

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
- ATEX
- RoHS



Note: For Type 2 Coordination, see **Page V5-T1-232**.

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

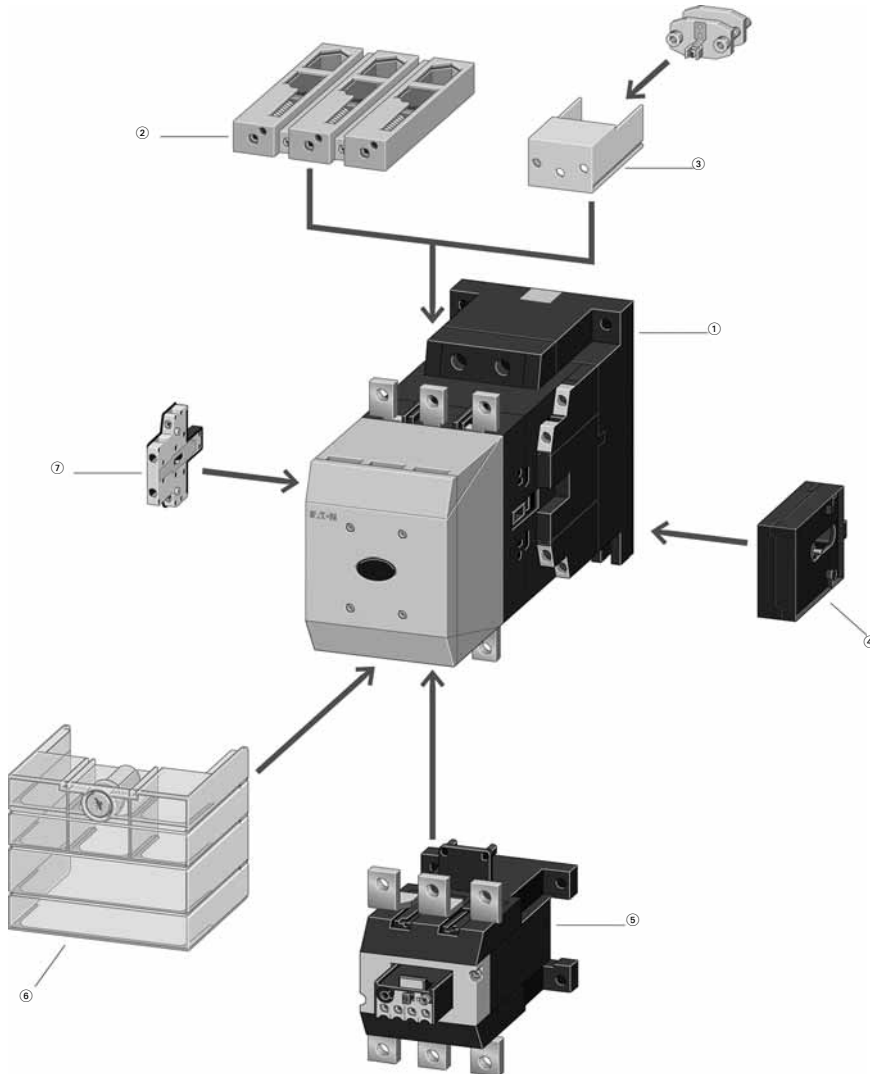
④ Auxiliary Contact Modules (see Page V5-T1-24)

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 x 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 H



Three-Pole Contactors, Frame H (Electronic Coil)—UL/CSA Ratings

| UL General Purpose Ampere Rating | Three-Phase hp Ratings | | | | Auxiliary Contacts | Catalog Number ^{①②} |
|-------------------------------------|------------------------|------|------|------|-----------------------|---------------------------------|
| | 200V | 240V | 480V | 600V | | |
| 250 | 50 | 60 | 125 | 150 | 2NO-2NC | XTCE185H22_ |
| 250 | 60 | 75 | 150 | 200 | 2NO-2NC | XTCE225H22_ |

Three-Pole Contactors, Frame H (Electronic Coil)—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 | Catalog Number ^{①②} |
|----------------------------|---|---|----------|-----------------------|--------------------|-----------------------|---------------------------------|
| | | 220/230V | 380/400V | 660/690V ^③ | 1000V ^③ | | |
| 185 | 337 | 55 | 90 | 140 | 108 | 2NO-2NC | XTCE185H22_ |
| 225 | 386 | 70 | 110 | 215 | 108 | 2NO-2NC | XTCE225H22_ |

Frame L



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

| UL General Purpose Ampere Rating | Three-Phase hp Ratings | | | | Auxiliary Contacts | Catalog Number ^{①②} |
|--|------------------------|------|------|------|-----------------------|---------------------------------|
| | 200V | 230V | 460V | 575V | | |
| Standard Coil (110/120V, 230/240 Vac Coil Only) | | | | | | |
| 300 | 75 | 100 | 200 | 250 | 2NO-2NC | XTCS250L22_ |
| 350 | 100 | 125 | 250 | 300 | 2NO-2NC | XTCS300L22_ |
| Electronic Coil | | | | | | |
| 300 | 75 | 100 | 200 | 250 | 2NO-2NC | XTCE250L22_ |
| 350 | 100 | 125 | 250 | 300 | 2NO-2NC | XTCE300L22_ |

Three-Pole Contactors, Frame L—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 | Catalog Number ^{①②} |
|--|---|---|----------|-----------------------|--------------------|-----------------------|---------------------------------|
| | | 220/230V | 380/400V | 660/690V ^③ | 1000V ^③ | | |
| Standard Coil (110/120V, 230/240 Vac Coil Only) | | | | | | | |
| 250 | 429 | 75 | 132 | 240 | 108 | 2NO-2NC | XTCS250L22_ |
| 300 | 490 | 90 | 160 | 195 | 132 | 2NO-2NC | XTCS300L22_ |
| Electronic Coil | | | | | | | |
| 250 | 429 | 75 | 132 | 240 | 108 | 2NO-2NC | XTCE250L22_ |
| 300 | 490 | 90 | 160 | 195 | 132 | 2NO-2NC | XTCE300L22_ |

Notes

- ① Underscore (_) indicates magnet coil suffix required. See **Page V5-T1-53**. Terminals not included. See **Page V5-T1-75** for terminal accessories.
- ② Does not include lugs.
- ③ For 185–500A contactors at 660/690V or 1000V: Do not reverse directly.

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.

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Reference

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| Dimensions | V5-T1-114 |
|  An Eaton Green Solution | |
| Thermal Overload Relays | V5-T1-128 |
| C440/ XT Electronic Overload Relay | V5-T1-141 |
| Manual Motor Protectors | V5-T1-157 |
| Combination Motor Controllers | V5-T1-193 |
| XT Electronic Manual Motor Protector | V5-T1-216 |
| EMS—Electronic Motor Starter | V5-T1-229 |
| Reference Data | V5-T1-231 |

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
- ATEX
- RoHS



Note: For Type 2 Coordination, see **Page V5-T1-232**.

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 x 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 H



Three-Pole Contactors, Frame H (Electronic Coil)—UL/CSA Ratings

| UL General Purpose Ampere Rating | Three-Phase hp Ratings | | | | Auxiliary Contacts | Catalog Number ^{①②} |
|-------------------------------------|------------------------|------|------|------|-----------------------|---------------------------------|
| | 200V | 240V | 480V | 600V | | |
| 250 | 50 | 60 | 125 | 150 | 2NO-2NC | XTCE185H22_ |
| 250 | 60 | 75 | 150 | 200 | 2NO-2NC | XTCE225H22_ |

Three-Pole Contactors, Frame H (Electronic Coil)—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 | Catalog Number ^{①②} |
|-------------------|-----------------------------------|---|----------|-----------------------|--------------------|-----------------------|---------------------------------|
| | | 220/230V | 380/400V | 660/690V ^③ | 1000V ^③ | | |
| 185 | 337 | 55 | 90 | 140 | 108 | 2NO-2NC | XTCE185H22_ |
| 225 | 386 | 70 | 110 | 215 | 108 | 2NO-2NC | XTCE225H22_ |

Frame L



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

| UL General Purpose Ampere Rating | Three-Phase hp Ratings | | | | Auxiliary Contacts | Catalog Number ^{①②} |
|--|------------------------|------|------|------|-----------------------|---------------------------------|
| | 200V | 230V | 460V | 575V | | |
| Standard Coil (110/120V, 230/240 Vac Coil Only) | | | | | | |
| 300 | 75 | 100 | 200 | 250 | 2NO-2NC | XTCS250L22_ |
| 350 | 100 | 125 | 250 | 300 | 2NO-2NC | XTCS300L22_ |
| Electronic Coil | | | | | | |
| 300 | 75 | 100 | 200 | 250 | 2NO-2NC | XTCE250L22_ |
| 350 | 100 | 125 | 250 | 300 | 2NO-2NC | XTCE300L22_ |

Three-Pole Contactors, Frame L—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 | Catalog Number ^{①②} |
|--|-----------------------------------|---|----------|-----------------------|--------------------|-----------------------|---------------------------------|
| | | 220/230V | 380/400V | 660/690V ^③ | 1000V ^③ | | |
| Standard Coil (110/120V, 230/240 Vac Coil Only) | | | | | | | |
| 250 | 429 | 75 | 132 | 240 | 108 | 2NO-2NC | XTCS250L22_ |
| 300 | 490 | 90 | 160 | 195 | 132 | 2NO-2NC | XTCS300L22_ |
| Electronic Coil | | | | | | | |
| 250 | 429 | 75 | 132 | 240 | 108 | 2NO-2NC | XTCE250L22_ |
| 300 | 490 | 90 | 160 | 195 | 132 | 2NO-2NC | XTCE300L22_ |

Notes

- ① Underscore (_) indicates magnet coil suffix required. See **Page V5-T1-53**. Terminals not included. See **Page V5-T1-75** for terminal accessories.
- ② Does not include lugs.
- ③ For 185–500A contactors at 660/690V or 1000V: Do not reverse directly.

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.