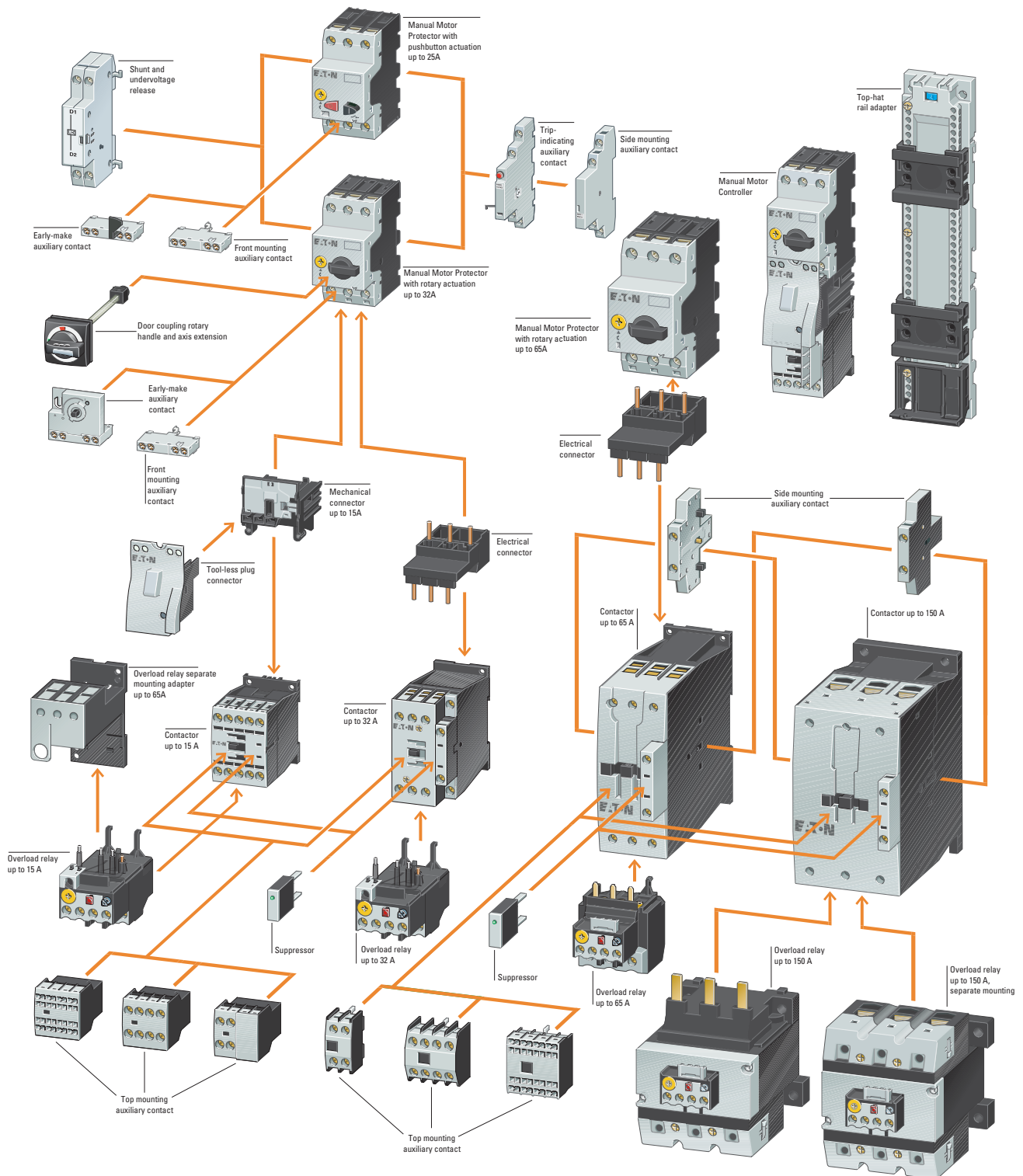
Feature: Reduced sealing power consumption for DC contactors due to an electronic coil controller that uses less power.

Benefit: With sealing wattage as low as 0.5W, XT/XStart contactors reduce power consumption & generate less heat. This results in lower cooling requirements, & the ability to mount more contactors per cabinet.

Feature: Integrated suppressors in DC controlled contactors from 7-1000A. Integrated surge suppressors in all contactors from 115A & above.

Benefit: Offers reductions in total logistics & inventory costs by limiting the number of products ordered & stocked. Increased installation & maintenance efficiency, as wiring is not required.





Power Control

Motor Control

XT/Xstart IEC Mini Contactors

IEC Miniature Controls

Due to its compact size, the XT line of mini controls is best suited to be applied in light duty loads such as hoisting, packaging, material handling, heating, lighting & automation systems. XT mini contactors are a particularly compact, economic & environmentally friendly solution wherever control of small motors or loads is required.



W:45mm H:58mm D:52mm

Mini Contactors

E9

Operational Current AC-3 Amp Rating	Thermal Current AC-1	Maximum kW Ratings AC-3, 3-Phase Motors, 50 – 60 Hz		No. of Power Poles	Aux. Contacts	Eaton Item No. ①	Moeller Item No. ①
		240V	415V				
6.6	20	1.5	3	3	1NO	XTMC6A10_	-
6.6	20	1.5	3	3	1NC	XTMC6A01_	-
8.8	20	2.2	4	3	1NO	XTMC9A10_	DILEM-10(...)
8.8	20	2.2	4	3	1NC	XTMC9A01_	DILEM-01(...)
8.8	20	2.2	4	4	-	XTMF9A00_	DILEM4(...)

① Underscore (_) indicates Magnetic Coil Suffix required. See Coil Selection Chart.

Coil Selection Chart

AC Coil Voltage (50Hz)	Eaton Suffix Code	Moeller Suffix Code	DC Coil Voltage	Eaton Suffix Code	Moeller Suffix Code
415	C	(415V50HZ,480V60HZ)	24	TD	G(24VDC)
230-240	F	(240V50HZ)			
110	A	(110V50/60HZ)			
24	T	(24V50HZ)			

Note: Mini Contactor Coils are not interchangeable. For additional coil voltages contact Eaton.

IEC Miniature Overload Relays

- Trip Class 10A
- Ambient temperature compensated -5° to 50°C
- Selectable manual / automatic reset
- 1NO-1NC auxiliary contact as standard
- Direct mount with XTMC contactors



Mini Overload Relays ①

E9

Motor full load current (FLC)	Trip Class	Contact Configuration	Eaton Item No.	Moeller Item No.
0.1 – 0.16A 0.16 – 0.24A 0.24 – 0.4A 0.4 – 0.6A	10A	1NO-1NC	XTOMP16AC1 XTOMP24AC1 XTOMP40AC1 XTOMP60AC1	ZE-0,16 ZE-0,24 ZE-0,4 ZE-0,6
0.6 – 1A 1 – 1.6A 1.6 – 2.4A	10A	1NO-1NC	XTOM001AC1 XTOM1P6AC1 XTOM2P4AC1	ZE-1,0 ZE-1,6 ZE-2,4
2.4 – 4A 4 – 6A 6 – 9A 9 – 12A	10A	1NO-1NC	XTOM004AC1 XTOM006AC1 XTOM009AC1 XTOM012AC1	ZE-4 ZE-6 ZE-9 ZE-12

① When fitted directly to the contactor, a clearance of at least 5 mm is required between the overload relays.

XT/Xstart IEC Mini Contactors

IEC Miniature Controls Accessories

XT IEC Miniature Controls Accessories (Auxiliary Contacts for Mini Contactors, Front (top) Mounted)


E9

Contact Configuration	Poles	Eaton Item No.	Moeller Item No.
1NO/1NC	2	XTMCXFA11	11DILE
2NO	2	XTMCXFA20	20DILE
2NC	2	XTMCXFA02	02DILE
2NO2NC	4	XTMCXFA22	22DILE
1NO/3NC	4	XTMCXFA13	13DILE
3NO1NC	4	XTMCXFA31	31DILE
4NO	4	XTMCXFA40	40DILE
4NC	4	XTMCXFA04	04DILE
1ECNO/1LONC	2	XTMCXFAL11	-
2ECNO/2LONC	2	XTMCXFAL22	22DDILE

Note: Auxiliary contacts are rated for 10A AC-1.

Mechanical Interlock


E9

	Description	Eaton Item No.	Moeller Item No.
	Mechanical Interlock	XTMCXML	MVDILE

Note: For two contactors with AC or DC operated coils that are horizontally or vertically mounted, the distance between contactors is 0 mm.

Reversing Link Kit


E9

	Description	Eaton Item No.	Moeller Item No.
	Main current wiring for reversing contactors & starters.	XTMCXRL	MVS-WB-EM

Note: Reversing Link Kit does not include mechanical interlock. Order part No. XTMCXML for Mechanical Interlock.


Star-Delta Link Kit

E9

	Description	Eaton Item No.	Moeller Item No.
	Main current wiring for star-delta combinations. Includes the Star-Delta Bridge.	XTMCXSDL	MVS-SB-EM

Other Accessories

E9

	Description	Eaton Item No.	Moeller Item No.
	Connector for mechanically arranging contactors in combinations.	XTMCXCN	V0DILE
	Shroud IP40 Sealable Shroud, snap fit	XTMCXSHROUD	HDILE

Note: 0 mm distance between contactors with connector.

Power Control

Motor Control

XT/Xstart IEC Contactors

IEC Contactors

- AC-3 contactor ratings to 1600A & AC-1 contactor ratings to 2000A
- Panel or DIN-Rail mounting to 65A
- IP20 finger & back-of-hand proof
- Built-in NO or NC auxiliary contacts to 32A
- Built-in surge suppression on DC coils XTCE Frame B-G & AC or DC coils on XTCE Frame L-R
- Can be used with XT or C396 Overload Relays
- Can be used with XTPR MMPs for Manual Motor Controllers



Full Voltage Non-Reversing 3-Pole Contactors, Frame B – Frame G

E9

IEC Ratings		Maximum kW Ratings AC-3			Aux. Contacts	Screw Terminals ① Eaton Item No.	Moeller Item No.
AC-3 I _e (A)	AC-1 (40°C) I _e = I _{th} (A)	3-Phase Motors 50 – 60 Hz					
		380/ 400V	415V	660/ 690V			
Frame B							
7	20	3	4	3.5	1NO	XTCE007B10_	DILM7-10(...)
7	20	3	4	3.5	1NC	XTCE007B01_	DILM7-01(...)
9	20	4	5.5	4.5	1NO	XTCE009B10_	DILM9-10(...)
9	20	4	5.5	4.5	1NC	XTCE009B01_	DILM9-01(...)
12	20	5.5	7	6.5	1NO	XTCE012B10_	DILM12-10(...)
12	20	5.5	7	6.5	1NC	XTCE012B01_	DILM12-01(...)
15.5	20	7.5	8	7	1NO	XTCE015B10_	DILM15-10(...)
15.5	20	7.5	8	7	1NC	XTCE015B01_	DILM15-01(...)
Frame C							
18	35	7.5	10	11	1NO	XTCE018C10_	DILM17-10(...)
18	35	7.5	10	11	1NC	XTCE018C01_	DILM17-01(...)
25	40	11	14.5	14	1NO	XTCE025C10_	DILM25-10(...)
25	40	11	14.5	14	1NC	XTCE025C01_	DILM25-01(...)
32	40	15	18	17	1NO	XTCE032C10_	DILM32-10(...)
32	40	15	18	17	1NC	XTCE032C01_	DILM32-10(...)
Frame D							
40	50	18.5	24	23	—	XTCE040D00_	DILM40(...)
50	65	22	30	30	—	XTCE050D00_	DILM50(...)
65	80	30	39	35	—	XTCE065D00_	DILM65(...)
72	80	37	41	35	—	XTCE072D00_	-
Frame F							
80	90	37	48	63	—	XTCE080F00_	DILM80(...)
95	110	45	57	75	—	XTCE095F00_	DILM95(...)
Frame G							
115	130	55	70	90	—	XTCE115G00_	DILM115(...)
150	160	75	91	96	—	XTCE150G00_	DILM150(...)
170	275 ^d	90	100	96	—	XTCE170G00_	-

① Underscore (_) indicates magnet coil suffix required. See Page 230.

Note: The 7 – 32A contactors have positively driven contacts between the integrated auxiliary contact & the auxiliary contact module as well as within the auxiliary contact modules.
The 40 – 65A contactors have positively driven contacts within the auxiliary contact module. 6 auxiliary contacts are possible with a combination of side mounted & front mount auxiliary contacts.
DC operated contactors (Frames B – G, 7 – 150A) have a built-in suppressor circuit. Frame B – C contactors with 1NC built-in auxiliary are mirror contacts (XTCE...B01_ – XTCE...C01_).

Full Voltage Non-Reversing 3-Pole Contactors, Frame L – Frame R

E9

IEC Ratings						Aux. Contacts	Eaton Item No. ①	Moeller Item No.
AC-3 I _e (A)	AC-1 (40°C) I _a = I _{th} (A)	Maximum kW Ratings AC-3						
		3-Phase Motors 50 – 60 Hz						
		380/ 400V	415V	660/ 690V	1000V			
Frame L – Standard Coil (110/120V, 230/240V ac Coil Only)								
185	337	90	110	175	108	2NO-2NC	XTCE185L22_	DILM185-S/22(...)
225	386	110	132	215	108	2NO-2NC	XTCE225L22_	DILM225-S/22(...)
250	429	132	148	240	108	2NO-2NC	XTCE250L22_	DILM250-S/22(...)
Frame L – Electronic Coil								
185	337	90	110	175	108	2NO-2NC	XTCE185L22_	DILM185/22(...)
225	386	110	132	215	108	2NO-2NC	XTCE225L22_	DILM225/22(...)
250	429	132	148	240	108	2NO-2NC	XTCE250L22_	DILM250/22(...)
Frame M – Standard Coil (110/120V, 230/240V ac Coil Only)								
300	490	160	180	286	132	2NO-2NC	XTCE300M22_	DILM300-S/22(...)
400	612	200	240	344	132	2NO-2NC	XTCE400M22_	DILM400-S/22(...)
500	857	250	300	344	132	2NO-2NC	XTCE500M22_	DILM500-S/22(...)
580	980	315	—	344	132	2NO-2NC	XTCE570M22_	-
Frame M – Electronic Coil								
300	490	160	180	286	132	2NO-2NC	XTCE300M22_	DILM300/22(...)
400	612	200	240	344	132	2NO-2NC	XTCE400M22_	-
500	857	250	300	344	132	2NO-2NC	XTCE500M22_	DILM500/22(...)
580	980	315	350	344	132	2NO-2NC	XTCE570M22_	-
Frame N – Electronic Coil								
580	980	315	348	560	600	2NO-2NC	XTCE580N22_	DILM580/22(...)
650	1041	355	390	630	600	2NO-2NC	XTCE650N22_	DILM650/22(...)
750	1102	400	455	720	800	2NO-2NC	XTCE750N22_	DILM750/22(...)
820	1225	450	500	750	800	2NO-2NC	XTCE820N22_	DILM820/22(...)
1000	1225	560	610	1000	1000	2NO-2NC	XTCEC10N22_	DILM1000/22(...)
Frame P – Electronic Coil								
—	1714	—	—	—	—	2NO-2NC	XTCEC14P22_	-
Frame R – Electronic Coil								
1600	2200	900	900	1600	1700	2NO-2NC	XTCEC16R22_	-
—	2450	—	—	—	—	2NO-2NC	XTCEC20R22_	-

Contactors Frame L - R:

Standard Coil: Cost Saving, 110 & 240V AC Control Only, L & M Frames.

Electronic Coil: Wide range of control voltages, Can be controlled by a PLC output, Can be controlled by a low power command device, like a limit switch or sensor.

① Underscore (_) indicates magnet coil suffix required. See Page 230.

Contactor Application Data

Item Prefix	Electrical Life (Operations) for 10 hp, 480V (14.2A) Applications
XTCE012B	1 million
XTCE015B	1.2 million
XTCE018C	2 million

Note: AC & DC operated contactors have a built-in suppressor circuit.

(Frames L – R, 185 – 2000A).

Power Control

Motor Control

XT/Xstart IEC Contactors

Coil Suffix Tables

Magnet Coil Suffix

Coil Voltage	Eaton Suffix Code	Moeller Suffix Code
Frame B – F (DILM7 - DILM95)		
24V 50/60 Hz	T	(RAC24)
110V 50 Hz, 120V 60 Hz	A	(110V50/60HZ)
230-240V 50 Hz	F	(240V50HZ)
415V 50 Hz, 480V 60 Hz	C	(415V50HZ,480V60HZ)
24V DC	TD	DILM7-DILM15 (24VDC)
		DILM17-DILM95 (RDC24)
Frame G (DILM115 - 150)		
100 – 120V 50/60 Hz	A	(RAC120)
190 – 240V 50/60 Hz	B	(RAC240)
24V 50/60 Hz	T	(RAC24)
24 – 27V dc	TD	(RDC24)
480 – 500V 50/60 Hz	C	(RAC440)

Magnet Coil Suffix (Continued)

Coil Voltage	Eaton Suffix Code	Moeller Suffix Code
Frame L – N, Electronic Coil (DILM185 - DILM250)		
110 – 250V 40 – 60 Hz/DC	A	(RA250)
250 – 500V 40 – 60 Hz	C	(RAC500)
24 – 48V dc	TD	(RDC48)
Frame L – M, Standard Coil (DILM185-S - DILM250-S)		
110 – 120V 50/60 Hz	A	N/A
220 – 240V 50/60 Hz	B	(220-240V50/60HZ)
Frame P – R		
220 – 250V 50 – 60 Hz/DC	B	(RAW250)

Reversing Contactor Components

Qty	Frame	B	C	D	F	G
2	Contactors	XTCE...B01_	XTCE...B01_	XTCE...D00_	XTCE...F00_	XTCE...G00_
2	Auxiliary Contact	XTCEXFAC20	XTCEXFAC20	XTCEXFBG11	XTCEXFBG11	XTCEXFBG11
1	Mechanical Interlock	XTCEXMLB	XTCEXMLC	XTCEXMLD	XTCEXMLG	XTCEXMLG
1	Reversing Link Kit	XTCEXRLB	XTCEXRLC	XTCEXRLD	XTCEXRLG	XTCEXRLG

XT/Xstart IEC Contactors

IEC Four Pole & Capacitor Contactors

XTCF 4-Pole Contactors, Frame B – Frame G

E9

I_e (A)	$I_e = I_m$ (A)	Maximum kW Ratings AC-3		Item No. ①	Moeller Item No.
AC-3	AC-1	3 Ph Motors 50 – 60 Hz			
		400V, kW	415V, kW		
Frame B					
12	20	5.5	7	XTCF020B00_	-
Frame C					
18	32	7.5	10	XTCF032C10_	DILMP-32-10(...)
25	45	11	14.5	XTCF045C10_	DILMP-45-10(...)
Frame D					
40	63	18.5	24	XTCF063D00_	DILMP63(...)
50	80	22	30	XTCF080D00_	DILMP80(...)
Frame G*					
80	125	37	48	XTCF125G00_	DILMP125(...)
95	160	45	57	XTCF160G00_	DILMP160(...)
115	200	55	70	XTCF200G00_	DILMP200(...)

*See page 230 for G frame coil suffix. Contactors with 240Vac coils are stocked.

XTCC Capacitor Contactors, Frame C – Frame D

E9


Switching duty in kvar - Group compensation, without reactor				Item No. ①	Moeller Item No.
230V	400V	525V	690V		
Frame C					
11	20	25	33.3	XTCC020C11_	DILK20-11
15	25	33.3	40	XTCC025C11_	DILK25-11
Frame D					
20	33.3	40	55	XTCC033D10_	DILK33-10
25	50	65	85	XTCC050D10_	DILK50-10

Other coil voltages have a 1-day lead time.

① Underscore [_] indicates magnet coil suffix required. See Coil Selection Chart.

Magnet Coil Suffix

E9

	Coil Voltage	Eaton Suffix Code	Moeller Suffix Code
	Frame B – F (DILM7 - DILM95)		
	24V 50/60 Hz	T	(RAC24)
	110V 50 Hz, 120V 60 Hz	A	(110V50/60HZ)
	230-240V 50 Hz	F	(240V50HZ)
	415V 50 Hz, 480V 60 Hz	C	(415V50HZ,480V60HZ)
	24V DC	TD	DILM7-DILM15 (24VDC) DILM17-DILM95 (RDC24)
	Frame G (DILM115 - 150)		
	100 – 120V 50/60 Hz	A	(RAC120)
	190 – 240V 50/60 Hz	B	(RAC240)
	24V 50/60 Hz	T	(RAC24)
	24 – 27V dc	TD	(RDC24)
	480 – 500V 50/60 Hz	C	(RAC440)

Power Control

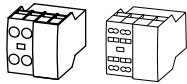
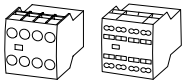
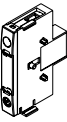
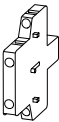

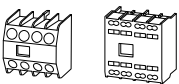
Motor Control

XT/Xstart IEC Contactors

Accessories

Auxiliary Contacts

E9

	Conventional Thermal Current, Open at 60°C $I_{th} = I_r$, AC-1 in Amps	Poles	Contact Configuration	Screw Terminals Eaton Item No.	Moeller Item No.
Frame B – C — Front (Top) Mount					
	16	2	2NO	XTCEXFAC20	DILA-XHI20
	16	2	1NO-1NC	XTCEXFAC11	DILA-XHI11
	16	4	4NO	XTCEXFAC40	DILA-XHI40
	16	4	2NO-2NC	XTCEXFAC22	DILA-XHI22
Frame B — Side Mount ①					
	16	1	1NO	XTCEXSAB10	DILA-XHI10-S
	16	1	1NC	XTCEXSAB01	DILA-XHI01-S
Frame C — Side Mount					
	10	2	1NO-1NC	XTCEXSCC11①	DILM32-XHI11-S
Frame D — G					
	16	2	2NO	XTCEXFBG20	DILM150-XHI20
	16	2	1NO-1NC	XTCEXFBG11	DILM150-XHI11
	16	4	4NO-0NC	XTCEXFBG40	DILM150-XHI40
	16	4	2NO-2NC	XTCEXFBG22	DILM150-XHI22

① Can be mounted to the left side of contactor only. Cannot be used in combination with front (top) mount auxiliary contacts or mechanical interlocks.

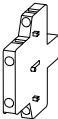
Note: Interlocked opposing contacts, to IEC/EN 60947-5-1 Annex L (positively driven), within the auxiliary contact modules (not NO (early make) & NC (late break) contacts) & for the built-in auxiliary contacts of the XTCE007B... – XTCE032C...Auxiliary break contact can be used as mirror contact to IEC/EN 60947-4-1 Annex F (not NC (late break) contact). No auxiliary contacts can be fitted between two contactors.

XT/Xstart IEC Contactors

Accessories

Side Mount Auxiliary Contacts for Frame D – R, 40 – 2000A



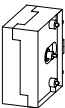
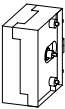


E9

	Conventional Free Air Thermal Current, $I_{th} = I_n$, AC-1 in Amps	Poles	Contact Configuration	Screw Terminals Eaton Item No.	Moeller Item No.
Frame D – R					
	10	2	1NO-1NC	XTCEXSBN11	DILM1000-XHI11-SI

Note: For Frames B – C, cannot use both a side & a top mount auxiliary contact at the same time. For Frame D, 6 auxiliary contacts maximum (can be a combination of side & top mount units). For Frames F – R, 8 auxiliary contacts maximum (can be a combination of side & top mount units).

Accessories

E9

	For Use with...	Pkg. Qty.	Eaton Item No.	Moeller Item No.
Mechanical Interlock ①				
	XTCE07B – XTCE015B, XTCF020B	5	XTCEXMLB	DILM12-XMV
	XTCE018C – XTCE032C XTCF032C – XTCE045C XTCE040D – XTCE072D	1	XTCEXMLC	DILM32-XMV
	XTCF063D – XTCE080D	1	XTCEXMLD	DILM65-XMV
	XTCE080F – XTCE170G XTCF125G – XTCE200G	1	XTCEXMLG ②	DILM150-XMV
	XTCE185L – XTCE570M	1	XTCEXMLM	DILM500-XMV
	XTCE580N – XTCEC10N	1	XTCEXMLN ②	DILM820-XMV
Reversing Link Kits				
	XTCE007B – XTCE015B	1	XTCEXRLB ③	DILM12-XRL
	XTCE018C – XTCE032C	1	XTCEXRLC	DILM32-XRL
	XTCE040D – XTCE065D	1	XTCEXRLD	DILM65-XRL
	XTCE080F – XTCE150G	1	XTCEXRLG	DILM150-XRL
	XTCE185L – XTCE250L	1	XTCEXRLL	DILM250-XRL
	XTCE300M – XTCE400M	1	XTCEXRLM400	DILM400-XRL

① For two contactors with AC or DC operated magnet system which are horizontally or vertically mounted. For B – G frames, mechanical lifespan is 2.5×10^6 operations & the distance between contactors is 0 mm. For L – N frames, mechanical lifespan is 5×10^6 operations & no auxiliary contact can be mounted between the mechanical interlock & the contactor — the distance between contactors is 15 mm.

② XTCEXMLG, XTCEXMLN & XTCEXMLNM & Moeller equivalents consist of an interlock element & mounting plate.




③ Also includes Interlocking Bridge (XTCEXLB).

Power Control

Motor Control

Overload Relays

Product Overview

			
Description	XTOB, XTOT Thermal Overload Relays	C396 Electronic Overload Relays	Motor Insight Overload and Monitoring Relays
Moeller Type	ZB	Not Available	Not Available
Page	Page 235	Page 237	Page 241
Relay Type	Thermal Bi-Metallic	Electronic	Electronic
Direct Connect to XT Contactor	Yes, XTCE (DILM)	Yes, XTCE (DILM)	—
Separate Mount	Yes, Adapter	Yes	Yes
FLC Range	0.1 – 630A	0.1 – 1500A	1 – 540A (with CTs)
FLC Max.:Min. Ratio	Approx. 1.5:1	5:1	—
Motor Overload Protection	Yes	Yes	Yes
Underload Protection	—	—	Yes
Supply Protection	—	—	Yes
Enhanced Phase Loss Protection	—	Yes	Yes
Enhanced Phase Imbalance Protection	—	Yes	Yes
Trip Class	10A	Selectable 5 / 10 / 20 / 30	5 – 30
Reset Type	Selectable Manual / Automatic	Selectable Manual / Automatic	Selectable Manual / Automatic / Programmable / Remote
Communications with I/O	—	—	Yes (Modbus, DeviceNet, PROFIBUS)
Remote Display	—	—	Yes
Ground Fault	—	—	Yes
Alarm No Trip	—	—	Yes (voltage & ground faults)
Jam	—	Yes	Yes
Programmable Reset Timers	—	—	Yes
Programmable Reset Attempts	—	—	Yes
Current Monitoring	—	—	Yes
Voltage Monitoring	—	—	Yes
Power Monitoring	—	—	Yes
Thermal Capacity Monitoring	—	—	Yes
Motor Run Hours Monitoring	—	—	Yes

Overload Relays

Bi-metallic Overload Relays

- Direct mount to XT & DILM contactors or separate mount
- Class 10A
- Up to 630A
- Ambient - compensated bi-metallic



Overload Relays

E9

Overload Releases, I _n	Contact Configuration	For Use with Contactor Ampere Range	Eaton Item No.	Moeller Item No.
Frame B — Direct Mount to XTCE...B Contactor (DILM7-15)				
0.1 – 0.16	1NO-1NC	7 – 15A	XTOBP16BC1	ZB12-0,16
0.16 – 0.24	1NO-1NC	7 – 15A	XTOBP24BC1	ZB12-0,24
0.24 – 0.4	1NO-1NC	7 – 15A	XTOBP40BC1	ZB12-0,4
0.4 – 0.6	1NO-1NC	7 – 15A	XTOBP60BC1	ZB12-0,6
0.6 – 1	1NO-1NC	7 – 15A	XTOB001BC1	ZB12-1
1 – 1.6	1NO-1NC	7 – 15A	XTOB1P6BC1	ZB12-1,6
1.6 – 2.4	1NO-1NC	7 – 15A	XTOB2P4BC1	ZB12-2,4
2.4 – 4	1NO-1NC	7 – 15A	XTOB004BC1	ZB12-4
4 – 6	1NO-1NC	7 – 15A	XTOB006BC1	ZB12-6
6 – 10	1NO-1NC	7 – 15A	XTOB010BC1	ZB12-10
9 – 12	1NO-1NC	9 – 15A	XTOB012BC1	ZB12-12
12 – 16	1NO-1NC	12 – 15A	XTOB016BC1	ZB12-16
Frame C — Direct Mount to XTCE...C Contactor (DILM17-32)				
0.6 – 1	1NO-1NC	18 – 32A	XTOB001CC1	ZB32-1
1 – 1.6	1NO-1NC	18 – 32A	XTOB1P6CC1	ZB32-1,6
1.6 – 2.4	1NO-1NC	18 – 32A	XTOB2P4CC1	ZB32-2,4
2.4 – 4	1NO-1NC	18 – 32A	XTOB004CC1	ZB32-4
4 – 6	1NO-1NC	18 – 32A	XTOB006CC1	ZB32-6
6 – 10	1NO-1NC	18 – 32A	XTOB010CC1	ZB32-10
10 – 16	1NO-1NC	18 – 32A	XTOB016CC1	ZB32-16
16 – 24	1NO-1NC	18 – 32A	XTOB024CC1	ZB32-24
24 – 32	1NO-1NC	25 – 32A	XTOB032CC1	ZB32-32
Frame D — Direct Mount to XTCE...D Contactor (DILM40-65)				
6 – 10	1NO-1NC	40 – 72A	XTOB010DC1	ZB65-10
10 – 16	1NO-1NC	40 – 72A	XTOB016DC1	ZB65-16
16 – 24	1NO-1NC	40 – 72A	XTOB024DC1	ZB65-24
24 – 40	1NO-1NC	40 – 72A	XTOB040DC1	ZB65-40
40 – 57	1NO-1NC	50 – 72A	XTOB057DC1	ZB65-57
50 – 65	1NO-1NC	65 – 72A	XTOB065DC1	ZB65-65
65 – 75	1NO-1NC	72A	XTOB075DC1	ZB65-75
Frame F – G — Direct Mount to XTCE...F or XTCE...G Contactor (DILM80-150)				
35 – 50	1NO-1NC	80 – 170A	XTOB050GC1	ZB150-50
50 – 70	1NO-1NC	80 – 170A	XTOB070GC1	ZB150-70
70 – 100	1NO-1NC	80 – 170A	XTOB100GC1	ZB150-100
95 – 125	1NO-1NC	80 – 170A	XTOB125GC1	ZB150-125
120 – 150	1NO-1NC	80 – 170A	XTOB150GC1	ZB150-150
145 – 175	1NO-1NC	150 – 170A	XTOB175GC1	ZB150-175

Power Control

Motor Control

Overload Relays

Bi-metallic Overload Relays

Overload Relay (Continued)

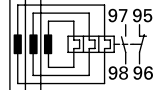
E9

Overload Releases, I _r	Contact Configuration	For Use with Contactor Ampere Range	Eaton Item No.	Moeller Item No.
Frame F – G — Separate Mount (DILM80-150)				
35 – 50	1NO-1NC	80 – 170A	XTOB050GC1S	ZB150-50/KK
50 – 70	1NO-1NC	80 – 170A	XTOB070GC1S	ZB150-70/KK
70 – 100	1NO-1NC	80 – 170A	XTOB100GC1S	ZB150-100/KK
95 – 125	1NO-1NC	80 – 170A	XTOB125GC1S	ZB150-125/KK
120 – 150	1NO-1NC	80 – 170A	XTOB150GC1S	ZB150-150/KK
145 – 175	1NO-1NC	150 – 170A	XTOB175GC1S	ZB150-175/KK
Frame L — Direct Mount to XTC(E or S)...L or Separate Mount (DILM185-250)				
50 – 70	1NO-1NC	185 – 250A	XTOB070LC1	Z5-70/FF250
70 – 100	1NO-1NC	185 – 250A	XTOB100LC1	Z5-100/FF250
95 – 125	1NO-1NC	185 – 250A	XTOB125LC1	Z5-125/FF250
120 – 160	1NO-1NC	185 – 250A	XTOB160LC1	Z5-160/FF250
160 – 220	1NO-1NC	185 – 250A	XTOB220LC1	Z5-220/FF250
200 – 250	1NO-1NC	225 – 250A	XTOB250LC1	Z5-250/FF250

Note: Short circuit protection: Observe the maximum permissible fuse of the contactor with direct device mounting. See MN03402001E for more information on overload relays for Frame B – G.
 Trip Class: 10A.
 Suitable for protection of EEx e-motors. EC prototype test certificate available upon request.
 Observe manuals MN03402001E & MN03407001E, See Documentation — Manuals for Overload Monitoring of EEx e-motors.


Current Transformer Operated Overload Relay

E9

Overload Releases, I _r	Contact Sequence	Contact Configuration	For Use with Contactor Ampere Range	Eaton Item No.	Moeller Item No.
Frame M – N — Separate Mount					
160 – 240		1NO-1NC	300 – 500A	XTOT240C3S	ZW7-240
190 – 290		1NO-1NC	300 – 500A	XTOT290C3S	ZW7-290
270 – 400		1NO-1NC	300 – 500A	XTOT400C3S	ZW7-400
360 – 540		1NO-1NC	500A	XTOT540C3S	ZW7-540
420 – 630		1NO-1NC	630A	XTOT630C3S	ZW7-630

DIN-Rail or Panel-Mount Adapter, Frame C – D — Accessories^①

E9

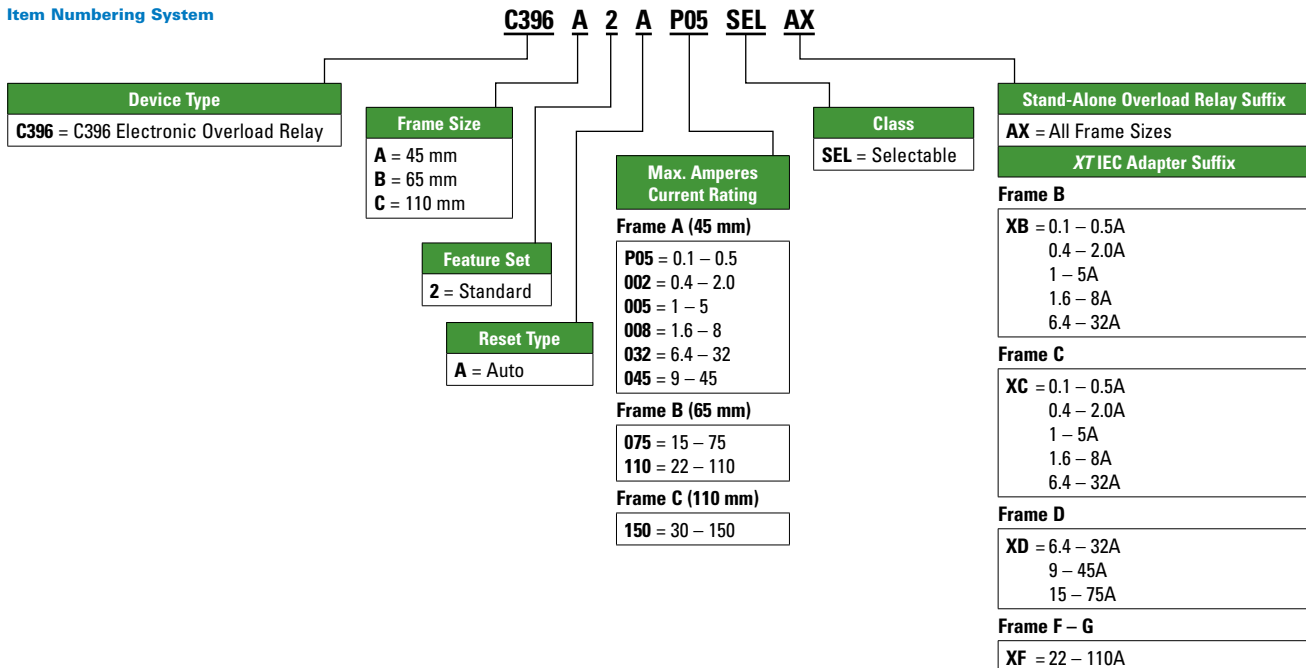
	For Use with...	Pkg. Qty.	Eaton Item No.	Moeller Item No.
	XTOB...CC1	5	XTOBXDINC	ZB32-XEZ
	XTOB...DC1	2	XTOBXDIND	ZB65-XEZ

^① Can be snap fitted on a top hat rail (DIN-Rail) or can be screw fitted.

Overload Relays

C396 Electronic Overload Relays

Item Numbering System



- Direct mount to XT contactors & Moeller DILM Contactors or separate mount
- Standard version: selectable trip class (5, 10, 20, 30) with selectable manual or auto reset
- Broad 5:1 FLC range
- Self-powered design, will accept ac voltages from 12 – 690V 50/60 Hz
- Electrically isolated 1NO-1NC contacts (Push-to-Test)
- FLC range of 0.1 – 1500 amps



C396 Overload for Integrated Use with XT IEC Contactors & Moeller DILM Contactors

E9

FLC Range (Amps)	XT IEC Contactor Frame Size / Width	Item No.
Direct Mount to XTCE...B Contactor (DILM7-15)		
0.4 – 2.0	B / 45 mm	C396A2A002SELXB
1 – 5	B / 45 mm	C396A2A005SELXB
1.6 – 8	B / 45 mm	C396A2A008SELXB
6.4 – 32	B / 45 mm	C396A2A032SELXB
Direct Mount to XTCE...C Contactor (DILM17-32)		
1.6 – 8	C / 45 mm	C396A2A008SELXC
6.4 – 32	C / 45 mm	C396A2A032SELXC
Direct Mount to XTCE...D Contactor (DILM40-65)		
6.4 – 32	D / 55 mm	C396A2A032SELXD
9 – 45	D / 55 mm	C396A2A045SELXD
15 – 75	D / 55 mm	C396B2A075SELXD
Direct Mount to XTCE...F or XTCE...G Contactor (DILM80-150)		
22 – 110	F – G / 90 mm	C396B2A110SELXF

C396 Stand-Alone Overload Relay

E9

FLC Range(Amps)	Description	Item No.
0.4 – 2.0	45 mm Frame Overload Relay ^①	C396A2A002SELAX
1 – 5		C396A2A005SELAX
1.6 – 8		C396A2A008SELAX
6.4 – 32		C396A2A032SELAX
9 – 45		C396A2A045SELAX
15 – 75	65 mm Frame Overload Relay ^①	C396B2A075SELAX
22 – 110		C396B2A110SELAX
30 – 150	110 mm Frame Overload Relay ^②	C396C2A150SELAX

① Overload comes with a panel / DIN-Rail mounting adapter assembled. No separate mounting adapter accessory offered.

② Panel-mount only! Overload comes with integrated pass-through holes for power wires. Bus Bar Kit (C396CBAR or C396CBARXT, and Lug Kit (C396CLUG) must be purchased separately if customer prefers not to use pass-through capability.

Power Control

Motor Control

Overload Relays

C396 Overload Relays




Current Transformer Kits for Use with Stand-Alone Overload Relay C396A2A005SELAX^①

FLC Range (Amps)	Description	Item No.
60 – 300	300: 5 Panel-mount CT kit with integrated, pass-through holes. Kit includes CT, bus bars, lugs & hardware to mount C396A2A005SELAX(not included).	C396CTK300
120 – 600	600: 5 Panel-mount CT kit with integrated, pass-through holes. Kit includes CT, bus bars, lugs & hardware to mount C396A2A005SELAX (not included).	C396CTK600
200 – 1000	1000: 5 Panel-mount CT kit with integrated, pass-through holes. Kit includes CT, bus bars, lugs & hardware to mount C396A2A005SELAX (not included).	C396CTK1000
300 – 1500	1500: 5 Panel-mount CT kit with integrated, pass-through holes. Kit includes CT, bus bars, lugs & hardware to mount C396A2A005SELAX (not included).	C396CTK1500

^① C396A2A005SELAX is not included in the current transformer kits. This item must be ordered separately.

Accessories

E9


	Description	Item No.
	Reset Bar Kit assembles to the top of the overload to increase reset area	C396ARST
	110 mm XT Bus Bar Kit ^①	C396CBARXT
 C396ARST + C396RR_ _ _ _ _ Assembled to a C396 Overload Relay	Remote Reset 24V dc ^②	C396RR024DC
	Remote Reset 24V ac ^②	C396RR024AC
	Remote Reset 120V ac ^②	C396RR120AC
	Remote Reset 240V ac ^②	C396RR240AC

^① Bus bar kits do not include lugs. Order C396CLUG if lugs are needed (3 lugs per kit).








^② Reset Bar Kit (C396ARST) required to use the Remote Reset modules.

Overload Relays

Electronic motor-protective relay ZEV

- Protection against unbalance
- Overload protection
- Tripping class between 5 & 40
- Earth leakage protection
- Integrated thermistor connection allows the relay to be expanded to provide a full motor protection system
- LCD display with fault indication
- 2 standard contacts 1 N/O, 1 N/C, 2 free programmable contacts for fault indication
- Phase failure protection
-  PTB 01 ATEX 3233

E9

	Length	Diameter \varnothing mm	Setting range overload releases, I, A 	Part. No.		
	–	–	1 – 820	ZEV		
Current sensors						
	–	6	1 – 25	ZEV-XSW-25		
	–	13	3 – 65	ZEV-XSW-65		
	–	21	10 – 145	ZEV-XSW-145		
	–	110	40 – 820	ZEV-XSW-820		
Connecting cables						
	200	–	–	ZEV-XVK-20		
	400	–	–	ZEV-XVK-40		
	800	–	–	ZEV-XVK-80		
SSW core-balance transformers, for earth-leakage monitoring						
	–	40	–	SSW40-0,3		
			–	SSW40-0,5		
			–	SSW40-1		
				65	–	SSW65-0,5
				65	–	SSW65-1
				120	–	SSW120-0,5
				120	–	SSW120-1

Power Control

Motor Control





Overload Relays

Thermal overload relay EMT6 for machine protection

Thermistor overload relays for machine protection

3 A rated operational current for
AC-15, 240 V
AC-14, 415 V

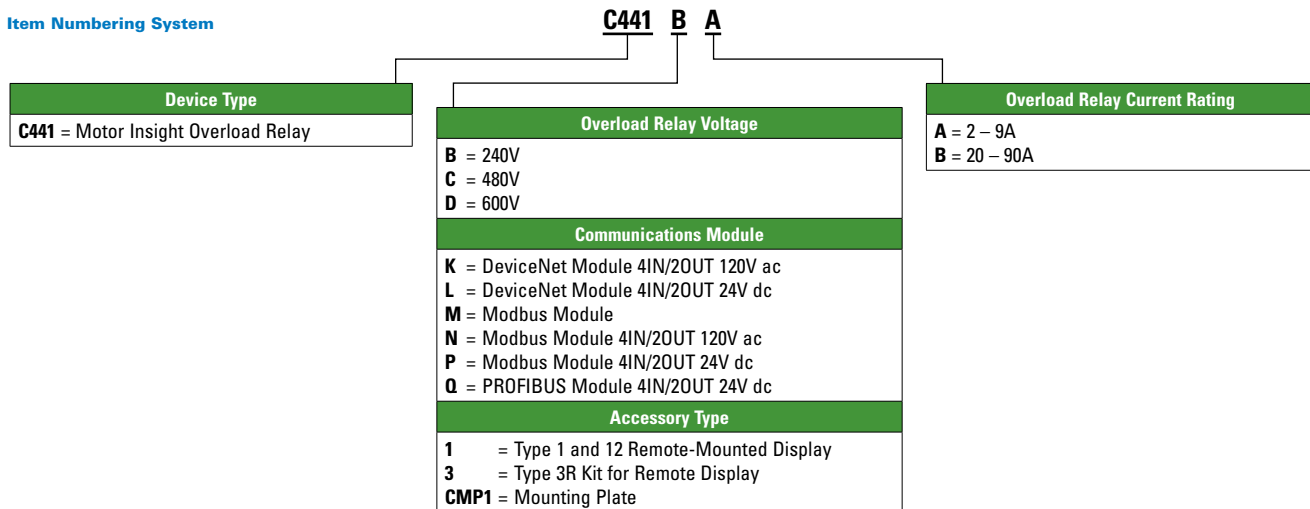
E9

	Description	Rated control voltage U_c , V	Item No.
	Without automatic reset Mains & fault LED display	24 – 240 V 50/60 Hz, 24 – 240 V DC	EMT6
	Without automatic reset Mains & fault LED display Trip with short-circuit in the sensor cable	24 – 240 V 50/60 Hz, 24 – 240 V DC	EMT6-K
	Without automatic reset Mains & fault LED display	230 V 50/60 Hz	EMT6(230V)
	Selector switch with/without automatic reset For manual or remote resetting Test button Mains & fault LED display	24 – 240 V 50/60 Hz, 24 – 240 V DC	EMT6-DB
	Selector switch with/without automatic reset For manual or remote resetting Test button Mains & fault LED display Trip with short-circuit in the sensor cable	24 – 240 V 50/60 Hz, 24 – 240 V DC	EMT6-KDB
	Selector switch with/without automatic reset For manual or remote resetting Test button Mains & fault LED display	230 V 50/60 Hz	EMT6-DB(230V)
	Multifunction device Selector switch with/without automatic reset Trip with short-circuit in the sensor cable Zero-voltage safe For manual or remote resetting Test button Short-circuit recognition & zero-voltage safety can be deactivated Mains & fault LED display	24 – 240 V 50/60 Hz, 24 – 240 V DC	EMT6-DBK
Accessories, Screw adapter			
	For screw fixing	–	CS-TE

Overload Relays

Motor Insight Power Monitoring Relays

Item Numbering System



Motor Insight™ Overload Power Monitoring Relays

- Power, voltage & current monitoring, ground fault, flexible communications, motor, load & line protection in a single package
- Enhanced surge / sag withstand capacity ensures reliable operation
- Finger proof IP20 rated terminals provide extra safety by reducing shock hazard
- Adjustments to overload settings can be made without disconnecting power
- User Interface
- Bright LED display
- Intuitive & highly customisable parameter configuration
- Remote display allows for configuration without opening the panel, providing additional operator safety



Motor Insight

E9

Voltage	Current Range	Item No.
240V ac (170 – 264)	2 – 9 Amps	C441BA
240V ac (170 – 264)	20 – 90 Amps	C441BB
480V ac (323 – 528)	2 – 9 Amps	C441CA
480V ac (323 – 528)	20 – 90 Amps	C441CB
600V ac (489 – 660)	2 – 9 Amps	C441DA
600V ac (489 – 660)	20 – 90 Amps	C441DB

Motor Insight CT Multiplier and Wire Wrap Schedule

E9

Motor FLC	Number of Loops	Number of Conductors, Through CT Primary	CT Multiplier, Setting	Item No. ①
Current Range: 20 – 90A				
5 – 22.5	3	4	4	C441_B
6.67 – 30	2	3	3	
10 – 45	1	2	2	
20 – 90	0	1	1	
Current Range: 2 – 9A				
1 – 5	1	2	2	C441_A
2 – 9	0	1	1	
60 – 135	0	1	150 – (150:5)	
120 – 270	0	1	300 – (300:5)	
240 – 540	0	1	600 – (600:5)	

① Underscore indicates operating voltage code required.
Operating Voltage Codes:

Code	Voltage
B	240V ac
C	480V ac
D	600V ac

Power Control

Motor Control

Overload Relays

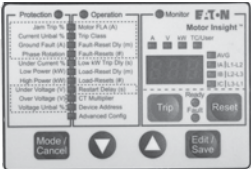

Modbus Communication Module

Description	I/O	Item No.
Modbus Communication Module	None	C441M
Modbus Communication Module 4IN / 2OUT	120V ac	C441N
Modbus Communication Module 4IN / 2OUT	240V dc	C441P

DeviceNet Modules

Description	I/O	Item No.
DeviceNet Communication Module	120V ac	C441K
DeviceNet Communication Module	24V dc	C441L

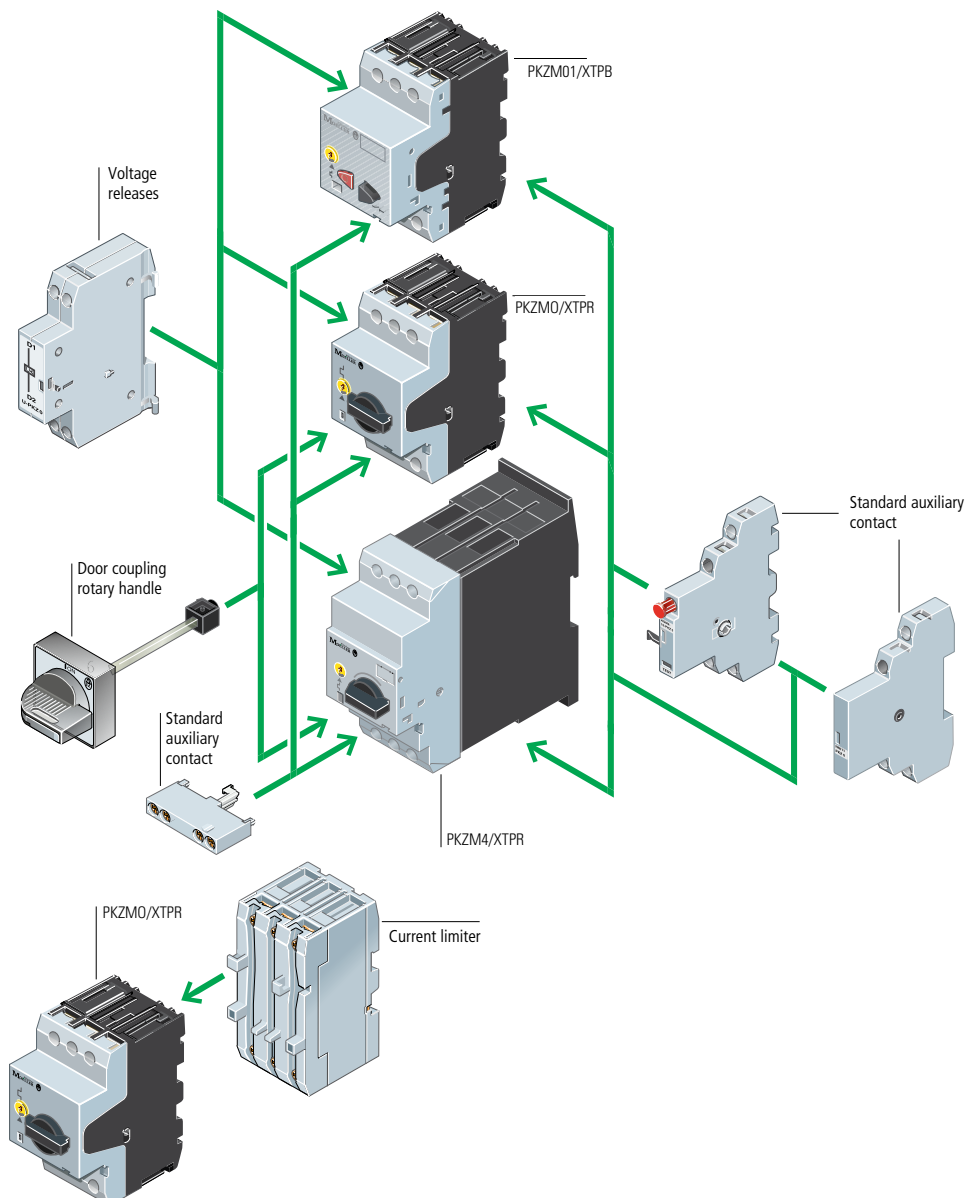
Motor Insight – Accessories

	Description	Item No.
	Remote Display Type 1	C4411
	Type 3R Kit for Remote Display (remote display not included)	C4413
	Adaptive Mounting Plate	C441CMP1

IEC Manual Motor Protectors

Manual Motor Protectors Product Overview

Description	XTPB Pushbutton Manual Motor Protector	XTPR Rotary Manual Motor Protector
Moeller type	PKZM01	PKZM0
Page	Page 244	Page 245
Operator Style	Pushbutton	Rotary
Components	Manual Motor Protector	Manual Motor Protector
Branch Motor Circuit Functions	Disconnect Controller (manual) Short Circuit Protection Motor Overload Protection	Disconnect Controller (manual) Short Circuit Protection Motor Overload Protection
FLC Range	0.1 – 25A	0.1 – 65A



Power Control

Motor Control

IEC Manual Motor Protectors

- Class 10 overload protection
- Motor applications from 0.1A to 63A
- Built-in heater & magnetic trip elements to protect the motor
- Adjustment dial for setting motor FLC



Pushbutton Manual Motor Protectors

Motor Protective Device with Thermal and Magnetic Trip

E9

Rated Uninterrupted Current — $I_n = I_r$ (Amps)	FLC Adjustment Range / Overload Release — I_r (Amps)	Short Circuit Release — I_m (Amps)	Maximum Motor Ratings [Ⓞ]					Screw Terminals Eaton Item No.	Moeller Item No.
			Maximum kW Rating AC-3 — P (kW)						
			3-Phase						
			220 – 240V	380 – 415V	440V	500V	660 – 690V		
Frame B									
0.16	0.1 – 0.16	2.2	—	—	—	—	0.06	XTPBP16BC1	PKZM01-0,16
0.25	0.16 – 0.25	3.5	—	0.06	0.06	0.06	0.12	XTPBP25BC1	PKZM01-0,25 PKZM01-0,4
0.4	0.25 – 0.4	5.6	0.06	0.09	0.12	0.12	0.18	XTPBP40BC1	PKZM01-0,63
0.63	0.4 – 0.63	8.8	0.09	0.12	0.18	0.25	0.25	XTPBP63BC1	
1	0.63 – 1	14	0.12	0.25	0.25	0.37	0.55	XTPB001BC1	PKZM01-1
1.6	1 – 1.6	22	0.25	0.55	0.55	0.75	1.1	XTPB1P6BC1	PKZM01-1,6
2.5	1.6 – 2.5	35	0.37	0.75	1.1	1.1	1.5	XTPB2P5BC1	PKZM01-2,5
4	2.5 – 4	56	0.75	1.5	1.5	2.2	3	XTPB004BC1	PKZM01-4
6.3	4 – 6.3	88	1.1	2.2	3	3	4	XTPB6P3BC1	PKZM01-6,3
10	6.3 – 10	140	2.2	4	4	4	7.5	XTPB010BC1	PKZM01-10
12	8 – 12	168	3	5.5	5.5	5.5	11	XTPB012BC1	PKZM01-12
16	10 – 16	224	4	7.5	9	9	12.5	XTPB016BC1	PKZM01-16
20	16 – 20	280	5.5	9	11	12.5	15	XTPB020BC1	PKZM01-20
25	20 – 25	350	5.5	12.5	12.5	15	22	XTPB025BC1	PKZM01-25

[Ⓞ] Select manual motor protectors by full load amperes. Maximum motor ratings (kW) are for reference only.

Note: Service Factor (SF) — Setting I_r of current scale in dependence of load factor:

$$SF = 1.15 \rightarrow I_r = 1 \times I_n \text{ mot}$$

$$SF = 1 \rightarrow I_r = 0.9 \times I_n \text{ mot}$$

IEC Manual Motor Protectors

Rotary Manual Motor Protectors

Motor Protective Device with Thermal & Magnetic Trip

E9

Rated Uninterrupted Current — $I_n = I_r$ (Amps)	FLC Adjustment Range / Overload Release — I_r (Amps)	Short Circuit Release — I_m (Amps)	Maximum Motor Ratings ^①					Eaton Item No.	Moeller Item No. ^②
			Maximum kW Rating AC-3 — P (kW)						
			3-Phase						
			220 – 240V	380 – 415V	440V	500V	660 – 690V		
Frame B									
0.16	0.1 – 0.16	2.2	—	—	—	—	0.06	XTPRP16BC1	PKZM0-0,16
0.25	0.16 – 0.25	3.5	—	0.06	0.06	0.06	0.12	XTPRP25BC1	PKZM0-0,25
0.4	0.25 – 0.4	5.6	0.06	0.09	0.12	0.12	0.18	XTPRP40BC1	PKZM0-0,4
0.63	0.4 – 0.63	8.8	0.09	0.12	0.18	0.25	0.25	XTPRP63BC1	PKZM0-0,63
1	0.63 – 1	14	0.12	0.25	0.25	0.37	0.55	XTPR001BC1	PKZM0-1
1.6	1 – 1.6	22	0.25	0.55	0.55	0.75	1.1	XTPR1P6BC1	PKZM0-1,6
2.5	1.6 – 2.5	35	0.37	0.75	1.1	1.1	1.5	XTPR2P5BC1	PKZM0-2,5
4	2.5 – 4	56	0.75	1.5	1.5	2.2	3	XTPR004BC1	PKZM0-4
6.3	4 – 6.3	88	1.1	2.2	3	3	4	XTPR6P3BC1	PKZM0-6,3
10	6.3 – 10	140	2.2	4	4	4	7.5	XTPR010BC1	PKZM0-10
12	8 – 12	168	3	5.5	5.5	5.5	11	XTPR012BC1	PKZM0-12
16	10 – 16	224	4	7.5	9	9	12.5	XTPR016BC1	PKZM0-16
20	16 – 20	280	5.5	9	11	12.5	15	XTPR020BC1	PKZM0-20
25	20 – 25	350	5.5	12.5	12.5	15	22	XTPR025BC1	PKZM0-25
32	25 – 32	448	7.5	15	15	22	30	XTPR032BC1	PKZM0-32
Frame D									
16	10 – 16	224	4	7.5	9	9	12.5	XTPR016DC1	PKZM4-16
25	16 – 25	350	5.5	12.5	12.5	15	22	XTPR025DC1	PKZM4-25
32	25 – 32	448	7.5	15	17.5	22	22	XTPR032DC1	PKZM4-32
40	32 – 40	560	11	20	22	24	30	XTPR040DC1	PKZM4-40
50	40 – 50	700	14	25	30	30	45	XTPR050DC1	PKZM4-50
58	50 – 58	812	17	30	37	37	55	XTPR058DC1	PKZM4-58
65	55 – 65	882	18.5	34	37	45	55	XTPR063DC1	PKZM4-63

① Select manual motor protectors by full load amperes. Maximum motor ratings (kW) are for reference only.

Note: Service Factor (SF) — Setting I_r of current scale in dependence of load factor:


$$SF = 1.15 \rightarrow I_r = 1 \times I_n \text{ mot}$$

$$SF = 1 \rightarrow I_r = 0.9 \times I_n \text{ mot.}$$

② Eaton Rotary Manual Motor Protectors include a padlockable handle. Moeller PKZM0 & PKZM4 handles are not padlockable. Order part no. AK-PKZ0 handle if a lockable handle is required.

Lockable Rotary Handle for Moeller MMPs

E9

	For use with	Moeller Item No.
	PKZM0 & PKZM4	AK-PKZ0

Power Control

Motor Control

Electronic Motor-protective circuit-breaker PKE

Switch & protect motors up to 65 A with electronic wide-range overload protection. Modular design. Highest level of flexibility. Highest level of performance.

The selection of a suitable motor-protective circuit-breaker is decisive for the functional safety & service life of a motor. Motor-protective circuit-breakers PKE with electronic overload protection offer an interesting alternative to the bimetal solution here & complement the intelligent PKZ series from Moeller. The motor-protective circuit-breaker PKE provides the highest level of flexibility featuring a compact & modular design with plug-in control unit for motor currents up to 65 A.

The large current setting ranges decisively reduce the number of variants & minimise the engineering work & costs accordingly.

PKE features & benefits:

- Autonomous supply via current transformer
- Large electronically controlled setting range
- Exchangeable control units
- Tripping classes greater than CLASS 10
- Precise & extremely long-time stable tripping characteristic curves
- Minimum heat losses
- Protection suited to individual starting conditions
- Motor starter design with standard components
- Common range of accessories from system PKZ0/XTPR
- Parameter data read out options
- Very service friendly
- Reduction of engineering time & costs
- Advanced control unit includes a COM interface for SmartWire

3 base units + 5 control units = current range up to 65A

PKE 12, 12A (45 mm)

PKE 32, 32A (45 mm)

PKE 65, 65A (55 mm)



0.3A — 12A
0.09 - 5.5 kW (400 V)

3A — 32A
1.5 - 15 kWa (400 V)

8A — 65A
4 - 34 kW (400 V)

5 plug-in control units up to 65 A in 2 versions.



Standard

Extended

0.3A — 1.2A
1A — 4A
3A — 12A
8A — 32A
16A — 65A

Selection overview (available Q4 2010)



Motor rating	Rated motor current AC-3		Overload release setting range	Base unit	Control unit Standard	Control unit Advanced (with COM interface)
	240V	415V				
kW	A	A				
	Motor-protective circuit-breaker, Coordination type "1" & "2"					
0.06	0.37	-	0.3 ... 1.2 A	PKE12	PKE-XTU-1,2	PKE-XTUA-1,2
0.09	0.54	0.31				
0.12	0.72	0.41				
0.18	1.04	0.6				
0.25	-	0.8				
0.37	-	1.1				
0.18	1.04	-	1 ... 4 A	PKE12	PKE-XTU-4	PKE-XTUA-4
0.25	1.4	-				
0.37	2	1.1				
0.55	2.7	1.5				
0.75	3.2	1.9				
1.1	-	2.6				
1.5	-	3.6				
0.75	3.2	-	3 ... 12 A	PKE12	PKE-XTU-12	PKE-XTUA-12
1.1	4.6	-				
1.5	6.3	3.6				
2.2	8.7	5				
3	11.5	6.6				
4	-	8.5				
5.5	-	11.3				
2.2	8.7	-	8 ... 32 A	PKE32	PKE-XTU-32	PKE-XTUA-32
3	11.5	-				
4	14.8	8.5				
5.5	19.6	11.3				
7.5	26.4	15.2				
11	-	21.7				
15	-	29.3				



IEC Manual Motor Protectors Accessories

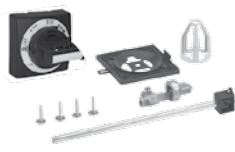
Auxiliary Contacts

E9

Contact Configuration	Eaton Item No.	Moeller Item No.
Side-Mount		
1NO-1NC	XTPAXSA11	NHI11-PKZ0
Front-Mount		
1NO-1NC	XTPAXFA11	NHI-E-11-PKZ0
Trip indicating aux. contact	XTPAXSATR20 XTPAXSATR02	AGM2-10-PKZ0 AGM2-01-PKZ0

IP65 Rotary Handle Mechanism^{①②③}

E9

Description	Eaton Item No.	Moeller Item No.
Complete Kits – Includes Handle, Shaft & Required Hardware		
	Rotary Handle Mechanism IP65 Black — For use on main switches to IEC / EN 60204.	XTPAXRHMB PKZ0-XH
	Rotary Handle Mechanism IP65 Red / Yellow — For use on main switch with Emergency-Stop function to IEC / EN 60204.	XTPAXRHMR Y PKZ0-XRH
	Rotary Handle Mechanism IP65 Black — For use on main switches to IEC / EN 60204 where XTPR is mounted 90° from vertical.	XTPAXRH M90B PKZ0-XH-MCC
	Rotary Handle Mechanism IP65 Red / Yellow — For use on main switch with Emergency-Stop function to IEC / EN 60204 where XTPR is mounted 90° from vertical.	XTPAXRH M90Y PKZ0-XRH-MCC

- ① With ON/OFF switch position & "+" (tripped), lockable with 3 padlocks, 4 – 8 mm hasp. Can be locked in the OFF position, if required.
- ② Rotary handle mechanisms ship with door interlock disabled. See instruction publication with product for how to enable door interlock.
- ③ Not for use with XTPAXFAEM20 early-make front-mount auxiliary contact.

Shunt Release

E9

	Voltage	Eaton Item No.	Moeller Item No.
	120 vac	XTPAXSR120V60H	-
	240 vac	XTPAXSR240V60H	A-PKZ0(230V50HZ)
	480 vac	XTPAXSR480V60H	-
	24 DC	XTPAXSR24VDC	A-PKZ0(24VDC)

Undervoltage Release

E9

	Voltage	Eaton Item No.	Moeller Item No.
	120 vac	XTPAXUVR120V60H	-
	240 vac	XTPAXUVR240V60H	U-PKZ0(240V50HZ)
	480 vac	XTPAXUVR480V60H	-

Sealing facility

E9

Description	Eaton Item No.	Moeller Item No.
To prevent tampering with the overload release & the test function. For use with XTPB (PKZMO & PKZM4)	XTPAXSW	PL-PKZ0




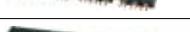






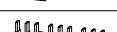


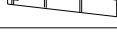



Power Control

Motor Control

IEC Manual Motor Protectors Accessories

Three-Phase Commoning Links^①


E9

	For Use with...	Qty. MMP	Length of Link (mm)	Unit Width (mm)	Eaton Item No.	Moeller Item No.
Frame B						
	MMP With No Side-Mounted Auxiliaries or Voltage Releases	2	90	45	XTPAXCLKA2	B3.0/2-PKZ0
		3	135	45	XTPAXCLKA3	B3.0/3-PKZ0
		4	180	45	XTPAXCLKA4	B3.0/4-PKZ0
		5	225	45	XTPAXCLKA5	B3.0/5-PKZ0
	For motor-protective circuit-breaker each with an auxiliary contact or trip-indicating auxiliary contact fitted on the right	2	-	-	XTPAXCLKB2	B3.1/2-PKZ0
		3	-	-	XTPAXCLKB3	B3.1/3-PKZ0
		4	-	-	XTPAXCLKB4	B3.1/4-PKZ0
		5	-	-	XTPAXCLKB5	B3.1/5-PKZ0
	For PKZM0... with one auxiliary contact each & a trip-indicating auxiliary contact fitted on right or a voltage release fitted on left	2	-	-	XTPAXCLKC2	B3.2/2-PKZ0
		4	-	-	XTPAXCLKC4	B3.2/4-PKZ0
Shroud for unused terminals. Protection against direct contact. For closing off non-used connections on the three phase commoning link. B3...-PKZ0						
	-	-	-	-	XTPAXUTS	H-B3-PKZ0
Frame D						
	MMP With No Side-Mounted Auxiliaries or Voltage Releases	2	110	55	XTPAXCLKA2D	B3.0/2-PKZ4
		3	165	55	XTPAXCLKA3D	B3.0/3-PKZ4
		4	220	55	XTPAXCLKA4D	B3.0/4-PKZ4
	For motor-protective circuit-breakers/starters each with an auxiliary contact or trip-indicating auxiliary contact fitted on the right & with a DIL1(A)M contactor	2	-	-	XTPAXCLKB2D	B3.1/2-PKZ4
		3	-	-	XTPAXCLKB3D	B3.1/3-PKZ4
		4	-	-	XTPAXCLKB4D	B3.1/4-PKZ4
	For PKZM4 with one auxiliary contact each or trip-indicating auxiliary contact fitted on right or a voltage release fitted on left	2	-	-	XTPAXCLKB2D	B3.2/2-PKZ4
		4	-	-	XTPAXCLKB4D	B3.2/4-PKZ4
Shroud for unused terminals. Protection against direct contact. To cover unused terminals on three-phase commoning link						
	-	-	-	-	XTPAXUTSD	H-B3-PKZ4

^① Protected against accidental contact. B-Frame short circuit proof $U_e = 690V$, $I_u = 63A$; D-Frame short circuit proof $U_e = 690V$, $I_u = 128A$. Frame B links can be combined by rotating mounting. Frame D links cannot be combined. + MMP w/1 aux. (2, 3, 4, 5 module) + trip indicating etc. for frames B & D.

Incoming Terminal for Three-Phase Commoning Link^①

E9


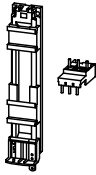
	For Use with...	Eaton Item No.	Moeller Item No.
	B-Frame XTPR, XTPB, PKZM0, PKZM01	XTPAXIT	BK25/3-PKZ0

^① For three-phase commoning link, protected against accidental contact, $U_e = 690V$, $I_u = 63A$; for conductor cross-sections: 2.5 – 25 mm² stranded; 2.5 – 16 mm² flexible with ferrules, AWG 14-6.

IEC Manual Motor Protectors Accessories

Combination Connection Kits for Connection of Rotary MMP with IEC Contactor

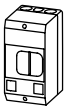



E9

	For Use with...	Description	Eaton Item No.	Moeller Item No.
Non-Reversing Starters				
	XTPR...B + XTCE...B PKZMO + DILM7-15	Comprised of: <ul style="list-style-type: none"> Mechanical connection element for XTPR...B & contactor Main current wiring between XTPR...B & contactor in tool-less plug connection Cable guidance Use contactor auxiliary switch XTCEXFAT... Control cable guidance: max. 6 cables up to 2.5 mm ² external diameter or 4 cables up to 3.5 mm ² external diameter.	XTPAXTPCB	PKZM0-XDM12
	XTPR...B + XTCE...C PKZMO + DILM17-32	Comprised of: <ul style="list-style-type: none"> DIN-Rail adapter plate Main current wiring between XTPR & contactor 	XTPAXTPCC	PKZM0-XDM32
	XTPR...D + XTCE...D PKZM4 + DILM40-65		XTPAXTPCD	PKZM4-XDM65

Reversing & Star-Delta connections are available. Contact your local sales office for more information.

Insulated Enclosures for Surface Mounting

E9


	Degree of Protection	For Use with...	Description	Eaton Item No.	Moeller Item No.
XTPB Pushbutton Manual Motor Protectors					
	IP65 NEMA 3R, 4X, 12, 13	XTPB MMP Only or with: XTPAXFA..., XTPBXFAEM20, XTPAXSA..., XTPAXUVR..., XTPAXSR..., XTPAXCL	With actuating diaphragm	XTPBXENAS65	CI-PKZ01-G
	IP65 NEMA 3R, 4X, 12, 13	XTPB MMP Only or with: XTPAXFA..., XTPBXFAEM20, XTPAXUVR..., XTPAXSR..., XTPAXCL	With Emergency-Stop (E-Stop) pushbutton actuator, Red-Yellow	XTPBXENASES65	CI-PKZ01-PVT
D-Frame (10 – 65A) XTPR Rotary Manual Motor Protectors^{①②}					
	-	-	Black	XTPAXENCSD65B	CI-K4-PKZ4-G
	IP65	B-Frame XTPR Only or with: XTPAXFA..., XTPAXSA..., XTPAXSATR..., XTPAXUVR..., XTPAXSR..., XTPAXCL	With black/grey rotary handle	XTPAXENC65B	CI-K2-PKZ0-G
			With red/yellow rotary handle for use as Emergency-Stop switches to IEC/EN 60204	XTPAXENC65RY	CI-K2-PKZ0-GR
	IP65 NEMA 1, 12, 3R, 4X	D-Frame XTPR Only or with: XTPAXFA..., XTPAXFAEM20, XTPAXSA..., XTPAXSATR..., XTPAXUVR..., XTPAXSR..., XTPAXCL	With red/yellow rotary handle for use as Emergency-Stop switches to IEC / EN 60204	XTPAXENCSD65RY	CI-K4PKZ4-GR

^① Integrated terminal for PE(N) connection.

^② % Metric knockouts: Top ÷ bottom: M25/M32. In backplate: M25/M32. Control cable entry: M20.

MMP Enclosure Accessories (Rotary Manual Motor Protector Enclosure Padlock Attachment)

E9

	For Use with...	Description	Pkg. Qty.	Eaton Item No.	Moeller Item No.
	XTPAXENC65B, XTPAXENC65RY,	Padlocking feature. Up to 3 padlocks with 3 – 6 mm hasp thickness. For use as main switch to IEC/EN 60204.	3	XTPAXPL1 ^①	SVB-PKZ0-CI
	XTPAXENCSD65B, XTPAXENCSD65RY		1	XTPAXPL2 ^①	SVB-PKZ4-CI

More enclosures are available. Contact your local sales office for more information.

^① Lockable in the 0-position of the XTPR manual motor protector.

Power Control

Motor Control








IEC Motor Control Busbar Adapters

Busbar adapter, 3 pole

Rated operational voltage $U_e = 690$ V. For mounting on CU flat busbars with 60 mm interval between busbar centres, suitable for 5 mm & 10 mm busbar thickness.

Busbar adapters

E9

	Rated operational current, I_n , A	Adapter width (mm)	Adapter length (mm)	For Use with...	Item No.
For direct-on-line starters					
	25	45	200	PKZM0 + DILM7 PKZM0 + DILM9 PKZM0 + DILM12 PKZM0 + DILM15 MSC-D-0,25-M7... to MSC-D-16-M15...	BBA0-25
	32	45	200	PKZM0 + DILM17 PKZM0 + DILM25 PKZM0 + DILM32 MSC-D-16-M17... to MSC-D-32-M32...	BBA0-32
	63	55	260	PKZM4 + DILM17 PKZM4 + DILM25 PKZM4 + DILM32 PKZM4 + DILM40 PKZM4 + DILM50 PKZM4 + DILM65	BBA4L-63
	63	72	260	PKZ2 + DILM7 PKZ2 + DILM9 PKZ2 + DILM12 PKZ2 + DILM15 PKZ2 + DILM17 PKZ2 + DILM25 PKZ2 + DILM32 PKZ2 + DILM40	BBA2L-63
For reversing starters					
	25	90	200	PKZM0 + 2 x DILM7-01 PKZM0 + 2 x DILM9-01 PKZM0 + 2 x DILM12-01 MSC-R-0,25-M7... to MSC-R-12-M12...	BBA0R-25
	32	90	200	PKZM0 + 2 x DILM17-01 PKZM0 + 2 x DILM25-01 PKZM0 + 2 x DILM32-01 MSC-R-16-M17... to MSC-R-32-M32...	BBA0R-32
Empty module, without electrical contacts					
	–	45	200	–	BBA0/2TS-L
	–	54	200	–	BBA4/2TS-L
Side mounted module, can be plugged into both sides					
	–	9	200	–	BBA-XSM

Contacts for safety-relevant control functions

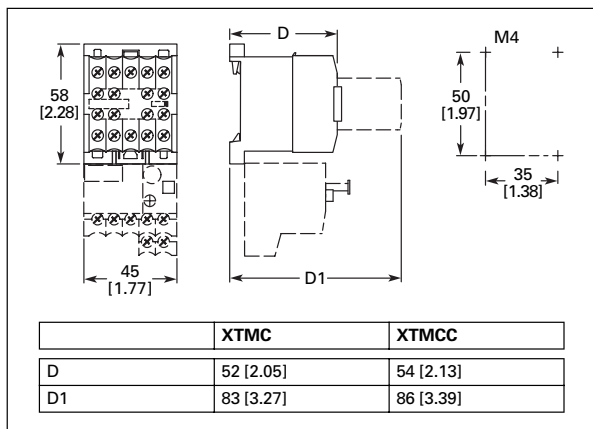
Contacts for safety-relevant control functions Positive opening operation of the contacts to IEC/EN 60947-5-1, Annex L		Mirror contacts to IEC/EN 60947-4-1, Annex F	Auxiliary break contact in the auxiliary contact module ① to the main contacts	Item No.
Integrated auxiliary switch in basic unit to contacts in the auxiliary contact module ①. Contactor with AC or DC operation, with screw or cage clamp connections	Between the contacts within an auxiliary contact module ①	Integrated auxiliary break contact ① to the main contacts. Contactor with AC or DC operation, with screw or cage clamp connections		
Yes	Yes	No main contacts available	No main contacts available	DILA22(31)
Yes	Yes	No auxiliary break contact available	Yes	DILM7-10 to DILM32-10
Yes	Yes	Yes	Yes	DILM7-01 to DILM32-01
No auxiliary contact available	Yes	No auxiliary break contact available	Yes	DILM40 to DILM65
Not currently available	Not currently available	Not currently available	Not currently available	DILM80 to DILM150
Yes	Yes	No main contacts available	No main contacts available	DILER-22(31)
Yes	Yes	No auxiliary break contact available	Yes	DILE(E)M-10
Yes	Yes	Yes	Yes	DILE(E)M-01
Yes	Yes	No main contacts available	No main contacts available	DILR-22(31)
Yes	Yes	No auxiliary break contact available	Yes	DIL00(A)(B)M-10
Yes	Yes	Yes	Yes	DIL00(A)(B)M-01
No integrated auxiliary contact available	Yes	No integrated auxiliary contact available	Yes	DIL0(A)M to DIL3M85
	Yes		Connect 1 right & 1 left SI auxiliary switch contact in series	DIL4M115 & DIL4M145
	Yes		Yes	DILM185 to DILM1000
	Yes		Yes	DILH1400 to DILH2000
	Currently not tested		Currently not tested	DILP160 to DILP800

① Generally does not apply for combinations with early-make contacts & late-break contacts.

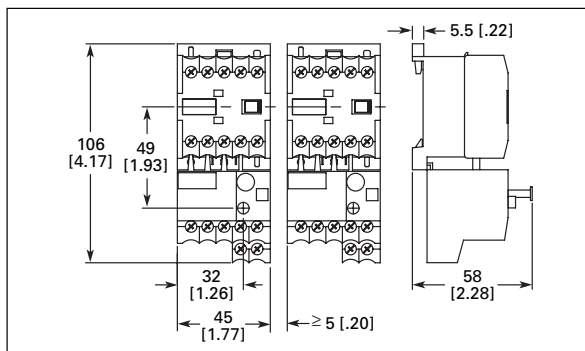
Power Control

Motor Control

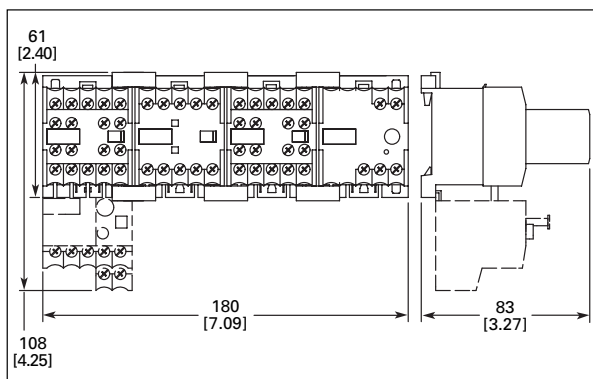
IEC Power Control, dimensions



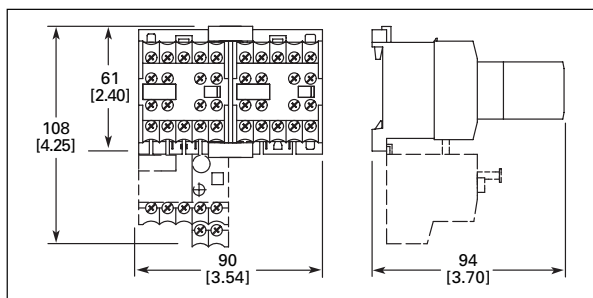
Mini Contactor



Mini Contactor with Overload Relay

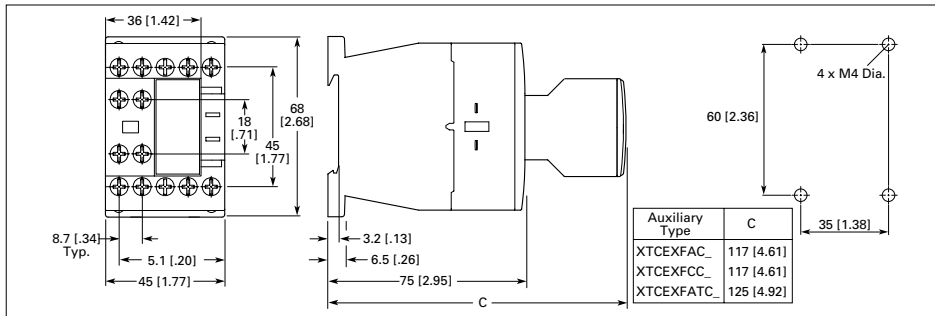


Star-Delta Starter Combinations

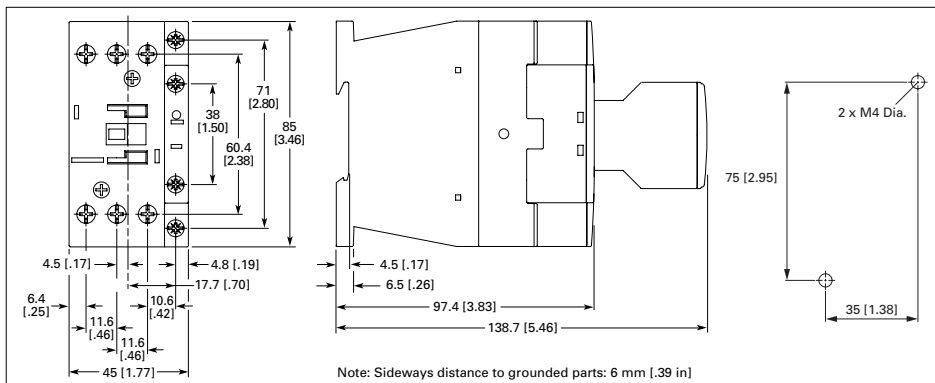


Reversing Mini Contactor

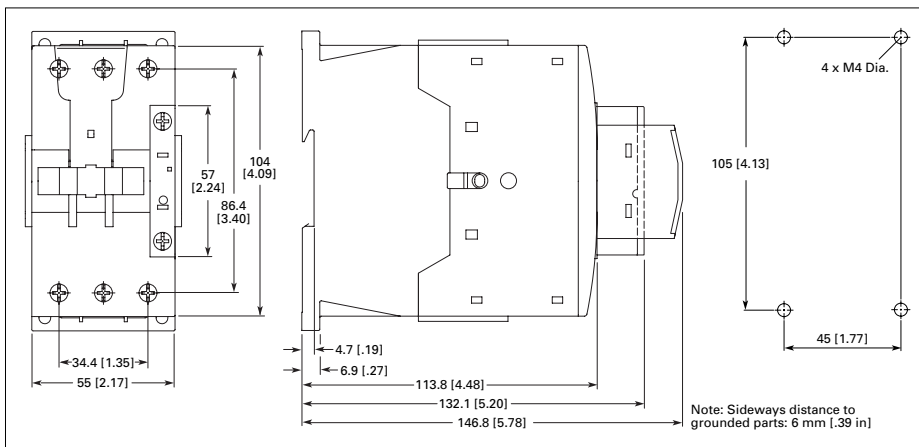
IEC Power Control, dimensions



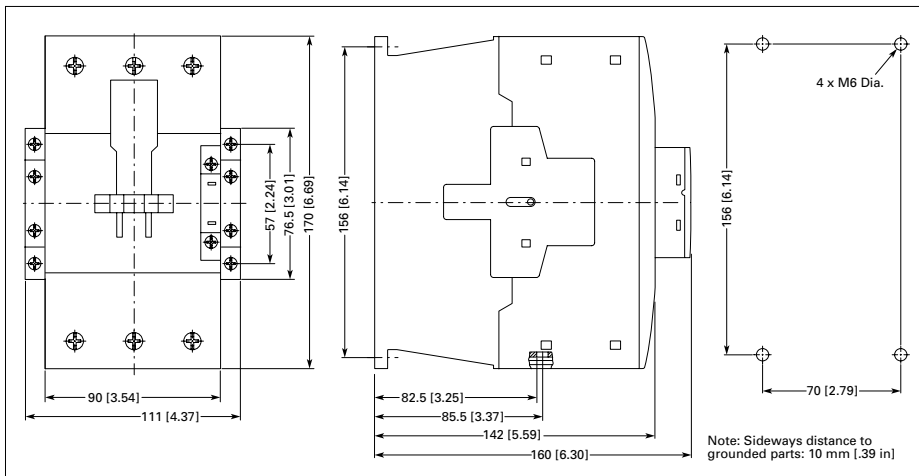
Frame B, XTCE007B - XTCE015B (DILM7-DILM15) Contactors (7 - 15A)



Frame C, XTCE018C - XTCE032C (DILM17-DILM32) Contactors (18 - 32A)



Frame D, XTCE040D - XTCE065D (DILM40-DILM65) Contactors (40 - 65A)

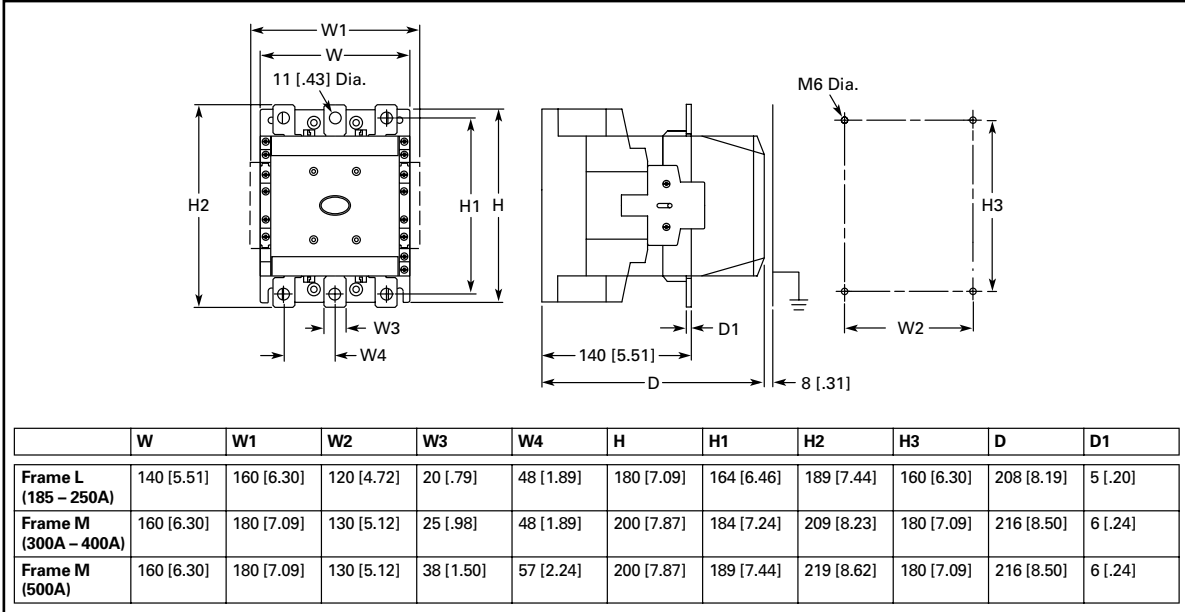


Frame F - G, XTCE080F - XTCE150G, (DILM80-DILM150) Contactors (80 - 150A)

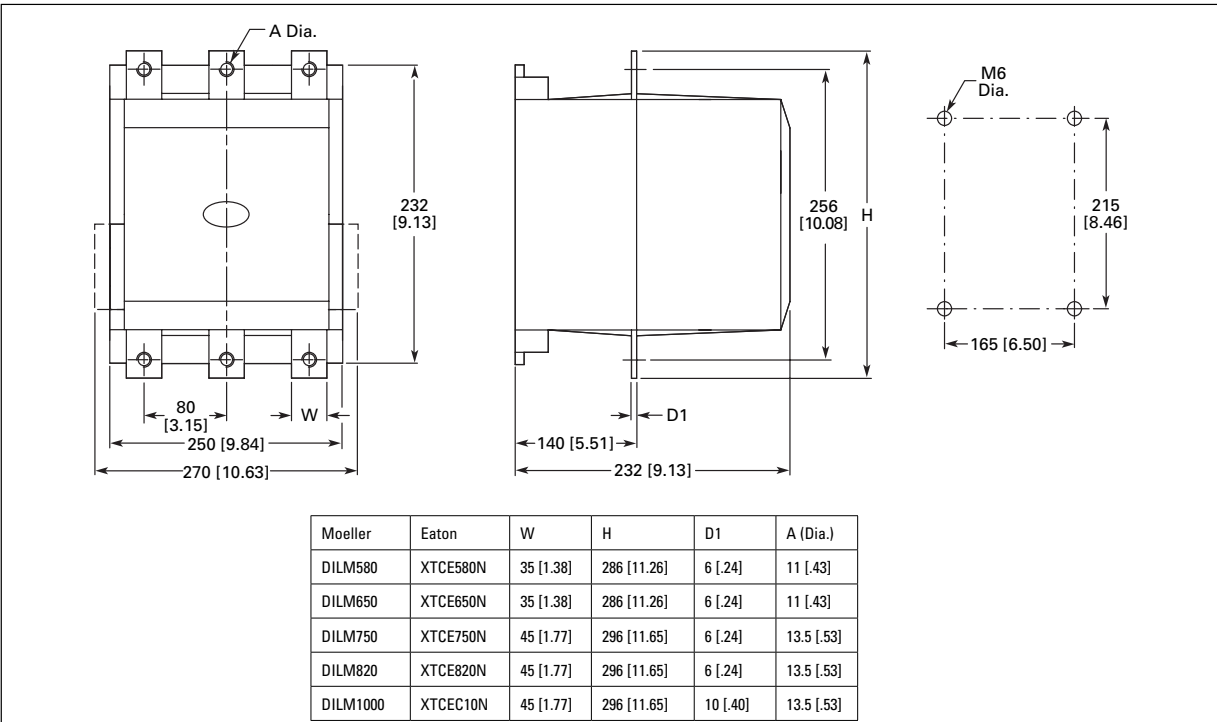
Power Control

Motor Control

IEC Power Control, dimensions

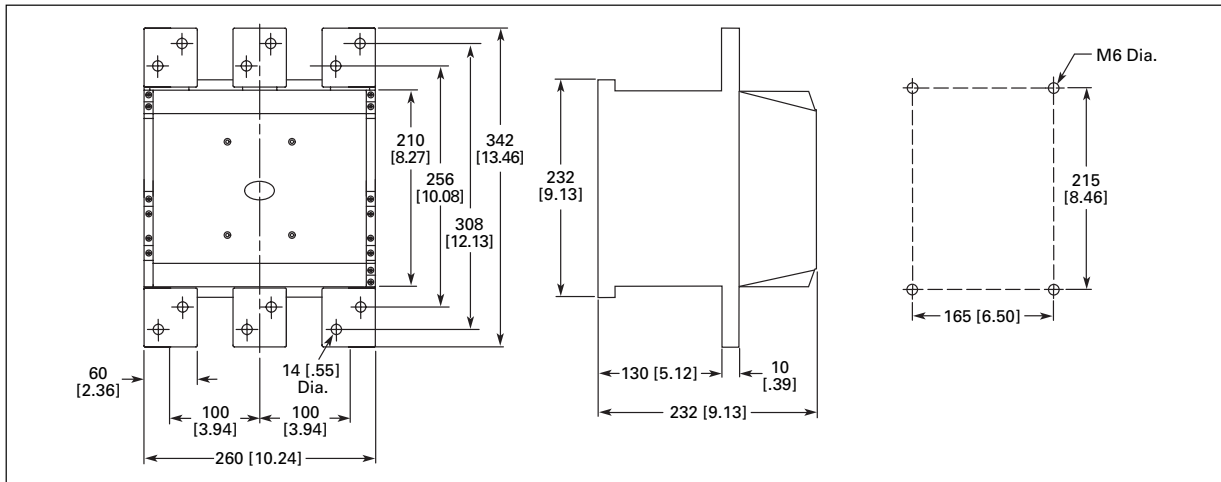


Frame L - M, XTCS185L - XTCS570M (DILM185-DILM500) Contactors (185 - 500A)

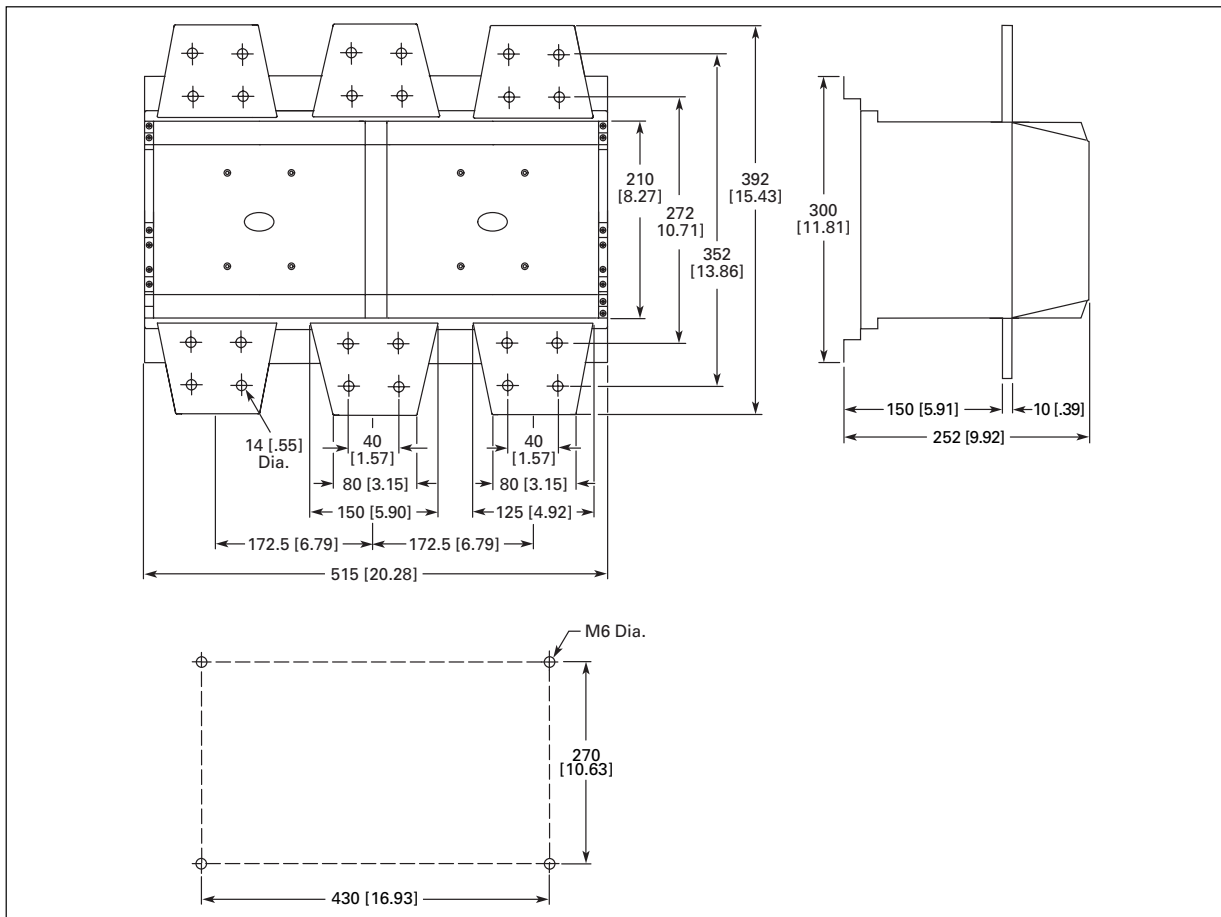


Frame N, XTCE580N - XTCEC10N (DILM580-DILM1000) Contactors (580 - 1000A)

IEC Power Control, dimensions



Frame P, XTCEC14P Contactor (1400A, AC-1)

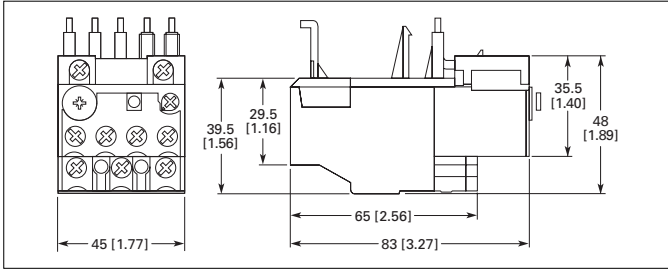


Frame R, XTCEC16R, XTCEC20R Contactors

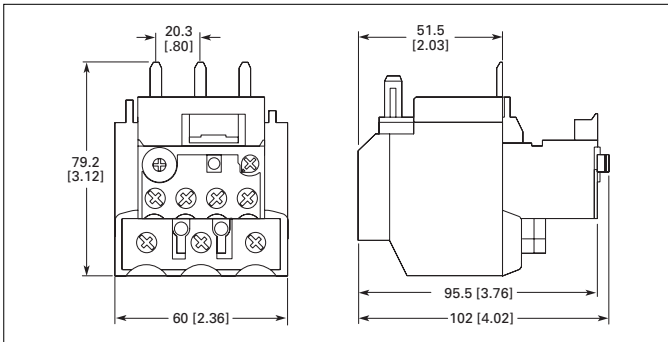
Power Control

Motor Control

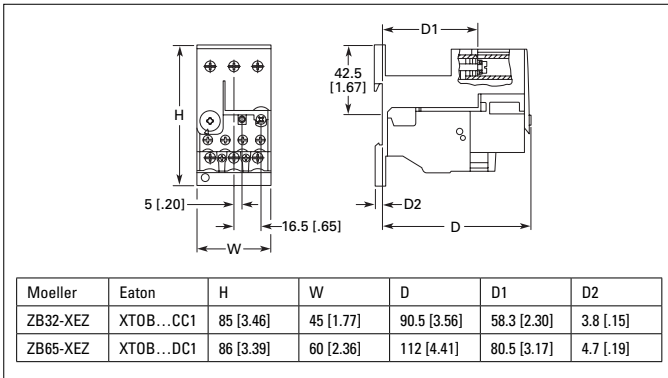
IEC Power Control, dimensions



Frame B - C, XTOB...BC1 & XTOB...CC1 (ZB12-ZB32) Overload Relays

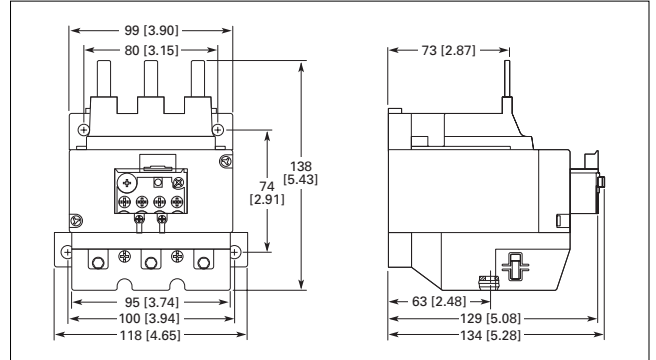


Frame D, XTOB...DC1 (ZB65) Overload Relays

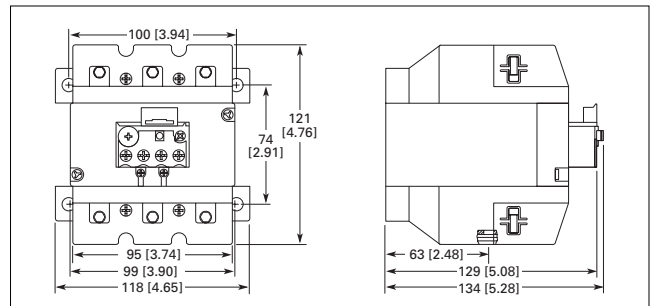


Moeller	Eaton	H	W	D	D1	D2
ZB32-XEZ	XTOB...CC1	85 [3.46]	45 [1.77]	90.5 [3.56]	58.3 [2.30]	3.8 [0.15]
ZB65-XEZ	XTOB...DC1	86 [3.39]	60 [2.36]	112 [4.41]	80.5 [3.17]	4.7 [0.19]

Frame B - C, XTOBXDINC DIN Rail or Panel Mount Adapter & Frame D, XTOBXDIND DIN Rail or Panel Mount Adapter



Frame F - G, XTOB...GC1 (ZB150) Overload Relay n]

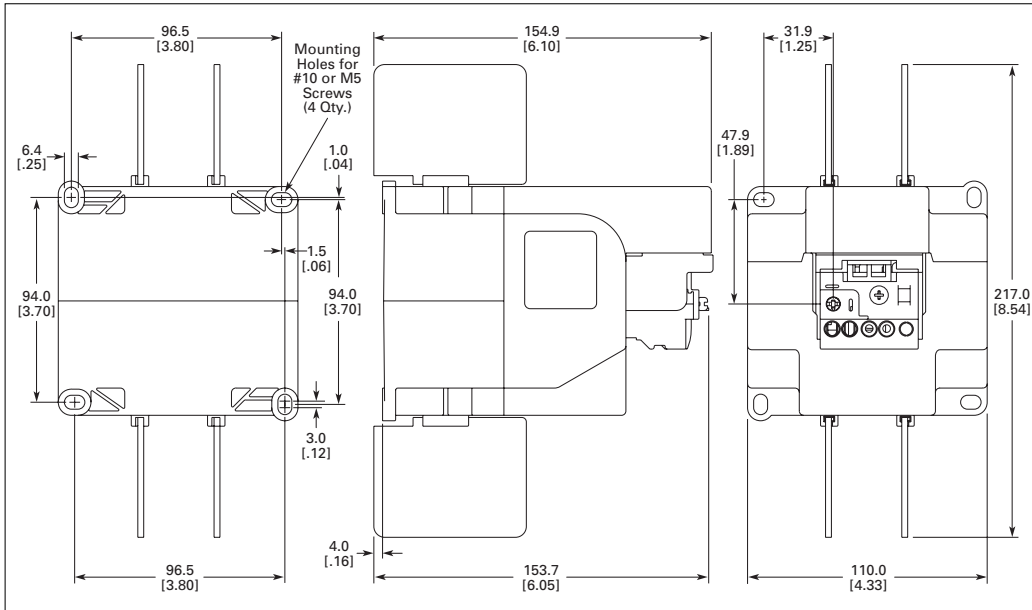


Frame F - G, XTOB...G1CS (ZB150-.../KK) separate mounted Overload Relay

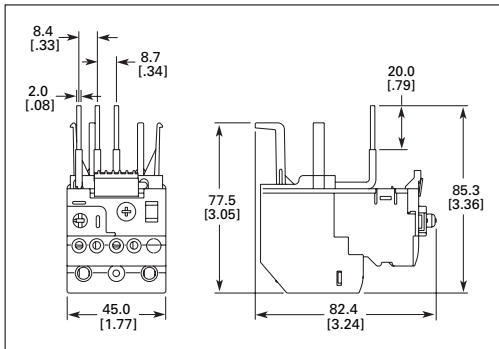
Power Control

Motor Control

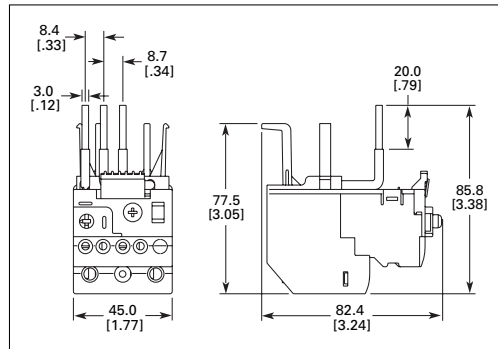
IEC Power Control, dimensions



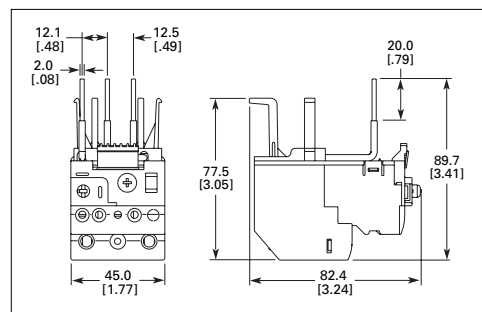
110 mm Stand-Alone C396 Electronic Overload Relay



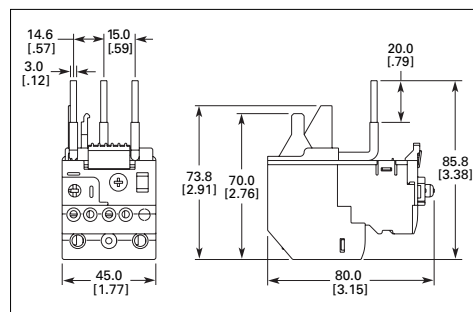
45 mm C396 (0.1 - 8A) Direct Connect to XT Frame B Contactor



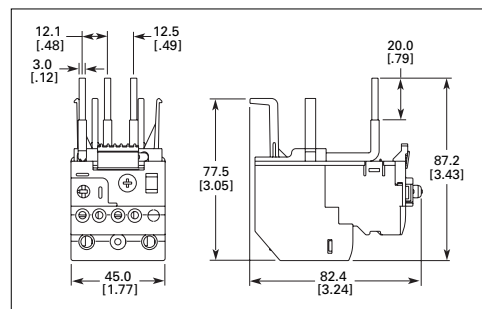
45 mm C396 (6.4 - 32A) Direct Connect to XT Frame B Contactor



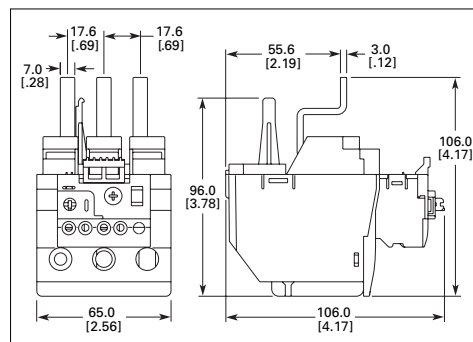
45 mm C396 (0.1 - 8A) Direct Connect to XT Frame C Contactor



45 mm C396 (6.4 - 45A) Direct Connect to XT Frame D Contactor

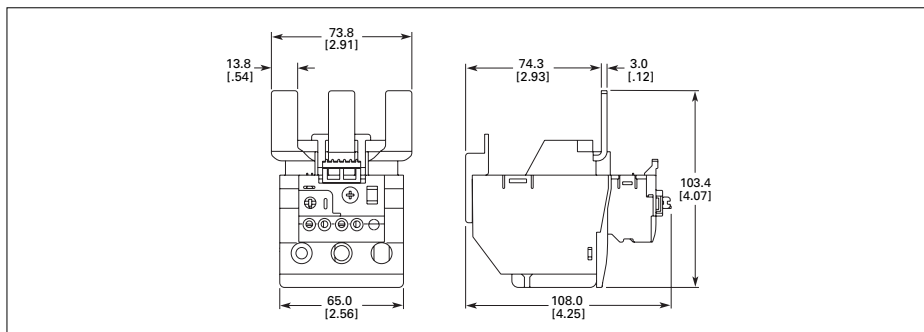


45 mm C396 (6.4 - 32A) Direct Connect to XT Frame C Contactor

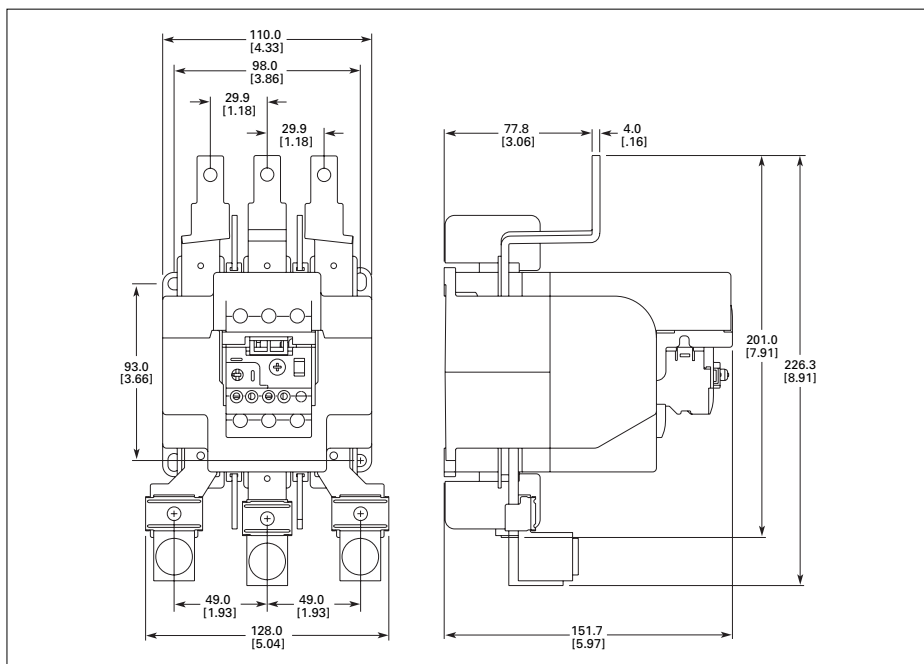


65 mm C396 (15 - 75A) Direct Connect to XT Frame D Contactor

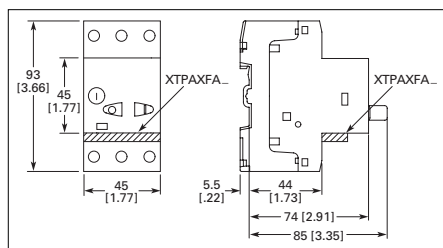
IEC Power Control, dimensions



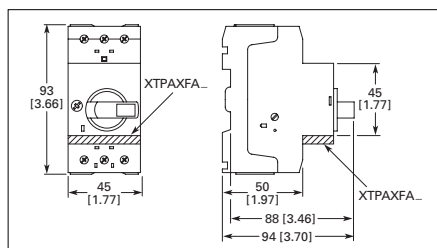
65 mm C396 (22 - 110A) Direct Connect to XT Frame F - G Contactor



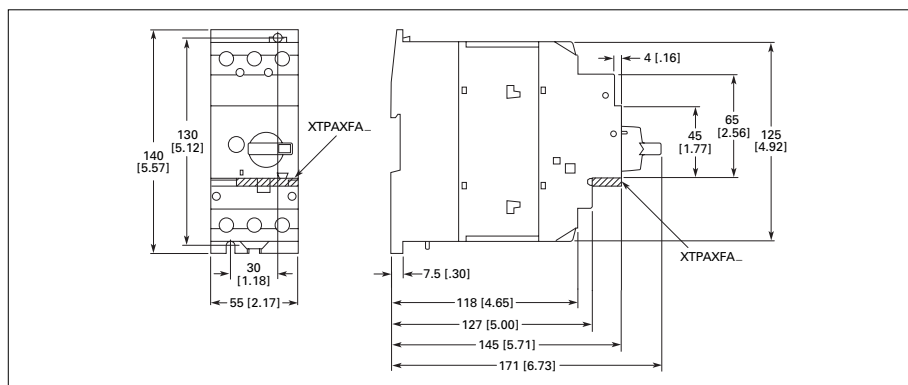
110 mm C396 (30 - 150A) + C396CBARXT Direct Connect to XT Frame G Contactor



Manual Motor Protectors - XTPB (PKZM01)



Manual Motor Protectors, Manual Transformer Protectors - XTPR...B, XTPT & XTPM (PKZM0)

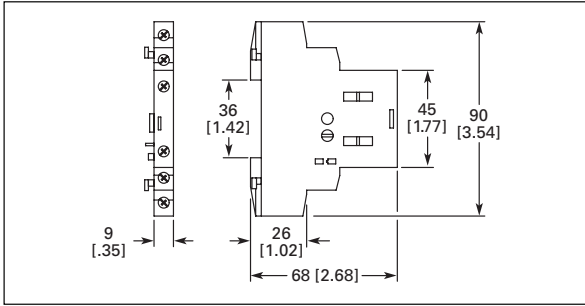


Manual Motor Protectors - XTPR...DC1 (PKZM4)

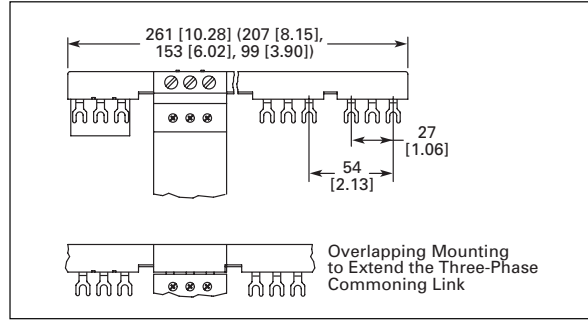
Power Control

Motor Control

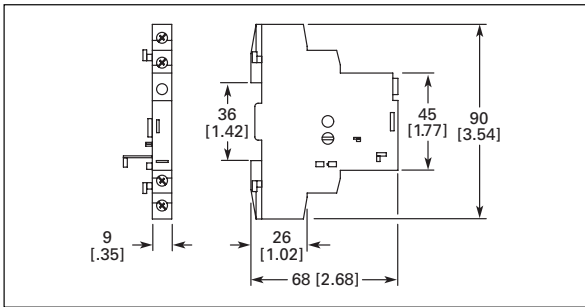
IEC Power Control, dimensions



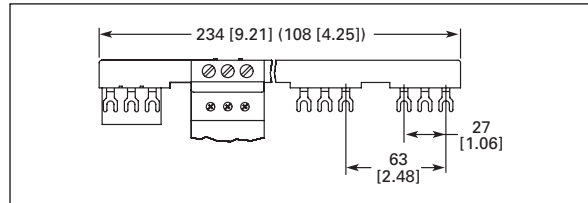
Standard Auxiliary Contact – XTPAXSA...NHI11



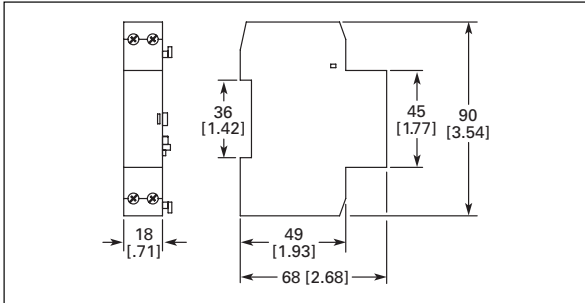
Three-Phase Commoning Link – XTPAXCLKB5, XTPAXCLKB4, XTPAXCLKB3, and XTPAXCLKB2



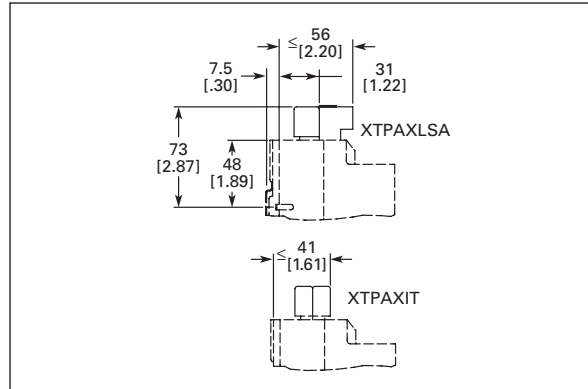
Trip Indicating Auxiliary Contact – XTPAXSATR...



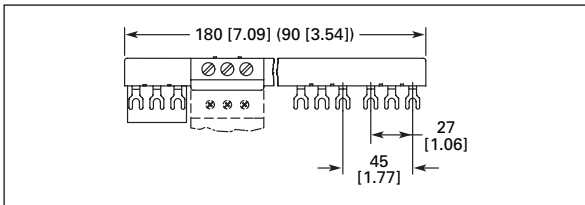
Three-Phase Commoning Link – XTPAXCLKC4, XTPAXCLKC2



Undervoltage / Shunt Release – XTPAXUVR..., XTPAXSR... (A-PKZ0, U-PKZ0)

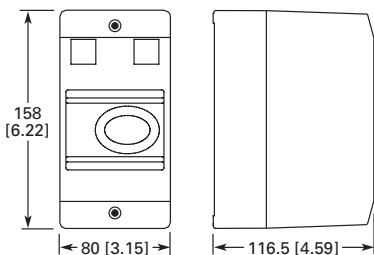


Incoming Terminal, Line Side Adapter – XTPAXIT, XTPAXLSA

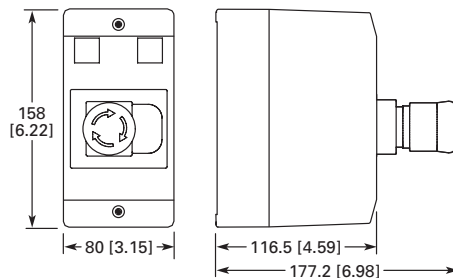


Three-Phase Commoning Link – XTPAXCLKA4, XTPAXCLKA2 (B3.0/4 - PKZ0)

Insulated Enclosures for Surface Mounting of XTPB Manual Motor Protectors

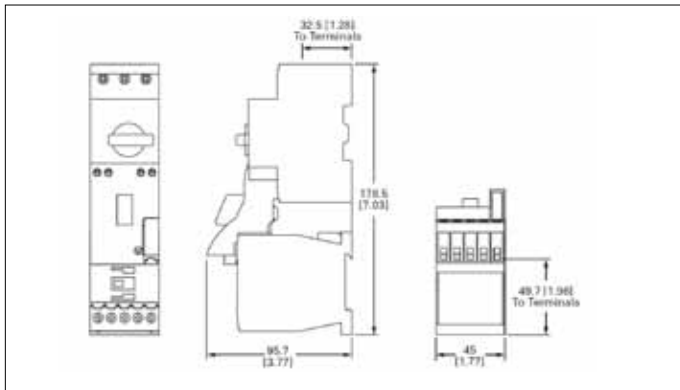


XTPBXENAS65

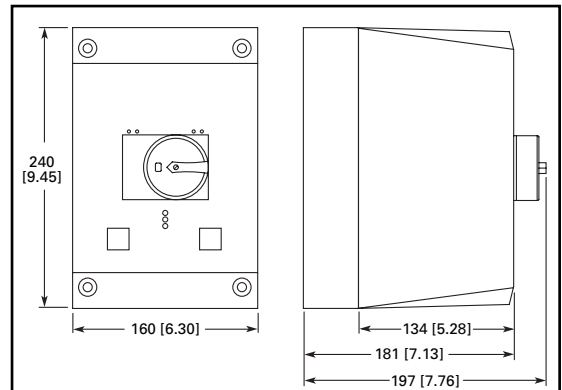


XTPBXENASES65

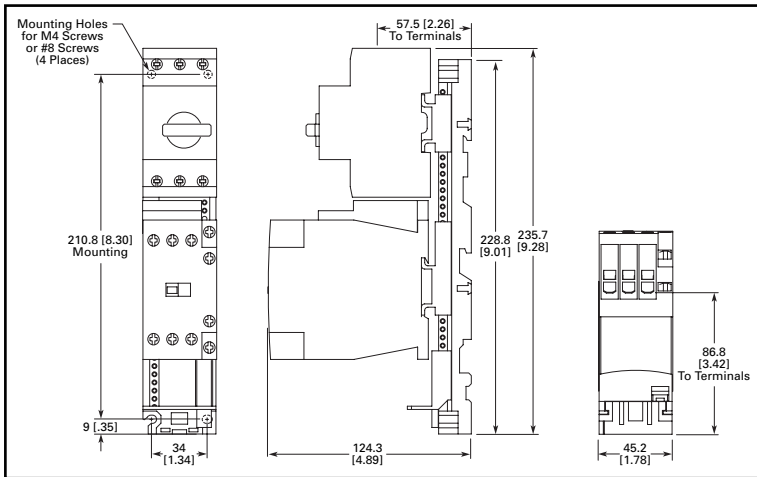
IEC Power Control, dimensions



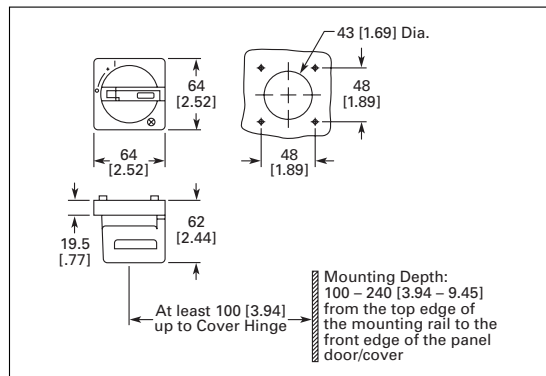
XTPR...B/MMP WITH XTCE...B contactor with XTPAXTPCB combination connection kit



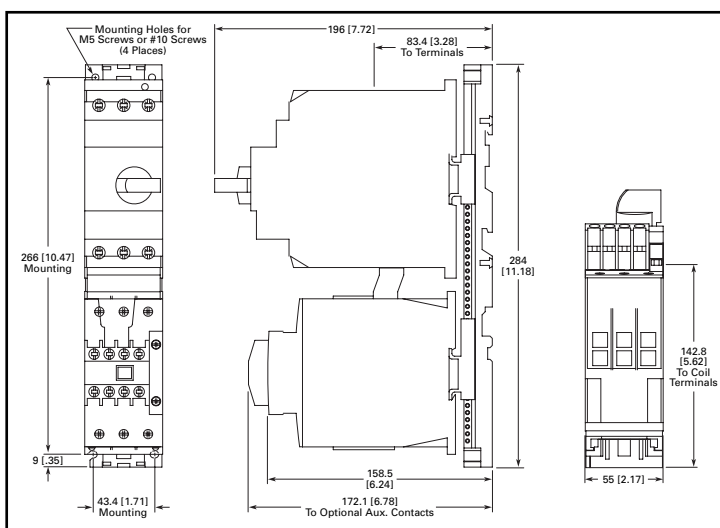
XTPAXENCSD65RY



XTPR...B MMP with XTCE...C Contactor, with XTPAXTPCC Combination Connection Kit



Rotary Handle Mechanism - XTPAXRHM...



XTPR...D MMP with XTCE...D contactor, with XTPAXTPCD combination connection kit

Power Control

Motor Control

DOL Starters

IP65 Surface Mounting Starter, fitted with Start & Stop/Reset Pushbuttons.



DOL Starters

C10

kW(400 - 415VAC)	AC-3 Amps	Coil Voltage	Aux. Contacts	Dimensions (W x H x D) mm	Item No.
4	11	240	1NO	90 x 184 x 113	EDOL40N0240
5.5	12	240	1NO	90 x 184 x 113	EDOL55N0240
7.5	16	240	1NO	90 x 184 x 113	EDOL75N0240
11	22	240	1NO	100 x 194 x 123	EDOL11N0240
4	11	415	1NO	90 x 184 x 113	EDOL40N0415
5.5	12	415	1NO	90 x 184 x 113	EDOL55N0415
7.5	16	415	1NO	90 x 184 x 113	EDOL75N0415
11	22	415	1NO	100 x 194 x 123	EDOL11N0415

Order Overloads Separately.



Overload Relays

C10

Full Load Current (A)	Item No.
0.3 - 0.5	EDOL045TOL
0.5 - 0.7	EDOL067TOL
0.7 - 1.0	EDOL10TOL
1.0 - 1.5	EDOL15TOL
1.5 - 2.1	EDOL21TOL
2.1 - 2.7	EDOL27TOL
2.7 - 3.6	EDOL36TOL
3.5 - 5.0	EDOL50TOL
4.0 - 6.0	EDOL60TOL
5.5 - 8.5	EDOL85TOL
8.5 - 12.5	EDOL125TOL
13 - 18.0	EDOL18TOL
17.0 - 24.0	EDOL24TOL
22.0 - 30.0	EDOL30TOL

1NO/1NC Electrically Separated Auxiliary Contacts.
Single - phase sensitivity for phase imbalance & phase loss protection.
Temperature Compensated.



Spare Coils

C10

Coil Voltage (AC)	Item No.
24V	EDOLCOIL24A
32V	EDOLCOIL32A
110V	EDOLCOIL110A
240V	EDOLCOIL240A
415V	EDOLCOIL415A
480V	EDOLCOIL480A
12V	EDOLCOIL12A

Coils suit all starter sizes.

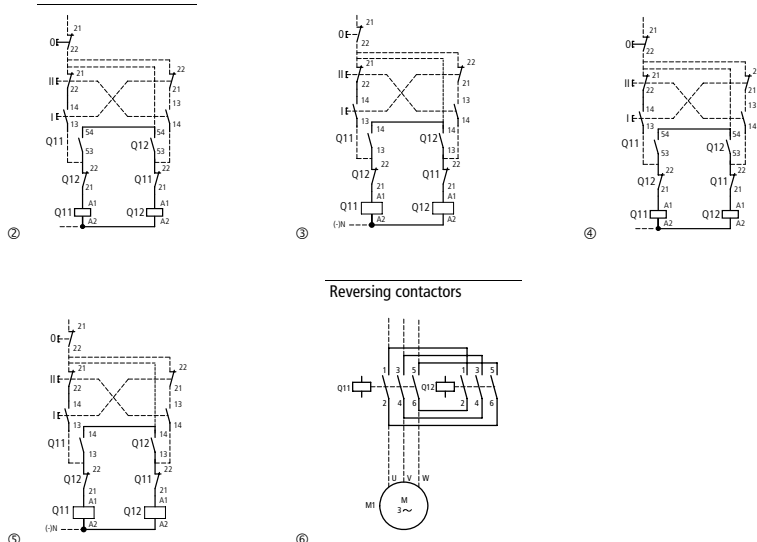
Contactor & Starter Assemblies

Reversing Contactors & Starters

E9

	Rated operational current	Max. rating for three-phase motors, 50 – 60 Hz		Individual components of the combination		AC operation ① Item No.
	AC-3, 415 V I_e , A	AC-3, 380/415 V P, kW	AC-4, 380/415 V P, kW	Contactor Q11 Item No.	Contactor Q12 Item No.	
Open units						
	9	4	2.5	DILM9-01 + DILA-XHI20	DILM9-01 + DILA-XHI20	DOLRS4/U(...V50HZ) ②⑥
	12	5.5	3	DILM12-01 + DILA-XHI20	DILM12-01 + DILA-XHI20	DOLRS5.5/U(...V50HZ) ②⑥
	18	7.5	4.5	DILM17-01 + DILA-XHI20	DILM17-01 + DILA-XHI20	DOLRS7.5/U(...V50HZ) ②⑥
	25	11	6	DILM25-01 + DILA-XHI20	DILM25-01 + DILA-XHI20	DOLRS11/U(...V50HZ) ②⑥
	32	15	7	DILM32-01 + DILA-XHI20	DILM32-01 + DILA-XHI20	DOLRS15/U(...V50HZ) ②⑥
	40	18.5	9	DILM40 + DILM150-XHI11	DILM40 + DILM150-XHI11	DOLRS18.5/U(...V50HZ) ③⑥
	50	22	10	-	-	DOLRS22/U(...V50HZ) ③⑥
	65	30	12	DILM65 + DILM150-XHI11	DILM65 + DILM150-XHI11	DOLRS30/U(...V50HZ) ③⑥
Enclosed units						
	9	4	2.5	DILM9-01 + DILA-XHI20	DILM9-01 + DILA-XHI20	DOLRS4/I(...V50HZ) ④⑥
	12	5.5	3	DILM12-01 + DILA-XHI20	DILM12-01 + DILA-XHI20	DOLRS5.5/I(...V50HZ) ④⑥
	18	7.5	4.5	DILM17-01 + DILA-XHI20	DILM17-01 + DILA-XHI20	DOLRS7.5/I(...V50HZ) ④⑥
	25	11	6	DILM25-01 + DILA-XHI20	DILM25-01 + DILA-XHI20	DOLRS11/I(...V50HZ) ④⑥
	32	15	7	DILM32-01 + DILA-XHI20	DILM32-01 + DILA-XHI20	DOLRS15/I(...V50HZ) ④⑥
	40	18.5	9	DILM40 + DILM150-XHI11	DILM40 + DILM150-XHI11	DOLRS18.5/I(...V50HZ) ⑤⑥
	50	22	10	-	-	DOLRS22/I(...V50HZ) ⑤⑥
	65	30	12	DILM65 + DILM150-XHI11	DILM65 + DILM150-XHI11	DOLRS30/I(...V50HZ) ⑤⑥

① Specify voltage & frequency when ordering.
Standard voltages: V AC: 24 V, 110 V, 240 V, 415 V at 50 Hz.
Non-standard voltages: V AC: 12 – 600 V at 50 or 60 Hz. V DC: 12 – 250 V.
For DC voltage add suffix “-G” to Item No.
N.B. additional charge applies. Please enquire for non-standard configurations.





Power Control

Motor Control

Contactor & Starter Assemblies

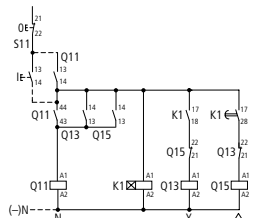
Star-delta Contactors & Starters

E9

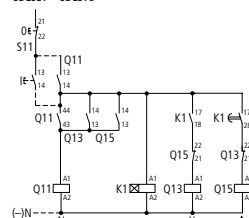
	Rated operational current I_e , A	Max. rating for three-phase motors, 50 – 60 Hz AC-3, 380/415 V P, kW	Max. changeover time S	Individual components of the combination			Item No. ①
				Mains contactor Q11 Item No.	Delta contactor Q15 Item No.	Star contactor Q13 Item No.	
Star-delta starter combinations							
Open units							
• Timing relay K1T: ETR4-51							
• Complete with overload							
	12	5.5 ①	20	DILM7-10 + DILA-XHI20	DILM7-01 + DILA-XHI20	DILM7-01 + DILA-XHI20	SDES5.5/U(...) ②④
	16	7.5	20	DILM9-10 + DILA-XHI20	DILM9-01 + DILA-XHI20	DILM7-01 + DILA-XHI20	SDES7.5/U(...) ②④
	22	11	20	DILM12-10 + DILA-XHI20	DILM12-01 + DILA-XHI20	DILM7-01 + DILA-XHI20	SDES11/U(...) ②④
	30	15	20	DILM17-10 + DILA-XHI20	DILM17-01 + DILA-XHI20	DILM17-01 + DILA-XHI20	SDES15/U(...) ②④
	45	22	20	DILM25-10 + DILA-XHI20	DILM25-01 + DILA-XHI20	DILM17-01 + DILA-XHI20	SDES22/U(...) ②④
	55	30	20	DILM32-10 + DILA-XHI20	DILM32-01 + DILA-XHI20	DILM25-01 + DILA-XHI20	SDES30/U(...) ②④
	70	37	20	DILM40 + DILM150-XHI11	DILM40 + DILM150-XHI31	DILM40 + DILM150-XHI11	SDES37/U(...) ③④
	90	45	20	DILM50 + DILM150-XHI11	DILM50 + DILM150-XHI31	DILM40 + DILM150-XHI11	SDES45/U(...) ③④
	115	55	20	DILM65 + DILM150-XHI11	DILM65 + DILM150-XHI31	DILM40 + DILM150-XHI11	SDES55/U(...) ③④
	140	75	20	DILM80 + DILM150-XHI11	DILM80 + DILM150-XHI31	DILM50 + DILM150-XHI11	SDES75/U(...) ③④
Enclosed units							
• Complete with pushbutton & overload							
• According to IEC 60947							
	12	5.5	20	DILM7-10 + DILA-XHI20	DILM7-01 + DILA-XHI20	DILM7-01 + DILA-XHI20	SDES5.5/I(...) ④
	16	7.5	20	DILM9-10 + DILA-XHI20	DILM9-01 + DILA-XHI20	DILM7-01 + DILA-XHI20	SDES7.5/I(...) ④
	22	11	20	DILM12-10 + DILA-XHI20	DILM12-01 + DILA-XHI20	DILM7-01 + DILA-XHI20	SDES11/I(...) ④
	30	15	20	DILM17-10 + DILA-XHI20	DILM17-01 + DILA-XHI20	DILM17-01 + DILA-XHI20	SDES15/I(...) ④
	45	22	20	DILM25-10 + DILA-XHI20	DILM25-01 + DILA-XHI20	DILM17-01 + DILA-XHI20	SDES22/I(...) ④
	55	30	20	DILM32-10 + DILA-XHI20	DILM32-01 + DILA-XHI20	DILM25-01 + DILA-XHI20	SDES30/I(...) ④
	70	37	20	DILM40 + DILM150-XHI11	DILM40 + DILM150-XHI31	DILM40 + DILM150-XHI11	SDES37/I(...) ④
	90	45	20	DILM50 + DILM150-XHI11	DILM50 + DILM150-XHI31	DILM40 + DILM150-XHI11	SDES45/I(...) ④
	115	55	20	DILM65 + DILM150-XHI11	DILM65 + DILM150-XHI31	DILM40 + DILM150-XHI11	SDES55/I(...) ④
	140	75	20	DILM80 + DILM150-XHI11	DILM80 + DILM150-XHI31	DILM50 + DILM150-XHI11	SDES75/I(...) ④

① Specify voltage & frequency when ordering.
Standard voltages: V AC: 24 V, 110 V, 240 V, 415 V at 50 Hz
Non-standard voltages: V AC: 12 – 600 V at 50 or 60 Hz, V DC: 12 – 250 V
For DC voltage add suffix “-G” to part no.
N.B. additional charge applies. Please enquire for non-standard configurations.

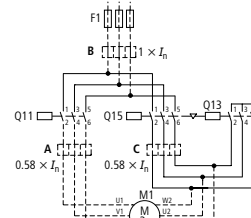
② SDES5.5 – SDES30



③ SDES37 – SDES75



④



Overload relay settings

A: $I_n \times 0.58$
Protection of the motor in Y- and d configuration
B: $I_n \times 1$
Only partial motor protection in star position
C: $I_n \times 0.58$
Motor not protected in star position.
Timing relay set to approx. 10 s.
Main circuit:
Depending on the coordination type required (i.e. type “1” or type “2”) it must be established whether the fuse protection and the input wiring for the mains contactor and delta contactor are to be common or separate.

Starting

≤ 15 s
15 – 40 s
> 40 s

1000V Mining Contactors

Eaton Westinghouse V201 Vacuum Contactor

Eaton's Westinghouse V201 Vacuum Contactors are known for quality & proven performance. They are ideally suited for heavy-duty applications in harsh environments. These contactors are most commonly used for mining applications.

- Rated for up to 1500V
- Small physical size
- Long life
- Reduced maintenance
- No atmospheric contamination of the contacts
- No noise, no arc flash
- Derating is not required at higher voltages
- Mounting in any position



Vacuum Contactors

NETT

Description	Item No.
160A	V201KRCJZ1
320A	V201KTCJZ1
540A	V201KVCJZ1

110V AC Coil as standard. Vacuum Contactor Amp Ratings are AC3. Vacuum switch tubes cannot be replaced.

Auxiliary Contacts for V201 Vacuum Contactors & DPCK Air Break Contactors

C4

Description	Item No.
1NO/1NC	J-11
2NO	J-20
2NC	J-02

Accessories

C4

Description	Item No.
For mechanically interlocking two 160A Vacuum Contactors	180C113G04
For mechanically interlocking two 320A Vacuum Contactors	180C113G16
For mechanically interlocking two 540A Vacuum Contactors	180C113G17
Interphase barriers for 160A Vacuum contactor. Contains a set of two interphase barriers.	IPB1 ①②

- ① A set is suitable for line OR load side of the contactor. For line AND load side interphase barriers, order two sets.
 ② Discount code is C5.



Air Break 1000V Mining Contactors, Air Break 1000V Contactors

DPCK Contactors

C4

Description	Poles	Coil Voltage	Item No.
35A	3	110V	DPCK3035AW
35A	3	240V	DPCK3035WW
35A	5	110V	DPCK5035AW
100A	3	110V	DPCK3100AW
250A	3	110V	DPCK3250V
250A	3	240V	DPCK3250W

Accessories

C4

Description	Item No.
Auxiliary contact 1NC/1NO	J-11
Auxiliary contact 2NO	J-20
Auxiliary contact 2NC	J-02
Mechanical interlock for 35A contactor	180C113G09
Replacement contacts for 35A contactor (Kit of 3)*	180C180G02
Replacement contacts for 100A contactor (Kit of 3)	180C180G06

*For 5 pole 35A contactor, use 2 kits.

Power Control

Motor Control

IT, IEC Contactors & Starters

DC-Operated Full Voltage Non-Reversing 3-Pole Open Type Contactors (A-F Frames)

- 24V DC Coil Control — safe, reliable global standard
- No seal in auxiliary contacts required — control wiring is not needed between the contactor & overload relay
- Unique Pulse Width Modulated (PWM) coil controller minimizes energy & coil power consumption
- Microprocessor-based control
- High immunity to ESD, harmonics — minimal Total Harmonic Distortion
- Built-in logic to provide either 2- or 3-wire control
- Easy field assembly of control wiring — plug & unplug lockable control connector
- DIN rail mounting, 6 – 100A (A – D Frames)
- Common accessories
- IP20 Finger Protection
- Low wattage coils & minimal heat dissipation
- 24V DC power supply required with contactors, see page 271



Full Voltage Non-reversing DC-Operated, Open Type Starters (A – F Frames), with 3-Pole Solid-State Overload Protection

- 115V AC – 600V AC, 1/4 – 350 hp/3/4 – 250 kW, 50/60 Hz
- 24V DC Coil Control — safe, reliable global standard
- Phase loss & current unbalance protection, user selectable
- Unique Pulse Width Modulated (PWM) coil controller minimizes energy & coil power consumption
- Microprocessor-based control
- Motor temperature & power-up protection with thermal memory
- LED status indication — trip, trip class, motor thermal state, reset, overload state
- Lockable overload cover protects against unauthorised adjustment & reset functions
- No control wiring needed between contactor & overload relay — eliminates seal in auxiliary contacts
- Minimal heat — no full voltage coils
- Wide 3.2:1 current adjustment range
- High immunity to ESD, harmonics — minimal Total Harmonic Distortion
- DIN rail mounting, 6A – 100A (A – D Frames)
- Communication Interface with Starter Network Adapter Product (SNAP)
- 2- or 3-wire control
- 24V DC power supply required with contactors, see page 271



DC-Operated Full Voltage Non-Reversing 3-Pole Open Type Contactors (A-F Frames)

C13

Max Amp. AC-3	Max Amp. AC-1	400/415V, Rating kW	Item No.
Frame A (27 mm) - smallest contactor in the market			
6	12	2.2	E111A06X3N
9	16	4	E111A09X3N
12	20	5.5	E111A12X3N
Frame B (45 mm)			
18	25	9	E111B18X3N
25	40	12.5	E111B25X3N
32	50	15	E111B32X3N
Frame C (54 mm)			
40	63	18.5	E111C40X3N
50	85	22	E111C50X3N
Frame D (76 mm)			
65	100	33	E111D65X3N
85	115	45	E111D85X3N
100	130	55	E111D10X3N
Frame E (105 mm)			
125	200	63	E111E12X3N
160	225	80	E111E16X3N
200	250	110	E111E20X3N
Frame F (140 mm)			
250	300	140	E111F25X3N
315	375	160	E111F31X3N
420	450	220	E111F42X3N

All contactors must use a power supply page 271. 24V DC coil voltage. Accessories available page 267. Integral solid-state auxiliary hold-in circuit. Control inputs (P, F) are rated 24V DC (3 – 5 mA). For reversing contactors, contact Eaton.

Full Voltage Non-reversing DC-Operated, Open Type Starters (A – F Frames), with 3-Pole Solid-State Overload Protection

C13

Max Amp. AC-3	FLC	400/415V, Rating kW	Item No.
Frame A (27 mm)			
6	.25 – .8	2.2	E101A06A3A
	.59 – 1.9		E101A06B3A
	1.4 – 4.4		E101A06C3A
	2.8 – 9.0		E101A06D3A
	3.8 – 12		E101A06E3A
9	.25 – .8	4	E101A09A3A
	.59 – 1.9		E101A09B3A
	1.4 – 4.4		E101A09C3A
	2.8 – 9.0		E101A09D3A
	3.8 – 12		E101A09E3A
12	.25 – .8	5.5	E101A12A3A
	.59 – 1.9		E101A12B3A
	1.4 – 4.4		E101A12C3A
	2.8 – 9.0		E101A12D3A
	3.8 – 12		E101A12E3A
Frame B (45 mm)			
18	.25 – .8	9	E101B18A3A
	.59 – 1.9		E101B18B3A
	1.4 – 4.4		E101B18C3A
25	.25 – .8	12.5	E101B25A3A
	.59 – 1.9		E101B25B3A
	1.4 – 4.4		E101B25C3A
	2.8 – 9.0		E101B25D3A
	6.3 – 20		E101B25G3A
	10 – 32		E101B25J3A
32	.25 – .8	15	E101B32A3A
	.59 – 1.9		E101B32B3A
	1.4 – 4.4		E101B32C3A
	2.8 – 9.0		E101B32D3A
	6.3 – 20		E101B32G3A
	10 – 32		E101B32J3A

Accessories available page 267. For reversing contactors, contact Eaton.

IT, IEC Contactors & Starters

IT, IEC Starters

C13

Max Amp. AC-3	400/415V, FLC	400/415V, Rating kW	Item No.
Frame C (54 mm)			
40	.25 – .8	22	E101C40A3A
	.59 – 1.9		E101C40B3A
	1.4 – 4.4		E101C40C3A
	2.8 – 9.0		E101C40D3A
	5.0 – 16		E101C40F3A
	8.4 – 27		E101C40H3A
	16 – 50		E101C40L3A
50	.25 – .8	25	E101C50A3A
	.59 – 1.9		E101C50B3A
	1.4 – 4.4		E101C50C3A
	2.8 – 9.0		E101C50D3A
	5.0 – 16		E101C50F3A
	8.4 – 27		E101C50H3A
	16 – 50		E101C50L3A
Frame D (76 mm)			
65	5.0 – 16	33	E101D65F3A
	8.4 – 27		E101D65H3A
	14 – 45		E101D65K3A
	31 – 100		E101D65N3A
85	5.0 – 16	45	E101D85F3A
	8.4 – 27		E101D85H3A
	14 – 45		E101D85K3A
	31 – 100		E101D85N3A
100	5.0 – 16	55	E101D10F3A
	8.4 – 27		E101D10H3A
	14 – 45		E101D10K3A
	31 – 100		E101D10N3A
Frame E (105 mm)			
125	14 – 45	63	E101E12K3A
	28 – 90		E101E12M3A
	42 – 135		E101E12P3A
	63 – 200		E101E12R3A
160	14 – 45	80	E101E16K3A
	28 – 90		E101E16M3A
	42 – 135		E101E16P3A
	63 – 200		E101E16R3A
200	14 – 45	110	E101E20K3A
	28 – 90		E101E20M3A
	42 – 135		E101E20P3A
	63 – 200		E101E20R3A
Frame F (140 mm)			
250	42 – 135	140	E101F25P3A
	84 – 270		E101F25S3A
	131 – 420		E101F25T3A
315	42 – 135	160	E101F31P3A
	84 – 270		E101F31S3A
	131 – 420		E101F31T3A
420	42 – 135	220	E101F42P3A
	84 – 270		E101F42S3A
	131 – 420		E101F42T3A

For Reversing Contactors contact Eaton.

Accessories for IT Motor Control

IT IEC Contactors & Starters Accessories



IT Connect

C13

Description	Item No.
DeviceNet Starter Network Adapter Product For IT Starters & S752 Soft Starters	D77B-DSNAP-X1
QCPort Starter Network Adapter Product For IT Starters & S752 Soft Starters	D77B-QSNAP-X1
DeviceNet Adaptor - Concentrates all data from IT devices into a single DeviceNet node	D77D-DNA
Modbus Adaptor - Concentrates all data from IT devices into a single Modbus node	D77D-EMA
EtherNet/IP Adaptor - Concentrates all data from IT devices & I/O modules into a single EtherNet/IP node	D77D-EIP
PROFIBUS Adaptor - Concentrates all IT devices & I/O modules into a single node. Supports Modbus as a slave device.	D77D-PNA

Total motor control solutions for every industry & application





- Eaton's variable speed drives are software driven solid-state devices that enable the OEM, contractor or end user to control the speed of motors used in industrial, mining & HVAC applications. Drives are an alternative to direct-on-line or star-delta starters as a method to control the motor & offer greatly enhanced control capability along with energy savings.
- From advanced starting & stopping control to integrated motor protection & communications capabilities, Eaton's line of soft starters provide a unique combination of soft starting & flexible protective features. Communications capabilities enable integration into building management systems for easy monitoring & troubleshooting & the small size permits the use of smaller panels & enclosures, for significant cost savings.

Soft starters



DS4 soft starters

M03

	For use with	Rated operational voltage at 50/60 Hz	Rated operational current		Rated power for three-phase motors at AC-3 400 V	Item No.
		$U_n \pm 10\%$, V AC	AC--51, I_r , A	AC--53, I_r , A	P, kW	
DS4 soft starters						
600 switching operations/h at $6 \times I_n$ for 0.5 s, 300 switching operations/h at $6 \times I_n$ for 0.1 s, 20 starts/h at $6 \times I_n$ for 5 s						
	Soft starters for three-phase motors	110 – 500	11	6	2.2	DS4-340-2K2-M
			17	9	4	DS4-340-4K0-M
			22	12	5.5	DS4-340-5K5-M
			29	16	7.5	DS4-340-7K5-M
			41	23	11	DS4-340-11K-M
	for three-phase motors, fast control inputs, DC actuation only		11	6	2.2	DS4-340-2K2-M-DC
			–	6	2.2	DS4-340-2K2-MR
	Soft starter with reversing function for three-phase motors		–	9	4	DS4-340-4K0-MR
			–	12	5.5	DS4-340-5K5-MR
			–	16	7.5	DS4-340-7K5-MR
–		23	11	DS4-340-11K-MR		
DS4 soft starters						
10 starts/h at $3 \times I_n$ for 5 s						
	Soft starters with built-in bypass for three-phase motors	110 – 500	–	16	7.5	DS4-340-7K5-MX
			–	23	11	DS4-340-11K-MX
			–	31	15	DS4-340-15K-MX
	Soft starter with built-in bypass & reversing function for three-phase motors		–	16	7.5	DS4-340-7K5-MXR
			–	23	11	DS4-340-11K-MXR
			–	31	15	DS4-340-15K-MXR

DS6 soft starters

M03

	Mains voltage at 50/60 Hz	Rated operational current	Rated power for three-phase motors at 3 AC 400 V	Item No.
	$U_n \pm 10\%$, V AC	I_r , A	P, kW	
Soft starters for three-phase motors				
with built-in bypass, 10 starts/h at $3 \times I_n$ for 5 s				
	230 – 480	41	22	DS6-340-22K-MX
		55	30	DS6-340-30K-MX
		68	37	DS6-340-37K-MX
		81	45	DS6-340-45K-MX
		99	55	DS6-340-55K-MX
	230 – 480	134	75	DS6-340-75K-MX
		161	90	DS6-340-90K-MX
		196	110	DS6-340-110K-MX

Power Control

Drives & Soft Starters

Soft starters

DS7 Soft Starters

- Tool-less plug connection, ensuring easy connection & wiring with other switching devices such as motor-protective circuit breakers
- Connection design, handling & the 45 mm device width match our motor-protective circuit-breakers & contactors of the device series exactly
- The DS7 ensures a jerk-free increase in torque and effective current reduction in the three-phase motor startup phase
- Nine device versions for motor ratings from 1.1kW to 15kW/ 400V or

3A to 32A/ 480V are available

- Furthermore, the DS7 is also available with a 24 V AC/DC or 110/230 V control voltage input
- Settings & status values can be remotely transferred via SmartWire-Darwin gateway regardless of whether Profibus DP or CANopen control commands are used



M03

Rated operational current	Rated power for three-phase motors at 3 AC 400 V	Control supply	Item No.
I _N , A	P, kW		
3	1.1	110/230V AC	DS7-342SX003N0-N
4	1.5	110/230V AC	DS7-342SX004N0-N
5	2.2	110/230V AC	DS7-342SX005N0-N
7	3	110/230V AC	DS7-342SX007N0-N
9	4	110/230V AC	DS7-342SX009N0-N
12	5.5	110/230V AC	DS7-342SX012N0-N
16	7.5	110/230V AC	DS7-342SX016N0-N
24	11	110/230V AC	DS7-342SX024N0-N
32	15	110/230V AC	DS7-342SX032N0-N
36	18.5	110/230V AC	DS7-342SX036N0-N
41	22	110/230V AC	DS7-342SX041N0-N
55	30	110/230V AC	DS7-342SX055N0-N
70	37	110/230V AC	DS7-342SX070N0-N
81	45	110/230V AC	DS7-342SX081N0-N
100	55	110/230V AC	DS7-342SX100N0-N
135	75	110/230V AC	DS7-342SX135N0-N
160	90	110/230V AC	DS7-342SX160N0-N
200	110	110/230V AC	DS7-342SX200N0-N

S811 Intelligent Technologies (IT) Soft Starters

- Built-in overload protection
- Built-in run bypass contactor
- Adjustable ramp times
- Adjustable torque control
- Adjustable kick start control
- Programmable overload settings, 31-100% of rated current
- Digital Interface Module (DIM) to safely configure, commission, monitor and troubleshoot
- Soft start and Soft stop control
- Multiple trip class settings (5, 10, 20 and 30)
- Built-in comms. capability for DeviceNet/Modbus/Ethernet/Profibus (through the DIM or using CH Studio software)
- Six SCR control
- Ideal for pump protection and control
- 24V DC 55W power supply required with soft starter see below

B57

Max current (amps)		kW rating at 415V AC		Item No.
Normal Duty	Severe Duty	Normal Duty*	Severe Duty**	
37	22	18.5	11	S811N37P3S
66	42	37	22	S811N66P3S
105	65	60	37	S811R10P3S
135	80	75	45	S811R13P3S
180	115	100	63	S811T18P3S
240	150	132	90	S811T24P3S
304	192	185	110	S811T30P3S
360	240	200	132	S811U36P3S
420	305	220	160	S811U42P3S
500	365	295	200	S811U50P3S
650	420	400	220	S811V65P3S
720	480	425	280	S811V72P3S
850	525	500	300	S811V85P3S
1000	600	600	375	S811V10P3S

Normal duty is 4 starts per hour at ramp current 300% of full load amps. Severe duty is 4 starts per hour at ramp current 450% of full load amps. For 6-wire inside-the-delta soft starters, please contact our sales office.

Accessories for S811 Soft Starters

B57

Description		Item No.
Lug Kits, 3-phase	2 cable connection, up to 2 x 240mm dia(S8X1TXXX)	EML24
-	2 cable connection, up to 2 x 240mm dia(S8X1VXXX)	EML28
Control Interface Module Panel Mounting Kits	Kit with 2m Cable	EMA69C
Control Wire Connectors	12-Pin Connector for Control Wiring	EMA75L

Soft Starters

Power Supplies

B57

Continuous Wattage	(Sealed) Amperes	Inrush (Peak) Wattage	Input Voltage Amperes	VAC	Item No.
10	0.4	20	0.8	240	PSS10E
10	0.4	20	0.8	415	PSS10F
25	1	165	6.5	240	PSS25E
25	1	165	6.5	415	PSS25F
55	2.3	250	10.4	240	PSS55B
55	2.3	250	10.4	415	PSS55C
DIN Rail power supply mounting kit					PSSDIN



IT Connect

B57

Description	Item No.
DeviceNet Adaptor - Concentrates all data from IT devices into a single DeviceNet node	D77D-DNA
Modbus Adaptor - Concentrates all data from IT devices into a single Modbus node	D77D-EMA
EtherNet/IP Adaptor - Concentrates all data from IT devices & I/O modules into a single EtherNet/IP node	D77D-EIP
Profibus Adaptor - Concentrates all IT devices & I/O modules into a single Profibus node. Supports Modbus as a slave device.	D77D-PNA

Variable Speed Drives

NFX9000 1-ph OEM drives

- Out-of-the-box: factory settings loaded for quick startup
- Serial communication port RS485
- Constant torque, 150% overload for 1 min. rated
- 2 preset speeds, 2 adjustable linear or S-curves
- 3 jump frequencies, with adjustable width
- Stop modes: decel, coast or DC injection
- DIN rail mountable or panel-mount
- 4 programmable digital inputs, 1 programmable relay output, 1 analogue input
- Earth fault, over & undervoltage & current, over temperature protection
- Diagnostics: last 3 trips with cause
- Status LEDs & alphanumeric display, plus rotary potentiometer
- Inbuilt RFI filter supplied as standard

1-ph in, 3-ph out, 240V AC

B57

Description	H x W x D (mm)	High overload		Low overload		Item No.
		P(kW)	I(H)	P(kW)	I(L)	
NFX9000 Drive 240V 0.185kW CT IP20	132 x 68 x 128	0.185	1.6	0.185	1.6	NFXF25A0-2
NFX9000 Drive 240V 0.37kW CT IP20	132 x 68 x 128	0.37	2.5	0.37	2.5	NFXF50A0-2
NFX9000 Drive 240V 0.75kW CT IP20	132 x 68 x 128	0.75	4.2	0.75	4.2	NFX001A0-2

MVX9000 1ph/3-ph OEM drives

- Sensorless vector drive with auto-tuning, built-in PID
- Serial communication port RS485
- Constant torque, 150% overload for 1 min rated
- 7 preset speeds, 2 adjustable linear or S-curves
- 3 jump frequencies, with adjustable width
- Stop modes: decel, coast or DC injection
- Auto Restart: 4 selectable retry restart modes
- 6 programmable digital inputs, 1 digital and 1 relay output, 2 analogue inputs
- Earth fault, over and undervoltage and current, overtemperature protection
- Diagnostics: last 3 trips with cause
- Status LEDs and alphanumeric display, plus rotary potentiometer

1-ph in, 3-ph out, 240V AC

B57

Description	H x W x D (mm)	High overload		Low overload		Item No.
		P(kW)	I(H)	P(kW)	I(L)	
MVX9000 Drive 240V 0.37kW CT IP20	161 x 100 x 143	0.37	2.5	0.37	2.5	MVXF50A0-2
MVX9000 Drive 240V 0.75kW CT IP20	161 x 100 x 143	0.75	5	0.75	5	MVX001A0-2
MVX9000 Drive 240V 1.5kW CT IP20	161 x 100 x 143	1.5	7	1.5	7	MVX002A0-2
MVX9000 Drive 240V 2.2kW CT IP20	235 x 125 x 192	2.2	10	2.2	10	MVX003A0-2

Power Control

Drives & Soft Starters

Variable Speed Drives

3-ph in, 3-ph out, 415V AC

B57

Description	H x W x D (mm)	High overload		Low overload		Item No.
		P(kW)	I(H)	P(kW)	I(L)	
MVX9000 Drive 415V 0.75kW CT IP20	161 x 100 x 143	0.75	3	0.75	3	MVX001A0-4
MVX9000 Drive 415V 1.5kW CT IP20	161 x 100 x 143	1.5	4	1.5	4	MVX002A0-4
MVX9000 Drive 415V 2.2kW CT IP20	161 x 100 x 143	2.2	5	2.2	5	MVX003A0-4
MVX9000 Drive 415V 3.7kW CT IP20	235 x 125 x 192	3.7	8.2	3.7	8.2	MVX005A0-4
MVX9000 Drive 415V 5.5kW CT IP20	235 x 125 x 192	5.5	13	5.5	13	MVX007A0-4
MVX9000 Drive 415V 7.5kW CT IP20	235 x 125 x 192	7.5	18	7.5	18	MVX010A0-4

Options & accessories

B57

Description	Item No.
MVX9000 Copy/Paste Keypad	MVXCOPY
MVX9000 Standard Keypad	MVXKPD
MVX9000 Keypad Remote Mount Kit	MVXRM
MVX9000 Extension I/O	MVXEIO
MVX9000 Devicenet Comms. Module	MVXDN
MVX9000 IP21 Enclosure FR1	MVXENCS
MVX9000 IP21 Enclosure FR2	MVXENCL

Braking Resistors & Braking Units - 240V Series

B57

App. Motor kW	Resistor Qty.	Resistance & Wattage	Braking Torque	Full Load	Item No.
0.37	1	80W 200 ohm	220%	.216	K13-000034-0821
0.75	1	80W 200 ohm	125%	.427	K13-000034-0821
1.5	1	300W 20 ohm	125%	.849	K13-000034-0824
2.2	1	300W 70 ohm	125%	1.262	K13-000034-0824

Braking Resistors & Braking Units - 415V Series

B57

App. Motor kW	Resistor Qty.	Resistance & Wattage	Braking Torque	Full Load	Item No.
0.75	1	80W 750 ohm	125%	.427	K13-000034-0841
1.5	1	300W 250 ohm	125%	.849	K13-000034-0843
2.2	1	300W 250 ohm	125%	1.262	K13-000034-0843
3.7	1	400W 150 ohm	125%	2.080	K13-000034-0844
5.5	2 in parallel	500W 100 ohm	125%	3.111	K13-000034-0845
7.5	3 in parallel	1000W 75 ohm	125%	4.148	K13-000034-0846

EMI Filters

B57

Description	Item No.
MVX9000 EMI Filter 1PH 240V 0.37KW	20DRT1W3S
MVX9000 EMI Filter 1PH 240V 0.75KW	20DRT1W3S
MVX9000 EMI Filter 1PH 240V 1.5KW	20DRT1W3S
MVX9000 EMI Filter 1PH 240V 2.2KW	32DRT1W3C
MVX9000 EMI Filter 3PH 415V 0.75KW	11TDT1W4S
MVX9000 EMI Filter 3PH 415V 1.5KW	11TDT1W4S
MVX9000 EMI Filter 3PH 415V 2.2KW	11TDT1W4S
MVX9000 EMI Filter 3PH 415V 3.7KW	17TDT1W44
MVX9000 EMI Filter 3PH 415V 5.5KW	17TDT1W44
MVX9000 EMI Filter 3PH 415V 7.5KW	26TDT1W4B4

Variable Speed Drives

GVX9000 3-ph industrial drives

- Sensorless vector drive with auto-tuning, built-in PID
- Serial communication port RS485
- High overload Constant torque & Low overload Variable torque ratings
- 7 preset speeds, 2 adjustable linear or S-curves
- 3 jump frequencies, with adjustable width
- Stop modes: decel, coast or DC injection
- Auto Restart: 4 selectable retry restart modes
- 10 digital inputs, 2 digital & 2 relay outputs, 3 analogue inputs & 1 analogue output
- Earth fault, over & undervoltage & current, over temperature protection
- Diagnostics: last 3 trips with cause
- Status LEDs & Plain English text display, copy/paste keypad



3-ph in, 3-ph out, 415V AC

B57

Description	H x W x D (mm)	High overload		Low overload		Item No.
		P(kW)	I(H)	P(kW)	I(L)	
GVX9000 Drive 415V 0.75kW VT IP20	260 x 150 x 174	0.75	2.7	0.75	2.2	GVX001A1-4
GVX9000 Drive 415V 1.5kW VT IP20	260 x 150 x 174	1.5	4.2	1.5	4.2	GVX002A1-4
GVX9000 Drive 415V 2.2kW VT IP20	260 x 150 x 174	2.2	5.5	2.2	5.5	GVX003A1-4
GVX9000 Drive 415V 3.7kW VT IP20	260 x 150 x 174	3.7	8.5	3.7	8.5	GVX005A1-4
GVX9000 Drive 415V 7.5kW VT IP20	323 x 200 x 197	5.5	13	7.5	18	GVX007A1-4
GVX9000 Drive 415V 11kW VT IP20	323 x 200 x 197	7.5	18	11	24	GVX010A1-4
GVX9000 Drive 415V 15kW VT IP20	323 x 200 x 197	11	24	15	32	GVX015A1-4
GVX9000 Drive 415V 18.5kW VT IP20	404 x 250 x 220	15	32	18.5	38	GVX020A1-4
GVX9000 Drive 415V 22kW VT IP20	404 x 250 x 220	18.5	38	22	45	GVX025A1-4
GVX9000 Drive 415V 30kW VT IP20	404 x 250 x 220	22	45	30	60	GVX030A1-4
GVX9000 Drive 415V 37kW VT IP20	589 x 370 x 260	30	60	37	73	GVX040A1-4
GVX9000 Drive 415V 45kW VT IP20	589 x 370 x 260	37	73	45	91	GVX050A1-4
GVX9000 Drive 415V 55kW VT IP20	589 x 370 x 260	45	91	55	110	GVX060A1-4
GVX9000 Drive 415V 75kW VT IP20	589 x 370 x 260	55	110	75	150	GVX075A1-4
GVX9000 Drive 415V 90kW VT IP20	589 x 370 x 260	75	150	90	180	GVX100A1-4

Options & accessories

B57

Description	Item No.
GVX9000 Copy/Paste Keypad	GVXKPD
GVX9000 Keypad Remote Mount Kit	GVXRMT
GVX9000 Encoder Feedback Card	GVXPG
GVX9000 Devicenet Comms. Card	GVXDN
GVX9000 Profibus Comms. Card	GVXPB
GVX9000 Lonworks Comms. Card	GVXLON
GVX9000 240V Braking Unit	GBM2022
GVX9000 415V Braking Unit	GBM4045
GVX EMI Filter 415V 9A 0.75-3.7KW	GVXEMI-4A
GVX EMI Filter 415V 16A 5.5-7.5KW	GVXEMI-4B
GVX EMI Filter 415V 32A 11-15KW	GVXEMI-4C
GVX EMI Filter 415V 50A 18.5-22KW	GVXEMI-4D
GVX EMI Filter 415V 60A 30KW	GVXEMI-4E
GVX EMI Filter 415V 80A 37-45KW	GVXEMI-4F
GVX EMI Filter 415V 112A 55KW	GVXEMI-4G
GVX EMI Filter 415V 136A 75KW	GVXEMI-4H
GVX EMI Filter 415V 160A 90KW	GVXEMI-4I

Power Control

Drives & Soft Starters

Variable Speed Drives

M-Max Machinery Drives

- Ease of use — plug & play, start-up wizard, advanced diagnostic capability, copy/paste parameters without powering drive
- Compact, space-saving design
- Rugged & reliable — 50°C rating, 150% overload for 1 min., 200% starting current for 2 secs. in every 20 sec. period, conformal coated boards, 2 year warranty
- RS485/Modbus & PI-controller inbuilt as standard
- Internal EMC filter complying with IEC61800-3
- RoHS compliance



1-ph in, 3-ph out, 240V AC

B57

Description	H x W x D (mm)	High overload		Low overload		Item No.
		P(kW)	I(H)	P(kW)	I(L)	
M-Max Drive 240V 0.25 kW CT IP20	157 x 66 x 102	0.25	1.7	0.25	1.7	MMX12AA1D7F0-0
M-Max Drive 240V 0.37 kW CT IP20	157 x 66 x 102	0.37	2.4	0.37	2.4	MMX12AA2D4F0-0
M-Max Drive 240V 0.55 kW CT IP20	157 x 66 x 102	0.55	2.8	0.55	2.8	MMX12AA2D8F0-0
M-Max Drive 240V 0.75 kW CT IP20	157 x 66 x 102	0.75	3.7	0.75	3.7	MMX12AA3D7F0-0
M-Max Drive 240V 1.1 kW CT IP20	195 x 90 x 105	1.1	4.8	1.1	4.8	MMX12AA4D8F0-0
M-Max Drive 240V 1.5 kW CT IP20	195 x 90 x 105	1.5	7	1.5	7	MMX12AA7D0F0-0
M-Max Drive 240V 2.2 kW CT IP20	263 x 100 x 112	2.2	9.6	2.2	9.6	MMX12AA9D6F0-0

3-ph in, 3-ph out, 415V AC

B57

Description	H x W x D (mm)	High overload		Low overload		Item No.
		P(kW)	I(H)	P(kW)	I(L)	
M-Max Drive 415V 0.37 kW CT IP20	157 x 66 x 102	0.37	1.3	0.37	1.3	MMX34AA1D3F0-0
M-Max Drive 415V 0.55 kW CT IP20	157 x 66 x 102	0.55	1.9	0.55	1.9	MMX34AA1D9F0-0
M-Max Drive 415V 0.75 kW CT IP20	157 x 66 x 102	0.75	2.4	0.75	2.4	MMX34AA2D4F0-0
M-Max Drive 415V 1.1 kW CT IP20	157 x 66 x 102	1.1	3.3	1.1	3.3	MMX34AA3D3F0-0
M-Max Drive 415V 1.5 kW CT IP20	195 x 90 x 105	1.5	4.3	1.5	4.3	MMX34AA4D3F0-0
M-Max Drive 415V 2.2 kW CT IP20	195 x 90 x 105	2.2	5.6	2.2	5.6	MMX34AA5D6F0-0
M-Max Drive 415V 3.0 kW CT IP20	263 x 100 x 112	3	7.6	3	7.6	MMX34AA7D6F0-0
M-Max Drive 415V 4.0 kW CT IP20	263 x 100 x 112	4	9	4	9	MMX34AA9D0F0-0
M-Max Drive 415V 5.5 kW CT IP20	263 x 100 x 112	5.5	12	5.5	12	MMX34AA012F0-0
M-Max Drive 415V 7.5 kW CT IP20	263 x 100 x 112	7.5	14	7.5	14	MMX34AA014F0-0
M-Max PC Comms. & Copy/Paste Adaptor	-	-	-	-	-	MMX-COM-PC

Total drive solutions for every industry & application.

The 9000X Family of Drives includes SVX9000, SLX9000, SPX9000 & LCX9000 drives. With the 9000X series sensor-less vector control, Eaton's expanded drive offering now covers a complete line of PWM adjustable frequency (speed) drives in ratings from 0.75 to 1400 kW constant torque; 1.1 to 1600 kW variable torque at 415V AC.

The liquid-cooled LCX9000 drive is our most space-saving AC drive, well suited for locations where air-cooling would be difficult or expensive, or where the installation space is at a premium.

As no air channels are required, the LCX9000 drives are extremely compact & suitable for ships & in the offshore industry, in mines or in heavy industry.

Equipped with high processing power, the SPX9000 can use information from an encoder or a resolver in order to provide very precise motor control. Typical applications requiring high performance are: master-slave drives, positioning applications, winder tension control & synchronization. The SPX9000 supports fast drive-to-drive communication.



For further information:
0508 328 6669
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Control & Indication



EATON
Powering Business Worldwide

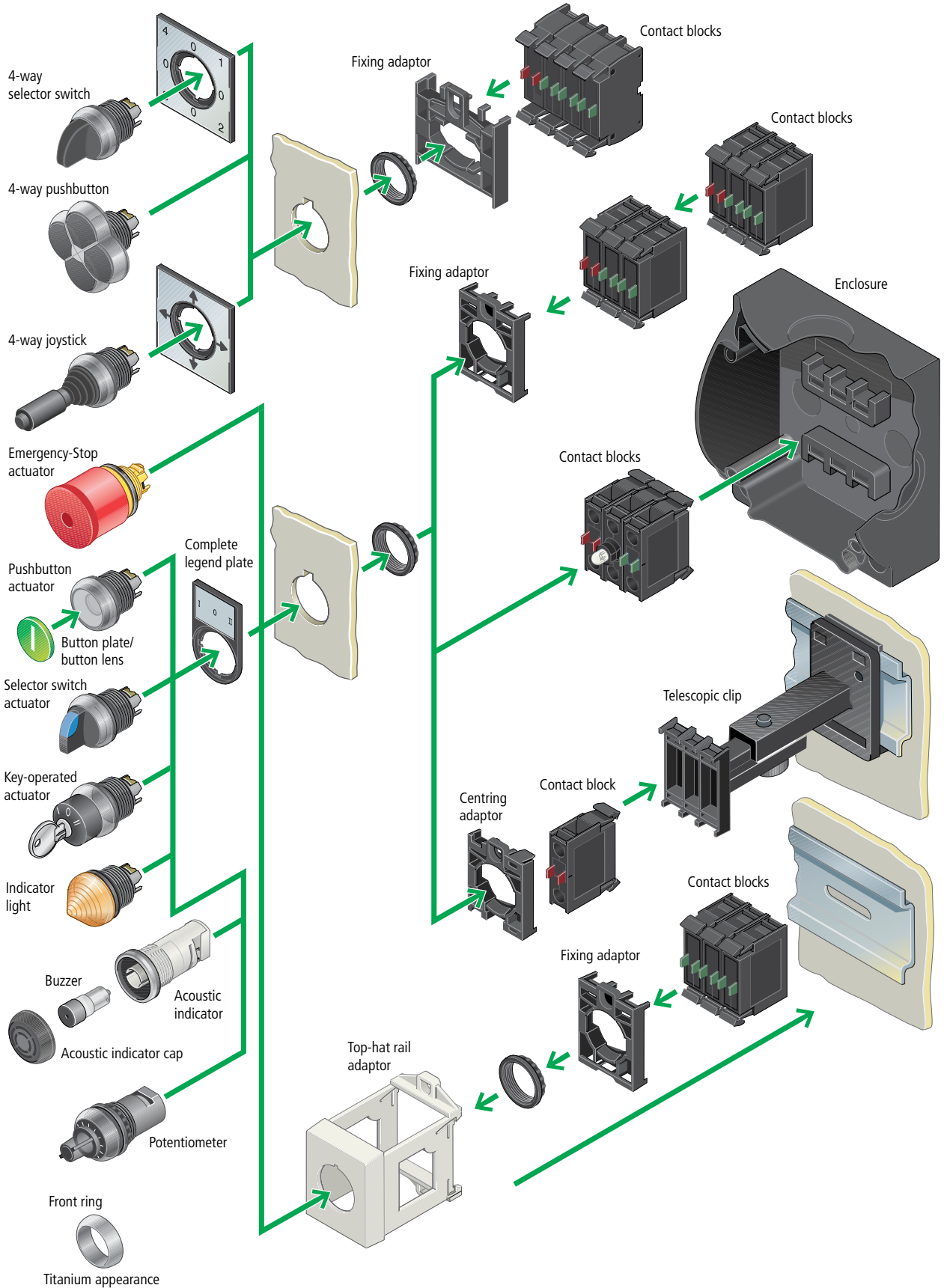
- Control at your fingertips
- Rugged, durable, reliable
- A wide range of operators to suit your application
- IP65 to IP67 rated pushbutton operators
- Cam switches can be custom made to suit your unique applications

Power Control

Control & Indication

22.5mm Pushbuttons

RMQ - Titan, system overview



22.5mm Pushbuttons

RMQ - Titan, system overview

Competitively priced, Moeller's RMQ-Titan range comprises pushbuttons, selector switches, joysticks, Emergency-Stop & key-operated actuators. The system includes a variety of indicator lights & illuminated pushbuttons in white, red, yellow, blue & green. They are available in two voltage ranges 12 – 30 V AC/DC & 85 – 264 V AC covering all standard applications. Meeting all relevant international standards, this attractive, co-ordinated product range will add significant value to any machine or system.



Features & benefits:

- Ergonomic design ensuring ease of operation & bright illumination
- IP66 degree of protection as standard (many devices IP67, IP69K) for use in the harshest of industrial environments
- Vibration resistant LEDs giving a minimum life of 100,000 hours for improved reliability & high integrity
- Fitting in the standard 22.5 mm hole, the snap fitting modular system saves both assembly & fitting time

M00

Colour	Description	Contact Blocks	LED Light Unit	Legend Plate(s)	VISTA Item No.
Pushbutton					
● Black	Flush	1NO/1NC	-	Run, 1	M22-D-S-K11-P
● Red	Extended	1NO/1NC	-	Stop, Off	M22-DH-R-K11-P
● Green	Flush	1NO/1NC	-	Start, On	M22-D-G-K11-P
Illuminated Pushbutton					
● Red	Extended	1NO/1NC	12-30V AC/DC	Stop, Off	M22-DLH-R-K11-R-P
● Red	Extended	1NO/1NC	85-264VAC	Stop, Off	M22-DLH-R-K11-230R-P
○ White	Flush	1NO/1NC	12-30V AC/DC	Run, 1	M22-DRL-W-K11-W-P
○ White	Flush	1NO/1NC	85-264VAC	Run, 1	M22-DRL-W-K11-230W-P
Indicating Light					
● Red	-	-	12-30V AC/DC	Stop, Off, Fault	M22-L-R-R-P
● Green	-	-	12-30V AC/DC	Start, On, Run	M22-L-G-G-P
● Red	-	-	85-264VAC	Stop, Off, Fault	M22-L-R-230R-P
● Green	-	-	85-264VAC	Start, On, Run	M22-L-G-230G-P
Emergency Stop					
● Red	Non-Illuminated Twist-to-release	1NO/2NC	-	Emergency Stop	M22-PVT-K12-P
● Red	Illuminated Push-Pull	1NO/2NC	12-30V AC/DC	Emergency Stop	M22-PVL-K12-R-P
● Red	Illuminated Push-Pull	1NO/2NC	85-264VAC	Emergency Stop	M22-PVL-K12-230R-P
Selector Switch					
● Black	2 Position Momentary	1NO/1NC	-	0 I, Man Auto	M22-WKV-K11-P
● Black	3 Position Momentary	1NO/1NC	-	I 0 II, Hand 0 Auto	M22-WK3-K22-P

Complete units

M00

	Description	Button Plate	Contacts	Item No.
Complete units for front mounting				
	Pushbutton actuators	Start	① Green	1NO
		Stop	● Red	1NC
	Double actuators	With white LED element lens, 85 – 264 V AC	① Green □ White ● Red	1NO/1NC
	Emergency-Stop actuators	Key-release mushroom button with 1 key, MS1 individual lock mechanism	● Red	1NC
		Pull to release	● Red	1NC
		Pull to release	● Red	1NO/1NC
	Selector switch actuators	Two positions, stay-put	-	1NO
		Three positions, stay-put	-	2NO
	Key-operated actuators	Two positions, stay-put, with 1 key	-	1NO/1NC

Power Control


Control & Indication

22.5mm Pushbuttons

RMQ - Titan

Enclosed units

M00

	Description		Button Plate	Contacts	Item No.
Enclosed units for surface mounting					
	Pushbutton actuators	Start		1NO/1NC	M22-D-G-X1/KC11/I
		Stop		1NO/1NC	M22-D-R-X0/KC11/I
	Emergency-Stop actuator	Pull to release, yellow enclosure	–	1NO/1NC	M22-PV/KC11/IY
	Emergency-Stop key-release mushroom button	Red actuator with 1 key	–	1NO/1NC	M22-PVS/KC11/IY
	Key-operated selector switch	2 positions, stay-put, with 1 key	–	1NO/1NC	M22-WRS/KC11/I
	Two-way pushbutton stations	Without indicator light	–	-	M22-I2-M1
		With indicator light, white LED element, 85 – 264 V AC	–	-	M22-I3-M2
	Three-way pushbutton station	Without indicator light	–	-	M22-I3-M1
	Four-way pushbutton station	Without indicator light	–	-	M22-I4-M1

22.5mm Pushbuttons

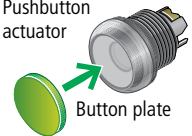



RMQ - Titan

Pushbutton actuators, IP67

- Front ring titanium, also available in black
- Snap-fitting modular system
- Mounting diameter 22.3 mm
- Minimum grid dimensions 30 x 40 mm
- Up to six contacts per location
- Switching of different potentials
- Worldwide approval

Actuators

M00

	Description		Colour of button plate/mushroom head	Item No.
Flush design				
	Flush actuator	Spring-return	● Green	M22-D-G
			● Red	M22-D-R
			● (I) Green	M22-D-G-X1
			● (O) Red	M22-D-R-X0
			● Black	M22-D-S
			● Yellow	M22-D-Y
			○ White	M22-D-W
			● Blue	M22-D-B
 <p>Pushbutton actuator Button plate</p>	Flush actuator	Spring-return	Without button plate	M22-D-X
	button plate	for use with M22-D-X	● Black	M22-XD-S
			○ White	M22-XD-W
			● Red	M22-XD-R
			● Green	M22-XD-G
			● Yellow	M22-XD-Y
			● Blue	M22-XD-B
Extended Design				
	Extended actuator	Spring-return	● Black	M22-DH-S
			● Red	M22-DH-R
		● Green	M22-DH-G	
		Spring-return, with guard ring	Without	M22-DG-X
Mushroom actuators, IP67				
		Spring-return	● Green	M22-DP-G
			● Red	M22-DP-R
			● Black	M22-DP-S
			● Yellow	M22-DP-Y
		Stay-put	● Black	M22-DRP-S
			● Red	M22-DRP-R
			● Green	M22-DRP-G
Double actuator, IP66				
		Stop-start button plate. Optional indicator light M22-LED230-W see page 281 Spring return, with indicator light, white lens	■ Green □ White ■ Red	M22-DDL-GR-X1/X0

Power Control







Control & Indication

22.5mm Pushbuttons

RMQ - Titan

Actuators

M00




	Description	Colour of mushroom head	Item No.
Emergency-Stop actuators, IP66. Snap-action & positive non-tease action, yellow base			
	Pull to release. After actuation, plunger remains in the actuated position.	● Red	M22-PV
	Twist to release. One or two contact blocks can be fitted.	● Red	M22-PVT
	Illuminated. Pull to release. After actuation, plunger remains in the actuated position. One or two contact blocks can be fitted.	● Red	M22-PVL
	Key-operated, with 1 key	● Red	M22-PVS
	Sealable shroud. Transparent with collapse point, reusable after Emergency-Stop operation. Suitable for M22-PV & M22-PVL Emergency-Stop actuators & M22-PVS key-release mushroom actuator.	—	M22-PL-PV
Foot & palm switches, IP67			
	Spring-return mushroom head	● Red	FAK-R/KC11/I
		● Black	FAK-S/KC11/I
Emergency-Stop actuators, IP67			
	Stay-put, pull to release	● Red	FAK-R/V/KC01/IY
	Stay-put, pull to release	● Red	FAK-R/V/KC11/IY

22.5mm Pushbuttons

RMQ - Titan



Fixing adapters, contact blocks

M00

	Description	Contacts	Item No.
Fixing adapters			
	Front fixing, for 3 M22-K... contact elements & M22-LED... LED elements.	–	M22-A
	For 4 contact blocks	–	M22-A4
Contact blocks with screw terminals			
	Front fixing	1 NO	M22-K10
		1 NC	M22-K01
	Base fixing	1 NO	M22-KC10
		1 NC	M22-KC01
Complete modules. Combination of contact elements with screw terminals & fixing adapter			
	Front fixing	1 NO, 1 NC	M22-AK11
		1 NO	M22-AK10
		1 NC	M22-AK01

LED elements

M00

	Description	Rated operational voltage, U _e , V	Colour	Item No.
LED elements with screw terminals				
	Front fixing	12 – 30 V AC/DC	○ White	M22-LED-W
			● Red	M22-LED-R
			● Green	M22-LED-G
			● Blue	M22-LED-B
	85 – 264 V AC, 50/60 Hz	○ White	M22-LED230-W	
		● Red	M22-LED230-R	
		● Green	M22-LED230-G	
		● Blue	M22-LED230-B	
	Base fixing	12 – 30 V AC/DC	○ White	M22-LEDC-W
			● Red	M22-LEDC-R
			● Green	M22-LEDC-G
			● Blue	M22-LEDC-B
	85 – 264 V AC, 50/60 Hz	○ White	M22-LEDC230-W	
		● Red	M22-LEDC230-R	
		● Green	M22-LEDC230-G	
		● Blue	M22-LEDC230-B	
LED test elements				
	For non-interacting function test (lamp test) for connection to:	12 – 240 V AC/DC	–	M22-XLED-T
		85 – 264 V AC	–	M22-XLED230-T

Power Control





Control & Indication

22.5mm Pushbuttons

RMQ - Titan



Illuminated pushbutton actuators, indicator lights

M00

	Description	Colour	Item No.	
Illuminated pushbutton actuators, IP67				
	Flush design	Spring-return	○ White	M22-DL-W
			● Green	M22-DL-G
			● Red	M22-DL-R
			● Yellow	M22-DL-Y
			● Blue	M22-DL-B
	Stay-put, press again to release.		○ White	M22-DRL-W
			● Green	M22-DRL-G
			● Red	M22-DRL-R
			● Yellow	M22-DRL-Y
			● Blue	M22-DRL-B
	Extended design	Spring-return	○ White	M22-DLH-W
			● Green	M22-DLH-G
			● Red	M22-DLH-R
			● Yellow	M22-DLH-Y
			● Blue	M22-DLH-B
Indicator lights, IP67				
	Flush		○ White	M22-L-W
			● Green	M22-L-G
			● Red	M22-L-R
			● Yellow	M22-L-Y
			● Blue	M22-L-B
	Extended, conical		○ White	M22-LH-W
			● Green	M22-LH-G
			● Red	M22-LH-R
			● Yellow	M22-LH-Y
			● Blue	M22-LH-B






Set of coding adapters for selector switches

M00

	Description	Colour	Item No.
	For converting between stay-put, spring-return & key release function	-	M22-XC-R
	For converting between stay-put & spring-return function	-	M22-XC-Y






















Two-position adapter configurations

(shading indicates standard switch configuration)

Two-Position Adapter Configurations	Switching Positions		
			
	<i>maintained</i>	<i>maintained</i>	<i>momentary</i>
Key Withdraw Positions			
	○	○	○
Top Slot (affects right position)	-		
Bottom Slot (not implemented with 2-position switches)	-	-	-

Three-position adapter configurations

(shading indicates standard switch configuration)

Three-Position Adapter Configurations	Switching Positions								
									
	<i>maintained</i>	<i>maintained</i>	<i>maintained</i>	<i>maintained</i>	<i>momentary</i>				
Key Withdraw Positions									
	I O	I O	I O	I O	I O	I O	I O	I O	I O
Top Slot (affects right position)	-			-				-	
Bottom Slot (affects left position)	-		-			-			

22.5mm Pushbuttons



2, 3 & 4 positions

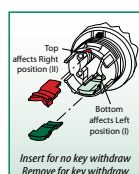
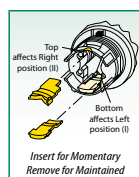
Selector switch actuators

M00

Description		Function:			Button plate	Front ring: titanium Item No.
		└ = Stay-put	└ = Spring-return	✓ = V position		
Selector switch actuators, 2 positions, IP66						
	Rotary button	–	└	40°	●	M22-W
		–	└	60°	●	M22-WR
	Thumb-grip	–	└	40°	–	M22-WK
		–	└	60°	–	M22-WRK
	Thumb-grip, V position	–	✓	60°	–	M22-WKV
Selector switch actuators, 3 positions, IP66						
	Rotary button	40°	└	40°	●	M22-W3
		60°	└	60°	●	M22-WR3
	Thumb-grip	40°	└	40°	–	M22-WK3
		60°	└	60°	–	M22-WRK3
Selector switch actuators, 4 positions, IP66						
	Rotary button	45°	✳	–	●	M22-WR4
	Thumb-grip	45°	✳	–	●	M22-WRK4
Key-operated actuators, IP66, with 1 key						
	2 positions, 60° turn, stay-put	–	└	60°	–	M22-WRS
	3 positions, 60° turn, stay-put	60°	└	60°	–	M22-WRS3
	Key for MS1 individual lock mechanism	–	–	–	–	M22-ES-MS1

Coding Adapters

Adapter	Description	For Use With...	Catalog Number
Maintained to Momentary Operation			
	<ul style="list-style-type: none"> Supplied with standard switches Used to convert Maintained operation to Momentary operation 	M22(S)-WR(L)(K)(3) M22(S)-WRS(3)	M22-XC-Y
Key Withdraw to Non-Key Withdraw			
	Used to convert Key withdraw position to non-key withdraw position	M22(S)-WRS(3)	M22-XC-R



The same slots on keyed selector switches are shared between these two different sets of coding adapters. All possible combinations and their effects are detailed in the tables below.

Power Control


Control & Indication

22.5mm Pushbuttons

RMQ - Titan






Illuminated selector switch actuators, key-operated actuators

M00

Description		Function: └ = Stay-put └ = Spring-return				Colour of thumb-grip	Item No.
Illuminated selector switch actuators, IP66. Thumb grip handle							
	2 positions						
	Spring-return	–	└	40°	○ White	M22-WLK-W	
		–	└	40°	● Green	M22-WLK-G	
		–	└	40°	● Red	M22-WLK-R	
		–	└	40°	● Yellow	M22-WLK-Y	
		–	└	40°	● Blue	M22-WLK-B	
	Stay-put	–	└	60°	○ White	M22-WRLK-W	
		–	└	60°	● Green	M22-WRLK-G	
		–	└	60°	● Red	M22-WRLK-R	
		–	└	60°	● Yellow	M22-WRLK-Y	
–		└	60°	● Blue	M22-WRLK-B		
3 positions							
	Spring-return	40°	└	40°	○ White	M22-WLK3-W	
		40°	└	40°	● Green	M22-WLK3-G	
		40°	└	40°	● Red	M22-WLK3-R	
		40°	└	40°	● Yellow	M22-WLK3-Y	
		40°	└	40°	● Blue	M22-WLK3-B	
	Stay-put	60°	└	60°	○ White	M22-WRLK3-W	
		60°	└	60°	● Green	M22-WRLK3-G	
		60°	└	60°	● Red	M22-WRLK3-R	
		60°	└	60°	● Yellow	M22-WRLK3-Y	
		60°	└	60°	● Blue	M22-WRLK3-B	






















Two-position adapter configurations

(shading indicates standard switch configuration)

Two-Position Adapter Configurations	Switching Positions		
			
	<i>maintained</i>	<i>maintained</i>	<i>momentary</i>
Key Withdraw Positions			
○	○	○	
Top Slot <i>(affects right position)</i>	–		
Bottom Slot <i>(not implemented with 2-position switches)</i>	–	–	–

Three-position adapter configurations

(shading indicates standard switch configuration)

Three-Position Adapter Configurations	Switching Positions								
									
	<i>maintained</i>	<i>maintained</i>	<i>maintained</i>	<i>maintained</i>	<i>momentary</i>	<i>maintained</i>	<i>maintained</i>	<i>maintained</i>	<i>maintained</i>
Key Withdraw Positions									
○	○	○	○	○	○	○	○	○	
Top Slot <i>(affects right position)</i>	–			–				–	
Bottom Slot <i>(affects left position)</i>	–		–			–			

22.5mm Pushbuttons

4 positions

Four-way operators

M00

Description	Inscription	Function: └ = Stay-put └ = Spring-return	For use with	Front ring: titanium Item No.	
Joysticks, IP66					
	2 positions	-	└	M22-WJ2H	
		-	└	M22-WJ2V	
	4 positions	-	+	M22-WRJ4	
		-	↕	M22-WJ4	
Pushbuttons, 4-way, IP66					
	-	No inscription, actuator colour black	↕	M22-D4-S	
		Inscription with direction arrows, actuator colour: black	↕	M22-D4-S-X7	
		Inscription with direction arrows, actuator colour: black, opposing buttons mechanically interlocked	↕	M22-DI4-S-X7	
Labels					
	-	Blank	-	Joystick 4-way selector switch actuators	M22-XCK
		Direction arrows	-	Joystick 4 positions	M22-XCK1
			-	Joystick 2 positions	M22-XCK3
	-	0-1-0-2-0-3-0-4	-	4-way selector switch actuators	M22-XCK2

Power Control









Control & Indication

22.5mm Pushbuttons

RMQ - Titan

Accessories

M00

	Description	Number of ways	Item No.
Shrouds, IP55			
	Plastic, light grey	1	M22-H1
	Plastic, light grey	2	M22-H2
Blanking plugs, IP66. Round style, for blanking off reserve locations			
	Grey	-	M22-B
	Black	-	M22S-B
Actuator diaphragms, IP67. Transparent diaphragms for severe environmental conditions & use in the food industry. Do not use with legend plates since degree of protection is not guaranteed			
	For use with M22(S)-D(R)-... pushbutton actuators, M22(S)-DL-..., M22(S)-DRL-..., illuminated pushbutton actuators, M22-D(C)-... flush indicator lights	-	M22-T-D
	For use with M22(S)-DD(L)-... double actuators	-	M22-T-DD
Telescopic clips. For adjusting depth of rear mounting devices in CI enclosures & panels with a mounting depth of 115 – 155 mm. Stepless adjustment, screw fixing & snap fitting (top hat rails to IEC/EN 60715). Maximum of 10 x M22-TC per enclosure, 5 of which can hold stay-put actuators. Do not use with Emergency-Stop actuators			
	For 3 contacts/LED elements, base fixing, with centering adapter	-	M22-TC
	Extension for telescopic clip; for mounting depths up to 205 mm	-	M22-TCV
Adapter rings. Set of adapter rings 30/22.3 mm, black, consists of adapter ring & lock nut			
	For fitting 22.3 mm diameter buttons into 30.5 mm diameter holes	-	M22S-R30
Threaded ring			
	M22 x 1.5 mm	-	M22-GR
Acoustic indicator housing IP40 ① Black front, without buzzer			
	-	-	M22-AMC
Buzzer - for use with M22-AMC 18 - 30 V AC/DC, 83 dB / 10 cm, 100 % DF, Positive pole connected to X1			
	Continuous tone	-	M22-XAM
	Pulsed tone	-	M22-XAMP






① NEMA/UL Type 1.



22.5mm Pushbuttons


RMQ - Titan

Accessories

M00

Description		Item No.
Combination box spanner		
	For threaded ring	M22-MS
Top-hat rail adapter		
	IEC/EN 60715 top-hat rail, for front fixing	M22-IVS
Plunger bridge. For actuating the middle contact element of the M22-W...3 non-illuminated 3-position selector switch actuator		
	Middle contact of 3-position selector switch, non-illuminated, (1 off) black	M22-XW
Guard ring, IP66. To protect against accidental operation		
	For pushbutton & selector switch actuators	M22-XGWK
Front ring: gold (24 carat). Front ring not supplied individually: To order exclusively via Moeller Sales Offices as M22-Combination-* (customised complete units).		
	–	M22-FR-AU
IP65 external reset button		
	–	M22-DZ-B-GB14

Description	Circuit symbol	Resistance, R, kΩ	Item No.
Potentiometers, IP66			
		1	M22-R1K
		4.7	M22-R4K7
		10	M22-R10K
		47	M22-R47K
		100	M22-R100K
		470	M22-R470K

Description	Inscription	Colour	Item No.
Emergency-Stop labels, IP66			
	Lettering black, 30 X 50 mm	Emergency-Stop	● Yellow M22-XZK-GB99
		Blank	● Yellow M22-XZK
	Diameter = 90 mm	Emergency-Stop in 4 languages	● Yellow M22-XAK1
Legend holders without label, IP66. Round, black			
	For actuators, 30 x 50 mm	–	● Black M22S-ST-X
	For double actuators, 30 x 75 mm	–	● Black M22S-STDD-X
	Insert plate for legend holder	Blank	Aluminium M22-XST

Power Control




Control & Indication


22.5mm Pushbuttons

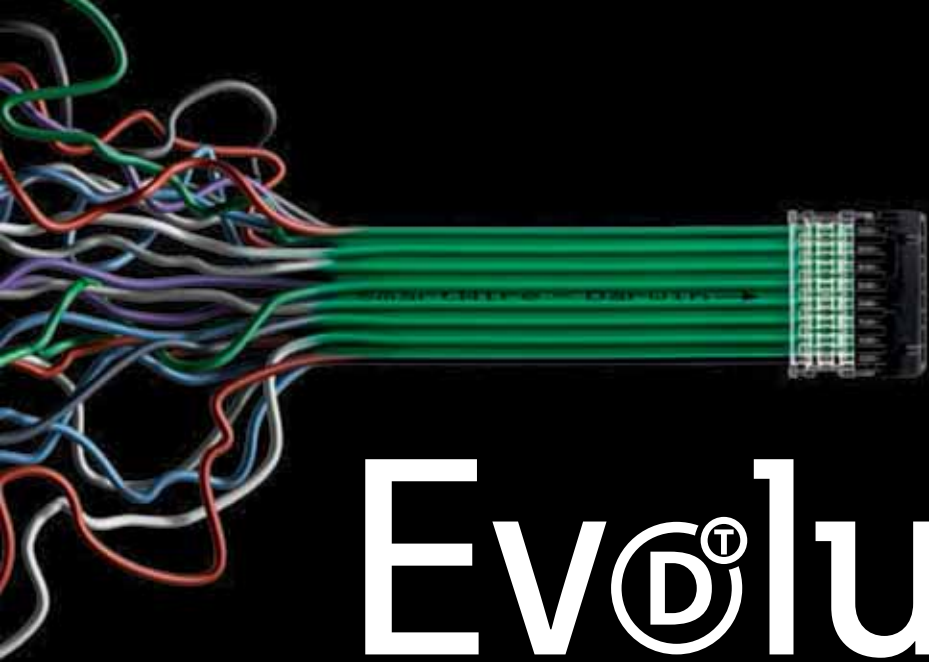
RMQ - Titan

Surface mounting enclosures, flush mounting plates

M00

	Number of ways Qty.	Colour	Item No.
Surface mounting enclosures			
	1	● White	M22-I1
	2		M22-I2
	3		M22-I3
	4		M22-I4
	6		M22-I6

Description	Number of ways Qty.	Colour	Item No.	
Flush mounting plates: Legend plates cannot be used if pushbuttons are fitted in vertical column without apertures, if required.				
	Aluminium with yellow paint finish for Emergency-Stop buttons	1	● Yellow	M22-EY1
	Aluminium, light anodized	1	● White	M22-E1
2		M22-E2		
3		M22-E3		
4		M22-E4		
5		M22-E5		
6		M22-E6		



Ev^Dolution!

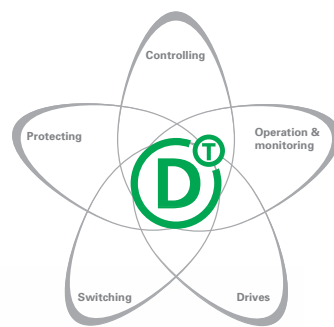
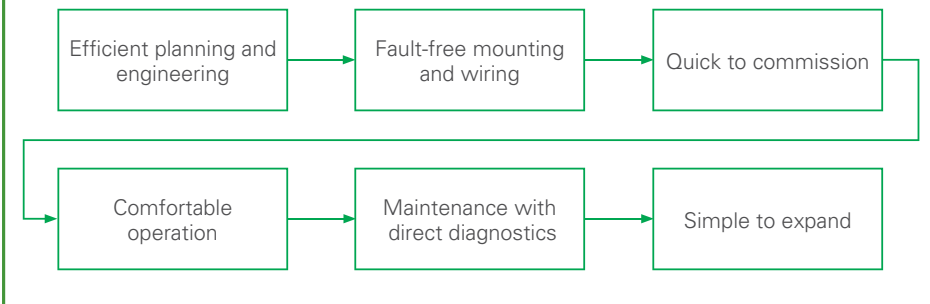


The easy way to connect.
SmartWire-Darwin
 The cost-optimised communication system for switchgear



SmartWire-Darwin: The easy way to connect.

SmartWire-Darwin reduces the wiring effort and expense with many switchgear systems by more than 60% and helps along the entire value-added chain – from the design to the construction, to the commissioning up to system expansion – in the reduction of costs. SmartWire-Darwin relies on the tried-and-tested Eaton Moeller industrial switchgear and grants intelligent communication features.



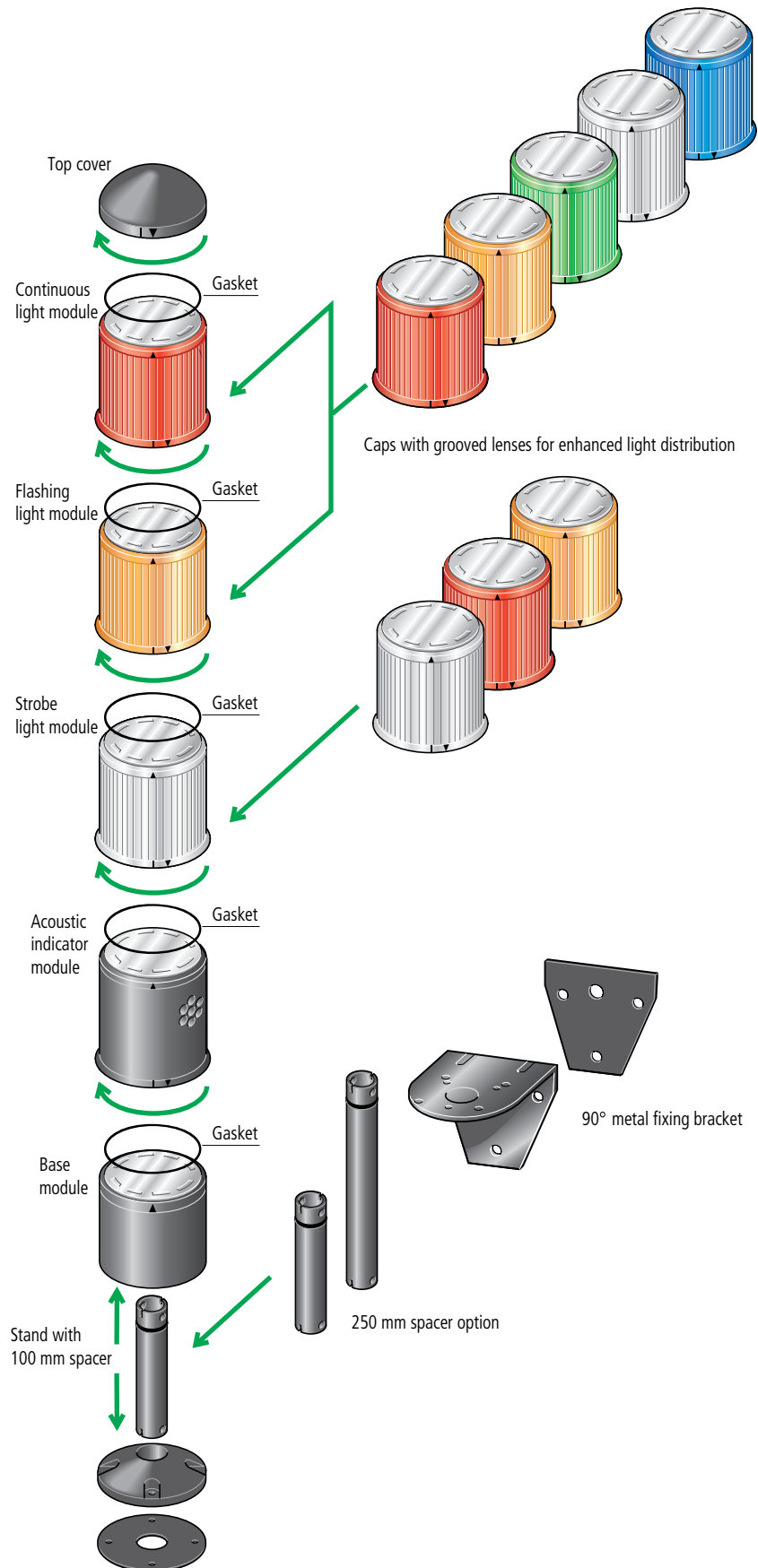
For further information:
0508 328 6669
www.eaton.co.nz



Power Control

Control & Indication

SL signal towers



SL signal towers

Signal tower modules

Mounted on top of a machine or control panel SL signal towers provide operating staff, working near or at a distance, with information about a machine's operation, stoppage, interruption in material flow or, for example, fault alarms. Consequently any problems or faults can be indicated & resolved quickly.



The user has the choice of four types of indicator: continuous, flashing, or strobe light &/or an audible alarm. Choose between filament bulbs, or LEDs for more critical applications – specially shaped lenses ensure excellent visibility from all directions.

Features & benefits:

- Individual modules can be combined as required, enabling users to assemble their own combinations
- Modules are freely programmable by simply setting jumpers on the module board
- Fitting modules together is quick & easy with no tools required – simply plug on the bayonet fitting & turn slightly
- Rated as standard to IP54, with an IP65 option for use in harsher environments



M00








	Description	Colour	Item No.
Base module, IP54			
	With screw terminals & top cover	● Black	SL-B
Continuous light modules, IP54			
	Without filament lamp/LED	● Blue	SL-L-B
		● Green	SL-L-G
		● Red	SL-L-R
		○ White	SL-L-W
		● Yellow	SL-L-Y

Power Control

Control & Indication

SL signal towers





MOO

	Description	Colour	Item No.
Flashing light modules, IP54			
	24 V AC/DC Without filament lamp/LED	● Blue	SL-BL24-B
		● Green	SL-BL24-G
		● Red	SL-BL24-R
		○ White	SL-BL24-W
		● Yellow	SL-BL24-Y
	110 – 130 V AC Without filament lamp/LED	● Blue	SL-BL130-B
		● Green	SL-BL130-G
		● Red	SL-BL130-R
		○ White	SL-BL130-W
		● Yellow	SL-BL130-Y
	240 V AC Without filament lamp/LED	● Blue	SL-BL230-B
		● Green	SL-BL230-G
		● Red	SL-BL230-R
		○ White	SL-BL230-W
		● Yellow	SL-BL230-Y
Strobe light modules, IP54			
	24 V AC/DC With flash tube	● Red	SL-FL24-R
		○ White	SL-FL24-W
		● Yellow	SL-FL24-Y
	110 – 130 V AC With flash tube	● Red	SL-FL130-R
		○ White	SL-FL130-W
		● Yellow	SL-FL130-Y
	240 V AC With flash tube	● Red	SL-FL230-R
		○ White	SL-FL230-W
		● Yellow	SL-FL230-Y
Acoustic indicator modules, IP20			
	Continuous tone		
	12 – 36 V AC/DC		SL-A24
	110 – 240 V AC/DC		SL-A110-230
	Pulsed tone		
	12 – 36 V AC/DC		SL-AP24
	110 – 240 V AC/DC		SL-AP110-230

SL signal towers

Accessories

M00

	Description	Colour	Item No.
Stand with spacer			
	100 mm	● Black	SL-F100
	250 mm	● Black	SL-F250
Fixing brackets			
	90°, metal	–	SL-FW
Filament lamps, BA 15d, 5 – 7 W			
	24 V DC	–	SL-L24
	110 – 130 V AC	–	SL-L130
	240 V AC	–	SL-L230
Multiple LED, BA 15d			
	18 – 30 V AC/DC	● Blue	SL-LED-B
		● Green	SL-LED-G
		● Red	SL-LED-R
		○ White	SL-LED-W
		● Yellow	SL-LED-Y
Set of gaskets			
	For increasing the degree of protection to IP65 (not for the acoustic indicator), 4 gaskets for use with 3 modules	–	SL-IP65

Power Control

Control & Indication

30.5mm Pushbuttons

Eaton's 30.5mm pushbuttons are versatile, durable, rugged, & stand the test of time in even the most hostile environments.

The range includes momentary, illuminated & mushroom head pushbuttons, selector switches, indicating lights & push-pull units.

The T Series Chrome 30.5 mm pushbutton line features a zinc die cast construction with chrome-plated housing & mounting nut. The same durable construction is also available with the corrosive resistant E34 line of pushbuttons.

All operators are IP66 rated to protect against dirt & moisture. Additionally, most devices come complete with grounding hardware to prevent electrical shock. Rugged metal construction, handsome appearance, extra features, & competitive prices makes Eaton's 30.5mm range of pushbuttons the logical choice for OEM's & board builders looking for value, durability, & reliability.

Features

- Die-cast metal housings create robust & heavy-duty devices that can endure repetitive & heavy handed use in industrial environments.
- IP66 rated for protection against dirt & moisture.
- The corrosion resistant E34 range can withstand extremely harsh environments.
- Contact blocks are colour coded (green for N.O. & red for N.C.) to permit easy identification & troubleshooting.
- Up to 6 contact blocks can stack on each other, allowing for up to 12 circuits per operator.
- Heavy-duty zinc die cast construction
- Enclosed silver contacts with reliability nibs
- All normally closed contacts have positive opening operation, i.e., normally closed contacts are forced open in the event of contact weld or spring breakage.
- Diaphragm seals with drainage holes
- Grounding nibs on the operator casing.
- Logic level contact blocks have palladium tipped contacts to ensure circuit integrity down to 1mA @ 5V AC/DC.
- Bright, long-lasting & vibration-proof LED's are available for illuminated operators.

Standards

- CE EN60947-5-1
- UL 508 — File No. 131568
- CSA C22.2 No. 14 — File No. LR68551

Contact Blocks

Eaton's contact blocks feature enclosed silver contacts with pointed "reliability nibs" for reliable performance from logic level up to 600V. To ensure reliable switching, nibs bite through oxide which can form on silver contacts, eliminating the need for expensive logic level blocks for most applications. Reliability nibs improve performance in dry circuit, corrosive, fine dust & other contaminated atmospheres. Under normal environmental conditions, the minimum operational voltage is 5V & the minimum operational current is 1 mA, AC/DC. For operation under a wider range of environmental conditions, logic level contact blocks with inert palladium tipped contacts are recommended. Diaphragm Seal with Drainage Holes Eaton's pushbutton operators offer front-of-panel drainage via holes in the operator bushing. Hidden from view by the mounting nut, these holes prevent buildup of liquid inside the operator, which can prevent operation in freezing environments. The holes also provide a route for escaping liquid in high pressure washdowns, effectively relieving pressure from the internal diaphragm seal, ensuring reliable sealing every time.

Grounding Nibs

Most operators have green earthing screws to prevent electrical shock. Operators also have "grounding nibs" — four metal points on the operator casting designed to bite through most paints & other coatings on metal panels to enhance the ground connection when the operator is securely tightened.

Standard Pushbuttons

Chrome, T Series Pushbuttons



Chrome

The 30.5 mm pushbutton line features a zinc die cast construction with chrome-plated housing & mounting nut.

Applications for the Chrome Operators:

Aggregate
Automotive
Construction Vehicles
Industrial Equipment
Material Handling
Metal Forming
Metal Stamping
Mining
Petrochemical
Pulp & Paper

Corrosion Resistant, E34 Pushbuttons



Corrosion Resistant

Eaton's Corrosion Resistant E34 Range of 30.5 mm pushbuttons features the same rugged die cast construction of our T Series with an additional two-layer 100% solid thermosetting cathodic epoxy coating. This coating provides a smooth flat black smooth, flat back, corrosion resistant surface that has passed a demanding 600 hour salt spray test.

Applications for Corrosion Resistant Operators:

Automotive
Chemical Plants
Food & Beverage
Food Service Equipment
Industrial Equipment
Mining
Pulp & Paper
Waste Water Treatment Plants

Ultraviolet Light

E34 cathodic coating is not recommended for use in applications where exposure to ultraviolet light exists, use chrome operators.

30.5mm Pushbuttons

Standard Pushbuttons, Flush, Extended & Half-Shrouded Buttons



Flush Button

C11

Colour	Chrome	Corrosion Resistant
● Black	T101	E34PB1
● Red	T102	E34PB2
● Green	T103	E34PB3
● Yellow	T104	E34PB4
● Grey	T105	-
○ White	T106	E34PB5
● Brown	T107	-
● Blue	T108	E34PB6



Extended Button

C11

Colour	Chrome	Corrosion Resistant
● Black	T111	E34EB1
● Red	T112	E34EB2
● Green	T113	E34EB3
● Yellow	T120	E34EB4
○ White	T116	-
● Blue	T118	E34EB6



Half-Shrouded

C11

Colour	Chrome	Corrosion Resistant
● Black	T501	E34EVB1
● Red	T502	E34EVB2
● Green	T503	E34EVB3
● Yellow	T504	E34EVB4
● Blue	T508	E34EVB6

Contact Blocks



T1P



T44



T57

Standard Contact Blocks

C11

Description	Part. No.
1NO 1NC	T1P
2NO	T2P
2NC	T3P
1NC	T51P
1NO	T53P
2NO 2NC	T44
1LONC 1ECNO	T55
1ECNO 1NO	T57
1LONC	T71
2LONC	T45

Base Mounted Contact Blocks

C11

Description	Part. No.
1NO 1NC	T6
2NO	T7
2NC	T8
1NC	T52
1NO 1NC	T54
1LONC 1ECNO	T56
1LONC 1ECNO	T58

Logic Level Contact Blocks

C11

Description	Part. No.
1NO 1NC	T1E
2NO	T2E
2NC	T3E
1NC	T51E
1NO	T53E

NO = Normally Open, NC = Normally Closed, LONC = Late Open Normally Closed, ECNO = Early Close Normally Open, Logic Level contact blocks have palladium contacts.

Step 1



Select Pushbutton operator above.

Step 2



Select contact block from Page 295

Power Control

Control & Indication

30.5mm Pushbuttons

Mushroom Operators Momentary



Mushroom Button 38.1mm

C11

Colour	Chrome	Corrosion Resistant
● Black	T121	E34LB1
● Red	T122	E34LB2
● Green	T123	E34LB3
● Yellow	T124	E34LB4
● Blue	T129	E34LB6



Palm Head Button 63.5mm Zinc

C11

Colour	Chrome	Corrosion Resistant
● Black	T171	E34JB1
● Red	T172	E34JB2
● Red (Emergency Stop)	T17213	E34JB2N
● Green	T173	E34JB3

Push-Pull Mushroom Operators Maintained



T129P



T176P

Push-Pull Operators Complete Padlockable

C11

Head Diameter	Colour	Material	Chrome	Corrosion Resistant
45mm	Red	Zinc	T129P	E34129P
63.5mm	Red	Zinc	T176P	E34176P



T129M



E34129S

Push-Pull Operators Complete Non-Padlockable

C11

Head Diameter	Colour	Material	Chrome	Corrosion Resistant
38mm	Red	Plastic	T129S	E34129S
45mm	Red	Zinc	T129M	E34129M
63.5mm	Red	Zinc	T176M	E34176M

Step 1



Select pushbutton operator above.

Step 2



Select contact block from Page 295

Standard Pushbuttons, Mushroom Operators Accessories



Accessories for Complete Push-Pull Operators*

C11

Description	Item No.
Padlock Assembly Kit	6-A474
Replacement Locking Tongue	6-A475
Padlock with Chain	52-A1617

Legend Plates

C11

Engraving	Material	Item No.
STOP Pull to reset	Metal	D2179-53CP
STOP Pull to reset	Plastic	E34LP179

* For use with push-pull mushroom operators maintained.

30.5mm Pushbuttons

Mushroom Operator Components



Bare Shaft Operator for Mushroom or Palm Pushbutton C11

Description	Item No.
Momentary, Spring Return	T100
Auto-Latch - Twist Base to Release	T140



38.1mm Mushroom Button for bare shaft operators C11

Colour	Item No.
● Black	T281
● Red	T282
● Green	T283
● Yellow	T284
● Blue	T288



63.5mm Palm Button (Anodized Aluminium) for bare shaft operators C11

Colour	Item No.
● Black	T291
● Red	T292
● Green	T293

Push-Pull Operator Components



Push-Pull Operators C11

Description	Position	Chrome	Corrosion Resistant
Maintained Push & Pull	2	T5	E34GDB
Momentary Push & Pull	3	T4	E34GEB
Maintained Push & Momentary Pull	3	T9	E34GFB



38.1mm Mushroom Button for Push-Pull Operators C11

Description	Colour	Item No.
38.1mm Operator Head	● Black	E34C1
38.1mm Operator Head	● Red	E34C2
38.1mm Operator Head	● Red (Emergency Stop)	10250TB63
38.1mm Operator Head	● Green	E34C3



63.5mm Palm Button (Anodized Aluminium) for Push-Pull Operators C11

Description	Colour	Item No.
65mm Operator Head	● Red	E34J2
65mm Operator Head	● Red (Emergency Stop)	E34J2N8

Step 1



Select bare shaft operator above

Step 2




Select Mushroom button from above

Step 3



Select contact block from page 295

Step 1



Select push-pull operator above

Step 2



Select Mushroom button from above

Step 3



Select contact block from page 295

Power Control

Control & Indication

30.5mm Pushbuttons

Illuminated Operators, Indicating Light Lenses



Plastic Lenses C11

Colour	Plastic
● Red	E34H2
● Green	E34H3
● Amber	E34H9
○ Clear	E34H0
● Yellow	E34H4
○ White	E34H5
● Blue	E34H6



Glass Lenses (Chrome) C11

Colour	Glass (Chrome)
● Red	TC7N
● Green	TC8N
● Amber	TC9N
○ Clear	TC11N
○ White	TC12N
● Blue	TC10N



Glass Lenses (Corrosion Resistant) C11

Colour	Glass (Corrosion Resistant)
● Red	E34G2
● Green	E34G3
● Amber	E34G9
○ Clear	E34G0
● Yellow	E34G4
○ White	E34G5
● Blue	E34G6

Indicating Light Units



Direct Voltage Indicating Light Unit C11

Description	Voltage	Chrome	Corrosion Resistant
Direct voltage - order bulb separately	6 - 240V	T197N	E34FB197L*

See page 301 for bulbs. Can be used with LEDs.

*LED only 6-240V



Incandescent Bulb Indicating Light Units C11

Description	Voltage	Chrome	Corrosion Resistant
With incandescent bulb supplied	6	T197N/2	E34FB06
	12	T197N/3	E34FB12
	24	T197N/4	E34FB24
	48	T197N/5	E34FB48
	110	T197N/7	E34FB110
	240	T197N/8	E34FB240

Transformer Type Indicating Light Units C11

Description	Voltage	Chrome	Corrosion Resistant
Transformer Type 6V Secondary bulb supplied	110/120	T181N	E34TB120
	220/240	T182N	E34TB240
	380/415	T183N	E34TB380
	440/480	T184N	E34TB480
	550/600	T185N	E34TB600
	415	-	E34TB415



Resistor Type Indicating Light Units C11

Description	Voltage	Chrome	Corrosion Resistant
Resistor Type 120V bulb supplied	110/120	T201N	E34RB120
	220/240	T202N	E34RB240

Step 1



Select lens from this page

Step 2



Select indicating light from above

Step 3



Select bulb if not supplied with indicating light

Step 4



Select contact block from page 295

30.5mm Pushbuttons

Illuminated Operators, Illuminated Pushbutton Lenses



Plastic Illuminated Lenses

C11

Colour	Plastic
● Red	E34V2
● Green	E34V3
● Amber	E34V9
○ Clear	E34V0
● Yellow	E34V4
○ White	E34V5
● Blue	E34V6



Glass Illuminated Lenses (Chrome)

C11

Colour	Glass (Chrome)
● Red	TC13N
● Green	TC14N
● Amber	TC15N
○ Clear	TC17N
○ White	TC18N
● Blue	TC16N



Glass Illuminated Lenses (Chrome) (Corrosion Resistant)

C11

Colour	Glass (Chrome)
● Red	E34P2
● Green	E34P3
● Amber	E34P9
○ Clear	E34P0
● Yellow	E34P4
○ White	E34P5
● Blue	E34P6

Illuminated Pushbutton Light Units



Illuminated Pushbuttons - Direct Voltage

C11

Description	Supply Voltage	Chrome	Corrosion Resistant
Direct Voltage Order bulb separately	6-240V	T441	E34CB497L*

See page 301 for bulbs. Can be used with LEDs.

*LED only 6-240V.



Illuminated Pushbuttons - Transformer Type

C11

Description	Supply Voltage	Chrome	Corrosion Resistant
Transformer type 6V secondary bulb supplied	110/120	T411	E34XB120
	220/240	T412	E34XB1240
	380/415	T413	E34XB380
	440/480	T414	E34XB480

Press-To-Test Light Units



Press-To-Test Indicating Lights - Direct Voltage

C11

Description	Supply Voltage	Chrome	Corrosion Resistant
Direct voltage order bulb separately	6-240V	T230N	E34FPB
	380/415	T413	E34XB380

See page 301 for bulbs. Can be used with LEDs.

Press-To-Test Indicating Lights - Transformer Type

C11

Description	Supply Voltage	Chrome	Corrosion Resistant
Transformer Type 6V, 1W secondary bulb supplied	110/120	T221N	E34TPB120
	220/240	T222N	E34TPB240
	380/415	T223N	E34TPB380

Press-To-Test Indicating Lights - Resistor Type

C11

Description	Supply Voltage	Chrome	Corrosion Resistant
Resistor Type 120V, bulb supplied	110/120	T231N	E34RPB120
	220/240	T240N	E34RPB240

Step 1



Select lens from this page

Step 2



Select light from this page

Step 3



Select bulb if not supplied with indicating light

Step 4



Select contact block from page 295

Power Control

Control & Indication

30.5mm Pushbuttons

Illuminated Operators, Push-Pull Mushroom Lenses



Standard Push-Pull Lenses

C11

Colour	Item No.
● Red	E34M2
● Red (Emergency Stop)	E34M2N8
● Green	E34M3
● Amber	E34M9
○ Clear	E34M0
○ White	E34M5
● Blue	E34M6



Side Lighted Anodised Aluminium Lenses

C11

Colour	Item No.
● Red	10250TC57
● Red (Emergency Stop)	10250TC63
● Green	10250TC58
● Amber	10250TC64
○ Clear	10250TC62
○ White	10250TC61
● Blue	10250TC59

Illuminated Push-Pull Operators



Illuminated Push-Pull Operators

C11

Description	Supply Voltage	Chrome	Corrosion Resistant
Maintained Push & Pull	2	T5	E34GDB
Momentary Push & Pull	3	T4	E34GEB
Maintained Push & Momentary Pull	3	T9	E34GFB

Light Units for Illuminated Push-Pull Operators



Direct Voltage Light Modules for Push-Pull Operators C11

Description	Voltage	Item No.
Direct Voltage	6-240V	10250T70

Note: Order bulb separately. See page 301 for bulbs. Can be used with LEDs.



Transformer Type Light Modules for Push-Pull Operators

C11

Description	Voltage	Item No.
Transformer Type 6V secondary bulb supplied	110/120	10250T63
	220/240	10250T65
	380/415	10250T66
	440/480	10250T67



Resistor Type Light Modules for Push-Pull Operators C11

Description	Voltage	Item No.
Resistor Type 120V bulb supplied	120	10250T80
	240	10250T81

Step 1



Select lens from this page

Step 2



Select push-pull operator from this page

Step 3



Select light unit from above

Step 4



Select bulb if not supplied with light unit

Step 5



Select contact block from page 295

30.5mm Pushbuttons

Illuminated Operators, Bulbs



Incandescent Bulbs C11

Supply Voltage	Watts	Item No.
6.3V	0.9W	28-2225-33
12V	1.2W	21BA9S12
24V	1.2W	28-2225-13
30V	1.2W	21BA9S30
130V	2.2W	28-2225-24



Bright LED Bulbs - Single Chip (AC/DC) C11

Colour	6V	12V	24V
Red	BA9SL6R	BA9SL12R	BA9SL24R
Green	BA9SL6V	BA9SL12V	BA9SL24V
Yellow	BA9SL6G	BA9SL12G	BA9SL24G
White	BA9SL6W	BA9SL12W	BA9SL24W

Bright LED Bulbs - Single Chip (AC/DC) C11

Colour	110V	240V
Red	BA9SL110R	BA9SL240R
Green	BA9SL110V	BA9SL240V
Yellow	BA9SL110Y	BA9SL240A
White	BA9SL110W	BA9SL240W



Super Bright LED Bulbs (Recognisable in outdoor daylight applications - AC/DC) C11

Colour	6-12V	24V	120V
Red	E22LED612RN	E22LED024RN	E22LED120RN
Green	E22LED612GN	E22LED024GN	E22LED120GN
Yellow	E22LED612YN	E22LED024YN	E22LED120YN
White	-	-	E22LED120WN



Neon Bulbs C11

Supply Voltage	Colour	Item No.
110V	Clear	21BA9S110N
240V	Clear	21BA9S240N
240V	Green	21BA9S240NG
240V	Red	21BA9S240NR

Power Control

Control & Indication

30.5mm Pushbuttons

Selector Switch Operators



Selector Switch Knobs & Levers



2 Position Selector Switches

C11

Description (M = Maintained, S = Spring Return)	Chrome	Corrosion Resistant
	T4011	E34VFB
	T4081	E34VEB

Knobs & Levers

C11

Description	Material	Image	Item No.
Knob	Plastic	1	E34K1
	Metal	2	T341M
Lever	Plastic	3	E34L1
	Plastic	4	E34A1*

* For maintained operators only.

3 Position Selector Switches

C11

Description (M = Maintained, S = Spring Return)	Cam Code*	Chrome	Corrosion Resistant
	2	T4022	E34VGB
	3	T4023	E34VHB
	4	T4024	-
	6	T4026	-
	2	T4032	E34VJB
	3	T4033	E34VKB
	2	T4042	E34VLB
	3	T4043	E34VMB
	2	T4052	E34VNB
	3	T4053	E34VPB

Selector Switches & Joystick Operators, Cam Selection Guide

Cam Selection Chart Showing Contact Sequence

C11

Item No. of contact block	Circuit ①	2 position selector switch	3 position selector switch				4 position selector switch
		Cam code no. 1	Cam code no. 2	Cam code no. 3	Cam code no. 4	Cam code no. 6	Cam code no. 7
T1P	A.N.C.	X0	0X0	0XX	X00	X00	X000
	B.N.O.	0X	00X	00X	0X0	0X0	0X00
T1P	A.N.O.	0X	X0X	X00	0XX	00X	00X0
	B.N.C.	X0	XX0	XX0	X0X	00X	000X
T2P	A.N.O.	0X	X0X	X00	0XX	00X	00X0
	B.N.O.	0X	00X	00X	0X0	0X0	0X00
T3P	A.N.C.	X0	0X0	0XX	X00	X00	X000
	B.N.C.	X0	XX0	XX0	X0X	00X	000X

4 Position Selector Switches

C11

Description (M = Maintained, S = Spring Return)	Cam Code*	Chrome	Corrosion Resistant
Maintained	7	T4067	E34VTB

* See Cam Selection Chart to determine cam code.

Switching angle 60° between each position. Rated for AC only. Refer to actual installation instructions given with each switch for additional switching combinations. To determine the number of the cam you require & the correct contact block, select the contact sequence desired from table above. 0 = contacts open, X = contacts closed. The cam number is shown at top of column. The Item number of the appropriate contact block is shown in column 1. at extreme left of table.

① Each contact block contains two contact circuits. The top set of contacts is identified as 'Circuit A' & the lower set as 'Circuit B' is indicated in the table. The chart shows the contact arrangements with the three contact blocks available & in each operator position. Additional contacts are obtainable by stacking contact blocks up to a maximum of 6 blocks (12 circuits). A maximum of 2 can be used with cam 6.

Step 1



Choose selector switch operator from previous page

Step 2

Choose cam based on contact sequence from cam selection guide table above (applies to 3 position selector switches only)

Step 3



Choose knob or lever from above

Step 4



Select contact block according to cam selection guide above

30.5mm Pushbuttons

Key Operated Selector Switches



2 Position Key Operated Selector Switches C11

2 Position	Cam	Key Removal	Chrome	Corrosion Resistant
	-	Right & Left	T15113	E34KFB3
	-	Left Only	T15712	E34KEB2



3 Position Key Operated Selector Switches C11

3 Position	Cam*	Key Removal	Chrome	Corrosion Resistant
	2	Left Right & Centre	T15227	E34KGB7
	3	Left Right & Centre	T15237	E34KHB7
	4	Left Right & Centre	T15247	-
	6	Left Right & Centre	T15267	-
	2	Right & Centre	T15325	E34KJB5
	3	Right & Centre	T15335	E34KKB5
	2	Centre Only	T15424	E34KLB4
	3	Centre Only	T15434	E34KMB4



* See page 302 for cam selection guide.



Spare Key C11

Description	Item No.
Replacement Keys (2)	TA152

Note: Other key codes are available contact Eaton for more information.

Step 1	Step 2	Step 3
 <p>Choose key selector switch operator from this page</p>	<p>Choose cam based on contact sequence from cam selection guide table on page 302 (applies to 3 position selector switches only)</p>	 <p>Select contact block according to cam selection guide on page 302</p>

Power Control

Control & Indication

30.5mm Pushbuttons

Selector Switches & Joystick Operators, Joystick Operators

Two-Position Joystick Operators

The device mounts in the standard 30.5 mm mounting hole.

Four-Position Joystick Operators

The joystick operated control unit is intended for AC application only. The panel area required for the 4-position operator is equivalent to two standard pushbutton operators.

Latched Joystick Operators

The latch holds the lever in the centre position. The trigger latch must be released before lever can moved into any position.



2 Position Joystick Operator C11

Description	Item No.
2 position Operator - Momentary Up & Down	T452



4 Position Joystick Operators (Spring Return ONLY) C11

Description	Item No.
4 position - Without Latch	T450
4 position - With Latch	T460



4 Position Joystick Operators (Maintained) C11

Description	Item No.
4 position - Without Latch	10250T451_*
4 position - With Latch	10250T461_*

*Maintained Position

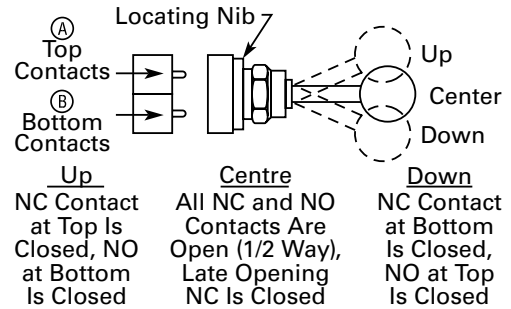
For maintained position (non-spring return), locate required maintained position or positions of operating lever in the Maintained table below & add appropriate Suffix Number to the Item Number selected from the table above.

Maintained Positions C11

Up	Down	Left	Right	Suffix No.*
X	—	—	—	1
—	X	—	—	2
—	—	X	—	3
—	—	—	X	4
X	X	—	—	5
X	—	X	—	6
X	—	—	X	7
—	X	X	—	8
—	—	X	X	10
X	X	X	—	11
X	X	—	X	12
X	—	X	X	13
—	X	X	X	14
X	X	X	X	15

Two-Position Joystick Operators - Contact Block Operation

Figure 1, A and B Mounting Location



Contact Block Selection & Mounting

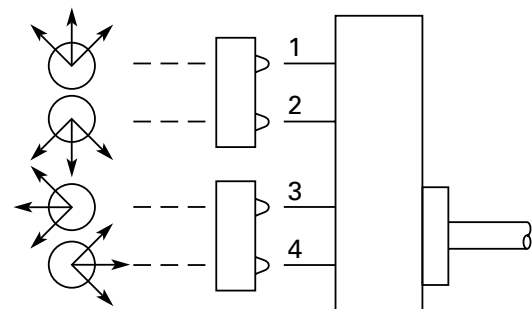
Handle Position			Contact Block		Mounting Location	
Up	Centre	Down	Item No.	Type	Top	Bottom
					A	B
X	0	0	T51P	1NC		
0	0	X	T51P	1NC		
0	X	0	T45	2LONC		
X	0	0	T3P	1NC 1NC		
X	X	0	T45	1LONC 1LONC		
X	0	0	T44	1NC 1NO		
0	0	X				
0	0	X				
V	0	0				

X = closed circuit, 0 = open circuit.
NO = Normally Open, NC = Normally Closed, LONC = Late Opening Normally Closed.
Four circuits in single block depth — rated 300V max.

Four-Position Joystick Operators - Contact Block Operation

Contact blocks mount directly on the back of the operator. For reliable operation, the maximum number of contact blocks that should be installed behind each operator lever is 2 (4 contacts total). Figure 2 identifies the circuits activated by each of the eight possible lever positions. Contact block plungers 1, 2, 3, 4 are depressed (change state) when handle is in the position indicated by arrows in Figure 2.

Figure 2, Circuit Activation



Application Caution

Joystick operators are not recommended on certain DC applications above 24V DC which may involve lightly engaging the contacts (teasing) to achieve speed control, positioning, jogging, etc. Excessive arcing & deterioration of the contacts will occur.

30.5mm Pushbuttons Control Stations & Enclosures

Diecast Aluminium Enclosures



Standard

C11

No. of Holes	Single - Depth T Series	Corrosion Resistant
1	TN1	E34N1
2	TN2	E34N2
3	TN3	E34N3
4	TN4	E34N4

Assembled Control Stations



Push-Pull Stop Stations (Non-Padlockable)

C11

Operator Head	Contacts	Item No.
Metal mushroom 45mm	1LONC	10250T700M
	1ECNO,1LONC	10250T701M
Metal palm 63.5mm	1LONC	10250T700P
	1ECNO,1LONC	10250T701P

Corrosion Resistant

C11

No. of Holes	Double Depth T Series	Corrosion Resistant
1	TN11	E34N11
2	TN12	E34N12
3	TN13	E34N13
4	TN14	E34N14
6	TN15	-

1-2 hole: 3/4 inch conduit entry hole, 2-6 hole: 1 inch conduit bottom-entry hole, 1.5 inch UNF Thread IP66.

"Staylock" Push-Pull Stop Stations (Non-Padlockable)

C11

Operator Head	Contacts	Padlock Included	Item No.
Metal Mushroom 45mm	1LONC	NO	ESM9/5
	1LONC	YES	ESM9/5P
	1ECNO,1LONC	NO	ESM9/6
	1ECNO,1LONC	YES	ESM9/6P
Metal Palm 63.5mm	1LONC	NO	ESP6/5
	1LONC	YES	ESP6/5P
	1ECNO,1LONC	NO	ESP6/6
	1ECNO,1LONC	YES	ESP6/6P

Stainless Steel Enclosures



Stainless Steel

C11

No. of Holes	316 Stainless
1	XBS130
2	XBS230
3	XBS330
4	XBS430

316: 25mm non-threaded conduit bottom-entry hole, IP67. 304: 1-2 hole: 3/4 inch conduit entry hole, 2-4 hole: 1 inch conduit bottom-entry hole, 1.5 inch UNF Thread IP66.

Fibreglass Enclosures



Fibreglass

C11

No. of Holes	Item No.
1	TFG11
2	TFG12
3	TFG13

20mm non-threaded conduit bottom-entry hole IP66, UV Stabilised.

Stop Start Pushbutton Station

C11

Description	Item No.
Fibreglass Enclosure Start: green pushbutton with boot Stop: red padlockable mushroom with boot	T3500



Power Control





Control & Indication

30.5mm Pushbuttons Accessories

Padlock Attachments & Boots




Padlock Attachment Accessories

C11

	Padlock Attachments	Description	Cat. No
	With hinged transparent flap. For flush or extended pushbuttons, & knob-operated selector switches	Plastic Cover	TA38
	For flush stop button. Permits locking NC contacts in open position with padlock. Prevents operation of button. Will not lock NO contact	Chrome	TA2
		Corrosion Resistant	E34TA2
	For extended pushbutton. Permits locking NC contacts in open position with padlock	Chrome	TA26
	For illuminated pushbuttons. Locks in down position only	Chrome	10250TA64






Boots

C11

	Boots	Colour	Cat. No
	Protective boot for flush pushbutton operators	Clear	TA46
		Black	TA47
		Red	TA48
		Green	TA49
		Yellow	TA50
	Protective boot for extended pushbutton operators	Black	TA3
		Red	TA4
		Green	TA10
		Clear	TA85
	Protective boot for illuminated pushbuttons.	Clear	TA25
	Protective boot for momentary mushroom operators on page 295. Not suitable for use with T140 operator.	Black	TA88



Shrouds & Guards

C11

	Title	Description	Item No.
	Shroud for Mushroom Head Operator	Prevents accidental operation. Not for push-pull operators. Momentary operators only	10250TA6 E34TA6
	Extended Retaining Nut	Replaces standard nut & provides guard for flush head pushbutton operators.	10250TA12 E34TA12
	Guard for Illuminated Pushbutton	Guard for Illuminated Pushbutton	10250TA15 E34TA15*
	Shroud	For jumbo mushroom head operator. Available in Grey & Yellow (Not for push-pull operators, momentary operators only.)	TA56 10250TA56Y
	Half Shroud - Yellow	For jumbo mushroom head operator.	10250ED1241

Hardware & Kits



C11

	Title	Description	Item No.
	Fingerproof Shroud	10 per Package Fits new style contact blocks & light units.	10250TA101
	Spacer Ring	Used when legend plate is not required. Set of 5	TA8
	Base Mounting Spacers	Equivalent to contact block in depth — Complete with screws, washers, etc. For use in pushbutton stations for base mounting contact blocks. 1 Block Deep 2 Blocks Deep	TA22 TA23

30.5mm Pushbuttons Accessories


Special Operators & Attachments

Special Operators & Attachments C11




	Title	Description	Item No.
	Wobble Stick	Complete with retaining nut — fits standard button.	TA5
	Maintained Contact Attachment	Mechanically interlocks two buttons & provides position indication for one. Use with two pushbutton operators & one or more contact blocks.	TA1

Hole Plugs & Tools

Special Operators & Attachments C11


	Title	Description	Item No.
	Plug	For unused holes — Steel, painted grey	10250TA7
	Stainless Steel Plug	For unused holes — Stainless Steel - Square	E30KT5

Tools C11

	Title	Description	Item No.
	Octagonal Tool	Octagonal notched to fit over selector switch lever	10250TA95
	Tool for Tightening Boots	Used to install boot	TA96
	Allen Key	Used for removal of jumbo mushroom head.	10250TA102

Special Light Modules

Special Light Modules C11

	Title	Description	Item No.
	Flasher Module	Changes any AC illuminated device to a controlled flashing light. 24V s 120V	TFL2 TFL1

Legend Plates C11

Description	Item No.
Aluminium T-Range, large size, black unless marked "red"	TJ_ _
Custom Legends	TJ36X*
Aluminium T-Range, medium size, black unless marked "red"	TM_ _
Custom Legends	TM36X*
Stainless steel T-Range, medium size, red, blank	TM36S
Stainless steel T-Range, medium size, black, blank	TM37S
Plastic E34 range universal size, black unless marked "red"	E34SP_ _

*Specify text on order.

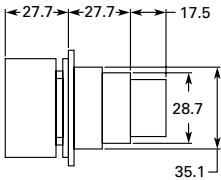
Legend Plates C11

Legend	T-Range Large Item No.	T-Range Medium Item No.	E34 Universal Item No.
Blank	TJ36	TM36	TSP76
Blank (red)	TJ37	TM37	TSP77
Off (red)	TJ24	TM24	E34SP24
On	TJ25	TM25	E34SP25
Run	TJ31	TM31	E34SP31
Start	TJ33	TM33	E34SP33
Stop (red)	TJ34	TM34	E34SP34

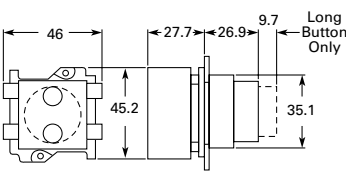
Power Control

Control & Indication

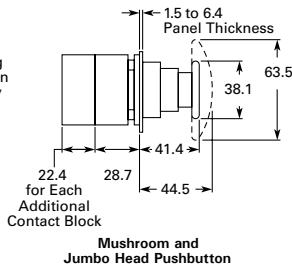
30.5mm Pushbuttons, dimensions & technical data



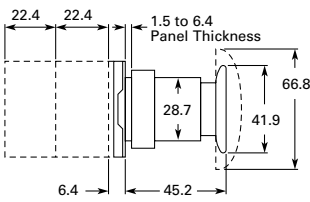
Illuminated Pushbutton



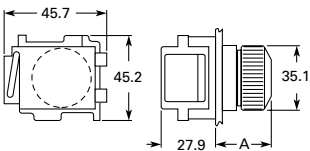
Flush and Long Pushbutton
Half Shroud Is Same as Long Pushbutton
with Lower Half of Guard Ring Cut Back



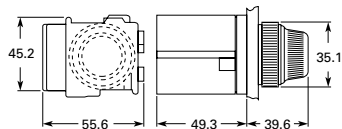
Mushroom and Jumbo Head Pushbutton



Push-Pull Switch



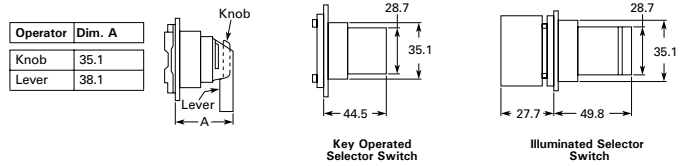
Indicating Light - Transformer Type



Press-To-Test Indicating Light - Transformer Type

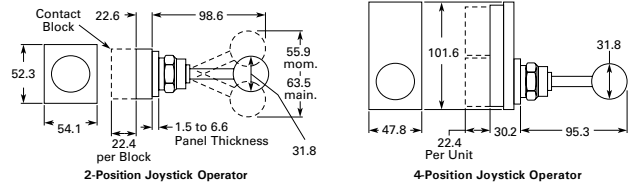
Lens	Dimension A
Plastic	35.1
Glass	39.6

Approximate Dimensions in mm



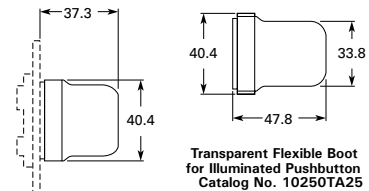
Key Operated Selector Switch

Illuminated Selector Switch

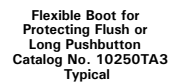


2-Position Joystick Operator

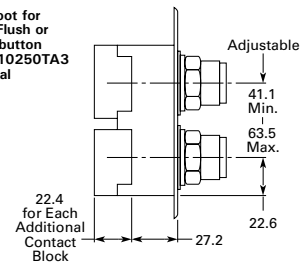
4-Position Joystick Operator



Transparent Flexible Boot for Illuminated Pushbutton
Catalog No. 10250TA25



Flexible Boot for Protecting Flush or Long Pushbutton
Catalog No. 10250TA3 Typical



Maintained Pushbutton
Catalog No. 10250TA66 Typical

Diecast Aluminium Enclosure Dimensions

	Wide	High	Single Depth	Double Depth
1	98.6	101.6	57.2	76.3
2	98.6	149.4	57.2	76.3
3	98.6	196.9	57.2	76.3
4	98.6	244.6	57.2	76.3

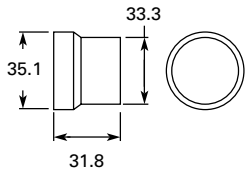
Fibreglass Enclosure Dimensions

	Wide	High	Deep
1	97	100	75
2	97	150	75
3	97	200	75

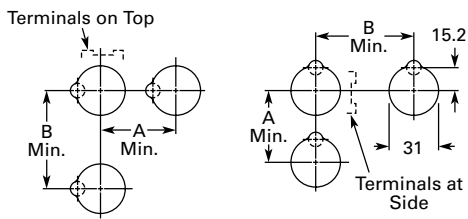
316 Stainless Steel Enclosure Dimensions

	Wide	High	Deep
1	120	120	84
2	120	160	84
3	120	220	84
4	120	280	84

30.5mm Pushbuttons, dimensions & technical data



Extended Retaining Nut
Catalog No. 10250TA12



Horizontal Rows

Vertical Rows

Panel Drilling and Minimum Spacing

Legend Plate	Dim. in mm	
	A Min.	B Min.

1 or 2 Circuit Contact Blocks

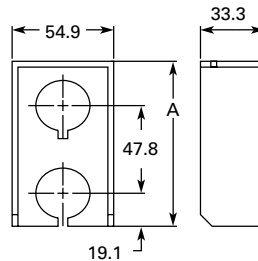
	A Min.	B Min.
Small or None	41.4	57.2
Standard	44.5	57.2
Jumbo ①	57.2	57.2
Extra Large	63.5	66

4 Circuit Contact Block 10250T44

	A Min.	B Min.
Small or None	47.8	57.2
Standard	47.8	57.2
Jumbo ①	57.2	57.2
Extra Large	63.5	66

① If Jumbo plates are to be placed one above the other vertically, add 3.3mm to minimum dimensions listed.

Note: Locating nib hole or notch is 3.45 – 3.56 mm #29 drill.



Multiple Button Guard

Number of Elements	Dimension A
2	101.6
3	149.4
4	200.2
7	339.9

Legend Plate	Dim. in mm	
	A	B

1/2 Round Legend Plates

Small	39.6	23.1
Standard	40.4	27.2
Jumbo	52.3	38.9

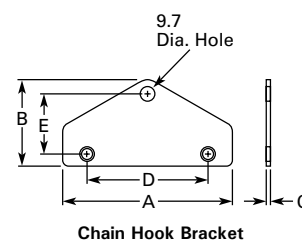
Square Legend Plates

Small	40.4 Sq.	22.9
Standard	44.5 Sq.	26.9 ^②
Jumbo	55.6 Sq.	38.1
Extra Large	62.0 Sq.	41.4

② For plastic legend plate, Dimension B is 28.4

Enclosure Size (No. of Elements)	Dimensions in Inches (mm)				
	Wide A	High B	Deep C	Mounting	
				D	E
2, 3, & 4	95.3	49.3	3.3	68.3	35.1
6 & 7	101.6	55.6	3.3	73.2	41.4

Approximate Dimensions in mm



Chain Hook Bracket

Power Control

Control & Indication

30.5mm Pushbuttons, dimensions & technical data

Features

- Heavy-duty zinc die cast construction
- Enclosed silver contacts with reliability nibs
- Diaphragm seals with drainage holes
- Grounding nibs on the operator casing

Benefits

- Reliability nibs improve contact reliability even under dry circuit & fine dust conditions
- Drainage holes prevent buildup of liquid inside the operator which can prevent operation in freezing environments
- Grounding nibs bite through paint & other coatings to provide secure ground

Contact Operation

Slow make & break. All normally closed contacts have positive opening operation, i.e., normally closed contacts are forced open in the event of contact weld or spring breakage.

Standards & Certifications

- CE EN60947-5-1
- UL 508 — File No. 131568
- CSA C22.2 No. 14 — File No. LR68551

Ingress Protection (When mounted in similarly rated enclosure):

- Standard Indicating Lights: UL (NEMA) Type 1, 2, 3, 3R, 3S, 4, 4X, 12, 13, IEC IP65
- All Other Operators: UL (NEMA) Type 1, 2, 3, 3R, 4, 4X, 12, 13, IEC IP65

Technical Data & Specifications

Mechanical Ratings:

- Frequency of operation: All pushbuttons 6000 operations/hr, Key & lever selector switches 3000 operations/hr, Auto-latch devices 1200 operations/hr.
- Life: Pushbuttons 10×10^6 operations, Contact blocks: 10×10^6 operations, PresTest units 10×10^6 operations, Lever & key selector switches 0.25×10^6 operations, Twist to release pushbuttons 0.3×10^6 operations,
- Shock resistance: Duration 20 mS 5g

Climate Conditions:

- Operating Temperature (-17° to 66°C), Storage Temperature (-40° to 80°C), Altitude 2,000m (6,562 ft.), Humidity Max. 95% RH @ 60°C

Terminals:

- Marking: NC-NO on the contact block to meet the NEMA requirements. Dual marking system 1 – 2 for normally closed, 3 – 4 for normally open to meet BS5472 (Cenelec EN50 005)
- Clamps: Terminals are saddle clamp type for 1 x 22 AWG (0.34 mm²) to 2 x 14 AWG (2.5 mm²) conductors
- Torque = 7 lb-in (0.8 Nm)
- Degree of protection against direct electrical contact: IP2X with fingerproof shroud

Light Units:

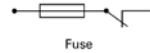
- Transformers: will withstand short circuit for 1 hour per IEC 60997-5-1
- Bulbs — average life: Transformer type 20,000 hrs., Resistor/direct voltage type 2500 hrs. minimum @ rated V, LED 60,000 to 100,000 hrs.

Electrical Ratings:

- Insulation: $U_i = 660V$ AC or DC
- Thermal: $I_{th} = 10A$

Short Circuit Coordination to IEC/EN 60947-5-1:

- Rated conditional short circuit current: 1 kA
- Fuse type: GE Power Controls TIA 10, Red Spot Type gG, 10A, 660V AC, 460V DC, BS88-2, IEC 60269-2-1



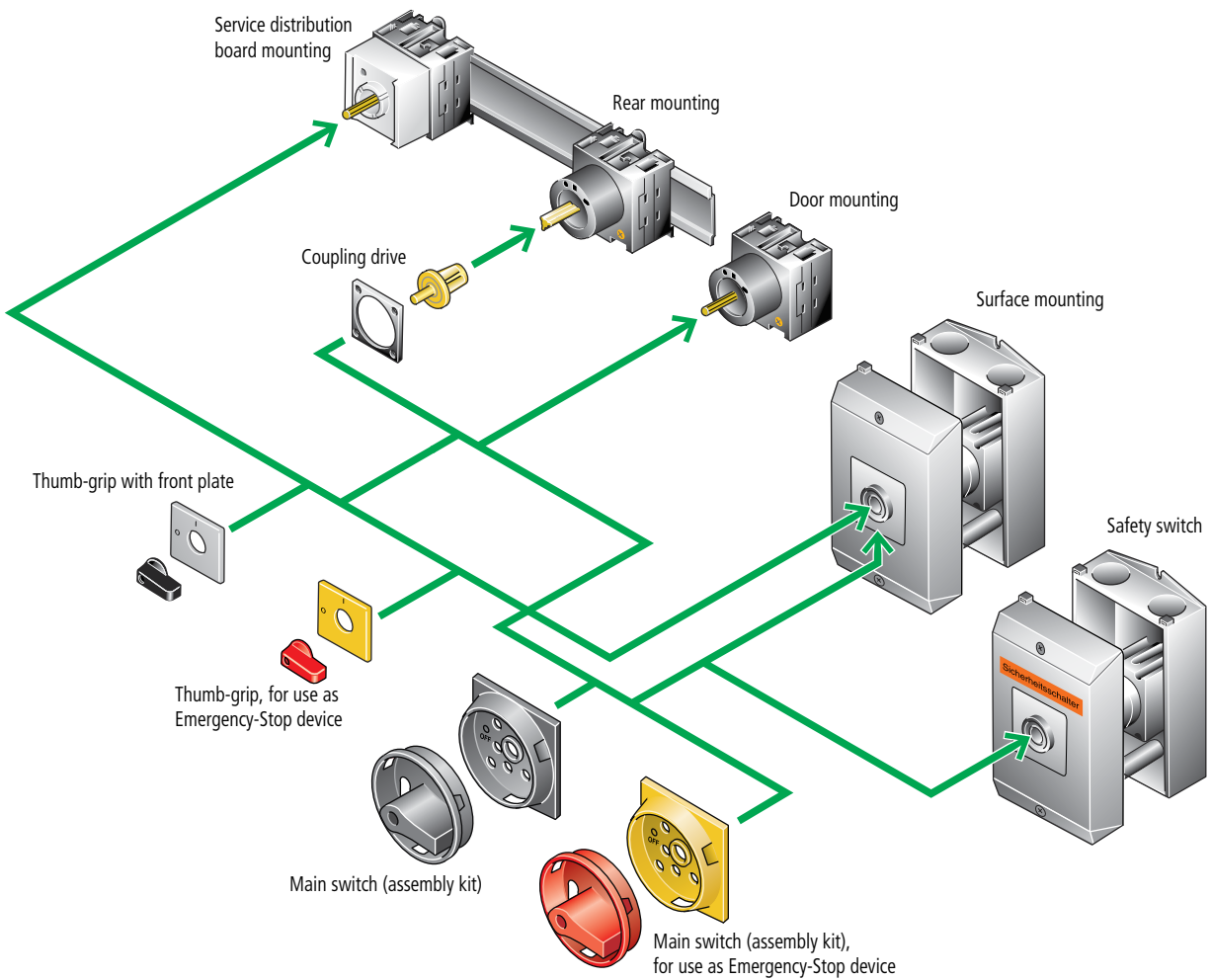
- UL rating: A600, P600: AC load life duty cycle 1200 operations/hour (– 10A: 110V pf 0.4 – 1×10^6 operations, – 5A: 250V pf 0.4 – 1×10^6 operations, – 2A: 660V pf 0.4 – 1×10^6 operations)
- Switching capacity: AC15 rated make/break (11 x I_e at 1.1 x U_e), (– 6A: 120V pf 0.3, – 4A: 240V pf 0.3, – 2A: 660V pf 0.3). DC13 rated make/break (1.1 x I_e at 1.1 x U_e), (– 1.0A: 125V L/R 0.95 at 300 mS, – .55A: 250V L/R 0.95 at 300 mS, – .1A: 660V L/R 0.95 at 300 mS, – 10A: 110V pure resistive)
- Maximum ratings for logic level & hostile atmosphere application:
Maximum amperes: 0.5A
Maximum volts: 120V AC/DC

Contact Block

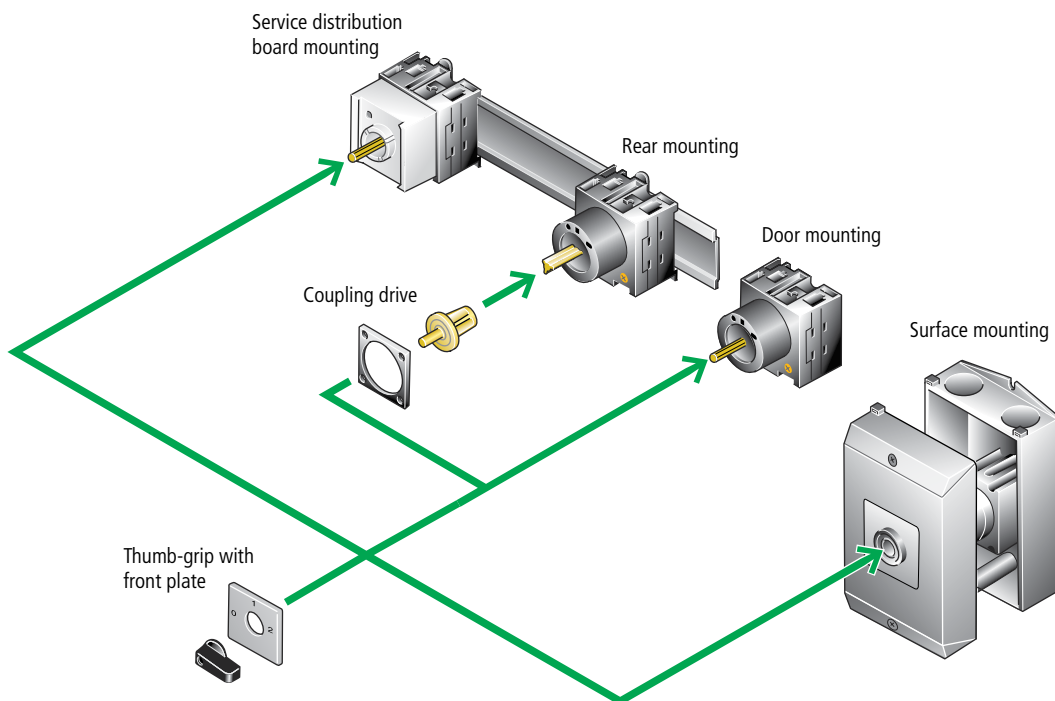
Meet or Exceed NEMA Rating Designations A600, A300 and B300 for AC and P600 for DC							
Description	Volts AC 50 or 60 Hz				Volts DC		
	120	240	480	60	24	125	250
Make and Emerg. Interrupting Capacity (Amp)	60	30	15	12	5.7	1.1	0.55
Normal Load Break (Amp)	6	3	1.5	1.2	5.7	1.1	0.55
Thermal Current (Amp)	10	10	10	10	5.0	5.0	5.0
Voltamperes (VA):							
Make and Emerg. Interrupting Capacity	7200	7200	7200	7200	138	138	138
Normal Load Break	720	720	720	720	138	138	138

Cam switches

Isolators: T0, T3, T5B, T5



Control switches: T0, T3, T5B, T5



Power Control

Control & Indication

Cam switches

The reliable and robust T&P isolators are quick and easy to install and, together with simple selection, offer savings in both time and cost. Current ratings are from 20 A to 100 A with power ratings from 4 kW to 37 kW. They are suitable for main, maintenance and Emergency-Stop switches, being available in their own enclosures or for mounting in control cabinets, either on the door or rear of the panel with cover interlock.

The T0 range of control switches is suitable for many different switching and control functions, such as ON/OFF, Hand/Auto and changeover. Manufactured in the UK, this highly flexible system satisfies a wide range of applications, and can be customised to suit specific needs.

Features and benefits:

Isolators

- All switches to IEC/EN 60204 & IEC/EN 60947.
- Padlockable in the OFF position (using up to three padlocks) for safe, secure maintenance.
- Available in insulated enclosures to meet all applications.
- With a high protection standard of IP65, they can be used in most environments including the food industry.





Control switches

- Sharing the same design criteria as the RMQ-Titan range, T0 switches can be combined with this system to offer even greater functionality.
- A broad range of mounting and fitting options speeds assembly and meets every operational requirement.



On-off switches, main switches


M00

	Number of poles	AC-3 415 V	Rated uninterrupted current, I _n	Item No.	Flush mounting, Front IP65,	Rear mounting, Front IP65,
					 Mounting form	 Mounting form
		kW	A			
Mounting forms I and I/SVB						
	1	1.3	20	T0-1-8200/...	E	Z
		3.6	32	T3-1-8200/...	E	Z
		7.3	63	T5B-1-8200/...	E	Z
		12.3	100	T5-1-8200/...	E	Z
	2	2.2	20	T0-1-102/...	E	Z
		5.5	32	T3-1-102/...	E	Z
		11	63	T5B-1-102/...	E	Z
		18.5	100	T5-1-102/...	E	Z
All other mounting forms						
	2	2.2	20	T0-1-15108/...	E	Z
		5.5	32	T3-1-15108/...	E	Z
		22	63	T5B-1-15108/...	E	Z
		18.5	100	T5-1-15108/...	E	Z
	3	4	20	T0-2-1/...	E	Z
		7.5	25	P1-25/...	E	Z
		13	32	P1-32/...	E	Z
		30	63	P3-63/...	E	Z
		37	100	P3-100/...	E	Z
	3 + N	4	20	T0-2-15042/...	E	Z
		11	32	T3-2-15042/...	E	Z
	4	4	20	T0-2-8324/...	E	Z
		11	32	T3-2-8324/...	E	Z

Cam switches

On-off switches, main switches

M00

Surface mounting, IP65,  Mounting form	Centre mounting, Front IP65,  Mounting form	For use as emergency-stop devices ①, Surface mounting, IP65, (totally insulated)  Mounting form	For use as emergency-stop devices ①, Flush mounting, Front IP65,  Mounting form	For use as emergency-stop devices ①, Rear mounting, Front IP65,  Mounting form
I1	EZ	I1/SVB	EA/SVB	V/SVB
I2	EZ	I2/SVB	EA/SVB	V/SVB
I4	–	I4/SVB	EA/SVB	V/SVB
I5	–	I5/SVB	EA/SVB	V/SVB
I1	EZ	I1/SVB	EA/SVB	V/SVB
I2	EZ	I2/SVB	EA/SVB	V/SVB
I4	–	I4/SVB	EA/SVB	V/SVB
I5	–	I5/SVB	EA/SVB	V/SVB
I1	EZ	–	–	–
I2	EZ	–	–	–
I4	–	–	–	–
I5	–	–	–	–
I1	EZ	I1/SVB	EA/SVB	V/SVB
I2	EZ	I2/SVB	EA/SVB	V/SVB
I2	EZ	I2/SVB	EA/SVB	V/SVB
I4	–	I4/SVB	EA/SVB	V/SVB
I5	–	I5/SVB	EA/SVB	V/SVB
I1	EZ	–	–	–
I2	EZ	–	–	–
I1	EZ	–	–	–
I2	EZ	–	–	–






① To IEC/EN 60204-1, VDE 0113, Part 1 with red rotary handle and yellow locking collar, lockable in the 0 position.

Power Control

Control & Indication




Cam switches

MOO

	Number of poles	AC-3, 415 V	Rated uninterrupted current, I _n	Item No.	Flush mounting, Front IP65,  Mounting form		
		kW	A				
Changeover switches with centre off position							
Mounting forms I and I/SVB							
	1	1.3	20	T0-1-8210/...	E		
		3.6	32	T3-1-8210/...	E		
		7.3	63	T5B-1-8210/...	E		
	2	2.2	20	T0-2-8211/...	E		
		5.5	32	T3-2-8211/...	E		
		11	63	T5B-2-8211/...	E		
All other mounting forms							
	3	4	20	T0-3-8212/...	E		
		12	32	T3-3-8212/...	E		
		22	63	T5B-3-8212/...	E		
		30	100	T5-3-8212/...	E		
		37	125	T6-3-8212/...	E		
		55	315	T8-3-8212/...	E		
	4	4	20	T0-4-8213/...	E		
		12	32	T3-4-8213/...	E		
		22	63	T5B-4-8213/...	E		
		30	100	T5-4-8213/...	E		
		Reversing switches with center off position					
			2	2.2	20	T0-2-8400/...	E
5.5	32			T3-2-8400/...	E		
11	63			T5B-2-8400/...	E		
3	4		20	T0-3-8401/...	E		
	11		32	T3-3-8401/...	E		
	22		63	T5B-3-8401/...	E		
	30		100	T5-3-8401/...	E		
Reversing switches for single phase motors 240 V							
	2	2.4	20	T0-3-8622/...	E		
		4.4	32	T3-3-8622/...	E		

Cam switches

M00






Rear mounting, Front IP65,  Mounting form	Surface mounting, IP65,  Mounting form	Centre mounting, Front IP65,  Mounting form
Z	I1	EZ
Z	I2	EZ
Z	I4	-
Z	I1	EZ
Z	I2	EZ
Z	I4	-
Z	I1	EZ
Z	I2	EZ
Z	I4	-
Z	I5	-
-	-	-
-	-	-
Z	I1	EZ
Z	I2	EZ
Z	I4	-
Z	I5	-
Z	I1	EZ
Z	I2	EZ
Z	I4	-
Z	I1	EZ
Z	I2	EZ
Z	I4	-
Z	I5	-
Z	I1	EZ
Z	I2	EZ

Power Control

Control & Indication




Cam switches

MOO

	Number of poles	AC-3, 415 V	Rated uninterrupted current, I _n	Item No.	Flush mounting, Front IP65,  Mounting form
		kW	A		
Star-delta switches					
Mounting forms I and I/SVB					
	3	5.5	20	T0-4-8410/...	E
		18.5	32	T3-4-8410/...	E
		37	63	T5B-4-8410/...	E
Reversing star-delta switches					
	3	5.5	20	T0-5-15876/...	E
		18.5	32	T3-5-15876/...	E
		30	63	T5B-5-15876/...	E
	3 with interlock provision	5.5	20	T0-6-15877/...	E
		18.5	32	T3-6-15877/...	E
		22	63	T5B-7-15897/...	E
Multi-speed switches					
Two-speed, non-reversing, all other mounting forms					
	3, for two separate windings	4	20	T0-3-8451/...	E
		12	32	T3-3-8451/...	E
		22	63	T5B-3-8451/...	E
	3, for one-tapped winding	4	20	T0-4-8440/...	E
		12	32	T3-4-8440/...	E
		22	63	T5B-4-8440/...	E
Reversing multi-speed switches					
Two-speed, reversing					
	3	4	20	T0-5-8453/...	E
		12	32	T3-5-8453/...	E
		22	63	T5B-6-71/...	E
	3	4	20	T0-6-15866/...	E
		12	32	T3-6-15866/...	E

Cam switches

M00




Rear mounting, Front IP65,  Mounting form	Surface mounting, IP65,  Mounting form	Centre mounting, Front IP65,  Mounting form
Z	I1	EZ
Z	I2	EZ
Z	I4	-
Z	-	EZ
Z	I2	EZ
Z	-	-
Z	-	EZ
Z	-	EZ
Z	-	-
Z	I1	EZ
Z	I2	EZ
Z	I4	-
Z	I1	EZ
Z	I2	EZ
Z	I4	-
Z	-	EZ
Z	-	EZ
Z	-	-
Z	-	EZ
Z	-	EZ

Power Control

Control & Indication




Cam switches

MOO

	Number of poles	Steps	AC-3, 415 V	Rated uninterrupted current, I _n	Item No.	Flush mounting, Front IP65,  Mounting form
			kW	A		
Starting switches						
For single phase motor with auxiliary winding						
Mounting forms I and I/SVB						
	2, non-reversing	-	4	20	T0-2-15121/...	E
			5.5	32	T3-2-15121/...	E
			22	63	T5B-2-15121/...	E
	2, reversing		4	20	T0-3-8426/...	E
			5.5	32	T3-3-8426/...	E
			22	63	T5B-3-8426/...	E
Step switches						
All other mounting forms						
	1	2	-	-	T0-1-8240/...	E
	1	3			T0-2-8241/...	E
	1	4			T0-2-8242/...	E
	1	5			T0-3-8243/...	E
	1	6			T0-3-8244/...	E
	1	7			T0-4-8245/...	E
	1	8			T0-4-8246/...	E
	1	9			T0-5-8247/...	E
	3	2			T0-3-8280/...	E
	3	3			T0-5-8281/...	E
	3	4			T0-6-8282/...	E
	3	5			T0-8-8283/...	E

Cam switches

M00




Rear mounting, Front IP65,  Mounting form	Surface mounting, IP65,  Mounting form	Centre mounting, Front IP65,  Mounting form
Z	11	EZ
Z	12	EZ
Z	14	-
Z	11	EZ
Z	12	EZ
Z	14	-
Z	11	EZ
Z	11	EZ
Z	11	EZ
Z	11	EZ
Z	11	EZ
Z	11	EZ
Z	11	EZ
Z	-	EZ
Z	11	EZ
Z	-	EZ
Z	-	EZ
Z	-	EZ

Power Control

Control & Indication



Cam switches

M00

	Number of poles	Item No.	Stock Code	Flush mounting, Front IP65,  Mounting form
Instrument selector switches				
Voltmeter				
Mounting forms I and II/SVB				
	3 x phase against phase with OFF position	T0-2-15920/...	Q	E
	3 x phase against phase without OFF position	T0-2-15922/...	Q	E
	3 x phase against neutral with OFF position	T0-2-15921/...	Q	E
	3 x phase against neutral without OFF position	T0-2-15923/...	Q	E
	3 x phase against phase plus 3 x phase against neutral with OFF position	T0-3-8007/..	Q	E
	3 x phase against phase plus 3 x phase against neutral without OFF position	T0-3-15924/...	Q	E
Ammeter				
All other mounting forms				
	3-pole, measurement via current transformers	T0-3-8048/...	Q	E
	3-pole, direct measurement 3 main circuits, 12 A	T0-5-15925/...	Q	E
	3-pole, direct measurement 3 main circuits, 25 A	T3-5-15925/...	Q	E
	3-pole, direct measurement 3 main circuits, 63 A	T5B-6-183/...	Q	E




Accessories

M00

	Description	For use with	Item No.
Key operation			
	Front protected to IP 53	T0, T3 and P1-.../E, .../I..., .../Z	S-T0
Padlockable handle			
	Red handle, yellow locking collar	T0, T3 and P1-.../E, .../I..., .../Z	SVB-T0
		T5(B) and P3-.../E, .../I..., .../Z	SVB-P3

Cam switches



M00

Rear mounting, Front IP65,  Mounting form	Surface mounting, IP65,  Mounting form	Centre mounting, Front IP65,  Mounting form
Z	I1	EZ
Z	I1	EZ
Z	I1	-
Z	I1	EZ
Z	I1	EZ
Z	I1	-
Z	I1	EZ
Z	-	EZ
Z	-	EZ
Z	-	-

Control & Indication

Accessories

M00

	Description	For use with	Item No.
Neutral poles			
	Early-make, late-break, side mounting. Can be fitted to left and/or right of 3-pole. P switch-disconnectors	P1-.../E, .../EA, .../EZ	N-P1E
		P1-.../Z, .../V, .../I2	N-P1Z
		P3-.../E, .../EA	N-P3E
		P3-.../Z, .../V, .../I...	N-P3Z
Auxiliary contacts			
	1 N/O, 1 N/C. Can be fitted to left and/or right of 3-pole. P switch-disconnectors	P1-.../E, .../EA, .../EZ P3-.../E, .../EA	HI11-P1/P3E
		P1-.../Z, .../V, .../I2 P3-.../I, .../Z, .../V, .../I...	HI11-P1/P3Z

Power Control

Control & Indication

Cam switches

Accessories

MOO

	Description	For use with	Item No.
Thumb-grips			
	Black-handle	T0, T3-.../E, .../EZ, .../IVS, .../Z, .../1	KNB-T0
Serviceman's key			
	Includes hollow drive shaft tube plus black KNB handle	P1, when door is open	KNK-T0
		P3, when door is open	KNK-P3
Coupling drive			
		T0 and T3	DE-T0
		T5B and P3	DE-P3
Drive shaft			
	37 mm overall length	P1-.../EA	AE-T0
	37 mm overall length	P3-.../EA	AE-P3
Interlocks with N and PE terminals			
		T0, T3 and P1-.../E, .../EZ	UV-T0
		T5(B) and P3-.../E	UV-P3
Interlock extensions			
	Push-fit, up to 4 units, 25 mm	UV-T0	ZVV-T0
		UV-P3	ZVV-P3
Shaft extensions			
	Plug-in, 25 mm	T0, T3 and P1-.../Z	ZAV-T0
		T5(B) and P3-.../Z	ZAV-P3
Sleeves			
	For flush mounting switches, up to four contact units	T0-..., T3-... and P1-.../E	H3-T0
Insulated enclosures			
		T0, up to 2 contact units	CI-K1-T0-2
		T0, up to 4 contact units	CI-K1-T0-4
		T3, P1 up to 2 contact units	CI-K2-T3-2
		T3, up to 5 contact units	CI-K2-T3-5
		T5B, P3 up to 2 contact units	CI-K4-T5B-2
		T5B, up to 4 contact units	CI-K4-T5B-4
		T5, P3 up to 2 contact units	CI-K5-T5-2
		T5, up to 4 contact units	CI-K5-T5-4

Take Control

22.5mm Modular Pushbuttons



Rugged & Reliable

Eaton/Moeller's M22 Titan 22.5mm industrial heavy-duty pushbutton line offers a wide array of functional, attractive & ergonomically designed illuminated & non-illuminated pushbuttons, selector switches, push-pulls, alternate action & twist-to-release operators.

The complete illuminated line is only offered in LED light units to ensure high-quality brightness & up to 100,000 hours of LED illumination. The space-saving modular construction of the 22.5mm line makes on-the-job assembly fast & simplifies the stocking of both components & complete devices.

Control, Monitor, Protect.

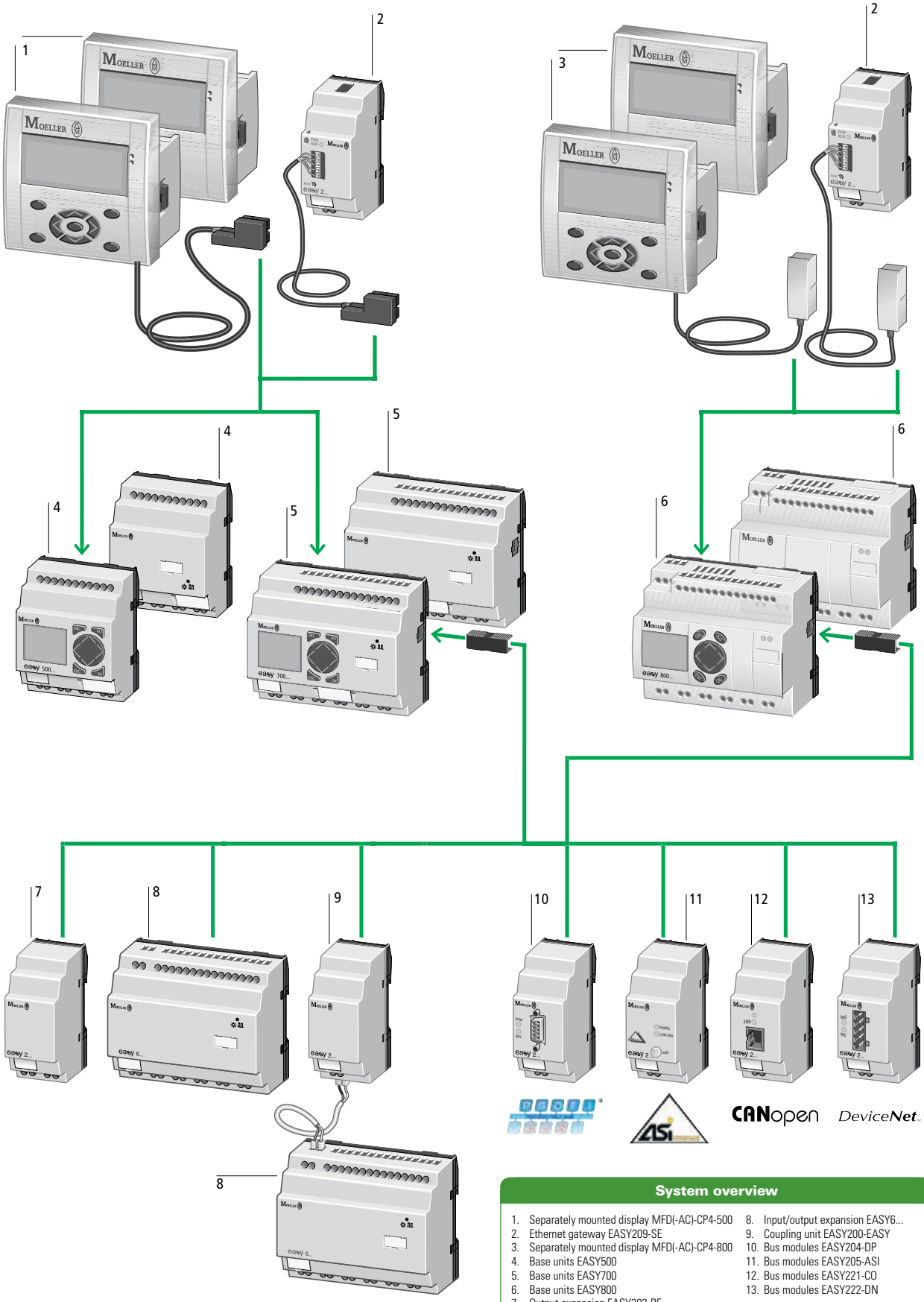


EATON
Powering Business Worldwide

- Today's marketplace is all about how you interface with customers, suppliers & your machinery. Meeting customers' needs means creating products that interface seamlessly. That's why Eaton's complete line of automation & control products includes everything from sophisticated logic controllers & operator interfaces to monitoring relays, timers, limit switches & terminal blocks, all the latest in technology.
- With the ever present need to be connected to your machinery & processes, communications are more important than ever. All our controllers, touchscreens & drives provide Ethernet connectivity to stay in control of your processes & machinery wherever you are. Our new & expanded range, now including Moeller's industrial automation products, provides a one-stop shop for all your automation & control requirements.

Easy Relay controllers

System overview, easy relays, MFD-Titan multi-function display (See legend overleaf).



System overview			
1. Separately mounted display MFD(-AC)-CP4-500	8. Input/output expansion EASY6...		
2. Ethernet gateway EASY209-SE	9. Coupling unit EASY200-EASY		
3. Separately mounted display MFD(-AC)-CP4-800	10. Bus modules EASY204-DP		
4. Base units EASY500	11. Bus modules EASY205-ASI		
5. Base units EASY700	12. Bus modules EASY221-CO		
6. Base units EASY800	13. Bus modules EASY222-DN		
7. Output expansion EASY202-RE			

Power Control

Automation & Control

Easy Relay controllers




System overview, easy relays, MFD-Titan multi-function display

Specifications (refer previous page)

- Separately mounted display: MFD(-AC)-CP4-500, 24 V DC, 100/240 V AC, serial interface, cage clamp terminals, programming port connection to easy500/easy700 as display repeater with MFD-80-... (ASCII characters), CP8-... as display extension with MFD, with integral extension cable (5m, can be cut to length)
- Ethernet gateway: EASY209-SE, 24 V DC, serial interface, protocols (ARP, Auto-IP, DHCP, HTTP, ICMP, SNMP, TCP, Telnet, TFTP, UDP)
- Separately mounted display: MFD(-AC)-CP4-800, 24 V DC, 100/240 V AC, serial interface, cage clamp terminals, terminal connection to easy800/MFD-..., 80... (ASCII characters). With integral extension cable (5m, can be cut to length)
- Base unit: easy500, stand alone, inputs/outputs & bus systems easy-NET on board, DA: 12 V DC, DC: 24 V DC, AB: 24 V AC, AC: 100/240 V AC, 50/60 Hz, 8 digital inputs, 2 usable as analogue inputs (all AB, DA or DC versions), 4 relay outputs (max. 10 A) or 4 transistor outputs, LCD display, X versions without LCD, bolt-on & top-hat rail mounting, screw terminals
- Base unit: easy700, expandable: Inputs/outputs & bus systems, DA: 12 V DC, DC: 24 V DC, AB: 24 V AC, 12 digital inputs, 4 usable as analogue inputs (all AB, DA & DC versions), 6 relay outputs (max. 10 A) or 8 transistor outputs, LCD display, X versions without LCD, bolt-on & top-hat rail mounting, screw terminals
- Base unit: easy800, expandable: Inputs/outputs & bus systems, DC: 24 V DC, AC: 100/240 V AC, 50/60 Hz, AC: 100/240 V AC, 50/60 Hz, 12 digital inputs, 4 usable as analogue inputs (all DC versions), 6 relay outputs (max. 10 A) or 8 transistor outputs, 1 analogue output (optional on DC versions), LCD display, X versions without LCD, bolt-on & top-hat rail mounting, screw terminals
- Output expansion: EASY202-RE, 2 relay outputs (max. 10 A), bolt-on & top-hat rail mounting, screw terminals
- Input/output expansion: EASY6..., 24 V DC, 100/240 V AC, 50/60 Hz, 12 digital inputs, 6 relay outputs (max. 10 A) or 8 transistor outputs, bolt-on & top-hat rail mounting, screw terminals
- Coupling unit: EASY200-EASY, for remote connection of an easy6... I/O expansion via 2-pole connection cable (max. 30 m) e.g. NYM 3 x 1.5 mm²
- Bus module: EASY204-DP, Profibus DP connection as slave
- Bus module: EASY205-ASI, AS-Interface connection as slave
- Bus modules: EASY221-CO, CANopen interface
- Bus modules: EASY222-DN, DeviceNet interface

Base units easy500, easy700, easy800



M02

	Inputs		Outputs			Additional features	Real time clock	Supply voltage	Item No.
	Digital	of which can be used as analogue	Relay 10 A (UL)	Transistor	Analog				
 <p>easy500</p>	8	2	4	–	–	✓	✓	24 V AC	EASY512-AB-RC
	8	2	4	–	–	–	✓	24 V AC	EASY512-AB-RCX
	8	–	4	–	–	✓	–	100/240 V AC	EASY512-AC-R
	8	–	4	–	–	✓	✓	100/240 V AC	EASY512-AC-RC
	8	–	4	–	–	–	✓	100/240 V AC	EASY512-AC-RCX
	8	2	4	–	–	✓	✓	12 V DC	EASY512-DA-RC
	8	2	4	–	–	–	✓	12 V DC	EASY512-DA-RCX
	8	2	4	–	–	✓	–	24 V DC	EASY512-DC-R
	8	2	4	–	–	✓	✓	24 V DC	EASY512-DC-RC
	8	2	4	–	–	–	✓	24 V DC	EASY512-DC-RCX
 <p>easy700</p> <p>Expandable: Inputs/outputs and bus systems</p>	12	4	6	–	–	✓	✓	24 V AC	EASY719-AB-RC
	12	4	6	–	–	–	✓	24 V AC	EASY719-AB-RCX
	12	–	6	–	–	✓	✓	100/240 V AC	EASY719-AC-RC
	12	–	6	–	–	–	✓	100/240 V AC	EASY719-AC-RCX
	12	4	6	–	–	✓	✓	12 V DC	EASY719-DA-RC
	12	4	6	–	–	–	✓	12 V DC	EASY719-DA-RCX
	12	4	6	–	–	✓	✓	24 V DC	EASY719-DC-RC
	12	4	6	–	–	–	✓	24 V DC	EASY719-DC-RCX
	12	4	–	8	–	✓	✓	24 V DC	EASY721-DC-TC
	12	4	–	8	–	–	✓	24 V DC	EASY721-DC-TCX
 <p>easy800</p> <p>Expandable: Inputs/outputs and bus systems</p>	12	–	6	–	–	✓	✓	100/240 V AC	EASY819-AC-RC
	12	–	6	–	–	–	✓	100/240 V AC	EASY819-AC-RCX
	12	4	6	–	–	✓	✓	24 V DC	EASY819-DC-RC
	12	4	6	–	–	–	✓	24 V DC	EASY819-DC-RCX
	12	4	6	–	1	✓	✓	24 V DC	EASY820-DC-RC
	12	4	6	–	1	–	✓	24 V DC	EASY820-DC-RCX
	12	4	–	8	–	✓	✓	24 V DC	EASY821-DC-TC
	12	4	–	8	–	–	✓	24 V DC	EASY821-DC-TCX
	12	4	–	8	1	✓	✓	24 V DC	EASY822-DC-TC
	12	4	–	8	1	–	✓	24 V DC	EASY822-DC-TCX

Easy Relay controllers



MFD-Titan display/keypad, CPU, I/O modules

M03

	Voltage	Description	Item No.
Display/operating unit			
Graphics display: 132 x 64 pixels with switchable backlight, freely definable status LED, IP65, removable titanium front frame			
	–	With keypad & Moeller logotype NEMA 4x in connection with MFD-XM-80 protective membrane, see accessories	MFD-80-B
	–	With keypad, without Moeller logotype, NEMA 4x in connection with MFD-XM-80 protective membrane, see accessories	MFD-80-B-X
	–	Without keypad, with Moeller logotype, NEMA 4x	MFD-80
	–	Without keypad, without Moeller logotype, NEMA 4x	MFD-80-X
Power supply unit/CPU module			
Expandable with MFD-80-.. & I/O module, easy expansions can be connected, Serial interface, IP20, cage clamp terminals			
	100/240 V AC	Without easy-NET	MFD-AC-CP8-ME
	100/240 V AC	With easy-NET	MFD-AC-CP8-NT
	24 V DC	Without easy-NET	MFD-CP8-ME
	24 V DC	With easy-NET	MFD-CP8-NT

MFD-Titan display/keypad, CPU, I/O modules

M03

	Inputs			Outputs			Range of temperature	Item No.
	Digital	of which can be used as analog	Pt 100/ Ni 1000	Relay 10 A (UL)	Transistor	Analog		
I/O modules								
IP20, cage clamp terminals 24 V DC for MFD-CP8..								
	12	4	–	4	–	–	–	MFD-R16
	12	4	–	–	4	–	–	MFD-T16
	12	4	–	4	–	1	–	MFD-RA17
	12	4	–	–	4	1	–	MFD-TA17
100/240 V AC for MFD-AC-CP8...	12	–	–	4	–	–	–	MFD-AC-R16
I/O modules with temperature measuring								
IP20, cage clamp terminals, 24 V DC for MFD-CP8... (from device version 08), temperature range can be set								
	6	2	2	–	4	–	-40...+90 °C 0...+250 °C 0...+400 °C	MFD-TP12-PT-A
	6	2	2	–	4	–	-200...+200 °C 0...+850 °C	MFD-TP12-PT-B
	6	2	2	–	4	–	-40...+90 °C 0...+250 °C	MFD-TP12-NI-A
	6	2	2	–	4	1	-40...+90 °C 0...+250 °C 0...+400 °C	MFD-TAP13-PT-A
	6	2	2	–	4	1	-200...+200 °C 0...+850 °C	MFD-TAP13-PT-B
	6	2	2	–	4	1	-40...+90 °C 0...+250 °C	MFD-TAP13-NI-A







Power Control

Automation & Control

Easy Relay controllers

Expansions, bus modules, Ethernet gateway

M02








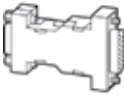


	Description	Outputs			Supply voltage	For use with	Item No.
		Inputs	Relay 10 A (UL)	Transistor			
I/O expansions							
	–	12	6	–	100/240 V AC	easy700 easy800 MFD-CP8..	EASY618-AC-RE
	–	12	6	–	24 V DC		EASY618-DC-RE
	–	12	–	8	24 V DC		EASY620-DC-TE
	Not usable in combination with base units EASY719-DA-...	–	2	–	–		EASY202-RE
Coupling unit							
	For the connection of remote I/O modules up to 30 m.	–	–	–	–	easy700 easy800 MFD-CP8..	EASY200-EASY
Expansion units for networking							
	AS-Interface connection slave 4 inputs, 4 outputs, 4parameter bits Addresses available: 0 to 31	–	–	–	–	easy700 easy800 MFD-CP8..	EASY205-ASI
	Profibus DP slave addresses available: 1 to 126	–	–	–	–		EASY204-DP
	CANopen interface addresses available: 1 to 127	–	–	–	–		EASY221-CO
	DeviceNet interface addresses available: 0 to 63	–	–	–	–		EASY222-DN
Ethernet gateway							
	Serial interface easy to ethernet	–	–	–	–	easy500 easy700 easy800 MFD-CP8..	EASY209-SE
Power supply unit/communication modules							
	24 V DC	–	–	–	–	easy500 easy700	MFD-CP4-500 ①
	24 V DC	–	–	–	–	easy800 MFD-CP8..	MFD-CP4-800 ①
	100/240 V AC	–	–	–	–	easy500 easy700	MFD-AC-CP4-500 ①
	100/240 V AC	–	–	–	–	easy800 MFD-CP8..	MFD-AC-CP4-800 ①

① Discount code M03.

Easy Relay controllers

Easy relays, MFD-Titan multi-function display, accessories

M02

	Description	For use with	Item No.
Programming software			
	Menu selection in 13 languages. Operating systems: Windows 2000 SP4, Windows XP SP1	easy400/500/600/700	EASY-SOFT-BASIC
	Menu selection in 13 languages. Operating systems: Windows 2000 SP4, Windows XP SP1	easy400/500/600/700/ 800/ MFD-...CP8	EASY-SOFT-PRO
Programming cable			
	SUB-D 9-pole, serial, 2 m	easy500 easy700	EASY-PC-CAB
	SUB-D 9-pole, serial, 2 m	easy800 MFD-...CP8	EASY800-PC-CAB
Memory cards			
	32 kB module	easy500 easy700	EASY-M-32K
	256 kB module	easy800 MFD-...CP8	EASY-M-256K
Coupling piece			
	Spare link between base unit & expansion units	easy700/800/ MFD-...CP8	EASY-LINK-DS
Network connection cable (remote coupling) Completely prepared for easy-NET			
	Length: 0.3 m	easy800 MFD-...CP8-NT	EASY-NT-30
	Length: 0.8 m		EASY-NT-80
	Length: 1.5 m		EASY-NT-150
Point-to-point connection cable			
	Serial interface for connecting MFD-...CP8 to easy800 or MFD-...CP8, can be configured as required with separate plug, 5m can be cut as required	easy800 MFD-...CP8	MFD-800-CAB5 ①
Adapter for the connection between easy800 & MI4			
	Connection of MI4 operator panel to easy800 or MFD-...CP8 in conjunction with programming cable EASY800-PC-CAB	easy800 MFD-...CP8 EASY800-PC-CAB	ZB4-03B-AD1 ①
Reserve power supply/communications module For MFD-80... separately mounted display (only ASCII characters) on easy500/700/800/MFD-...-CP8, without connection cable, serial interface.			
	24 V DC, IP20	MFD-80..	MFD-CP4 ①
	100/240 V AC, IP20	MFD-80..	MFD-AC-CP4 ①
Spare connection cables			
	For the connection of MFD-CP4-500 to easy500/easy700, 5m, can be cut to length	easy500 easy700	MFD-CP4-500-CAB5 ①
	For the connection of MFD-CP4-800 to easy800/MFD-...-CP8, 5m, can be cut to length	easy800 MFD-...CP8	MFD-CP4-800-CAB5 ①

① Discount code M03.









Power Control

Automation & Control

Easy Relay controllers

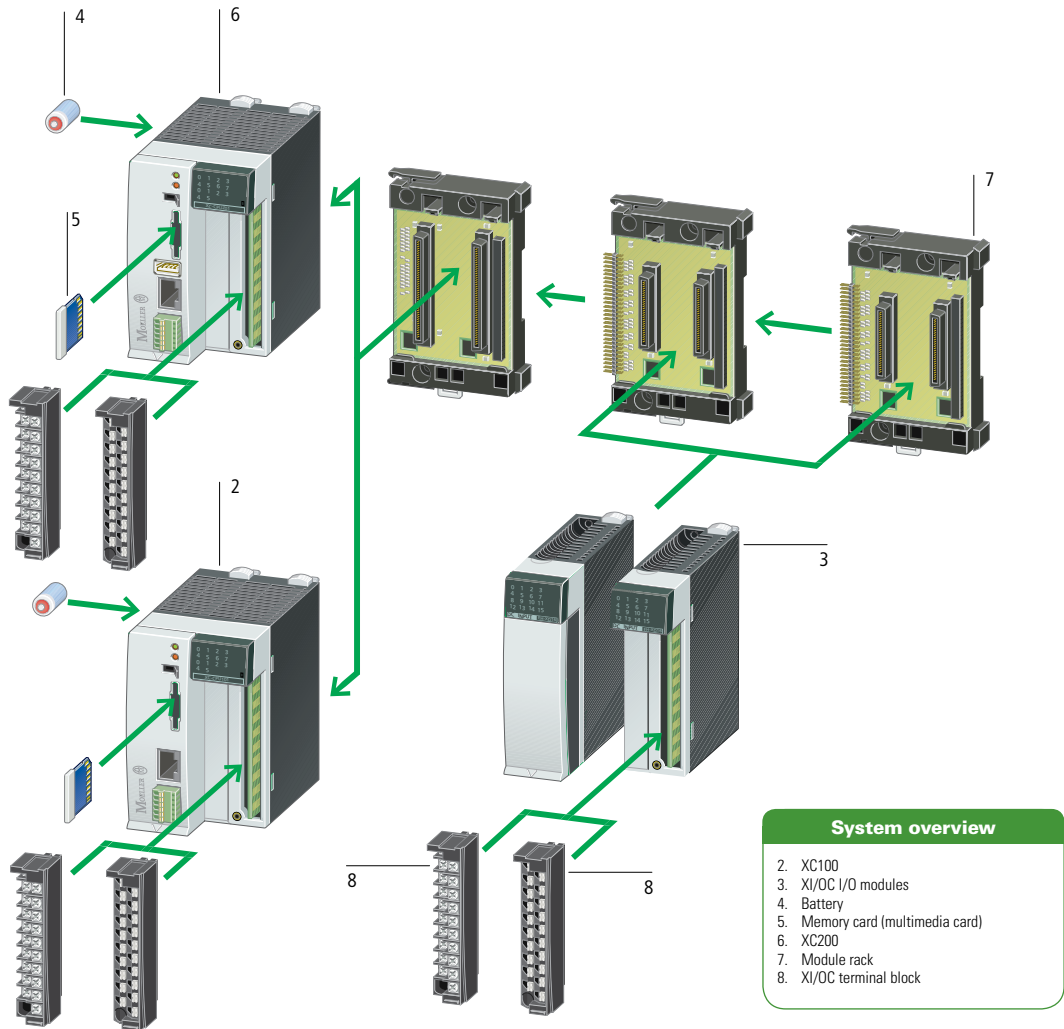
Easy relays, MFD-Titan multi-function display, accessories

M02

	Description	For use with	Item No.
Switched-mode power supply unit Primary-switched mode, stabilized			
	Rated input voltage: 50/60 Hz: 100/240 V AC Rated output voltage (residual ripple): 24 V DC (g 3 %) Rated output current: 1.25 A	easy500 easy700 easy800 MFD-CP8	EASY400-POW
	Rated input voltage: 50/60 Hz: 100/240 V Rated output voltage: 24 V/12 V DC Rated output current: 0.35 A/20 mA	easy500 easy700 easy800 MFD-CP8	EASY200-POW
Upstream device To increase the AC input current			
	6 channels, cable length up to 100m	AC versions of easy/MFD	EASY256-HCI
Mounting accessories			
Top-hat rail adapter for hinged inspection window			
	12 mm x 66 mm x 82 mm Installation on hinged inspection window, for front fitting of devices. Complete set, consisting of 2 brackets & 4 screws	easy200 easy500 easy700 easy800 MFD-CP8	SKF-HA
Hinged inspection window			
	94 mm x 77 mm x 25 mm (4 space units)	easy500	SKF-FF4
	130 mm x 77 mm x 25 mm (6 space units)	easy700 easy800	SKF-FF6
Mounting rail to IEC/EN 60715			
	Mounting rail with cutout specifically for MFD-AC-CP8.../MFD CP8... for fixing easy expansion units (2 space units) Length: 142.5 mm	easy200	MFD-TS-144 ①
Protective cover			
	Transparent, protection against accidental actuation. Can be sealed. Application without front frame	MFD-80..	MFD-XS-80 ①
Protective membrane			
	Transparent version for harsh environmental conditions & application in the food industry. Increased protection rating to NEMA 4x for MFD-80-B	MFD-80..	MFD-XM-80 ①
Front frame			
	Gold frame for MFD-80..	-	MFD-FR-80-AU ①



① Discount code M03.

XC100/200 Programmable logic controllers



XC-CPU...

M03

	Description	Std. Pack	Item No.
XC100/XC200 • Controller with digital inputs/outputs, locally & remotely expandable • CANopen interface, 24V power supply • Locally expandable by up to 15 XI/OC modules • The following accessory equipment is required: terminal clamps, module rack, battery			
XC100 Controller with 8 digital inputs (4 interrupt inputs), 6 digital outputs, RS232 interface for programming & communication, CANopen interface; slot for memory card, optional expansion with text display, RUN/STOP switch & LED indicators.			
	64 kByte user memory	1 off	XC-CPU101-C64K-8DI-6DO
	128 kByte user memory		XC-CPU101-C128K-8DI-6DO
	256 kByte user memory		XC-CPU101-C256K-8DI-6DO
XC200 Controller with 8 digital inputs (2 counters, 2 interrupt inputs, 1 incremental input) & 6 digital outputs, Ethernet & RS232 interface for programming & communication, CANopen interface, slot for memory card, USB interface, RUN/STOP switch & LED indicators.			
	256 kByte user memory	1 off	XC-CPU201-EC256K-8DI-6DO
	512 kByte user memory		XC-CPU201-EC512K-8DI-6DO
	256 kByte user memory Integrated Web server		XC-CPU201-EC256K-8DI-6DO-XV
	512 kByte user memory built-in Web server		XC-CPU201-EC512K-8DI-6DO-XV


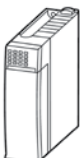
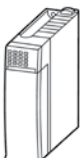
Power Control

Automation & Control

XC100/200 Programmable logic controllers

XIOC-...

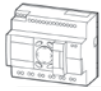
M03

Description		Std. Pack	Item No.	
XI/OC • Compact I/O system for connection to XC100/200 Modular PLCs • XC100/200 expandable with up to 15 XI/OC modules • Optionally, screw terminals or spring-loaded terminals for digital/analogue modules				
Digital modules				
	-	8 inputs, 24 V DC	1 off	XIOC-8DI
	-	16 inputs, 24 V DC		XIOC-16DI
	-	16 inputs, 240 V AC		XIOC-16DI-AC
	-	32 inputs, 24 V DC		XIOC-32DI
	-	8 outputs, 24 V DC, 0.3 A		XIOC-8DO
	-	12 relay outputs		XIOC-12DO-R
	-	16 outputs, 24 V DC, 0.3 A XIOC-16DO		XIOC-16DO
	-	16 outputs, 24 V DC, 0.8 A, short-circuit proof		XIOC-16DO-S
	-	32 outputs, 24 V DC, 0.2 A		XIOC-32DO
	-	16 connections, 4 inputs, 12 freely parameterisable as inputs/outputs, 24 V DC Outputs 0.5 A		XIOC-16DX
	Analogue modules			
	Inputs	8 inputs, 4 – 20 mA	1 off	XIOC-8AI-I2
		8 voltage inputs, 0 – 10 V		XIOC-8AI-U1
		8 voltage inputs, g10 V		XIOC-8AI-U2
		4 inputs for temperature monitoring, Pt100/1000		XIOC-4T-PT
	Outputs	4 inputs for thermocouples, Type K, J, L, B, N, E, R, S, T		XIOC-4AI-T
		2 outputs, g10 V		XIOC-2AO-U2
		2 outputs, 0 – 10 V, 2 outputs, 4 – 20 mA		XIOC-2AO-U1-2AO-I2
		4 outputs, 0 – 10 V		XIOC-4AO-U1
	Combination modules	2 inputs & 1 output, 0 – 10 V 1 ms conversion time		XIOC-2AI-1AO-U1
		2 inputs & 1 output, 0 – 10 V, 0 – 20 mA 1 ms conversion time, individual changeover		XIOC-2AI-1AO-U1-I1
		4 inputs & 2 outputs, 0 – 10 V 1 ms conversion time		XIOC-4AI-2AO-U1
		4 inputs & 2 outputs 0 – 10 V, 0 – 20 mA 1 ms conversion time, individual changeover		XIOC-4AI-2AO-U1-I1
	Counter modules			
	-	1 input up to 100 kHz, 24 V DC, 5 V DC, 2 digital transistor outputs, opto-isolated, 24 V DC 30-pole connector required for counter module	1 off	XIOC-1CNT-100KHZ
	-	2 inputs up to 100 kHz, (24 V DC or 5 V diff), 4 digital transistor outputs, opto-coupled, 24 V DC 30-pole connector required for counter module		XIOC-2CNT-100KHZ
	-	2 incremental encoders up to 400 kHz, 5 V DC, 2 analog, outputs, +10 V		XIOC-2CNT-2AO-INC

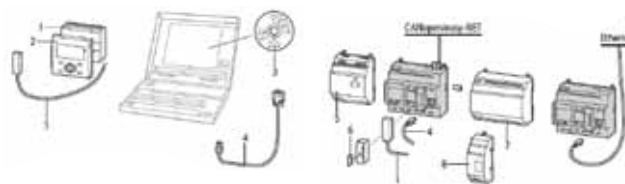
Easy Control relays & accessories

EC4P...

M02





Inputs		Outputs			Additional features, Display & keypad	Supply voltage	Std. Pack	Item No.
Digital	of which can be used as analog	Relay 10 A (UL)	Transistor	Analog				
easy Control								
								
easy-NET/CANopen on board								
12	4	-	8	-	✓	24 V DC	1 off	EC4P-221-MTXD1
12	4	-	8	-				EC4P-221-MTXX1
12	4	6	-	-	✓			EC4P-221-MRXXD1
12	4	6	-	-				EC4P-221-MRXX1
12	4	-	8	1	✓			EC4P-221-MTAD1
12	4	-	8	1				EC4P-221-MTAX1
12	4	6	-	1	✓			EC4P-221-MRAD1
12	4	6	-	1				EC4P-221-MRAX1
easy-NET/CANopen & Ethernet on board								
12	4	-	8	-	✓	24 V DC	1 off	EC4P-222-MTXD1
12	4	-	8	-				EC4P-222-MTXX1
12	4	6	-	-	✓			EC4P-222-MRXXD1
12	4	6	-	-				EC4P-222-MRXX1
12	4	-	8	1	✓			EC4P-222-MTAD1
12	4	-	8	1				EC4P-222-MTAX1
12	4	6	-	1	✓			EC4P-222-MRAD1
12	4	6	-	1				EC4P-222-MRAX1

- Accessories See page
- 1 Power supply unit/communication module 327
 - 2 Display/keypad 327
 - 3 Programming software 329
 - 4 PC programming cable 329
 - 5 Switched-mode power supply unit 330
 - 6 Memory card 329
 - 7 I/O expansion 328
 - 8 output expansion, bus module, coupling module 328



Accessories XIIOC...

M03

Description		Std. Pack	Item No.
Communication modules			
	-	Profibus DP master module	1 off
	-	Profibus DP slave module	
	-	Suconet K master module	
	-	Serial interface RS 232C, RS 485, RS 422. Operating modes: Transparent mode, Modbus master, slave, SUCOM A, Suconet-K slave	
Accessories			
Terminals			
One 18-pole terminal plug is required for each digital & analogue module.			
	-	18-pole plug with spring-loaded terminal	10 off
	-	18-pole plug with screw terminal	
	-	30-pole connector for counter module, with 4 m cable XIIOC-1CNT-100KHZ, XIIOC-2CNT-100KHZ	
	-	40-pole connector for digital module, with 4 m cable XIIOC-32DI, XIIOC-32DO	
Racks			
	Basic rack for mounting XC100/200 on top-hat rail, expandable	Width: 2 slots for controller	1 off
	Basic rack for mounting XC100/200 on top-hat rail, expandable	Width: 3 slots for controller & one XI/OC module	
	Expander rack for mounting XI/OC modules on top-hat rail, expandable	Width: 2 slots for XI/OC modules	
	Expander rack for mounting XI/OC modules on top-hat rail, expandable	Width: 3 slots for XI/OC modules	
	Expander rack for mounting XI/OC modules on top-hat rail, expandable	Width: 3 slots for XI/OC modules	
	Expander rack for mounting XI/OC modules on top-hat rail, expandable	Note: module carriers for expansion to maximum 15 modules must be plugged into the 5th slot (see also: XI/OC project engineering)	





Power Control

Automation & Control

Easy Control relays & accessories

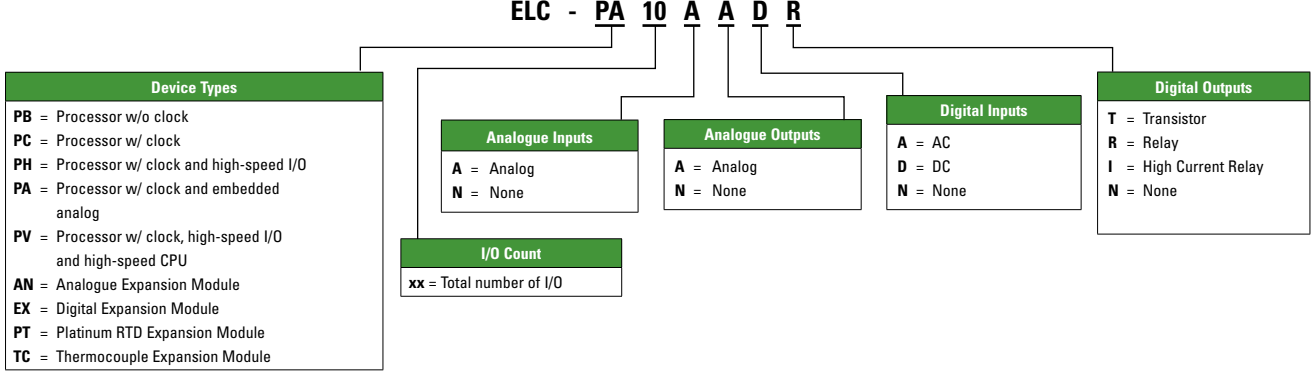
Accessories XIOC-..., XTT...

M03

Description		Item No.
Multi-media card For storage of programs, data, recipes		
-	32 MByte	XT-MEM-MM32M
Battery		
	For back-up of real-time clock & retentive data	XT-CPU-BAT1
Programming cable RS232		
	2 m length	XT-SUB-D/RJ45
	2 m length	Ethernet cross, 2 m
	5 m length	Ethernet cross, 5 m
Connection cable		
	Connecting cable for interface switch XC200	Length: 0.3 m
	Connecting cable for interface switch XC200	Length: 0.8 m
	Connecting cable for interface switch XC200	Length: 1.5 m
CAN cable to ISO 11898		
-	Recommendation: UNITRONIC bus LD, Messrs. LAPPKABEL, 2 x 2 x 0.22 mm ² Surge impedance: 100 – 120 Ω Effective capacitance: 800 Hz, max. 60 nF/km	-
Empty module		
-	Empty module to cover free XI/OC slots	XIOC-NOP
Interface switch		
-	Interface adapter to split the combined RS232/Ethernet interface of the XC200 into RJ45 sockets. Connection cable EASY-NT-30/80/150 usable for connection to XC200.	XT-RJ45-ETH-RS232
Filter		
-	Interference suppression of the external 24 V DC, supply of the XC100/200, Max. current drawn: 2.2 A	XT-FIL-1
Insert labels		
-	Insert labels for free user inscription For 3 devices: XV-101-K42 For 3 devices: XV-101-K84	XT-BS1
Programming software		
	CoDeSys-Programming system, according to IEC 61131-1 with. Instruction list, ST, KOP, FBS, AS, CFC. Bus configuration CANopen, Profibus DP, XI/OC, creation of visualisation for simulation & WEB-visualisation OPC configurator, many online- & help functions. Supports XC100, XC200, EC4-200 Documentation as PDF file	Menu selection in 3 languages Operating systems: WIN NT 4.0 SP6, WIN 2000 SP3, WIN XP SP2

* Discount code M02.

ELC Programmable logic controllers



ELC Eaton Logic Controller

- Sophisticated PLC logic with an extensive set of I/O & communication capabilities, in packages as small as 25mm W x 610mm D x 89mm H

ELC Controllers (PB, PC, PH, PA, PV)

B57

Description	Inputs			Outputs			Max. Current Consumption (at 24V dc)	Item No.
	AC	DC	Analog	Relay	Transistor	Analog		
14 I/O PB Series	—	8	—	6	—	—	150 mA	ELC-PB14NNDR
14 I/O PB Series	—	8	—	—	6	—	150 mA	ELC-PB14NNDT
12 I/O PC Series	8	—	—	4	—	—	150 mA	ELC-PC12NNAR
12 I/O PC Series	—	8	—	4	—	—	150 mA	ELC-PC12NNDR
12 I/O PC Series	—	8	—	—	4	—	150 mA	ELC-PC12NNDT
12 I/O PH Series	—	8	—	—	4	—	170 mA	ELC-PH12NNDT
10 I/O PA Series	—	4	2	2	—	2	210 mA	ELC-PA10AADR
10 I/O PA Series	—	4	2	—	2	2	210 mA	ELC-PA10AADT
28 I/O PV Series	—	16	—	12	—	—	220 mA	ELC-PV28NNDR
28 I/O PV Series	—	16	—	—	12	—	220 mA	ELC-PV28NNDT

Power Control

Automation & Control

ELC Programmable logic controllers

Right Side Digital Expansion Modules

B57

Description	Inputs		Outputs		Max. Current Consumption (at 24V dc)	Item No.
	AC	DC	Relay	Transistor		
6 Relay OUT (6 Amp)	—	—	6	—	70 mA	ELC-EX06NNNI
AC IN	8	—	—	—	50 mA	ELC-EX08NNAN
DC IN	—	8	—	—	50 mA	ELC-EX08NNDN
Relay OUT	—	—	8	—	70 mA	ELC-EX08NNNR
Transistor OUT	—	—	—	8	70 mA	ELC-EX08NNNT
IN / OUT Combo	—	4	4	—	70 mA	ELC-EX08NNDR
IN / OUT Combo	—	4	—	4	70 mA	ELC-EX08NNDT
16 I/O Expansion — IN / OUT Combo	—	8	8	—	90 mA	ELC-EX16NNDR
16 I/O Expansion — IN / OUT Combo	—	8	—	8	90 mA	ELC-EX16NNDT
8 I/O Expansion — Switch Input	—	8	—	—	20 mA	ELC-EX08NNNS

Right Side Analogue & Specialty Modules

B57

Description	Analogue In	Analogue Out	Mac. Current Consumption (at 24V dc)	Item No.
Analogue In	4	—	90 mA	ELC-AN04ANNN
Analogue Out	—	2	125 mA	ELC-AN02NANN
Analogue Out	—	4	170 mA	ELC-AN04NANN
Analogue In/Out	4	2	90 mA	ELC-AN06AANN
Thermocouple J, K, R, S, T	4	—	90 mA	ELC-TC04ANNN
Platinum RTD, PT100	4	—	90 mA	ELC-PT04ANNN

Other Right Side Specialty Expansion Modules

B57

Description	Item No.
Profibus-DP (Slave)	ELC-COPBDP
DeviceNet (Slave)	ELC-CODNET
RS-485 Easy Connect Adapter, DB9, RJ-12, 2-Pin Connections to RS-485	ELC-485APTR
Motion Control, 1 Axis Module (up to 8 modules per controller)	ELC-MC01

Left Side Specialty Expansion Modules (Require a PV Series Controller)

B57

Description	Item No.
Ethernet Modbus TCP (Master / Slave)	ELC-COENETM
DeviceNet Scanner (Master / Slave)	ELC-CODNETM

ELC Accessories & Software

B57

Description	Item No.
ELC Programming Software	ELCSOFT
24 Watt, 1 Amp Power Supply	ELC-PS01
48 Watt, 2 Amp Power Supply	ELC-PS02
Hand-held Programmer (includes ELC-CBHHEL15)	ELC-HHP
Cable to Connect a PC or a GP Unit to ELC, 3 Meters (DB9 pin female to 8-pin DIN)	ELC-CBPCELC3
Cable to Connect a PC to a GP Unit, 3 Meters (DB9 pin female to DB9 pin female)	ELC-CBPCGP3
Program Transfer Module for GP Units	ELC-GPXFERMOD
Program Transfer Module for ELC Controllers	ELC-ACPGMXFR
Plate Mount for Specialty Modules, Qty. 10	ELC-ACCOVER
ELC Starter Kit (includes ELC-PA10AADT, ELC-PS01, ELC-GP04, ELC-CBPCELC3, ELC-CBPCGP3, ELCSOFT, ELCSOFT GP)	ELCSTARTKIT1

Panelmate Operator Interfaces

Eaton PanelMate Power Pro & EPro

Operator interfaces offer up to 100-page, 5000 message capacity. All models use Windows-based configuration software with built-in communication interfaces for all popular PLCs & networks, including Cutler-Hammer, Allen-Bradley, Square D, GE Fanuc, Mitsubishi, Modicon, OMRON, PLC-Direct, Schneider, Siemens, Rockwell, Toshiba, as well as DH, DH+, Remote I/O, GENIUS I/O, DeviceNet, Modbus Plus, & Profibus. Multiple communication interfaces may be run simultaneously on models PM1755T & above.



B57

Description	Item No.
Flat Panel Power Pro Series Touchscreens	
Panelmate 1100, 7.4" Greyscale LCD, Touchscreen, DC	PM1155T
Panelmate 1100, 7.7" Colour DSTN, Touchscreen, DC	PM1175T
Panelmate 1700, 7.4" Greyscale LCD, Touchscreen, DC	PM1755T
Panelmate 1700, 8.0" Colour DSTN, Touchscreen, DC	PM1775T
Panelmate 1700, 8.4" Colour TFT, Touchscreen, DC	PM1785T
Panelmate 3000, 10.4" Colour TFT, Touchscreen, DC	PM3985T
Panelmate 5000, 13" Colour TFT, Touchscreen, DC	PM5785T
Flat Panel ePro Series Touchscreens	
ePro ES, 5.7" Colour STN Display, Touchscreen, OPC, DC	7475T-6
ePro PS Classic, 8.4" Colour TFT Display, Touchscreen (Acrylic), OPC, DC	7685T-8C
ePro PS Classic, 10" Colour TFT Display, Touchscreen (Acrylic), OPC, DC	7685T-10C
ePro PS, 12.1" Colour TFT Display, Touchscreen (Glass), OPC, Painted Steel, DC	7685T-12
ePro PS, 15.0" Colour TFT Display, Touchscreen (Glass), OPC, Painted Steel, DC	7685T-15
ePro PS Classic, Blind Node (no display), OPC, DC	7600C
Flat Panel ePro Series Touchpanel	
ePro PS 8.4" Colour TFT Display, Touchpanel OPC, DC c/w membrane keypad	7585K-8
ePro PS 10.4" Colour TFT Display, Touchpanel OPC, DC c/w membrane keypad	7585K-10
ePro 12" Colour TFT Display with ELO touchscreen	7585DT-12
ePro 15" Colour TFT Display with ELO touchscreen	7585DT-15
ePro 17" Colour TFT Display with ELO touchscreen	7585DT-17
Software, Accessories	
PanelMate Power Pro software	PMPROSW
ePro configuration software suite for use with ES & PS ePro, including OPC servers/drivers	CANVASPRO
240Vac to 24VDC Power Supply, 160W	PSS160E

Note: For other PanelMate units, special communication, accessories, etc., contact your nearest Eaton branch.

PanelMate® Selection Guide

B57

Family	Series	Display	Touchscreen*	Keypad (TouchPanel)*	Stainless steel front panel options	Outdoor series	Classic - supports PanelMate Power Pro & ePro Canvas applications	Enterprise Edition (extended capabilities)	Ethernet	Power Pro software	ePro Canvas software
ePro PS	7685T-8	8.4" Colour TFT	✓	-	-	✓	✓	-	✓	✓	✓
ePro PS	7685T-10	10.4" Colour TFT	✓	-	✓	-	✓	-	✓	✓	✓
ePro PS	7685T-12 7685T-15	12.1" Colour TFT 15.0" Colour TFT	✓	-	✓	✓	-	✓	✓	-	✓
ePro PS	7600	Display with TS or other input device purchased separately	-	-	-	-	✓	✓	✓	✓	✓
ePro ES	7475T-6	5.7" Colour STN	✓	-	-	-	-	-	✓	-	✓
Power Pro	1155 1175	7.4" Greyscale LCD 7.7" Colour DSTN	✓	✓	-	-	-	-	-	✓	-
Power Pro	1755 1775 1785	7.4" Greyscale LCD 7.7" Colour DSTN 8.4" Colour TFT	✓	✓	-	-	-	-	-	✓	-
Power Pro	3985	10.4" Colour TFT	✓	✓	✓	-	-	-	-	✓	-
Power Pro	5485	13.0" Colour TFT	-	✓	✓	-	-	-	-	✓	-
Power Pro	5785	13.0" Colour TFT	✓	✓	✓	-	-	-	-	✓	-
ePro	7585K-8	8.4" Colour TFT	-	✓	-	-	-	-	✓	✓	-
ePro	7585K-10	10.4" Colour TFT	-	✓	✓	-	-	-	✓	✓	-

Power Control

Automation & Control

ELC Graphic Touch Panels

Eaton ELC Graphic Touch Panels

- High-end features in a low-cost operator interface
- Communication through 2 ports simultaneously: RS232 & RS485/422
- Connection to all major PLCs with drivers
- Process indication by graphs, alarms, etc
- 10 levels of password protection



B57

Description	Item No.
Graphic Touch Panels	
Touch Panel, 160 x 32 pixels, 10 function keys, monochrome	ELC-GP02
Touch Panel, 128 x 64 pixels, 10 function keys, monochrome	ELC-GP04
Programming Software	
Programming Software for ELC graphic touch panels	ELCSOFTGP
Power Supplies	
Power Supply, 110-240V AC IN, 24V DC OUT, 24 watts, 1 A	ELC-PS01
Power Supply, 110-240V AC IN, 24V DC OUT, 48 watts, 2 A	ELC-PS02
Programming Cable	
Cable PC to ELC (DB9 female to DB9 female)	ELC-CBPCCGP3
Cable PC or touch panel to PLC, 3 m (DB9 female to 8-pin DIN)	ELC-CBPCELC3
Program Transfer Module	
Program Transfer Module for ELC graphic touch panels	ELC-GPXFERMOD

HMI Operator Interfaces

Eaton HMI Operator Interfaces

- High-end features in a low-cost operator interface
- Communication through 2 ports simultaneously: RS232 & RS485/422
- Connection to all major PLCs with drivers
- Process indication by graphs, alarms, etc
- 10 levels of password protection



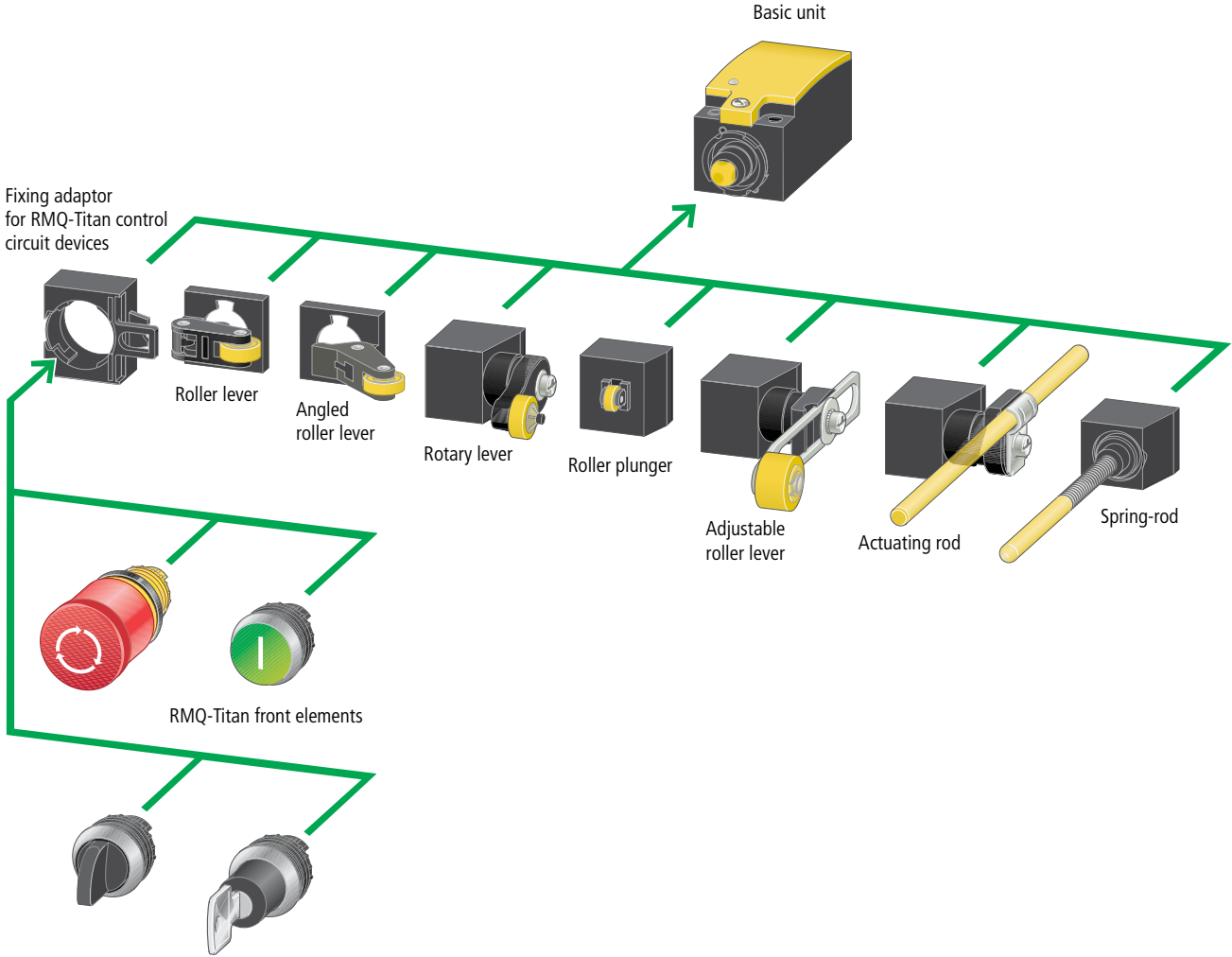
B57

Description	Item No.
HMI 4" Blue Mode Touchscreen	HMI04BU
HMI 4" Grey Scale Touchscreen	HMI04GU
HMI 6" Blue Mode with Expansion Slot	HMI06BE
HMI 6" Grey Scale Mode with Expansion Slot	HMI06GE
HMI 6" Colour Mode with Expansion Slot	HMI06CE
HMI 8" Colour Mode with Expansion Slot	HMI08CE
HMI 10" Colour Mode with Expansion Slot	HMI10CE
HMI Programming Software	HMISOFT

Note: Please use a standard USB cable as a programming cable between HMI & PC.

LS - Titan Position Switches

System Overview



New LS safety limit switches now available – please enquire.

- Positions reliably registered
- Screw terminals
- Metal or insulated
- Positively opening contacts
- Simple mounting of the various operating heads

Power Control

Automation & Control

LS-Titan Position Switches

Basic units

LS-Titan position switches are quick & easy to install, highly flexible & safe. Rated to IP66, the LS-Titan range is available in two versions: For normal operating conditions in corrosive environments, or in the food industry, the LS versions have a totally insulated housing, whereas the LSM versions in their robust metal enclosures are suited to mechanically harsher environments.

All devices are actuated mechanically & with their positively opening & interlocked opposing contacts, are suitable for use in safety circuits. A unique feature is the ability to combine LS-Titan with pushbutton actuators, selector switches or Emergency-Stop buttons from the RMQ-Titan range. These can simply be snapped on to act as the operating head of the position switch.




The LSE (limit switch electronic) has a freely programmable operating point that can be easily set. Just move the plunger from the original position to the new switching position & press the 'teach-in' button with a screwdriver for 1 second. Once the LED flashes at a higher rate, the new position is accepted & is usable. The switching point is freely adjustable within a range of 0.5 to 5.5 mm.

Features & benefits:

- Conform to EN 50047, so ensuring interchangeability
- Modular range of basic units & operating heads are quickly & easily installed with a bayonet catch, offering flexibility of application
- Maintenance free & vibration resistant cage clamp terminals



M00








	Description	Contacts	Item No.
Insulated, enclosed units, IP66, rounded plunger			
Basic units			
	Standard action contacts	1 N/O, 1 N/C	LS-11
	Make-before-break contacts	1 N/O, 1 N/C	LS-11D
	Snap-action contacts	1 N/O, 1 N/C	LS-11S
	Standard action contacts	2 N/O	LS-20
	Standard action contacts	2 N/C	LS-02
Basic units with electronically adjustable operating point			
	Indicator light ①	1 N/O, 1 N/C	LSE-11
		2 N/C	LSE-02
Metal, enclosed units, IP66, rounded plunger			
Basic units			
	Standard action contacts	1 N/O, 1 N/C	LSM-11
	Make-before-break contacts	1 N/O, 1 N/C	LSM-11D
	Snap-action contacts	1 N/O, 1 N/C	LSM-11S
	Standard action contacts	2 N/O	LSM-20
	Standard action contacts	2 N/C	LSM-02
Accessories			
Fixing adapter			
	For operation by RMQ-Titan actuators	-	M22-LS

① To show status (optical status display safety category 3, EN 954-1) adjustment see page 342.

LS-Titan Position Switches

Operating heads

M00

		Description	Insulated version Item No.	Metal version Item No.
Operating heads				
The operating heads can be rotated in 90° stages to match the specified direction of operation.				
Roller plunger				
		–	LS-XP	LSM-XP
Roller lever				
		–	LS-XL	LSM-XL
Angled roller lever				
		–	LS-XLA	LSM-XLA
Rotary lever				
		–	LS-XRL	LSM-XRL
Adjustable roller lever				
		D = 18 mm	LS-XRLA	LSM-XRLA
		D = 30 mm	LS-XRLA30	–
		D = 40 mm	LS-XRLA40	–
		D = 40 mm (rubber)	LS-XRLA40R	–
Actuating rod				
		Plastic rod	LS-XRR	LSM-XRR
		Metal rod	LS-XRRM	LSM-XRRM
Spring-rod				
Not to be used as a safety position switch Use only in conjunction with snap-action contact.				
		–	LS-XS	LSM-XS

Power Control

Automation & Control

LS-Titan Position Switches

LS-Titan position switches

Cross reference

Cross reference for new LS system	New LS system	Established system
	Insulated version	Metal version
Basic units		
Limit switch basic unit	LS-11...	LSM-11...
Operating heads		
Roller plunger	LS-XP	LSM-XP
Roller lever	LS-XL	LSM-XL
Angled roller lever	LS-XLA	LSM-XLA
Rotary lever	LS-XRL	LSM-XRL
Adjustable roller lever	LS-XRLA (D = 18 mm)	LSM-XRLA (D = 18 mm)
	LS-XRLA30 (D = 30 mm)	–
	LS-XRLA40 (D = 40 mm)	–
	LS-XRLA40R (D = 18 mm, rubber)	–
Actuating rod	–	–
Insulated rod	LS-XRR	LSM-XRR
Metal rod	LS-XRRM	LSM-XRRM
Spring rod	LS-XS	LSM-XS
Fixing adaptor	M22-LS	M22-LS
Roller plunger	–	–
Plunger	–	–
		ZRS-ATO
		ZS-ATO

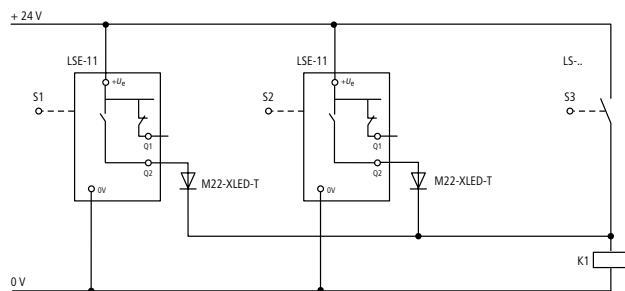
Individual operating point adjustment



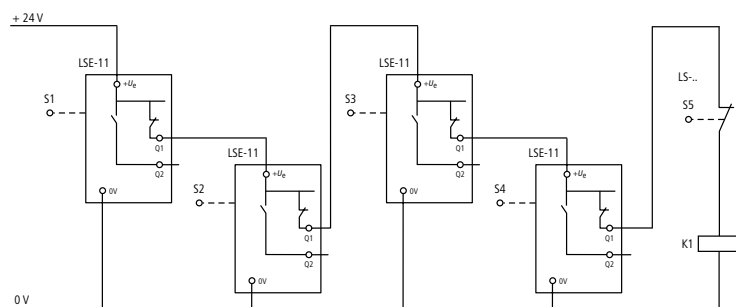
Circuit examples

LSE-11 and LSE-02 can be used in safety-oriented circuits.

Parallel circuit



Series circuit








S1 is connected to 24 V DC
S2, S3, S4 each switch with a delay of 0.7 s

E50 Heavy duty modular Limit Switches





Eaton E50 Limit Switches are available with or without indicating LED, in single- or 2-pole versions. Optional manifold mount & submersible versions available.

Complete switch = body + receptacle + Head

B51






		Indicating light	Switch body Item No.		
 Assembled Switch	 Switch body	None	E50SA, 1N.O.-1N.C.	 Single Pole (5 Terminal)	E50RA
		LED (24 - 120V AC/DC)	E50SAL, 1N.O.-1N.C.		-
	 Switch body	None	E50SB, 2N.O.-2N.C.	 Double Pole (9 Terminal)	E50RB
		LED (24 - 120V AC/DC)	E50SBL, 2N.O.-2N.C.		-

B51

Operating Head Type	Item No.
 Side Rotary (Requires an operating Lever, see next page)	
Standard Spring Return	E50DR1
Low Force Spring Return	E50DL1
Maintained Two position	E50DM1
 Side Pushbutton, Spring Return - E50DS1	E50DS1
 Side Pushbutton, Spring Return - E50DS2	E50DS2
 Side Push Roller, Spring Return - E50DS3	E50DS3

For assembled Limit Switch pricing, contact your nearest Eaton branch.

B51

Operating Head Type	Item No.
 Side Pushbutton, Maintained - E50DH1	E50DH1
 Top Pushbutton, Spring Return - E50DT1	E50DT1
 Top Pushbutton, Adjustable Spring Return - E50DT2	E50DT2
 Top Push Roller, Spring Return - E50DT3	E50DT3
 Wobble Head Spring Return (requires a wobble operator, see next page)	
Standard Duty	E50DW1
Heavy-Duty High Strength Steel	E50DW2

For assembled Limit Switch pricing, contact your nearest Eaton branch.

Power Control

Automation & Control

E50 Heavy duty modular Limit Switches

Finalise Your Limit Switch Installation with the right operator for the job

Operating Levers - various operators are available, which suit standard E50 & special purpose E50 Limit switches.



B51

Operator	Length (mm)	Type	Roller dia. (mm)	Roller width (mm)	Item No.
Stainless steel, adjustable	12.7-95.3	nylon	19.1	7.9	E50KL201
	12.7-95.3	nylon	19.1	12.7	E50KL599
	12.7-95.3	nylon	19.1	25.4	E50KL537
	28.5-95.3	nylon	38.1	7.1	E50KL443
	12.7-82.6	nylon	102	2.8	E50KL598
	12.7-95.3	metal	19.1	7.9	E50KL538
	12.7-95.3	ball bearing	17.5	6.4	E50KL539
	76.2-127	no roller	-	-	E50KL31
Cast aluminium standard lever	22.2mm	metal	19.1	7.9	E50KL39
	34.9mm	metal	19.1	7.9	E50KL40
	38.1mm	nylon	19.1	7.9	E50KL200
	38.1mm	nylon	19.1	25.4	E50KL377
	38.1mm	metal	19.1	7.9	E50KL355
	38.1mm	ball bearing	17.5	6.4	E50KL531
	50.8mm	no roller	-	-	E50KL32
	50.8mm	nylon	19.1	7.9	E50KL546
	50.8mm	nylon	19.1	25.4	E50KL572
	50.8mm	metal	19.1	7.9	E50KL549
	63.5mm	ball bearing	17.5	6.4	E50KL552
	63.5mm	nylon	19.1	7.9	E50KL547
	63.5mm	nylon	19.1	25.4	E50KL573
	63.5mm	nylon	38.1	7.1	E50KL575
	63.5mm	metal	19.1	7.9	E50KL550
	63.5mm	ball bearing	17.5	6.4	E50KL553
	76.2mm	nylon	19.1	7.9	E50KL548
	76.2mm	nylon	19.1	25.4	E50KL574
	76.2mm	nylon	38.1	7.1	E50KL576
	76.2mm	metal	19.1	7.9	E50KL551
76.2mm	ball bearing	17.5	6.4	E50KL554	
Fork lever, both rollers one side	38.1mm	nylon	19.1	7.9	E50KL204
	38.1mm	nylon	19.1	25.4	E50KL543
	38.1mm	metal	19.1	7.9	E50KL544
	38.1mm	ball bearing	17.5	6.4	E50KL545
Fork lever, 1 roller out/1 inside	38.1mm	nylon	19.1	7.9	E50KL203
	38.1mm	nylon	19.1	25.4	E50KL540
	38.1mm	metal	19.1	7.9	E50KL541
	38.1mm	ball bearing	17.5	6.4	E50KL542
Delrin rod for wobble head switch (82.6mm long), rod diameter 6.4mm					E50KW2
Stainless steel rod for wobble head (305mm long), rod diameter 1.6mm					E50KW3
Coil spring for wobble head switch (102mm long), spring diameter 8.7mm					E50KW4
Nylon roller, adjustable					E50KL37
Nylon roller, adjustable DIP					E50KL37D1P
Stainless steel rod, adjustable					E50KL220

E49 metal body compact Limit Switches

Eaton E49 Compact Metal Limit Switches

- Rigid die cast switch housing
- High mechanical strength
- Oil-tight, waterproof & dustproof construction
- Snap action 1NO/1NC contact provides flexibility in design



B51

Operating Head Type	Specifications					Item No.
	Travel to Operate Contacts	Travel to Reset Contacts	Total Travel	Force to Operate Contacts (Maximum) (lb)	Minimum Return Force (lb)	Assembled Units (Switch Body & Head), 1N.O./1N.C. Contacts
 Roller Lever	20°	12°	50°	2.99	0.50	E49M11AP1
 Top Push	0.067 in (1.7mm)	0.04 in (1.0mm)	-	6.02	2.01	E49M11BP1
 Top Push Roller - E49M11CP1	0.067 in (1.7 mm)	0.04 in (1.0 mm)	0.25 in (6.5 mm)	6.02	2.01	E49M11CP1
						E49M11CP2*
 Rod Lever	20°	12°	50°	0.31	0.06	E49M11DP1
 Adjustable Roller Lever	20°	12°	50°	2.99	0.50	E49M11UP1
 Wobble	1.10 in (28mm)	N/A	N/A	0.33	N/A	E49M11VP1
 Cat Whisker	1.10 in (28mm)	N/A	N/A	0.064	N/A	E49M11XM1

* Includes 90° Roller.

Power Control

Automation & Control







E49 metal body compact Limit Switches

Eaton E49 Mini Metal Limit Switches

- Long life - rated for 10 million operations
- Pre-wired units with custom cable lengths available for high volume customers
- Fingerproof terminals protect against accidental contact
- Double-spring mechanism for contact reliability
- Grounding terminal included
- Captive screws on enclosure cover make wiring hassle-free
- SPDT double break



B51

Operating Head Type	Specifications					Item No.
	Travel to Operate Contacts	Travel to Reset Contacts	Total Travel	Force to Operate Contacts (g)	Minimum Return Force (g)	
 Side Rotary Lever	20°	12°	70°	750	100	E49G31AP3
 Adjustable Side Rotary Lever	20°	12°	70°	750	100	E49G31UP3
 Top Pushbutton	0.06 in (1.5 mm)	0.04 in (1 mm)	0.22 in (5.5 mm)	900	150	E49G31BP3
 Top Push Roller	0.06 in (1.5 mm)	0.04 in (1 mm)	0.22 in (5.5 mm)	900	150	E49G31CP3
 Top Push Roller	0.06 in (1.5 mm)	0.04 in (1 mm)	0.22 in (5.5 mm)	900	150	E49G31C1P3*
 Adjustable Rod Lever	20°	12°	70°	750	100	E49G31DP3

* Includes 90° Roller.

E49 metal body compact Limit Switches

B51

Operating Head Type	Specifications					Item No.
	Travel to Operate Contacts	Travel to Reset Contacts	Total Travel	Force to Operate Contacts (g)	Minimum Return Force (g)	Assembled Units (Switch Body & Head), 1N.O./1N.C. Contacts
<p>Wobble Stick (Nylon Coil)</p>	1.18 in (30 mm)	-	-	150	-	E49G31NP3
<p>Wobble Stick (Metal Coil)</p>	1.18 in (30 mm)	-	-	150	-	E49G31VP3
<p>Wobble Stick (Metal Rod)</p>	1.18 in (30 mm)	-	-	150	-	E49G31MP3
<p>Wobble Stick (Whisker)</p>	1.18 in (30 mm)	-	-	150	-	E49G31XM3

Automation & Control

Power Control

Automation & Control







E49 plastic modular DIN Limit Switches

Eaton E49 Miniature Plastic DIN Limit Switches

- Non-metallic housing is ideal for corrosive environments
- Fingerproof terminals & double insulated enclosures protect against accidental contact
- Generous wiring space speeds installation
- Electrically isolated contacts eliminate polarity restrictions for electrical loads
- Positive opening N.C. contacts improve reliability by positively breaking the N.C. contacts during operation, eliminating light welding/sticking conditions
- Modular design allows flexibility to replace operating head when required



B51

Operating Head Type	Specifications						Item No.	Item No.
	Travel to Operate Contacts	Travel to Operate Pos. Break N.C Contacts	Travel to Reset Contacts	Total Travel	Force to Operate Contacts (Maximum)	Minimum Return Force (lb)		
								1N.O.-1N.C. Contacts
 Side Rotary	35°	55°	15°	76°	1.16 in-lb	0.76 in-lb	E49AP7	E49S71AP7
 Top Push Plunger	0.12 in (3.0 mm)	0.19 in (4.8 mm)	0.05 in (1.3 mm)	0.23 in (5.8 mm)	1.79 lb	1.14 lb	—	E49S71
 Top Push Roller	0.11 in (2.8 mm)	0.19 in (4.8 mm)	0.04 in (1.0 mm)	0.23 in (5.8 mm)	1.81 lb	0.95 lb	E49CP7	E49S71CP7
 Rod Lever	35°	55°	16°	76°	0.80 in-lb	0.49 in-lb	E49DP7	E49S71DP7*
 Offset Roller Lever	0.14 in (3.6 mm)	0.12 in (3.0 mm)	0.06 in (1.5 mm)	0.30 in (7.6 mm)	1.7 lb	0.78 lb	E49EP7	E49S71EP7
 Adjustable Roller Lever	35°	55°	16°	75°	0.88 in-lb	0.58 in-lb	E49UP7	E49S71UP7

E49 plastic modular DIN Limit Switches

Eaton E49 Miniature Plastic DIN Limit Switches (continued)

B51

Operating Head Type	Specifications						Item No.	Item No.
	Travel to Operate Contacts	Travel to Operate Pos. Break N.C Contacts	Travel to Reset Contacts	Total Travel	Force to Operate Contacts (Maximum)	Minimum Return Force (lb)	Assembled Units (Switch Body & Head)	
							2N.O. Contacts	2N.C. Contacts
 Side Rotary	35°	55°	15°	76°	1.16 in-lb	0.76 in-lb	E49S74AP7	E49S73AP7
 Top Push Plunger	0.12 in (3.0 mm)	0.19 in (4.8 mm)	0.05 in (1.3 mm)	0.23 in (5.8 mm)	1.79 lb	1.14 lb	E49S74	E49S73
 Top Push Roller	0.11 in (2.8 mm)	0.19 in (4.8 mm)	0.04 in (1.0 mm)	0.23 in (5.8 mm)	1.81 lb	0.95 lb	E49S74CP7	E49S73CP7
 Rod Lever	35°	55°	16°	76°	0.80 in-lb	0.49 in-lb	E49S74DP7	E49S73DP7
 Offset Roller Lever	0.14 in (3.6 mm)	0.12 in (3.0 mm)	0.06 in (1.5 mm)	0.30 in (7.6 mm)	1.7 lb	0.78 lb	E49S74EP7	E49S73EP7
 Adjustable Roller Lever	35°	55°	16°	75°	0.88 in-lb	0.58 in-lb	E49S74UP7	E49S73UP7

Power Control

Automation & Control

10316H series Rotating Shaft Limit Switches

Eaton 10316H Rotating Shaft Limit Switches - are a geared design for use in control circuits with AC or DC motors on garage doors, windows, small hoists, etc. Comes in general purpose & heavy duty versions.



	General Purpose	Heavy Duty
Construction	die cast zinc	cast iron
Contacts	2	4
Protection	IP54	IP66

B51

Description	Contacts	Item No.
General purpose limit switch	1N.O.-1N.C.	10316H77
General purpose limit switch	2N.C.	10316H50
Heavy duty limit switch	2N.O - 2N.C.	10316H54
Flexible coupling for these switches	-	93321H010

Note: On general purpose switch, one contact can be independently adjusted to trip in the clockwise direction & the other contact can be independently adjusted to trip in the counter-clockwise direction. On the heavy duty switch, two contacts can be independently adjusted to trip in the clockwise direction & the other two contacts can be independently adjusted to trip in the counter-clockwise direction. Heavy duty switch is convertible to 4N.O. or 4N.C contacts.

ME40 single- & two-pedal Foot Switches

Eaton ME40 Heavy Duty Foot Switches - in single & double pedal, guarded or unguarded. Guarded shown left. All switches are IP65 rated & have anti-slip base plates which can be screwed into position. Triple pedal version also available on special order.



B51

Foot Switch	Type	Contacts	Item No.
1-pedal unguarded	spring return	1N.O.-1N.C.	ME40BW03A
	spring return	2N.O.-2N.C.	ME40BW13A
	2-stg operation	2N.O.-2N.C.	ME40BW13D
	maintained	1N.O.-1N.C.	ME40BW03A1
2-pedal unguarded	spring return	2N.O - 2N.C.	ME40BW13B
	2-stg operation	2N.O.-2N.C.	ME40BW13E
1-pedal guarded	spring return	1N.O.-1N.C.	ME40BW03A2
	spring return with emergency stop	1N.O.-1N.C.	ME40BW03A21
	spring return	2N.O.-2N.C.	ME40BW13A2
	2-stg operation	2N.O.-2N.C.	ME40BW13D2
	maintained	1N.O.-1N.C.	ME40BW03A3
2-pedal guarded	spring return	2N.O.-2N.C.	ME40BW13B2
	2-stg operation	2N.O.-2N.C.	ME40BW13E2
contact block to suit ME40BW03A1	-	1N.O.-1N.C.	600.6101.060
contact block to suit ME40BW03A	-	1N.O.-1N.C.	600.6351.039
contact block to suit ME40BW13A	-	2N.O.-2N.C.	600.6451.117
contact block to suit ME40BW13D	-	2N.O.-2N.C.	600.6451.130

E2020 Heavy Duty Pull Wire Switches

Eaton 2020 Trip/Pull Wire Switches - are available in either cast iron, aluminium. All feature failsafe design & IP65 protection.



B57

Construction	Contacts	Item No.
Aluminium	1 NO - 1NC	E2020-A2P ①
Cast iron	1 NO - 1 NC	E2020-C2P ②

① Replacement suffix for aluminium.

② Replacement suffix for cast iron.

Contact block options

Description	Suffix
Aluminium 2N.O.-2N.C. contact block	A4P ①
Aluminium 3N.O.-3N.C. contact block	A6P ①
Aluminium 4N.O.-4N.C. contact block	A8P ①
Cast iron 2N.O.-2N.C. contact block	C4P ②
Cast iron 3N.O.-3N.C. contact block	C6P ②
Cast iron 4N.O.-4N.C. contact block	C8P ②

Contact block AC2, 5A; 250V 3A; 415V 10A thermal is standard (units with higher ratings supplied on special order).

Failsafe Trip maintains switch in tripped position until pull wires are connected & adjusted.

① Replacement suffix for aluminium.

② Replacement suffix for cast iron.

Optional Extras (to order, add suffix to end of Item No. of switch above)

Description	Suffix
Top dome light (no globe)	DL
Blinking feature for dome light	B
Wire guard for dome light	PG
Transparent safety window	W
Flag indicator in front cover	F
Single-ended operation, left	SLH
Single-ended operation, right	SRH
Extra 12-way terminal block	TB
Plastic covered galvanised wire rope, 100m	A1
Galvanised U bolts, 3/4"	A2
Galvanised turnbuckle, 5/16"	A3
Galvanised wire clamp	A4
Galvanised wire rope thimble	A5
End-of-line spring	G1511-2

Power Control

Automation & Control

iProx Programmable Proximity Sensors

Eaton iProx Clone Sensor

- Replace thousands of sensors with the click of a button using the new iProx programming software for Microsoft Windows or mobile devices
- Clone the iProx to match the characteristics of more than 4800 competitor models or custom configure the iProx to meet your specific application needs
- Advanced programmable features such as dual outputs, output delay, speed detection, adjustable sensing range & more.
- Reliably senses metal targets at up to three times the range of conventional shielded or unshielded inductive proximity sensors
- Field programmability reduces inventory & costly downtime
- Auto Configuration output allows for automatic detection of NPN or PNP
- New Remote Programming Device allows for mobile programming - no need to remove the sensor from its application
- New Tray Programmer allows for "one touch" programming & batch programming of up to four iProx sensors at a time
- Resistant to extreme temperature (-400C) & high pressure washdown
- Withstands high electrical noise (up to 20 V/m).



3-Wire sensors

B51

Model selection	Operating voltage	Sensing range	Shielding	Connection type	Output type	Item No.
12 mm diameter end sensing	6 – 48V DC	4 mm std range	shielded	Plug-In*	NO Default Setting	E59-M12A105D01-D1 #
	6 – 48V DC	4 mm std range	shielded	Plug-In*	NC Default Setting	E59-M12A105D01-D2
	6 – 48V DC	10 mm ext range	unshielded	Plug-In*	NO Default Setting	E59-M12C110D01-D1 #
	6 – 48V DC	10 mm ext range	unshielded	Plug-In*	NC Default Setting	E59-M12C110D01-D2
18 mm diameter end sensing	6 – 48V DC	8 mm std range	shielded	Plug-In*	NO Default Setting	E59-M18A108D01-D1 #
	6 – 48V DC	8 mm std range	shielded	Plug-In*	NC Default Setting	E59-M18A108D01-D2
	6 – 48V DC	18 mm ext range	unshielded	Plug-In*	NO Default Setting	E59-M18C116D01-D1 #
	6 – 48V DC	18 mm ext range	unshielded	Plug-In*	NC Default Setting	E59-M18C116D01-D2
30 mm diameter end sensing	6 – 48V DC	15 mm std range	shielded	Plug-In*	NO Default Setting	E59-M30A115D01-D1 #
	6 – 48V DC	15 mm std range	shielded	Plug-In*	NC Default Setting	E59-M30A115D01-D2
	6 – 48V DC	29 mm ext range	unshielded	Plug-In*	NO Default Setting	E59-M30C129D01-D1 #
	6 – 48V DC	29 mm ext range	unshielded	Plug-In*	NC Default Setting	E59-M30C129D01-D2

* Order connector cable CSDS4A4CY2202 listed below for use with the above plug-in sensors.

Dual outputs available on these models. Specify dual PNP or NPN by adding PP or NN to the end of the Item No. when asking for a quote.

Accessories

B51

Description	Item No.
4-pin 4-wire cable, 2 m long, with straight micro DC connector female	CSDS4A4CY2202
Programmer to program iProx sensors one-at-a-time (through serial port on PC)	E59RP1
Step-by-step programming software (compatible with Windows mobile devices)	E59SW1
Remote Programming Device (PDA) for portable programming c/w software & cables	E59RPD
Tray Programmer - programs up to 4 iProx Clone sensors at a time	E59TP1
Field-applied iProx labels for iProx Clone sensors (100 pcs)	E59LABEL

AccuProx Analogue output Proximity Sensors

Eaton AccuProx Analogue Sensor

- Unmatched sensing range, linearity & resolution
- Outputs available in current (4-20mA/0-20mA) & voltage(0-10V)
- Stainless steel barrel, ideal for high temperature or washdown environments
- Detecting different metals, eccentricity or absolute angle detection
- Available in 12, 18 & 30 mm diameter tubular
- 10-30V DC supply, shielded or unshielded type
- 2 metre prewired cable or plug-in connector type
- Provide electrical signal that varies in proportion to the position of metal target



3-Wire sensors

B51

Model selection	Operating voltage	Sensing range	Shielding	Connection type	Item No.
12mm diameter	15 – 30V DC	0.5 - 4 mm	Shielded	Plug-in*	E59-A12A104D01-CV
		1 - 8 mm	Unshielded	Plug-in*	E59-A12C108D01-CV
18mm diameter	15 – 30V DC	1 - 7 mm	Shielded	Plug-in*	E59-A18A107D01-CV
		1 - 15 mm	Unshielded	Plug-in*	E59-A18C115D01-CV
30mm diameter	15 – 30V DC	1 - 12 mm	Shielded	Plug-in*	E59-A30A112D01-CV
		1 - 25 mm	Unshielded	Plug-in*	E59-A30C125D01-CV

* Order connector cable CSDS4A4CY2202 listed below for use with the above plug-in sensors.

SpeedSense Proximity Sensors

Eaton SpeedSense Inductive Proximity Sensors

- Built-in speed detection technology activates the sensor when the target's rotational or lateral speed slows (output "closes" when motion stops)
- Outputs are N.O. by default, but N.C. models can be special ordered from the factory
- Reliably detects metal targets at up to three times range of conventional inductive proximity sensors
- No special programming necessary
- Auto-configure output allows for automatic NPN or PNP
- Resistant to extreme temperature (-40°C) & high pressure washdown
- High electrical noise immunity of 10 V/m



3-Wire sensors

B51

Model selection	Sensing range	Shielding	Maximum Rated Target Speed*	Activation Point*	Item No.
12mm diameter	4 mm	Shielded	2175 rpm, 27.5 ms	50 rpm or 1200 ms	E59-M12A105D01-D1S1
				100 rpm or 600 ms	E59-M12A105D01-D1S2
				500 rpm or 120 ms	E59-M12A105D01-D1S3
				1500 rpm or 40 ms	E59-M12A105D01-D1S4
	10 mm	Unshielded	1125 rpm, 53 ms	50 rpm or 1200 ms	E59-M12C110D01-D1S1
				100 rpm or 600 ms	E59-M12C110D01-D1S2
				500 rpm or 120 ms	E59-M12C110D01-D1S3
				500 rpm or 120 ms	E59-M12C110D01-D1S3
18mm diameter	8 mm	Shielded	1460 rpm, 41 ms	50 rpm or 1200 ms	E59-M18A108D01-D1S1
				100 rpm or 600 ms	E59-M18A108D01-D1S2
				500 rpm or 120 ms	E59-M18A108D01-D1S3
30mm diameter	15 mm	Shielded	900 rpm, 66 ms	50 rpm or 1200 ms	E59-M30A115D01-D1S1
				100 rpm or 600 ms	E59-M30A115D01-D1S2
				500 rpm or 120 ms	E59-M30A115D01-D1S3

* Sensor will not perform reliably if (a) target speed rotation exceeds the max rated rpm or (b) the time between target detections is less than the rated milliseconds.
The sensor will activate when (a) target rotation drops below the rated rpm, or (b) when the time between two target detections exceeds the milliseconds indicated.
Order connector cable CSDS4A4CY2202 listed below for use with all the above plug-in sensors.

Connector Cable

B51

Description	Item No.
4-pin 4-wire cable, 2m long, with straight micro DC connector female	CSDS4A4CY2202

Power Control

Automation & Control

General purpose Inductive Proximity Sensors

Eaton Global Plus Inductive Proximity Sensors

- The Global Plus Proximity Line features solid performance & a basic feature set for reliable, cost-effective sensing
- Available in a variety of sizes to fit in all of your applications: 8 mm, 12 mm, 18 mm & 30 mm diameters
- DC sensors operate on 10 – 30V DC in 2-wire & 3-wire (NPN or PNP) Configurations
- AC sensors operate on 20 – 250V AC in 2-wire configuration
- Shielded & unshielded versions available
- Terminations include 2-metre cable & plug-in connector
- Bright output LED indicator to show output status
- Optimal solution for high volume OEM customers



2-Wire sensors

B51

Model selection	Operating voltage	Sensing range	Shielding	Connection type	Output type	Item No.
12 mm diameter	20 – 250V AC	2 mm	Shielded	2-metre Cable	N.O.	E57-12PAS02-A
	20 – 250V AC	2 mm	Shielded	2-metre Cable	N.C.	E57-12PBS02-A
	20 – 250V AC	4 mm	Unshielded	2-metre Cable	N.O.	E57-12PAU04-A
	20 – 250V AC	4 mm	Unshielded	2-metre Cable	N.C.	E57-12PBU04-A
18 mm diameter	20 – 250V AC	5 mm	Shielded	2-metre Cable	N.O.	E57-18PAS05-A
	20 – 250V AC	5 mm	Shielded	2-metre Cable	N.C.	E57-18PBS05-A
	20 – 250V AC	8 mm	Unshielded	2-metre Cable	N.O.	E57-18PAU08-A
	20 – 250V AC	8 mm	Unshielded	2-metre Cable	N.C.	E57-18PBU08-A
30 mm diameter	20 – 250V AC	10 mm	Shielded	2-metre Cable	N.O.	E57-30PAS10-A
	20 – 250V AC	10 mm	Shielded	2-metre Cable	N.C.	E57-30PBS10-A
	20 – 250V AC	15 mm	Unshielded	2-metre Cable	N.O.	E57-30PAU15-A
	20 – 250V AC	15 mm	Unshielded	2-metre Cable	N.C.	E57-30PBU15-A

3-Wire sensors

B51

Model selection	Operating voltage	Sensing range	Shielding	Connection type	Output type	Item No.
8 mm diameter	10 – 30V DC	1.5 mm	Shielded	2-metre Cable	N.O.(NPN)	E57-08PAS15-C
	10 – 30V DC	1.5 mm	Shielded	2-metre Cable	N.O.(PNP)	E57-08PAS15-G
	10 – 30V DC	2 mm	Unshielded	2-metre Cable	N.O.(NPN)	E57-08PAU02-C
	10 – 30V DC	2 mm	Unshielded	2-metre Cable	N.O.(PNP)	E57-08PAU02-G
12 mm diameter	10 – 30V DC	2 mm	Shielded	2-metre Cable	N.O.(NPN)	E57-12PAS02-C
	10 – 30V DC	2 mm	Shielded	2-metre Cable	N.O.(PNP)	E57-12PAS02-G
	10 – 30V DC	4 mm	Unshielded	2-metre Cable	N.O.(NPN)	E57-12PAU04-C
	10 – 30V DC	4 mm	Unshielded	2-metre Cable	N.O.(PNP)	E57-12PAU04-G
18 mm diameter	10 – 30V DC	5 mm	Shielded	2-metre Cable	N.O.(NPN)	E57-18PAS05-C
	10 – 30V DC	5 mm	Shielded	2-metre Cable	N.O.(PNP)	E57-18PAS05-G
	10 – 30V DC	8 mm	Unshielded	2-metre Cable	N.O.(NPN)	E57-18PAU08-C
	10 – 30V DC	8 mm	Unshielded	2-metre Cable	N.O.(PNP)	E57-18PAU08-G
30 mm diameter	10 – 30V DC	10 mm	Shielded	2-metre Cable	N.O.(NPN)	E57-30PAS10-C
	10 – 30V DC	10 mm	Shielded	2-metre Cable	N.O.(PNP)	E57-30PAS10-G
	10 – 30V DC	15 mm	Unshielded	2-metre Cable	N.O.(NPN)	E57-30PAU15-C
	10 – 30V DC	15 mm	Unshielded	2-metre Cable	N.O.(PNP)	E57-30PAU15-G

General purpose Inductive Proximity Sensors

Eaton E57 Premium+ & Premium Series Inductive Proximity Sensors

- Premium+ are designed with stainless steel barrel & new potting compound for robust, high temperature, high pressure washdown, as well as intense shock & vibration applications
- Premium+ has unmatched high noise immunity eliminates problems associated with electrical noise (all models > 20V/metre)
- Premium+ has 360° output status indicator is visible from any angle & in any light condition
- Wide temperature range -13 to 158°F (-25 to 70°C)
- New expanded offering of 2-wire, 3-wire, AC, DC, & AC/DC multiple range sensor models
- Connector models available on request, connector cables are on page
- For cable lengths longer than 2 metres, add the number of the desired length in metres to the end of the listed Item No.



2-Wire sensors

B51

Model selection	Operating voltage	Sensing range	Shielding	Connection type	N/O output Item No.	N/C output Item No.
12 mm diameter end sensing	20-250VAC	2 mm std range	shielded	2-metre cable	E57LAL12A2	E57LBL12A2
	20-250VAC	4 mm std range	unshielded	2-metre cable	E57LAL12A2E	E57LBL12A2E
	20-250VAC	6 mm ext range	semi-shielded	2-metre cable	E57-12LE06-A	E57-12LE06-A1
	20-250VAC	10 mm ext range	non-embeddable	2-metre cable	E57-12LE10-A	E57-12LE10-A1
	20-250VAC/DC	2 mm std range	shielded	2-metre cable	E57SAL12A2	E57SBL12A2
	20-250VAC/DC	4 mm std range	unshielded	2-metre cable	E57SAL12A2E	E57SBL12A2E
18 mm diameter end sensing	20-250VAC	5 mm std range	shielded	2-metre cable	E57LAL18A2	E57LBL18A2
	20-250VAC	8 mm std range	unshielded	2-metre cable	E57LAL18A2E	E57LBL18A2E
	20-250VAC	12 mm ext range	semi-shielded	2-metre cable	E57-18LE12-A	E57-18LE12-A1
	20-250VAC	20 mm ext range	non-embeddable	2-metre cable	E57-18LE20-A	E57-18LE20-A1
	20-250VAC/DC	5 mm std range	shielded	2-metre cable	E57SAL18A2	E57SBL18A2
	20-250VAC/DC	8 mm std range	unshielded	2-metre cable	E57SAL18A2E	E57SBL18A2E
30 mm diameter end sensing	20-250VAC	10 mm std range	shielded	2-metre cable	E57LAL30A2	E57LBL30A2
	20-250VAC	15 mm std range	unshielded	2-metre cable	E57LAL30A2E	E57LBL30A2E
	20-250VAC	22 mm ext range	semi-shielded	2-metre cable	E57-30LE22-A	E57-30LE22-A1
	20-250VAC/DC	10 mm std range	shielded	2-metre cable	E57SAL30A2	E57SBL30A2
	20-250VAC/DC	15 mm std range	unshielded	2-metre cable	E57SAL30A2E	E57SBL30A2E



iProx Clone...

Adaptability Unmatched



The iProx is a field programmable, adaptable & configurable inductive proximity sensor with an embedded microprocessor, which allows for unique sensing capabilities that solve the unsolvable.

The iProx Clone adapts to your environment. Set the sensing distance, operating modes, teach it to ignore background metals, sense in a narrow band & more. The iProx can be pre-configured at the factory to help you save even more time. Yes. The iProx can do that. In a nutshell, the iProx is the most versatile inductive proximity sensor available today.

Using the iProx Programming Software, you can literally replace thousands of sensors with just a few clicks of the mouse. When you need unmatched flexibility, adaptability & sensing performance, look no further than the iProx family of sensor products.



For further information:
0508 328 6669
www.eaton.co.nz



Power Control

Automation & Control

General purpose Inductive Proximity Sensors

3-Wire sensors

B51

Model selection	Operating voltage	Sensing range	Shielding	Connection type	Item No. N/O output	Item No. N/C output
12 mm diameter end sensing	6-48VDC	2 mm std range	shielded (NPN)	2-metre cable	E57LAL12T110	E57LBL12T110
	6-48VDC	2 mm std range	shielded (PNP)	2-metre cable	E57LAL12T111	E57LBL12T111
	6-48VDC	4 mm std range	unshielded (NPN)	2-metre cable	E57LAL12T110E	E57LBL12T110E
	6-48VDC	4 mm std range	unshielded (PNP)	2-metre cable	E57LAL12T111E	E57LBL12T111E
	6-48VDC	6 mm ext range	semi-shielded (NPN)	2-metre cable	E57-12LE06-C	E57-12LE06-C1
	6-48VDC	6 mm ext range	semi-shielded (PNP)	2-metre cable	E57-12LE06-B	E57-12LE06-B1
	6-48VDC	10 mm ext range	non-embeddable (NPN)	2-metre cable	E57-12LE10-C	-
	6-48VDC	10 mm ext range	non-embeddable (PNP)	2-metre cable	E57-12LE10-B	E57-12LE10-B1
18 mm diameter end sensing	6-48VDC	5 mm std range	shielded (NPN)	2-metre cable	E57LAL18T110	E57LBL18T110
	6-48VDC	5 mm std range	shielded (PNP)	2-metre cable	E57LAL18T111	E57LBL18T111
	6-48VDC	8 mm std range	unshielded (NPN)	2-metre cable	E57LAL18T110E	E57LBL18T110E
	6-48VDC	8 mm std range	unshielded (PNP)	2-metre cable	E57LAL18T111E	E57LBL18T111E
	6-48VDC	12 mm ext range	semi-shielded (NPN)	2-metre cable	E57-18LE12-C	E57-18LE12-C1
	6-48VDC	12 mm ext range	semi-shielded (PNP)	2-metre cable	E57-18LE12-B	E57-18LE12-B1
	6-48VDC	20 mm ext range	non-embeddable (NPN)	2-metre cable	E57-18LE20-C	E57-18LE20-C1
	6-48VDC	20 mm ext range	non-embeddable (PNP)	2-metre cable	E57-18LE20-B	E57-18LE20-B1
30 mm diameter end sensing	6-48VDC	10 mm std range	shielded (NPN)	2-metre cable	E57LAL30T110	E57LBL30T110
	6-48VDC	10 mm std range	shielded (PNP)	2-metre cable	E57LAL30T111	E57LBL30T111
	6-48VDC	15 mm std range	unshielded (NPN)	2-metre cable	E57LAL30T110E	E57LBL30T110E
	6-48VDC	15 mm std range	unshielded (PNP)	2-metre cable	E57LAL30T111E	E57LBL30T111E
	6-48VDC	22 mm ext range	semi-shielded (NPN)	2-metre cable	E57-30LE22-C	E57-30LE22-C1
	6-48VDC	22 mm ext range	semi-shielded (PNP)	2-metre cable	E57-30LE22-B	E57-30LE22-B1

Accessories

B51

Description	Item No.
8mm mounting bracket	E57KM8
12mm mounting bracket	E57KM12
18mm mounting bracket	E57KM18
30mm mounting bracket	E57KM30

* For Plug-in cables, refer to page 364.

General purpose Inductive Proximity Sensors

Eaton Premium+ Series Short Barrel Inductive Proximity Sensors

- Manufactured to take physical & environmental abuse
- Premium+ are designed with stainless steel barrel & impact-absorbing new potting compound for robust, high temperature, high pressure washdown, as well as intense shock & vibration applications
- Premium+ unmatched high noise immunity eliminates problems associated with electrical noise (all models > 20V/metre)
- Premium+ 360° output status indicator is visible from any angle & in any light condition
- Resettable short circuit protection in AC/DC & DC models
- Reverse polarity protection in 3-wire DC versions
- Small size to fit in tight spaces
- Choice of cable for low cost wiring, or micro-connector for quick installation and/or replacement
- Cable models include an extra long 5-metre cable as standard



2-Wire sensors

B51

Model selection	Operating voltage	Sensing range	Shielding	Overall Length	Connection type	Item No. N/O output	Item No. N/C output
12 mm diameter end sensing	20 – 250V AC	2 mm	Shielded	51.7	2-metre Cable	E57SAL12A4	E57SBL12A4
	20 – 250V AC	4 mm	Unshielded	51.7	2-metre Cable	E57SAL12A4E	E57SBL12A4E
	20 – 250V AC/DC	2 mm	Shielded	62.4	2-metre Cable	E57SAL12A2	E57SBL12A2
	20 – 250V AC/DC	4 mm	Unshielded	62.4	2-metre Cable	E57SAL12A2E	E57SBL12A2E
18 mm diameter end sensing	20 – 250V AC	5 mm	Shielded	35.4	2-metre Cable	E57SAL18A4	E57SBL18A4
	20 – 250V AC	8 mm	Unshielded	35.4	2-metre Cable	E57SAL18A4E	-
	20 – 250V AC/DC	5 mm	Shielded	64.5	2-metre Cable	E57SAL18A2	E57SBL18A2
	20 – 250V AC/DC	8 mm	Unshielded	64.5	2-metre Cable	E57SAL18A2E	E57SBL18A2E
30 mm diameter end sensing	20 – 250V AC	10 mm	Shielded	40.2	2-metre Cable	E57SAL30A4	-
	20 – 250V AC	15 mm	Unshielded	44.9	2-metre Cable	E57SAL30A4E	-
	20 – 250V AC/DC	10 mm	Shielded	69.3	2-metre Cable	E57SAL30A2	E57SBL30A2
	20 – 250V AC/DC	15 mm	Unshielded	69.3	2-metre Cable	E57SAL30A2E	E57SBL30A2E

3-Wire sensors

B51

Model selection	Operating voltage	Sensing range	Shielding	Overall Length	Connection type	Item No. N/O output	Item No. N/C output
12 mm diameter end sensing	6 – 48V DC	2 mm	Shielded (NPN)	35.2	2-metre Cable	E57SAL12T110	-
	6 – 48V DC	2 mm	Shielded (PNP)	35.2	2-metre Cable	E57SAL12T111	E57SBLT111
	6 – 48V DC	4 mm	Unshielded (NPN)	35.2	2-metre Cable	E57SAL12T110E	E57SBL12T110E
	6 – 48V DC	4 mm	Unshielded (PNP)	35.2	2-metre Cable	E57SAL12T111E	E57SBL12T111E
18 mm diameter end sensing	6 – 48V DC	5 mm	Shielded (NPN)	35.4	2-metre Cable	E57SAL18T110	E57SBL18T110
	6 – 48V DC	5 mm	Shielded (PNP)	35.4	2-metre Cable	E57SAL18T111	E57SBL18T111
	6 – 48V DC	8 mm	Unshielded (NPN)	35.4	2-metre Cable	E57SAL18T110E	E57SBL18T110E
	6 – 48V DC	8 mm	Unshielded (PNP)	35.4	2-metre Cable	E57SAL18T111E	E57SBL18T111E
30 mm diameter end sensing	6 – 48V DC	10 mm	Shielded (NPN)	40.2	2-metre Cable	E57SAL30T110	-
	6 – 48V DC	10 mm	Shielded (PNP)	40.2	2-metre Cable	E57SAL30T111	E57SBL30T111
	6 – 48V DC	15 mm	Unshielded (NPN)	44.9	2-metre Cable	E57SAL30T110E	E57SBL30T110E
	6 – 48V DC	15 mm	Unshielded (PNP)	44.9	2-metre Cable	E57SAL30T111E	-

Power Control

Automation & Control

General purpose Inductive Proximity Sensors

Eaton High Current Output Inductive Proximity Sensors

- Solid-state output can handle up to 12A continuous
- Ideal for vehicle use to replace mechanical limit switches, typically required to handle high currents
- Wide voltage & temperature range covers most vehicle power supplies & operating environments
- Normally Open & Normally Closed isolated outputs
- SJO cable is available in custom lengths



4-Wire sensors

B51

Model selection	Operating voltage	Sensing range	Shielding	Connection type	Output type	Output Rating		Item No.
						Continuous	<100 mS Pulse	
30 mm diameter end sensing	10 – 55V DC	10 mm	Shielded	2-Metre Cable	N.O. & N.C. (PNP)	3.5A	20A	E57-30JS10-H

6-Wire sensors

B51

Model selection	Operating voltage	Sensing range	Shielding	Connection type	Output type	Output Rating		Item No.
						Continuous	<100 mS Pulse	
30 mm diameter end sensing	10 – 30V DC	10 mm	Shielded	2-Metre Cable	N.O. & N.O., or N.C. & N.C. (NPN or PNP)	8A	50A	E57-30HS10-K

For additional cable length other than 2-metre, add desired length in metres to listed Item number. Example: For an E57-30JS10-H with a 5 metre cable, order E57-30JS10-H5.

Eaton Small Diameter Inductive Proximity Sensors

- Small 4, 5, 6.5 & 8 mm diameters for use in applications with limited space for mounting sensors
- Stainless steel housings
- All models include an LED indicator to show output status
- Short circuit & reverse polarity protection
- Rated NEMA 4, 4X, 6, 6P, 12 & 13 (IP67) for high resistance to environmental factors



3-Wire sensors

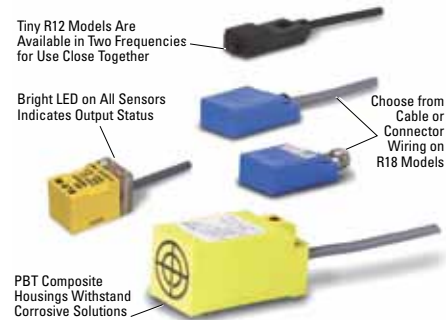
B51

Model selection	Operating voltage	Sensing range	Shielding	Connection type	N/O output Item No.	N/C output Item No.
4 mm Diameter (Unthreaded)	10 – 30V DC	0.8 mm	Shielded (NPN)	2-metre Cable	E57EAL4T110SP	—
	10 – 30V DC	0.8 mm	Shielded (PNP)	2-metre Cable	E57EAL4T111SP	—
5 mm Diameter	10 – 30V DC	0.8 mm	Shielded (NPN)	2-metre Cable	E57EAL5T110SP	—
	10 – 30V DC	0.8 mm	Shielded (PNP)	2-metre Cable	E57EAL5T111SP	—
6.5 mm Diameter (Unthreaded)	10 – 30V DC	1 mm	Shielded (NPN)	2-metre Cable	E57EAL6T110SP	—
	10 – 30V DC	1 mm	Shielded (PNP)	2-metre Cable	E57EAL6T111SP	—
	10 – 30V DC	2 mm	Unshielded (NPN)	2-metre Cable	E57EAL6T110EP	—
	10 – 30V DC	2 mm	Unshielded (PNP)	2-metre Cable	E57EAL6T111EP	—
8 mm Diameter	10 – 30V DC	1 mm	Shielded (NPN)	2-metre Cable	E57EAL8T110SP	E57EBL8T110SP
	10 – 30V DC	1 mm	Shielded (PNP)	2-metre Cable	E57EAL8T111SP	E57EBL8T111SP
	10 – 30V DC	2 mm	Unshielded (NPN)	2-metre Cable	E57EAL8T110EP	E57EBL8T110EP
	10 – 30V DC	2 mm	Unshielded (PNP)	2-metre Cable	E57EAL8T111EP	E57EBL8T111EP

General purpose Inductive Proximity Sensors

Eaton E52 Rectangular Inductive Proximity Sensors

- Small, low-profile design for use in space restrictive applications
- 3-wire DC operation
- Sensitivity adjustment
- Choose from a variety of sizes & side or end sensing configuration
- Output indicator included on all models
- Epoxy filled cavities stops fluids from contacting any electrical component
- Convenient mounting holes integrated into each sensor housing



3-Wire sensors

B51

Model selection	Operating voltage	Sensing range	Shielding	Connection type	Item No. N/O output
R12 Side Sensing	12 – 24V DC	3 mm	Shielded (PNP)	1-metre cable	E52RAL12T111
Q16 End Sensing	12 – 30V DC	5 mm	Shielded (PNP)	2-metre cable	E52-16QS04-B
R18 Side Sensing	10 – 30V DC	4 mm	Unshielded (PNP)	2-metre cable	E52-18RU04-B
Q25 End Sensing	10 – 30V DC	10 mm	Shielded (PNP)	2-metre cable	E52-25QS10-B

Rhomberg Proximity Switches - Inductive

- Inductive (Metal) Sensing
- Black Cap, Cables & LED Colour Coded For Type
- Moulded 2m Colour Coded Cable with Fishtail - Rated To IP67
- Normally Open (NO) Has Red LED, Normally Closed (NC) Has Green LED
- Interchangeable with other makes

Rhomberg Inductive Prox 2 Wire AC

- 20-250Vac, 50/60Hz
- Series & parallel connection compatible
- 400mA Max. Load Current



B57

Description	Item No.
M12 Dia. 2mm Sensing Distance Shielded AC 2 Wire	RI11202F**
M12 Dia. 4mm Sensing Distance Unshielded AC 2 Wire	RI11204S**
M18 Dia. 5mm Sensing Distance Shielded AC 2 Wire	RI11805F**
M18 Dia. 8mm Sensing Distance Unshielded AC 2 Wire	RI11808S**
M30 Dia. 10mm Sensing Distance Shielded AC 2 Wire	RI13010F**
M30 Dia. 15mm Sensing Distance Unshielded AC 2 Wire	RI13015S**
M40 Dia. 20mm Sensing Distance Shielded AC 2 Wire	RI14020F**
M40 Dia. 25mm Sensing Distance Unshielded AC 2 Wire	RI14025S**
6M Lead, for plug-in sensor, straight type	RRK44T6
6M Lead, for plug-in sensor, right angle type	RRK44T6W

Add "MTP" for sensors with plug instead of 2m standard cable & request pricing.
 ** Specify NO or NC.

Power Control

Automation & Control

General purpose Inductive Proximity Sensors

Rhomberg Inductive Prox 3 or 4 Wire PNP & NPN DC

- PNP - 3 or 4 Wire Yellow Cable, NPN - 3 or 4 Wire Green Cable
- 10-60Vdc
- Reverse Polarity & Short Circuit Protected
- 400mA Max Load Current



B57

Description	Item No.
M12 Dia.. 2mm Sensing Distance Shielded 3 Wire	RI*1202F**
M12 Dia.. 4mm Sensing Distance Unshielded 3 Wire	RI*1204S**
M18 Dia. 5mm Sensing Distance Shielded 3 Wire	RI*1805F**
M18 Dia. 5mm Sensing Distance Shielded 4 Wire	RI*1805FNX
M18 Dia. 8mm Sensing Distance Unshielded 3 Wire	RI*1808S**
M18 Dia. 8mm Sensing Distance Unshielded 4 Wire	RI*1808SNX
M30 Dia. 10mm Sensing Distance Shielded 3 Wire	RI*3010F**
M30 Dia. 10mm Sensing Distance Shielded 4 Wire	RI*3010FNX
M30 Dia. 15mm Sensing Distance Unshielded 3 Wire	RI*3015S**
M30 Dia. 15mm Sensing Distance Unshielded 4 Wire	RI*3015SNX
M40 Dia. 20mm Sensing Distance Shielded 3 Wire	RI*4020F**
M40 Dia. 20mm Sensing Distance Shielded 4 Wire	RI*4020FNX
M40 Dia. 25mm Sensing Distance Unshielded 3 Wire	RI*4025S**
M40 Dia. 25mm Sensing Distance Unshielded 4 Wire	RI*4025SNX
6M Lead, for plug-in sensor, straight type	RRK44T6
6M Lead, for plug-in sensor, right angle type	RRK44T6W

Add "MTP" for sensors with plug instead of 2m standard cable & request pricing.

* Specify 4 for PNP or 5 for NPN

** Specify NO or NC

NX = 4 wire NO & NC

Rhomberg Inductive Prox NAMUR 2 Wire

- 2 Wire (Blue Cable)
- Designed To DIN 19234
- Interfaces with Rhomberg SC320 or SC300 Relay



B57

Description	Item No.
M12 Dia. 2mm Sensing Distance Shielded	RI01202FNC
M12 Dia. 4mm Sensing Distance Unshielded	RI01204SNC
M18 Dia. 5mm Sensing Distance Shielded	RI01805FNC
M18 Dia. 8mm Sensing Distance Unshielded	RI01808SNC
M30 Dia. 10mm Sensing Distance Shielded	RI03010FNC
M30 Dia. 15mm Sensing Distance Unshielded	RI03015SNC
M40 Dia. 20mm Sensing Distance Shielded	RI04020FNC
M40 Dia. 25mm Sensing Distance Unshielded	RI04025SNC
Switching Amplifier/Relay For NAMUR Sensors Plug In	SC300/*-SP
Control Relay For Rhomberg Photo Electric Sensors Plug In	SC410/*-SP
11 Pin DIN Rail Base	S3B

Add "MTP" for sensors with plug instead of cable & request pricing.

* Specify voltage: 12, 24Vdc & 24, 110, 240, 415Vac.

General purpose Inductive Proximity Sensors

Rhomberg Inductive Prox Can-Line

- Plastic Rectangular Body
- DC PNP, NPN or NAMUR
- Can-Line Sensors



B57

Description	Item No.
40 x 26 x 12mm 2mm Sensing Distance	RI02602FNCPBC
40 x 26 x 12mm 4mm Sensing Distance	RI02604SNCPBC
40 x 26 x 12mm 2mm Sensing Distance	RI04002FNCPBC
40 x 26 x 12mm 4mm Sensing Distance	RI04004SNCPBC
40 x 26 x 12mm 2mm Sensing Distance	RI*2602F**PBC
40 x 26 x 12mm 4mm Sensing Distance	RI*2604S**PBC
40 x 26 x 12mm 2mm Sensing Distance	RI*4002F**PBC
40 x 26 x 12mm 4mm Sensing Distance	RI*4004S**PBC
130 x 35 x 35mm 20mm Sensing Distance	RI*9020FNCPBC

* Specify 4 for PNP or 5 for NPN.

** Specify NO or NC.

General purpose Capacitive Proximity Sensors

Eaton E53 Threaded Body Capacitive Proximity Sensors

- Detect liquids, powders & other materials that are difficult or impossible with other sensor types
- Plastic body is corrosion resistant
- Sensitivity adjustment
- Output indicator LED



2-Wire sensors

B51

Model selection	Operating voltage	Sensing range	Shielding	Connection type	N/O output Item No.	N/C output Item No.
18 mm diameter end sensing	20 – 250V AC	8 mm	Shielded	2-metre Cable	E53KAL18A2	E53KBL18A2
	20 – 250V AC	15 mm	Unshielded	2-metre Cable	E53KAL18A2E	E53KBL18A2E
30 mm diameter end sensing	20 – 250V AC	20 mm	Shielded	2-metre Cable	E53KAL30A2	E53KBL30A2
	20 – 250V AC	25 mm	Unshielded	2-metre Cable	E53KAL30A2E	E53KBL30A2E

3-Wire sensors

B51

Model selection	Operating voltage	Sensing range	Shielding	Connection type	N/O output Item No.	N/C output Item No.
18 mm diameter end sensing	10 – 35V DC	8 mm	Shielded (NPN)	2-metre Cable	E53KAL18T110	E53KBL18T110
	10 – 35V DC	8 mm	Shielded (PNP)	2-metre Cable	E53KAL18T111	E53KBL18T111
	10 – 35V DC	15 mm	Unshielded (NPN)	2-metre Cable	E53KAL18T110E	E53KBL18T110E
	10 – 35V DC	15 mm	Unshielded (PNP)	2-metre Cable	E53KAL18T111E	E53KBL18T111E
30 mm diameter end sensing	10 – 35V DC	20 mm	Shielded (NPN)	2-metre Cable	E53KAL30T110	E53KBL30T110
	10 – 35V DC	20 mm	Shielded (PNP)	2-metre Cable	E53KAL30T111	E53KBL30T111
	10 – 35V DC	25 mm	Unshielded (NPN)	2-metre Cable	E53KAL30T110E	E53KBL30T110E
	10 – 35V DC	25 mm	Unshielded (PNP)	2-metre Cable	E53KAL30T111E	E53KBL30T111E

Power Control

Automation & Control

General purpose Capacitive Proximity Sensors

Rhomberg Proximity Switches - Capacitive

- Capacitive (Most Materials) Sensing
- Adjustable Sensitivity
- White Cap, Cables & LED Colour Coded For Type
- Moulded 2m Colour Coded Cable with Fishtail - Rated To IP67
- Normally Open (NO) Has Red LED, Normally Closed (Nc) Has Green LED
- Interchangeable with other makes



Rhomberg Capacitive Prox 2 Wire AC

- 20-250Vac, 50/60Hz
- Series & parallel connection compatible
- 400mA Max Load Current

B57

Description	Item No.
M18 Dia. 5mm Sensing Distance Shielded AC 2 wire	RC11805F**
M18 Dia. 10mm Sensing Distance Unshielded AC 2 wire	RC11810S**
M30 Dia. 10mm Sensing Distance Shielded AC 2 wire	RC13010F**
M30 Dia. 20mm Sensing Distance Unshielded AC 2 wire	RC13020S**
6M Lead, for plug-in sensor, straight type.	RRK44T6
6M Lead, for plug-in sensor, right angle type.	RRK44T6W

Add "MTP" for sensors with plug instead of 2m standard cable & request pricing.
 ** Specify NO or NC.

Rhomberg Capacitive Prox 3 Wire PNP & NPN DC

- PNP - 3 Wire Yellow Cable, NPN - 3 Wire Green Cable
- 10-60Vdc
- Reverse Polarity & Short Circuit Protected
- 400mA Max Load Current



B57

Description	Item No.
M18 Dia. 5mm Sensing Distance Shielded	RC*1805F**
M18 Dia. 10mm Sensing Distance Unshielded	RC*1810S**
M30 Dia. 10mm Sensing Distance Shielded	RC*3010F**
M30 Dia. 20mm Sensing Distance Unshielded	RC*3020S**

Add "MTP" for sensors with plug instead of 2m standard cable & request pricing.
 * Specify 4 for PNP or 5 for NPN.
 ** Specify NO or NC.

General purpose Capacitive Proximity Sensors

Rhomberg Capacitive Prox NAMUR 2 Wire

- 2 Wire (Blue Cable)
- Designed To DIN 19234
- Interfaces with SC320 or SC300 Relay



B57

Description	Item No.
M30 Dia. 10mm Sensing Distance Shielded	RC03010FNC
M30 Dia. 20mm Sensing Distance Unshielded	RC03020SNC
Switching Amplifier/Relay For NAMUR Sensors Plug In	SC300/*-SP
Control Relay For Rhomberg Photo Electric Sensors Plug In	SC410/*-SP
11 Pin DIN Rail Base	S3B

Add *-MTP* for sensors with plug instead of 2m standard cable & request pricing.
 * Specify voltage: 12, 24Vdc & 24, 110, 240, 415Vac.

Rhomberg Capacitive Prox Plastic Body 1.5" BSP



B57

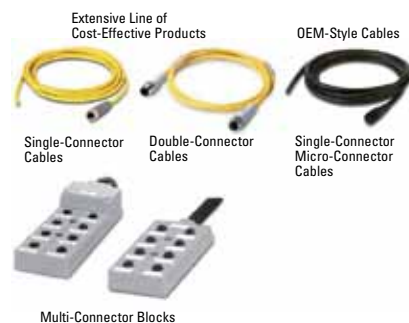
Description	Item No.
1.5" BSP20mm Sensing Distance NAMUR Type	RC04020SNCPBT
1.5" BSP20mm Sensing Distance AC/DC Type N/O	RCE4020SNOPBT
1.5" BSP20mm Sensing Distance AC/DC Type N/C	RCE4020SNCPBT
1.5" BSP20mm Sensing Distance DC Type NO	RC44020SNOPBT
1.5" BSP20mm Sensing Distance DC Type NC	RC44020SNCPBT
1.5" BSP20mm Sensing Distance DC Type NO	RC54020SNOPBT
1.5" BSP20mm Sensing Distance DC Type NC	RC54020SNCPBT

Power Control

Automation & Control

Cables for Plug-In Proximity Sensors

Eaton Cable for Plug-In Sensors is available for AC & DC sensors. Cable comes complete with micro connector fitted.



AC Micro Connector Cable

B51

Connector	Type	Cable Length	Item No.
.35mm ²	3-pin straight female	2m	CSAS3F3CY2202
.35mm ²	3-pin straight female	5m	CSAS3F3CY2205
.35mm ²	3-pin straight female	10m	CSAS3F3CY2210
.35mm ²	3-pin 90° angle female	2m	CSAR3F3CY2202
.35mm ²	3-pin 90° angle female	5m	CSAR3F3CY2205
.35mm ²	3-pin 90° angle female	10m	CSAR3F3CY2210

DC Micro Connector Cable*

B51

Connector	Type	Cable Length	Item No.
4-pin	3-wire straight female	2m	CSDS4A3CY2202
4-pin	3-wire straight female	5m	CSDS4A3CY2205
4-pin	3-wire straight female	10m	CSDS4A3CY2210
4-pin	4-wire straight female	2m	CSDS4A4CY2202
4-pin	4-wire straight female	5m	CSDS4A4CY2205
4-pin	4-wire straight female	10m	CSDS4A4CY2210
4-pin	3-wire right angle female	2m	CSDR4A3CY2202
4-pin	3-wire right angle female	5m	CSDR4A3CY2205
4-pin	3-wire right angle female	10m	CSDR4A3CY2210
4-pin	4-wire right angle female	2m	CSDR4A4CY2202
4-pin	4-wire right angle female	5m	CSDR4A4CY2205
4-pin	4-wire right angle female	10m	CSDR4A4CY2210

*For DC connector, NO (normally open) sensors require 4-pin 3-wire cable & NC (normally closed) sensors require 4-pin 4-wire cable.

Photoelectric Sensors

Eaton Prism Series Photoelectric Sensors

- Small size for use in a wide variety of applications & locations
- High sensing power for longer ranges & resistance to dust & dirt
- Adjustable gain control to ensure peak optical performance
- High noise immunity greatly reduces problems associated with electrical noise
- AC/DC models which allow you to order & stock one model for both voltages
- DC only models which offer lower cost options in all sensing modes
- Isolated outputs for wiring flexibility
- Short circuit protection
- Quick 3mS response time on all models
- Highly visible output status LED



3-Wire & 4-Wire sensors

B51

Model selection	Operating voltage	Type	Sensing range	Field of view	Through beam part	Light Operate Item No.	Dark Operate Item No.
Thru-Beam Forward Viewing	20 – 132V AC or 15 – 30V DC	-	6m	0.5 m diameter at 3 metres	Source Detector	11155AA14 12155AL10	11155AA14 12155AD10
	10 – 30V DC	-	6m	0.5 m diameter at 3 metres	Source Detector	11155AA17 12155AL10	11155AA17 12155AD10
Reflex-Forward Viewing Retroreflector (not included)	20 – 132V AC	Standard Reflex	4.5m	76 mm diameter at 3.6 metres	-	14150AL14	14150AD14
	20 – 132V AC or 15 – 30V DC	Polarized Reflex	3m	76 mm diameter at 3.6 metres	-	14151AL14	14151AD14
For complete system, order Sensor and Retroreflector	10 – 30V DC	Standard Reflex	4.5m	76 mm diameter at 3.6 metres	-	14150AL17	14150AD17
	10 – 30V DC	Polarized Reflex	3m	76 mm diameter at 3.6 metres	-	14151AL17	14151AD17
Diffuse Reflective Forward Viewing	20 – 132V AC or 15 – 30V DC	-	200 mm	15 mm diameter at 127 mm	-	13150AL14	13150AD14
	10 – 30V DC	-	200 mm	15 mm diameter at 127 mm	-	13150AL17	13150AD17

Connection type : 2m Cable.

Power Control

Automation & Control

Photoelectric Sensors

Eaton E58 Harsh Duty Series Photoelectric Sensors

- E58 Sensors are available in 18 mm & 30 mm diameters
- Highly refined optics for long sensing ranges & to see through high levels of contamination — unmatched optical performance
- Perfect Prox® technology provides exceptional background rejection & extremely high excess gain
- Resistant to the wide range of chemicals used in the automotive, food processing & forest products industries
- Suitable for high temperature, high pressure washdown (1200 psi)
- Mechanical Viton seals hold up to extreme temperature variations
- Visible sensing beam on all models lets you see where the beam is aimed for quick setup & alignment
- Output status indicator is the brightest available & is visible from any angle & in any lighting condition
- The industry's only background rejection sensors with a 2-wire circuit design
- Models available with both AC & DC operation in a single unit
- 4-wire DC sensors offer dual NPN & PNP outputs



3-Wire & 4-Wire sensors

B51

Model selection	Operating voltage	Sensing range	Field of view	Through beam part	Item No. Light Operate	Item No. Dark Operate
30 mm Diameter	20 – 132V AC	250 m	830 mm diameter	Source	E58-30TS250-GA	E58-30TS250-GA
Through-Beam	or 15 – 30V DC	-	at 7.6 metres	Detector	E58-30TD250-GL	E58-30TD250-GD
30 mm Diameter Reflex	20 – 132V AC or 15 – 30V DC	18 m	150 mm diameter at 6 metres	-	E58-30RS18-GL*	E58-30RS18-GD*
30 mm Diameter Polarized Reflex	20 – 132V AC or 15 – 30V DC	10 m	150 mm diameter at 6 metres	-	E58-30RP10-GL*	E58-30RP10-GD*

* Retroreflector not included.
Connection type: 2 metre Cable

2-Wire sensors

B51

Model selection	Operating voltage	Sensing range	Field of view	Through beam part	Item No. Light Operate	Item No. Dark Operate
18 mm Diameter Perfect Prox®	90 – 132V AC or 18 – 50V DC	50 mm	6 mm diameter at 50 mm	-	E58-18DP50-EL	E58-18DP50-ED
	90 – 132V AC or 18 – 50V DC	100 mm	10 mm diameter at 100 mm	-	E58-18DP100-EL	E58-18DP100-ED
30 mm Diameter Perfect Prox®	90 – 132V AC or 18 – 50V DC	150 mm	19 mm diameter at 150 mm	-	E58-30DP150-EL	E58-30DP150-ED
	90 – 132V AC or 18 – 50V DC	280 mm	26 mm diameter at 280 mm	-	E58-30DPS280-EL	E58-30DPS280-ED

Connection type: 2 metre Cable

3-Wire & 4-Wire sensors

B51

Model selection	Operating voltage	Sensing range	Field of view	Through beam part	Item No. Light Operate	Item No. Dark Operate
18 mm Diameter Perfect Prox®	10 – 30V DC	50 mm	6 mm diameter at 50 mm	-	E58-18DP50-HL	E58-18DP50-HD
	10 – 30V DC	100 mm	10 mm diameter at 100 mm	-	E58-18DP100-HL	E58-18DP100-HD
30 mm Diameter Perfect Prox®	20 – 132V AC or 15 – 30V DC	150 mm	19 mm diameter at 150 mm	-	E58-30DP150-GL	E58-30DP150-GD
	20 – 132V AC or 15 – 30V DC	280 mm	26 mm diameter at 280 mm	-	E58-30DPS280-GL	E58-30DPS280-GD

Connection type: 2 metre Cable

Photoelectric Sensors

Eaton E64 Terminal Base Series Photoelectric Sensors

- Universal voltage operation — 16 to 240V AC or DC
- SPST relay output handles up to 1A AC & 2A DC
- Screw-terminal connections with 1/2 inch NPT conduit entry
- Output & stability indicators
- PLC compatible output
- Sensitivity adjustment
- Selectable light or dark operation
- Mounting brackets & retroreflector (for polarised reflex models) included
- Rugged ABS housing rated NEMA 1, 3, 4, 12 & 13 (IP66)
- Polarised reflex models allow reliable detection of shiny targets that could reflect light back to the sensor & falsely trigger a non-polarised sensor
- Time delay models can be set for normal operation, on-delay, off-delay, on/off-delay, or one-shot delay, with adjustable timing range from 0.6 to 16 sec.



3-Wire & 4-Wire sensors

B51

Model selection	Operating voltage	Sensing range	Field of view	Light Source	With time delay	Item No.
Thru-Beam Source	16-240VAC/DC	50 m	750 mm diameter at 10 metres	Infrared	-	E64CAL4T
Thru-Beam Detector	16-240VAC/DC	50 m	750 mm diameter at 10 metres	-	Yes	E64CAT3T ①
Polarized Reflex	16-240VAC/DC	0.15 – 3.5 m	125 mm diameter at 0.5 m	Visible Red	Yes	E64CAT5T ②
Diffuse Reflective	16-240VAC/DC	2 m	20 mm diameter at 0.5 m	Infrared	Yes	E64CAT2T

① For a complete system, order one Source & one Detector.

② Retroreflector included in Polarized Reflex sensors.

Power Control

Automation & Control

Photoelectric Sensors

Eaton E65 Miniature Series Photoelectric Sensors

- 10 – 30V DC operation
- Output & stability indicators
- NPN or PNP selectable by wiring
- Light or dark operation selectable by wiring
- Sensitivity adjustment for fine tuning the sensor in your application
- All sensors include an adjustable mounting bracket for easy installation & alignment
- All sensors built with 2 metre cable for ease of use



B51

Model selection	Operating voltage	Sensing range	Sensing beam	Forward viewing Item No.	Right angle viewing Item No.
Thru-Beam Source	10 – 30V DC	5 m	Infrared	E65CBL4	E65VBL4
Thru-Beam Detector	10 – 30V DC	5 m	-	E65CBL3 ①	E65VBL3 ①
Polarised Reflex	10 – 30V DC	0.1 – 1.8 m	Visible Red	E65CBL5	E65VBL5
Clear Object Sensors	10 – 30V DC	0.2 – 0.6 m	Infrared	-	E65VBL1C ②
Diffuse Reflective Short Range	10 – 30V DC	100 mm	Infrared	E65CBL2	E65VBL2
Diffuse Reflective Long Range	10 – 30V DC	500 mm	Infrared	E65CBL2N	E65VBL2N
Diffuse Reflective Fixed Focus	10 – 30V DC	12 mm	Visible Red	E65CBL6	-
Fiber Optic	10 – 30V DC	Thru-beam mode: 11 cm, diffuse reflective, mode: 3.3 cm	Visible Red	E65CBL7R	-

Connection type: 2 metre Cable.

① For a complete system, order one Source & one Detector.

② Retroreflector included in Polarised Reflex & Clear Object sensors.

Eaton SM Series Photoelectric Sensors

- Highly visible LED indicators for power, output & TargetLock™
- TargetLock™ simplifies setup & ensures the sensor operates at the highest level of reliability possible
- Perfect Prox® models sense different coloured targets at the same range & ignore objects in the background
- AC/DC models operate on either 18 – 264V AC or 18 – 50V DC
- DC-only models feature both NPN & PNP outputs
- Visible beam on all models let you see exactly where the sensor is pointing
- Reverse polarity, overload & short circuit protection
- Full family includes thru-beam, polarised reflex, diffuse reflective & Perfect Prox® background rejection



B51

3-Wire & 4-Wire sensors

Model selection	Operating voltage	Sensing range	Field of view	Through beam part	Item No. Light Operate	Item No. Dark Operate
Thru-Beam	10 – 30V DC	15m	254 mm diameter	Source	E65-SMTS15-HA	E65-SMTS15-HA
			at 3 metres	Detector	E65-SMTD15-HL	E65-SMTD15-HD
Polarised Reflex	18 – 264V AC, or 18 – 50V DC	3m	25 mm diameter, at 1.3 metres	-	E65-SMPR3-GL	E65-SMPR3-GD
	10 – 30V DC	3m	25 mm diameter, at 1.3 metres	-	E65-SMPR3-HL	E65-SMPR3-HD
Diffuse Reflective	18 – 264V AC, or 18 – 50V DC	200 mm	50 mm diameter, at 127 mm	-	E65-SMSD200-GL	E65-SMSD200-GD
	10 – 30V DC	200 mm	50 mm diameter, at 127 mm	-	E65-SMSD200-HL	E65-SMSD200-HD
Perfect Prox®	18 – 264V AC, or 18 – 50V DC	50 mm	6 mm diameter, at 57 mm	-	E65-SMPP050-GL	E65-SMPP050-GD
	-	100 mm	9 mm diameter, at 127 mm	-	E65-SMPP100-GL	E65-SMPP100-GD
	10 – 30V DC	50 mm	6 mm diameter, at 57 mm	-	E65-SMPP050-HL	E65-SMPP050-HD
	-	100 mm	9 mm diameter, at 127 mm	-	E65-SMPP100-HL	E65-SMPP100-HD

Connection type: 2 metre Cable.

Photoelectric Sensors

Eaton E51 Assembled Photoelectric Sensors - in reflex, diffuse reflective & thru-beam versions, complete with head, body & receptacle. For complete thru-beam system, order one source & one detector.



B51

Description		Max. Range	Voltage	Circuit	Wires	Item No.
Reflex	standard P*	5.5m	20-264Vac/dc	NO or NC	2	E51ALP1
	standard	5.5m	120Vac	NO + NC	3	E51CLP1
	standard, logic**	5.5m	120Vac	NO + NC	3	E51CNP1
	standard, NPN	5.5m	10-30Vdc	NO + NC	3	E51NLP1
	standard, PNP	5.5m	10-30Vdc	NO + NC	3	E51PLP1
	fast response	5.5m	120Vac	NO + NC	3	E51CLP11
	fast resp, logic**	5.5m	120Vac	NO + NC	3	E51CNP11
	fast response, NPN	5.5m	10-30Vdc	NO + NC	3	E51NLP11
	fast response, PNP	5.5m	10-30Vdc	NO + NC	3	E51PLP11
	extended range	10.7m	120Vac	NO + NC	3	E51CLP3
	ext range, logic**	10.7m	120Vac	NO + NC	3	E51CNP3
	ext range, NPN	10.7m	10-30Vdc	NO + NC	3	E51NLP3
	ext range, PNP	10.7m	10-30Vdc	NO + NC	3	E51PLP3
	polarised lens	4.6m	120Vac	NO + NC	3	E51CLP5
	pol lens, logic**	4.6m	120Vac	NO + NC	3	E51CNP5
	pol lens, NPN	4.6m	10-30Vdc	NO + NC	3	E51NLP5
pol lens, PNP	4.6m	10-30Vdc	NO + NC	3	E51PLP5	
Diffuse Reflective	std. P*	200mm	20-264Vac/dc	NO or NC	2	E51ALP2
	standard	200mm	120Vac	NO + NC	3	E51CLP2
	standard, logic**	200mm	120Vac	NO + NC	3	E51CNP2
	standard, NPN	200mm	10-30Vdc	NO + NC	3	E51NLP2
	standard,PNP	200mm	10-30Vdc	NO + NC	3	E51PLP2
	fast response	200mm	120Vac	NO + NC	3	E51CLP22
	fast resp, logic**	200mm	120Vac	NO + NC	3	E51CNP22
	fast response, NPN	200mm	10-30Vdc	NO + NC	3	E51NLP22
	fast response, PNP	200mm	10-30Vdc	NO + NC	3	E51PLP22
	high gain	450mm	120Vac	NO + NC	3	E51CLP6
	high gain, logic**	450mm	120Vac	NO + NC	3	E51CNP6
	high gain, NPN	450mm	10-30Vdc	NO + NC	3	E51NLP6
	high gain, PNP	450mm	10-30Vdc	NO + NC	3	E51PLP6
	extended range	1m	120Vac	NO + NC	3	E51CLP4
	ext range, logic**	1m	120Vac	NO + NC	3	E51CNP4
	ext range , NPN	1m	10-30Vdc	NO + NC	3	E51NLP4
ext range, PNP	1m	10-30Vdc	NO + NC	3	E51PLP4	
Detector	for thru-beam P*	90m	20-264Vac/dc	NO or NC	2	E51ALC1
	for thru-beam	90m	120Vac	NO + NC	3	E51CLC1
	for thru-beam, logic**	90m	120Vac	NO + NC	3	E51CNC1
	for thru-beam,NPN	90m	10-30Vdc	NO + NC	3	E51NLC1
	for thru-beam,PNP	90m	10-30Vdc	NO + NC	3	E51PLC1
24Vac source for thru-beam	-	-	-	-	-	E51ELA24
240Vac source for thru-beam	-	-	-	-	-	E51ELA40
10-30Vdc source for thru beam	-	-	-	-	-	E51EDN

*P = programmable.

**Will accept logic modules.

Power Control

Automation & Control

Photoelectric Sensors

Eaton Comet Thru-Beam Photoelectric Sensors - are available in a variety of sources & detectors to sense objects as small as 6.5mm diameter. For complete system, order 1 source & 1 detector.



Sensitivity adjustment	15:1
Light source for 6m range	infrared LED
Light source for 24m range	visible red LED

Sensor = source + detector

Source

B51

Voltage	Max. Range	Optimum Range	Viewing	Connector	Item No.
20-264Vac 50/60Hz or 15-30Vdc	refer detector	refer detector	forward	2m cable	11100A6513
			right angle	2m cable	11100R6513
			forward	micro	11100AQD03
			right angle	micro	11100RQD03
10-30Vdc	refer detector	refer detector	forward	2m cable	11100A6517
			right angle	2m cable	11100R6517
			forward	micro	11100AQD07
			right angle	micro	11100RQD07

Detector

B51

Voltage	Max. Range	Optimum Range	Viewing	Connector	Item No.
20-264Vac 50/60Hz or 15-30Vdc (NPN)	6m	30mm - 3m	forward	2m cable	12100A6513
	6m	30mm - 3m	right angle	2m cable	12100R6513
	6m	30mm - 3m	forward	micro	12100AQD03
	6m	30mm - 3m	right angle	micro	12100RQD03
	24m	30mm - 12m	forward	2m cable	12102A6513
	24m	30mm - 12m	forward	micro	12102AQD03
10-30Vdc (NPN, PNP)	6m	30mm - 3m	forward	2m cable	12100A6517
	6m	30mm - 3m	right angle	2m cable	12100R6517
	6m	30mm - 3m	forward	micro	12100AQD07
	6m	30mm - 3m	right angle	micro	12100RQD07
	24m	30mm - 12m	forward	2m cable	12102A6517
	24m	30mm - 12m	forward	micro	12102AQD07

* For Plug in Cables, refer to page 364.

Photoelectric Sensors

Eaton Comet Reflex Photoelectric Sensors - High performance sensor housed in industry standard 18mm tubular body. Comes with two mounting nuts for quick installation.



Sensitivity adjustment	15:1
Output indicator LED	lights when output is "on"

Complete Unit = Sensor + Retroreflector

Sensor

B51

Voltage	Beam	Max/Optimum Range	Viewing	Connect	Item No.
20-264Vac 50/60Hz or 15-30Vdc(NPN)	visible red	7.5m/30mm - 4.5m	forward	cable	14102A6513
	visible red	4.5m/30mm - 3m	right angle	cable	14102R6513
	visible red	7.5m/30mm - 4.5m	forward	micro	14102AQD03
	visible red	4.5m/30mm - 3m	right angle	micro	14102RQD03
	invisible/infrared	7.5m/30mm - 4.5m	forward	cable	14100A6513
	invisible/infrared	7.5m/30mm - 4.5m	forward	micro	14100AQD03
	polarised vis. red	4.5m/30mm - 3m	forward	cable	14101A6513
	polarised vis. red	4.5m/30mm - 3m	right angle	cable	14101R6513
	polarised vis. red	3m/30mm - 1.5m	forward	micro	14101AQD03
	polarised vis. red	3m/30mm - 1.5m	right angle	micro	14101RQD03
10-30Vdc (NPN, PNP)	visible red	7.5m/30mm - 4.5m	forward	cable	14102A6517
	visible red	4.5m/30mm - 3m	right angle	cable	14102R6517
	visible red	7.5m/30mm - 4.5m	forward	micro	14102AQD07
	visible red	4.5m/30mm - 3m	right angle	micro	14102RQD07
	invisible/infrared	7.5m/30mm - 4.5m	forward	cable	14100A6517
	invisible/infrared	7.5m/30mm - 4.5m	forward	micro	14100AQD07
	polarised vis. red	4.5m/30mm - 3m	forward	cable	14101A6517
	polarised vis. red	3m/30mm - 1.5m	right angle	cable	14101R6517
	polarised vis. red	4.5m/30mm - 1.5m	forward	micro	14101AQD07
	polarised vis. red	3m/30mm - 1.5m	right angle	micro	14101RQD07

Retroreflectors

B51

Description	Item No.
75mm diameter with mounting hole (2 per package)	6200A-6501
75mm diameter with mounting hole (1 per package)	E51KR84
75mm diameter, metal backed, with mounting hole (1 per package)	6200A-6506
75mm wide retro reflective tape, 1 piece	6303A-XXX**

Polarised visible beam red sensors may not operate with retro reflective tape. Test selected tape before installation.

* For Plug in Cables, refer to page 364.

**Replace XXXs in Item number with length in feet of tape required.

Power Control

Automation & Control

Photoelectric Sensors

Eaton Comet Diffuse Reflective Photoelectric Sensors - High performance sensors housed in industry standard 18mm tubular body. Come with two mounting nuts for quick installation.



B51

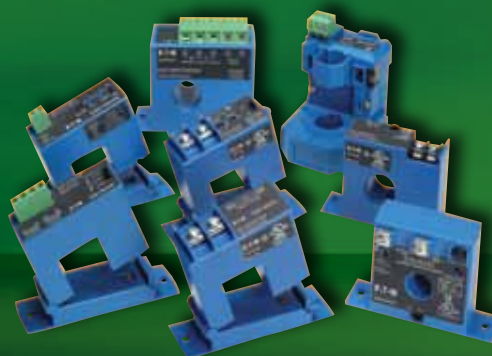
Sensitivity adjustment	15:1
Light source for model 13102	visible red LED
Light source for all other models	infrared LED
Output indicator LED	lights when output is "on"

Voltage	Max. Range	Optimum Range	Viewing	Connector	Item No.
20-264Vac 50/60Hz or 15-30Vdc(NPN)	200mm	30mm - 1.5m	forward	2m cable	13106A6513
	200mm	30mm - 1.5m	right angle	2m cable	13106R6513
	200mm	30mm - 1.5m	forward	micro	13106AQD03
	200mm	30mm - 1.5m	right angle	micro	13106RQD03
	600mm	30mm - 4.5m	forward	2m cable	13100A6513
	600mm	30mm - 4.5m	right angle	2m cable	13100R6513
	600mm	30mm - 4.5m	forward	micro	13100AQD03
	600mm	30mm - 4.5m	right angle	micro	13100RQD03
10-30Vdc (NPN, PNP)	200mm	30mm - 1.5m	forward	2m cable	13106A6517
	200mm	30mm - 1.5m	right angle	2m cable	13106R6517
	200mm	30mm - 1.5m	forward	micro	13106AQD07
	200mm	30mm - 1.5m	right angle	micro	13106RQD07
	600mm	30mm - 4.5m	forward	2m cable	13100A6517
	600mm	30mm - 4.5m	right angle	2m cable	13100R6517
	600mm	30mm - 4.5m	forward	micro	13100AQD07
	600mm	30mm - 4.5m	right angle	micro	13100RQD07

* For Plug in Cables, refer to page 364.

Sense Your Power With CurrentWatch™

High Performance AC & DC Current Sensors



Introducing CurrentWatch™, a complete line of Cutler-Hammer current sensors, switches & ground fault devices from Eaton's electrical business.

With models measuring up to 2,000 amps AC & 300 amps DC, CurrentWatch products are perfect for providing improved reliability, predictive diagnostics, feedback & monitoring for all types of electrical equipment.

Simply run a conductor wire through the sensing aperture, wire the outputs to your controller & installation is complete. With features such as split-core housings that wrap around existing wires, industry standard outputs & self-powered models available, sensing current has never been easier.

For more information on Eaton's full line of Cutler-Hammer contact & non-contact sensing solutions including CurrentWatch, just give our experienced Sensor Application Engineers a call at 1300 3 EATON.



For further information:
0508 328 6669
www.eaton.co.nz



CurrentWatch Current Sensors & Switches



Eaton EDC Series CurrentWatch Current Sensors

- Jumper-Selectable Ranges - Reduces inventory & eliminates zero or span pots
- Isolation output is magnetically isolated from the input for safety, also eliminating insertion loss (voltage drop)
- Internal Power Regulation. Cuts installation costs & works well, even with unregulated power
- Split Core Design & Built-In Mounting Brackets. Makes installation quick & easy
- UL & CE Approved, Applications - Battery banks, transportation, electrical heating elements



Top Terminal Current Sensors

B51

	Power Supply	Aperture Size	Output Signal	Current Range	Item No.
 Split-Core Housings	24V AC/DC	0.85 in. (21.6 mm)	0 – 5V DC	50, 75 or 100A	EDC205SP
				100, 150 or 200A	EDC305SP
				150, 225 or 300A	EDC405SP
			0 – 5V DC	50, 75 or 100A	EDC210SP
				100, 150 or 200A	EDC310SP
				150, 225 or 300A	EDC410SP
			4 – 20 mA	50, 75 or 100A	EDC2420SP
				100, 150 or 200A	EDC3420SP
				150, 225 or 300A	EDC4420SP
 Solid-Core Housings		0.75 in. (19 mm)	4 – 20 mA	5, 10 or 20A	EDC1420SC




Eaton ECSJ Series CurrentWatch Current Switches

- Choice of N.O. or N.C. Solid-State Outputs. 1A @ 240V AC, 0.15A @ 30V DC, 15A @ 120V AC, 3A @ 120V AC, 0.15A @ 30V DC, Dual Contact
- Self-Powered - Cuts installation & operating costs
- Easily Adjustable Setpoint - Speeds start-up & reduces inventory
- Solid or Split-Core Housings - Choose the appropriate version for your application
- LED Indication - Provides quick visual indication of output contact status
- Built-In Mounting Feet - Provide for a secure installation
- UL, C-UL & CE Approved, Applications - Electronic proof of flow, Conveyors, Lighting Circuits, Fans, Pumps, Heating elements, Critical motors & Ancillary equipment



Front & Top Terminal Switches

B51

	Power Supply	Aperture Size	Output Type, Voltage & Rating	Setpoint & LED Configuration	Item No.
 Solid-Core Housings with Front Terminals	Self-Powered (No External Power needed)	0.55 in. (14 mm)	Normally Open, 1A @ 240V AC	Adjustable 1 – 6, 6 – 40 or 40 – 175A Setpoint with LED	ECSJ400SC
			Normally Open, 15A @ 120V AC	Adjustable 1 – 6, 6 – 40 or 40 – 175A Setpoint with LED	ECSJ406SC
			Normally Closed, 1A @ 240V AC	Adjustable 1 – 6, 6 – 40 or 40 – 175A Setpoint with LED	ECSJ401SC
			Normally Closed, 15A @ 120V AC	Adjustable 1 – 6, 6 – 40 or 40 – 175A Setpoint with LED	ECSJ407SC
			Dual Contact, N.O. & N.C., 0.15A @ 30V DC	Adjustable 1 – 6, 6 – 40 or 40 – 175A Setpoint with LED	ECSJ430SC
			Normally Open, 0.15A @ 30V DC	Adjustable 1 – 6, 6 – 40 or 40 – 175A Setpoint with LED	ECSJ420SC
				Adjustable 1 – 6, 6 – 40 or 40 – 175A Setpoint with LED	ECSJ424SC
Normally Closed, 0.15A @ 30V DC	Adjustable 1 – 6, 6 – 40 or 40 – 175A Setpoint with LED	ECSJ421SC			
 Solid-Core Housings with Top Terminals		0.74 in. (19 mm)	Normally Open, 3A @ 120V AC	Adjustable 1 – 6, 6 – 40 or 40 – 175A Setpoint with LED	ECSJ404SC
			Normally Closed, 3A @ 120V AC	Adjustable 1 – 6, 6 – 40 or 40 – 175A Setpoint with LED	ECSJ405SC
 Split-Core Housings		0.85 in. (21.6 mm)	Normally Open, 1A @ 240V AC	Adjustable 1.75 – 6, 6 – 40 or 40 – 200A Setpoint with LED	ECSJ402SP
			Normally Closed, 1A @ 240V AC	Adjustable 1.75 – 6, 6 – 40 or 40 – 200A Setpoint with LED	ECSJ403SP
			Normally Open, 0.15A @ 30V DC	Adjustable 1.75 – 6, 6 – 40 or 40 – 200A Setpoint with LED	ECSJ422SP
			Normally Closed, 0.15A @ 30V DC	Adjustable 1.75 – 6, 6 – 40 or 40 – 200A Setpoint with LED	ECSJ423SP

Power Control

Automation & Control

CurrentWatch Current Sensors & Switches


Eaton EGF Series CurrentWatch Current Sensors

- Broad Range of Options to Meet Application Needs - N.O. or N.C., solidstate or mechanical relays, normally energised or normally de-energised contacts
- Setpoint Options Maximize Ease-of-Use & Application
- Flexibility - Field selectable 5, 10 or 30 mA setpoints on the EGF "Tri-set" models make user adjustments fast, sure & convenient
- Compatible with Standard Equipment - Application on single- & three phases systems, ideal for use with shunt trip breakers, & magnetically isolated from monitored circuit & control power
- Agency Approved - UL & CE Certified, accepted worldwide
- Applications - Personnel Protection (Typically 5 mA), Equipment Protection (Typically 10 or 30 mA), Regulatory requirements.



Solid-State Output Sensors

B51

	Power Supply	Setpoint	AC Solid-State Output	DC Solid-State Output	Contacts	Item No.
 Solid-Core Housings	120V AC	Fixed, 50 mA	Solid-State, N.O., 1A @ 240V AC	—	Normally Energised	EGF1NOACNE050
					Normally De-energised	EGF1NOACDE050
			Solid-State, N.C., 1A @ 240V AC	—	Normally Energised	EGF1NCACNE050
					Normally De-energised	EGF1NCACDE050
			—	Solid-State, N.O., 0.15A @ 30V DC	Normally Energised	EGF1NODCNE050
					Normally De-energised	EGF1NODCDE050
		—	Solid-State, N.C., 0.15A @ 30V DC	Normally Energised	EGF1NCDCNE050	
				Normally De-energised	EGF1NCDCDE050	
		Fixed, 100 mA	Solid-State, N.O., 1A @ 240V AC	—	Normally Energised	EGF1NOACNE100
						Normally De-energised
			Solid-State, N.C., 1A @ 240V AC	—	Normally Energised	EGF1NCACNE100
						Normally De-energised
			—	Solid-State, N.O., 0.15A @ 30V DC	Normally Energised	EGF1NODCNE100
						Normally De-energised
		—	Solid-State, N.C., 0.15A @ 30V DC	Normally Energised	EGF1NCDCNE100	
					Normally De-energised	EGF1NCDCDE100
Tri-Set Adjustable, 5, 10 or 30 mA	Solid-State, N.O., 1A @ 240V AC	—	Normally Energised	EGF3NOACNET3		
				Normally De-energised	EGF3NOACDET3	
	Solid-State, N.C., 1A @ 240V AC	—	Normally Energised	EGF3NCACNET3		
				Normally De-energised	EGF3NCACDET3	
	—	Solid-State, N.O., 0.15A @ 30V DC	Normally Energised	EGF3NODCNET3		
				Normally De-energised	EGF3NODCDET3	
—	Solid-State, N.C., 0.15A @ 30V DC	Normally Energised	EGF3NCDCNET3			
			Normally De-energised	EGF3NCDCDET3		



CurrentWatch Current Sensors & Switches

Eaton EPRM Series CurrentWatch Current Sensors

- True RMS Output Models Available - True RMS technology is accurate on distorted waveforms like VFD or SCR outputs
- Switch-Selectable Input & Output Ranges - Field selectable input accommodates multiple AC current ranges, while voltage output models offer choice of 0-5V DC or 0-10V DC analogue outputs
- Application Versatility - Supports input ranges of up to 400A & standard 50/60 Hz or distorted (VFD, SCR) loads
- Agency Approvals & Patented Technology - CE Approved & UL 508 Pending with a patented technology that eliminate problems inherent with magnetic technology such as core saturation
- Applications - Motor Control Centres, Automation & Data Logging & VFD Controlled Loads.



B51

	Power Supply	Output Signal	Current Selectable Range	Item No.
AC Current Sensors				
 Split-Core Housings	24V DC \pm 5% Auxiliary Power	0 – 5 or 0 – 10V DC	10, 25 or 50A	EPRM0510ASP
			50, 75 or 100A	EPRM1510ASP
			100, 150 or 200A	EPRM2510ASP
			200, 300 or 400A	EPRM3510ASP
	24V DC \pm 5% Loop-Powered	4 – 20 mA	10, 25 or 50A	EPRM0420LSP
			50, 75 or 100A	EPRM1420LSP
			100, 150 or 200A	EPRM2420LSP
			200, 300 or 400A	EPRM3420LSP
True RMS Sensors				
 Split-Core Housings	24V DC \pm 5% Auxiliary Power	0 – 5 or 0 – 10V DC	10, 25 or 50A	EPRMR0510ASP
			50, 75 or 100A	EPRMR1510ASP
			100, 150 or 200A	EPRMR2510ASP
			200, 300 or 400A	EPRMR3510ASP
	24V DC \pm 5% Loop-Powered	4 – 20 mA	10, 25 or 50A	EPRMR0420LSP
			50, 75 or 100A	EPRMR1420LSP
			100, 150 or 200A	EPRMR2420LSP
			200, 300 or 400A	EPRMR3420LSP

Power Control

Automation & Control

CurrentWatch Current Sensors & Switches




Eaton EAC Series CurrentWatch Current Sensors

- Highly Accurate - Factory matched & calibrated single-piece sensor is more accurate than traditional two-piece, field-installed solutions
- Average Responding - "Average Responding" algorithm gives an RMS output on pure sine waves, perfect for constant speed (linear) loads
- Jumper Selectable Ranges - The ability to change input ranges reduces inventory & eliminates zero & span
- Isolation - Output is magnetically isolated from the input for safety & elimination of insertion loss (voltage drop)
- UL, C-UL & CE Approved - Accepted worldwide. Typical Applications - Automation Equipment, Data Loggers & Panel Meters



Top Terminal Current Sensors

B51

	Power Supply	Aperture Size	Output Signal	Current Range	Item No.		
 Solid-Core Housings	Self-Powered (No External Power Needed)	0.74 in. (19 mm)	0 – 5V DC	10, 20 or 50A	EAC105SC		
				100, 150 or 200A	EAC205SC		
			0 – 10V DC	10, 20 or 50A	EAC110SC		
			100, 150 or 200A	EAC210SC			
	24V DC Loop-Powered		4 – 20 mA	2 or 5A	EAC0420SC		
				10, 20 or 50A	EAC1420SC		
		100, 150 or 200A	EAC2420SC				
 Split-Core Housings	Self-Powered (No External Power Needed)	0.85 in. (21.6 mm)	0 – 5V DC	10, 20 or 50A	EAC105SP		
				100, 150 or 200A	EAC205SP		
			0 – 10V DC	10, 20 or 50A	EAC110SP		
			100, 150 or 200A	EAC210SP			
	24V DC Loop-Powered		4 – 20 mA	2 or 5A	EAC0420SP		
				10, 20 or 50A	EAC1420SP		
				100, 150 or 200A	EAC2420SP		
	 Split-Core Housings		120V AC		4 – 20 mA	2 or 5A	EACP0420120SP
						10, 20 or 50A	EACP1420120SP
		100, 150 or 200A	EACP2420120SP				
24V AC/DC		4 – 20 mA	2 or 5A		EACP042024USP		
			10, 20 or 50A		EACP142024USP		
			100, 150 or 200A		EACP242024USP		

CurrentWatch Current Sensors & Switches



Eaton EACR Series CurrentWatch Current Sensors

- True RMS Output - True RMS technology is accurate on distorted waveforms like VFD or SCR outputs
- Jumper-Selectable Ranges - Reduces inventory & eliminates zero & span isolation - Output is magnetically isolated from the input for safety & elimination of insertion loss (voltage drop)
- UL, C-UL & CE Approved, Applications - VFD Controlled Loads, SCR Controlled Loads & Switched mode Power Supplies & Electronic Ballasts



Top Terminal Current Sensors

B51

	Power Supply	Aperture Size	Output Signal	Current Range	Item No.
 Solid-Core Housings	24V DC Loop-Powered	0.74 in. (19 mm)	4 – 20 mA	2 or 5A	EACR0420SC
				10, 20 or 50A	EACR1420SC
				100, 150 or 200A	EACR2420SC
 Split-Core Housings	24V DC Loop-Powered	0.85 in. (21.6 mm)	4 – 20 mA	2 or 5A	EACR0420SP
				10, 20 or 50A	EACR1420SP
				100, 150 or 200A	EACR2420SP



ECS7 Series CurrentWatch Current Switches

- Self-Powered & Self-Calibrating. Reduces installation costs
- Status Monitoring, Overload & Operating Window Options
- Choose the operating style that matches your application
- Universal Output . AC or DC compatibility with any automation system
- UL, C-UL & CE Approved, Applications - Conveyors, Electronic Proof of Flow & Pump Protection



Front & Top Terminal Switches

B51

	Power Supply	Output Type	Aperture Size	Intelligent Logic	Item No.
 Solid-Core Housing	Self-Powered (No External Power Needed)	Normally Open	0.74 in. (19 mm)	Over/Underload, 1.5 – 150A Self-Calibrating	ECS701SC ①
				Overload Only, 1.5 – 150A Self-Calibrating	ECS700SC
				Underload Only, 1.5 – 150A Self-Calibrating	ECS702SC
 Split-Core Housing	Self-Powered (No External Power Needed)	Normally Open	0.85 in. (21.6 mm)	Over/UnderLoad, 2.8 – 150A Self-Calibrating	ECS711SP ①
				Overload Only, 2.8 – 150A Self-Calibrating	ECS710SP
				Underload Only, 2.8 – 150A Self-Calibrating	ECS712SP

① Output is closed when current is within ± 15% window.

Power Control

Automation & Control





CurrentWatch Current Sensors & Switches

Eaton ECSTD Series CurrentWatch Current Switches

- Adjustable Start-Up/Delay Timer - Field adjustable from 0-15 seconds to eliminate nuisance alarms due to start-up inrush or temporary overcurrent conditions
- Choice of N.O./N.C. AC or Universal Outputs - Contact ratings of 1.0A @ 240V AC or universal outputs of 0.15A @ 240V AC/DC (N.O. models) & 0.2A @ 135V AC/DC (N.C. models) for use with most standard motor control systems
- Improved Ease of Installation & Use - Self-powered, split-core models simplify installation, 1.0A AC rating eliminates need for time delay relay & status LED provides visual indication of setpoint trip & contact status
- Industrial Grade Performance - Constant hysteresis & linear response characteristics enhance setpoint accuracy
- Agency Approved - UL Listed, CE pending
- Applications - Motor Protection & High Inrush or Temporary Overload Current



B51

	Power Supply	Aperture Size	Output Type	Setpoint Options	Item No.
AC Output Switches (N.O./N.C. 1A @ 240V AC)					
 Solid-Core Housings	Self Powered (No External Power Needed)	0.75 in. (19 mm)	Normally Open	Adjustable Setpoints: 1.5 – 12, 12 – 55 or 50 – 175A	ECSTD401SC
			Normally Closed	Adjustable Setpoints: 1.5 – 12, 12 – 55 or 50 – 175A	ECSTD402SC
 Split-Core Housings		0.85 in. (21.6 mm)	Normally Open	Adjustable Setpoints: 2 – 12, 12 – 55 or 50 – 200A	ECSTD404SP
			Normally Closed	Adjustable Setpoints: 2 – 12, 12 – 55 or 50 – 200A	ECSTD405SP
AC/DC Output Switches (N.O. 0.15A @ 240V AC/DC, N.C. 0.2A @ 135V AC/DC) ①					
 Solid-Core Housings	Self Powered (No External Power Needed)	0.75 in. (19 mm)	Normally Open	Adjustable Setpoints: 1.5 – 12, 12 – 55 or 50 – 175A	ECSTD406SC
			Normally Closed	Adjustable Setpoints: 1.5 – 12, 12 – 55 or 50 – 175A	ECSTD407SC
 Split-Core Housings		0.85 in. (21.6 mm)	Normally Open	Adjustable Setpoints: 2 – 12, 12 – 55 or 50 – 200A	ECSTD408SP
			Normally Closed	Adjustable Setpoints: 2 – 12, 12 – 55 or 50 – 200A	ECSTD409SP

① Preferred for PLC inputs.

CurrentWatch Current Sensors & Switches




Eaton ECS Series CurrentWatch Current Switches

- Universal Outputs N.O. or N.C. solid-state switch for control circuits up to 240V AC/DC
- Easily Adjustable Setpoint - Increases application flexibility & speeds start-up
- Solid- or Split-Core Housings
- LED Indication - Provides quick indication of contact status
- Built-In Mounting Feet - Simple, two-screw panel mount or attach with optional DIN-rail mounting kit accessory
- Applications - Electronic proof of flow, Conveyors, Lighting Circuits, Fans, Pumps, Heating elements, Critical motors & Ancillary equipment



Top Terminal Current Switch

B51

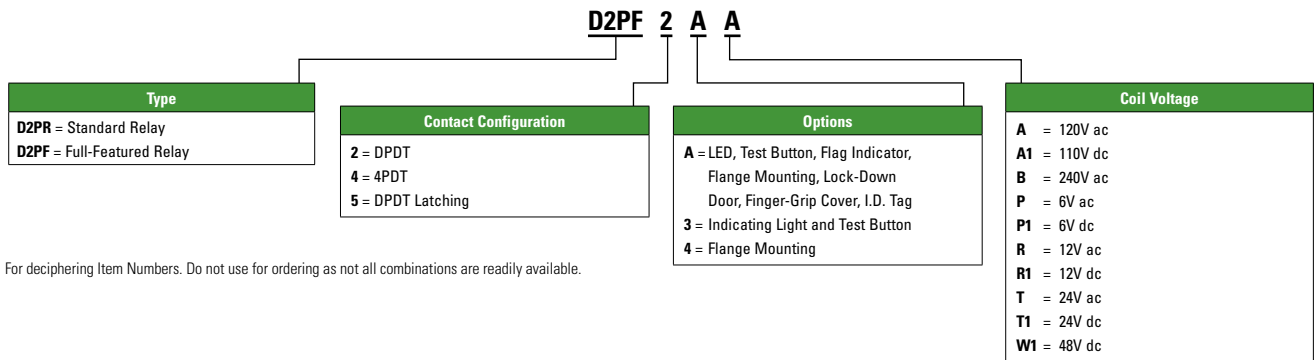
	Power Supply	Aperture Size	Output Signal	Setpoint & LED Configuration	Item No.
 Solid-Core Housings	Self Powered (No External Power Needed)	0.74 in. (19 mm)	Normally Open	Adjustable 1 – 150A Setpoint with LED	ECSNOASC
				Fixed 1.0A Setpoint No LED	ECSNOFSC
			Normally Closed	Adjustable 1 – 150A Setpoint with LED	ECSNCASC
				Fixed 1.0A Setpoint No LED	ECSNCFSC
 Split-Core Housings		0.85 in. (21.6 mm)	Normally Open	Adjustable 1.75 – 150A Setpoint with LED	ECSNOASP
				Fixed 1.5A Setpoint No LED	ECSNOFSP
			Normally Closed	Adjustable 1.75 – 150A Setpoint with LED	ECSNCASP
				Fixed 1.5A Setpoint No LED	ECSNCFSP
 DIN Rail Mounting Kit*					EDINKIT

*Sensor pictured for reference & not included in kit.

Power Control

Automation & Control

Plug In Relays - D2 Series



Automation & Control

Eaton D2PF2 2 Pole Relays

- Flag indicator shows relay status in manual or powered condition
- Bi-polar LED status lamp allows for reverse polarity applications
- LED status lamp shows coil "ON" or "OFF" status — ideal for use in low light applications
- Shows coil ON or OFF status
- Colour coded pushbutton identifies AC coils with red or DC coils with blue pushbuttons
- Allows for manual operation of relay without the need for coil power
- Ideal for field service personnel to test control circuits
- Lock down door, when activated, holds pushbutton & contacts in the operate position
- Excellent for analysing circuit problems
- Finger-grip cover allows operator to remove relays from sockets more easily than conventional relays
- White plastic I.D. tag/write label used for identification of relays in multi-relay circuits



Eaton D2PF4 4 Pole Relays

- Flag indicator shows relay status in manual or powered condition
- LED status lamp shows coil "ON" or "OFF" status — ideal for use in low light applications
- Push-to-test button allows for manual operation of relay without the need for coil power
- Lock-down door holds pushbutton & contacts in the operate position when activated
- Finger-grip cover allows operator to remove relays from sockets easily
- I.D. tag/write label to identify relays in multiple-relay circuits
- Bi-polar LED allows for reverse polarity applications



Eaton D2PF2 2 Pole Relays

B51

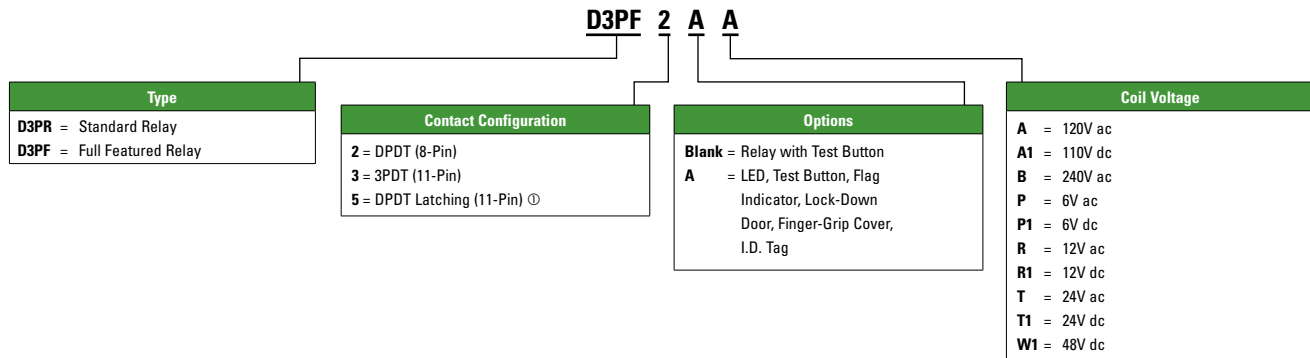
Description	Voltage	Item No.
Relay 8 Amps 48V DC 2 Pole	48V DC	D2PF2AW1
Relay 8 Amps 24V DC 2 Pole	24V DC	D2PF2AT1
Relay 8 Amps 24V AC 2 Pole	24V AC	D2PF2AT
Relay 8 Amps 240V AC 2 Pole	240V AC	D2PF2AB
Relay 8 Amps 12V DC 2 Pole	12V DC	D2PF2AR1
Relay 8 Amps 12V AC 2 Pole	12V AC	D2PF2AR
Relay 8 Amps 120V AC 2 Pole	120V AC	D2PF2AA
Relay 8 Amps 110VDC 2 Pole	110V DC	D2PF2AA1
2 OR 4 Pole DIN or Panel Mount Base (Fingersafe)	-	D2PA7-A2
Hold down clip	-	PQC-1782

Eaton D2PF4 4 Pole Relays

B51

Description	Voltage	Item No.
Relay 3 Amps 48V DC 4 Pole	48V DC	D2PF4AW1
Relay 3 Amps 24V DC 4 Pole	24V DC	D2PF4AT1
Relay 3 Amps 24V AC 4 Pole	24V AC	D2PF4AT
Relay 3 Amps 240V AC 4 Pole	240V AC	D2PF4AB
Relay 3 Amps 12V DC 4 Pole	12V DC	D2PF4AR1
Relay 3 Amps 12V AC 4 Pole	12V AC	D2PF4AR
Relay 3 Amps 110V DC 4 Pole	110V DC	D2PF4AA1
2 OR 4 Pole DIN or Panel Mount Base (Fingersafe)	-	D2PA7-A2
Hold down clip	-	PQC-1782

Plug In Relays – D3 series



For deciphering Item Numbers. Do not use for ordering as not all combinations are readily available. Ⓞ D3PR only.

Eaton D3PF2 8 Pin Round Pin Plug Relays

- Flag indicator shows relay status in manual or powered condition
- LED status lamp shows coil “ON” or “OFF” status
- Push-to-test button allows for manual operation of relay
- Lock-down door holds pushbutton & contacts in the operated position when activated
- Finger-grip cover allows operator to remove relays
- I.D. tag/write label to identify relays in multiple-relay circuits
- Bi-polar LED allows for reverse polarity applications



Eaton D3PF3, D3PR5 11 Pin Round Pin Plug Relays

- Flag indicator shows relay status in manual or powered condition
- LED status lamp shows coil “ON” or “OFF” status
- Push-to-test button allows for manual operation of relay
- Lock-down door holds pushbutton & contacts in the operated position when activated
- Finger-grip cover allows operator to remove relays from sockets easily
- I.D. tag/write label to identify relays in multiple-relay circuits
- Bi-polar LED allows for reverse polarity applications



Eaton D3PF2 8 Pin Plug Relays

B51

Description	Voltage	Item No.
Relay 12 Amps 24V DC 2 Pole	24V DC	D3PF2AT1
Relay 12 Amps 24V AC 2 Pole	24V AC	D3PF2AT
Relay 12 Amps 240V AC 2 Pole	240V AC	D3PF2AB
Relay 12 Amps 12V DC 2 Pole	12V DC	D3PF2AR1
Relay 12 Amps 120V AC 2 Pole	120V AC	D3PF2AA
Relay 12 Amps 110V DC 2 Pole	110V DC	D3PF2AA1
8 PIN Octal Base	-	D3PA6
Hold down clip for 2/3-pole	-	POC-1332

D3PF3 11 Pin Round Pin Plug Relays

B51

Description	Voltage	Item No.
Relay 12 Amps 24V DC 3 Pole	24V DC	D3PF3AT1
Relay 12 Amps 24V AC 3 Pole	24V AC	D3PF3AT
Relay 12 Amps 240V AC 3 Pole	240V AC	D3PF3AB
Relay 12 Amps 120V AC 3 Pole	120V AC	D3PF3AA
Relay 12 Amps 110V DC 3 Pole	110V DC	D3PF3AA1
11 PIN Octal Base	-	D3PA7-A2

D3PR5 11 PIN Latching Relays

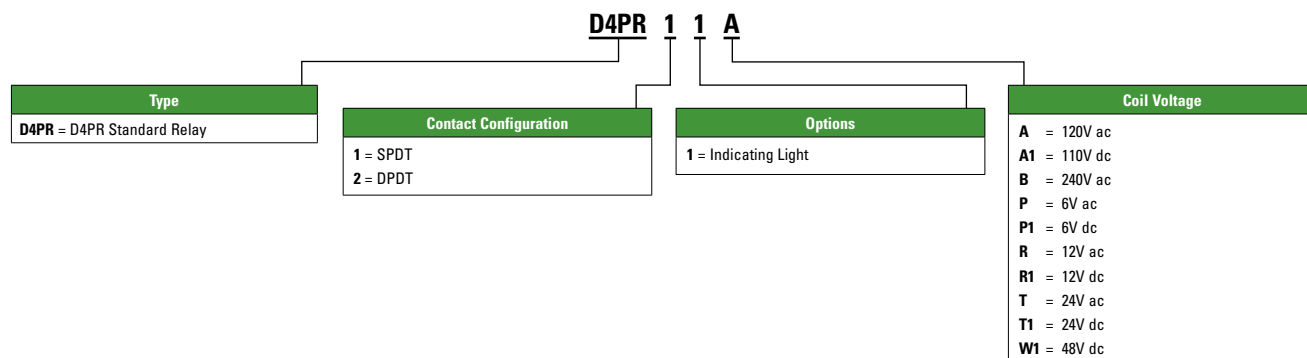
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Description	Voltage	Item No.
Relay 10 Amps 120V AC 2 Pole	120V AC	D3PR5A
Relay 10 Amps 24V AC 2 Pole	24V AC	D3PR5T

Power Control

Automation & Control

Plug In Relays - D4 Series



For deciphering Item Numbers. Do not use for ordering as not all combinations are readily available.

D4PR1, D4PR2 Single & Double Pole Slimline Flat Pin Relay

- Slim-styled power relay
- Socket has built-in hold-down clip
- Panel or DIN rail mounting



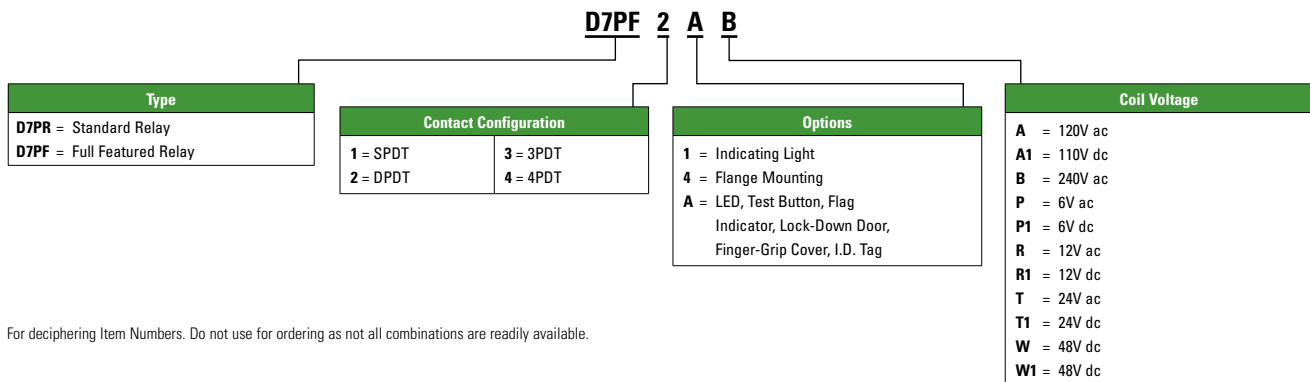
Eaton D4PR1 Single Pole Slimline Flat Pin Relay **B51**

Description	Voltage	Item No.
Relay 10 Amps 12V DC 1 Pole	12V DC	D4PR11R1
Relay 10 Amps 24V DC 1 Pole	24V DC	D4PR11T1
Relay 10 Amps 24V AC 1 Pole	24V AC	D4PR11T
Relay 10 Amps 240V AC 1 Pole	240V AC	D4PR11B
Relay 10 Amps 120V AC 1 Pole	120V AC	D4PR11A
Single Pole Base	-	D4PA1

D4PR2 Double Pole Slimline Flat Pin Relay **B51**

Description	Voltage	Item No.
Relay 5 Amps 24V DC 2 Pole	24V DC	D4PR21T1
Relay 5 Amps 24V AC 2 Pole	24V AC	D4PR21T
Relay 5 Amps 12V DC 2 Pole	12V DC	D4PR21R1
Relay 5 Amps 120V AC 2 Pole	120V AC	D4PR21A
Relay 5 Amps 240V AC 2 Pole	240V AC	D4PR21B
Double Pole Base	-	D4PA2

Plug In Relays - D7 Series



For deciphering Item Numbers. Do not use for ordering as not all combinations are readily available.

D7PF 2 & 4 Pole Flat Pin Relays

- Flag indicator shows relay status in manual or powered condition
- Bi-polar LED status lamp allows for reverse polarity applications
- Shows coil ON or OFF status
- Ideal in low light conditions
- Colour coded pushbutton identifies AC coils with red or DC coils with blue pushbuttons
- Allows for manual operation of relay without the need for coil power
- Ideal for field service personnel to test control circuits
- Lock down door, when activated, holds pushbutton & contacts in the operated position
- Excellent for analysing circuit problems
- Finger-grip cover allows operator to remove relays from sockets more easily than conventional relays
- White plastic I.D. tag/write label used for identification



D7PF2 Double Pole Flat Pin Relay

B51

Description	Voltage	Item No.
Relay 12 Amps 48V DC 2 Pole	48V DC	D7PF2AW1
Relay 12 Amps 24V DC 2 Pole	24V DC	D7PF2AT1
Relay 12 Amps 24V AC 2 Pole	24V AC	D7PF2AT
Relay 12 Amps 240V AC 2 Pole	240V AC	D7PF2AB
Relay 12 Amps 12V DC 2 Pole	12V DC	D7PF2AR1
Relay 12 Amps 120V AC 2 Pole	120V AC	D7PF2AA
Relay 12 Amps 110V DC 2 Pole	110V DC	D7PF2AA1
D7 2 pole relay base	-	D7PAA-B1
Hold down clip	-	PQC-1349

D7PF4 Four Pole Flat Pin Relay

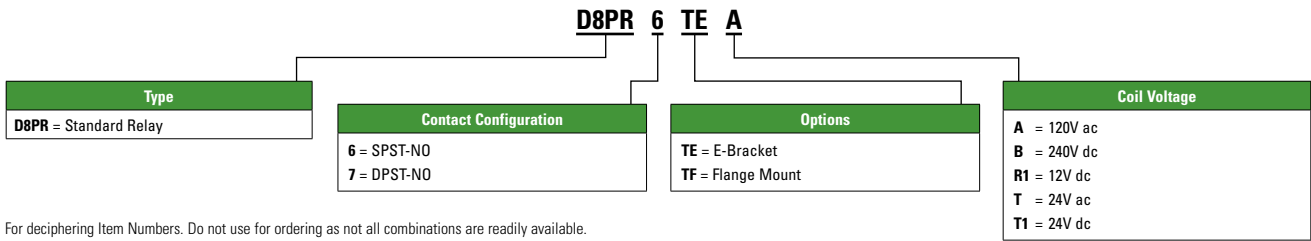
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Description	Voltage	Item No.
Relay 12 Amps 48V DC 4 Pole	48V DC	D7PF4AW1
Relay 12 Amps 24V DC 4 Pole	24V DC	D7PF4AT1
Relay 12 Amps 24V AC 4 Pole	24V AC	D7PF4AT
Relay 12 Amps 240V AC 4 Pole	240V AC	D7PF4AB
Relay 12 Amps 12V DC 4 Pole	12V DC	D7PF4AR1
Relay 12 Amps 12V AC 4 Pole	12V AC	D7PF4AR
Relay 12 Amps 120V AC 4 Pole	120V AC	D7PF4AA
D7 4 pole relay base	-	D7PAD
Hold down clip	-	PQC-1351

Power Control

Automation & Control

Plug In Relays - D8 Series



For deciphering Item Numbers. Do not use for ordering as not all combinations are readily available.

D8PR6, D8PR7 Single & Double Pole High Current Power Relay

- Allows switching of 25A & 30A loads
- A high-capacity, high-withstand voltage relay compatible with momentary voltage drops
- No contact chattering for momentary voltage drops up to 50% of rated voltage
- UL Class B construction standard
- Wide-range AC-activated coil that handles 100 to 120V AC at either 50 or 60 Hz
- Panel, DIN rail & flange mounting



D8PR6 Single Pole High Current Power Relay

B51

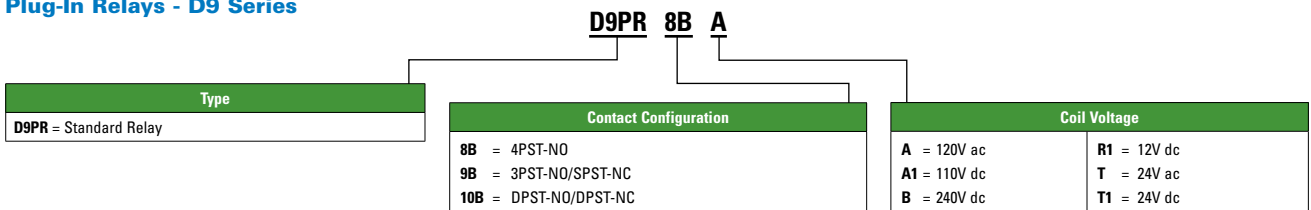
Description	Voltage	Item No.
Relay 30 Amps 24V DC 1 Pole	24V DC	D8PR6TET1
Relay 30 Amps 12V DC 1 Pole	12V DC	D8PR6TER1
Relay 30 Amps 24V AC 1 Pole	24V AC	D8PR6TET
Relay 30 Amps 240V AC 1 Pole	240V AC	D8PR6TEB
Screw terminal DIN adaptor	-	D8PA2
E-bracket mounting adaptor	-	D8PA5

D8PR7 Double Pole High Current Power Relay

B51

Description	Voltage	Item No.
Relay 25Amps 24V AC 2 Pole	24V AC	D8PR7TET
Relay 25Amps 240V AC 2 Pole	240V AC	D8PR7TEB
Relay 25 Amps 24V DC 2 Pole	24V DC	D8PR7TET1
Relay 25 Amps 12V DC 2 Pole	12V DC	D8PR7TER1
Screw terminal DIN adaptor	-	D8PA2
E-bracket mounting adaptor	-	D8PA5

Plug-In Relays - D9 Series



For deciphering Item Numbers. Do not use for ordering as not all combinations are readily available.

General Purpose Plug-In Relays – D9 Series

- Ideal for 3-phase motor control applications
- No contact chattering for momentary voltage drops up to 50% of rated voltage
- Push-to-test button is a standard feature to check contact operation

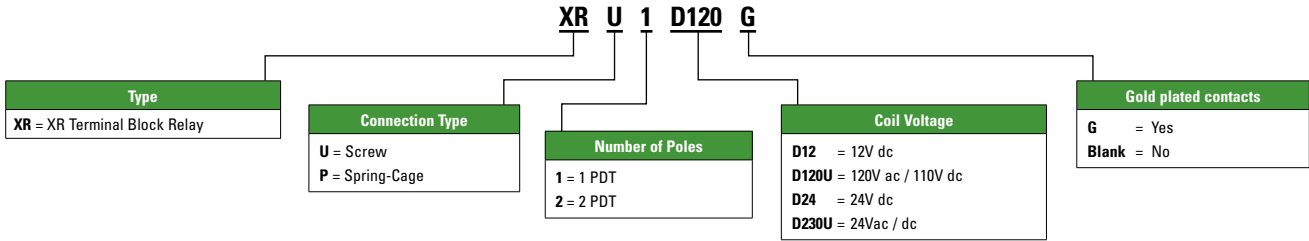


D9 Series

B51

Coil Voltage	Item No.
4PST-NO-Power Relay	
24V ac	D9PR8BT
120V ac	D9PR8BA
240V ac	D9PR8BB
24V dc	D9PR8BT1
3PST-NO/SPST-NC Power Relay	
120V ac	D9PR9BA
DPST-NO/DPST-NC Power Relay	
24V ac	D9PR10BT
120V ac	D9PR10BA
24V dc	D9PR10BT1

Interface Relays – XR series



XR Terminal Block Interface Relays

- 6mm wide (1P), 14mm wide (2P) relay screw connection or spring-cage
- Plug-in jumpers or bridges available
- SPDT or DPDT contacts rated 6A
- DIN rail mount, LED indication
- Field-replaceable pluggable miniature relay
- 12VDC to 110VDC/120VAC available
- 10A High current series in SPDT



B51

Description	Item No.
XR Relay, 1P, 6A, 12VDC, screw conn	XRU1D12
XR Relay, 1P, 6A, 120VAC/110VDC, screw conn	XRU1D120U
XR Relay, 1P, 6A, 230VAC/220VDC, screw conn	XRU1D230U
XR Relay, 1P, 6A, 24VDC, screw conn	XRU1D24
XR Relay, 1P, 6A, 24VAC/DC, screw conn	XRU1D24U
XR Relay, 2P, 6A, 12VDC, screw conn	XRU2D12
XR Relay, 2P, 6A, 120VAC/110VDC, screw conn	XRU2D120U
XR Relay, 2P, 6A, 230VAC/220VDC, screw conn	XRU2D230U
XR Relay, 2P, 6A, 24VDC, screw conn	XRU2D24
XR Relay, 2P, 6A, 24VAC/DC, screw conn	XRU2D24U
XR Relay, 1P, 6A, 12VDC, spring-cage	XRP1D12
XR Relay, 1P, 6A, 120VAC/110VDC, spring-cage	XRP1D120U
XR Relay, 1P, 6A, 230VAC/220VDC, spring-cage	XRP1D230U
XR Relay, 1P, 6A, 24VDC, spring-cage	XRP1D24
XR Relay, 1P, 6A, 24VAC/DC, spring-cage	XRP1D24U
XR Relay, 2P, 6A, 230VAC/220VDC, spring-cage	XRP2D230U
XR Relay, 1P, 10A, 12VDC, screw conn	XRU1H12
XR Relay, 1P, 10A, 120VAC/110VDC, screw conn	XRU1H120U
XR Relay, 1P, 10A, 230VAC/220VDC, screw conn	XRU1H230U
XR Relay, 1P, 10A, 24VDC, screw conn	XRU1H24
XR Relay, 1P, 10A, 24VAC/DC, screw conn	XRU1H24U

Accessories

B51

Description	Item No.
2-position snap-in Jumper, grey	XRAFBST2GY
80-position snap-in Jumper, grey	XRAFBST500GY
Power Terminal Block	XRAPLCEBK
End Cover	XRAATPBK

Power Control

Automation & Control

Rhomberg Monitoring Relays

Rhomberg 3-Phase Sequence/Failure/Asymmetry Relays

- Protects Against Phase Imbalance or Asymmetry, Phase Loss or Phase Reversal
- Sensitivity (Nps) Adjustment
- Insensitive To Regenerated EMF
- Loss of Neutral Detection in SP431



B57

Description	Item No.
Ph Fail, Ph Seq, Ph Asy Detection with 1 C/O & LEDs	AP430/*S
Ph Fail, Ph Seq, Ph Asy Detection with 2 C/O & LEDs	AP430/*D
Ph Fail, Ph Seq, Ph Asy Detection Plug In 1 C/O & LEDs	SP430/*-SP
Ph Fail, Ph Seq, Ph Asy Detection Plug In 2 C/O & LEDs	SP430/*-DP
Ph Fail, Ph Seq, Ph Asy Loss of Neutral Detection Plug In	SP431/*-SP
Ph Fail, Ph Seq Detection Plug In with LEDs	SP433/*-SP
11 Pin DIN Rail Base	S3B

* Specify voltage: 110, 115, 220, 380, 400, 415 & 525Vac.

Rhomberg Current Relays/Monitors (AC & DC) Single Phase

- 11 Pin Plug In or DIN Rail Mount Relay (with Plug In Terminals)
- 250Vac/10A Relay
- Single Pole & 2 Pole Configuration
- Slimline & Slimline-D Series



B57

Description	Item No.
Current Monitor 5 Amp AC/DC Selectable with Time Delay	P100PD*S3
Current Monitor 5 Amp AC/DC Selectable with Time Delay Plug In	SP103/*-SP
Current Monitor For DC Shunt Selectable with Time Delay	P101PD*S3
Current Monitor For DC Shunt Selectable with Time Delay Plug In	SP104/*-SP
Current Window Comparator AC Adjustable with Time Delay	P120PD*S3
Current Window Comparator AC Adjustable with Time Delay Plug In	SP123/*-SP
Single Phase Reverse Power Monitor For AC Current	SP510/**-SP
11 Pin DIN Rail Base	S3B

* Specify voltage: 12, 24Vdc & 24, 110, 240, 415Vac.

** Specify voltage: 24, 110, 240, 415Vac.

Rhomberg Voltage Monitors (AC & DC) & Frequency Relays

- 11 Pin Plug In or DIN Rail Mount Relay (with Plug In Terminals)
- 250Vac/10A Relay
- Slimline & Slimline-D Series



B57

Description	Item No.
Voltage Comparator adj delay DPDT 415VAC	AP231/400AD
Overvoltage & undervoltage monitoring relay, 24VDC	AP224/24VDCS
Overvoltage & undervoltage monitoring relay, 240VAC	AP224/240VACS
Voltage Monitor 1-Ph Selectable with Time Delay	P200PD*S3
Voltage Monitor 1-Ph Selectable with Time Delay Plug In	SP201/*-SP
Voltage Window Comparator 1-Ph Selectable with Time Delay	P220PD*S3
Voltage Window Comparator 1-Ph Selectable with Time Delay Plug In	SP221/*-SP
Voltage Window Comparator 3-Ph Selectable with Time Delay	P230PD**S3
Voltage Window Comparator 3-Ph Selectable with Time Delay Plug In	SP231/**-SP
Voltage Window Comparator 3-Ph + N Over & Under	SP232/**-SP
Frequency Monitor Over & Under 50Hz	SP320/**-SP
11 Pin DIN Rail Base	S3B

* Specify voltage: 12, 24Vdc & 24, 110, 240, 415Vac

** Specify voltage: 24, 110, 240, 415Vac.

Rhomberg Bases For Monitoring Relays

- Shrouded terminals



B57

Description	Item No.
11 Pin DIN Rail Socket / Base	S3B

Rhomberg Motor/Pump Protection Relays

- Borehole Pump Protection
- Auto-Calibrating
- Overload (Blocking/Closed Valve) Protection
- Underload (Running Dry) Protection with Auto Restart Timer
- Max 4kW Without External CT
- Over & Under Voltage Protection
- Phase Sequence/Failure Monitoring
- Liquid Level Control




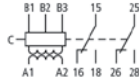

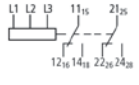


B57

Description	Item No.
Motor/Pump Protection Relay 240Vac Single Phase	MP820/240AS
Motor/Pump Protection Relay 400-415Vac Three Phase	MP830/415AS

EMR4 measuring & monitoring relays


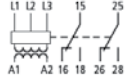
Current, phase, sequence relays, phase imbalance monitoring

M00

Description	Current measuring range, $I \sim I = A$	Circuit symbol	Supply voltage	Item No.
Current monitoring relays, single-phase				
 <ul style="list-style-type: none"> Switching hysteresis adjustable from 5 – 30% Response delay 0.1 – 30 s EMR4...A: monitors one upper or lower limit EMR4...B: monitors one upper limit Extension of the measurement range possible with current transformers 	3 – 30 mA 10 – 100 mA 0.1 – 1 A		24 – 240 V AC/DC	EMR4-I1-2-A
	0.3 – 1.5 A 1 – 5 A 3 – 15 A		24 – 240 V AC/DC	EMR4-I15-2-A
	0.3 – 1.5 A 1 – 5 A 3 – 15 A		220 – 240 V AC	EMR4-I15-2-B
Phase sequence relay				
 <ul style="list-style-type: none"> Monitors three-phase systems for phase sequence & phase failure ($< 0.6 \times U_e$) Supply voltage = voltage being monitored 	200 – 500 V AC		200 – 500 V AC	EMR4-F500-2
Phase imbalance monitoring relay				
 <ul style="list-style-type: none"> Monitors three-phase systems for phase imbalance Detects phase failure even at 95% voltage feedback from the motor Response delay: 0.5 s Phase imbalance response threshold adjustable from 5 – 15 % Phase sequence detection Supply voltage = voltage being monitored 	380 – 415 V 50 Hz		380 – 415 V 50 Hz	EMR4-A400-1

Current, phase, sequence relays, phase imbalance monitoring

M00

Description	Monitoring voltage adjustable from	Circuit symbol	Supply voltage	Item No.
Phase monitoring relays				
 <ul style="list-style-type: none"> Monitors three-phase systems for phase sequence, over- & undervoltage & phase failure ($< 0.6 \times U_e$) 3-phase voltage monitoring within a range Selectable On-delay or Off-delay (0.1 – 10 s) 	U_{min} 300 – 380 V AC U_{max} 420 – 500 V AC		160 – 330 V AC	EMR4-W500-2-C
	U_{min} 350 – 430 V AC U_{max} 500 – 580 V AC		300 – 500 V AC	EMR4-W500-2-D
			300 – 500 V AC	EMR4-W580-2-D









Power Control

Automation & Control

EMR4 measuring & monitoring relays

Level monitoring relays, insulation monitoring relays, sealable shrouds

M00

Description	Response sensitivity	Circuit symbol	Supply voltage	Item No.
Liquid level monitoring relays				
 <ul style="list-style-type: none"> Monitors the level of conductive liquids Monitors the ratio of mixtures of conductive liquids Selectable: protection against running dry or overflowing 	5 k Ω – 100 k Ω		220 – 240 V AC	EMR4-N100-1-B
<ul style="list-style-type: none"> Monitors the level of conductive liquids Monitors the ratio of mixtures of conductive liquids Selectable On-delay or Off-delay between 0.5 – 10 s 	250 Ω – 500 k Ω		220 – 240 V AC	EMR4-N500-2-B
<ul style="list-style-type: none"> Monitors the level of conductive liquids Monitors the ratio of mixtures of conductive liquids Selectable On-delay or Off-delay between 0.5 – 10 s 	250 Ω – 500 k Ω		24 – 240 V AC/DC	EMR4-N500-2-A
Description	Insulation resistance range	Circuit symbol	Supply voltage	Item No.
Insulation monitoring relays				
<ul style="list-style-type: none"> Monitors the insulation resistance in nonearthed DC supply systems Selector switch for open or closed-circuit principle With test & reset facilities Status indication via LEDs 	10 – 110 k Ω		24 – 240 V AC/DC	EMR4-RDC-1-A
<ul style="list-style-type: none"> Monitors the insulation resistance between non-earthed AC supply systems & the protective conductor/earth Tripping function memory Insulation monitoring in 1- & 3-phase AC supply systems Test via local test button or remote test operation Status indication via LEDs to VDE 0413 / Part 2 	10 – 110 k Ω		24 – 240 V AC/DC	EMR4-RAC-1-A
Mounting width (mm)	Item No.			
Sealable shrouds				
	22.5	EMR4-PH22		
	45	EMR4-PH45		

Rhomberg Control Relays

- Switching Amplifiers, Tacho Relays, Thermistor Relays, Flip Flop Relays
- Power Supply Modules



B57

Description	Item No.
Switching Amplifier/Relay For NAMUR Sensors Plug In	SC300/*-SP
Switching Amplifier/Relay For Three Wire DC Sensors Plug In	SC314/*-SP
Tacho Relay For NAMUR Sensors Pulse In 0-1mA Re-Transmit Plug In	SC320/*-SP
Control Relay For Rhomberg Photo Electric Sensors Plug In	SC410/*-SP
Temperature Control Relay For PT-100/Rtd Sensors Plug In	SC501/*-SP
Thermistor Motor Protection Relay Auto Reset Plug In	SC510/*-SP
Thermistor Motor Protection Relay Auto Reset Plug In	SC510/*-DP
Thermistor Motor Protection Relay Test & Reset Buttons Plug In	SC511/*-SP
Flip Flop Relay No Memory Contact Input Plug In	SC610/*-SP
Flip Flop Relay with Memory Contact Input or Sensor Plug In	SC611/*-SP
Multi Function Preselect Counter Plug In	SC700/*-SP
Preset Counter Panel Mount 48x48	CC701/*DSP
Power Supply 250Vac / 24Vac 150mA Unregulated Plug In	SC900/240/24A
Power Supply 250Vac / 24Vdc 120mA Unregulated Plug In	SC900/240/24D
Power Supply 250Vac / 24Vdc 100mA Regulated Plug In	SC900/240/24R
Power Supply 240Vac / 12Vdc 150mA Regulated Plug In	SC900/240/12R
11 Pin DIN Rail Base	S3B

* Specify voltage: 12, 24Vdc & 24, 110, 240, 415Vac.

Timers

Rhomberg Multi-Function DIN Rail & Plug In

- Delayed-ON, Interval, Recycling Functions 22.5mm Size
- 0.2 Sec. To 100 Hours
- DPDT Relay (5A Per Contact)



B57

Description	Item No.
0.2 Sec - 100 Hrs 2 Timed Contacts DIN Rail	AT100/**D
0.2 Sec - 120 Sec 2 Timed Contacts 11 Pin	ST100/**DP
22 Sec - 240 Min 2 Timed Contacts 11 Pin	ST101/**DP
0.2 Sec - 100 Hrs 1 Timed Contact DIN Rail	AT110/*S
0.2 Sec - 120 Sec 2 Timed Contacts 11 Pin (Hold or Pulse Reset NPN)	ST110/**DP
22 Sec - 240 Min 2 Timed Contacts 11 Pin (Hold or Pulse Reset NPN)	ST111/**DP
11 Pin DIN Rail Base (Accepts Retainer Clip with Plug in Timers)	S3B

* Specify voltage: 12, 24Vdc, 24, 110, 240, 415Vac.

** Specify voltage: 30Vdc, 250, 415Vac.

Rhomberg Asymmetrical Recycling DIN Rail & Plug in

- Asymmetrical Recycling - ON or OFF Cycle First
- DPDT Relay (5A Per Contact)
- DIN Rail & Plug in 22.5mm Size



B57

Description	Item No.
0.2 Sec - 240 Min 2 Timed Contacts DIN Rail	AT200/**D
T1 = 0 - 120s, T2 = 0 - 120s 2 Timed Contacts 11 Pin	ST200/**DP
T1 = 0 - 120s, T2 = 22s - 240m 2 Timed Contacts 11 Pin	ST201/**DP
T1 = 22s - 240m, T2 = 22s - 240m 2 Timed Contacts 11 Pin	ST202/**DP
T1 = 22s - 240m, T2 = 0 - 120s 2 Timed Contacts 11 Pin	ST203/**DP
Multi Function Type 0.2 Sec - 120 Sec 1 Timed Contact 11 Pin	ST210/**SP
11 Pin DIN Rail Base (Accepts Retainer Clip with Plug in Timers)	S3B

* Specify voltage: 12, 24Vdc & 24, 110, 240, 415Vac

** Specify voltage: 30Vdc & 250, 415Vac





Power Control

Automation & Control

Timers


ETR4

MOO

	Description	Rated operational current AC-15		Conventional thermal current	Time range	Item No.	Item No.
		240 V, I _g , A	400 V, I _g , A				
ETR4 electronic timing relays, 22.5 mm wide Actuating voltage: Type suffix -A: 24 – 240 V DC & 24 – 240 V AC, 50/60 Hz Type suffix -W: 400 V AC, 50/60 Hz							
	On-delayed	3	3	6	0.05 – 1 s 0.15 – 3 s 0.5 – 10 s 1.5 – 30 s 5 – 100 s 15 – 300 s	ETR4-11-A	ETR4-11-W
	Multi-function relay	3	3	6	1.5 – 30 min 15 – 300 min		
	Multi-function relay with connection for potentiometer & two changeover contacts that can be converted to two timed contacts or one non-delayed contact & one timed contact.	3	3	6	1.5 – 30 h 5 – 100 h	ETR4-70-A	-
	Star-delta timing relays	3	3	6	3 – 60 s	ETR4-51-A	ETR4-51-W

ETR2

MOO

	Description	Rated operational current AC-15		Conventional thermal current	Time range	Item No.
		240 V, I _g , A	400 V, I _g , A			
ETR2 electronic timing relays, 17.5 mm wide Actuating voltage: 24 – 48 V DC & 24 – 240 V AC, 50/60 Hz						
	On-delayed	3	-	5	0.05 – 1 s	ETR2-11
	Off-delayed	3	-	5	0.5 – 10 s	ETR2-12
	Fleeting contact on energisation	3	-	5	5 – 100 s	ETR2-21
	Flashing, pulse initiating	3	-	5	0.5 – 10 min	ETR2-42
	Flashing, 2 speeds or pause initiating	3	-	5	5 – 100 min	ETR2-44
	Multi-function relay (i.e. all of the above plus fleeting contact on de-energisation)	3	-	5	0.5 – 10 h 5 – 100 h	ETR2-69

Timers

Rhomberg Special Function Timers

- No Power Delayed OFF Functions - 'True OFF Delay'
- Multi start attempt timer for repeated starting attempts of standby generator sets with start failure alarm output
- Slim Housing (22.5mm)



B57

Description	Item No.
0.2 Sec - 120 Sec No Power Delay OFF Timer 1 Timed Contact 11 Pin	ST300/*SP
22 Sec - 240 Min No Power Delay OFF Timer 1 Timed Contact 11 Pin	ST301/*SP
Multi Start Attempt Timer 1 C/O	AT500/*S
11 Pin DIN Rail Base (Accepts Retainer Clip with Timer)	S3B

* Specify voltage: 12, 24Vdc & 24, 110, 240, 415Vac.

Rhomberg Star Delta Timers

- Star Time Adjustable up to 60 Sec. (30 Sec. Max Adjustment Available on Request)
- Pause Time 75msec (50msec Available On Request)
- Relay Rests in "Centre-Off" Position During Pause & Power OFF State
- 5A Relay Output



B57

Description	Item No.
Star Time Adjustable Pause Time 75msec Fixed 1 C/O DIN Rail	AT130/*AS
Star Time Adjustable Pause Time 75msec Fixed 1 C/O Plug in	ST130/*-SP
11 Pin DIN Rail Base (Accepts Retainer Clip with St310)	S3B

* Specify voltage: 110, 240, 415Vac

Eaton TRL 18mm DIN Timers

- Slim 18mm DIN rail mount timers
- Timing range 50 msec to 100 hours
- Changeover output contact rated 8A, 240VAC
- Universal supply voltage
12V-240V AC/DC for TRL07 & TRLPG
24V-240V AC/DC for TRL04



Eaton TR series Plug-in Timers

- 20 time ranges & 10 timing functions
- Time delays from 0.1 sec. to 600 hrs
- 2 Form C DPDT delayed output contacts

Eaton E42A24M analogue panel-mount timer

- 11-pin plug-in multifunction timer
- ON delay, OFF delay, pulse output, etc.

B51

Description	Item No.
18mm DIN Multifunction Timer - 4 modes	TRL04
18mm DIN Multifunction Timer - 7 modes	TRL07
18mm DIN Asymmetrical Pulse Generator - 2 modes	TRLPG
Timer S1DXMA Power On Delay 0.20S to 30m 2	TRNB24AD
Timer On Delay 1s - 500h 2 Time 8 PIN 24V ac/dc	TRNP24AD
Timer On Delay 1s - 500h 2 Time 8 PIN 240V ac	TRNP240AC
Timer 8 Mode 1s-500h 2 time 11 PIN 24V ac/dc	TRFP24AD
Timer 8 Mode 1s-500h 2 time 11 PIN 240V ac	TRFP240AC
Timer Battery Powered LCD Time Control 48x48mm	E5-248-C1420
Multifunction Timer 7 mode 48 x 48 mm Panel or DIN mount	E42A24M

Time Switches

Eaton Time switches

- Analogue synchronous or digital types
- With or without battery backup
- Standard DIN rail mountable
- Daily/weekly/yearly time switches
- Daylight saving feature
- Easy to program, plain English menu
- 16A AC-1, 240V AC changeover contact
- 1, 2 or 4 channel models
- Pulse output option, for school bells
- Clock dial or 18mm wide, captive pins
- Replacement batteries available



B51

Description	Item No.
Analogue timeswitches (day/week program)	
Analogue timeswitch, clock dial, 24 hr, 1 ch, captive pins	TAD1NC
Analogue timeswitch, slim 18mm module, 24 hr, 1 ch	TAD1NCS
Analogue timeswitch, clock dial, 7 day, battery backup, 1ch, tappets	TAW1
Analogue timeswitch, clock dial, 24 hr, battery backup, 1 ch, captive pins	TAD1
Analogue timeswitch, slim 18mm module, 24 hr, battery backup, 1 ch	TAD1S
Analogue timeswitch, slim 18mm module, 7 day, battery backup, 1 ch	TAW1S
Analogue Timeswitch Dial, 24 Hr, 1 Ch	TAD1NCQA
Analogue Timeswitch Dial, 24 Hr, 7 day, 1 Ch	TADW1NCQA
Analogue Timeswitch Dial Quartz, 24Hr, 7 day 1ch	TADW1QA
Digital Timeswitches (week program)	
Digital timeswitch, 35mm wide, 7 day, 28 mem, battery backup, 1 ch	TDW1
Digital timeswitch, 18mm wide, 7 day, 28 mem, battery backup, 1 ch	TDW1S
Digital timeswitch, 35mm wide, 7 day, 42 mem, battery backup, 2 ch	TDW2
Digital timeswitch, 35mm, 7 day, 42 mem, battery, pulse/cycle, 2 ch	TDW2E
Digital Timeswitches (year program)	
Digital timeswitch, 105mm, 365 day, 324 mem, pulse, battery, 2 ch	TDY2
Same as TDY2 digital timeswitch, but with radio control capability	TDY2E
Digital timeswitch, 105mm, 365 day, 324 mem, pulse, battery, 4 ch	TDY4
Same as TDY4 digital timeswitch, but with radio control capability	TDY4E
Twilight switches (DIN mount control unit + remote sensor)	
Twilight switch, adjustable sensitivity 2-100 lux, 1 ch	TSM1S
Twilight switch, adjustable sensitivity 2-200 lux, 1 ch	TSM1
Twilight switch, adjustable sensitivity 2-2000 lux, 1 ch	TSM1E
Twilight switch, adjustable sensitivity 2-7500 lux, 2 ch	TSM2
Combined timeswitch & twilight switch (DIN mount + remote sensor)	
Digital timeswitch, 7 day, sensor adjustable sensitivity 2-2000 lux	TSMC1

Power Control

Automation & Control

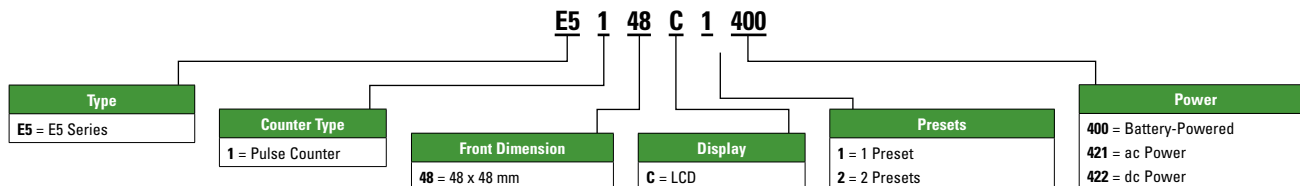
Time Switches

Eaton Time Switch Accessories

B51

Description	Item No.
Battery for TDY2, TDY2E, TDY4, TDY4E timeswitches	TBAT1
Battery for TAD1, TAW1 timeswitches	TBAT2
Battery for TDW1S timeswitches	TBAT3
Battery for TDW1, TDW2, TDW2E timeswitches	TBAT4
Battery for TAD1S, TAW1S timeswitches	TBAT5
Power supply for DCF antenna (TDY2E & TDY4E)	TDCFMU
Antenna for radio control DCF reception	TDCFANT
Programming software & adapter cable	TPROG
Memory card	TMEMO
Light sensor, built-in type (TSM1S, TSM1, TSM1E, TSMC1)	TSENS
Light sensor, surface-mount type (TSM1S, TSM1, TSM1E, TSMC1)	TSENS1
Light sensor, surface-mount type (TSM2 only)	TSENS2
Terminal cover, for all 18mm timeswitches & twilight switches	TCV1
Terminal cover, for all 35mm timeswitches & twilight switches	TCV2
Terminal cover, for all 54mm analogue clock dial timeswitches	TCV3
Terminal cover, for all 54mm twilight switches	TCV4
Terminal cover, for all 72mm twilight switches	TCV5
Terminal cover, for all 105mm timeswitches & twilight switches	TCV6
Staircase light timeswitches	
Analogue staircase light timeswitch, 0.5-20 min, override function	TE7
Analogue staircase light timeswitch, 0.5-20 min, multifunction	TE1

Counters



1/16 DIN LCD Preset Counter



Battery-Powered

- 2-line displays count, preset and level of the output
- Replacement for electromechanical preset counters
- No power supply necessary (battery operated)
- Count and reset input electrically separated from counter through optocoupler input range 12 – 250V AC/DC

AC/DC-Powered

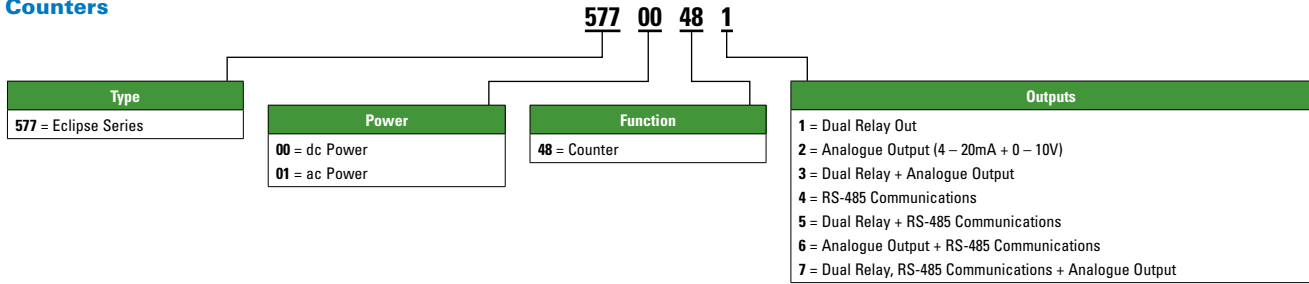
- 2-line LCD display
- Programmable as impulse counter, frequency meter or time meter with sign and zero blanking
- Batch mode

1/16 DIN LCD

B57

Description	Item No.
Battery-Powered 1 Preset LCD	
Battery Power 1.89 x 1.89 Inch (48 x 48 mm)	E5-148-C1400
AC/DC-Powered 1 Preset LCD	
90 – 260V ac Power 1.89 x 1.89 Inch (48 x 48 mm)	E5-148-C1421
10 – 30V dc Power 1.89 x 1.89 Inch (48 x 48 mm)	E5-148-C1422
AC/DC-Powered 2 Preset LCD	
90 – 260V ac Power 1.89 x 1.89 Inch (48 x 48 mm)	E5-148-C2421
10 – 30V dc Power 1.89 x 1.89 Inch (48 x 48 mm)	E5-148-C2422

Counters



1/8 DIN Eclipse Series Preset Counter

- 1/8 DIN cutout
- Type 4X front panel protection
- 7-segment LED Display

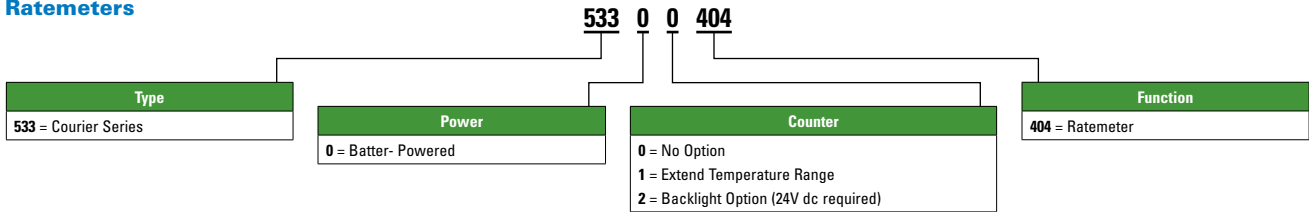


LED Count Control, 6-Digit

B57

Description	Item No.
Relay Out, 9 – 30V dc Power	57700481
Relay Out, 85 – 265V ac Power	57701481
Relay & Analogue Out, 9 – 30V dc Power	57700483
Relay & Analogue Out, 85 – 265V ac Power	57701483
Relay & RS-485 Out, 9 – 30V dc Power	57700485
Relay & RS-485 Out, 85 – 265V ac Power	57701485
Relay, Analogue & RS-485 Out, 9 – 30V dc Power	57700487
Relay, Analogue & RS-485 Out, 85 – 265V ac Power	57701487

Ratemeters



Courier Series Battery-Powered Ratemeter

- 1/Tau ratemeter
- Scaling capabilities
- Type 4X protection
- Internal battery: 3V, Lithium

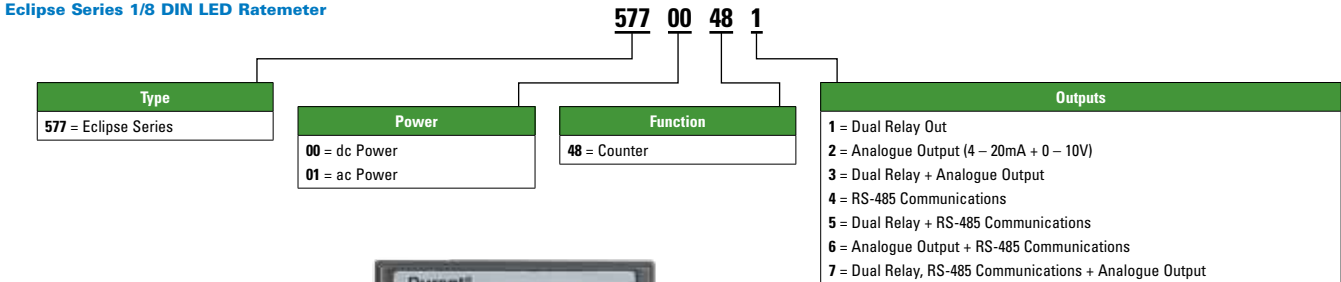


1/Tau LCD Ratemeter

B57

Description	Item No.
Battery-Powered	53300404

Eclipse Series 1/8 DIN LED Ratemeter



- 1/8 DIN cutout
- Type 4X front panel protection
- Front panel programming



B57

Description	Item No.
9 – 30V dc	57700470
9 – 30V dc, Alarms	57700471
9 – 30V dc, Analogue Out	57700472
9 – 30V dc, Alarms, Analogue Out	57700473

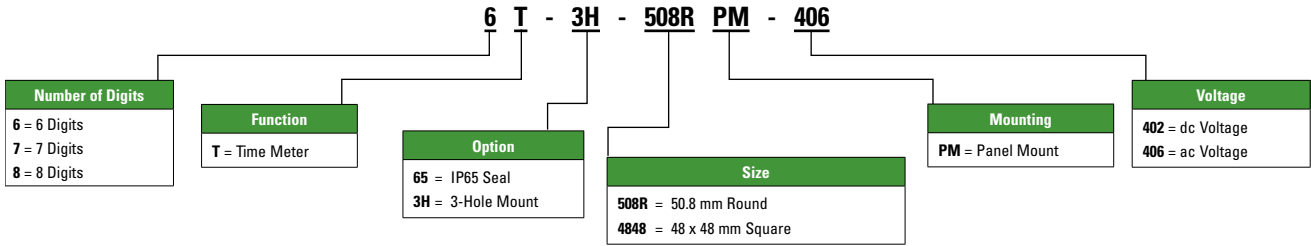
B57

Description	Item No.
9 – 30V dc, RS-485	57700474
9 – 30V dc, Alarms, RS-485	57700475
9 – 30V dc, Analogue Out, RS-485	57700476
9 – 30V dc, Alarms, Analogue Out, RS-485	57700477
85 – 265V ac	57701470
85 – 265V ac, Alarms	57701471
85 – 265V ac, Analogue Out	57701472
85 – 265V ac, Alarms, Analogue Out	57701473
85 – 265V ac, RS-485	57701474
85 – 265V ac, Alarms, RS-485	57701475
85 – 265V ac, Analogue Out, RS-485	57701476
85 – 265V ac, Alarms, Analogue Out, RS-485	57701477

Power Control

Automation & Control

Hour Meters



Electromechanical Hour Meters

1/16 DIN

- High shock-resistance
- Without reset
- Data retention if power is lost

71.1 mm Round

- 6-digit hour meter for round panel cut-out
- Low cost
- Waterproof
- Type 4X protection




Electromechanical Hour Meters

B57

Description	Item No.
1/16 DIN	
10 – 30V dc, 1.89 x 1.89 Inch (48 x 48 mm)	8-T-65-4848PM-402
100 – 130V ac, 1.89 x 1.89 Inch (48 x 48 mm)	7-T-65-4848PM-406
187-264V ac, 1.89 x 1.89 Inch (48 x 48 mm)	7-T-65-4848PM-408
71.1 mm Round	
115V ac, 2.80 Inch (71.1 mm) Round	6-T-3H-508RPM-406
10 – 80V dc, 2.80 Inch (71.1 mm) Round	6-T-3H-508RPM-402

DIN-Rail Adapter – Accessory

B57

Description	Item No.
	DIN-Rail Adapter for DIN Electromechanical Hour Meter

Electronic LCD Hour Meters



Battery-Powered

- Low price and high efficiency
- Large 8-digit LCD display, height of the figures 0.31 inch (8 mm)
- Different time ranges from 0.1 second to 100,000 hours
- Lifetime of the battery is approximately 8 years

AC/DC-Powered

- Solid-state hour meters
- Record and display up to 99,999.9 hours, rollover and continue timing
- EEPROM memory can retain data for 25+ years
- Time accumulation indicated by flashing hourglass icon

Electronic LCD Hour Meter

B57

Description	Item No.
Battery-Powered 1/32 DIN 8-digit LCD	
Hours / Minutes, 0.94 x 1.89 Inch (24 x 48 mm)	E5-224-C0440
Hours / Minutes, 10 – 260V Input, 0.94 x 1.89 Inch (24 x 48 mm)	E5-224-C0448
Minutes / Seconds, 0.94 x 1.89 Inch (24 x 48 mm)	E5-224-C0450
Minutes / Seconds, 10 – 260V Input 0.94 x 1.89 Inch (24 x 48 mm)	E5-224-C0458
AC/DC-Powered Round LCD	
Elapsed Hour Meter, 48 – 150V dc / 100 – 230V ac	E42DIR48230
Elapsed Hour Meter w/ Reset, 48 – 150V dc / 100 – 230V ac	E42DIR48230R
Elapsed Hour Meter, 12 – 48V dc / 20 – 60V ac	E42DIR1260
AC/DC-Powered Compact Rectangular LCD	
Elapsed Hour Meter, 48 – 150V dc / 100 – 230V ac	E42DI2448230
Elapsed Hour Meter, w/ Reset, 48 – 150V dc / 100 – 230V ac	E42DI2448230R
Elapsed Hour Meter, 12 – 48V dc / 20 – 60V ac	E42DI241260

Water Pump Pressure Switches

Eaton CHWPS water pump pressure switches

- Suitable for all water pumps: submersible, jet, reciprocating, etc.
- Available in 20-40, 30-50 & 40-60 psi models
- Diaphragm-actuated contacts
- Adjustable cut-in & cut-out pressures
- Easy wiring & corrosion resistant
- Ideal for pump OEM applications
- Rated 1-ph 230V, 2.0 HP, 12A
- Removable cover, ample wiring space

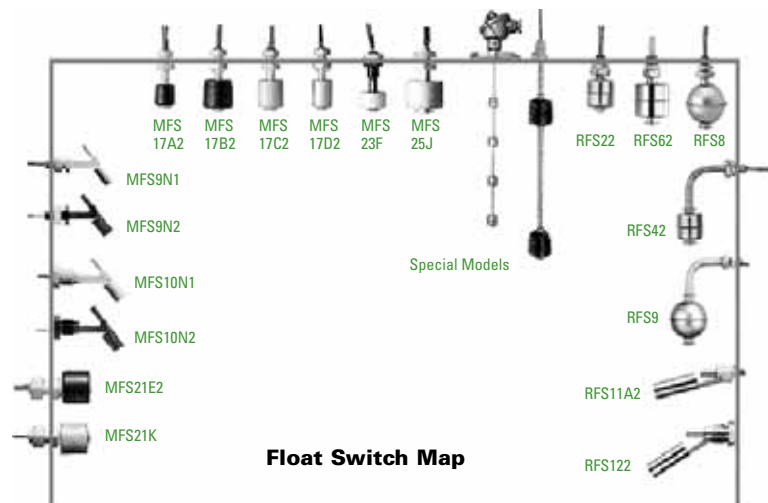


B51

Description	Item No.
20-40 psi pressure switch	CHWPS2040D
30-50 psi pressure switch	CHWPS3050D
40-60 psi pressure switch	CHWPS4060D
20-40 psi pressure switch c/w pulsation plug	CHWPS2040DP
20-40 psi pressure switch c/w low pressure cut-off	CHWPS2040DL
30-50 psi pressure switch c/w low pressure cut-off	CHWPS3050DL

Riko Float Switches

- Stainless & Plastic Type Floats
- Horizontal & Vertical Types
- Multiple Level Switches
- Suitable For 240Vac



B51

Description	Item No.
1/2" NPT Polypropylene Horizontal Float Switch, 90mm x 15mm Dia. 0.5 Amp	MFS10N1
1/2" NPT Nylon-6 Horizontal Float Switch, 90mm Long x 15mm Dia. 0.5 Amp	MFS10N2
PA/rubber Upright Float Switch, 44mm Long x 20mm Dia. 0.5 Amp	MFS17A2
PA/rubber Upright Float Switch, 44mm Long x 20mm Dia. 0.5 Amp, PP clip	MFS17A2PPC
PA/rubber Upright Float Switch, 44mm Long x 26.5mm Dia. 0.5 Amp	MFS17B2
Polypropylene Upright Float Switch, 44mm Long x 25mm Dia. 0.5 Amp	MFS17C2
Polypropylene Upright Float Switch, 44mm Long x 18mm Dia. 0.5 Amp	MFS17D2
1/4" PF PA/rubber Horizontal Float Switch, 38mm x 31mm Dia. 0.5 Amp	MFS21E2
Polypropylene Horizontal Float Switch, 73mm x 15mm Dia. 0.5 Amp	MFS9N1
Nylon-6 Horizontal Float Switch, 73mm Long x 15mm Dia. 0.5 Amp	MFS9N2
S/S Horizontal Float Switch, 73mm Long x 28mm Dia. 0.5 Amp	RFS11A2
1/2" NPT S/S Horizontal Float Switch, 94mm Long x 17mm Dia. 0.5 Amp	RFS122
S/S Upright Float Switch, 42mm Long x 28mm Dia. 0.5 Amp	RFS22
S/S Elbow Float Switch, 83.5mm Long x 28mm Dia. 0.5 Amp	RFS42
S/S Upright Float Switch, 75 Long x 50mm Dia. 0.5 Amp	RFS62
S/S Upright Float Switch, 59mm Long x 43mm Dia. 0.5 Amp	RFS8
S/S Elbow Float Switch, 99mm Long x 28mm Dia. 0.5 Amp	RFS9
316S/S Float only, RFS22	FLOAT316SS
316S/S Float only, RFS62	FLOAT50MM316

Power Control

Automation & Control

DC Power Supplies

Eaton PSG range of DC Power Supplies

- DIN rail mountable, all mounting hardware supplied
- Industrial application, range includes 60 to 480 watts, 2.5 to 20A
- 1-phase Input 85 to 264V AC, 22-28V DC adj Output
- 3-phase Input 350 to 575V AC, 22-28V DC adj Output
- Wide operating temp -20 to +75 degrees Celsius
- Transient surge voltage protection
- Certified to IEC, CE, UL; RoHS compliant
- Green operation LED for DC OK
- MTBF in excess of 800,000 hours
- Screw terminal type connections



B57

Description	Item No.
Single-phase AC input type	
Power Supply 85-264VAC Input, 24VDC, 2.5A Output, 60	PSG60E
Power Supply 85-264VAC Input, 24VDC, 5A Output, 120W	PSG120E
Power Supply 85-264VAC Input, 24VDC, 10A Output, 240W	PSG240E
Power Supply 85-264VAC Input, 24VDC, 20A Output, 480W	PSG480E
Three-phase AC input type	
Power Supply 350-575VAC Input, 24VDC, 2.5A Output, 60W	PSG60F
Power Supply 350-575VAC Input, 24VDC, 5A Output, 120W	PSG120F
Power Supply 350-575VAC Input, 24VDC, 10A Output, 240W	PSG240F
Power Supply 350-575VAC Input, 24VDC, 20A Output, 480W	PSG480F

Liquid Level Controllers

- Level Control of Conductive Liquids - Relay & Probes
- Level Control of Non-Conductive Liquids or Granular Materials
- Relay For Use with Capacitive Proximity Switches



B57

Description	Item No.
Level Relay For Resistive Sensors Single Point Control Plug In	SC100/**ACS
Level Relay Single Pt High / Low C/W Drain Function 1 C/O	AC130/**S
Level Relay Single Pt High / Low C/W Drain Function 2 C/O	AC130/**D
Level Relay Single Pt High / Low C/W Drain Function 1 C/O Plug In	SC130/**S
Level Relay Single Pt High / Low C/W Drain Function 2 C/O Plug In	SC130/**D
Level Relay Non Conductive Type Single Pt High / Low 1 C/O Plug In	SC230/**SP
11 Pin DIN Rail Base	S3B
Accessories	
Probe Holder with Screw Cap Incl 3 X 1 MTR Coated SS316 Rods	CP3C
Probe Holder with Screw Cap Incl 2 X 1 MTR Coated SS316 Rods	CP2C
Probe Holder with Screw Cap Incl 1 X 1 MTR Coated SS316 Rods	CP1C
Extension Rods 1 MTR Male / Female	EP1/CEXT


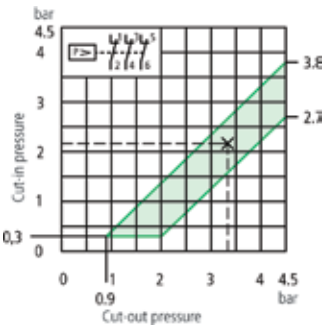
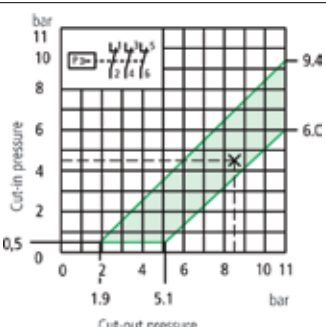
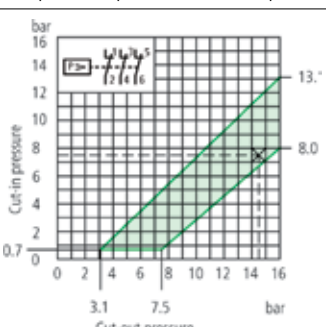
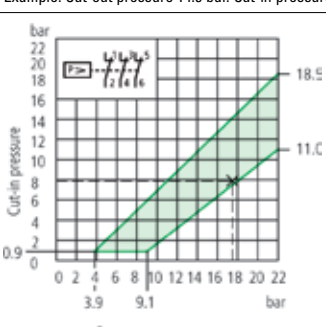
* Specify voltage: 12, 24Vdc & 24, 110, 240, 415Vac.

*** Specify voltage: 24, 110, 240, 415Vac.

MCS Pressure Switches

With main contacts, R 1/2" pressure pipe flange

MOO

	Preferred setting range		Max. operating pressure Bar	Make & break pressure: separately infinitely adjustable. Pressures can be set to any point within the area of the pressure diagram for the appropriate switch.	Variable switching differential Item No.
	From Bar	To Bar			
MCSN pressure switches, IP65, 3-pole					
	0.9	4	7	 <p>Min. switching differential: 0.6 bar Example: Cut-out pressure 3.3 bar. Cut-in pressure 2.2 bar</p>	MCSN4
	2	10	15	 <p>Min. switching differential: 1.4 bar Example: Cut-out pressure 8.5 bar. Cut-in pressure 4.5 bar</p>	MCSN11
	5	15	25	 <p>Min. switching differential: 2.4 bar Example: Cut-out pressure 14.5 bar. Cut-in pressure 7.5 bar</p>	MCSN16
	8	22	25	 <p>Min. switching differential: 3.0 bar Example: Cut-out pressure 17.5 bar. Cut-in pressure 7.8 bar</p>	MCSN22

Automation & Control

Power Control


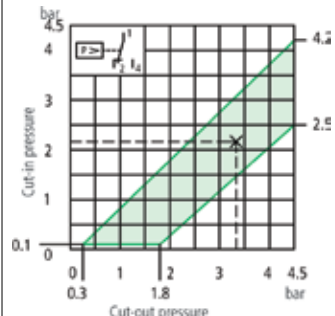
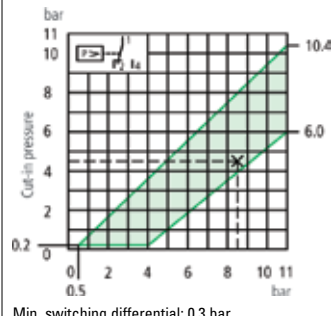
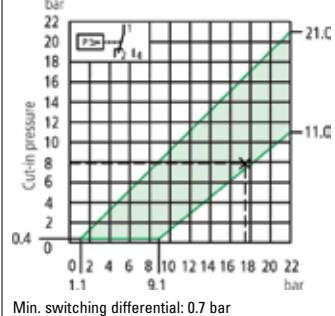

Automation & Control

MCS Pressure Switches

With auxiliary contacts, R 1/4" pressure pipe flange




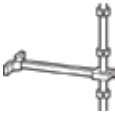

MOO

Automation & Control

	Contacts Quantity	Preferred setting range		Max. operating pressure	Make & break pressure: separately infinitely adjustable. Pressures can be set to any point within the area of the pressure diagram for the appropriate switch.	Variable switching differential Item No.
		From Bar	To Bar			
MCS pressure switches, IP65						
	1 changeover contact	0.3	4	7	 <p>Min. switching differential: 0.2 bar Example: Cut-out pressure 3.3 bar. Cut-in pressure 2.2 bar</p>	MCS4
	1 changeover contact	2	10	15	 <p>Min. switching differential: 0.3 bar Example: Cut-out pressure 8.5 bar. Cut-in pressure 4.5 bar</p>	MCS11
	1 changeover contact	8	22	25	 <p>Min. switching differential: 0.7 bar Example: Cut-out pressure 17.5 bar. Cut-in pressure 7.8 bar</p>	MCS22
Wall fixing bracket For MCS & MCSN						
	-	-	-	-	Wall mounting bracket can be rotated to right or left in 90° stages	W-MCS

SW Float switches

M00

	Description	Item No.
Float switch, IP65		
	<p>Standard features</p> <ul style="list-style-type: none"> • Lever can be transposed to reverse contact operation • One insulated earth terminal \oplus, one insulated N terminal • Shroud: impact-resistant, grey • Two cable entry knockouts for M20, without cable gland • IP65 in conjunction with V-M20 cable gland • Bracket for wall fixing • Mounting position as required 	SW
Moulded float		
	To be filled with sand or liquid	SK-SW
Cable operation		
	<p>Set of accessories, without float for cable operation, consists of:</p> <ul style="list-style-type: none"> • 1 cable eye bolt • 2 guide pulleys • 4 cable clamps incl. screws • 10 m steel cable (plastic sheathed) • 1 counterweight 	SB0-SW
Rod operation		
	<p>Set of accessories, without float for rod operation, consists of:</p> <ul style="list-style-type: none"> • 1 bracket • 3 clamp rings • 1 operating rod (plastic 1.20 m) • 2 hexagonal nuts (plastic) 	ST0-SW
Metric cable gland, M20 to EN 50 262		
	<p>With lock nut & built-in strain relief IP68 up to 5 bar, halogen-free External diameter of cable 6 – 13 mm</p>	V-M20

Power Control

Automation & Control

Temperature Controllers

Eaton TC Series Temperature Controllers

- TC series panel-mount: 24 x 48, 48 x 48 & 96 x 48 sizes
- Universal input: J, K, T, E, B, R, S, N, L thermocouples or Pt100 RTD
- Outputs available: relay, alarm, SSR, analog
- Supply options: 90-250V AC or 11-26V AC/DC
- Advanced fuzzy logic PID minimises overshoot/undershoot & allows quick accurate response
- Fast sampling rate up to 5 times per second ensures accuracy in fast processes
- Standard IP65 front panel (TC48) suitable for washdown environments
- Sensor break detection feature (thermocouple/RTD open, RTD short)
- Two bright easy-to-read 4-digit LED displays for process value & set value
- Heat/cool control, dwell timer function available



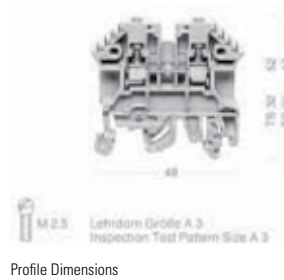
B57

Description	Item No.
24 x 48 size	
Temp Ctrl, 24 x 48mm, 2 Relay Out, 90 – 250V AC	TC24411100
Temp Ctrl, 24 x 48mm, SSR Driver/Relay Out, 90 – 250V AC	TC24412100
Temp Ctrl, 24 x 48mm, 2 Relay Out, 11 – 26V AC/DC	TC24511100
Temp Ctrl, 24 x 48mm, Analogue Out, Relay Alarm, 90 – 250V AC	TC24413100
Process Cntrl, 24 x 48mm, Analogue/Relay Out, 90 – 250V AC	PC24463100
48 x 48 size	
Temp Ctrl, 48 x 48mm, 1 Relay Out, Relay Alarm, 90 – 250V AC	TC484110101
Temp Ctrl, 48 x 48mm, SSR Driver Out, 90 – 250V AC	TC484120001
Temp Ctrl, 48 x 48mm, SSR Driver Out, Relay Alarm, 90 – 250V AC	TC484120101
Temp Ctrl, 48 x 48mm, Analogue Out, Relay Alarm, 90 – 250V AC	TC484130101
Temp Ctrl, 48 x 48mm, 1 Relay Out, Relay Alarm, 11 – 26V AC/DC	TC485110101
96 x 48 size	
Temp Ctrl, 96 x 48mm, 1 Relay Out, Relay Alarm, 90 – 250V AC	TC964110100

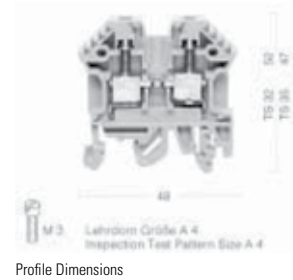
Feed-Through Terminals

Feed-Through Connection Terminals
(suitable for 35mm DIN Rail & 32mm G Rail)

Type	2.5mm	4mm
Current	26 amps - 750V / 24 amps - 800V	34 amps - 750V / 32 amps - 800V
Width / Strip Length / Screw	5mm / 7mm / M2.5	6mm / 12mm / M3
Cable	0.2mm-2.5mm stranded / 0.2mm -4mm solid	0.2mm-4mm stranded / 0.2mm-6mm solid



Profile Dimensions



Profile Dimensions

B16

Description	Reference	2.5mm Item No.	Description	Reference	4mm Item No.
2.5mm terminal beige	1296.0	RK2.5PA	4mm terminal beige	1001.2	RK2.5-4PA
2.5mm terminal beige 10P	1297.2	KBL2.5PA	4mm terminal beige 10P	1002.2	KBL2.5-4PA
End plate beige	2001.2	AP2.5-10PA	End section beige	2001.2	AP2.5-10PA
Partition beige	2002.2	TW2.5-10PA	Partition beige	2002.2	TW2.5-10PA
2.5mm terminal red	1296.9	RK2.5PAR	4mm terminal red	1001.9	RK2.5-4PAR
End plate red	2001.9	AP2.5-10PAR	End plate red	2001.9	AP2.5-10PAR
2.5mm terminal white	1296.7	RK2.5PAW	4mm terminal white	1001.7	RK2.5-4PAW
End plate white	2001.7	AP2.5-10PAW	End plate white	2001.7	AP2.5-10PAW
2.5mm terminal blue	1296.5	RK2.5PAB	4mm terminal blue	1001.5	RK2.5-4PAB
End plate Blue	2001.5	AP2.5-10PAB	End plate Blue	2001.5	AP2.5-10PAB
Partition blue	2002.5	TW2.5-10PAB	Partition blue	2002.5	TW2.5-10PAB
Cross Connection 2P bare	2567.0	Q.22.5	Cross Connection 2P insul.	2740.2	QI24
Cross Connection 3P bare	2568.0	Q.32.5	Cross Connection 3P insul.	2741.2	QI34
Cross Connection 10P bare	2570.0	Q.102.5	Cross Connection 10P insul.	2743.2	QI104
Cross Connection 100P bare	2152.0	Q.0.5m	Cross Connection 83P bare	2153.0	Q.0.5m4
Cover (60mm)	2499.0	ADQ	Cover (60mm)	2499.0	ADQ
External jumper insulated 10P	2029.0	AQI10/5/15	External jumper insulated 10P	2143.0	AQI10/6/17
-	-	-	External jumper insulated 75P	2480.0	AQI75/6/17
Separator	2566.2	TRS3PA	Separator	2003.2	TRS
Test Socket	2075.0	STB8.5/2.3	Test Socket	2006.0	STB14/2.3
Test Plug	2007.0	PS2.3	Test Plug	2007.0	PS2.3
End clamp Economy TS35	2005.2	ES35PA	End clamp Economy TS35	2005.2	ES35PA
End clamp TS35 (9.5mm)	2828.0	ES35SKT	End clamp TS35 (9.5mm)	2828.0	ES35SKT
End clamp metal TS35 (11mm)	2761.9	HES35ST	End clamp metal TS35 (11mm)	2761.9	HES35ST

For marking systems, refer to page 409. For mounting rails, refer to page 410.

Power Control

Wiring Accessories

Feed-Through Terminals

Feed-Through Connection Terminals (suitable for 35mm DIN Rail & 32mm G Rail)

Type	10mm	16mm
Current	61 amps - 750V / 57 amps - 800V	82 amps - 750V / 76 amps - 800V
Width / Strip Length / Screw	8mm / 12mm / M4	12mm / 15mm / M5
Cable	0.2mm-10mm stranded / 0.2mm -10mm solid	2.5mm-16mm stranded / 2.5mm-25mm solid



Profile Dimensions



Profile Dimensions

B16

Description	Reference	10mm Item No.	Description	Reference	16mm Item No.
10mm terminal beige *	1005.2	RK6-10PA	16mm terminal beige *	1050.2	RK16PA
10mm terminal beige 10P *	1006.2	KBL6-10PA	-	-	-
End plate beige *	2001.2	AP2.5-10PA	End plate beige *	2104.2	AP16PA
Partition beige *	2002.2	TW2.5-10PA	Partition beige *	2105.2	TW16PA
10mm terminal red *	1005.9	RK6-10PAR			
End plate red *	2001.9	AP2.5-10PAW			
10mm terminal white *	1005.7	RK6-10PAW			
End plate white *	2001.7	AP2.5-10PAR			
6mm terminal blue *	1005.5	RK6-10PAB	16mm terminal blue *	1050.5	RK16PAB
End plate Blue *	2001.5	AP2.5-10PAB	End plate Blue *	2104.5	AP16PAB
Partition blue *	2002.5	TW2.5-10PAB	Partition blue *	2105.5	TW16PAB
Cross Connection 2P insul.	2750.2	QI210	Cross Connection 2P bare	2112.0	Q.216
Cross Connection 3P insul.	2751.2	QI310	Cross Connection 3P bare	2113.0	Q.316
Cross Connection 10P insul.	2753.2	QI1010	Cross Connection 10P bare	2115.0	Q.1016
Cover s (60mm)	2499.0	ADQ	Cover 1P	2819.0	AD1/12
External jumper insulated 2P	2067.0	AQI2/8/11			
External jumper insulated 3P	2068.0	AQI3/8/11			
Separator	2003.2	TRS			
Test Socket	2050.0	STB14/4			
Test Plug	2051.0	PS4			
End clamp Economy TS35	2005.2	ES35PA	End clamp Economy TS35	2005.2	ES35PA
End clamp TS35 (9.5mm)	2828.0	ES35KST	End clamp TS35 (9.5mm)	2828.0	ES35KST
End clamp metal TS35 (11mm)	2761.9	HES35ST	End clamp metal TS35 (11mm)	2761.9	HES35ST

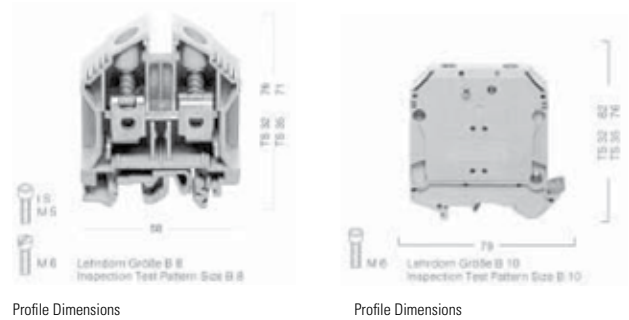
For marking systems, refer to page 409. For mounting rails, refer to page 410.

* Other colours available on request.

Feed-Through Terminals

Feed-Through Connection Terminals (suitable for 35mm DIN Rail & 32mm G Rail)

Type	35mm	50mm
Current	135 amps - 750V / 125 amps - 800V	168 amps - 1000V
Width / Strip Length / Screw	16mm / 20mm / M5 all.	20mm / 27mm / M8 all.
Cable	2.5mm-35mm stranded / 2.5mm -50mm solid	25mm-50mm stranded / 16mm-50mm solid

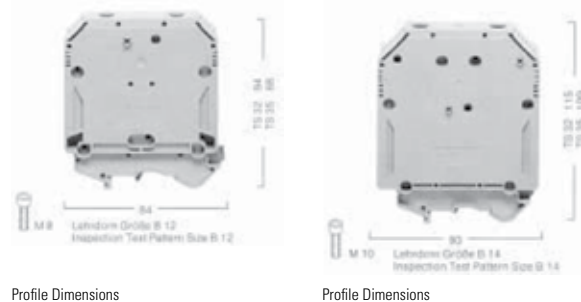


B16

Description	Reference	35mm Item No.	Description	Reference	50mm Item No.
35mm terminal beige	1494.2	RK35PA	50mm terminal beige	1120.2	RK50PA
End plate beige	2116.2	AP35PA	End plate beige	-	Not Required
Partition beige	2117.2	TW35PA	Partition grey	-	Not Required
35mm terminal blue	1494.5	RK35PAB	35mm terminal blue	1120.5	RK50PAB
End plate Blue	2116.5	AP35PAB	End section Blue	-	Not Required
Partition blue	2117.5	TW35PAB	-	-	-
Cross Connection 2P bare	2164.0	Q.235	Cross Connection 2P insul.	2763.2	AQI250
Cross Connection 3P bare	2165.0	Q.335	Cross Connection 3P bare	2764.2	AQI350
Cross Connection 10P bare	2167.0	Q.1035			
Cover 1P	2820.0	AD1/16			
Test Socket	2127.0	STB16/4			
Test Plug	2051.0	PS4			
End clamp Economy TS35	2005.2	ES35PA	End clamp Economy TS35	2005.2	ES35PA
End clamp TS35 (9.5mm)	2828.0	ES35KST	End clamp TS35 (9.5mm)	2828.0	ES35KST
End clamp metal TS35 (11mm)	2761.9	HES35ST	End clamp metal TS35 (11mm)	2761.9	HES35ST

For marking systems, refer to page 409. For mounting rails, refer to page 410.

Type	95mm	150mm
Current	250 amps - 1000V	355 amps - 1000V
Width / Strip Length / Screw	25mm / 30mm / M8 all	31mm / 38mm / M10 all.
Cable	35mm-95mm stranded / 25mm -95mm solid	35mm-150mm stranded / 35mm-185mm solid



B16

Description	Reference	95mm Item No.	Description	Reference	150mm Item No.
95mm terminal beige	1122.2	RK95PA	150mm terminal beige	1124.2	RK150PA
End plate	-	Not Required	End plate	-	Not Required
Partition	-	Not Required	Partion	-	Not Required
95mm terminal blue	1122.5	RK95PAB	150mm terminal blue	1124.5	RK150PAB
End plate	-	Not Required	End Plate	-	Not Required
Partition	-	Not Required	-	-	-
Cross Connection 2P insul.	2765.2	AQI295	Cross Connection 2P insul.	2767.2	AQI2150
Cross Connection 3P bare	2766.2	AQI395	Cross Connection 3P bare	2768.2	AQI3150
-	-	-	Warning Tag	2806.0	AD1/150
End clamp Economy TS35	2005.2	ES35PA	End clamp Economy TS35	2005.2	ES35PA
End clamp TS35 (9.5mm)	2828.0	ES35SKT	End clamp TS35 (9.5mm)	2828.0	ES35SKT
End clamp metal TS35 (11mm)	2761.9	HES35ST	End clamp metal TS35 (11mm)	2761.9	HES35ST

For marking systems, refer to page 409. For mounting rails, refer to page 410.

Power Control

Wiring Accessories

Feed-Through Terminals

Feed-Through Connection Terminals (suitable for 35mm DIN Rail & 32mm G Rail)

Type	240mm	HSK High Current Terminals (available on request).
Current	453 amps - 1000V	
Width / Strip Length / Screw	36mm / 38mm / M10 all.	
Cable	70mm-240mm stranded / 70mm -240mm solid	



Profile Dimensions

B16

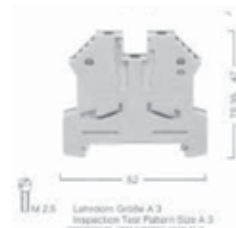
Description	Reference	240mm Item No.
240mm terminal beige	1126.2	RK240PA
End plate	-	Not Required
Partition	-	Not Required
240mm terminal blue	1126.5	RK240PAB
End Plate	-	Not Required
Cross Connection 2P insul.	2769.2	AQI2240
Cross Connection 3P bare	2770.2	AQI3240
Warning Tag	2808.0	AD1/240
End clamp Economy TS35	2005.2	ES35PA
End clamp TS35 (9.5mm)	2828.0	ES35SKT
End clamp metal TS35 (11mm)	2761.9	HES35ST

For marking systems, refer to page 409. For mounting rails, refer to page 410.

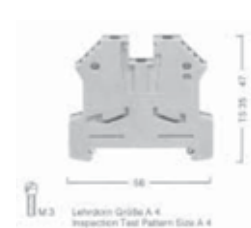
Earth Terminals

Through-Type Earth Terminals (Yellow/Green) (suitable for 35mm DIN Rail)

Type	2.5mm	4mm
Width / Strip Length / Screw	6mm / 10mm / M2.5	8mm / 12mm / M3
Cable	0.2mm-2.5mm stranded / 0.2mm -4mm solid	0.2mm-4mm stranded / 0.2mm-6mm solid



Profile Dimensions



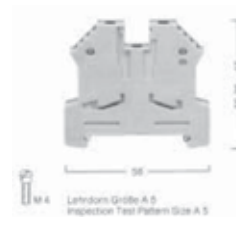
Profile Dimensions

B16

Description	Reference	2.5mm Item No.	Description	Reference	4mm Item No.
2.5mm Earth terminal	1056.2	SL2.535	4mm Earth terminal	1212.2	SL435

End section not required.

Type	10mm	16mm
Width / Strip Length / Screw	10mm / 12mm / M4	12mm / 12mm / M5
Cable	0.2mm-10mm stranded / 0.2mm-10mm solid	2.5mm-16mm stranded / 2.5mm-25mm solid



Profile Dimensions



Profile Dimensions

B16

Description	Reference	10mm Item No.	Description	Reference	16mm Item No.
10mm Earth terminal	1213.2	SL1035	16mm Earth terminal	1197.2	SL1635

For marking systems, refer to page 409. For mounting rails, refer to page 410.

Type	35mm
Width / Strip Length / Screw	16mm / 20mm / M6
Cable	2.5mm-35mm stranded / 2.5mm-50mm solid



Profile Dimensions

B16

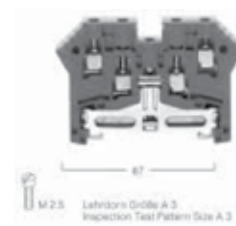
Description	Reference	35mm Item No.
35mm Earth terminal	1199.2	SL3535

For mounting rails, refer to page 410. End section not required.

Type	2.5mm, Duo Earth Double
Width / Strip Length / Screw	6mm / 10mm
Cable	0.2mm-2.5mm stranded / 0.2mm-0.4mm solid



Profile Dimensions



Profile Dimensions

B16

Description	Reference	2.5mm Item No.	Description	Reference	2.5mm Item No.
2.5mm terminal	1060.2	SL2.535ZR	2.5mm terminal	1062.2	SL2.535ZR
			End section	2575.1	AP2.5RLPA

For marking systems, refer to page 409. For mounting rails, refer to page 410.

Power Control

Wiring Accessories

Double Deck/Duo Terminals

Double Deck Through-Type Terminals (suitable for 35mm DIN Rail & 32mm G Rail)

Type	4mm without Bridge	4mm with Bridge
Current	34 amps - 500V	34 amps
Width / Strip Length / Screw	6mm / 9mm / M3	6mm / 9mm / M3
Cable	0.2mm-4mm stranded / 0.2mm-4mm solid	0.2mm-4mm stranded / 0.2mm-4mm solid



Profile Dimensions



Profile Dimensions

B16

Description	Reference	4mm Item No.	Description	Reference	4mm Item No.
4mm terminal beige	1020.2	RKD4PA	4mm terminal beige	1027.2	RKD4SVPA
End section beige	2101.2	AP4PA	End section beige	2101.2	AP4PA
End clamp Economy TS35	2005.2	ES35PA	End clamp Economy TS35	2005.2	ES35PA
End clamp TS35 (9.5mm)	2828.0	ES35SKT	End clamp TS35 (9.5mm)	2828.0	ES35SKT
End clamp metal TS35 (11mm)	2761.9	HES35ST	End clamp metal TS35 (11mm)	2761.9	HES35ST

For marking systems, refer to page 409. For mounting rails, refer to page 410.

Duo Through-Type Connection Terminals (suitable for 35mm DIN Rail & 32mm G Rail)

Type	4mm 1in/2out Connection	4mm 2in/2out Connection
Current	26 amps - 500V	26 amps - 500V
Width / Strip Length	6mm / 12mm	6mm / 9mm
Cable	0.2mm-4mm stranded / 0.2mm -6mm solid	0.2mm-4mm stranded / 0.2mm -6mm solid



Profile Dimensions



Profile Dimensions

B16

Description	Reference	4mm Item No.	Description	Reference	4mm Item No.
4mm terminal beige *	1210.2	RK2.5-4ZRPA	4mm terminal beige *	1211.2	RK2.5-4ZRLPA
End section beige *	2574.2	AP2.5RPA	End section beige *	2575.2	AP2.5RLPA
Cross Connection 2P insul.	2740.2	QI24	Cross Connection 2P insul.	2740.2	QI24
Cross Connection 3P insul.	2741.2	QI34	Cross Connection 3P insul.	2741.2	QI34
Cross Connection 10P insul.	2743.2	QI104	Cross Connection 10P insul.	2743.2	QI104
Cross Connection 83P bare	2153.0	Q0.5m	Cross Connection 83P bare	2153.0	Q0.5m
Cover s (60mm)	2499.0	ADQ	Cover s (60mm)	2499.0	ADQ
External jumper insulated 10P	2029.0	AQI10/5/15	External jumper insulated 10P	2143.0	AQI10/6/17
-	-	-	External jumper insulated 75P	2480.0	AQI75/6/17
Separator	2566.2	TRS3PA	Separator	2003.2	TRS
Test Socket	2075.0	STB8.5/2.3	Test Socket	2006.0	STB14/2.3
Test Plug	2007.0	PS2.3	Test Plug	2007.0	PS2.3
End clamp Economy TS35	2005.2	ES35PA	End clamp Economy TS35	2005.2	ES35PA
End clamp TS35 (9.5mm)	2828.0	ES35SKT	End clamp TS35 (9.5mm)	2828.0	ES35SKT
End clamp metal TS35 (11mm)	2761.9	HES35ST	End clamp metal TS35 (11mm)	2761.9	HES35ST

For marking systems, refer to page 409. For mounting rails, refer to page 410.

*Blue on Request.

Disconnect Terminals

Disconnect Terminals (suitable for 35mm DIN Rail & 32mm G Rail)

Type	4mm without test socket	4mm with LH & RH test sockets
Current	10 amps	35 amps
Width / Strip Length	6mm / 8mm	6mm
Cable	0.2mm-4mm stranded / 0.2mm -6mm solid	0.5mm-4mm stranded / 0.5mm-6mm solid



Profile Dimensions



Profile Dimensions

B16

Description	Reference	4mm Item No.	Description	Reference	4mm Item No.
4mm terminal beige	1390.2	TRK1.5PA	4mm terminal beige	1391.2	TRK1.5STBPA
External Jumper 2p	2064.0	AQ2			
External Jumper 3p	2065.0	AQ3			
External Jumper 4p	2066.0	AQ4			
Test Plug	2007.0	PS2.3			
End clamp Economy TS35	2005.2	ES35PA	End clamp Economy TS35	2005.2	ES35PA
End clamp TS35 (9.5mm)	2828.0	ES35SKT	End clamp TS35 (9.5mm)	2828.0	ES35SKT
End clamp metal TS35 (11mm)	2761.9	HES35ST	End clamp metal TS35 (11mm)	2761.9	HES35ST

For marking systems, refer to page 409. For mounting rails, refer to page 410.

Type	4mm without test sockets	4mm
Current	10 / 15 amps - 300 / 600V	34 / 15 amps - 300 / 600V
Width / Strip Length	6mm / 8mm	8mm / 9mm
Cable	0.2mm-4mm stranded / 0.2mm-4mm solid	0.2mm-4mm stranded / 0.2mm -4mm solid



Profile Dimensions

B16

Description	Reference	4mm Item No.	Description	Reference	4mm Item No.
4mm terminal beige	1394.2	TRK1.5DSPA	4mm terminal beige	2193.2	TRK2KPA
Plug (spare)	1403.2	DS1TRK1.5	End plate beige	2046.2	APSI1PA
Diode Plug 1A	1401.2	DS1TRK1.51A			
Diode Plug with Bridge	1400.2	DS1TRK1.5B			
External Jumper 2p	2064.0	AQ2	End clamp Economy TS35	2005.2	ES35PA
External Jumper 3p	2065.0	AQ3	End clamp TS35 (9.5mm)	2828.0	ES35SKT
External Jumper 4p	2066.0	AQ4	End clamp metal TS35 (11mm)	2761.9	HES35ST
Test Plug	2007.0	PS2.3			
End clamp Economy TS35	2005.2	ES35PA	End clamp Economy TS35	2005.2	ES35PA
End clamp TS35 (9.5mm)	2828.0	ES35SKT	End clamp TS35 (9.5mm)	2828.0	ES35SKT
End clamp metal TS35 (11mm)	2761.9	HES35ST	End clamp metal TS35 (11mm)	2761.9	HES35ST

For marking systems, refer to page 409. For mounting rails, refer to page 410.

Type	4mm with RH & LH test sockets
Current	10 / 15 amps - 300 / 600V
Width / Strip Length	6mm / 8mm
Cable	0.2mm-4mm stranded / 0.2mm-4mm solid



Profile Dimensions

B16

Description	Reference	4mm Item No.
4mm terminal beige	1395.2	TRK1.5STBDSPA

Power Control

Wiring Accessories

Fuse Terminals

Fuse Terminals (suitable for 35mm DIN Rail & 32mm G Rail)

Type	10mm 5 x 20mm / 5 X 25mm	10mm 6.3mm x 32mm
Width / Strip Length	8mm / 9mm	6mm / 9mm
Cable	0.2mm-10mm stranded / 0.2mm-10mm solid	0.2mm-10mm stranded / 0.2mm-10mm solid



Profile Dimensions



Profile Dimensions

B16

Description	Reference	10mm Item No.	Description	Reference	10mm Item No.
terminal beige	1101.2	SIK10PA	terminal beige	1102.2	SIK10ZPA
LED - 12VDC / 24VAC	1113.2	SSTSIKLED12			
LED - 30VDC / 60VAC	1114.2	SSTSIKLED30			
LED - 60VDC / 120VAC	1115.2	SSTSIKLED60			
LED - 115VDC / 230VAC	1116.2	SSTSIKLED115			
End clamp Economy TS35	2005.2	ES35PA			
End clamp TS35 (9.5mm)	2828.0	ES35SKT			
End clamp metal TS35 (11mm)	2761.9	HES35ST			
Fuses to suit:					
5 x 25mm:					
1A	2096.0	SIK251A			
2A	2097.0	SIK252A			
4A	2098.0	SIK254A			
6.3A	2099.0	SIK256.3A			
5 x 20mm:					
1A	2406.0	SIK201A			
2A	2407.0	SIK202A			
4A	2408.0	SIK204A			
6.3A	2409.0	SIK206.3A			

For marking systems, refer to page 409. For mounting rails, refer to page 410.

Fuse Terminals (suitable for 35mm DIN Rail)

Type	4mm 5mm X 20mm/25mm	10mm 5mm X 20mm/25mm
Width / Strip Length	8mm / 9mm	12mm / 12mm
Cable	0.2mm-4mm stranded / 0.2mm-4mm solid	0.2mm-10mm stranded / 0.2mm-10mm solid



Profile Dimensions



Profile Dimensions

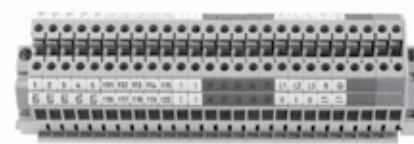
B16

Description	Reference	4mm Item No.	Description	Reference	10mm Item No.
4mm terminal	2190.2	STK1PA	10mm terminal	1092.6	SK135
End section	2046.2	APS11PA	End section	2047.6	APSK1KRG
End clamp Economy TS35	2005.2	ES35PA	End clamp Economy TS35	2005.2	ES35PA
End clamp TS35 (9.5mm)	2828.0	ES35SKT	End clamp TS35 (9.5mm)	2828.0	ES35SKT
End clamp metal TS35 (11mm)	2761.9	HES35ST	End clamp metal TS35 (11mm)	2761.9	HES35ST

For marking systems, refer to page 409. For mounting rails, refer to page 410.
For fuses see above.

Marking Tags

Terminal SB Marking Tag Branches (each branch with 10 tags)



B16

Nos.	Reference	5mm width, Item No. *	Reference	6mm width, Item No.	Reference	8mm width, Item No.
1 - 10	2433.0/1-10	SB510FS1-10	2037.0/1-10	SB610FS1-10	2942.0/1-10	SB810FS1-10
11 - 20	2433.0/11-20	SB510FS11-20	2037.0/11-20	SB610FS11-20	2942.0/11-20	SB810FS11-20
21 - 30	2433.0/21-30	SB510FS21-30	2037.0/21-30	SB610FS21-30	2942.0/21-30	SB810FS21-30
31 - 40	2433.0/31-40	SB510FS31-40	2037.0/31-40	SB610FS31-40	2942.0/31-40	SB810FS31-40
41 - 50	2433.0/41-50	SB510FS41-50	2037.0/41-50	SB610FS41-50	2942.0/41-50	SB810FS41-50
51 - 60	2433.0/51-60	SB510FS51-60	2037.0/51-60	SB610FS51-60	2942.0/51-60	SB810FS51-60
61 - 70	2433.0/61-70	SB510FS61-70	2037.0/61-70	SB610FS61-70	2942.0/61-70	SB810FS61-70
71 - 80	2433.0/71-80	SB510FS71-80	2037.0/71-80	SB610FS71-80	2942.0/71-80	SB810FS71-80
81 - 90	2433.0/81-90	SB510FS81-90	2037.0/81-90	SB610FS81-90	2942.0/81-90	SB810FS81-90
91 - 100	2433.0/91-100	SB510FS91-100	2037.0/91-100	SB610FS91-100	2942.0/91-100	SB810FS91-100
Blank	2430.0	SB510	2035.0	SB610	2940.0	SB810

* Tag quantity - price is for one strip of 10 tags.

Terminal AS Marking Tag Branches (each strip with 10 tags)



AS310 Marking branches white polyamide with Black print
(colours available on request).

B16

Description	Reference	Item No. *	Description	Reference	Item No.
Letter A	2573.0-A	AS310G-A	Letter O	2573.0-O	AS310G-O
Letter B	2573.0-B	AS310G-B	Letter P	2573.0-P	AS310G-P
Letter C	2573.0-C	AS310G-C	Letter Q	2573.0-Q	AS310G-Q
Letter D	2573.0-D	AS310G-D	Letter R	2573.0-R	AS310G-R
Letter E	2573.0-E	AS310G-E	Letter S	2573.0-S	AS310G-S
Letter F	2573.0-F	AS310G-F	Letter T	2573.0-T	AS310G-T
Letter G	2573.0-G	AS310G-G	Letter U	2573.0-U	AS310G-U
Letter H	2573.0-H	AS310G-H	Letter V	2573.0-V	AS310G-V
Letter I	2573.0-I	AS310G-I	Letter W	2573.0-W	AS310G-W
Letter J	2573.0-J	AS310G-J	Letter X	2573.0-X	AS310G-X
Letter K	2573.0-K	AS310G-K	Letter Y	2573.0-Y	AS310G-Y
Letter L	2573.0-L	AS310G-L	Letter Z	2573.0-Z	AS310G-Z
Letter M	2573.0-M	AS310G-M	Letter +	2573.0-PLUS	AS310G-PLUS
Letter N	2573.0-N	AS310G-N	Letter -	2573.0-MINUS	AS310G-MINUS

* Tag quantity - price is for one strip of 10 tags.

B16

Description	Reference	Item No. *	Description	Reference	Item No.
Nos. Sequence 0.....9	2572.0		Tag Mounting Clip		
No .1	2573.0-1	AS310G-1	3 way 9.5mm	2616.0	SCHT3
No .2	2573.0-2	AS310G-2	4 way 12.5mm	2617.0	SCHT4
No .3	2573.0-3	AS310G-3	5 way 15.8mm	2618.0	SCHT5
No .4	2573.0-4	AS310G-4	6 way 19mm	2619.0	SCHT6
No .5	2573.0-5	AS310G-5			
No .6	2573.0-6	AS310G-6			
No .7	2573.0-7	AS310G-7			
No .8	2573.0-8	AS310G-8			
No .9	2573.0-9	AS310G-9			
No .0	2573.0-0	AS310G-0			
Blank	2571.0	AS310			

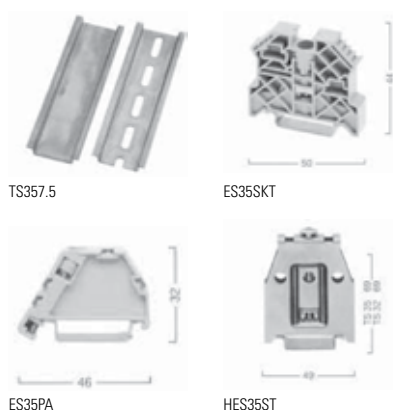
* Tag quantity - price is for one strip of 10 tags.

Power Control

Wiring Accessories

DIN Rail & Ducting

Terminal Accessories



B16

Description	Reference	Item No.
Mounting Rails (2 Metre length)		
35mm DIN 7.5mm high	2026.00	TS357.5US
35mm DIN 7.5mm high slotted	2094.00	TS357.5S
End Clamps		
End clamp Economy	2005.20	ES35PA
Type TS35 (35mm)	2828.0	ES35SKT
End clamp metal (11mm)	2761.9	HES35ST

Wiring Duct, Surface Mounting

Wiring duct available in slotted closed & open or solid wall variations.

- High impact strength
- Self extinguishing 94V - 0 PVC
- Service temperature 85°C
- Ducting comes with lids



Slotted - open (2m lengths)

B23

Dimensions (W x H mm)	Colour	Item No.
25 x 30	Grey	FBO2530G
25 x 40	Grey	FBO2540G
25 x 60	Grey	FBO2560G
40 x 40	Grey	FBO4040G
40 x 60	Grey	FBO4060G
40 x 80	Grey	FBO4080G
60 x 40	Grey	FBO6040G
60 x 60	Grey	FBO6060G
60 x 80	Grey	FBO6080G
80 x 60	Grey	FBO8060G
80 x 80	Grey	FBO8080G
100 x 100	Grey	FBO100100G
25 x 30	Black	FBO2530B
25 x 60	Black	FBO2560B
40 x 40	Black	FBO4040B
40 x 60	Black	FBO4060B
40 x 80	Black	FBO4080B
60 x 60	Black	FBO6060B
60 x 80	Black	FBO6080B
80 x 80	Black	FBO8080B
100 x 100	Black	FBO100100B

Slotted - closed (2m lengths)

B23

Dimensions (W x H mm)	Colour	Item No.
25 x 60	Grey	FBC2560G
40 x 40	Grey	FBC4040G
40 x 60	Grey	FBC4060G
40 x 80	Grey	FBC4080G
60 x 60	Grey	FBC6060G
60 x 80	Grey	FBC6080G
80 x 80	Grey	FBC8080G
100 x 100	Grey	FBC100100G
25 x 30	Black	FBC2530B
25 x 60	Black	FBC2560B
40 x 40	Black	FBC4040B
40 x 60	Black	FBC4060B
40 x 80	Black	FBC4080B
60 x 60	Black	FBC6060B
60 x 80	Black	FBC6080B
80 x 80	Black	FBC8080B
100 x 100	Black	FBC100100B



Spare Duct Lids

B23

Dimensions (mm)	Colour	Item No.
25	Grey	FBL25G
40	Grey	FBL40G
60	Grey	FBL60G
80	Grey	FBL80G
100	Grey	FBL100G
25	Black	FBL25B
40	Black	FBL40B
60	Black	FBL60B
80	Black	FBL80B
100	Black	FBL100B

Cable Accessories

Cable Ties

- UL approved nylon 66, 94V-2
- One piece design ensures strong locking
- Service temperature -40°C to +105°C
- High temperature 185°C, 94V-0 available on request
- Packed quantity 100



Cable Tie Saddles

Cable Tie Saddles

- Available in screw-in or stick-on
- Colour - white



Cable Ties, Surface Mounting

B23

Dimensions (mm)	Colour	Tensile strength (kgs)	Bundle Diameter (mm)	Item No.
100 x 2.5	Clear	8	25	FBCT1002C
190 x 4.8	Clear	22	52	FBCT1904C
280 x 4.8	Clear	22	81	FBCT2804C
370 x 4.8	Clear	22	102	FBCT3704C
280 x 7.6	Clear	55	81	FBCT2807C
380 x 7.6	Clear	55	110	FBCT3807C
450 x 7.6	Clear	55	120	FBCT4507C
450 x 8.0	Clear	80	133	FBCT4508C
550 x 8.0	Clear	80	168	FBCT5508C
812 x 9.0	Clear	80	246	FBCT8129C
1168 x 9.0	Clear	80	360	FBCT11689C
100 x 2.5	Black	8	25	FBCT1002B
150 x 3.6	Black	18	39	FBCT1503B
190 x 4.8	Black	22	52	FBCT1904B
280 x 4.8	Black	22	81	FBCT2804B
370 x 4.8	Black	22	102	FBCT3704B
280 x 7.6	Black	55	81	FBCT2807B
380 x 7.6	Black	55	110	FBCT3807B
450 x 7.6	Black	55	120	FBCT4507B
450 x 8.0	Black	80	133	FBCT4508B
550 x 8.0	Black	80	168	FBCT5508B
1168 x 9.0	Black	80	360	FBCT11689B

B23

Dimensions (mm)	Mounting	Item No.
19 x 9.5	Screw-on	FBTM0
15 x 10	Screw-on	FBTM1
23 x 16	Screw-on	FBTM2
21 x 21	Stick-on only	FBTM21214
28 x 28	Stick-on + screw-on	FBTM28284

Power Control

Wiring Accessories

Cable Accessories

Spiral Banding

- Manufactured from P.E.
- Binds cables & protects them from damage



B23

Wrapping range (mm)	Band width	Dia. (inner)	Dia. (outer)	Item No.
4 - 50	7.0	4.0	6.0	FBSW06
6 - 60	10.8	6.0	8.0	FBSW08
7.5 - 60	11.4	7.5	10	FBSW10
9 - 65	13.9	9.0	12	FBSW12
12 - 75	15	12	15	FBSW15
15 - 100	18.2	15	19	FBSW19

Cable Glands

- Manufactured from UL approved nylon 66 94V-2 black
- Temperature -40°C to +105°C
- "Cable grab claw" stays on gland body to reduce installation time
- IP68 rating



B23

Thread size, metric, (mm)	Suits cable outside dia.	Item No.
16	5 - 10	FBAG16
20	6 - 13	FBAG20
25	10-18	FBAG25
32	16 - 22	FBAG32
40	20 - 27	FBAG40
50	30 - 41	FBAG50
63	40 - 53	FBAG63

Flexible Bushing

- Cut to suit any shape hole
- Protects cables from sharp edges
- Manufactured P.E. Natural



B23

Thickness	Max. Thickness	Item No.
1.0	1.0	FBMB10
1.6	1.0 - 1.6	FBMB16
2.4	1.6 - 2.4	FBMB24
3.2	2.4 - 3.2	FBMB32
4.5	3.2 - 4.5	FBMB45