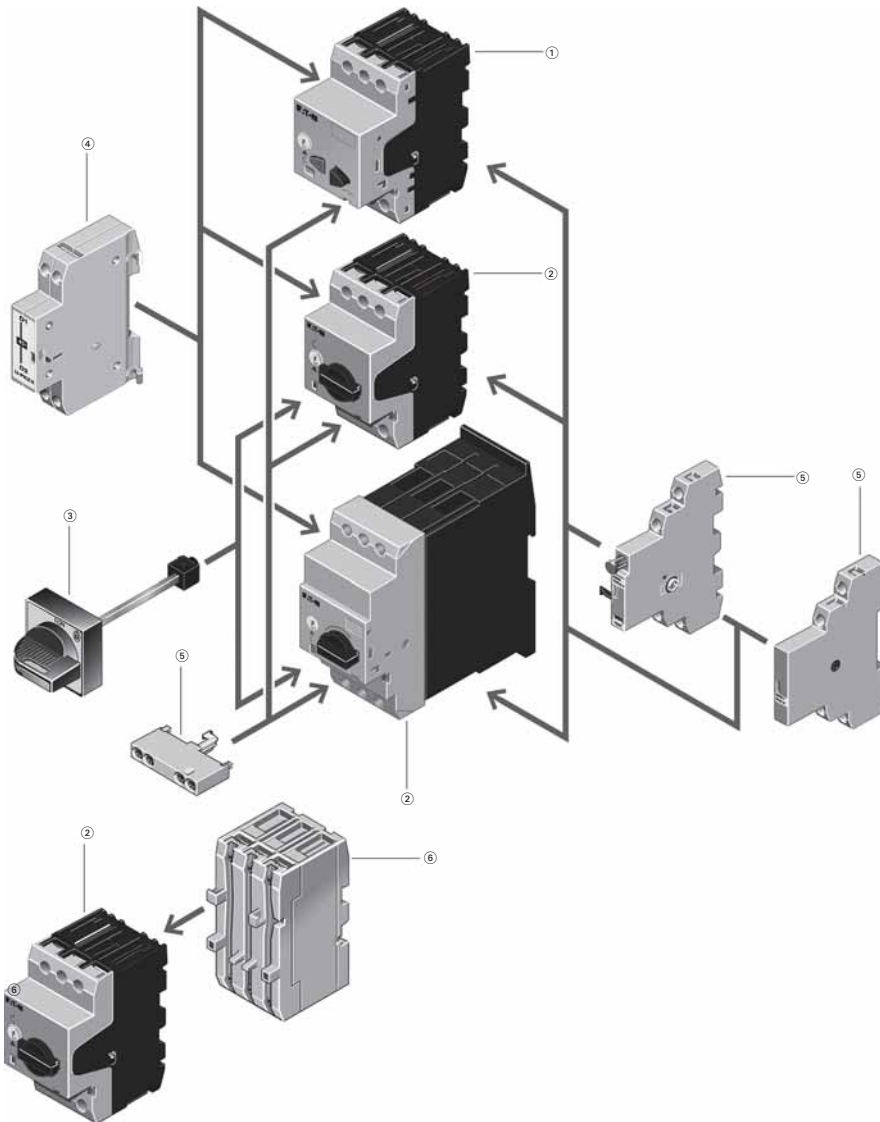


## Product Identification



## Notes

## Basic Units

- ① XTPB pushbutton manual motor protectors (see [Page V5-T1-163](#))
  - 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 V5-T1-164](#))
  - 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 V5-T1-169](#))
  - 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 V5-T1-172](#))
  - Surface mounting, enclosures, IP40, IP55 and IP40 and IP55 front flush mounting enclosure
- Mounting/wiring (see [Page V5-T1-169](#))
  - Component adapter for busbar mounting
  - Three-phase commoning link for side-by-side-mounting
  - Mounting kits for rapid mounting of direct-on-line, reversing and star-delta starters

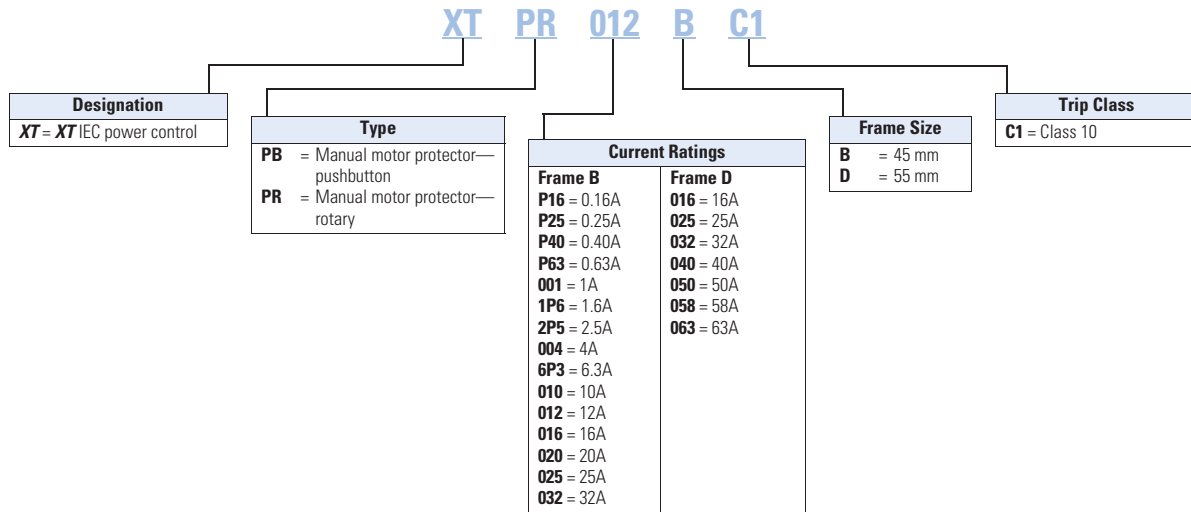
## Add-On Functions

- ④ Voltage releases (see [Page V5-T1-168](#))
  - Undervoltage release
  - Shunt releases
  - With screws or spring-loaded terminals
- ⑤ Standard auxiliary contacts (see [Page V5-T1-166](#))
  - 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 V5-T1-168](#))
  - Increases the switching capacity of the 10–25A manual motor protectors to 100 kA/440V
  - Can be used for individual group protection

#### 1

#### Catalog Number Selection

#### XT Manual Motor Protectors



## Product Selection

### Product Selection for Manual Motor Starter Applications

When ordering, specify catalog numbers according to the following stipulations:

**XT** 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 6.4A and service factor of 1.0 ( $6.4A \times 0.90 = 5.76A$ ) select catalog number XTPB6P3B01.

See Application Note—  
AP03402001E.

**For motor with service factor of 1.15 or greater,** use motor nameplate full load amperes to select the appropriate MMP.

Example: For motor having FLA of 11A and service factor of 1.15, select catalog number XTPR012BC1.

### Frame B



### XTPB Pushbutton Manual Motor Protectors—Global and North American Ratings—Frame B

Type 1 and Type 2 Coordination Motor Protective Device with Thermal and Magnetic Trip

| Rated Uninterrupted Current—<br>$I_u = I_o$ (Amps) | FLA Adjustment Range/<br>Overload Release—<br>$I_r$ (Amps) | Short Circuit Release—<br>$I_m$ (Amps) | Maximum Motor Ratings <sup>①</sup> |              |      |             |              |      |       | Maximum hp Rating—P (hp)<br>UL 508/CSA C22.2 No. 14 |       |  |            | Screw Terminal Catalog Number |
|--|--|--|------------------------------------|--------------|------|-------------|--------------|------|-------|---|-------|--|------------|-------------------------------|
|  |  |  | Maximum kW Rating<br>AC-3—P (kW)   |              |      | Three-Phase |              |      |       | Three-Phase   |       |  |            |                               |
|  |  |  | 220–<br>240V                       | 380–<br>415V | 440V | 500V        | 660–<br>690V | 200V | 240V  | 480V  | 600V  |  |            |                               |
| 0.16   | 0.1–0.16   | 2.2                                    | —                                  | —            | —    | —           | 0.06         | ②    | ②     | ②   | ②     |  | XTPBP16BC1 |                               |
| 0.25   | 0.16–0.25  | 3.5                                    | —                                  | 0.06         | 0.06 | 0.06        | 0.12         | ②    | ②     | ②   | ②     |  | XTPBP25BC1 |                               |
| 0.4  | 0.25–0.4   | 5.6                                    | 0.06                               | 0.09         | 0.12 | 0.12        | 0.18         | ②    | ②     | ②   | ②     |  | XTPBP40BC1 |                               |
| 0.63   | 0.4–0.63   | 8.8                                    | 0.09                               | 0.12         | 0.18 | 0.25        | 0.25         | ②    | ②     | ②   | ②     |  | XTPBP63BC1 |                               |
| 1  | 0.63–1   | 14                                     | 0.12                               | 0.25         | 0.25 | 0.37        | 0.55         | ②    | ②     | 2   | 1/2   |  | XTPB001BC1 |                               |
| 1.6  | 1–1.6  | 22                                     | 0.25                               | 0.55         | 0.55 | 0.75        | 1.1          | ②    | ②     | 3/4   | 3/4   |  | XTPB1P6BC1 |                               |
| 2.5  | 1.6–2.5  | 35                                     | 0.37                               | 0.75         | 1.1  | 1.1         | 1.5          | 1/2  | 1/2   | 1   | 1-1/2 |  | XTPB2P5BC1 |                               |
| 4  | 2.5–4  | 56                                     | 0.75                               | 1.5          | 1.5  | 2.2         | 3            | 3/4  | 3/4   | 2   | 3     |  | XTPB004BC1 |                               |
| 6.3  | 4–6.3  | 88                                     | 1.1                                | 2.2          | 3    | 3           | 4            | 1    | 1-1/2 | 3   | 5     |  | XTPB6P3BC1 |                               |
| 10   | 6.3–10   | 140                                    | 2.2                                | 4            | 4    | 4           | 7.5          | 3    | 3     | 7-1/2   | 10    |  | XTPB010BC1 |                               |
| 12   | 8–12   | 168                                    | 3                                  | 5.5          | 5.5  | 5.5         | 11           | 3    | 3     | 7-1/2   | 10    |  | XTPB012BC1 |                               |
| 16   | 10–16  | 224                                    | 4                                  | 7.5          | 9    | 9           | 12.5         | 3    | 5     | 10  | 10    |  | XTPB016BC1 |                               |
| 20   | 16–20  | 280                                    | 5.5                                | 9            | 11   | 12.5        | 15           | 5    | —     | —   | 15    |  | XTPB020BC1 |                               |
| 25   | 20–25  | 350                                    | 5.5                                | 12.5         | 12.5 | 15          | 22           | —    | 7-1/2 | 15  | 20    |  | XTPB025BC1 |                               |

#### 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  $I_r$  of current scale in dependence of load factor:

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

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

For manual motor protective circuit breaker switching capacity, see **Page V5-T1-181**.

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

② In this range, calculate motor rating according to rated current. Specified values to NEC 430.6(A)(1).

1

Frame B



### XTPR Rotary Manual Motor Protectors with Screw Terminals— Global Ratings and North American Ratings—Frame B

Type 1 and Type 2 Coordination Motor Protective Device with Thermal and Magnetic Trip

| Rated<br>Uninterrupted<br>Current—<br>$I_u = I_g$ (Amps) | FLA<br>Adjustment<br>Range/<br>Overload<br>Release—<br>$I_r$ (Amps) | Short<br>Circuit<br>Release—<br>$I_m$ (Amps) | Maximum Motor Ratings ①          |      |      |      |      |       |       | Maximum hp Rating—P (hp)<br>UL 508/CSA C22.2 No. 14 |       |            |      | Screw Terminal<br>Catalog Number |
|--|---|--|----------------------------------|------|------|------|------|-------|-------|---|-------|------------|------|----------------------------------|
|  |   |  | Maximum kW Rating<br>AC-3—P (kW) |      |      |      |      |       |       | Three-Phase   |       |            |      |                                  |
|  |   |  | Three-Phase                      |      |      |      |      |       |       | 200V  | 240V  | 480V       | 600V |                                  |
| 0.16   | 0.1–0.16  | 2.2  | —                                | —    | —    | —    | 0.06 | ②     | ②     | ②   | ②     | XTPRP16BC1 |      |                                  |
| 0.25   | 0.16–0.25   | 3.5  | —                                | 0.06 | 0.06 | 0.06 | 0.12 | ②     | ②     | ②   | ②     | XTPRP25BC1 |      |                                  |
| 0.4  | 0.25–0.4  | 5.6  | 0.06                             | 0.09 | 0.12 | 0.12 | 0.18 | ②     | ②     | ②   | ②     | XTPRP40BC1 |      |                                  |
| 0.63   | 0.4–0.63  | 8.8  | 0.09                             | 0.12 | 0.18 | 0.25 | 0.25 | ②     | ②     | ②   | ②     | XTPRP63BC1 |      |                                  |
| 1  | 0.63–1  | 14   | 0.12                             | 0.25 | 0.25 | 0.37 | 0.55 | ②     | ②     | ②   | ②     | XTPR001BC1 |      |                                  |
| 1.6  | 1–1.6   | 22   | 0.25                             | 0.55 | 0.55 | 0.75 | 1.1  | ②     | ②     | 3/4   | 3/4   | XTPR1P6BC1 |      |                                  |
| 2.5  | 1.6–2.5   | 35   | 0.37                             | 0.75 | 1.1  | 1.1  | 1.5  | 1/2   | 1/2   | 1   | 1-1/2 | XTPR2P5BC1 |      |                                  |
| 4  | 2.5–4   | 56   | 0.75                             | 1.5  | 1.5  | 2.2  | 3    | 3/4   | 3/4   | 2   | 3     | XTPR004BC1 |      |                                  |
| 6.3  | 4–6.3   | 88   | 1.1                              | 2.2  | 3    | 3    | 4    | 1     | 1-1/2 | 3   | 5     | XTPR6P3BC1 |      |                                  |
| 10   | 6.3–10  | 140  | 2.2                              | 4    | 4    | 4    | 7.5  | 3     | 3     | 7-1/2   | 10    | XTPR010BC1 |      |                                  |
| 12   | 8–12  | 168  | 3                                | 5.5  | 5.5  | 5.5  | 11   | 3     | 3     | 7-1/2   | 10    | XTPR012BC1 |      |                                  |
| 16   | 10–16   | 224  | 4                                | 7.5  | 9    | 9    | 12.5 | 3     | 5     | 10  | 10    | XTPR016BC1 |      |                                  |
| 20   | 16–20   | 280  | 5.5                              | 9    | 11   | 12.5 | 15   | 5     | —     | —   | 15    | XTPR020BC1 |      |                                  |
| 25   | 20–25   | 350  | 5.5                              | 12.5 | 12.5 | 15   | 22   | —     | 7-1/2 | 15  | 20    | XTPR025BC1 |      |                                  |
| 32   | 25–32   | 448  | 7.5                              | 15   | 15   | 22   | 30   | 7-1/2 | 10    | 20  | 25    | XTPR032BC1 |      |                                  |

Frame D



### XTPR Rotary Manual Motor Protectors with Screw Terminals— Global Ratings and North American Ratings—Frame D

Type 1 and Type 2 Coordination Motor Protective Device with Thermal and Magnetic Trip

| Rated<br>Uninterrupted<br>Current—<br>$I_u = I_g$ (Amps) | FLA<br>Adjustment<br>Range/<br>Overload<br>Release—<br>$I_r$ (Amps) | Short<br>Circuit<br>Release—<br>$I_m$ (Amps) | Maximum Motor Ratings ①          |      |      |    |      |       |       | Maximum hp Rating—P (hp)<br>UL 508/CSA C22.2 No. 14 |      |            |      | Screw Terminal<br>Catalog Number |
|--|---|--|----------------------------------|------|------|----|------|-------|-------|---|------|------------|------|----------------------------------|
|  |   |  | Maximum kW Rating<br>AC-3—P (kW) |      |      |    |      |       |       | Three-Phase   |      |            |      |                                  |
|  |   |  | Three-Phase                      |      |      |    |      |       |       | 200V  | 240V | 480V       | 600V |                                  |
| 16   | 10–16   | 224  | 4                                | 7.5  | 9    | 9  | 12.5 | 3     | 5     | 10  | 15   | XTPR016DC1 |      |                                  |
| 25   | 16–25   | 350  | 5.5                              | 12.5 | 12.5 | 15 | 22   | 7-1/2 | 7-1/2 | 15  | 20   | XTPR025DC1 |      |                                  |
| 32   | 25–32   | 448  | 7.5                              | 15   | 17.5 | 22 | 22   | 10    | 10    | 20  | 30   | XTPR032DC1 |      |                                  |
| 40   | 32–40   | 560  | 11                               | 20   | 22   | 24 | 30   | 10    | 15    | 30  | 30   | XTPR040DC1 |      |                                  |
| 50   | 40–50   | 700  | 14                               | 25   | 30   | 30 | 45   | 10    | 15    | 30  | 40   | XTPR050DC1 |      |                                  |
| 58   | 50–58   | 812  | 17                               | 30   | 37   | 37 | 55   | 15    | 15    | 40  | 50   | XTPR058DC1 |      |                                  |
| 65   | 55–65   | 882  | 18.5                             | 34   | 37   | 45 | 55   | 15    | 15    | 40  | 50   | XTPR063DC1 |      |                                  |

**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  $I_r$  of current scale in dependence of load factor:

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

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

For manual motor protective circuit breaker switching capacity, see **Page V5-T1-181**.

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

② In this range, calculate motor rating according to rated current. Specified values to NEC 430.6(A)(1).

Frame B



### XTPR Manual Self-Protected Motor Starters—North American Ratings, UL 508 Type E—Frame B<sup>①</sup>

Motor Protective Device with Thermal and Magnetic Trip

| Rated Uninterrupted Current— $I_u$ (Amps) | FLA Adjustment Range/Overload Release— $I_r$ (Amps) | Short Circuit Release— $I_{rm}$ (Amps) | Maximum Motor Ratings <sup>②</sup><br>Maximum hp Rating—P (hp)<br>Three-Phase |       |               |               | Rated Short-Circuit Breaking Capacity (kA) |              |          | Line Side Adapter <sup>③</sup><br>Catalog Number | Manual Motor Protector—Screw Terminal Catalog Number |
|---|---|--|---|-------|---------------|---------------|--|--------------|----------|--|--|
|   |   |  | 200V  | 240V  | 480V/<br>277V | 600V/<br>247V | 480/<br>277V                               | 600/<br>347V |          |  |  |
| 0.16                                      | 0.1–0.16  | 2.2                                    | ③   | ③     | 1/2           | 1/2           | 50   | 50           | XTPAXLSA | XTPRP16BC1                                       |  |
| 0.25                                      | 0.16–0.25   | 3.4                                    | ③   | ③     | 1/2           | 1/2           | 50   | 50           | XTPAXLSA | XTPRP25BC1                                       |  |
| 0.4                                       | 0.25–0.4  | 5.6                                    | ③   | ③     | 1/2           | 1/2           | 50   | 50           | XTPAXLSA | XTPRP40BC1                                       |  |
| 0.63                                      | 0.4–0.63  | 8.8                                    | ③   | ③     | 1/2           | 1/2           | 50   | 50           | XTPAXLSA | XTPRP63BC1                                       |  |
| 1   | 0.63–1  | 14                                     | ③   | ③     | 1/2           | 1/2           | 50   | 50           | XTPAXLSA | XTPR001BC1                                       |  |
| 1.6                                       | 1–1.6   | 22                                     | ③   | ③     | 3/4           | 3/4           | 50   | 50           | XTPAXLSA | XTPR1P6BC1                                       |  |
| 2.5                                       | 1.6–2.5   | 35                                     | 1/2   | 1/2   | 1             | 1-1/2         | 50   | 50           | XTPAXLSA | XTPR2P5BC1                                       |  |
| 4   | 2.5–4   | 56                                     | 3/4   | 1     | 2             | 3             | 50   | 50           | XTPAXLSA | XTPR004BC1                                       |  |
| 6.3                                       | 4–6.3   | 88                                     | 1   | 1-1/2 | 3             | 5             | 65   | 50           | XTPAXLSA | XTPR6P3BC1                                       |  |
| 10  | 6.3–11  | 140                                    | 3   | 3     | 7-1/2         | 10            | 65   | 50           | XTPAXLSA | XTPR010BC1                                       |  |
| 12  | 8–12  | 168                                    | 3   | 3     | 7-1/2         | —             | 65   | —            | XTPAXLSA | XTPR012BC1                                       |  |
| 16  | 10–16   | 224                                    | 3   | 5     | 10            | —             | 42   | —            | XTPAXLSA | XTPR016BC1                                       |  |
| 20  | 16–20   | 280                                    | 5   | 5     | —             | —             | 18   | —            | XTPAXLSA | XTPR020BC1                                       |  |
| 25  | 20–25   | 350                                    | 5   | 7-1/2 | 15            | —             | 18   | —            | XTPAXLSA | XTPR025BC1                                       |  |
| 32  | 25–32   | 448                                    | 7-1/2   | 10    | 25            | —             | 18   | —            | XTPAXLSA | XTPR032BC1                                       |  |

Frame D



### XTPR Circuit Breaker According to UL 489—Frame D

| Rated Uninterrupted Current— $I_u$ (Amps) | FLA Adjustment Range/Overload Release— $I_r$ (Amps) | Short Circuit Release— $I_{rm}$ (Amps) | Maximum Motor Ratings <sup>②</sup><br>Maximum hp Rating—P (hp)<br>Three-Phase |       |               |               | Rated Short-Circuit Breaking Capacity (kA) |              |              | Manual Motor Protector—Screw Terminal Catalog Number |
|---|---|--|---|-------|---------------|---------------|--|--------------|--------------|--|
|   |   |  | 200V  | 240V  | 480V/<br>277V | 600V/<br>247V | 240V                                       | 480/<br>277V | 600/<br>347V |  |
| 16  | 10–16   | 224                                    | 3   | 5     | 10            | 10            | 65   | 65           | 25           | XTPR016DCB   |
| 25  | 16–25   | 350                                    | 7-1/2   | 7-1/2 | 20            | 25            | 65   | 65           | 25           | XTPR025DCB   |
| 32  | 24–32   | 448                                    | 10  | 10    | 25            | 30            | 65   | 65           | 25           | XTPR032DCB   |

Frame D



### XTPR Manual Self-Protected Motor Starters—North American Ratings, UL 508 Type E—Frame D<sup>①</sup>

Motor Protective Device with Thermal and Magnetic Trip

| Rated Uninterrupted Current— $I_u$ (Amps) | FLA Adjustment Range/Overload Release— $I_r$ (Amps) | Short Circuit Release— $I_{rm}$ (Amps) | Maximum Motor Ratings <sup>②</sup><br>Maximum hp Rating—P (hp)<br>Three-Phase |       |               |               | Rated Short-Circuit Breaking Capacity (kA) |              |              | Line Side Adapter <sup>③</sup><br>Catalog Number | Manual Motor Protector—Screw Terminal Catalog Number |
|---|---|--|---|-------|---------------|---------------|--|--------------|--------------|--|--|
|   |   |  | 200V  | 240V  | 480V/<br>277V | 600V/<br>247V | 240V                                       | 480/<br>277V | 600/<br>347V |  |  |
| 16  | 10–16   | 224                                    | 3   | 5     | 10            | 10            | 65   | 65           | 25           | XTPAXLSAD  | XTPR016DC1   |
| 25  | 16–25   | 350                                    | 7-1/2   | 7-1/2 | 20            | 25            | 65   | 65           | 25           | XTPAXLSAD  | XTPR025DC1   |
| 32  | 25–32   | 448                                    | 10  | 10    | 25            | 30            | 65   | 65           | 25           | XTPAXLSAD  | XTPR032DC1   |
| 40  | 32–40   | 560                                    | 10  | —     | 30            | 30            | 65   | 65           | 25           | XTPAXLSAD  | XTPR040DC1   |
| 50  | 40–50   | 700                                    | —   | 15    | 30            | —             | 65   | 65           | —            | XTPAXLSAD  | XTPR050DC1   |
| 58  | 50–58   | 812                                    | —   | —     | 40            | —             | 65   | 65           | —            | XTPAXLSAD  | XTPR058DC1   |
| 65  | 55–65   | 882                                    | —   | —     | 40            | —             | 65   | 65           | —            | XTPAXLSAD  | XTPR063DC1   |

#### Notes

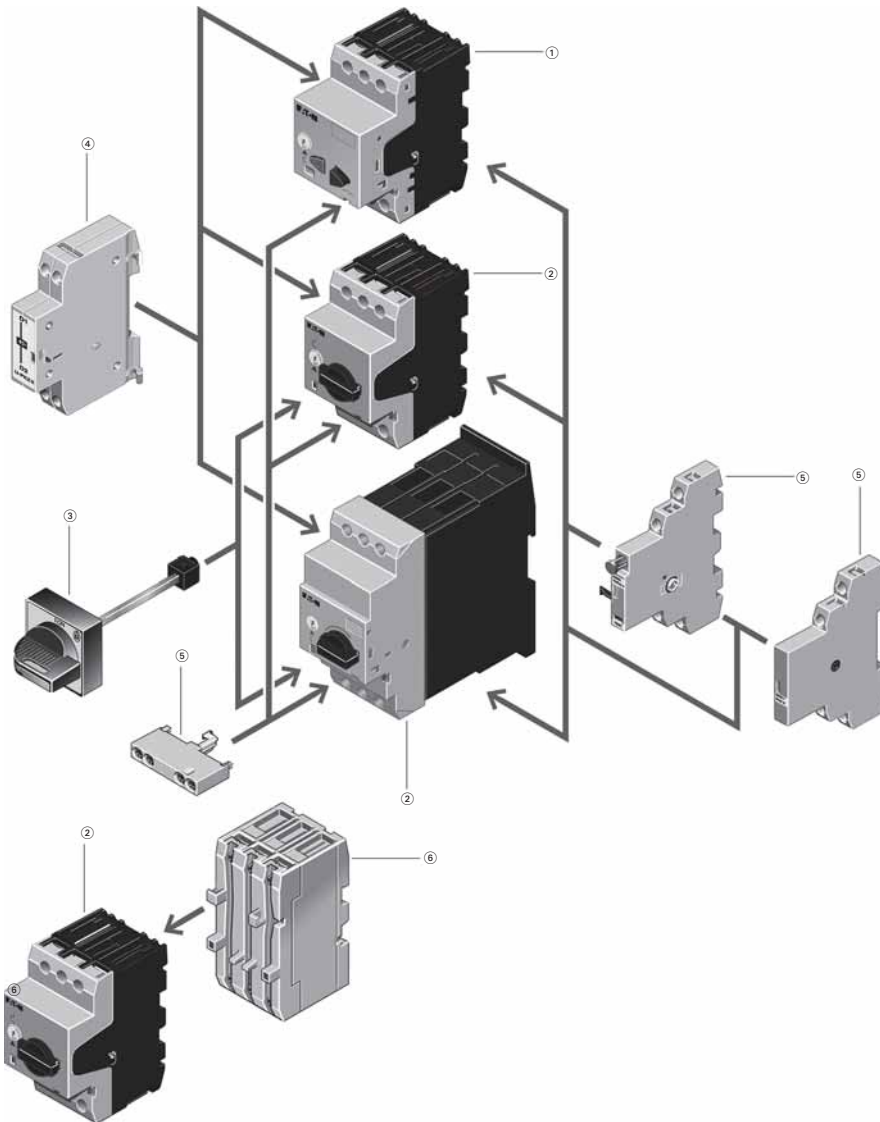
A UL 508 Type E self-protected manual combination starter (XTPR) consists of a manual motor protector (XTPR) and a UL Listed line side adapter (for example, XTPAXLSA). The Type E self-protected manual combination starter alone is a legitimate short-circuit protective device and disconnect means for the downstream motor, while the contactor has been added to provide remote operation of the motor circuit. Conductor size for XTPAXLSA is 14–6 AWG, XTPAXLSAD is 8 AWG–1/0.

① UL 508 Type E starters are assembled from a standard XTPR and a special incoming terminal line side adapter (XTPAXLSA or XTPAXLSAD).

② Select manual motor protectors by full load amperes. Maximum motor ratings (kW, hp) are for reference only.

③ In this range, calculate motor rating according to rated current. Specified values to NEC 430.6(A)(1).

## Product Identification



## Notes

## Basic Units

- ① XTPB pushbutton manual motor protectors (see [Page V5-T1-163](#))
  - 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 V5-T1-164](#))
  - 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 V5-T1-169](#))
  - 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 V5-T1-172](#))

Surface mounting, enclosures, IP40, IP55 and IP40 and IP55 front flush mounting enclosure

Mounting/wiring (see [Page V5-T1-169](#))

Component adapter for busbar mounting  
 Three-phase commoning link for side-by-side-mounting  
 Mounting kits for rapid mounting of direct-on-line, reversing and star-delta starters

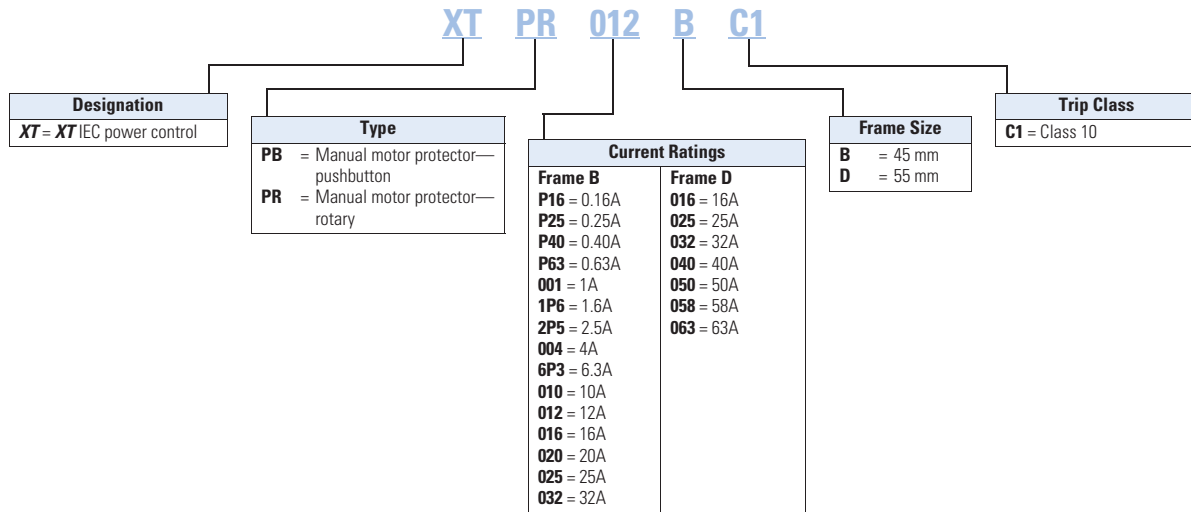
## Add-On Functions

- ④ Voltage releases (see [Page V5-T1-168](#))
  - Undervoltage release
  - Shunt releases
  - With screws or spring-loaded terminals
- ⑤ Standard auxiliary contacts (see [Page V5-T1-166](#))
  - 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 V5-T1-168](#))
  - Increases the switching capacity of the 10–25A manual motor protectors to 100 kA/440V
  - Can be used for individual group protection

#### 1

#### Catalog Number Selection

#### XT Manual Motor Protectors



## Product Selection

### Product Selection for Manual Motor Starter Applications

When ordering, specify catalog numbers according to the following stipulations:

**XT** 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 6.4A and service factor of 1.0 ( $6.4A \times 0.90 = 5.76A$ ) select catalog number XTPB6P3B01.

See Application Note—  
AP03402001E.

**For motor with service factor of 1.15 or greater,** use motor nameplate full load amperes to select the appropriate MMP.

Example: For motor having FLA of 11A and service factor of 1.15, select catalog number XTPR012BC1.

Frame B



### XTPB Pushbutton Manual Motor Protectors—Global and North American Ratings—Frame B Type 1 and Type 2 Coordination Motor Protective Device with Thermal and Magnetic Trip

| Rated Uninterrupted Current—<br>$I_u = I_o$ (Amps) | FLA Adjustment Range/<br>Overload Release—<br>$I_r$ (Amps) | Short Circuit Release—<br>$I_m$ (Amps) | Maximum Motor Ratings ①          |          |      |             |          |      |       | Maximum hp Rating—P (hp)<br>UL 508/CSA C22.2 No. 14 |       |  |            | Screw Terminal Catalog Number |
|--|--|--|----------------------------------|----------|------|-------------|----------|------|-------|---|-------|--|------------|-------------------------------|
|  |  |  | Maximum kW Rating<br>AC-3—P (kW) |          |      | Three-Phase |          |      |       | Three-Phase   |       |  |            |                               |
|  |  |  | 220–240V                         | 380–415V | 440V | 500V        | 660–690V | 200V | 240V  | 480V  | 600V  |  |            |                               |
| 0.16   | 0.1–0.16   | 2.2                                    | —                                | —        | —    | —           | 0.06     | ②    | ②     | ②   | ②     |  | XTPBP16BC1 |                               |
| 0.25   | 0.16–0.25  | 3.5                                    | —                                | 0.06     | 0.06 | 0.06        | 0.12     | ②    | ②     | ②   | ②     |  | XTPBP25BC1 |                               |
| 0.4  | 0.25–0.4   | 5.6                                    | 0.06                             | 0.09     | 0.12 | 0.12        | 0.18     | ②    | ②     | ②   | ②     |  | XTPBP40BC1 |                               |
| 0.63   | 0.4–0.63   | 8.8                                    | 0.09                             | 0.12     | 0.18 | 0.25        | 0.25     | ②    | ②     | ②   | ②     |  | XTPBP63BC1 |                               |
| 1  | 0.63–1   | 14                                     | 0.12                             | 0.25     | 0.25 | 0.37        | 0.55     | ②    | ②     | 2   | 1/2   |  | XTPB001BC1 |                               |
| 1.6  | 1–1.6  | 22                                     | 0.25                             | 0.55     | 0.55 | 0.75        | 1.1      | ②    | ②     | 3/4   | 3/4   |  | XTPB1P6BC1 |                               |
| 2.5  | 1.6–2.5  | 35                                     | 0.37                             | 0.75     | 1.1  | 1.1         | 1.5      | 1/2  | 1/2   | 1   | 1-1/2 |  | XTPB2P5BC1 |                               |
| 4  | 2.5–4  | 56                                     | 0.75                             | 1.5      | 1.5  | 2.2         | 3        | 3/4  | 3/4   | 2   | 3     |  | XTPB004BC1 |                               |
| 6.3  | 4–6.3  | 88                                     | 1.1                              | 2.2      | 3    | 3           | 4        | 1    | 1-1/2 | 3   | 5     |  | XTPB6P3BC1 |                               |
| 10   | 6.3–10   | 140                                    | 2.2                              | 4        | 4    | 4           | 7.5      | 3    | 3     | 7-1/2   | 10    |  | XTPB010BC1 |                               |
| 12   | 8–12   | 168                                    | 3                                | 5.5      | 5.5  | 5.5         | 11       | 3    | 3     | 7-1/2   | 10    |  | XTPB012BC1 |                               |
| 16   | 10–16  | 224                                    | 4                                | 7.5      | 9    | 9           | 12.5     | 3    | 5     | 10  | 10    |  | XTPB016BC1 |                               |
| 20   | 16–20  | 280                                    | 5.5                              | 9        | 11   | 12.5        | 15       | 5    | —     | —   | 15    |  | XTPB020BC1 |                               |
| 25   | 20–25  | 350                                    | 5.5                              | 12.5     | 12.5 | 15          | 22       | —    | 7-1/2 | 15  | 20    |  | XTPB025BC1 |                               |

#### 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  $I_r$  of current scale in dependence of load factor:

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

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

For manual motor protective circuit breaker switching capacity, see **Page V5-T1-181**.

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

② In this range, calculate motor rating according to rated current. Specified values to NEC 430.6(A)(1).



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Frame B



### XTPR Rotary Manual Motor Protectors with Screw Terminals— Global Ratings and North American Ratings—Frame B

Type 1 and Type 2 Coordination Motor Protective Device with Thermal and Magnetic Trip

| Rated<br>Uninterrupted<br>Current—<br>$I_u = I_g$ (Amps) | FLA<br>Adjustment<br>Range/<br>Overload<br>Release—<br>$I_r$ (Amps) | Short<br>Circuit<br>Release—<br>$I_m$ (Amps) | Maximum Motor Ratings ①          |      |      |      |      |       |       | Maximum hp Rating—P (hp)<br>UL 508/CSA C22.2 No. 14 |       |            |      | Screw Terminal<br>Catalog Number |
|--|---|--|----------------------------------|------|------|------|------|-------|-------|---|-------|------------|------|----------------------------------|
|  |   |  | Maximum kW Rating<br>AC-3—P (kW) |      |      |      |      |       |       | Three-Phase   |       |            |      |                                  |
|  |   |  | Three-Phase                      |      |      |      |      |       |       | 200V  | 240V  | 480V       | 600V |                                  |
| 0.16   | 0.1–0.16  | 2.2  | —                                | —    | —    | —    | 0.06 | ②     | ②     | ②   | ②     | XTPRP16BC1 |      |                                  |
| 0.25   | 0.16–0.25   | 3.5  | —                                | 0.06 | 0.06 | 0.06 | 0.12 | ②     | ②     | ②   | ②     | XTPRP25BC1 |      |                                  |
| 0.4  | 0.25–0.4  | 5.6  | 0.06                             | 0.09 | 0.12 | 0.12 | 0.18 | ②     | ②     | ②   | ②     | XTPRP40BC1 |      |                                  |
| 0.63   | 0.4–0.63  | 8.8  | 0.09                             | 0.12 | 0.18 | 0.25 | 0.25 | ②     | ②     | ②   | ②     | XTPRP63BC1 |      |                                  |
| 1  | 0.63–1  | 14   | 0.12                             | 0.25 | 0.25 | 0.37 | 0.55 | ②     | ②     | ②   | ②     | XTPR001BC1 |      |                                  |
| 1.6  | 1–1.6   | 22   | 0.25                             | 0.55 | 0.55 | 0.75 | 1.1  | ②     | ②     | 3/4   | 3/4   | XTPR1P6BC1 |      |                                  |
| 2.5  | 1.6–2.5   | 35   | 0.37                             | 0.75 | 1.1  | 1.1  | 1.5  | 1/2   | 1/2   | 1   | 1-1/2 | XTPR2P5BC1 |      |                                  |
| 4  | 2.5–4   | 56   | 0.75                             | 1.5  | 1.5  | 2.2  | 3    | 3/4   | 3/4   | 2   | 3     | XTPR004BC1 |      |                                  |
| 6.3  | 4–6.3   | 88   | 1.1                              | 2.2  | 3    | 3    | 4    | 1     | 1-1/2 | 3   | 5     | XTPR6P3BC1 |      |                                  |
| 10   | 6.3–10  | 140  | 2.2                              | 4    | 4    | 4    | 7.5  | 3     | 3     | 7-1/2   | 10    | XTPR010BC1 |      |                                  |
| 12   | 8–12  | 168  | 3                                | 5.5  | 5.5  | 5.5  | 11   | 3     | 3     | 7-1/2   | 10    | XTPR012BC1 |      |                                  |
| 16   | 10–16   | 224  | 4                                | 7.5  | 9    | 9    | 12.5 | 3     | 5     | 10  | 10    | XTPR016BC1 |      |                                  |
| 20   | 16–20   | 280  | 5.5                              | 9    | 11   | 12.5 | 15   | 5     | —     | —   | 15    | XTPR020BC1 |      |                                  |
| 25   | 20–25   | 350  | 5.5                              | 12.5 | 12.5 | 15   | 22   | —     | 7-1/2 | 15  | 20    | XTPR025BC1 |      |                                  |
| 32   | 25–32   | 448  | 7.5                              | 15   | 15   | 22   | 30   | 7-1/2 | 10    | 20  | 25    | XTPR032BC1 |      |                                  |

Frame D



### XTPR Rotary Manual Motor Protectors with Screw Terminals— Global Ratings and North American Ratings—Frame D

Type 1 and Type 2 Coordination Motor Protective Device with Thermal and Magnetic Trip

| Rated<br>Uninterrupted<br>Current—<br>$I_u = I_g$ (Amps) | FLA<br>Adjustment<br>Range/<br>Overload<br>Release—<br>$I_r$ (Amps) | Short<br>Circuit<br>Release—<br>$I_m$ (Amps) | Maximum Motor Ratings ①          |      |      |    |      |       |       | Maximum hp Rating—P (hp)<br>UL 508/CSA C22.2 No. 14 |      |            |      | Screw Terminal<br>Catalog Number |
|--|---|--|----------------------------------|------|------|----|------|-------|-------|---|------|------------|------|----------------------------------|
|  |   |  | Maximum kW Rating<br>AC-3—P (kW) |      |      |    |      |       |       | Three-Phase   |      |            |      |                                  |
|  |   |  | Three-Phase                      |      |      |    |      |       |       | 200V  | 240V | 480V       | 600V |                                  |
| 16   | 10–16   | 224  | 4                                | 7.5  | 9    | 9  | 12.5 | 3     | 5     | 10  | 15   | XTPR016DC1 |      |                                  |
| 25   | 16–25   | 350  | 5.5                              | 12.5 | 12.5 | 15 | 22   | 7-1/2 | 7-1/2 | 15  | 20   | XTPR025DC1 |      |                                  |
| 32   | 25–32   | 448  | 7.5                              | 15   | 17.5 | 22 | 22   | 10    | 10    | 20  | 30   | XTPR032DC1 |      |                                  |
| 40   | 32–40   | 560  | 11                               | 20   | 22   | 24 | 30   | 10    | 15    | 30  | 30   | XTPR040DC1 |      |                                  |
| 50   | 40–50   | 700  | 14                               | 25   | 30   | 30 | 45   | 10    | 15    | 30  | 40   | XTPR050DC1 |      |                                  |
| 58   | 50–58   | 812  | 17                               | 30   | 37   | 37 | 55   | 15    | 15    | 40  | 50   | XTPR058DC1 |      |                                  |
| 65   | 55–65   | 882  | 18.5                             | 34   | 37   | 45 | 55   | 15    | 15    | 40  | 50   | XTPR063DC1 |      |                                  |

**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  $I_r$  of current scale in dependence of load factor:

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

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

For manual motor protective circuit breaker switching capacity, see **Page V5-T1-181**.

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

② In this range, calculate motor rating according to rated current. Specified values to NEC 430.6(A)(1).

Frame B



### XTPR Manual Self-Protected Motor Starters—North American Ratings, UL 508 Type E—Frame B<sup>①</sup>

Motor Protective Device with Thermal and Magnetic Trip

| Rated Uninterrupted Current— $I_u$ (Amps) | FLA Adjustment Range/Overload Release— $I_r$ (Amps) | Short Circuit Release— $I_{rm}$ (Amps) | Maximum Motor Ratings <sup>②</sup><br>Maximum hp Rating—P (hp)<br>Three-Phase |       |               |               | Rated Short-Circuit Breaking Capacity (kA) |              |          | Line Side Adapter <sup>③</sup><br>Catalog Number | Manual Motor Protector—Screw Terminal Catalog Number |
|---|---|--|---|-------|---------------|---------------|--|--------------|----------|--|--|
|   |   |  | 200V  | 240V  | 480V/<br>277V | 600V/<br>247V | 480/<br>277V                               | 600/<br>347V |          |  |  |
| 0.16                                      | 0.1–0.16  | 2.2                                    | ③   | ③     | 1/2           | 1/2           | 50   | 50           | XTPAXLSA | XTPRP16BC1                                       |  |
| 0.25                                      | 0.16–0.25   | 3.4                                    | ③   | ③     | 1/2           | 1/2           | 50   | 50           | XTPAXLSA | XTPRP25BC1                                       |  |
| 0.4                                       | 0.25–0.4  | 5.6                                    | ③   | ③     | 1/2           | 1/2           | 50   | 50           | XTPAXLSA | XTPRP40BC1                                       |  |
| 0.63                                      | 0.4–0.63  | 8.8                                    | ③   | ③     | 1/2           | 1/2           | 50   | 50           | XTPAXLSA | XTPRP63BC1                                       |  |
| 1   | 0.63–1  | 14                                     | ③   | ③     | 1/2           | 1/2           | 50   | 50           | XTPAXLSA | XTPR001BC1                                       |  |
| 1.6                                       | 1–1.6   | 22                                     | ③   | ③     | 3/4           | 3/4           | 50   | 50           | XTPAXLSA | XTPR1P6BC1                                       |  |
| 2.5                                       | 1.6–2.5   | 35                                     | 1/2   | 1/2   | 1             | 1-1/2         | 50   | 50           | XTPAXLSA | XTPR2P5BC1                                       |  |
| 4   | 2.5–4   | 56                                     | 3/4   | 1     | 2             | 3             | 50   | 50           | XTPAXLSA | XTPR004BC1                                       |  |
| 6.3                                       | 4–6.3   | 88                                     | 1   | 1-1/2 | 3             | 5             | 65   | 50           | XTPAXLSA | XTPR6P3BC1                                       |  |
| 10  | 6.3–11  | 140                                    | 3   | 3     | 7-1/2         | 10            | 65   | 50           | XTPAXLSA | XTPR010BC1                                       |  |
| 12  | 8–12  | 168                                    | 3   | 3     | 7-1/2         | —             | 65   | —            | XTPAXLSA | XTPR012BC1                                       |  |
| 16  | 10–16   | 224                                    | 3   | 5     | 10            | —             | 42   | —            | XTPAXLSA | XTPR016BC1                                       |  |
| 20  | 16–20   | 280                                    | 5   | 5     | —             | —             | 18   | —            | XTPAXLSA | XTPR020BC1                                       |  |
| 25  | 20–25   | 350                                    | 5   | 7-1/2 | 15            | —             | 18   | —            | XTPAXLSA | XTPR025BC1                                       |  |
| 32  | 25–32   | 448                                    | 7-1/2   | 10    | 25            | —             | 18   | —            | XTPAXLSA | XTPR032BC1                                       |  |

Frame D



### XTPR Circuit Breaker According to UL 489—Frame D

| Rated Uninterrupted Current— $I_u$ (Amps) | FLA Adjustment Range/Overload Release— $I_r$ (Amps) | Short Circuit Release— $I_{rm}$ (Amps) | Maximum Motor Ratings <sup>②</sup><br>Maximum hp Rating—P (hp)<br>Three-Phase |       |               |               | Rated Short-Circuit Breaking Capacity (kA) |              |              | Manual Motor Protector—Screw Terminal Catalog Number |
|---|---|--|---|-------|---------------|---------------|--|--------------|--------------|--|
|   |   |  | 200V  | 240V  | 480V/<br>277V | 600V/<br>247V | 240V                                       | 480/<br>277V | 600/<br>347V |  |
| 16  | 10–16   | 224                                    | 3   | 5     | 10            | 10            | 65   | 65           | 25           | XTPR016DCB   |
| 25  | 16–25   | 350                                    | 7-1/2   | 7-1/2 | 20            | 25            | 65   | 65           | 25           | XTPR025DCB   |
| 32  | 24–32   | 448                                    | 10  | 10    | 25            | 30            | 65   | 65           | 25           | XTPR032DCB   |

Frame D



### XTPR Manual Self-Protected Motor Starters—North American Ratings, UL 508 Type E—Frame D<sup>①</sup>

Motor Protective Device with Thermal and Magnetic Trip

| Rated Uninterrupted Current— $I_u$ (Amps) | FLA Adjustment Range/Overload Release— $I_r$ (Amps) | Short Circuit Release— $I_{rm}$ (Amps) | Maximum Motor Ratings <sup>②</sup><br>Maximum hp Rating—P (hp)<br>Three-Phase |       |               |               | Rated Short-Circuit Breaking Capacity (kA) |              |              | Line Side Adapter <sup>③</sup><br>Catalog Number | Manual Motor Protector—Screw Terminal Catalog Number |
|---|---|--|---|-------|---------------|---------------|--|--------------|--------------|--|--|
|   |   |  | 200V  | 240V  | 480V/<br>277V | 600V/<br>247V | 240V                                       | 480/<br>277V | 600/<br>347V |  |  |
| 16  | 10–16   | 224                                    | 3   | 5     | 10            | 10            | 65   | 65           | 25           | XTPAXLSAD  | XTPR016DC1   |
| 25  | 16–25   | 350                                    | 7-1/2   | 7-1/2 | 20            | 25            | 65   | 65           | 25           | XTPAXLSAD  | XTPR025DC1   |
| 32  | 25–32   | 448                                    | 10  | 10    | 25            | 30            | 65   | 65           | 25           | XTPAXLSAD  | XTPR032DC1   |
| 40  | 32–40   | 560                                    | 10  | —     | 30            | 30            | 65   | 65           | 25           | XTPAXLSAD  | XTPR040DC1   |
| 50  | 40–50   | 700                                    | —   | 15    | 30            | —             | 65   | 65           | —            | XTPAXLSAD  | XTPR050DC1   |
| 58  | 50–58   | 812                                    | —   | —     | 40            | —             | 65   | 65           | —            | XTPAXLSAD  | XTPR058DC1   |
| 65  | 55–65   | 882                                    | —   | —     | 40            | —             | 65   | 65           | —            | XTPAXLSAD  | XTPR063DC1   |

#### Notes

A UL 508 Type E self-protected manual combination starter (XTPR) consists of a manual motor protector (XTPR) and a UL Listed line side adapter (for example, XTPAXLSA). The Type E self-protected manual combination starter alone is a legitimate short-circuit protective device and disconnect means for the downstream motor, while the contactor has been added to provide remote operation of the motor circuit. Conductor size for XTPAXLSA is 14–6 AWG, XTPAXLSAD is 8 AWG–1/0.

① UL 508 Type E starters are assembled from a standard XTMR and a special incoming terminal line side adapter (XTPAXLSA or XTPAXLSAD).

② Select manual motor protectors by full load amperes. Maximum motor ratings (kW, hp) are for reference only.

③ In this range, calculate motor rating according to rated current. Specified values to NEC 430.6(A)(1).