

Manual Motor Protection



31

Contents

<i>Description</i>	<i>Page</i>
Manual Motor Protection	
Features and Benefits	525
Catalog Number Selection	525
Reference	525

Manual Motor Protectors—XTPB, XTPR and XTPE

Product Description

Eaton's new **XT** family of 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. Two frame sizes are available: Frame B (45 mm) for motors with FLA ratings up to 32A and Frame D (55 mm) covers motor FLA ratings up to 65A.

Application Description

The XTPB and XTPR MMPs can be used in the following applications.

Motor Protective Circuit Breaker

In many countries outside of the United States and Canada, especially Europe, the MMPs are tested and classified as thermal-magnetic circuit breakers for use in motor branch circuits. This can be an important consideration for all companies who export their equipment and machines internationally. Both the XTPB and XTPR conform to IEC/EN 60947 and have the CE Mark.

Manual Motor Protectors

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 a manual starter, 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 and should not exceed 400% of the maximum FLA dial setting of the MMP.

Individual Branch Motor Applications

A UL 508 Type E self-protected manual combination starter/motor controller consists of a single device possessing four essential elements: disconnect, short circuit protection, motor controller, and motor overload protection. Some MMPs require use of a lineside adapter for this type of approval. When tested as an official combination by UL, this device takes the place of a fuse-starter or breaker-starter, **XT** Type E MMPs are self-protected, meaning they do not need additional short circuit protection of a fuse or breaker. Type E devices can also be used with a contactor or other types of UL approved controllers. If tested with a contactor, the combination motor controller becomes a Type F device. See **CA08102001E**, Control Products Catalog, Tab 34, section 34.1 for XTFC Type F devices.

Features and Benefits

- ON/OFF rotary handle with lockout provision
- Visible trip indication
- Class 10 overload protection
- Phase loss sensitivity
- Ambient temperature compensation to IEC/EN 60947, VDE 0660
- Fixed short-circuit trip—14 times maximum setting of overload FLA dial
- Type 2 coordination per IEC 947
- Identification markers standard on starter faceplate
- Motor applications from 0.1A to 65A
- Built-in heater and magnetic trip elements to protect the motor
- Adjustment dial for setting motor FLA
- DIN rail mount
- Terminal types available:
 - Screw terminals
 - Screw (line) and spring cage (load) terminals
 - Spring cage terminals

- Accessories include:
 - Front and side auxiliary contacts
 - Trip indicating contacts
 - Tamperproof cover for OLR dial
 - Undervoltage release
 - Shunt trip
 - Through-the-door operators
 - Enclosures
 - Three-phase line side connecting links

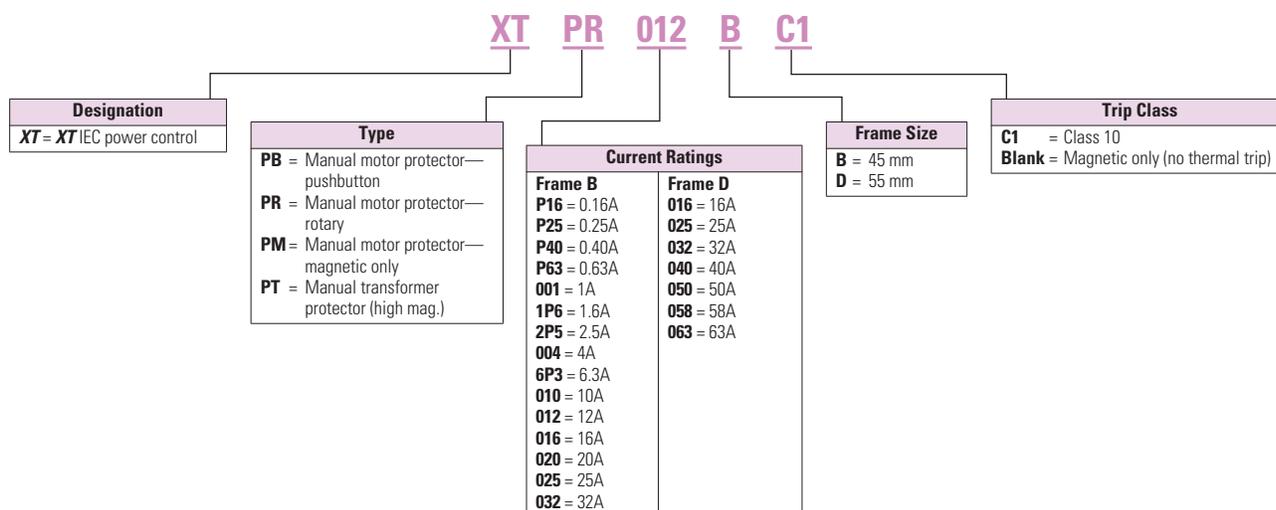
Standards and Certifications

- CE approved
- UL listed File No. E245398
- UL 508 group motor and Type E compliant
- IEC/EN 60947
- CSA File 229767, Class 3211-05
- DIN VDE 0660 Part 100, Part 101 and Part 102



Catalog Number Selection

XT Manual Motor Protectors



Reference

Refer to Tab 27 of this volume, section 27.1 for additional Product information.

Manual Motor Protectors	Tab Section
Product Identification	27.1
Product Selection	27.1
Accessories	27.1
Technical Data and Specifications	27.1
Dimensions	27.1

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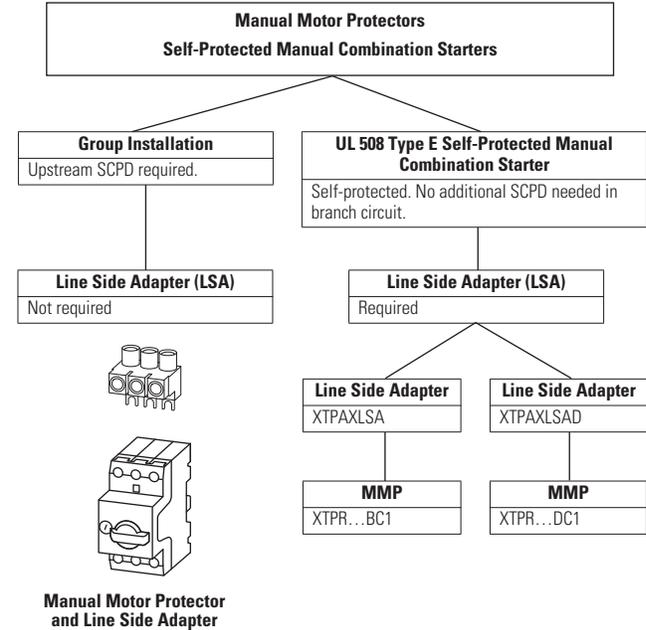
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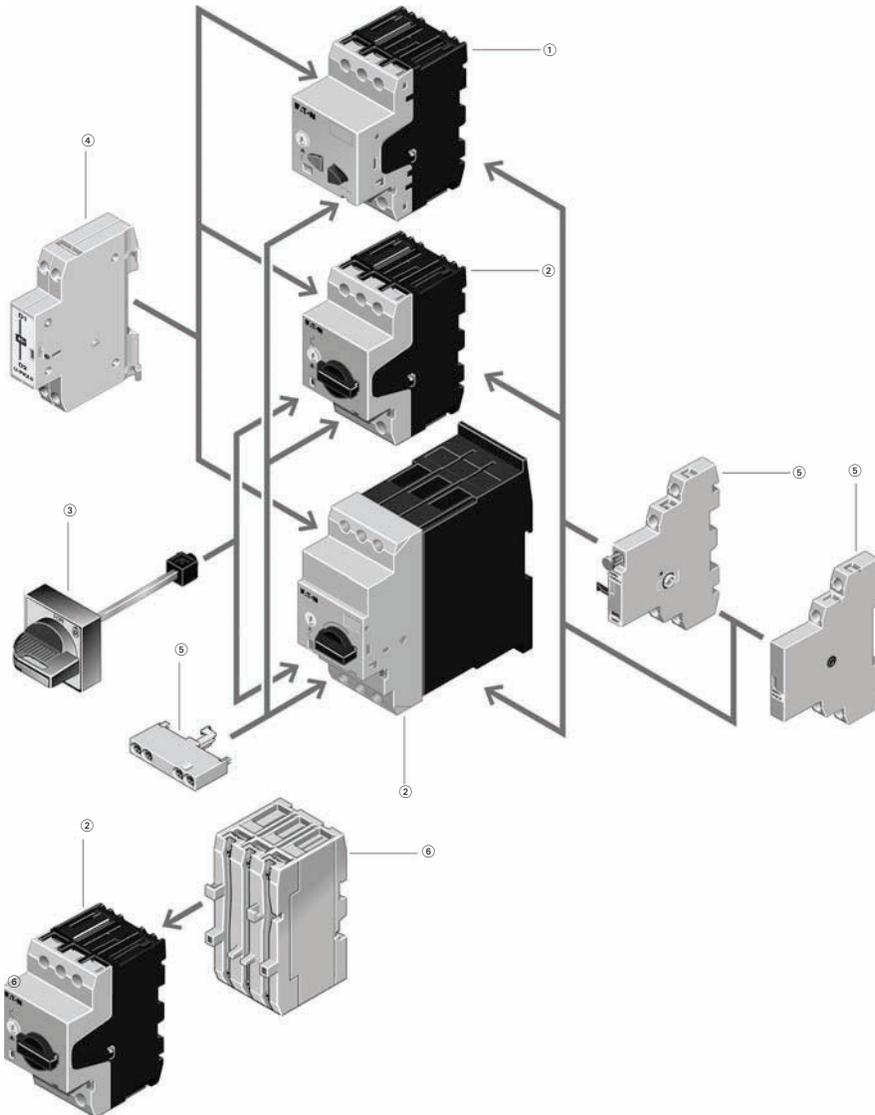
Note: For Type 2 Coordination of MMCs, see **Page 219**.

Line Side Adapters—When to Use Them

Note: Line side adapters are not required for non-US applications. Most countries outside of the US classify the MMP as a thermal magnetic circuit breaker.



Product Identification



Notes

Basic Units

- ① XTPB pushbutton manual motor protectors (see [Page 163](#))
 - Rated operational current up to 25A
 - Switching capacity 50 kA/415V
 - Short-circuit release, adjustable $0.6-1 \times I_n$
 - Single-phasing sensitive
- ② XTPR rotary manual motor protectors (see [Page 164](#))
 - Rated operational current up to 32A, 65A
 - Switching capacity 150/50 kA/415V
 - Short-circuit release, fixed setting to $14 \times I_n$
 - Overload release, adjustable $0.6-1 \times I_n$
 - Single-phasing sensitive
 - With screws or spring-loaded terminals

Mounting Accessories

- ③ Rotary handle mechanism (see [Page 169](#))
 - ON/OFF/tripped switch position indication
 - Lockable door/cover interlock
 - Extendable y plug fit extension shaft
 - Handle latched in switch positions
 - Optionally also without locking and door interlock function
- Insulated enclosures (see [Page 173](#))
 - Surface mounting, enclosures, IP40, IP55 and IP40 and IP55 front flush mounting enclosure
- Mounting/wiring (see [Page 169](#))
 - Component adapter for bus bar mounting
 - Three-phase commoning link for side-by-side-mounting
 - Mounting kits for rapid mounting of direct-on-line, reversing and star-delta starters

Add-On Functions

- ④ Voltage releases (see [Page 168](#))
 - Undervoltage release
 - Shunt releases
 - With screws or spring-loaded terminals
- ⑤ Standard auxiliary contacts (see [Page 166](#))
 - ON/OFF indication
 - Differential fault indication overload/short-circuit release
 - ON/OFF for (high capacity) contact module
 - ON/OFF for starter combination
 - With early-make contacts
 - With screws or spring-loaded terminals
- ⑥ Current limiter (see [Page 168](#))
 - Increases the switching capacity of the 10-25A manual motor protectors to 100 kA/440V
 - Can be used for individual group protection