

XT Family of Contactors



Contactors and Starters

Product Description

The Eaton **XT** contactors and starters includes non-reversing and reversing contactors, overload relays and a variety of related accessories. Because **XT** meets IEC, UL®, CSA® and CE standards, it is the perfect product solution for IEC applications all over the world. The compact, space saving and easy to install **XT** line of IEC contactors and starters is the efficient and effective solution for customer applications from 7A to 2450A.

Application Description

The **XT** line of IEC power control was engineered to provide highly effective control and protection for a variety of loads, including motors, compressors, pumps, resistive, capacitor banks, isolation, and others. **XT** also includes IEC ratings for lighting applications as well.


XT contactors can be used in safety applications according to EN 954-1, EN ISO 13849-1 and IEC 62061 up to Category 4, PL e and SIL 3. Information concerning safety related characteristics (B10 and B10d values) is available online. The auxiliary contact modules and built-in auxiliary contacts meet IEC EN 60947-5-1 Annex L (positively driven) and IEC EN 60947-4-1 Annex F (mirror contacts).

Reference

Refer to **Volume 10—Enclosed Control**, CA08100012E, Tab 3, section 3.1 for additional product information on IEC Non-Metallic Enclosed Contactors and Starters.

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Features and Benefits

- AC control from 12V to 600V 50/60 Hz
- DC control from 12V to 220V
- Available with screw or spring cage terminals
- Reversing or non-reversing contactors and starters
- AC-3 contactor ratings to 1000A and AC-1 contactor ratings to 2000A
- Non-reversing starters to 650A
- Panel or DIN rail mounting to 65A
- IP20 finger and back-of-hand proof
- Large ambient temperature range, -25 to 50°C [-13 to 122°F]
- AC and DC controlled contactors in the same compact frame
- Low power consumption AC and DC coils
- Built-in NO or NC auxiliary contacts to 32A
- Plug-in accessories for reduced installation time
- Coil replacement on Frames C–N (18–820A)
- Contact replacement on Frames D–N (40 –820A)
- Integrated suppressor 7–150A DC operated contactors and 185–2000A AC and DC operated contactors

Standards and Certifications

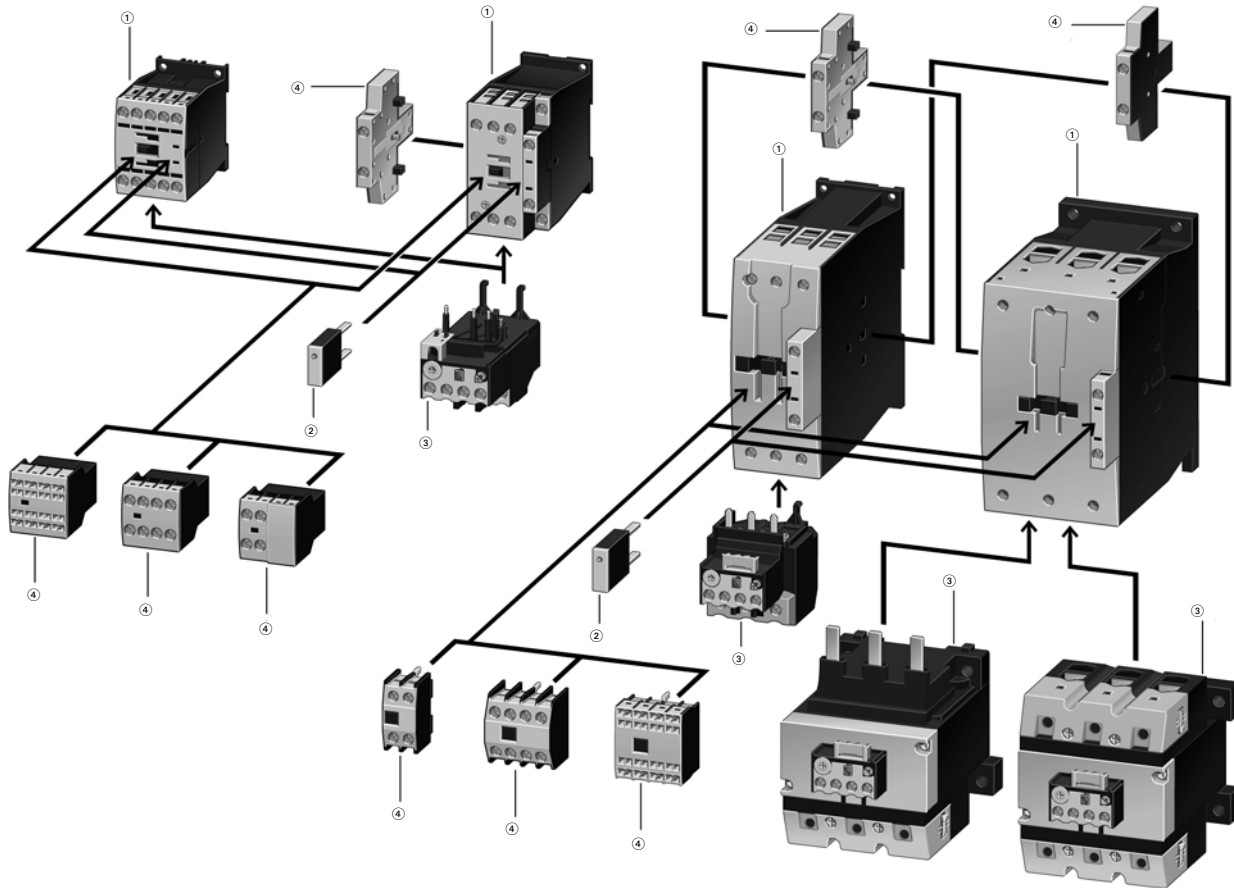
- IEC EN 60947
- CE approved
- UL
- CSA
- RoHS



Note: For Type 2 Coordination, see **Page V5-T1-233**.

Product Identification

XTCE007B to XTCE170G (7 to 170A) Contactors



Notes

① Contactor up to 170A AC-3 (see Page V5-T1-39)

AC: 12–600V, 50, 60, 50/60 Hz
 $0.8–1.1 \times U_c$

DC: 12–250V

XTCE...B_ (7–15A): $0.8–1.1 \times U_c$

XTCE...C_–XTCE...G_ (18–150A): $0.7–1.2 \times U_c$

24V: $0.7–1.3 \times U_c$ at 40°C without additional auxiliary contacts

Coils for special voltages

"Safe Isolation" to IEC 536 between coil and contacts

② Suppressors (see Page V5-T1-71)

RC suppressor

Varistor suppressor

Free-wheel diode suppressor

③ Overload Relays (see Page V5-T1-130)

Can be mounted directly

Separate mounting, possible

Protection of EEx e-motors

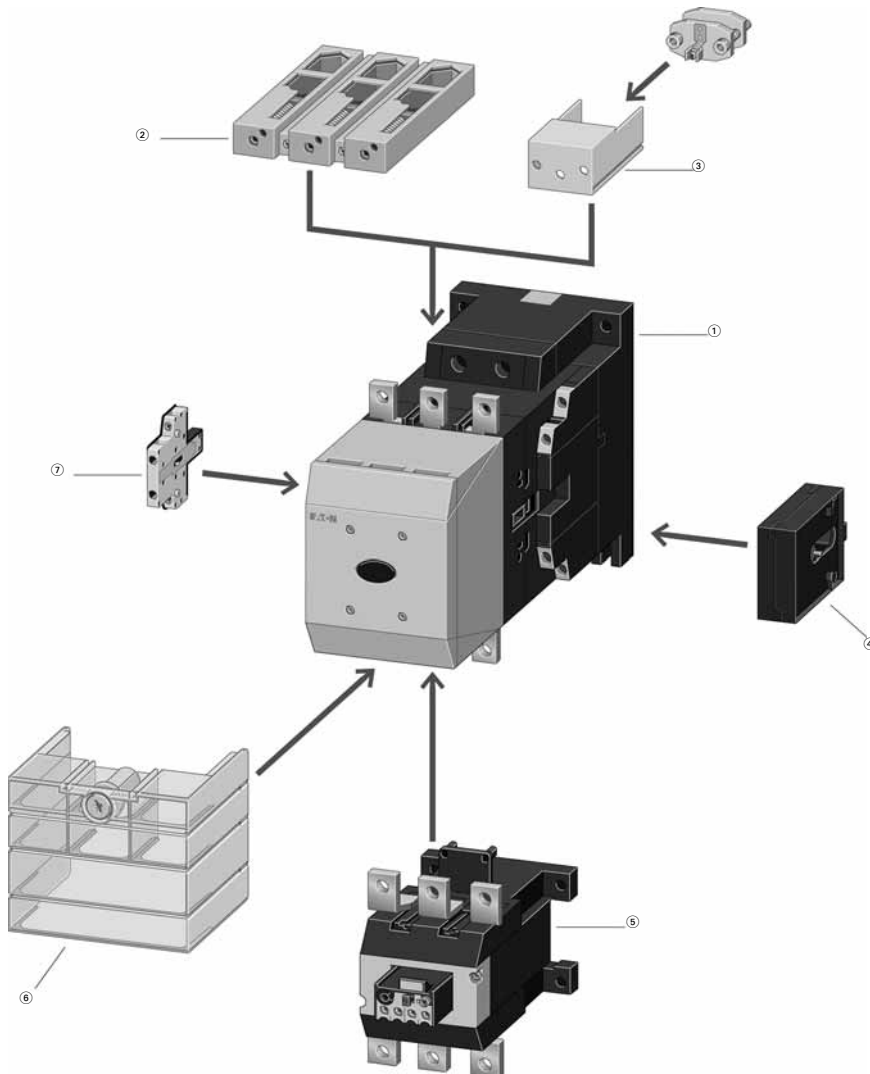
④ Auxiliary Contact Modules (see Page V5-T1-24)

Two-pole, plug-in type

Four-pole, plug-in type

Overlapping contacts

Two-pole, side-mounting

XTCE185–XTCE20 Contactors**Notes**① **XTCE Contactors for 185–2000A**(see [Page V5-T1-46](#))

Multi-voltage coils:

24–48 Vdc

48–110 Vac/Vdc

110–250 Vac/Vdc

250–500 Vac

0.7–1.15 × U_c

Actuation options:

Directly

From the PLC

With low-consumption contact

② **XTCS Contactors for 185–570A AC-3**(see [Page V5-T1-42](#))

Control voltages:

110–120V 50/60 Hz

220–240V 50/60 Hz

Conventional operation

② **Cable Terminal Block**(see [Page V5-T1-97](#))

One or two conductors per phase

Round and flat conductor connectable

Finger-proof

③ **Flat Strip Conductor Terminals**(see [Page V5-T1-97](#))

One or two strips per phase

Control circuit terminal

Cover for fingerproofing

④ **Mechanical Interlock**(see [Page V5-T1-73](#))

Fits between contactors

⑤ **Overload Relays**(see [Page V5-T1-130](#))

Can be mounted directly

Separate mounting, possible

Protection of EEx e-motors

PTB certificate

⑥ **Terminal Shroud**(see [Page V5-T1-75](#))

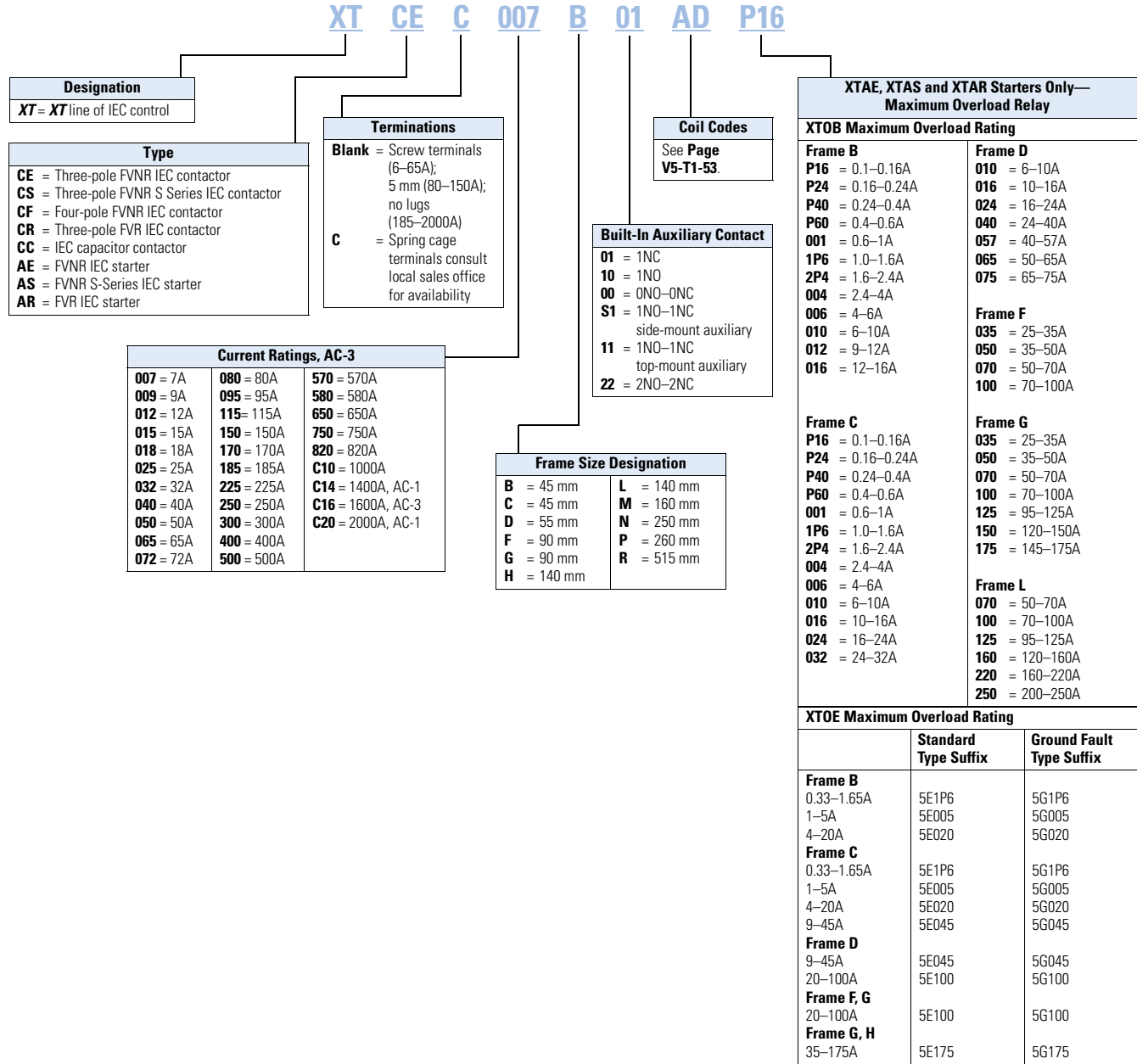
Finger-proof

⑦ **Auxiliary Contact Modules**(see [Page V5-T1-24](#))

Two-pole, side-mounting

Catalog Number Selection

XT IEC Contactors and Starters



1

Frame C



Three-Pole Contactors, Frame C—UL/CSA Ratings

| UL General Purpose Ampere Rating | Single-Phase hp Ratings | | | Three-Phase hp Ratings | | | | Auxiliary Contacts | Screw Terminal Catalog Number ^{①②} |
|-------------------------------------|-------------------------|------|------|------------------------|------|------|------|-----------------------|--|
| | 115V | 200V | 230V | 200V | 230V | 460V | 575V | | |
| 40 | 2 | 2 | 3 | 5 | 5 | 10 | 15 | 1NO | XTCE018C10_ |
| 40 | 2 | 2 | 3 | 5 | 5 | 10 | 15 | 1NC | XTCE018C01_ |
| 40 | 2 | 3 | 5 | 7-1/2 | 10 | 15 | 20 | 1NO | XTCE025C10_ |
| 40 | 2 | 3 | 5 | 7-1/2 | 10 | 15 | 20 | 1NC | XTCE025C01_ |
| 40 | 3 | 5 | 5 | 10 | 10 | 20 | 25 | 1NO | XTCE032C10_ |
| 40 | 3 | 5 | 5 | 10 | 10 | 20 | 25 | 1NC | XTCE032C01_ |
| 40 | 3 | 5 | 5 | 10 | 10 | 25 | 30 | 1NO | XTCE038C10_ |
| 40 | 3 | 5 | 5 | 10 | 10 | 25 | 30 | 1NC | XTCE038C01_ |

Three-Pole Contactors, Frame C—IEC Ratings

| AC-3 I _e (A) | AC-1 (40°C) I _e = I _{th} (A) | Maximum kW Ratings AC-3/Three-Phase Motors 50–60 Hz | | | | Auxiliary Contacts | Screw Terminal Catalog Number ^{①②} |
|----------------------------|---|---|----------|------|----------|-----------------------|--|
| | | 220/230V | 380/400V | 415V | 660/690V | | |
| 18 | 40 | 5 | 7.5 | 10 | 11 | 1NO | XTCE018C10_ |
| 18 | 40 | 5 | 7.5 | 10 | 11 | 1NC | XTCE018C01_ |
| 25 | 45 | 7.5 | 11 | 14.5 | 14 | 1NO | XTCE025C10_ |
| 25 | 45 | 7.5 | 11 | 14.5 | 14 | 1NC | XTCE025C01_ |
| 32 | 45 | 10 | 15 | 18 | 17 | 1NO | XTCE032C10_ |
| 32 | 45 | 10 | 15 | 18 | 17 | 1NC | XTCE032C01_ |
| 38 | 45 | 11 | 18.5 | 18.5 | 21 | 1NO | XTCE038C10_ |
| 38 | 45 | 11 | 18.5 | 18.5 | 21 | 1NC | XTCE038C01_ |

Frame D



Three-Pole Contactors, Frame D—UL/CSA Ratings

| UL General Purpose Ampere Rating | Single-Phase hp Ratings | | | Three-Phase hp Ratings | | | | Auxiliary Contacts | Screw Terminal Catalog Number ^{①②} |
|-------------------------------------|-------------------------|-------|-------|------------------------|------|------|------|-----------------------|--|
| | 115V | 200V | 230V | 200V | 230V | 460V | 575V | | |
| 63 | 3 | 5 | 7-1/2 | 10 | 15 | 30 | 40 | — | XTCE040D00_ |
| 63 | 3 | 5 | 7-1/2 | 10 | 15 | 30 | 40 | 1NO-1NC | XTCE040DS1_ |
| 80 | 3 | 7-1/2 | 10 | 15 | 20 | 40 | 50 | — | XTCE050D00_ |
| 80 | 3 | 7-1/2 | 10 | 15 | 20 | 40 | 50 | 1NO-1NC | XTCE050DS1_ |
| 88 | 5 | 10 | 15 | 20 | 25 | 50 | 60 | — | XTCE065D00_ |
| 88 | 5 | 10 | 15 | 20 | 25 | 50 | 60 | 1NO-1NC | XTCE065DS1_ |
| 88 | 5 | 10 | 15 | 20 | 25 | 50 | 60 | — | XTCE072D00_ |
| 88 | 5 | 10 | 15 | 20 | 25 | 50 | 60 | 1NO-1NC | XTCE072DS1_ |

Three-Pole Contactors, Frame D—IEC Ratings

| AC-3 I _e (A) | AC-1 (40°C) I _e = I _{th} (A) | Maximum kW Ratings AC-3/Three-Phase Motors 50–60 Hz | | | | Auxiliary Contacts | Screw Terminal Catalog Number ^{①②} |
|----------------------------|---|---|----------|------|----------|-----------------------|--|
| | | 220/230V | 380/400V | 415V | 660/690V | | |
| 40 | 60 | 12.5 | 18.5 | 24 | 23 | — | XTCE040D00_ |
| 40 | 60 | 12.5 | 18.5 | 24 | 23 | 1NO-1NC | XTCE040DS1_ |
| 50 | 80 | 15.5 | 22 | 30 | 30 | — | XTCE050D00_ |
| 50 | 80 | 15.5 | 22 | 30 | 30 | 1NO-1NC | XTCE050DS1_ |
| 65 | 98 | 20 | 30 | 39 | 35 | — | XTCE065D00_ |
| 65 | 98 | 20 | 30 | 39 | 35 | 1NO-1NC | XTCE065DS1_ |
| 72 | 98 | 22 | 37 | 41 | 35 | — | XTCE072D00_ |
| 72 | 98 | 22 | 37 | 41 | 35 | 1NO-1NC | XTCE072DS1_ |

Notes

The 7–32A XTCE contactors have positively driven contacts between the integrated auxiliary contact and the auxiliary contact module as well as within the auxiliary contact modules.

The 40–65A XTCE contactors have positively driven contacts within the auxiliary contact module.

Six auxiliary contacts are possible with a combination of side-mounted and front-mount auxiliary contacts.

DC operated contactors (Frames B–G, 7–150A) have a built-in suppressor circuit.

① Underscore (_) indicates magnet coil suffix required. See **Page V5-T1-53**.

② For spring cage terminals, insert **C** after the fourth digit of the catalog number. Example: XTCEC007B10A.

For 7–12A XTCEC contactors, the power, auxiliary and coil terminals are spring cage.

For 18–32A XTCEC contactors, the auxiliary and coil terminals are spring cage.

For 40–150A XTCEC contactors, the coil terminals only are spring cage.

XTCR Reversing Contactor Components

| Quantity | Frame | B | C | D | F | G |
|----------|----------------------|-------------|-------------|-------------|-------------|-------------|
| 2 | Contactors | XTCE...B01_ | XTCE...C01_ | 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 |

Magnet Coil Suffix

| Coil Voltage | Suffix Code |
|------------------------|-------------|
| Frames A–B | |
| 110V 50 Hz, 120V 60 Hz | A |
| 220V 50 Hz, 240V 60 Hz | B |
| 230V 50 Hz | F |
| 24V 50/60 Hz | T |
| 24 Vdc | TD |
| 415V 50 Hz, 480V 60 Hz | C |
| 600V 60 Hz | D |
| 208V 60 Hz | E |
| 190V 50 Hz, 220V 60 Hz | G |
| 240V 50 Hz, 277V 60 Hz | H |
| 380V 50 Hz, 440V 60 Hz | L |
| 400V 50 Hz | N |
| 380V 60 Hz | P |
| 12V 50/60 Hz | R |
| 42V 50 Hz, 48V 60 Hz | W |
| 48V 50 Hz | Y |
| 120 Vdc | AD |
| 220 Vdc | BD |
| 12 Vdc | RD |
| 48 Vdc | WD |

| Coil Voltage | Suffix Code |
|------------------------|-------------|
| Frames C–F | |
| 110V 50 Hz, 120V 60 Hz | A |
| 220V 50 Hz, 240V 60 Hz | B |
| 230V 50 Hz | F |
| 24V 50/60 Hz | T |
| 24 Vdc | TD |
| 415V 50 Hz, 480V 60 Hz | C |
| 600V 60 Hz | D |
| 208V 60 Hz | E |
| 190V 50 Hz, 220V 60 Hz | G |
| 240V 50 Hz, 277V 60 Hz | H |
| 380V 50 Hz, 440V 60 Hz | L |
| 400V 50 Hz | N |
| 380V 60 Hz | P |
| 12V 50/60 Hz | R |
| 42V 50 Hz, 48V 60 Hz | W |
| 48V 50 Hz | Y |
| 110–130 Vdc | AD |
| 200–240 Vdc | BD |
| 48–60 Vdc | WD |

| Coil Voltage | Suffix Code |
|-------------------|-------------|
| Frame G | |
| 100–120V 50/60 Hz | A |
| 190–240V 50/60 Hz | B |
| 24V 50/60 Hz | T |
| 24–27 Vdc | TD |
| 480–500V 50/60 Hz | C |
| 380–440V 50/60 Hz | L |
| 42–48V 50/60 Hz | W |
| 110–130 Vdc | AD |
| 200–240 Vdc | BD |
| 48–60 Vdc | WD |
| Frame H | |
| 100–120V 50/60 Hz | A |
| 190–240V 50/60 Hz | B |
| 480–500V 50/60 Hz | C |
| 380–440V 50/60 Hz | L |
| 24V 50/60Hz | T |
| 42–48V 50/60Hz | W |
| 110–130 Vdc | AD |
| 200–240 Vdc | BD |
| 24–27 Vdc | TD |
| 48–60 Vdc | WD |

| Coil Voltage | Suffix Code |
|-----------------------------|------------------------|
| Frames L–N | |
| 110–250 Vdc 40–60 Hz | A |
| 250–500V 40–60 Hz | C |
| 48–110 Vdc 40–60 Hz | Y |
| 24–48 Vdc | TD ^① |
| Frames L–M, S-Series | |
| 110–120V 50/60 Hz | A |
| 220–240V 50/60 Hz | B |
| Frames P–R | |
| 230–250 Vdc 50–60 Hz | B |

Note

^① Frames L–M only.

Starter Application Data ^①

| Catalog Prefix | AC-3 | Electrical Life (Operations) |
|----------------|------|------------------------------|
| XTAE012B | 12A | 1 million |
| XTAE015B | 15A | 1.2 million |
| XTAE018C | 18A | 2 million |

Magnet Coil Suffix

| Coil Voltage | Suffix Code |
|------------------------|-------------|
| Frames A–B | |
| 110V 50 Hz, 120V 60 Hz | A |
| 220V 50 Hz, 240V 60 Hz | B |
| 230V 50 Hz | F |
| 24V 50/60 Hz | T |
| 24 Vdc | TD |
| 415V 50 Hz, 480V 60 Hz | C |
| 600V 60 Hz | D |
| 208V 60 Hz | E |
| 190V 50 Hz, 220V 60 Hz | G |
| 240V 50 Hz, 277V 60 Hz | H |
| 380V 50 Hz, 440V 60 Hz | L |
| 400V 50 Hz | N |
| 380V 60 Hz | P |
| 12V 50/60 Hz | R |
| 42V 50 Hz, 48V 60 Hz | W |
| 48V 50 Hz | Y |
| 120 Vdc | AD |
| 220 Vdc | BD |
| 12 Vdc | RD |
| 48 Vdc | WD |

| Coil Voltage | Suffix Code |
|------------------------|-------------|
| Frames C–F | |
| 110V 50 Hz, 120V 60 Hz | A |
| 220V 50 Hz, 240V 60 Hz | B |
| 230V 50 Hz | F |
| 24V 50/60 Hz | T |
| 24–27 Vdc | TD |
| 415V 50 Hz, 480V 60 Hz | C |
| 600V 60 Hz | D |
| 208V 60 Hz | E |
| 190V 50 Hz, 220V 60 Hz | G |
| 240V 50 Hz, 277V 60 Hz | H |
| 380V 50 Hz, 440V 60 Hz | L |
| 400V 50 Hz | N |
| 380V 60 Hz | P |
| 12V 50/60 Hz | R |
| 42V 50 Hz, 48V 60 Hz | W |
| 48V 50 Hz | Y |
| 110–130 Vdc | AD |
| 200–240 Vdc | BD |
| 48–60 Vdc | WD |

| Coil Voltage | Suffix Code |
|-------------------|-------------|
| Frame G | |
| 100–120V 50/60 Hz | A |
| 190–240V 50/60 Hz | B |
| 24V 50/60 Hz | T |
| 24–27 Vdc | TD |
| 480–500V 50/60 Hz | C |
| 380–440V 50/60 Hz | L |
| 42–48V 50/60 Hz | W |
| 110–130 Vdc | AD |
| 200–240 Vdc | BD |
| 48–60 Vdc | WD |
| Frame H | |
| 100–120V 50/60 Hz | A |
| 190–240V 50/60 Hz | B |
| 480–500V 50/60 Hz | C |
| 380–440V 50/60 Hz | L |
| 24V 50/60Hz | T |
| 42–48V 50/60Hz | W |
| 110–130 Vdc | AD |
| 200–240 Vdc | BD |
| 24–27 Vdc | TD |
| 48–60 Vdc | WD |

| Coil Voltage | Suffix Code |
|-----------------------------|------------------------|
| Frames L–N | |
| 110–250 Vdc 40–60 Hz | A |
| 250–500V 40–60 Hz | C |
| 48–110 Vdc 40–60 Hz | Y |
| 24–48 Vdc | TD ^② |
| Frames L–M, S-Series | |
| 110–120V 50/60 Hz | A |
| 220–240V 50/60 Hz | B |
| Frames P–R | |
| 230–250 Vdc 50–60 Hz | B |

Notes

- ① See **Page V5-T1-111** for electrical life curves.
 ② Frames L–M only.

Bimetallic Overload Relay Suffix

| Motor Full Load Amperes | Suffix Code | For Use with Contactor Ampere Range | Overload Relay Catalog Number |
|-------------------------|-------------|-------------------------------------|-------------------------------|
| Frame B | | | |
| 0.1–0.16 | P16 | 7–15A | XTOBP16BC1 |
| 0.16–0.24 | P24 | 7–15A | XTOBP24BC1 |
| 0.24–0.4 | P40 | 7–15A | XTOBP40BC1 |
| 0.4–0.6 | P60 | 7–15A | XTOBP60BC1 |
| 0.6–1 | 001 | 7–15A | XTOB001BC1 |
| 1–1.6 | 1P6 | 7–15A | XTOB1P6BC1 |
| 1.6–2.4 | 2P4 | 7–15A | XTOB2P4BC1 |
| 2.4–4 | 004 | 7–15A | XTOB004BC1 |
| 4–6 | 006 | 7–15A | XTOB006BC1 |
| 6–10 | 010 | 7–15A | XTOB010BC1 |
| 9–12 | 012 | 9–15A | XTOB012BC1 |
| 12–16 | 016 | 12–15A | XTOB016BC1 |
| Frame C | | | |
| 0.1–0.16 | P16 | 18–32A | XTOBP16CC1 |
| 0.16–0.24 | P24 | 18–32A | XTOBP24CC1 |
| 0.24–0.4 | P40 | 18–32A | XTOBP40CC1 |
| 0.4–0.6 | P60 | 18–32A | XTOBP60CC1 |
| 0.6–1 | 001 | 18–32A | XTOB001CC1 |
| 1–1.6 | 1P6 | 18–32A | XTOB1P6CC1 |
| 1.6–2.4 | 2P4 | 18–32A | XTOB2P4CC1 |
| 2.4–4 | 004 | 18–32A | XTOB004CC1 |
| 4–6 | 006 | 18–32A | XTOB006CC1 |
| 6–10 | 010 | 18–32A | XTOB010CC1 |
| 10–16 | 016 | 18–32A | XTOB016CC1 |
| 16–24 | 024 | 18–32A | XTOB024CC1 |
| 24–32 | 032 | 25–32A | XTOB032CC1 |

Electronic Overload Relay Suffix

XTOE Maximum Overload Rating

| | Standard Type Suffix | Ground Fault Type Suffix |
|-------------------|----------------------|--------------------------|
| Frame B | | |
| 0.33–1.65A | 5E1P6 | 5G1P6 |
| 1–5A | 5E005 | 5G005 |
| 4–20A | 5E020 | 5G020 |
| Frame C | | |
| 0.33–1.65A | 5E1P6 | 5G1P6 |
| 1–5A | 5E005 | 5G005 |
| 4–20A | 5E020 | 5G020 |
| 9–45A | 5E045 | 5G045 |
| Frame D | | |
| 9–45A | 5E045 | 5G045 |
| 20–100A | 5E100 | 5G100 |
| Frame F, G | | |
| 20–100A | 5E100 | 5G100 |
| Frame G | | |
| 35–175A | 5E175 | 5G175 |

Note

① Catalog number refers to direct mount overload relay. Add an **S** to the end of the catalog number for separate mount.

| Motor Full Load Amperes | Suffix Code | For Use with Contactor Ampere Range | Overload Relay Catalog Number |
|-------------------------|-------------|-------------------------------------|-------------------------------|
| Frame D | | | |
| 6–10 | 010 | 40–72A | XTOB010DC1 |
| 10–16 | 016 | 40–72A | XTOB016DC1 |
| 16–24 | 024 | 40–72A | XTOB024DC1 |
| 24–40 | 04 | 40–72A | XTOB040DC1 |
| 40–57 | 057 | 50–72A | XTOB057DC1 |
| 50–65 | 065 | 65–72A | XTOB065DC1 |
| 65–75 | 075 | 65–72A | XTOB075DC1 |
| Frame F | | | |
| 25–35 | 035 | 80–95A | XTOB055GC1 ① |
| 35–50 | 050 | 80–95A | XTOB050GC1 ① |
| 50–70 | 070 | 80–95A | XTOB070GC1 ① |
| 70–100 | 100 | 80–95A | XTOB100GC1 ① |
| Frame G | | | |
| 25–35 | 035 | 115–170A | XTOB055GC1 ① |
| 35–50 | 050 | 115–170A | XTOB050GC1 ① |
| 50–70 | 070 | 115–170A | XTOB070GC1 ① |
| 70–100 | 100 | 115–170A | XTOB100GC1 ① |
| 95–125 | 125 | 115–170A | XTOB125GC1 ① |
| 120–150 | 150 | 150–170A | XTOB150GC1 ① |
| 145–175 | 175 | 150–170A | XTOB175GC1 ① |

Reference Data

| | |
|---|------------------|
| Type 2 Coordination | V5-T1-233 |
| Approvals for World Markets | V5-T1-242 |
| IEC Utilization Categories | V5-T1-245 |
| Motor Ratings Data | V5-T1-248 |
| Ampacities of Insulated Conductors (Based on 2005 NEC) | V5-T1-252 |

Type 1 and Type 2 Coordination**What is it?**

The International Electrotechnical Commission (IEC) developed short-circuit performance criteria for contactors and starters called Type 1 coordination and Type 2 coordination. This defines motor controller protection levels following a short-circuit fault. In order to achieve this performance, the combination of a motor controller (contactor or starter) and short-circuit protective device (manual motor protector, circuit breaker or fuse) must meet the following criteria as specified by IEC 60947-4-1—Low voltage switchgear and controlgear—Part 4-1: Contactors and motor-starters—Electromechanical contactors and motor-starters:

Type 1 Coordination

Type 1 Coordination requires that under short-circuit conditions, the contactor or starter shall cause no danger to persons or installation and may not be suitable for further service without repair and replacement of parts.

In this case, *significant damage is allowed* to the contactor/starter (for example, contact welding, burning or disintegration) and the overload relay (for example, component harm or heater element burn-out).

Type 2 Coordination

Type 2 Coordination requires that under short-circuit conditions, the contactor or starter shall cause no danger to persons or installation and shall be suitable for further use. The risk of contact welding is recognized, in which case the manufacturer shall indicate the measures to be taken as regards to the maintenance of the equipment.

Type 2 Coordination**400, xx415V Type 2 Coordination—MMC**

| P (kW) | I_e (A) | I_q (kA) | MMP Catalog Number | Contactor Catalog Number^② | MMC Catalog Number^② |
|-------------------|------------------------------|-------------------------------|-------------------------------|---|---|
| 0.06 | 0.21 | 50 (150) ① | XTPRP25BC1 | XTCE007B10_ | XTSCP25BB_ |
| 0.09 | 0.31 | 50 (150) ① | XTPRP40BC1 | XTCE007B10_ | XTSCP40BB_ |
| 0.12 | 0.41 | 50 (150) ① | XTPRP63BC1 | XTCE007B10_ | XTSCP63BB_ |
| 0.18 | 0.60 | 50 (150) ① | XTPRP63BC1 | XTCE007B10_ | XTSCP63BB_ |
| 0.25 | 0.80 | 50 (150) ① | XTPR01BC1 | XTCE007B10_ | XTSC001BB_ |
| 0.37 | 1.10 | 50 (150) ① | XTPR1P6BC1 | XTCE007B10_ | XTSC1P6BB_ |
| 0.55 | 1.50 | 50 (150) ① | XTPR1P6BC1 | XTCE007B10_ | XTSC1P6BB_ |
| 0.75 | 1.90 | 50 (150) ① | XTPR2P5BC1 | XTCE007B10_ | XTSC2P5BB_ |
| 1.10 | 2.60 | 50 (150) ① | XTPR004BC1 | XTCE007B10_ | XTSC004BB_ |
| 1.50 | 3.60 | 50 (150) ① | XTPR004BC1 | XTCE007B10_ | XTSC004BB_ |
| 2.20 | 5.00 | 50 (150) ① | XTPR6P3BC1 | XTCE007B10_ | XTSC6P3BB_ |
| 3.00 | 6.60 | 50 (150) ① | XTPR010BC1 | XTCE018C10_ | XTSC010BC_ |
| 4.00 | 8.50 | 50 (150) ① | XTPR010BC1 | XTCE018C10_ | XTSC010BC_ |
| 5.50 | 11.3 | 50 | XTPR012BC1 | XTCE018C10_ | XTSC012BC_ |
| 7.50 | 16.0 | 50 | XTPR016BC1 | XTCE018C10_ | XTSC016BC_ |
| 11.0 | 21.7 | 50 | XTPR025BC1 | XTCE025C10_ | XTSC025BC_ |
| 15.0 | 29.3 | 50 | XTPR032BC1 | XTCE032C10_ | XTSC032BC_ |
| 5.50 | 11.3 | 50 | XTPR016DC1 | XTCE018C10_ | XTSC016DC_ |
| 7.50 | 16.0 | 50 | XTPR016DC1 | XTCE018C10_ | XTSC016DC_ |
| 11.0 | 21.7 | 50 | XTPR025DC1 | XTCE025C10_ | XTSC025DC_ |
| 15.0 | 29.3 | 50 | XTPR032DC1 | XTCE032C10_ | XTSC032DC_ |
| 18.5 | 36.0 | 50 | XTPR040DC1 | XTCE040D00_ | XTSC040DD_ |
| 22.0 | 41.0 | 50 | XTPR050DC1 | XTCE050D00_ | XTSC050DD_ |
| 30.0 | 55.0 | 50 | XTPR058DC1 | XTCE065D00_ | XTSC058DD_ |
| 34.0 | 63.0 | 50 | XTPR063DC1 | XTCE065D00_ | XTSC063DD_ |

Notes

See **Page V5-T1-241** for more information on wye-delta (star delta) applications.

① Values in parentheses () are for Type 1 Coordination.

② Underscore (_) indicates magnet coil suffix required. See **Page V5-T1-241**.

480V Type 2 Coordination—MMC

| P (hp) | I _e (A) | I _g (kA) | MMP Catalog Number | Current Limiter Catalog Number | Contactors Catalog Number ② | MMC Catalog Number ② |
|-----------|-----------------------|------------------------|-----------------------|-----------------------------------|--------------------------------|-------------------------|
| 1/2 | 0.24 | 65 | XTPRP25BC1 | — | XTCE007B10_ | XTSCP25BB_ |
| 1/2 | 0.32 | 65 | XTPRP40BC1 | — | XTCE007B10_ | XTSCP40BB_ |
| 1/2 | 0.51 | 65 | XTPRP63BC1 | — | XTCE007B10_ | XTSCP63BB_ |
| 1/2 | 0.74 | 65 | XTPR001BC1 | — | XTCE007B10_ | XTSC001BB_ |
| 1/2 | 0.94 | 65 | XTPR001BC1 | — | XTCE007B10_ | XTSC001BB_ |
| 3/4 | 1.32 | 65 | XTPR1P6BC1 | — | XTCE007B10_ | XTSC1P6BB_ |
| 1 | 1.72 | 65 | XTPR2P5BC1 | — | XTCE018C10_ | XTSC2P5BC_ |
| 2 | 2.55 | 65 | XTPR004BC1 | — | XTCE018C10_ | XTSC004BC_ |
| 2 | 3.10 | 65 | XTPR004BC1 | — | XTCE018C10_ | XTSC004BC_ |
| 3 | 4.55 | 65 (50) ① | XTPR6P3BC1 | XTPAXCL | XTCE018C10_ | XTSC6P3BC_ |
| 3 | 6.15 | 65 (50) ① | XTPR6P3BC1 | XTPAXCL | XTCE018C10_ | XTSC6P3BC_ |
| 7-1/2 | 8.40 | 65 (50) ① | XTPR010BC1 | XTPAXCL | XTCE018C10_ | XTSC010BC_ |
| 7-1/2 | 11.0 | 65 (50) ① | XTPR012BC1 | XTPAXCL | XTCE018C10_ | XTSC012BC_ |
| 10 | 14.5 | 65 (50) ① | XTPR016BC1 | XTPAXCL | XTCE018C10_ | XTSC016BC_ |
| 10 | 20.0 | 65 (50) ① | XTPR020BC1 | XTPAXCL | XTCE025C10_ | XTSC020BC_ |
| 20 | 20.0 | 65 | XTPR025DC1 | — | XTCE040D00_ | XTSC025DD_ |
| 25 | 27.0 | 65 | XTPR032DC1 | — | XTCE040D00_ | XTSC032DD_ |
| 25 | 32.0 | 65 | XTPR032DC1 | — | XTCE040D00_ | XTSC032DD_ |
| 30 | 37.5 | 65 | XTPR040DC1 | — | XTCE040D00_ | XTSC040DD_ |
| 40 | 40.5 | 65 | XTPR050DC1 | — | XTCE050D00_ | XTSC050DD_ |
| 40 | 50.5 | 65 | XTPR058DC1 | — | XTCE065D00_ | XTSC058DD_ |
| 40 | 64.0 | 65 | XTPR063DC1 | — | XTCE065D00_ | XTSC063DD_ |

600V Type 2 Coordination—MMC

| P (hp) | I _e (A) | I _g (kA) | MMP Catalog Number | Current Limiter Catalog Number | Contactors Catalog Number ② | MMC Catalog Number ② |
|-----------|-----------------------|------------------------|-----------------------|-----------------------------------|--------------------------------|-------------------------|
| 1/2 | 0.19 | 50 | XTPRP25BC1 | — | XTCE007B10_ | XTSCP25BB_ |
| 1/2 | 0.26 | 50 | XTPRP40BC1 | — | XTCE007B10_ | XTSCP40BB_ |
| 1/2 | 0.41 | 50 | XTPRP63BC1 | — | XTCE007B10_ | XTSCP63BB_ |
| 1/2 | 0.59 | 50 | XTPRP63BC1 | — | XTCE007B10_ | XTSCP63BB_ |
| 1/2 | 0.75 | 50 | XTPR001BC1 | — | XTCE007B10_ | XTSC001BB_ |
| 1 | 1.06 | 50 | XTPR1P6BC1 | — | XTCE007B10_ | XTSC1P6BB_ |
| 1 | 1.38 | 50 | XTPR1P6BC1 | — | XTCE007B10_ | XTSC1P6BB_ |
| 1-1/2 | 2.04 | 50 | XTPR2P5BC1 | — | XTCE018C10_ | XTSC2P5BC_ |
| 1-1/2 | 2.48 | 50 | XTPR2P5BC1 | — | XTCE018C10_ | XTSC2P5BC_ |
| 3 | 3.64 | 50 | XTPR004BC1 | — | XTCE018C10_ | XTSC004BC_ |
| 5 | 4.92 | 50 (18) ① | XTPR6P3BC1 | XTPAXCL | XTCE018C10_ | XTSC6P3BC_ |
| 10 | 6.72 | 50 (18) ① | XTPR010BC1 | XTPAXCL | XTCE018C10_ | XTSC010BC_ |
| 10 | 8.60 | 50 (18) ① | XTPR010BC1 | XTPAXCL | XTCE018C10_ | XTSC010BC_ |
| 10 | 11.5 | 50 (18) ① | XTPR012BC1 | XTPAXCL | XTCE018C10_ | XTSC012BC_ |
| 10 | 16.0 | 50 (18) ① | XTPR016BC1 | XTPAXCL | XTCE018C10_ | XTSC016BC_ |
| 25 | 21.5 | 50 | XTPR025DC1 | — | XTCE040D00_ | XTSC025DD_ |
| 30 | 25.5 | 50 | XTPR032DC1 | — | XTCE040D00_ | XTSC032DD_ |
| 30 | 30.0 | 50 | XTPR032DC1 | — | XTCE040D00_ | XTSC032DD_ |
| 30 | 37.5 | 50 | XTPR040DC1 | — | XTCE040D00_ | XTSC050DD_ |
| 40 | 40.5 | 50 | XTPR050DC1 | — | XTCE050D00_ | XTSC050DD_ |
| 40 | 51.0 | 42 | XTPR058DC1 | — | XTCE065D00_ | XTSC058DD_ |
| 50 | 61.0 | 42 | XTPR063DC1 | — | XTCE065D00_ | XTSC063DD_ |

Notes

See **Page V5-T1-241** for more information on wye-delta (star delta) applications.

① Values in parentheses () are achieved without the current limiter.

② Underscore (_) indicates magnet coil suffix required. See **Page V5-T1-241**.

400, 415V Type 2 Coordination—Contactor and Overload Relay (Motor Starter) with Fused Disconnect

| P (kW) | I _e (A) | I _q (kA) | Fuses Class gG/gL | Contactor Catalog Number ① | Overload Relay Catalog Number | Assembled Starter Catalog Number ① |
|-----------|-----------------------|------------------------|----------------------|-------------------------------|----------------------------------|---------------------------------------|
| 0.12 | 0.41 | 100 | 2 | XTCE007B10_ | XTOBP60BC1 | XTAE007B10_P60 |
| 0.18 | 0.60 | 100 | 2 | XTCE007B10_ | XTOB001BC1 | XTAE007B10_001 |
| 0.25 | 0.80 | 100 | 4 | XTCE007B10_ | XTOB001BC1 | XTAE007B10_001 |
| 0.37 | 1.10 | 100 | 4 | XTCE007B10_ | XTOB1P6BC1 | XTAE007B10_1P6 |
| 0.55 | 1.50 | 100 | 4 | XTCE007B10_ | XTOB1P6BC1 | XTAE007B10_1P6 |
| 0.75 | 1.90 | 100 | 6 | XTCE007B10_ | XTOB2P4BC1 | XTAE007B10_2P4 |
| 1.10 | 2.60 | 100 | 6 | XTCE007B10_ | XTOB004BC1 | XTAE007B10_004 |
| 1.50 | 3.60 | 100 | 6 | XTCE007B10_ | XTOB004BC1 | XTAE007B10_004 |
| 2.20 | 5.00 | 100 | 10 | XTCE007B10_ | XTOB006BC1 | XTAE007B10_006 |
| 3.00 | 6.60 | 100 | 16 | XTCE007B10_ | XTOB010BC1 | XTAE007B10_010 |
| 4.00 | 8.50 | 100 | 20 | XTCE009B10_ | XTOB010BC1 | XTAE009B10_010 |
| 5.50 | 11.3 | 100 | 25 | XTCE018C10_ | XTOB016CC1 | XTAE018C10_016 |
| 7.50 | 16.0 | 100 | 32 | XTCE018C10_ | XTOB016CC1 | XTAE018C10_016 |
| 11.0 | 21.7 | 100 | 40 | XTCE025C10_ | XTOB024CC1 | XTAE032C10_024 |
| 15.0 | 29.3 | 100 | 63 | XTCE032C10_ | XTOB032CC1 | XTAE032C10_032 |
| 18.5 | 36.0 | 100 | 63 | XTCE040D00_ | XTOB040DC1 | XTAE040D00_040 |
| 22.0 | 41.0 | 100 | 80 | XTCE050D00_ | XTOB057DC1 | XTAE065D00_057 |
| 30.0 | 55.0 | 100 | 100 | XTCE065D00_ | XTOB057DC1 | XTAE065D00_057 |
| 37.0 | 68.0 | 100 | 125 | XTCE080F00_ | XTOB070GC1 | XTAE080F00_070 |
| 45.0 | 81.0 | 100 | 160 | XTCE095F00_ | XTOB100GC1 | XTAE095F00_100 |
| 55.0 | 99.0 | 100 | 200 | XTCE115G00_ | XTOB100GC1 | XTAE115G00_100 |
| 75.0 | 134.0 | 100 | 200 | XTCE150G00_ | XTOB150GC1 | XTAE150G00_150 |
| 90.0 | 161.0 | 100 | 250 | XTCE185L22_ | XTOB220LC1 | XTAE185L22_220 |
| 110.0 | 196.0 | 100 | 315 | XTCE225L22_ | XTOB220LC1 | XTAE225L22_220 |
| 132.0 | 231.0 | 100 | 400 | XTCE250L22_ | XTOB250LC1 | XTAE250L22_250 |
| 160.0 | 279.0 | 100 | 400 | XTCE300M22_ | XTOT290C35 | XTAE300M22_290 |
| 200.0 | 349.0 | 100 | 500 | XTCE400M22_ | XTOT400C35 | XTAE400M22_400 |
| 250.0 | 437.0 | 100 | 630 | XTCE500M22_ | XTOT540C35 | XTAE500M22_540 |

Notes

See **Page V5-T1-241** for more information on wye-delta (star delta) applications.

① Underscore (_) indicates magnet coil code required. See **Page V5-T1-241**.

500V Type 2 Coordination—Contactor and Overload Relay (Motor Starter) with Fused Disconnect

| P (kW) | I _e (A) | I _q (kA) | Fuses Class gG/gL | Contactor Catalog Number ^① | Overload Relay Catalog Number | Assembled Starter Catalog Number ^① |
|-----------|-----------------------|------------------------|----------------------|--|----------------------------------|--|
| 0.12 | 0.33 | 100 | 2 | XTCE007B10_ | XTOBP40BC1 | XTAE007B10_P40 |
| 0.18 | 0.48 | 100 | 2 | XTCE007B10_ | XTOBP60BC1 | XTAE007B10_P60 |
| 0.25 | 0.70 | 100 | 2 | XTCE007B10_ | XTOB001BC1 | XTAE007B10_001 |
| 0.37 | 0.90 | 100 | 2 | XTCE007B10_ | XTOB001BC1 | XTAE007B10_001 |
| 0.55 | 1.20 | 100 | 4 | XTCE007B10_ | XTOB1P6BC1 | XTAE007B10_1P6 |
| 0.75 | 1.50 | 100 | 4 | XTCE007B10_ | XTOB1P6BC1 | XTAE007B10_1P6 |
| 1.10 | 2.10 | 100 | 6 | XTCE007B10_ | XTOB2P4BC1 | XTAE007B10_2P4 |
| 1.50 | 2.90 | 100 | 6 | XTCE007B10_ | XTOB004BC1 | XTAE007B10_004 |
| 2.20 | 4.00 | 100 | 10 | XTCE007B10_ | XTOB006BC1 | XTAE007B10_006 |
| 3.00 | 5.30 | 100 | 16 | XTCE009B10_ | XTOB006BC1 | XTAE009B10_006 |
| 4.00 | 6.80 | 100 | 16 | XTCE009B10_ | XTOB010BC1 | XTAE009B10_010 |
| 5.50 | 9.00 | 100 | 20 | XTCE012B10_ | XTOB010BC1 | XTAE012B10_010 |
| 7.50 | 12.1 | 100 | 25 | XTCE018C10_ | XTOB016CC1 | XTAE018C10_016 |
| 11.0 | 17.4 | 100 | 32 | XTCE025C10_ | XTOB024CC1 | XTAE025C10_024 |
| 15.0 | 23.4 | 100 | 50 | XTCE040D00_ | XTOB024DC1 | XTAE040D00_024 |
| 18.5 | 28.9 | 100 | 50 | XTCE040D00_ | XTOB040DC1 | XTAE040D00_040 |
| 22.0 | 33.0 | 100 | 63 | XTCE050D00_ | XTOB040DC1 | XTAE050D00_040 |
| 30.0 | 44.0 | 100 | 80 | XTCE065D00_ | XTOB057DC1 | XTAE065D00_057 |
| 37.0 | 54.0 | 100 | 100 | XTCE080F00_ | XTOB070GC1 | XTAE080F00_070 |
| 45.0 | 65.0 | 100 | 125 | XTCE095F00_ | XTOB070GC1 | XTAE095F00_070 |
| 55.0 | 79.0 | 100 | 160 | XTCE115G00_ | XTOB100GC1 | XTAE115G00_100 |
| 75.0 | 107.0 | 100 | 200 | XTCE185L22_ | XTOB125LC1 | XTAE185L22_125 |
| 90.0 | 129.0 | 100 | 200 | XTCE185L22_ | XTOB125LC1 | XTAE185L22_125 |
| 110.0 | 157.0 | 100 | 250 | XTCE185L22_ | XTOB160LC1 | XTAE185L22_160 |
| 132.0 | 184.0 | 100 | 250 | XTCE185L22_ | XTOB220LC1 | XTAE185L22_220 |
| 160.0 | 224.0 | 100 | 315 | XTCE225L22_ | XTOB250LC1 | XTAE225L22_250 |

Notes

See **Page V5-T1-241** for more information on wye-delta (star delta) applications.

① Underscore (_) indicates magnet coil code required. See **Page V5-T1-241**.

690V Type 2 Coordination—Contactor and Overload Relay (Motor Starter) with Fused Disconnect

| P (kW) | I _e (A) | I _q (kA) | Fuses Class gG/gL | Contactor Catalog Number ^① | Overload Relay Catalog Number | Assembled Starter Catalog Number ^① |
|-----------|-----------------------|------------------------|----------------------|--|----------------------------------|--|
| 0.12 | 0.24 | 100 | 1 | XTCE007B10_ | XTOBP40BC1 | XTAE007B10_P40 |
| 0.18 | 0.35 | 100 | 2 | XTCE007B10_ | XTOBP40BC1 | XTAE007B10_P40 |
| 0.25 | 0.50 | 100 | 2 | XTCE007B10_ | XTOBP60BC1 | XTAE007B10_P60 |
| 0.37 | 0.70 | 100 | 2 | XTCE007B10_ | XTOB001BC1 | XTAE007B10_001 |
| 0.55 | 0.90 | 100 | 4 | XTCE007B10_ | XTOB001BC1 | XTAE007B10_001 |
| 0.75 | 1.10 | 100 | 4 | XTCE007B10_ | XTOB1P6BC1 | XTAE007B10_1P6 |
| 1.10 | 1.50 | 100 | 4 | XTCE007B10_ | XTOB1P6BC1 | XTAE007B10_1P6 |
| 1.50 | 2.10 | 100 | 6 | XTCE007B10_ | XTOB2P4BC1 | XTAE007B10_2P4 |
| 2.20 | 2.90 | 100 | 10 | XTCE007B10_ | XTOB004BC1 | XTAE007B10_004 |
| 3.00 | 3.80 | 100 | 10 | XTCE007B10_ | XTOB004BC1 | XTAE007B10_004 |
| 4.00 | 4.90 | 100 | 16 | XTCE009B10_ | XTOB006BC1 | XTAE009B10_006 |
| 5.50 | 6.50 | 100 | 16 | XTCE012B10_ | XTOB010BC1 | XTAE012B10_010 |
| 7.50 | 8.80 | 100 | 20 | XTCE018C10_ | XTOB010CC1 | XTAE018C10_010 |
| 11.0 | 12.6 | 100 | 25 | XTCE025C10_ | XTOB016CC1 | XTAE025C10_016 |
| 15.0 | 17.0 | 100 | 32 | XTCE032C10_ | XTOB024CC1 | XTAE032C10_024 |
| 18.5 | 20.9 | 100 | 32 | XTCE040D00_ | XTOB024DC1 | XTAE040D00_024 |
| 22.0 | 23.8 | 100 | 50 | XTCE040D00_ | XTOB040DC1 | XTAE040D00_040 |
| 30.0 | 32.0 | 100 | 63 | XTCE065D00_ | XTOB040DC1 | XTAE065D00_040 |
| 37.0 | 39.0 | 100 | 80 | XTCE080F00_ | XTOB050GC1 | XTAE080F00_050 |
| 45.0 | 47.0 | 100 | 80 | XTCE080F00_ | XTOB050GC1 | XTAE080F00_050 |
| 55.0 | 58.0 | 100 | 100 | XTCE080F00_ | XTOB070GC1 | XTAE080F00_070 |
| 75.0 | 78.0 | 100 | 160 | XTCE095F00_ | XTOB100GC1 | XTAE095F00_100 |
| 90.0 | 93.0 | 100 | 160 | XTCE115G00_ | XTOB100GC1 | XTAE115G00_100 |
| 110.0 | 114.0 | 100 | 200 | XTCE185L22_ | XTOB125LC1 | XTAE185L22_125 |
| 132.0 | 134.0 | 100 | 250 | XTCE185L22_ | XTOB160LC1 | XTAE185L22_160 |
| 160.0 | 162.0 | 100 | 250 | XTCE185L22_ | XTOB220LC1 | XTAE185L22_220 |

Notes

See **Page V5-T1-241** for more information on wye-delta (star delta) applications.

^① Underscore (_) indicates magnet coil code required. See **Page V5-T1-241**.

400, 415V Type 2 Coordination—Contactor and Overload Relay (Motor Starter) with Fused Disconnect

| P (kW) | I _e (A) | I _q (kA) | Fuses ^① Class BS88 | Contactor Catalog Number ^② | Overload Relay Catalog Number | Assembled Starter Catalog Number ^② |
|-----------|-----------------------|------------------------|----------------------------------|--|----------------------------------|--|
| 0.12 | 0.41 | 80 | 4 | XTCE007B10_ | XTOBP60BC1 | XTAE007B10_P60 |
| 0.18 | 0.60 | 80 | 4 | XTCE007B10_ | XTOBP60BC1 | XTAE007B10_P60 |
| 0.25 | 0.80 | 80 | 4 | XTCE007B10_ | XTOB001BC1 | XTAE007B10_001 |
| 0.37 | 1.10 | 80 | 6 | XTCE007B10_ | XTOB1P6BC1 | XTAE007B10_1P6 |
| 0.55 | 1.50 | 80 | 10 | XTCE007B10_ | XTOB1P6BC1 | XTAE007B10_1P6 |
| 0.75 | 1.90 | 80 | 16 | XTCE007B10_ | XTOB2P4BC1 | XTAE007B10_2P4 |
| 1.10 | 2.60 | 80 | 16 | XTCE007B10_ | XTOB004BC1 | XTAE007B10_004 |
| 1.50 | 3.60 | 80 | 20 | XTCE007B10_ | XTOB004BC1 | XTAE007B10_004 |
| 2.20 | 5.00 | 80 | 20 | XTCE007B10_ | XTOB006BC1 | XTAE007B10_006 |
| 3.00 | 6.60 | 80 | 20 | XTCE007B10_ | XTOB010BC1 | XTAE007B10_010 |
| 4.00 | 8.50 | 80 | 25 | XTCE009B10_ | XTOB010BC1 | XTAE009B10_010 |
| 5.50 | 11.3 | 80 | 25 | XTCE018C10_ | XTOB016CC1 | XTAE018C10_016 |
| 7.50 | 16.0 | 80 | 25 | XTCE018C10_ | XTOB016CC1 | XTAE018C10_016 |
| 11.0 | 21.7 | 80 | 35 and 32M35 | XTCE025C10_ | XTOB024CC1 | XTAE032C10_024 |
| 15.0 | 29.3 | 80 | 50 | XTCE032C10_ | XTOB032CC1 | XTAE032C10_032 |
| 18.5 | 36.0 | 80 | 63 | XTCE040D00_ | XTOB040DC1 | XTAE040D00_040 |
| 22.0 | 41.0 | 80 | 80 | XTCE050D00_ | XTOB057DC1 | XTAE065D00_057 |
| 30.0 | 55.0 | 80 | 100 | XTCE065D00_ | XTOB065DC1 | XTAE065D00_065 |

Notes

See **Page V5-T1-241** for more information on wye-delta (star delta) applications.

① GEC/Alstom “Red Spot.”

② Underscore (_) indicates magnet coil code required. See **Page V5-T1-241**.

400, 415V Type 2 Coordination—Contactor and Overload Relay (Motor Starter) with Circuit Breaker

| P (kW) | I _e (A) | I _q (kA) | Circuit Breaker | Contactor Catalog Number ① | Overload Relay Catalog Number | Assembled Starter Catalog Number ① |
|-----------|-----------------------|------------------------|--------------------|-------------------------------|----------------------------------|---------------------------------------|
| 0.12 | 0.41 | 15 | ② | ② | ② | ② |
| 0.18 | 0.60 | 15 | ② | ② | ② | ② |
| 0.25 | 0.80 | 15 | ② | ② | ② | ② |
| 0.37 | 1.10 | 15 | ② | ② | ② | ② |
| 0.55 | 1.50 | 15 | ② | ② | ② | ② |
| 0.75 | 1.90 | 15 | ② | ② | ② | ② |
| 1.10 | 2.60 | 15 | ② | ② | ② | ② |
| 1.50 | 3.60 | 15 | ② | ② | ② | ② |
| 2.20 | 5.00 | 15 | ② | ② | ② | ② |
| 3.00 | 6.60 | 15 | ② | ② | ② | ② |
| 4.00 | 8.50 | 15 | HMCPPE015E0C | XTCE018C10_ | XTOB010CC1 | XTAE018C10_010 |
| 5.50 | 11.3 | 15 | HMCPPE015E0C | XTCE018C10_ | XTOB016CC1 | XTAE018C10_016 |
| 7.50 | 16.0 | 15 | ② | ② | ② | ② |
| 11.0 | 21.7 | 15 | ② | ② | ② | ② |
| 15.0 | 29.3 | 15 | ② | ② | ② | ② |
| 18.5 | 36.0 | 50 | ② | ② | ② | ② |
| 22.0 | 41.0 | 50 | HMCPPE100R3C | XTCE050D00_ | XTOB057DC1 | XTAE050D00_057 |
| 30.0 | 55.0 | 50 | HMCPPE100R3C | XTCE065D00_ | XTOB065DC1 | XTAE065D00_065 |
| 37.0 | 68.0 | 80 | HMCPJ250D5L | XTCE080F00_ | XTOB070GC1 | XTAE080F00_070 |
| 45.0 | 81.0 | 80 | HMCPJ250F5L | XTCE095F00_ | XTOB100GC1 | XTAE095F00_100 |
| 55.0 | 99.0 | 80 | HMCPJ250G5L | XTCE115G00_ | XTOB125GC1 | XTAE115G00_125 |
| 75.0 | 134.0 | 80 | HMCPJ250J5L | XTCE150G00_ | XTOB150GC1 | XTAE150G00_150 |
| 90.0 | 161.0 | 80 | HMCPJ250W5L | XTCE185L22_ | XTOB220LC1 | XTAE185L22_220 |
| 110.0 | 196.0 | 70 | HMCPJ250W5L | XTCE225L22_ | XTOB220LC1 | XTAE225L22_220 |
| 132.0 | 231.0 | 70 | HMCPPL600R6G | XTCE300M22_ | XTOT240C3S | XTAE300M22_240 |
| 160.0 | 279.0 | 70 | HMCPPL600X6G | XTCE300M22_ | XTOT400C3S | XTAE300M22_400 |
| 200.0 | 349.0 | 70 | HMCPPL600P6G | XTCE400M22_ | XTOT400C3S | XTAE400M22_400 |
| 250.0 | 430.0 | 70 | HMCPPL600M | XCE500M22_ | XTOT540C3S | XTAE500M22_540 |

Notes

See **Page V5-T1-241** for more information on wye-delta (star delta) applications.

① Underscore (_) indicates magnet coil code required. See **Page V5-T1-241**.

② Use MMP contactor combination. See **Page V5-T1-233**.

525V Type 2 Coordination—Contactor and Overload Relay (Motor Starter) with Circuit Breaker

| P (kW) | I _e (A) | I _q (kA) | Circuit Breaker | Contactor Catalog Number ^① | Overload Relay Catalog Number | Assembled Starter Catalog Number ^① |
|-----------|-----------------------|------------------------|--------------------|--|----------------------------------|--|
| 0.37 | 1.02 | 50 | ② | ② | ② | ② |
| 0.55 | 1.22 | 50 | ② | ② | ② | ② |
| 0.75 | 1.66 | 50 | ② | ② | ② | ② |
| 1.10 | 2.22 | 50 | ② | ② | ② | ② |
| 1.50 | 3.16 | 50 | ② | ② | ② | ② |
| 2.20 | 4.25 | 50 | ② | ② | ② | ② |
| 3.00 | 5.60 | 50 | ② | ② | ② | ② |
| 4.00 | 7.50 | 50 | ② | ② | ② | ② |
| 5.50 | 9.90 | 50 | ② | ② | ② | ② |
| 7.50 | 14.1 | 50 | ② | ② | ② | ② |
| 11.0 | 19.3 | 50 | ② | ② | ② | ② |
| 15.0 | 23.5 | 50 | ② | ② | ② | ② |
| 18.5 | 27.2 | 50 | ② | ② | ② | ② |
| 22.0 | 37.0 | 50 | ② | ② | ② | ② |
| 30.0 | 45.0 | 50 | ② | ② | ② | ② |
| 37.0 | 54.0 | 50 | HMCP100R3C | XTCE080F00_ | XTOB070GC1 | XTAE080F00_070 |
| 45.0 | 66.0 | 50 | HMCPJ250D5L | XTCE080F00_ | XTOB070GC1 | XTAE080F00_070 |
| 55.0 | 79.0 | 50 | HMCPJ250F5L | XTCE115G00_ | XTOB100GC1 | XTAE115G00_100 |
| 75.0 | 111.0 | 50 | HMCPJ250J5L | XTCE115G00_ | XTOB125GC1 | XTAE115G00_125 |
| 90.0 | 130.0 | 50 | HMCPJ250K5L | XTCE185L00_ | XTOB160LC1 | XTAE185L00_160 |
| 110.0 | 159.0 | 50 | HMCPJ250W5L | XTCE185L00_ | XTOB160LC1 | XTAE185L00_160 |
| 132.0 | 185.0 | 50 | HMCPJ600N6G | XTCE185L22_ | XTOB220LC1 | XTAE185L22_220 |
| 160.0 | 225.0 | 50 | HMCPJ600R6G | XTCE225L22_ | XTOB250LC1 | XTAE225L22_250 |
| 200.0 | 270.0 | 50 | HMCPJ600X6G | XTCE300M22_ | XTOT290C3S | XTAE300M22_290 |

480V Type 2 Coordination—Contactor and Overload Relay (Motor Starter) with Circuit Breaker

| P (hp) | I _e (A) | I _q (kA) | Circuit Breaker | Contactor Catalog Number ^① | Overload Relay Catalog Number | Assembled Starter Catalog Number ^① |
|-----------|-----------------------|------------------------|--------------------|--|----------------------------------|--|
| 50.0 | 65.0 | 65 | HMCPJ250D5L | XTCE080F00_ | XTOB070GC1 | XTAE080F00_070 |
| 60.0 | 77.0 | 65 | HMCPJ250G5L | XTCE080F00_ | XTOB100GC1 | XTAE080F00_100 |
| 75.0 | 96.0 | 25 | HMCPJ250J5L | XTCE115G00_ | XTOB125GC1 | XTAE115G00_125 |
| 100.0 | 124.0 | 50 | HMCPJ250K5L | XTCE185L22_ | XTOB160LC1 | XTAE185L22_160 |
| 125.0 | 156.0 | 50 | HMCPJ250W5L | XTCE185L22_ | XTOB160LC1 | XTAE185L22_160 |
| 150.0 | 180.0 | 25 | HMCPJ600N6G | XTCE225L22_ | XTOB220LC1 | XTAE225L22_220 |
| 200.0 | 240.0 | 50 | HMCPJ600N | XTCE300M22_ | XTOB240C3S | XTAE300M22_240 |
| 250.0 | 290.0 | 50 | HMCPJ600R | XTCE300M22_ | XTOB290C3S | XTAE300M22_290 |
| 300.0 | 361.0 | 50 | HMCPJ600Y | XTCE400M22_ | XTOB400C3S | XTAE400M22_400 |
| 350.0 | 414.0 | 50 | HMCPJ600M | XTCE500M22_ | XTOB540C3S | XTAE500M22_540 |

Notes

See **Page V5-T1-241** for more information on wye-delta (star delta) applications.

① Underscore (_) indicates magnet coil code required. See **Page V5-T1-241**.

② Use MMP contactor combination.

400, 415V Type 2 Coordination—Contactor with Circuit Breaker ^①

| P (kW) | I _e (A) | I _q (kA) | Circuit Breaker—MCP | Contactor Catalog Number ^② |
|--------|--------------------|---------------------|---------------------|---------------------------------------|
| 1.50 | 3.60 | 50 | HMCPE015E0C | XTCE018C10_ |
| 2.20 | 5.00 | 50 | HMCPE015E0C | XTCE018C10_ |
| 3.00 | 6.60 | 50 | HMCPE015E0C | XTCE018C10_ |
| 4.00 | 8.50 | 50 | HMCPE015E0C | XTCE018C10_ |
| 5.50 | 11.3 | 50 | HMCPE015E0C | XTCE018C10_ |
| 7.50 | 16.0 | 50 | HMCPE015E0C | XTCE018C10_ |
| 11.0 | 21.7 | 50 | HMCPE100R3C | XTCE040D00_ |
| 15.0 | 29.3 | 50 | HMCPE100R3C | XTCE040D00_ |
| 18.5 | 36.0 | 50 | HMCPE100R3C | XTCE040D00_ |
| 22.0 | 41.0 | 50 | HMCPE100R3C | XTCE050D00_ |
| 30.0 | 55.0 | 50 | HMCPE100R3C | XTCE065D00_ |
| 37.0 | 68.0 | 80 | HMCJP250D5L | XTCE080F00_ |
| 45.0 | 81.0 | 80 | HMCJP250F5L | XTCE095F00_ |
| 55.0 | 99.0 | 80 | HMCJP250G5L | XTCE115G00_ |
| 75.0 | 134.0 | 80 | HMCJP250J5L | XTCE150G00_ |
| 90.0 | 161.0 | 80 | HMCJP250W5L | XTCE185L22_ |
| 110.0 | 196.0 | 80 | HMCJP250W5L | XTCE225L22_ |
| 132.0 | 231.0 | 70 | HMCPL600R | XTCE300M22_ |
| 160.0 | 279.0 | 70 | HMCPL600X | XTCE300M22_ |
| 200.0 | 350.0 | 70 | HMCPL600P | XTCE400M22_ |
| 250.0 | 430.0 | 70 | HMCPL600M | XTCE500M22_ |

480V Type 2 Coordination—Contactor with Circuit Breaker ^①

| P (hp) | I _e (A) | I _q (kA) | Circuit Breaker—MCP | Contactor Catalog Number ^② |
|--------|--------------------|---------------------|---------------------|---------------------------------------|
| 50.0 | 65.0 | 65 | HMCJP250G5L | XTCE080F00_ |
| 60.0 | 77.0 | 65 | HMCJP250G5L | XTCE080F00_ |
| 150.0 | 180.0 | 50 | HMCPL600N | XTCE300M00_ |
| 200.0 | 240.0 | 50 | HMCPL600N | XTCE300M22_ |
| 250.0 | 300.0 | 50 | HMCPL600R | XTCE300M22_ |
| 300.0 | 361.0 | 50 | HMCPL600Y | XTCE400M00_ |
| 350.0 | 414.0 | 50 | HMCPL600M | XTCE500M00_ |

Magnet Coil Suffix**Frames A–B**

| Coil Voltage | Suffix Code |
|------------------------|------------------------|
| 110V 50 Hz, 120V 60 Hz | A |
| 220V 50 Hz, 240V 60 Hz | B |
| 230V 50 Hz | F |
| 24V 50/60 Hz | T |
| 24 Vdc | TD ^③ |
| 415V 50 Hz, 480V 60 Hz | C |
| 600V 60 Hz | D |
| 208V 60 Hz | E |
| 190V 50 Hz, 220V 60 Hz | G |
| 240V 50 Hz, 277V 60 Hz | H |
| 380V 50 Hz, 440V 60 Hz | L |
| 400V 50 Hz | N |
| 380V 60 Hz | P |
| 12V 50/60 Hz | R |
| 24V 50 Hz | U |
| 42V 50 Hz, 48V 60 Hz | W |
| 48V 50 Hz | Y |
| 120 Vdc | AD ^③ |
| 220 Vdc | BD ^③ |
| 12 Vdc | RD ^③ |
| 48 Vdc | WD ^③ |

Frames C–F

| Coil Voltage | Suffix Code |
|------------------------|------------------------|
| 110V 50 Hz, 120V 60 Hz | A |
| 220V 50 Hz, 240V 60 Hz | B |
| 230V 50 Hz | F |
| 24V 50/60 Hz | T |
| 24–27 Vdc | TD ^③ |
| 415V 50 Hz, 480V 60 Hz | C |
| 600V 60 Hz | D |
| 208V 60 Hz | E |
| 190V 50 Hz, 220V 60 Hz | G |
| 240V 50 Hz, 277V 60 Hz | H |
| 380V 50 Hz, 440V 60 Hz | L |
| 400V 50 Hz | N |
| 380V 60 Hz | P |
| 12V 50/60 Hz | R |
| 24V 50 Hz | U |
| 42V 50 Hz, 48V 60 Hz | W |
| 48V 50 Hz | Y |
| 110–130 Vdc | AD ^③ |
| 200–240 Vdc | BD ^③ |
| 12–14 Vdc | RD ^③ |
| 48–60 Vdc | WD ^③ |

Frame G

| Coil Voltage | Suffix Code |
|-------------------|------------------------|
| 100–120V 50/60 Hz | A |
| 190–240V 50/60 Hz | B |
| 24V 50/60 Hz | T |
| 24–27 Vdc | TD ^③ |
| 480–500V 50/60 Hz | C |
| 380–440V 50/60 Hz | L |
| 42–48V 50/60 Hz | W |
| 110–130 Vdc | AD ^③ |
| 200–240 Vdc | BD ^③ |
| 48–60 Vdc | WD ^③ |

Frames L–M

| Coil Voltage | Suffix Code |
|----------------------|------------------------|
| 110–250V 40–60 Hz/DC | A |
| 250–500V 40–60 Hz/DC | C |
| 48–110V 40–60 Hz/DC | Y ^③ |
| 24–48 Vdc | TD ^③ |

Wye-Delta (Star-Delta) Applications

If Type 2 Coordination is required when using wye-delta starters, the full voltage (direct on-line) test data that is included in this document is valid. To ensure proper

protection, the K1M (main), K3M (star) and K5M (delta) contactors must all be the same size (amperage). For wye-delta starter kits, please see **Page V5-T1-55**.

Notes

- ① For use with magnetic sensing means to monitor motor current.
- ② Underscore (_) indicates magnet coil code required. See magnet coil suffix tables on this page.
- ③ With DC operation: integrated diode-resistor combination, coil rating 2.6W.