

MANUAL MOTOR PROTECTORS

All models shown smaller than actual size.



XTPR6P3BC1



XTPB2P5BC1



XTPBXENAS65

XTPB and XTPR Series



- Visible Trip Indication
- Class 10 Overload Protection
- Manual Motor Protectors up to 25A
- UL 508 Group Motor and Type E Compliant

Manual Motor Protectors (MMPs) features a pushbutton or rotary ON/OFF manual disconnect, Class 10 adjustable bimetallic overload relay and fixed magnetic short circuit trip capability in one compact unit. The Frame B size (45 mm) for motors has FLA ratings up to 32A. The XTPB and XTPR MMPs are UL Listed under UL 508 as Manual Motor Protectors. They provide an economical solution for applications requiring simple manual starting and stopping of motors. When used as an MMP, they are typically installed in an enclosure. Many enclosures are offered as accessories for the MMPs. Separate short-circuit protective devices, such as circuit breakers or fuses, are wired ahead

of the MMPs. The short-circuit protective device should be sized per the NEC code and should not exceed 400% of the maximum FLA dial setting of the MMP. A Group Motor Installation can be defined as more than one motor circuit protected by a single set of fuses or circuit breaker on a motor branch circuit. This eliminates the need for individual fuses or circuit breakers for each motor circuit. Substantial component cost savings, panel space savings and reduced wiring installation time can be achieved in Group Motor Installations. The MMPs are tested and listed for group installation. If remote operation is required, a magnetic contactor can be wired in series with the MMP. Manual Motor Protectors are selected based on the overload current range required for a given motor. This current range is determined from the motor Full Load Ampere rating and Motor Service Factor usually found on the motor nameplate. For motors with service factors less than 1.15, multiply the motor FLA by 0.90 to select appropriate MMP. Example: For motor having FLA of 6.4 A and service factor of 1.0 ($6.4 \text{ A} \times 0.90 = 5.76 \text{ A}$), select Model Number: XTPB6P3BC1

SPECIFICATIONS (XTPB, XTPR)

GENERAL

Standards: IEC/EN 60947, VDE 0660, UL 508, CSA C 22.2 No. 14

Climatic Proofing: Damp heat, constant, to IEC 60068-2-78; damp heat, cyclic, to IEC 60068-2-30

Ambient Temperature °C (°F):

Storage: -25 to 80 (-13 to 176)

Open: -25 to 55 (-13 to 131)

Enclosed: -25 to 40 (-13 to 104)

Direction of Incoming Supply:

As required

Degree of Protection

Device: IP20

Terminals: IP00

Protection Against Direct Contact:

Finger- and back-of-hand proof

Shock Resistance Half-Sinusoidal

Shock 10 mS to IEC 60068-2-27 (g): 25

Altitude (m), Maximum: 2000

Terminal Capacity:

Solid (mm²): 1 x (1 to 6) 2 x (1 to 6)

Flexible with Ferrule to DIN 46228

(mm²): 1 x (1 to 6) 2 x (1 to 6)

Solid or Stranded: 18 to 10

(AWG)

TERMINAL SCREW TIGHTENING TORQUE

Main Cable, Nm: 1.7

Main Cable, lb-in: 15.0

Control Circuit Cable, Nm: 1

Control Circuit Cable, lb-in: 8.9

MAIN CONTACTS

Rated Impulse Withstand Voltage

(Uimp), Vac: 6000

Overvoltage Category/Pollution Degree:

III/3

Rated Operational Voltage

(Ue), Vac: 690

Rated Uninterrupted Current = Rated Operational Current (Iu = Ie) in Amperes:

XTPB: 25 or current setting of the overcurrent release

XTPR: 32 or current setting of the overcurrent release

Rated Frequency, Hz: 40 to 60

Current Heat Loss (3-Pole at Operating Temperature), W: 6

Lifespan, Mechanical (ops):

XTPB: 50,000

XTPR: 100,000

Lifespan, Electrical

(AC-3 at 400V) (ops):

XTPB: 50,000

XTPR: 100,000

Maximum Operating Frequency, Operations/hr:

XTPB: 25

XTPR: 40

Short-Circuit Rating, DC (kA): 60

MOTOR SWITCHING CAPACITY

AC-3 (up to 690V) in Amperes:

XTPB: 25

XTPR: 32

DC-5 (up to 250V) in Amperes:

XTPB: 25

XTPR: 25 (3 contacts in series)

RELEASES

Overload Release Setting

Range (x Iu): 0.6 to 1.0

Fixed Short-Circuit Release (x Iu): 14

Short-Circuit Release Tolerance: ± 20%

Phase-Failure Sensitivity:

IEC/EN 60947-1-1, VDE 0660 Part 102

TEMPERATURE COMPENSATION

IEC/EN 60947, VDE 0660, °C (°F):

-5 to 40 (23 to 104)

Operating Range °C (°F):

-25 to 55 (-13 to 131)

Temperature Compensation Residual

Error for T > 20°C, %/K: < =0.25

SPECIFICATIONS FOR (AUXILIARY CONTACTS)

XTPAXSA

Rated Impulse Withstand Voltage, Uimp (Vac): 6000

Overvoltage Category/Pollution Degree: III/3

Rated Operational Voltage

Ue (Vac): 500

Ue (Vdc): 250

Safe Isolation to Vde 0106 Part 101 and Part 101/A1 Between Auxiliary Contacts and Main Contacts (Vac): 690

RATED OPERATIONAL CURRENT

AC-15

220 to 240V, Ie (A): 3.5

380 to 415V, Ie (A): 2

440 to 500V, Ie (A): 1

DC-13 L/R < 100 ms

24V, Ie (A): 2

60V, Ie (A): 1.5

110V, Ie (A): 1

220V, Ie (A): 0.25

LIFE SPAN

Mechanical, Operations (x 106): 0.1

Electrical, Operations (x 106): 0.05

Contact Reliability (@ Ue = 24 Vdc, Umin – 17V, Imin = 5.4 mA, Fault Probability: < 10⁻⁸ < 1 fault at 1 x 10⁸ operations

Positively Driven Contacts to ZH 1/457: Yes

SHORT-CIRCUIT RATING WITHOUT WELDING

Fuseless: FAZ-B4/1-HI

Fuse (A gG/gL): 10

TERMINAL CAPACITY

Solid or Flexible Conductor with Ferrule (mm²): 0.75–2.5

Solid or Stranded: 18 – 14 (AWG)

XTPB PUSHBUTTON MANUAL MOTOR PROTECTOR

MODEL NO.	RATED UNINTERRUPTED CURRENT: Iu = Ie (AMPS)	FLA ADJUST. RANGE / OVERLOAD RELEASE IR (AMPS)	SHORT CIRCUIT RELEASE IRM	MAXIMUM MOTOR RATINGS								
				MAXIMUM KW RATING AC-3 P (KW)					MAXIMUM HP RATING P (HP) UL 508/CSA C 22.2 NO. 14			
				3-PHASE					3-PHASE			
				220 TO 240V	380 TO 415V	440V	500V	660 TO 690V	200V	240V	480V	600V
XTPB001BC1	1	0.63 to 1	14	0.12	0.25	0.25	0.37	0.55	*	*	½	½
XTPB1P6BC1	1.6	1 to 1.6	22	0.25	0.55	0.55	0.75	1.1	*	*	¾	1
XTPB2P5BC1	2.5	1.6 to 2.5	35	0.37	0.75	1.1	1.1	1.5	½	½	1	1½
XTPB004BC1	4	2.5 to 4	56	0.75	1.5	1.5	2.2	3	1	1	2	3
XTPB6P3BC1	6.3	4 to 6.3	88	1.1	2.2	3	3	4	1½	1½	3	5
XTPB010BC1	10	6.3 to 10	140	2.2	4	4	4	7.5	3	3	7½	10
XTPB016BC1	16	10 to 16	224	4	7.5	9	9	12.5	3	5	10	10

XTPR ROTARY MANUAL MOTOR PROTECTORS WITH SCREW TERMINALS

XTPR001BC1	1	0.63 to 1	14	0.12	0.25	0.25	0.37	0.55	*	*	½	½
XTPR1P6BC1	1.6	1 to 1.6	22	0.25	0.55	0.55	0.75	1.1	*	*	¾	1
XTPR2P5BC1	2.5	1.6 to 2.5	35	0.37	0.75	1.1	1.1	1.5	½	½	1	1½
XTPR004BC1	4	2.5 to 4	56	0.75	1.5	1.5	2.2	3	1	1	2	3
XTPR6P3BC1	6.3	4 to 6.3	88	1.1	2.2	3	3	4	1½	1½	3	5
XTPR010BC1	10	6.3 to 10	140	2.2	4	4	4	7.5	3	3	7½	10
XTPR016BC1	16	10 to 16	224	4	7.5	9	9	12.5	3	5	10	10
XTPR020BC1	20	16 to 20	280	5.5	9	11	12.5	15	5	5	10	15
XTPR025BC1	25	20 to 25	350	5.5	12.5	12.5	15	22	5	7½	15	20

* In this range, calculate motor rating according to rated current. Specified values to NEC Table 430.250

Notes: Single-phasing sensitivity to IEC/EN 60947-4-1, VDE 0660 Part 102.

Can be snap-fit to IEC/EN 60715 top-hat (DIN) with 7.5 or 15 mm height.

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

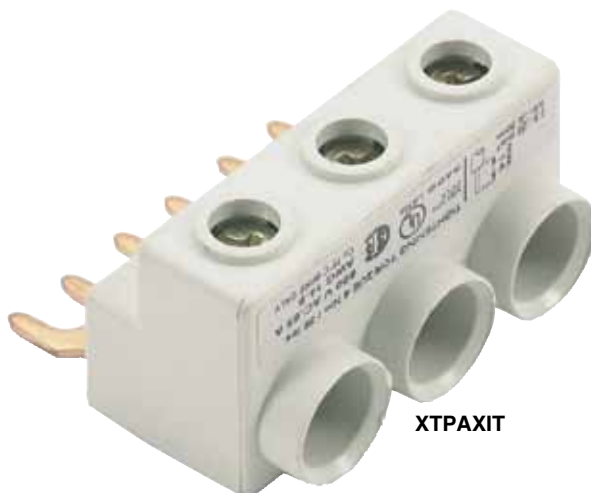
SF = 1.15 -> Ir = 1 x In mot

SF = 1 -> Ir = 0.9 x In mot

All models shown larger than actual size.



XTPAXSA11



XTPAXIT



XTPBXENA

To Order

IEC MANUAL MOTOR PROTECTOR

PUSHBUTTON

MODEL NO.	DESCRIPTION
XTPB001BC1	MMP PB frame B class 10, 0.63 to 1 A
XTPB1P6BC1	MMP PB frame B class 10, 1 to 1.6 A
XTPB2P5BC1	MMP PB frame B class 10, 1.6 to 2.5 A
XTPB004BC1	MMP PB frame B class 10, 2.5 to 4 A
XTPB6P3BC1	MMP PB frame B class 10, 4 to 6.3 A
XTPB010BC1	MMP PB frame B class 10, 6.3 to 10 A
XTPB016BC1	MMP PB frame B class 10, 10 to 16 A

ROTARY

XTPR001BC1	MMP rotary frame B class 10, 0.63 to 1 A
XTPR1P6BC1	MMP rotary frame B class 10, 1 to 1.6 A
XTPR2P5BC1	MMP rotary frame B class 10, 1.6 to 2.5 A
XTPR004BC1	MMP rotary frame B class 10, 2.5 to 4 A
XTPR6P3BC1	MMP rotary frame B class 10, 4 to 6.3 A
XTPR010BC1	MMP rotary frame B class 10, 6.3 to 10 A
XTPR016BC1	MMP rotary frame B class 10, 6.3 to 10 A
XTPR020BC1	MMP rotary frame B class 10, 16 to 20 A
XTPR025BC1	MMP rotary frame B class 10, 20 to 25 A

MANUAL MOTOR PROTECTOR ACCESSORIES

MODEL NO.	DESCRIPTION
XTPAXCLKA2	3-Ph commoning link A, 2 devices frame B
XTPAXCLKA3	3-Ph commoning link A, 3 devices frame B
XTPAXIT	Incoming terminal
XTPAXSA11	Side auxiliary contact 1NO 1NC
XTPAXSA12	Side auxiliary contact 1NO 2NC
XTPBXENAS41	MMP PB accessory enclosure-N.A. surface IP41
XTPBXENAS65	MMP PB accessory enclosure-N.A. surface IP65

Comes complete with operator's manual.

Ordering Example: XTPB6P3BC1, manual motor protector 4 to 6.3 A, XTPAXSA11, side auxiliary contact.