

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-T1-237**.

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-T1-132)

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

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-T1-132](#))

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



Product Selection

Full Voltage, Non-Reversing Contactors

Frame B



Three-Pole Contactors, Frame B—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		
20	1/4	3/4	1	1-1/2	2	3	5	1NO	XTCE007B10_
20	1/4	3/4	1	1-1/2	2	3	5	1NC	XTCE007B01_
20	1/2	1	1-1/2	3	3	5	7-1/2	1NO	XTCE009B10_
20	1/2	1	1-1/2	3	3	5	7-1/2	1NC	XTCE009B01_
20	1	2	2	3	3	10 ^③	10	1NO	XTCE012B10_
20	1	2	2	3	3	10 ^③	10	1NC	XTCE012B01_
20	1	2	3	5	5	10 ^③	10	1NO	XTCE015B10_
20	1	2	3	5	5	10 ^③	10	1NC	XTCE015B01_

Three-Pole Contactors, Frame B—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		
7	22	2.2	3	4	3.5	1NO	XTCE007B10_
7	22	2.2	3	4	3.5	1NC	XTCE007B01_
9	22	2.5	4	5.5	4.5	1NO	XTCE009B10_
9	22	2.5	4	5.5	4.5	1NC	XTCE009B01_
12	22	3.5	5.5	7	6.5	1NO	XTCE012B10_
12	22	3.5	5.5	7	6.5	1NC	XTCE012B01_
15.5	22	4	7.5	8	7	1NO	XTCE015B10_
15.5	22	4	7.5	8	7	1NC	XTCE015B01_

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.

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: XTCE**C**007B10A.

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.

③ For electrical life contactor application data. See **Page V5-T1-45**.

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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.

Frame F



Three-Pole Contactors, Frame F—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		
125	7-1/2	15	15	25	30	60	75	—	XTCE080F00_
125	7-1/2	15	15	25	30	60	75	1NO-1NC	XTCE080FS1_
125	7-1/2	15	15	25	40	75	100	—	XTCE095F00_
125	7-1/2	15	15	25	40	75	100	1NO-1NC	XTCE095FS1_

Three-Pole Contactors, Frame F—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		
80	110	25	37	48	63	—	XTCE080F00_
80	110	25	37	48	63	1NO-1NC	XTCE080FS1_
95	130	30	45	57	75	—	XTCE095F00_
95	130	30	45	57	75	1NO-1NC	XTCE095FS1_

Frame G



Three-Pole Contactors, Frame G—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		
160	10	25	25	40	50	100	100	—	XTCE115G00_
160	10	25	25	40	50	100	100	1NO-1NC	XTCE115GS1_
180	10	25	30	40	60	125	125	—	XTCE150G00_
180	10	25	30	40	60	125	125	1NO-1NC	XTCE150GS1_
180	10	25	30	40	60	125	125	—	XTCE170G00_
180	10	25	30	40	60	125	125	1NO-1NC	XTCE170GS1_

Three-Pole Contactors, Frame G—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		
115	160	37	55	70	90	—	XTCE115G00_
115	160	37	55	70	90	1NO-1NC	XTCE115GS1_
150	190	48	75	91	96	—	XTCE150G00_
150	190	48	75	91	96	1NO-1NC	XTCE150GS1_
170	225	52	90	100	96	—	XTCE170G00_
170	225	52	90	100	96	1NO-1NC	XTCE170GS1_

Notes

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.

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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 ^{①②③}
	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 ^{①②③}
		220/230V	380/400V	660/690V ^④	1000V ^④		
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 ^④	1000V ^④		
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 Add “-S730” to the end of the catalog number after the coil voltage to configure as extended H frame model. Extended H frame will align with L frame contactor for interlocks and mounting height. Consult Vista/Eaton care for availability of extended base models
- ④ For 185–500A contactors at 660/690V or 1000V: Do not reverse directly.

Frame M



Three-Pole Contactors, Frame M—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)						
450	125	150	300	400	2NO-2NC	XTCS400M22_
550	150	200	400	500	2NO-2NC	XTCS500M22_
Electronic Coil						
450	125	150	300	400	2NO-2NC	XTCE400M22_
550	150	200	400	500	2NO-2NC	XTCE500M22_

Three-Pole Contactors, Frame M—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	415V	660/690V ^③	1000V ^③		
Standard Coil (110/120V, 230/240 Vac Coil Only)								
400	612	125	200	240	344	132	2NO-2NC	XTCS400M22_
500	800	155	250	300	344	132	2NO-2NC	XTCS500M22_
Electronic Coil								
400	612	125	200	240	344	132	2NO-2NC	XTCE400M22_
500	800	155	250	300	344	132	2NO-2NC	XTCE500M22_

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.

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Frame N



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

UL General Purpose Ampere Rating	Three-Phase hp Ratings				Auxiliary Contacts	Catalog Number ^{①②}
	200V	230V	460V	575V		
630	200	200	400	600	2NO-2NC	XTCE580N22_ ^③
700	200	250	500	600	2NO-2NC	XTCE650N22_ ^③
800	250	300	600	700	2NO-2NC	XTCE750N22_ ^③
850	290	350	700	860	2NO-2NC	XTCE820N22_ ^③
1100	350	420	850	980	2NO-2NC	XTCEC10N22_ ^③

Three-Pole Contactors, Frame N (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	415V	660/690V ^④	1000V ^④		
580	980	185	315	348	560	600	2NO-2NC	XTCE580N22_ ^③
650	1041	205	355	390	630	600	2NO-2NC	XTCE650N22_ ^③
750	1102	240	400	455	720	800	2NO-2NC	XTCE750N22_ ^③
820	1225	260	450	500	750	800	2NO-2NC	XTCE820N22_ ^③
1000	1225	315	560	610	1000	1000	2NO-2NC	XTCEC10N22_ ^③

Frame P



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

UL General Purpose Ampere Rating	Three-Phase hp Ratings				Auxiliary Contacts	Catalog Number ^{①②}
	200V	230V	460V	575V		
1400	—	—	—	—	2NO-2NC	XTCEC14P22_ ^③

Three-Pole Contactors, Frame P (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	415V	660/690V ^④	1000V ^④		
—	1714	—	—	—	—	—	2NO-2NC	XTCEC14P22_ ^③

Frame R



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

UL General Purpose Ampere Rating	Three-Phase hp Ratings				Auxiliary Contacts	Catalog Number ^{①②}
	200V	230V	460V	575V		
1600	560	640	1200	1300	2NO-2NC	XTCEC16R22_ ^③
2000	—	—	—	—	2NO-2NC	XTCEC20R22_ ^③

Three-Pole Contactors, Frame R (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	415V	660/690V ^④	1000V ^④		
1600	2200	500	900	900	1600	1700	2NO-2NC	XTCEC16R22_ ^③
—	2450	—	—	—	—	—	2NO-2NC	XTCEC20R22_ ^③

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 When operating the 580–2000A XTCE contactors with frequency inverters, the suppressor on the load side must be removed. The load side suppressor must also be removed when performing a high-voltage test—see Pub51204, Pub51209.
- ④ For 185–500A contactors at 660/690V or 1000V: do not reverse directly.

Contactor Application Data ^{①②}

Catalog Prefix	Electrical Life (Operations) for 10 hp, 480V (14.2A) Applications
XTCE012B	1 million
XTCE015B	1.2 million
XTCE018C	2 million

Full Voltage Non-Reversing Three-Pole Contactors—Contact Sequence (Circuit Symbols)—Standard Offering

Contactor Frame	Auxiliary Contacts	Contact Sequence
B-C	1NO	
B-C	1NC	
D-G	—	
L-R	2NO-2NC	

Four-Pole Contactors with Screw Terminals—Maximum UL/CSA Motor Ratings

Single-Phase hp Ratings		Three-Phase hp Ratings				Auxiliary Contacts	Contact Sequence	Catalog Number ^③
115V	230V	200V	230V	460V	575V			
1	2	3	3	10	10	—		XTCF020B00_
—	—	7.5	7.5	10	15	1NO		XTCF032C10_
—	—	7.5	10	15	20	1NO		XTCF045C10_
—	—	10	15	30	40	—		XTCF063D00_
—	—	15	20	40	50	—		XTCF080D00_
—	—	25	30	60	75	—		XTCF125G00_
—	—	25	40	75	100	—		XTCF160G00_
—	—	40	50	100	125	—		XTCF200G00_

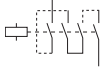

Four-Pole Contactors with Screw Terminals—Maximum IEC Ratings

AC-3 I _e (A)	AC-1 (40°C)	Three-Phase hp Ratings				Auxiliary Contacts	Contact Sequence	Catalog Number ^③
		200V	230V	460V	575V			
12	22	3	3	10	10	—		XTCF020B00_
12	22	3.5	5.5	7	6.5	—		XTCF020B00_
18	32	5	7.5	10	11	1NO		XTCF032C10_
25	45	7.5	11	14.5	14	1NO		XTCF045C10_
40	63	12.5	18.5	24	23	—		XTCF063D00_
50	80	15.5	22	30	30	—		XTCF080D00_
80	125	25	37	48	63	—		XTCF125G00_
95	160	30	45	57	75	—		XTCF160G00_
115	200	37	55	70	90	—		XTCF200G00_

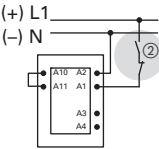
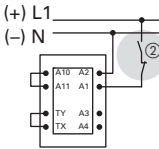
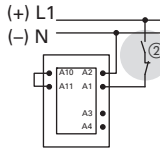

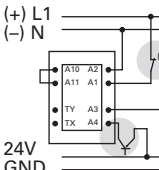
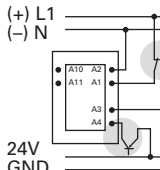

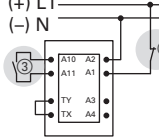
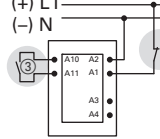
Notes

- ① See Page V5-T1-111 for electrical life curves.
 ② AC and DC operated contactors have a built-in suppressor circuit (Frames L-R, 185–2000A).
 ③ Underscore (_) indicates magnet coil suffix required. See Page V5-T1-53.

Switching of DC Currents ①

Description	Single-Pole	Two-Pole
XTCF020B–XTCF200G >60 Vdc		

Controlling XTCS and XTCE Contactors Frames L–R (185–2000A)

Description	XTCS250L–XTCS500M, XTCE_H	XTCEC16R, XTCEC20R	XTCE250L–XTCEC14P
Conventional A1/A2 are applied to voltage in the usual manner.			
Direct from the PLC A 24V output from the PLC can be connected directly to connections A3/A4.			
From Low-Consumption Command Devices Command devices, which can only be subject to minimal loads such as circuit board relays, control circuit devices or position switches can be connected directly to A10/A11.			

Notes

- ① When necessary, cable to be supplied by customer.
- ② Standstill in an emergency (emergency-stop).
- ③ Command device connection.

Full Voltage, Reversing Contactors

Frame B



Contactors with Screw Terminals, Frame B—Maximum UL/CSA Ratings

Single-Phase hp Ratings		Three-Phase hp Ratings				Spare Auxiliary Contacts		Catalog Number ①
115V	230V	200V	230V	460V	575V	K1M	K2M	
1/4	1	1-1/2	2	3	5	— 63 — 64	— 63 — 64	XTCR007B21_
1/2	1-1/2	3	3	5	7-1/2	— 63 — 64	— 63 — 64	XTCR009B21_
1/2	2	3	3	10	10	— 63 — 64	— 63 — 64	XTCR012B21_

Contactors with Screw Terminals, Frame B—Maximum IEC Ratings

AC-3 I _e (A)	Three-Phase Motors 50–60 Hz				Spare Auxiliary Contacts		Catalog Number ①
	220/230V	380/400V	415V	660/690V	K1M	K2M	
7	2.2	3	4	3.5	— 63 — 64	— 63 — 64	XTCR007B21_
9	2.5	4	5.5	4.5	— 63 — 64	— 63 — 64	XTCR009B21_
12	3.5	5.5	7	6.5	— 63 — 64	— 63 — 64	XTCR012B21_

Frame C



Contactors with Screw Terminals, Frame C—Maximum UL/CSA Ratings

Single-Phase hp Ratings		Three-Phase hp Ratings				Spare Auxiliary Contacts		Catalog Number ①
115V	230V	200V	230V	460V	575V	K1M	K2M	
2	3	5	5	10	15	— 63 — 64	— 63 — 64	XTCR018C21_
2	5	7-1/2	10	15	20	— 63 — 64	— 63 — 64	XTCR025C21_
3	5	10	10	20	25	— 63 — 64	— 63 — 64	XTCR032C21_

Contactors with Screw Terminals, Frame C—Maximum IEC Ratings

AC-3 I _e (A)	Three-Phase Motors 50–60 Hz				Spare Auxiliary Contacts		Catalog Number ①
	220/230V	380/400V	415V	660/690V	K1M	K2M	
18	5	7.5	8	11	— 63 — 64	— 63 — 64	XTCR018C21_
25	7.5	11	14.5	14	— 63 — 64	— 63 — 64	XTCR025C21_
32	10	15	18	17	— 63 — 64	— 63 — 64	XTCR032C21_

Note

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

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Frame D



Contactors with Screw Terminals, Frame D—Maximum UL/CSA Ratings

Single-Phase hp Ratings		Three-Phase hp Ratings				Spare Auxiliary Contacts		Catalog Number ①
115V	230V	200V	230V	460V	575V	K1M	K2M	
3	7-1/2	10	15	30	40	—	—	XTCR040D11_
3	10	15	20	40	50	—	—	XTCR050D11_
5	15	20	25	50	60	—	—	XTCR065D11_

Contactors with Screw Terminals, Frame D—Maximum IEC Ratings

AC-3 I _e (A)	Three-Phase Motors 50–60 Hz				Spare Auxiliary Contacts		Catalog Number ①
	220/230V	380/400V	415V	660/690V	K1M	K2M	
40	12.5	18.5	24	23	—	—	XTCR040D11_
50	15.5	22	30	30	—	—	XTCR050D11_
65	20	30	39	35	—	—	XTCR065D11_

Frame F



Contactors with Screw Terminals, Frame F—Maximum UL/CSA Ratings

Single-Phase hp Ratings		Three-Phase hp Ratings				Spare Auxiliary Contacts		Catalog Number ①
115V	230V	200V	230V	460V	575V	K1M	K2M	
7-1/2	15	25	30	60	75	—	—	XTCR080F11_
7-1/2	15	25	40	75	100	—	—	XTCR095F11_

Contactors with Screw Terminals, Frame F—Maximum IEC Ratings

AC-3 I _e (A)	Three-Phase Motors 50–60 Hz				Spare Auxiliary Contacts		Catalog Number ①
	220/230V	380/400V	415V	660/690V	K1M	K2M	
80	25	37	48	63	—	—	XTCR080F11_
95	30	45	57	75	—	—	XTCR095F11_

Frame G



Contactors with Screw Terminals, Frame G—Maximum UL/CSA Ratings

Single-Phase hp Ratings		Three-Phase hp Ratings				Spare Auxiliary Contacts		Catalog Number ①
115V	230V	200V	230V	460V	575V	K1M	K2M	
10	25	40	50	100	100	—	—	XTCR115G11_
15	30	40	60	100	100	—	—	XTCR150G11_

Contactors with Screw Terminals, Frame G—Maximum IEC Ratings

AC-3 I _e (A)	Three-Phase Motors 50–60 Hz				Spare Auxiliary Contacts		Catalog Number ①
	220/230V	380/400V	415V	660/690V	K1M	K2M	
115	37	55	70	90	—	—	XTCR115G11_
150	48	75	91	96	—	—	XTCR150G11_

Note

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

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
24–27 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 [Ⓢ]
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

[Ⓢ] Frames L–M only.

Full Voltage, Non-Reversing Starters, with Bimetallic or Electronic Overload

Frame B



Three-Pole Starters, Frame B—Maximum UL/CSA Ratings ①

Single-Phase hp Ratings		Three-Phase hp Ratings				Auxiliary Contacts	Catalog Number ②③
115V	230V	200V	230V	460V	575V		
1/4	1	1-1/2	2	3	5	1NO	XTAE007B10_ _
1/4	1	1-1/2	2	3	5	1NC	XTAE007B01_ _
1/2	1-1/2	3	3	5	7-1/2	1NO	XTAE009B10_ _
1/2	1-1/2	3	3	5	7-1/2	1NC	XTAE009B01_ _
1	2	3	3	10 ④	10	1NO	XTAE012B10_ _
1	2	3	3	10 ④	10	1NC	XTAE012B01_ _
1	3	5	5	10 ④	10	1NO	XTAE015B10_ _
1	3	5	5	10 ④	10	1NC	XTAE015B01_ _

Three-Pole Starters, Frame B—Maximum IEC Ratings ①

AC-3 I _e (A)	AC-1	Three-Phase Motors 50–60 Hz				Auxiliary Contacts	Catalog Number ②③
		220/230V	380/400V	415V	660/690V		
7	20	2.2	3	4	3.5	1NO	XTAE007B10_ _
7	20	2.2	3	4	3.5	1NC	XTAE007B01_ _
9	20	2.5	4	5.5	4.5	1NO	XTAE009B10_ _
9	20	2.5	4	5.5	4.5	1NC	XTAE009B01_ _
12	20	3.5	5.5	7	6.5	1NO	XTAE012B10_ _
12	20	3.5	5.5	7	6.5	1NC	XTAE012B01_ _
15.5	20	4	7.5	8	7	1NO	XTAE015B10_ _
15.5	20	4	7.5	8	7	1NC	XTAE015B01_ _

Frame C



Three-Pole Starters, Frame C—Maximum UL/CSA Ratings ①

Single-Phase hp Ratings		Three-Phase hp Ratings				Auxiliary Contacts	Catalog Number ②③
115V	230V	200V	230V	460V	575V		
2	3	5	5	10 ④	15	1NO	XTAE018C10_ _
2	3	5	5	10 ④	15	1NC	XTAE018C01_ _
2	5	7-1/2	7-1/2	15	20	1NO	XTAE025C10_ _
2	5	7-1/2	7-1/2	15	20	1NC	XTAE025C01_ _
3	5	10	10	20	25	1NO	XTAE032C10_ _
3	5	10	10	20	25	1NC	XTAE032C01_ _

Three-Pole Starters, Frame C—Maximum IEC Ratings ①

AC-3 I _e (A)	AC-1	Three-Phase Motors 50–60 Hz				Auxiliary Contacts	Catalog Number ②③
		220/230V	380/400V	415V	660/690V		
18	35	5	7.5	10	11	1NO	XTAE018C10_ _
18	35	5	7.5	10	11	1NC	XTAE018C01_ _
25	40	7.5	11	14.5	14	1NO	XTAE025C10_ _
25	40	7.5	11	14.5	14	1NC	XTAE025C01_ _
32	40	10	15	18	17	1NO	XTAE032C10_ _
32	40	10	15	18	17	1NC	XTAE032C01_ _

Notes

- ① Products shown are with the bimetallic overload relay.
- ② Underscore (_) indicates magnet coil suffix required. See Page V5-T1-53.
- ③ Underscore (_) indicates overload relay suffix required. See Page V5-T1-54.
- ④ For electrical life contactor application data. See Page V5-T1-53.

Frame D



Three-Pole Starters, Frame D—Maximum UL/CSA Ratings ①

Single-Phase hp Ratings		Three-Phase hp Ratings				Auxiliary Contacts	Catalog Number ②③
115V	230V	200V	230V	460V	575V		
3	7-1/2	10	15	30	40	—	XTAE040D00_ _
3	10	15	20	40	50	—	XTAE050D00_ _
5	15	20	25	50	60	—	XTAE065D00_ _

Three-Pole Starters, Frame D—Maximum IEC Ratings ①

AC-3 I _e (A)	AC-1	Three-Phase Motors 50–60 Hz				Auxiliary Contacts	Catalog Number ②③
		220/230V	380/400V	415V	660/690V		
40	50	12.5	18.5	24	23	—	XTAE040D00_ _
50	60	15.5	22	30	30	—	XTAE050D00_ _
65	72	20	30	39	35	—	XTAE065D00_ _

Frame F



Three-Pole Starters, Frame F—Maximum UL/CSA Ratings ①

Single-Phase hp Ratings		Three-Phase hp Ratings				Auxiliary Contacts	Catalog Number ②③
115V	230V	200V	230V	460V	575V		
7-1/2	15	25	30	60	75	—	XTAE080F00_ _
7-1/2	15	25	40	75	100	—	XTAE095F00_ _

Three-Pole Starters, Frame F—Maximum IEC Ratings ①

AC-3 I _e (A)	AC-1	Three-Phase Motors 50–60 Hz				Auxiliary Contacts	Catalog Number ②③
		220/230V	380/400V	415V	660/690V		
80	110	25	37	48	63	—	XTAE080F00_ _
95	110	30	45	57	75	—	XTAE095F00_ _

Frame G



Three-Pole Starters, Frame G—Maximum UL/CSA Ratings ①

Single-Phase hp Ratings		Three-Phase hp Ratings				Auxiliary Contacts	Catalog Number ②③
115V	230V	200V	230V	460V	575V		
10	25	40	50	100	125	—	XTAE115G00_ _
15	30	40	60	125	125	—	XTAE150G00_ _

Three-Pole Starters, Frame G—Maximum IEC Ratings ①

AC-3 I _e (A)	AC-1	Three-Phase Motors 50–60 Hz				Auxiliary Contacts	Catalog Number ②③
		220/230V	380/400V	415V	660/690V		
115	160	37	55	70	105	—	XTAE115G00_ _
150	160	48	75	91	125	—	XTAE150G00_ _

Notes

- ① Products shown are with the bimetallic overload relay.
 ② Underscore (_) indicates magnet coil suffix required. See Page V5-T1-53.
 ③ Underscore (_) indicates overload relay suffix required. See Page V5-T1-54.

Full Voltage, Reversing Starters, with Bimetallic or Electronic Overload**Reversing Starters with Screw Terminals, Frame B—Maximum UL/CSA Ratings**

Single-Phase hp Ratings		Three-Phase hp Ratings				Catalog Number ^{①②}
115V	230V	200V	230V	460V	575V	
1/4	1	1-1/2	2	3	5	XTAR007B21__
1/2	1-1/2	3	3	5	7-1/2	XTAR009B21__
1	2	3	3	10	10	XTAR012B21__

Reversing Starters with Screw Terminals, Frame B—Maximum IEC Ratings

AC-3 I _e (A)	Three-Phase Motors 50–60 Hz				Catalog Number ^{①②}
	220/230V	380/400V	415V	660/690V	
7	2.2	3	4	3.5	XTAR007B21__
9	2.5	4	5.5	4.5	XTAR009B21__
12	3.5	5.5	7	6.5	XTAR012B21__

Reversing Starters with Screw Terminals, Frame C—Maximum UL/CSA Ratings

Single-Phase hp Ratings		Three-Phase hp Ratings			Catalog Number ^{①②}	
115V	230V	200V	230V	460V		575V
2	3	5	5	10	15	XTAR018C21__
2	5	7-1/2	7-1/2	15	20	XTAR025C21__
3	5	10	10	20	25	XTAR032C21__

Reversing Starters with Screw Terminals, Frame C—Maximum IEC Ratings

AC-3 I _e (A)	Three-Phase Motors 50–60 Hz				Catalog Number ^{①②}
	220/230V	380/400V	415V	660/690V	
18	5	7.5	8	11	XTAR018C21__
25	7.5	11	14.5	14	XTAR025C21__
32	10	15	18	17	XTAR032C21__

Reversing Starters with Screw Terminals, Frame D—Maximum UL/CSA Ratings

Single-Phase hp Ratings		Three-Phase hp Ratings			Catalog Number ^{①②}	
115V	230V	200V	230V	460V		575V
3	7-1/2	10	15	30	40	XTAR040D11__
3	10	15	20	40	50	XTAR050D11__
5	15	20	25	50	60	XTAR065D11__

Reversing Starters with Screw Terminals, Frame D—Maximum IEC Ratings

AC-3 I _e (A)	Three-Phase Motors 50–60 Hz				Catalog Number ^{①②}
	220/230V	380/400V	415V	660/690V	
40	12.5	18.5	24	23	XTAR040D11__
50	15.5	22	30	30	XTAR050D11__
65	20	30	39	35	XTAR065D11__

Notes

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

② Underscore () indicates overload relay suffix required. See Page V5-T1-54.

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

Star-Delta (Wye-Delta) Starters**Frame B—Maximum UL/CSA Ratings**

Three-Phase hp Ratings				Max. Changeover Time (sec)	Component Description	Catalog Number ①
200V	230V	460V	575V			
3	3	2-1/2	10	<20	K1M main contactor	XTCE007B10_
					K5M delta contactor	XTCE007B01_
					K3M star contactor	XTCE007B01_
					Mechanical interlock	XTCEXMLB
					K1T timing relay	XTTR6A60S51B
					Overload relay	XTOB...BC1
					(3) auxiliary contacts	XTCEXFAC20
					Star-delta link kit	XTCEXSDLB
3	5	7-1/2	10	<20	K1M main contactor	XTCE009B10_
					K5M delta contactor	XTCE009B01_
					K3M star contactor	XTCE009B01_
					Mechanical interlock	XTCEXMLB
					K1T timing relay	XTTR6A60S51B
					Overload relay	XTOB...BC1
					(3) auxiliary contacts	XTCEXFAC20
					Star-delta link kit	XTCEXSDLB
5	5	10	15	<20	K1M main contactor	XTCE012B10_
					K5M delta contactor	XTCE012B01_
					K3M star contactor	XTCE012B01_
					Mechanical interlock	XTCEXMLB
					K1T timing relay	XTTR6A60S51B
					Overload relay	XTOB...BC1
					(3) auxiliary contacts	XTCEXFAC20
					Star-delta link kit	XTCEXSDLB

Frame B—Maximum IEC Ratings

AC-3 I _e (A)	Three-Phase Motors 50–60 Hz						Max. Changeover Time (sec)	Component Description	Catalog Number ①
	220/230V	380/400V	415V	500V	660/690V	1000V			
12	3	5.5	7	5.5	5.5	—	<20	K1M main contactor	XTCE007B10_
								K5M delta contactor	XTCE007B01_
								K3M star contactor	XTCE007B01_
								Mechanical interlock	XTCEXMLB
								K1T timing relay	XTTR6A60S51B
								Overload relay	XTOB...BC1
								(3) auxiliary contacts	XTCEXFAC20
								Star-delta link kit	XTCEXSDLB
16	4	7.5	8	7.5	7.5	—	<20	K1M main contactor	XTCE009B10_
								K5M delta contactor	XTCE009B01_
								K3M star contactor	XTCE009B01_
								Mechanical interlock	XTCEXMLB
								K1T timing relay	XTTR6A60S51B
								Overload relay	XTOB...BC1
								(3) auxiliary contacts	XTCEXFAC20
								Star-delta link kit	XTCEXSDLB
22	5.5	11	14.5	11	11	—	<20	K1M main contactor	XTCE012B10_
								K5M delta contactor	XTCE012B01_
								K3M star contactor	XTCE012B01_
								Mechanical interlock	XTCEXMLB
								K1T timing relay	XTTR6A60S51B
								Overload relay	XTOB...BC1
								(3) auxiliary contacts	XTCEXFAC20
								Star-delta link kit	XTCEXSDLB

Note

① Underscore () indicates magnet coil suffix required. See Page V5-T1-62.

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Frame C—Maximum UL/CSA Ratings

Three-Phase hp Ratings				Max. Changeover Time (sec)	Component Description	Catalog Number ^①
200V	230V	460V	575V			
7-1/2	7-1/2	15	20	<20	K1M main contactor	XTCE018C10_
					K5M delta contactor	XTCE018C01_
					K3M star contactor	XTCE018C01_
					Mechanical interlock	XTCEXMLC
					K1T timing relay	XTTR6A60S51B
					Overload relay	XTOB...CC1
					(3) auxiliary contacts	XTCEXFAC20
					Star-delta link kit	XTCEXSDLC
10	15	30	40	<20	K1M main contactor	XTCE025C10_
					K5M delta contactor	XTCE025C01_
					K3M star contactor	XTCE025C01_
					Mechanical interlock	XTCEXMLC
					K1T timing relay	XTTR6A60S51B
					Overload relay	XTOB...CC1
					(3) auxiliary contacts	XTCEXFAC20
					Star-delta link kit	XTCEXSDLC
15	20	40	50	<20	K1M main contactor	XTCE032C10_
					K5M delta contactor	XTCE032C01_
					K3M star contactor	XTCE032C01_
					Mechanical interlock	XTCEXMLC
					K1T timing relay	XTTR6A60S51B
					Overload relay	XTOB...CC1
					(3) auxiliary contacts	XTCEXFAC20
					Star-delta link kit	XTCEXSDLC

Frame C—Maximum IEC Ratings

AC-3 I _e (A)	Three-Phase Motors 50–60 Hz						Max. Changeover Time (sec)	Component Description	Catalog Number ^①
	220/230V	380/400V	415V	500V	660/690V	1000V			
30	7.5	15	19	18.5	18.5	—	<20	K1M main contactor	XTCE018C10_
								K5M delta contactor	XTCE018C01_
								K3M star contactor	XTCE018C01_
								Mechanical interlock	XTCEXMLC
								K1T timing relay	XTTR6A60S51B
								Overload relay	XTOB...CC1
								(3) auxiliary contacts	XTCEXFAC20
								Star-delta link kit	XTCEXSDLC
45	11	22	30	30	22	—	<20	K1M main contactor	XTCE025C10_
								K5M delta contactor	XTCE025C01_
								K3M star contactor	XTCE025C01_
								Mechanical interlock	XTCEXMLC
								K1T timing relay	XTTR6A60S51B
								Overload relay	XTOB...CC1
								(3) auxiliary contacts	XTCEXFAC20
								Star-delta link kit	XTCEXSDLC
55	15	30	39	37	30	—	<20	K1M main contactor	XTCE032C10_
								K5M delta contactor	XTCE032C01_
								K3M star contactor	XTCE032C01_
								Mechanical interlock	XTCEXMLC
								K1T timing relay	XTTR6A60S51B
								Overload relay	XTOB...CC1
								(3) auxiliary contacts	XTCEXFAC20
								Star-delta link kit	XTCEXSDLC

Note

① Underscore (_) indicates magnet coil suffix required. See Page V5-T1-62.

Frame D—Maximum UL/CSA Ratings

Three-Phase hp Ratings				Max. Changeover Time (sec)	Component Description	Catalog Number ①
200V	230V	460V	575V			
20	25	50	60	<20	K1M main contactor	XTCE040D00_
					K5M delta contactor	XTCE040D00_
					K3M star contactor	XTCE040D00_
					Mechanical interlock	XTCEXMLD
					K1T timing relay	XTTR6A60S51B
					Overload relay	XTOB...DC1
					(2) auxiliary contacts (K1M, K3M)	XTCEXFBG11
					(1) auxiliary contact (K5M)	XTCEXFBG31
					Star-delta link kit	XTCEXSDLD
25	30	60	75	<20	K1M main contactor	XTCE050D00_
					K5M delta contactor	XTCE050D00_
					K3M star contactor	XTCE040D00_
					Mechanical interlock	XTCEXMLD
					K1T timing relay	XTTR6A60S51B
					Overload relay	XTOB...DC1
					(2) auxiliary contacts (K1M, K3M)	XTCEXFBG11
					(1) auxiliary contact (K5M)	XTCEXFBG31
					Star-delta link kit	XTCEXSDLD
40	50	100	125	<20	K1M main contactor	XTCE065D00_
					K5M delta contactor	XTCE065D00_
					K3M star contactor	XTCE040D00_
					Mechanical interlock	XTCEXMLD
					K1T timing relay	XTTR6A60S51B
					Overload relay	XTOB...DC1
					(2) auxiliary contacts (K1M, K3M)	XTCEXFBG11
					(1) auxiliary contact (K5M)	XTCEXFBG31
					Star-delta link kit	XTCEXSDLD

Frame D—Maximum IEC Ratings

AC-3 I _e (A)	Three-Phase Motors 50–60 Hz						Max. Changeover Time (sec)	Component Description	Catalog Number ①
	220/230V	380/400V	415V	500V	660/690V	1000V			
70	18.5	37	37	45	37	—	<20	K1M main contactor	XTCE040D00_
								K5M delta contactor	XTCE040D00_
								K3M star contactor	XTCE040D00_
								Mechanical interlock	XTCEXMLD
								K1T timing relay	XTTR6A60S51B
								Overload relay	XTOB...DC1
								(2) auxiliary contacts (K1M, K3M)	XTCEXFBG11
								(1) auxiliary contact (K5M)	XTCEXFBG31
								Star-delta link kit	XTCEXSDLD
90	22	45	45	55	45	—	<20	K1M main contactor	XTCE050D00_
								K5M delta contactor	XTCE050D00_
								K3M star contactor	XTCE040D00_
								Mechanical interlock	XTCEXMLD
								K1T timing relay	XTTR6A60S51B
								Overload relay	XTOB...DC1
								(2) auxiliary contacts (K1M, K3M)	XTCEXFBG11
								(1) auxiliary contact (K5M)	XTCEXFBG31
								Star-delta link kit	XTCEXSDLD
115	30	55	55	75	55	—	<20	K1M main contactor	XTCE065D00_
								K5M delta contactor	XTCE065D00_
								K3M star contactor	XTCE040D00_
								Mechanical interlock	XTCEXMLD
								K1T timing relay	XTTR6A60S51B
								Overload relay	XTOB...DC1
								(2) auxiliary contacts (K1M, K3M)	XTCEXFBG11
								(1) auxiliary contact (K5M)	XTCEXFBG31
								Star-delta link kit	XTCEXSDLD

Note

① Underscore () indicates magnet coil suffix required. See Page V5-T1-62.

Frame F—Maximum UL/CSA Ratings

Three-Phase hp Ratings				Max. Changeover Time (sec)	Component Description	Catalog Number ①
200V	230V	460V	575V			
40	60	125	150	<20	K1M main contactor	XTCE080F00_
					K5M delta contactor	XTCE080F00_
					K3M star contactor	XTCE080F00_
					Mechanical interlock ②	XTCEXMLG
					K1T timing relay	XTTR6A60S51B
					Overload relay	XTOB...FC1
					(2) auxiliary contacts (K1M, K3M)	XTCEXFBG11
					(1) auxiliary contact (K5M)	XTCEXFBG31
					Star-delta link kit	XTCEXSDF
40	60	125	150	<20	K1M main contactor	XTCE095F00_
					K5M delta contactor	XTCE095F00_
					K3M star contactor	XTCE080F00_
					Mechanical interlock ②	XTCEXMLG
					K1T timing relay	XTTR6A60S51B
					Overload relay	XTOB...FC1
					(2) auxiliary contacts (K1M, K3M)	XTCEXFBG11
					(1) auxiliary contact (K5M)	XTCEXFBG31
					Star-delta link kit	XTCEXSDF

Frame F—Maximum IEC Ratings

AC-3 I _e (A)	Three-Phase Motors 50–60 Hz						Max. Changeover Time (sec)	Component Description	Catalog Number ①
	220/230V	380/400V	415V	500V	660/690V	1000V			
140	37	75	75	90	90	—	<20	K1M main contactor	XTCE080F00_
								K5M delta contactor	XTCE080F00_
								K3M star contactor	XTCE080F00_
								Mechanical interlock ②	XTCEXMLG
								K1T timing relay	XTTR6A60S51B
								Overload relay	XTOB...FC1
								(2) auxiliary contacts (K1M, K3M)	XTCEXFBG11
								(1) auxiliary contact (K5M)	XTCEXFBG31
								Star-delta link kit	XTCEXSDF
165	45	90	110	110	132	—	<20	K1M main contactor	XTCE095F00_
								K5M delta contactor	XTCE095F00_
								K3M star contactor	XTCE080F00_
								Mechanical interlock ②	XTCEXMLG
								K1T timing relay	XTTR6A60S51B
								Overload relay	XTOB...FC1
								(2) auxiliary contacts (K1M, K3M)	XTCEXFBG11
								(1) auxiliary contact (K5M)	XTCEXFBG31
								Star-delta link kit	XTCEXSDF

Notes

- ① Underscore (_) indicates magnet coil suffix required. See **Page V5-T1-62**.
- ② If mechanical interlock of star contactor is required, it must be the same frame size of the delta contactor or use the same mechanical interlock, see **Page V5-T1-73** for mechanical interlocks. (Example: XTCE...L22_ and XTCE...M22_ both use mechanical interlock XTCEXMLM.)

Frame G—Maximum UL/CSA Ratings

Three-Phase hp Ratings				Max. Changeover Time (sec)	Component Description	Catalog Number ①
200V	230V	460V	575V			
50	60	125	150	<20	K1M main contactor	XTCE115G00_
					K5M delta contactor	XTCE115G00_
					K3M star contactor	XTCE080F00_
					Mechanical interlock	XTCEXMLG
					K1T timing relay	XTTR6A60S51B
					Overload relay	XTOB...GC1
					(2) auxiliary contacts	XTCEXFBG11
					(1) auxiliary contact (K5M)	XTCEXFBG31
					Star-delta link kit	XTCEXSDLG
75	100	200	250	<20	K1M main contactor	XTCE150G00_
					K5M delta contactor	XTCE150G00_
					K3M star contactor	XTCE080F00_
					Mechanical interlock	XTCEXMLG
					K1T timing relay	XTTR6A60S51B
					Overload relay	XTOB...GC1
					(2) auxiliary contacts	XTCEXFBG11
					(1) auxiliary contact (K5M)	XTCEXFBG31
					Star-delta link kit	XTCEXSDLG

Frame G—Maximum IEC Ratings

AC-3 I _e (A)	Three-Phase Motors 50–60 Hz						Max. Changeover Time (sec)	Component Description	Catalog Number ①
	220/230V	380/400V	415V	500V	660/690V	1000V			
200	55	110	132	132	160	—	<20	K1M main contactor	XTCE115G00_
								K5M delta contactor	XTCE115G00_
								K3M star contactor	XTCE080F00_
								Mechanical interlock	XTCEXMLG
								K1T timing relay	XTTR6A60S51B
								Overload relay	XTOB...GC1
								(2) auxiliary contacts	XTCEXFBG11
								(1) auxiliary contact (K5M)	XTCEXFBG31
								Star-delta link kit	XTCEXSDLG
260	75	132	148	160	160	—	<20	K1M main contactor	XTCE150G00_
								K5M delta contactor	XTCE150G00_
								K3M star contactor	XTCE080F00_
								Mechanical interlock	XTCEXMLG
								K1T timing relay	XTTR6A60S51B
								Overload relay	XTOB...GC1
								(2) auxiliary contacts	XTCEXFBG11
								(1) auxiliary contact (K5M)	XTCEXFBG31
								Star-delta link kit	XTCEXSDLG

Note

① Underscore (_) indicates magnet coil suffix required. See Page V5-T1-62.

Frame L—Maximum UL/CSA Ratings

Three-Phase hp Ratings				Max. Changeover Time (sec)	Component Description	Catalog Number ^①
200V	230V	460V	575V			
125	150	300	400	<30	K1M main contactor	XTCS250L22_
					K5M delta contactor	XTCS250L22_
					K3M star contactor	XTCS250L22_
					Mechanical interlock	XTCEXMLM
					K1T timing relay	XTTR6A60S51B
					Overload relay	XTOB...LC1

Frame L—Maximum IEC Ratings

AC-3 I _e (A)	Three-Phase Motors 50–60 Hz						Max. Changeover Time (sec)	Component Description	Catalog Number ^①
	220/230V	380/400V	415V	500V	660/690V	1000V			
430	132	250	300	315	400	200	<30	K1M main contactor	XTCS250L22_
								K5M delta contactor	XTCS250L22_
								K3M star contactor	XTCS250L22_
								Mechanical interlock	XTCEXMLM
								K1T timing relay	XTTR6A60S51B
								Overload relay	XTOB...LC1

Frame M—Maximum UL/CSA Ratings

Three-Phase hp Ratings				Max. Changeover Time (sec)	Component Description	Catalog Number ^①
200V	230V	460V	575V			
200	250	500	600	<20	K1M main contactor	XTCS400M22_
					K5M delta contactor	XTCS400M22_
					K3M star contactor	XTCS250L22_
					Mechanical interlock	XTCEXMLM
					K1T timing relay	XTTR6A60S51B
					Overload relay	XTOT...C3S
290	350	700	860	<30	K1M main contactor	XTCS500M22_
					K5M delta contactor	XTCS500M22_
					K3M star contactor	XTCS300M22_
					Mechanical interlock	XTCEXMLM
					K1T timing relay	XTTR6A60S51B
					Overload relay	XTOT...C3S

Frame M—Maximum IEC Ratings

AC-3 I _e (A)	Three-Phase Motors 50–60 Hz						Max. Changeover Time (sec)	Component Description	Catalog Number ^①
	220/230V	380/400V	415V	500V	660/690V	1000V			
685	200	355	390	450	560	220	<20	K1M main contactor	XTCS400M22_
								K5M delta contactor	XTCS400M22_
								K3M star contactor	XTCS250L22_
								Mechanical interlock	XTCSXMLM
								K1T timing relay	XTTR6A60S51B
								Overload relay	XTOT...C3S
860	250	450	500	560	600	220	<30	K1M main contactor	XTCS500M22_
								K5M delta contactor	XTCS500M22_
								K3M star contactor	XTCS300M22_
								Mechanical interlock	XTCEXMLM
								K1T timing relay	XTTR6A60S51B
								Overload relay	XTOT...C3S

Notes

- ① Underscore (_) indicates magnet coil suffix required. See **Page V5-T1-62**.
- ② If mechanical interlock of star contactor is required, it must be the same frame size of the delta contactor or use the same mechanical interlock, see **Page V5-T1-73** for mechanical interlocks. (Example: XTCE...L22_ and XTCE...M22_ both use mechanical interlock XTCEXMLM.)

Frame N—Maximum UL/CSA Ratings are not applicable.

Frame N—Maximum IEC Ratings

AC-3 I _e (A)	Three-Phase Motors 50–60 Hz						Max. Changeover Time (sec)	Component Description	Catalog Number ^①
	220/230V	380/400V	415V	500V	660/690V	1000V			
1000	300	560	610	710	900	355	<30	K1M main contactor	XTCE580N22_
								K5M delta contactor	XTCE580N22_
								K3M star contactor	XTCE580N22_
								Mechanical interlock ^②	XTCEXMLN
								K1T timing relay	XTTR6A60S51B
								Overload relay	XTOT...C3S
1120	350	630	680	750	950	355	<30	K1M main contactor	XTCE650N22_
								K5M delta contactor	XTCE650N22_
								K3M star contactor	XTCE580N22_
								Mechanical interlock ^②	XTCEXMLN
								K1T timing relay	XTTR6A60S51B
								Overload relay	XTOT...C3S
1290	400	710	760	900	1200	1400	<30	K1M main contactor	XTCE750N22_
								K5M delta contactor	XTCE750N22_
								K3M star contactor	XTCE580N22_
								Mechanical interlock	XTCEXMLN
								K1T timing relay	XTTR6A60S51B
								Overload relay	XTOT...C3S
1400	450	800	850	950	1300	1400	<30	K1M main contactor	XTCE820N22_
								K5M delta contactor	XTCE820N22_
								K3M star contactor	XTCE580N22_
								Mechanical interlock	XTCEXMLN
								K1T timing relay	XTTR6A60S51
								Overload relay	XTOT...C3S
1700	560	1000	1050	1200	1700	1700	<20	K1M main contactor	XTCEC10N22_
								K5M delta contactor	XTCEC10N22_
								K3M star contactor	XTCE650N22_
								Mechanical interlock	XTCEXMLN
								K1T timing relay	XTTR6A60S51B
								Overload relay	XTOT...C3S

Notes

Main circuit: Depending on the coordination type required (that is, Type 1 or Type 2) it must be established whether the fuse protection and the input wiring for the main and delta contactors are to be common or separate.

Control circuit: If the combinations are used in the scope of the IEC/EN 60 204-1, VDE 0113 part 1, point 9.1.1 regarding the supply of control circuits is to be observed.

① Underscore (_) indicates magnet coil suffix required. See **Page V5-T1-62**.

② If mechanical interlock of star contactor is required, it must be the same frame size of the delta contactor or use the same mechanical interlock, see **Page V5-T1-73** for mechanical interlocks. (Example: XTCE...L22_ and XTCE...M22_ both use mechanical interlock XTCEXMLN.)

Spare Auxiliary Contacts

AC-3	K1M	K3M	K5M
12–55			
90–260		—	—
315–1700			

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 ^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

Overload Relay Settings (A)

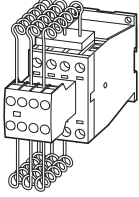
Setting	Starting
A: $I_N \times 0.58$ Motor protection in the star (wye) and delta configurations	≤15 sec
B: $I_N \times 1$ Only partial motor protection in star position	15–40 sec
C: $I_N \times 0.58$ Motor not protected in star (wye) position	>40 sec

Timing relay set to approximately 10 sec

Note

① Frames L–M only.

XTCC0_



XTCC Contactors for Three-Phase Capacitors

Three-Phase Capacitors, 50–60 Hz
Open kVAR Ratings ^①

230V	400V	525V	690V	Contact Sequence	Catalog Number ^②
11	20	25	33.3		XTCC020C11_
15	25	33.3	40		XTCC025C11_
20	33.3	40	55		XTCC033D10_
25	50	65	85		XTCC050D10_

Magnet Coil Suffix

Coil Voltage	Suffix Code
110V 50 Hz, 120V 60 Hz	A
220V 50 Hz, 240V 60 Hz	B
230V 50 Hz, 240V 60 Hz	F
400V 50 Hz, 440V 60 Hz	N
24V 50/60 Hz	T

Notes

Weld-resistant for capacitors with inrush current peaks up to 180 x I_N.

① With series resistors, without quick-discharge resistor.

② Underscore (_) indicates magnet coil suffix required.

Engineering Notes for XTCC and XTCE Contactors for Power Factor Correction**Individual Compensation, Open Version**

Catalog Number	Switching Duty in kVAR			
	230V	400V, 420V, 440V	525V	690V
XTCE007B	1.5	3	3.5	5
XTCE009B	2	4	4.5	6
XTCE012B	2.5	4.5	5.5	7
XTCE015B	2.5	4.5	5.5	7
XTCE018C	6.5	12	14.5	19
XTCE025C	7	13.5	16	21
XTCE032C	7.5	14.5	17	22.5
XTCE040D	11	20.5	24.5	32
XTCE050D	11.5	22	26	34.5
XTCE065D	12.5	23.5	28	37
XTCE080F	16	30.5	36.5	48
XTCE095F	18	34	41	54
XTCE115G	24	46	54.5	72
XTCE150G	28	53	63.5	83.5
XTCE580N	175	300	400	300

Group Compensation, with Reactor, Open Version

Catalog Number	Switching Duty in kVAR			
	230V	400V, 420V, 440V	525V	690V
XTCE007B	4	7	7.5	12
XTCE009B	5	8	10	14
XTCE012B	5.5	1	12	16
XTCE015B	5.5	10	12	16
XTCE018C	7.5	16	20	28
XTCE025C	9	18	23	30
XTCE032C	10	20	24	32
XTCE040D	13	25	30	40
XTCE050D	16	30	36	48
XTCE065D	19	36	43	57
XTCE080F	30	58	68	90
XTCE095	34	6	7	10
XTCE115G	44	8	100	125
XTCE150	5	97	115	152
XTCE250L	110	190	260	340
XTCE400M	160	280	370	480
XTCE500M	220	390	500	680

Group Compensation, without Reactor, Open Version








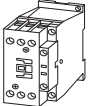



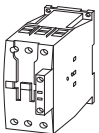



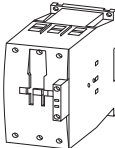



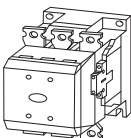

Catalog Number	Switching Duty in kVAR			
	230V	400V, 420V, 440V	525V	690V
XTCC020C	11	20	25	33.3
XTCC025C	15	25	33.3	40
XTCC033D	20	33.3	40	55
XTCC050D	25	50	65	85
XTCE580N	145	250	333	250

Accessories

Auxiliary Contacts

Front-mounted snap-on auxiliary contacts for **XT** contactors are available with screw or spring cage terminals in a variety of contact configurations.

Auxiliary Contacts Possible Combinations

Frame Size	Catalog Number	Contactor	Built-In Auxiliary	Front (Top) Mount		Side-Mount		Total Auxiliary Contacts Available
				Two-Pole	Four-Pole	Single-Pole	Two-Pole	
A	XTMC6A_— XTMC9A_—		1NO or 1NC	1	—	—	—	3
				—	1	—	—	5
						—	—	—
B	XTCE007B_— XTCE015B_—		1NO or 1NC	1	—	—	—	3
				—	1	—	—	5
				—	—	1	—	2
			—	—	—			
C	XTCE018C_— XTCE032C_—		1NO or 1NC	1	—	—	—	3
				—	1	—	—	5
				—	—	—	1	3
			—	—	—			
D	XTCE040D00_— XTCE065D00_—		—	1	—	—	2	6
				—	1	—	1	6
						—		—
F-G	XTCE080F00_— XTCE150G00_—		—	1	—	—	2	6
				—	1	—	2	8
				—	—	—	4	8
		—		—				
L-R	XTCE185H22_— XTCEC20R22_—		2NO-2NC	—	—	—	2	8
				—	—	—		—

Notes

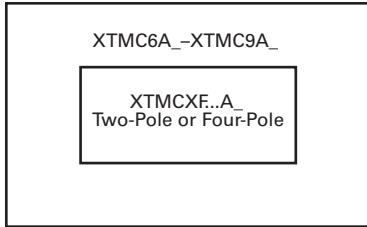
Forced operation contact to IEC/EN 60947-5-1 Appendix L (positively driven), inside the auxiliary contact unit (not early close and late opening).

Auxiliary normally closed contact can be used as mirror contact to IEC/EN 60947-4-1 Appendix F (not late opening).

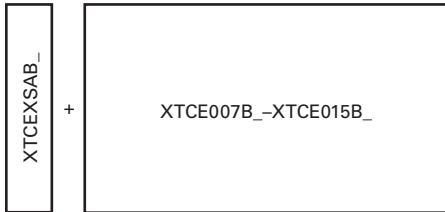
No auxiliary contacts can be fitted between two contactors.

1

Auxiliary Contact Combinations



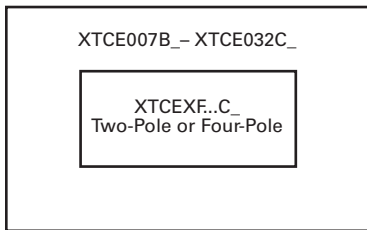
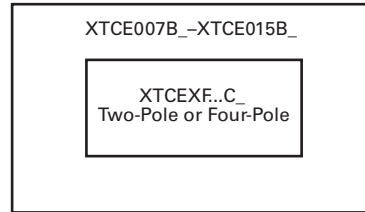
Frame A



Frame B

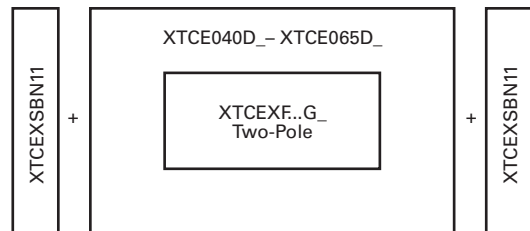
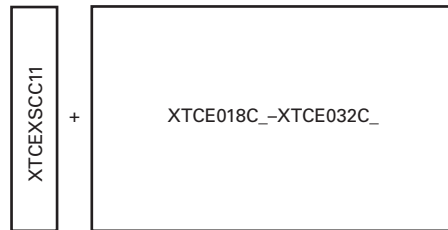
Not for use with mechanical interlock.

or



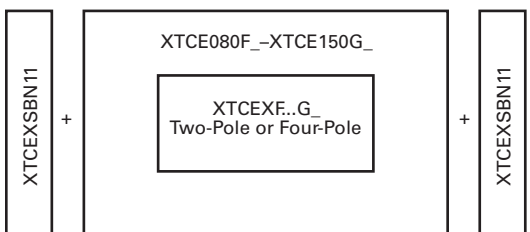
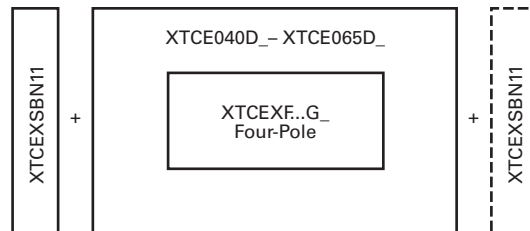
Frame C

or



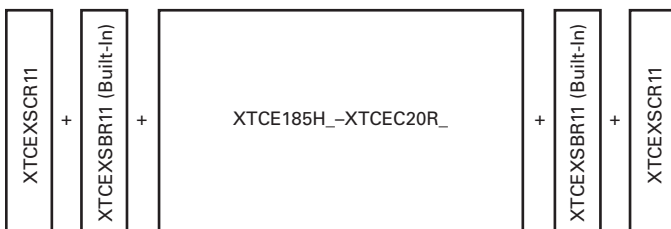
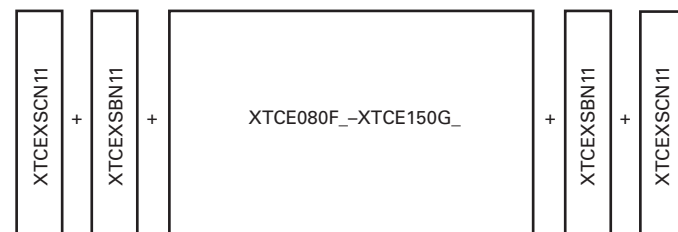
Frame D

or



Frames F-G

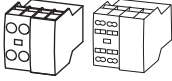
or



Frames L-R

Auxiliary Contacts

XTCEXF_

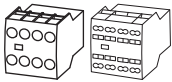


Frames B–C, Front (Top) Mount—Two-Pole

Conventional Thermal Current,
Open at 60°C
 $I_{th} = I_e$, AC-1 in Amps

	Contact Configuration	Circuit Symbol	Pkg. Qty. ①	Screw Terminal Catalog Number
16	2NO		5	XTCEXFAC20
16	1NO-1NC		5	XTCEXFAC11 ④
16	2NC		5	XTCEXFAC02
16	1NO _E -1NC _L		5	XTCEXFALC11 ②
16	1NO-1NC		5	XTCEXFDC11 ③
16	2NC		5	XTCEXFCC02 ③

XTCEXF_



Frames B–C, Front (Top) Mount—Four-Pole

Conventional Thermal Current,
Open at 60°C
 $I_{th} = I_e$, AC-1 in Amps

	Contact Configuration	Circuit Symbol	Pkg. Qty. ①	Screw Terminal Catalog Number
16	4NO		5	XTCEXFAC40 ④
16	3NO-1NC		5	XTCEXFAC31 ④
16	2NO-2NC		5	XTCEXFAC22 ④
16	1NO-3NC		5	XTCEXFAC13
16	4NC		5	XTCEXFAC04
16	1NO _E -1NC _L		5	XTCEXFCLC22 ②
16	2NO-2NC		5	XTCEXFCC22 ③

Notes

- ① Orders must be placed in multiples of package quantity listed.
- ② 1 early-make contact (1NO_E), 1 late-break contact (1NC_L).
- ③ To avoid duplicate terminal numbers in contact sequence, these auxiliary contacts should only be used with contactors having a built-in 1NO contact (XTCE...B10_, XTCE...C10_).
- ④ Catalog number is shown with screw type terminal. For spring cage, add a "C" before the last 2 digits. For example, to order a spring cage version of the XTCEXFAC22, change the catalog number to XTCEXFACC22.

1

XTCEXFATC_



Frames B–C, Front (Top) Mount—Tall Version Two-Pole ①

Conventional Thermal Current, Open at 60°C $I_{th} = I_e$, AC-1 in Amps	Contact Configuration	Circuit Symbol	Pkg. Qty. ②	Screw Terminal Catalog Number
16	2NO		5	XTCEXFATC20
16	1NO-1NC		5	XTCEXFATC11
16	2NC		5	XTCEXFATC02

XTCEXFATC22



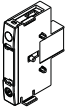
Frames B–C, Front (Top) Mount—Tall Version Four-Pole ①

Conventional Thermal Current, Open at 60°C $I_{th} = I_e$, AC-1 in Amps	Contact Configuration	Circuit Symbol	Pkg. Qty. ②	Screw Terminal Catalog Number
16	2NO-2NC		5	XTCEXFATC22

Frames B–C, Front (Top) Mount—Electronic Contacts, Two- and Four-Pole ①

Conventional Thermal Current, Open at 60°C $I_{th} = I_e$, AC-1 in Amps	Contact Configuration	Circuit Symbol	Pkg. Qty. ②	Screw Terminal Catalog Number
1 mA–0.5A	2NO-2NC		1	XTCEXFARC22 ③
1 mA–5A	1NO-1NC		1	XTCEXFARC11 ③

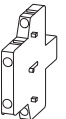
XTCEXSAB_



Frame B, Side-Mount—Single-Pole

Conventional Thermal Current, Open at 60°C $I_{th} = I_e$, AC-1 in Amps	Contact Configuration	Circuit Symbol	Pkg. Qty. ②	Screw Terminal Catalog Number
16	1NO		1	XTCEXSAB10 ④
16	1NC		1	XTCEXSAB01 ④

XTCEXSCC11



Frame C, Side-Mount—Two-Pole

Conventional Thermal Current, Open at 60°C $I_{th} = I_e$, AC-1 in Amps	Contact Configuration	Circuit Symbol	Pkg. Qty. ②	Screw Terminal Catalog Number
10	1NO-1NC		1	XTCEXSCC11 ④

Notes

Interlocked opposing contacts, to IEC/EN 60947-5-1 Annex L (positively driven), within the auxiliary contact modules (not NO [early make] and NC [late break] contacts) and for the built-in auxiliary contacts of the XTCE007B_–XTCE032C_.

Auxiliary break contact can be used as mirror contact to IEC/EN 60947-4-1 Annex F (not NC [late break] contact).

No auxiliary contacts can be fitted between two contactors.

① Front (top) mount tall version is for use with Frame B electrical wire bridges and link kits (see **Page V5-T1-74**) and toolless plug combination connection kits: XTCEXRLB, XTCEXSDLB, XTPAXTPCB, XTPAXTPCRB, XTPAX.

② Orders must be placed in multiples of package quantity listed.

③ Low level inputs down to 1 mA (PLC communications). Ideal for functional safety applications.

④ Can be mounted to the left side of contactor only. Cannot be used in combination with front (top) mount auxiliary contacts or mechanical interlocks.

XTCEXF_



Frames D–G—Two-Pole

Conventional Thermal Current,
Open at 60°C
 $I_{th} = I_e$, AC-1 in Amps

	Contact Configuration	Circuit Symbol	Pkg. Qty. ①	Screw Terminal Catalog Number
16	2NO		5	XTCEXFBG20
16	1NO-1NC		5	XTCEXFAG11
16	1NO-1NC		5	XTCEXFBG11
16	2NC		5	XTCEXFBG02

XTCEXF_



Frames D–G—Four-Pole

Conventional Thermal Current,
Open at 60°C
 $I_{th} = I_e$, AC-1 in Amps

	Contact Configuration	Circuit Symbol	Pkg. Qty. ①	Screw Terminal Catalog Number
16	4NO-0NC		5	XTCEXFBG40
16	3NO-1NC		5	XTCEXFBG31
16	2NO-2NC		5	XTCEXFBG22
16	2NO-2NC		5	XTCEXFAG_22 ②
16	1NO-3NC		5	XTCEXFBG13
16	0NO-4NC		5	XTCEXFBG04
16	1NO _E -1NC _L		5	XTCEXFBG22 ③

Notes

Interlocked opposing contacts, to IEC/EN 60947-5-1 Annex L (positively driven), within the auxiliary contact modules (not NO (early make) and NC (late break) contacts) and for the built-in auxiliary contacts of the XTCE007B_–XTCE032C_.

Auxiliary break contact can be used as mirror contact to IEC/EN 60947-4-1 Annex F (not NC (late break) contact).

No auxiliary contacts can be fitted between two contactors.

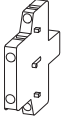
① Orders must be placed in multiples of package quantity listed.

② A “_” denotes catalog numbers are incomplete. To complete the catalog number for ordering a spring cage terminal, insert a **C** in the “_” position or remove “_” for screw type terminal.

③ One early-make contact (1NO_E), one late-break contact (1NC_L).

1

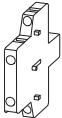
XTCEXS_



Frames D–H, Side Mount (Snap-On) – Two-Pole

Conventional Free Air Thermal Current, $I_{th} = I_e$, AC-1 in Amps	Contact Configuration	Circuit Symbol	Pkg. Qty. ①	Screw Terminal Catalog Number
10	1NO–1NC		1	XTCEXSBN11
10	1NO _E –1NC _L		1	XTCEXSBLN11 ②
10	1NO–1NC		1	XTCEXSCN11 ③

XTCEXS_



Frames L–R, Side Mount (Screw Mount) – Two-Pole

Conventional Free Air Thermal Current, $I_{th} = I_e$, AC-1 in Amps	Contact Configuration	Circuit Symbol	Pkg. Qty. ①	Screw Terminal Catalog Number
10	1NO–1NC		1	XTCEXSBR11 ④
10	1NO _E –1NC _L		1	XTCEXSBLR11
10	1NO–1NC		1	XTCEXSCR11

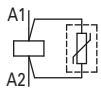
Notes

- ① Orders must be placed in multiples of package quantity listed.
- ② 1 early-make contact (1NO_E), 1 late-break contact (1NC_L).
- ③ To avoid duplicate terminal numbers in contact sequence, the XTCEXSCN11 should be used with Frame D when a top mount auxiliary is also installed.
- ④ For replacement only. XTCEXSBR11 and XTCEXSBLR11 cannot be added onto side mount auxiliaries that come with the Frames L–R contactors as standard. To add auxiliaries onto the included side auxiliaries on Frames L–R contactors, use XTCEXSCR11.

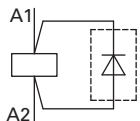
Suppressors

The switching of contactor coils can generate voltage transients that may cause arcing on switch contacts and/or damage electronics on the control line. Either an RC or varistor suppressor is recommended in these types of applications. All **XT** DC contactor coils have built-in suppression.

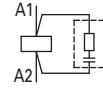
Varistor suppressors clamp the voltage transient above the maximum coil voltage and are recommended when the level of the transient is known to not exceed the coil voltage. RC suppressors slow and reduce the level of the voltage transient but do not clamp them at a specific level. The slowing of the transient can reduce electrical interference. These are recommended in applications where operating rates are high.

XTCEXVS_**Contact Sequence****Varistor Suppressor** ①②

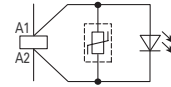
Voltage	For Use with...	Pkg. Qty. ③	Catalog Number
24–48	XTCE007B–	10	XTCEXVSBW
48–130	XTCE015B, XTCF020B	10	XTCEXVSBA
130–240		10	XTCEXVSB
240–500		10	XTCEXVSB
24–48	XTCE018C–	10	XTCEXVSCW
48–130	XTCE032C	10	XTCEXVSCA
130–240		10	XTCEXVSCB
240–500		10	XTCEXVSCC
24–48	XTCE040D–	10	XTCEXVFW
48–130	XTCE095F	10	XTCEXVFA
130–240		10	XTCEXVFB
240–500		10	XTCEXVFC

XTCEXDSB**Contact Sequence****Free-Wheel Diode Suppressor** ④

Voltage DC	For Use with...	Pkg. Qty. ③	Catalog Number
12–250	XTCE007B– XTCE015B, XTCF020B	10	XTCEXDSB

XTCEXRS_**Contact Sequence****RC Suppressor** ①②

Voltage	For Use with...	Pkg. Qty. ③	Catalog Number
24–48	XTCE007B–	10	XTCEXRSBW
48–130	XTCE015B, XTCF020B	10	XTCEXRSBA
110–240		10	XTCEXRSBB
240–500		10	XTCEXRSBC
24–48	XTCE018C–	10	XTCEXRSBW
110–130	XTCE032C	10	XTCEXRSBA
130–240		10	XTCEXRSBB
240–500		10	XTCEXRSBC
24–48	XTCE040D–	10	XTCEXRSBW
110–130	XTCE095F	10	XTCEXRSBA
130–240		10	XTCEXRSBB
240–500		10	XTCEXRSBC

XTCEXVSL_**Contact Sequence****Varistor Suppressor with Integrated LED** ①②

Voltage AC	For Use with...	Pkg. Qty. ③	Catalog Number
24–48	XTCE007B–	10	XTCEXVSLBW
130–240	XTCE015B	10	XTCEXVSLBB
24–48	XTCE018C–	10	XTCEXVSLCW
130–240	XTCE032C	10	XTCEXVSLCB
24–48	XTCE040D–	10	XTCEXVSLFW
130–240	XTCE095F	10	XTCEXVSLFB

Notes

- ① Note dropout delay.
- ② For AC operated contactors, 50–60 Hz. DC operated contactors and XTCE115G_ to XTCE170G_ have a built-in suppressor circuit.
- ③ Orders must be placed in multiples of package quantity listed.
- ④ In addition to the built-in suppressor circuit for DC actuated contactors. Prevents negative breaking voltage when contactors are used in combination with a safety PLC.

Electronic Timer Modules

Frames B–C Contactors (7–32A) ^①

XTCEXTE_



Voltage	Contact Sequence	Timing Range	For Use with...	Pkg. Qty. ^②	Catalog Number	
On-Delay						
24 Vac/Vdc	A1	57 65	0.05s–1s	XTCE...B_	1	XTCEXTEEC11T
100–130 Vac	A2	58 66	0.5s–10s	XTCE...C_	1	XTCEXTEEC11A
200–240 Vac			5s–100s		1	XTCEXTEEC11B
Off-Delay						
24 Vac/Vdc	A1	57 65	0.05s–1s	XTCE...B_	1	XTCEXTED1C11T
100–130 Vac	A2	58 66		XTCE...C_	1	XTCEXTED1C11A
200–230 Vac					1	XTCEXTED1C11B
24 Vac/Vdc	A1	57 65	0.5s–10s	XTCE...B_	1	XTCEXTED10C11T
100–130 Vac	A2	58 66		XTCE...C_	1	XTCEXTED10C11A
200–240 Vac					1	XTCEXTED10C11B
24 Vac/Vdc	A1	57 65	5s–100s	XTCE...B_	1	XTCEXTED100C11T
100–130 Vac	A2	58 66		XTCE...C_	1	XTCEXTED100C11A
200–240 Vac					1	XTCEXTED100C11B
Star-Delta						
24 Vac/Vdc	A1	57 67	1s–30s	XTCE...B_	1	XTCEXTEYC20T
100–130 Vac	A2	58 68		XTCE...C_	1	XTCEXTEYC20A
200–240 Vac					1	XTCEXTEYC20B
Sealable Shroud						
—	Transparent sealable shroud used to protect electronic timer modules from unwanted access		XTCEXTEE, XTCEXTED, XTCEXTEY	1	XTCEXTESHRD	

XTCEXTESHRD







Notes



- ① Front (top) mounted timer modules for use with XTCE...B and XTCE...C contactors. Cannot be combined with top-mount auxiliary contacts, XTCEXF...C_.
- ② Orders must be placed in multiples of package quantity listed.

Additional Accessories

Mechanical Interlock ^①


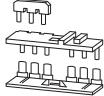
	For Use with...	Pkg. Qty. ^②	Catalog Number
	XTCE007B–XTCE015B, XTCF020B	5	XTCEXMLB
	XTCE018C–XTCE032C, XTCF032C–XTCF045C	1	XTCEXMLC
	XTCE040D–XTCE072D, XTCF063D–XTCF080D	1	XTCEXMLD
	XTCE080F–XTCE170G, XTCF125G–XTCF200G	1	XTCEXMLG ^③
	XTCE185H–XTCE570M	1	XTCEXMLM
	XTCE580N–XTCEC10N	1	XTCEXMLN ^③

Reversing Link Kits

	For Use with...	Pkg. Qty. ^②	Catalog Number
	XTCE007B–XTCE015B	1	XTCEXRLB ^④
	XTCE018C–XTCE032C	1	XTCEXRLC
	XTCE040D–XTCE065D	1	XTCEXRLD
	XTCE080F–XTCE150G	1	XTCEXRLG



Main current wiring for reversing combinations. Includes paralleling bridge and reversing bridge. Does not include mechanical interlock, see table on this page.

Star-Delta (Wye-Delta) Link Kits

	For Use with...	Pkg. Qty. ^②	Catalog Number
	XTCE007B–XTCE015B	1	XTCEXSDLB ^③
	XTCE018C–XTCE032C	1	XTCEXSDLC
	XTCE040D–XTCE072D	1	XTCEXSDLD
	XTCE080F–XTCE095F	1	XTCEXSDLF
	XTCE115G–XTCE150G	1	XTCEXSDLG



Main current wiring for star-delta (wye-delta) combinations. Includes paralleling bridge, reversing bridge and star-delta bridge. Does not include mechanical interlock, see table on this page.

Paralleling Bridge

	For Use with...	Pkg. Qty. ^②	Catalog Number
	XTCE007B–XTCE015B	20	XTCEXPBB
	XTCE018C–XTCE032C	20	XTCEXPBC

Component part of reversing link kit (XTCEXRL_). Parallels the phases on the line-side of two contactors.

Reversing Bridge

	For Use with...	Pkg. Qty. ^②	Catalog Number
	XTCE007B–XTCE015B	20	XTCEXRBB
	XTCE018C–XTCE032C	20	XTCEXRBC
	XTCE040D–XTCE065D	10	XTCEXRBD

Component part of reversing link kit (XTCEXRL_). Reverses the phases on the load-side of two contactors.



Notes

- ① For two contactors with AC or DC operated magnet system which are horizontally or vertically mounted. For Frames B–G, mechanical lifespan is 2.5×10^6 operations and the distance between contactors is 0 mm. For Frames L–N, mechanical lifespan is 5×10^6 operations and no auxiliary contact can be mounted between the mechanical interlock and the contactor—the distance between contactors is 15 mm.
- ② Orders must be placed in multiples of package quantity listed.
- ③ XTCEXMLG and XTCEXMLN consist of an interlock element and mounting plate.
- ④ Also includes interlocking bridge (XTCEXLB). The following control cables are integrated for electrical interlock: K1M: A1–K2M: 21; K1M: 21–K2M: A1; K1M: A2–K2M: A2.

Electrical Interlocking Bridge


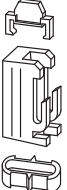
For Use with...	Pkg. Qty. ①	Catalog Number
XTCE007B–XTCE015B	20	XTCEXLBB

Star-Delta (Wye-Delta) Bridge



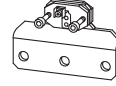
For Use with...	Pkg. Qty. ①	Catalog Number
XTCEXSDB		
XTCE007B–XTCE015B	20	XTCEXSDBB ②
		
XTCEXSDB_		
XTCE080F–XTCE170G	1	XTCEXSDBG
XTCE185L–XTCE400M	1	XTCEXSDB400
XTCE500M	1	XTCEXSDB500
		

Component part of star-delta link kit (XTCEXSDL_). Commons the three phases on the line side of shorting contactor.

Connector

For Use with...	Pkg. Qty. ①	Catalog Number
XTCEXCNC		
XTCE007B–XTCE032C	50	XTCEXCNC
		
XTCEXCNG		
XTCE040D–XTCE170G	10	XTCEXCNG
		

Parallel Link ④⑤⑥

For Use with...	Pkg. Qty. ①	Catalog Number
XTCEXPLKB		
XTCE007B–XTCE015B	5	XTCEXPLKB
		
XTCEXPLK_		
XTCE018C–XTCE032C	5	XTCEXPLKC
XTCE040D–XTCE072D	1	XTCEXPLKD
XTCE080F–XTCE170G	1	XTCEXPLKG
		
XTCEXPLKL185		
XTCE185L	1	XTCEXPLKL185
		

For using one contactor per phase. Each package comes with two links for line: load.

Contactor Labels

For Use with...	Pkg. Qty.	Catalog Number
XGKE-GE		
XTC...	25	XGKE-GE ⑦
		

Notes

- ① Orders must be placed in multiples of package quantity listed.
- ② Frame B is toolless connection type.
- ③ For mechanically arranging contactors in combinations. Distance between contactors is 0 mm.
- ④ Fourth pole can be broken off: four-pole: $I_{th} = 60A$; three-pole: $I_{th} = 50A$.
- ⑤ AC-1 current carrying capacity of the contactor increases by a factor of 2.5. For XTCEXPLKL185, one shroud is included for protection against accidental contact.
- ⑥ Protected against accidental contact in accordance with IEC 536.
- ⑦ Quantity 1 equals one sheet. One sheet contains 240 labels.

CI-K Basic Enclosures

CI-K Basic Enclosures ①②



Dimensions in Inches (mm)

Width	Height	External Depth	Internal Depth	Internal Mounting Type	Pkg. Qty.	Catalog Number
3.94 (100.0)	6.30 (160.0)	3.94 (100.0)	2.87 (73.0)	With mounting rail	1	CI-K2X-100-TS-NA ③
			3.11 (79.0)	With mounting plate		CI-K2X-100-M-NA ③
			5.71 (145.0)	With mounting rail		CI-K2X-145-TS-NA ③
			4.88 (124.0)	With mounting plate		CI-K2X-145-M-NA ③
4.72 (120.0)	7.87 (200.0)	4.92 (125.0)	3.66 (93.0)	With mounting rail	1	CI-K3X-125-TS-NA ④
			3.86 (98.0)	With mounting plate		CI-K3X-125-M-NA ④
			6.30 (160.0)	With mounting rail		CI-K3X-160-TS-NA ④
			5.24 (133.0)	With mounting plate		CI-K3X-160-M-NA ④
6.30 (160.0)	9.45 (240.0)	6.30 (160.0)	5.04 (128.0)	With mounting rail	1	CI-K4X-160-TS-NA ④
			5.24 (133.0)	With mounting plate		CI-K4X-160-M-NA ④
7.87 (200.0)	11.02 (280.0)	6.30 (160.0)	5.04 (128.0)	With mounting rail	1	CI-K5X-160-TS-NA ④
			5.24 (133.0)	With mounting plate		CI-K5X-160-M-NA ④

XTCEXCN_

Terminal Lug Kit—Set of Three Lugs



For Use with...	Description	Pkg. Qty. ⑥	Catalog Number
XTCE500M, XTCE570M	#4-500 kcmil two-phase Cu/Al 500A Also for use with XTCS series	1	XTCEXTL500

XTCEXTFB6_

Terminal Flat Bar ⑥



For Use with...	Pkg. Qty. ⑥	Catalog Number
XTCE500M—XTCE570M	1	XTCEXTFB650
XTCE750N—XTCE820N	1	XTCEXTFB820

For connection of a flat strip conductor. Comes with control circuit terminal (consisting of three flat strip conductor terminals). Also for use with XTCS series.

XTCEXTLA400

Terminal Lug Assembly



For Use with...	Pkg. Qty. ⑥	Catalog Number
XTCE185—XTCE225H	1	XTCEXTLA225A
XTCS250L—XTCS400M, XTCE250L—XTCE400M_	1	XTCEXTLA400

For connection of: round conductor, flexible and stranded, flat strip conductor, with control circuit terminal. See **Page V5-T1-97** for terminal capacities. Consists of 3 integrated lugs for line or load side. Also for use with XTCS series.

XTCEXTS_

Terminal Shroud



For Use with...	Pkg. Qty. ⑥	Catalog Number
XTCE185H—XTCE225H	1	XTCEXTS225
XTCE250L—XTCE400M	1	XTCEXTS400
XTCE500M—XTCE570M	1	XTCEXTS500
XTCE580N—XTCE650N	1	XTCEXTS650
XTCE750N—XTCEC10N	1	XTCEXTS820

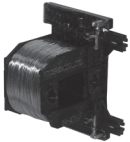
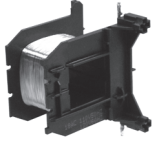
Protection against direct contact with connection lugs when touched vertically from the front. Also for use with XTCS series.

Notes

- ① Enclosure base RAL 9005, black/enclosure top only RAL 7035, light gray.
- ② Degree of protection—IEC: IP65; UL/CSA: Type 1, 3R, 4X, 12, 13—indoor and outdoor use.
- ③ CI-K2X_: 4 x 1/2 inch knockouts.
- ④ CI-K3X_, CI-K4X_, CI-K5X_: Smooth overall with sharp corners.
- ⑤ Orders must be placed in multiples of package quantity listed.
- ⑥ Not UL listed.

Renewal Parts

XTCERENC_



Replacement Coil—Frame C

Voltage	Coil Suffix	Catalog Number
110/50 120/60	A	XTCERENCOILCA
110–130 Vdc	AD	XTCERENCOILCAD
220/50 240/60	B	XTCERENCOILCB
200–240 Vdc	BD	XTCERENCOILCBD
415/50 480/60	C	XTCERENCOILCC
600/60	D	XTCERENCOILCD
208/60	E	XTCERENCOILCE
230/50	F	XTCERENCOILCF
190/50 220/60	G	XTCERENCOILCG
240/50 277/60	H	XTCERENCOILCH
380/50 440/60	L	XTCERENCOILCL
400/50	N	XTCERENCOILCN
380/60	P	XTCERENCOILCP
12/50 12/60	R	XTCERENCOILCR
12–14 Vdc	RD	XTCERENCOILCRD
24/50 24/60	T	XTCERENCOILCT
24–27 Vdc	TD	XTCERENCOILCTD
42/50 48/60	W	XTCERENCOILCW
48–60 Vdc	WD	XTCERENCOILCWD
48/50	Y	XTCERENCOILCY

Replacement Coil—Frame D

Voltage	Coil Suffix	Catalog Number
110/50 120/60	A	XTCERENCOILDA
110–130 Vdc	AD	XTCERENCOILDAD
220/50 240/60	B	XTCERENCOILDB
200–240 Vdc	BD	XTCERENCOILDBD
415/50 480/60	C	XTCERENCOILDC
600/60	D	XTCERENCOILDD
208/60	E	XTCERENCOILDE
230/50	F	XTCERENCOILDF
190/50 220/60	G	XTCERENCOILDG
240/50 277/60	H	XTCERENCOILDH
380/50 440/60	L	XTCERENCOILDL
400/50	N	XTCERENCOILDN
380/60	P	XTCERENCOILDP
12/50 12/60	R	XTCERENCOILDR
12–14 Vdc	RD	XTCERENCOILDRD
24/50 24/60	T	XTCERENCOILDT
24–27 Vdc	TD	XTCERENCOILDTD
42/50 48/60	W	XTCERENCOILDW
48–60 Vdc	WD	XTCERENCOILDWD
48/50	Y	XTCERENCOILDY

Replacement Coil—Frame F ①

Voltage	Coil Suffix	Catalog Number
110/50 120/60	A	XTCERENCOILFA
110–130 Vdc	AD	XTCERENCOILFAD
220/50 240/60	B	XTCERENCOILFB
200–240 Vdc	BD	XTCERENCOILFBD
415/50 480/60	C	XTCERENCOILFC
600/60	D	XTCERENCOILFD
208/60	E	XTCERENCOILFE
230/50	F	XTCERENCOILFF
190/50 220/60	G	XTCERENCOILFG
240/50 277/60	H	XTCERENCOILFH
380/50 440/60	L	XTCERENCOILFL
400/50	N	XTCERENCOILFN
380/60	P	XTCERENCOILFP
12/50 12/60	R	XTCERENCOILFR
24/50 24/60	T	XTCERENCOILFT
24–27 Vdc	TD	XTCERENCOILFTD
42/50 48/60	W	XTCERENCOILFW
48–60 Vdc	WD	XTCERENCOILFWD
48/50	Y	XTCERENCOILFY

Replacement Coil—Frame G ②

Voltage	Coil Suffix	Catalog Number
100–120V 50/60	A	XTCERENCOILGA
110–130 Vdc	AD	XTCERENCOILGAD
190–240V 50/60	B	XTCERENCOILGB
200–240 Vdc	BD	XTCERENCOILGBD
480–500V 50/60	C	XTCERENCOILGC
380–440V 50/60	L	XTCERENCOILGL
4/50 24/60	T	XTCERENCOILGT
24–27 Vdc	TD	XTCERENCOILGTD
42–48V 50/60	W	XTCERENCOILGW
48–60 Vdc	WD	XTCERENCOILGWD

Notes

- ① Frame F replacement coils can only be used with contactors having the following date codes: DC coils, 2706 or later; AC coils, 4706 or later.
- ② Frame G replacement coils can only be used with contactors having date codes of 2706 or later.

Replacement Coil—Frame H

Voltage	Coil Suffix	Catalog Number
100–120V 50/60 Hz	A	XTCERENCOILHA
190–240V 50/60 Hz	B	XTCERENCOILHB
480–500V 50/60 Hz	C	XTCERENCOILHC
380–440V 50/60 Hz	L	XTCERENCOILHL
24V 50/60Hz	T	XTCERENCOILHT
42–48V 50/60Hz	W	XTCERENCOILHW
110–130 Vdc	AD	XTCERENCOILHAD
200–240 Vdc	BD	XTCERENCOILHBD
24–27 Vdc	TD	XTCERENCOILHTD
48–60 Vdc	WD	XTCERENCOILHWD

Replacement Coil—Frame L ^①

Voltage	Coil Suffix	Catalog Number
110–250 Vac/Vdc	A	XTCERENCOILLA
250–500V 40–60	C	XTCERENCOILLC
24–48 Vdc	TD	XTCERENCOILLTD
48–110 Vac/Vdc	Y	XTCERENCOILLY

Replacement Coil—Frame L, S-Series

Voltage	Coil Suffix	Catalog Number
110–120V 50/60 Hz	A	XTCSRENCOILLA
220–240V 50/60 Hz	B	XTCSRENCOILLB

Replacement Coil—Frame M ^①

Voltage	Coil Suffix	Catalog Number
110–250 Vac/Vdc	A	XTCERENCOILMA
250–500V 40–60	C	XTCERENCOILMC
24–48 Vdc	TD	XTCERENCOILMTD
48–110 Vac/Vdc	Y	XTCERENCOILMY

Replacement Coil—Frame M, S-Series

Voltage	Coil Suffix	Catalog Number
110–120V 50/60 Hz	A	XTCSRENCOILMA
220–240V 50/60 Hz	B	XTCSRENCOILMB

Replacement Coil—Frame N ^①

Voltage	Coil Suffix	Catalog Number
110–250 Vac/Vdc	A	XTCERENCOILNA
250–500V 40–60	C	XTCERENCOILNC
48–110 Vac/Vdc	Y	XTCERENCOILNY

Replacement Contact Kit

For Use with...	Catalog Number
XTCE040D–XTCE065D	XTCERENCONTACTD
XTCE085F–XTCE095F	XTCERENCONTACTF
XTCE115G–XTCE150G	XTCERENCONTACTG
XTCE185H–XTCE225H	XTCERENCONTACTH
XTCE250L–XTCE300L	XTCERENCONTACTL
XTCE300M	XTCERENCONTACTM300
XTCE400M	XTCERENCONTACTM400
XTCE500M	XTCERENCONTACTM500

Replacement Vacuum Tube Assembly

For Use with...	Catalog Number
XTCE580N	XTCERENVACT580
XTCE650N	XTCERENVACT650
XTCE750N	XTCERENVACT750
XTCE820N	XTCERENVACT820

Replacement Arc Chamber

For Use with...	Catalog Number
XTCE250L	XTCERENARC250
XTCE300M	XTCERENARC300
XTCE400M	XTCERENARC400
XTCE500M–XTCE570M	XTCERENARC500

Note

^① Electronic modules including coils.

Technical Data and Specifications

XT Contactors—Frame B

Description	XTCE007B	XTCE009B	XTCE012B	XTCE015B
General				
Standards	IEC/EN 60947, VDE 0660, UL, CSA, CCC, RoHS	IEC/EN 60947, VDE 0660, UL, CSA, CCC, RoHS	IEC/EN 60947, VDE 0660, UL, CSA, CCC, RoHS	IEC/EN 60947, VDE 0660, UL, CSA, CCC, RoHS
Weights in kg [lb]				
AC operated	0.23 [0.51]	0.23 [0.51]	0.23 [0.51]	0.23 [0.51]
DC operated	0.28 [0.62]	0.28 [0.62]	0.28 [0.62]	0.28 [0.62]
Mechanical life—operations	10,000,000	10,000,000	10,000,000	10,000,000
Mechanical operating frequency (ops/hr)				
AC operated	9000	9000	9000	5000
DC operated	9000	9000	9000	5000
Electrical life	See Curves, Page V5-T1-111	See Curves, Page V5-T1-111	See Curves, Page V5-T1-111	See Curves, Page V5-T1-111
Electrical operating frequency (ops/hr)—see Curves, Page V5-T1-111				
AC-1; 400V I _e	800	800	800	800
AC-3; 400V I _e	1000	1000	1000	1000
AC-4; 400V I _e	300	300	300	300
Climatic proofing	③	③	③	③
Insulation voltage (U _i) Vac	690	690	690	690
Impulse withstand voltage (U _{imp}) Vac	8000	8000	8000	8000
Operational voltage (U _a) Vac	690	690	690	690
Safe isolation to VDE 0106 Part 101 and Part 101/A1				
Between coil and contacts (Vac)	400	400	400	400
Between contacts (Vac)	400	400	400	400
Making capacity up to 690V (amps) ①	112	112	144	155
Breaking capacity (amps)				
220/230V	70	90	120	124
380/400V	70	90	120	124
500V	50	70	100	100
660/690V	40	50	70	70
Short-circuit protection rating maximum fuse				
Type 2 coordination ②				
400V; gG/gL 500V	20	20	20	20
690V; gG/gL 690V	16	16	20	20
Type 1 coordination ②				
400V; gG/gL 500V	35	35	35	63
690V; gG/gL 690V	20	20	20	50
Degree of protection	IP20	IP20	IP20	IP20
Protection against direct contact when actuated from front (IEC 536)	Finger and back-of-hand proof	Finger and back-of-hand proof	Finger and back-of-hand proof	Finger and back-of-hand proof
Terminal capacity main cable—screw terminals				
Solid (mm ²)	1 x (0.75–4) 2 x (0.75–2.5)	1 x (0.75–4) 2 x (0.75–2.5)	1 x (0.75–4) 2 x (0.75–2.5)	1 x (0.75–4) 2 x (0.75–2.5)
Flexible with ferrule (mm ²)	1 x (0.75–2.5) 1 x (0.75–2.5)	1 x (0.75–2.5) 1 x (0.75–2.5)	1 x (0.75–2.5) 1 x (0.75–2.5)	1 x (0.75–2.5) 1 x (0.75–2.5)
Solid or stranded (AWG)	18–14	18–14	18–14	18–14
Terminal capacity control circuit cable—screw terminals				
Solid (mm ²)	1 x (0.75–4) 2 x (0.75–2.5)	1 x (0.75–4) 2 x (0.75–2.5)	1 x (0.75–4) 2 x (0.75–2.5)	1 x (0.75–4) 2 x (0.75–2.5)

Notes

① Rated operational current: Making and breaking conditions to DC-13, L/R constant as stated.

② IEC 60947 Standard.

③ Damp heat, constant, to IEC 60068-2-78; damp heat, cyclical, to IEC 60068-2-30.

XT Contactors—Frame B, continued

Description	XTCE007B	XTCE009B	XTCE012B	XTCE015B
General, continued				
Flexible with ferrule (mm ²)	1 x (0.75–2.5) 1 x (0.75–2.5)	1 x (0.75–2.5) 1 x (0.75–2.5)	1 x (0.75–2.5) 1 x (0.75–2.5)	1 x (0.75–2.5) 1 x (0.75–2.5)
Solid or stranded (AWG)	18–14	18–14	18–14	18–14
Main cable and control circuit cable connection screw/bolt	M3.5	M3.5	M3.5	M3.5
Tightening torque				
Nm	1.2	1.2	1.2	1.2
Lb-in	10.6	10.6	10.6	10.6
Tools				
Main and control circuit cable—screw terminals	Size 2	Size 2	Size 2	Size 2
Pozidriv screwdriver	0.8 x 5.5	0.8 x 5.5	0.8 x 5.5	0.8 x 5.5
Standard screwdriver	1 x 6	1 x 6	1 x 6	1 x 6
Terminal capacity main circuit cable—spring cage terminals				
Solid (mm ²)	1 x (0.75–2.5) 1 x (0.75–2.5)	1 x (0.75–2.5) 1 x (0.75–2.5)	1 x (0.75–2.5) 1 x (0.75–2.5)	1 x (0.75–2.5) 1 x (0.75–2.5)
Flexible (mm ²)	1 x (0.75–2.5) 1 x (0.75–2.5)	1 x (0.75–2.5) 1 x (0.75–2.5)	1 x (0.75–2.5) 1 x (0.75–2.5)	1 x (0.75–2.5) 1 x (0.75–2.5)
Flexible with ferrule (mm ²)	1 x (0.75–2.5) 1 x (0.75–2.5)	1 x (0.75–2.5) 1 x (0.75–2.5)	1 x (0.75–2.5) 1 x (0.75–2.5)	1 x (0.75–2.5) 1 x (0.75–2.5)
Solid or stranded (AWG)	18–14	18–14	18–14	18–14
Terminal capacity control circuit cable—spring cage terminals				
Solid (mm ²)	1 x (0.75–2.5) 1 x (0.75–2.5)	1 x (0.75–2.5) 1 x (0.75–2.5)	1 x (0.75–2.5) 1 x (0.75–2.5)	1 x (0.75–2.5) 1 x (0.75–2.5)
Flexible (mm ²)	1 x (0.75–2.5) 1 x (0.75–2.5)	1 x (0.75–2.5) 1 x (0.75–2.5)	1 x (0.75–2.5) 1 x (0.75–2.5)	1 x (0.75–2.5) 1 x (0.75–2.5)
Flexible with ferrule (mm ²)	1 x (0.75–2.5) 1 x (0.75–2.5)	1 x (0.75–2.5) 1 x (0.75–2.5)	1 x (0.75–2.5) 1 x (0.75–2.5)	1 x (0.75–2.5) 1 x (0.75–2.5)
Solid or stranded (AWG)	18–14	18–14	18–14	18–14
Tools				
Main and control circuit cable—spring cage terminals				
Stripping length (mm)	10	10	10	10
Screwdriver blade width (mm)	3.5	3.5	3.5	3.5
Mounting position, AC and DC operated				
Ambient temperature				
Open	–25 to 60°C [–13 to 140°F]	–25 to 60°C [–13 to 140°F]	–25 to 60°C [–13 to 140°F]	–25 to 60°C [–13 to 140°F]
Enclosed	–25 to 40°C [–13 to 104°F]	–25 to 40°C [–13 to 104°F]	–25 to 40°C [–13 to 104°F]	–25 to 40°C [–13 to 104°F]
Ambient storage temperature	–40 to 80°C [–40 to 176°F]	–40 to 80°C [–40 to 176°F]	–40 to 80°C [–40 to 176°F]	–40 to 80°C [–40 to 176°F]
Environmental				
Mechanical shock resistance (IEC/EN 60068-2-27)				
Half-sinusoidal shock 10 ms				
Main contact—NO contact	10g	10g	10g	10g
Auxiliary contact—NO contact	7g	7g	7g	7g
Auxiliary contact—NC contact	5g	5g	5g	5g
Overvoltage category/pollution degree	III/3	III/3	III/3	III/3

XT Contactors—Frames C–D

Description	XTCE018C	XTCE025C	XTCE032C	XTCE040D	XTCE050D	XTCE065D, XTCE072D
General						
Standards	IEC/EN 60947, VDE 0660, UL, CSA, CCC, RoHS	IEC/EN 60947, VDE 0660, UL, CSA, CCC, RoHS	IEC/EN 60947, VDE 0660, UL, CSA, CCC, RoHS	IEC/EN 60947, VDE 0660, UL, CSA, CCC, RoHS	IEC/EN 60947, VDE 0660, UL, CSA, CCC, RoHS	IEC/EN 60947, VDE 0660, UL, CSA, CCC, RoHS
Weights in kg [lb]						
AC operated	0.42 [0.93]	0.42 [0.93]	0.42 [0.93]	0.9 [2.0]	0.9 [2.0]	0.9 [2.0]
DC operated	0.48 [1.06]	0.48 [1.06]	0.48 [1.06]	1.1 [2.4]	1.1 [2.4]	1.1 [2.4]
Mechanical life—operations	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000
Mechanical operating frequency (ops/hr)						
AC operated	5000	5000	5000	5000	5000	5000
DC operated	5000	5000	5000	5000	5000	5000
Electrical mechanical operating frequency (ops/hr)—see Curves, Page V5-T1-111						
AC-1; 400V I _e	800	800	800	800	800	800
AC-3; 400V I _e	800	800	800	800	800	800
AC-4; 400V I _e	300	300	300	300	300	300
Climatic proofing	②	②	②	②	②	②
Insulation voltage (U _i) Vac	690	690	690	690	690	690
Impulse withstand voltage (U _{imp}) Vac	8000	8000	8000	8000	8000	8000
Operating voltage (U _e) Vac	690	690	690	690	690	690
Safe isolation to VDE 0106 Part 101 and Part 101/A1						
Between coil and contacts (Vac)	440	440	440	440	440	440
Between contacts (Vac)	238	440	440	440	440	440
Making capacity (amps)	238	350	384	560	700	910
Breaking capacity (amps)						
220/230V	170	250	320	400	500	650
380/400V	170	250	320	400	500	650
500V	170	250	320	400	500	650
660/690V	120	150	180	250	320	370
Short-circuit protection rating maximum fuse (amps)						
Type 2 coordination ①						
400V; gG/gL 500V	25	35	63	63	80	125
690V; gG/gL 690V	25	35	35	50	63	80
Type 1 coordination ①						
400V; gG/gL 500V	63	100	125	125	160	250
690V; gG/gL 690V	50	50	63	80	80	100
Degree of protection	IP00	IP00	IP00	IP00	IP00	IP00
Protection against direct contact when actuated from front (IEC 536)	Finger and back-of-hand proof	Finger and back-of-hand proof	Finger and back-of-hand proof	Finger and back-of-hand proof	Finger and back-of-hand proof	Finger and back-of-hand proof
Terminal capacity main cable—screw terminals						
Solid (mm ²)	1 x (0.75–16) 2 x (0.75–10)	1 x (0.75–16) 2 x (0.75–10)	1 x (0.75–16) 2 x (0.75–10)	1 x (0.75–16) 2 x (0.75–10)	1 x (0.75–16) 2 x (0.75–10)	1 x (0.75–16) 2 x (0.75–10)
Flexible with ferrule (mm ²)	1 x (0.75–16) 2 x (0.75–10)	1 x (0.75–16) 2 x (0.75–10)	1 x (0.75–16) 2 x (0.75–10)	1 x (2.5–35) 2 x (2.5–25)	1 x (2.5–35) 2 x (2.5–25)	1 x (2.5–35) 2 x (2.5–25)
Stranded (mm ²)	1 x 16	1 x 16	1 x 16	1 x (16–50) 2 x (16–35)	1 x (16–50) 2 x (16–35)	1 x (16–50) 2 x (16–35)
Solid or stranded (AWG)	14–8	14–8	14–8	14–1	14–1	14–1
Flat conductor (number of segments x width x thickness) (mm)	—	—	—	2 x (6 x 9 x 0.8)	2 x (6 x 9 x 0.8)	2 x (6 x 9 x 0.8)

Notes

① IEC 60947 Standard.

② Damp heat, constant, to IEC 60068-2-78; damp heat, cyclic, to IEC 60 068-2-30.

XT Contactors—Frames C–D, continued

Description	XTCE018C	XTCE025C	XTCE032C	XTCE040D	XTCE050D	XTCE065D, XTCE072D
General, continued						
Main cable connection screw/bolt	M5	M5	M5	M6	M6	M6
Tightening torque						
Nm	3	3	3	3.3	3.3	3.3
Lb-in	26.6	26.6	26.6	29.2	29.2	29.2
Terminal capacity control circuit cable—screw terminals						
Solid (mm ²)	1 x (0.75–4) 2 x (0.75–4)	1 x (0.75–4) 2 x (0.75–4)	1 x (0.75–4) 2 x (0.75–4)	1 x (0.75–4) 2 x (0.75–4)	1 x (0.75–4) 2 x (0.75–4)	1 x (0.75–4) 2 x (0.75–4)
Flexible with ferrule (mm ²)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)
Solid or stranded (AWG)	18–14	18–14	18–14	18–14	18–14	18–14
Control circuit cable connection screw/bolt	M3.5	M3.5	M3.5	M3.5	M3.5	M3.5
Tightening torque						
Nm	1.2	1.2	1.2	1.2	1.2	1.2
Lb-in	10.6	10.6	10.6	10.6	10.6	10.6
Tools						
Main and control circuit cable—screw terminals						
Pozidriv screwdriver	0.8 x 5.5	0.8 x 5.5	0.8 x 5.5	0.8 x 5.5	0.8 x 5.5	0.8 x 5.5
Standard screwdriver	1 x 6	1 x 6	1 x 6	1 x 6	1 x 6	1 x 6
Terminal capacity control circuit cable—spring cage terminals						
Solid (mm ²)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)
Flexible (mm ²)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)
Flexible with ferrule (mm ²)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)
Solid or stranded (AWG)	18–14	18–14	18–14	18–14	18–14	18–14
Tools						
Main and control circuit cable—spring cage terminals						
Stripping length (mm)	10	10	10	10	10	10
Screwdriver blade width (mm)	3.5	3.5	3.5	3.5	3.5	3.5
Mounting position, AC and DC operated						
Ambient temperature						
Open	–25 to 60°C [–13 to 140°F]	–25 to 60°C [–13 to 140°F]	–25 to 60°C [–13 to 140°F]	–25 to 60°C [–13 to 140°F]	–25 to 60°C [–13 to 140°F]	–25 to 60°C [–13 to 140°F]
Enclosed	–25 to 40°C [–13 to 104°F]	–25 to 40°C [–13 to 104°F]	–25 to 40°C [–13 to 104°F]	–25 to 40°C [–13 to 104°F]	–25 to 40°C [–13 to 104°F]	–25 to 40°C [–13 to 104°F]
Ambient storage temperature	–40 to 80°C [–40 to 176°F]	–40 to 80°C [–40 to 176°F]	–40 to 80°C [–40 to 176°F]	–40 to 80°C [–40 to 176°F]	–40 to 80°C [–40 to 176°F]	–40 to 80°C [–40 to 176°F]
Environmental						
Mechanical shock resistance (IEC/EN 60068-2-27)						
Main contact—NO Contact	10	10	10	10	1	1
Auxiliary contact—NO Contact	7	7	7	7	7	7
Auxiliary contact—NC Contact	5	5	5	5	5	5
Overvoltage category/pollution degree	III/3	III/3	III/3	III/3	III/3	III/3

XT Contactors—Frames F–G

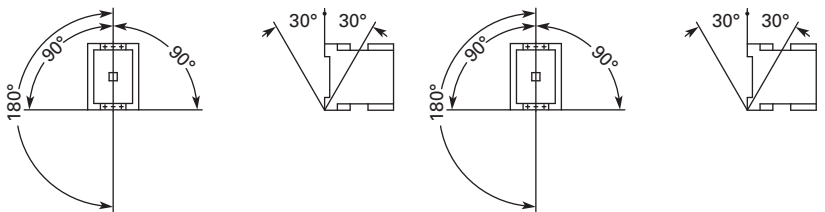
Description	XTCE080F	XTCE095F	XTCE115G	XTCE150G	XTCE170G
General					
Standards	IEC/EN 60947, VDE 0660, UL, CSA, CCC, RoHS	IEC/EN 60947, VDE 0660, UL, CSA, CCC, RoHS	IEC/EN 60947, VDE 0660, UL, CSA, CCC, RoHS	IEC/EN 60947, VDE 0660, UL, CSA, CCC, RoHS	IEC/EN 60947, VDE 0660, UL, CSA, CCC, RoHS
Weights in kg [lb]					
AC operated	2 [4.41]	2 [4.41]	2 [4.41]	2 [4.41]	2 [4.41]
DC operated	2.1 [4.63]	2.1 [4.63]	2.1 [4.63]	2.1 [4.63]	2.1 [4.63]
Mechanical life—operations	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000
Mechanical operating frequency (ops/hr)					
AC operated	3600	3600	3600	3600	3600
DC operated	3600	3600	3600	3600	3600
Electrical mechanical operating frequency (ops/hr)—see Curves, Page V5-T1-111					
AC-1; 400V I _e	800	800	800	800	800
AC-3; 400V I _e	800	800	800	800	800
AC-4; 400V I _e	300	300	300	300	300
Climatic proofing	②	②	②	②	②
Insulation voltage (U _i) Vac	690	690	690	690	690
Impulse withstand voltage (U _{imp}) Vac	8000	8000	8000	8000	8000
Operational voltage (U _o) Vac	690	690	690	690	690
Safe isolation to VDE 0106 Part 101 and Part 101/A1					
Between coil and contacts (Vac)	690	690	690	690	690
Between contacts (Vac)	690	690	690	690	690
Making capacity (amps)	1120	1330	1610	2100	2100
Breaking capacity (amps)					
220/230V	800	950	1150	1500	1500
380/400V	800	950	1150	1500	1500
500V	800	950	1150	1500	1500
660/690V	650	800	1100	1200	1320
1000V	—	—	—	—	—
Short-circuit protection rating maximum fuse					
Type 2 coordination ①					
400V; gG/gL 500V	160	160	250	25	400
690V; gG/gL 690V	160	160	25	250	25
Type 1 coordination ①					
400V; gG/gL 500V	250	25	250	250	400
690V; gG/gL 690V	200	200	250	250	250
Degree of protection	IP00	IP00	IP00	IP00	IP00
Protection against direct contact when actuated from front (IEC 536)	Finger and back-of-hand proof	Finger and back-of-hand proof	Finger and back-of-hand proof	Finger and back-of-hand proof	Finger and back-of-hand proof
Terminal capacity main cable—screw terminals					
Solid (mm ²)					
Flexible with ferrule (mm ²)	1 x (10–95) 2 x (10–70)	1 x (10–95) 2 x (10–70)	1 x (10–95) 2 x (10–70)	1 x (10–95) 2 x (10–70)	1 x (10–95) 2 x (10–70)
Stranded (mm ²)					
Flat conductor (number of segments x width x thickness) (mm)	1 x (16–95) 2 x (16–70)	1 x (16–95) 2 x (16–70)	1 x (16–95) 2 x (16–70)	1 x (16–95) 2 x (16–70)	1 x (16–95) 2 x (16–70)
Solid or stranded (AWG)	2 x (6 x 16 x 0.8)	2 x (6 x 16 x 0.8)	2 x (6 x 16 x 0.8)	2 x (6 x 16 x 0.8)	2 x (6 x 16 x 0.8)
Main cable connection screw/bolt	8–3/0	8–3/0	8–3/0	8–3/0	8–3/0
Tightening torque					
Nm	M10	M10	M10	M10	M10
Lb-in	14	14	14	14	14
	123.9	123.9	123.9	123.9	123.9

Notes

① IEC 60947 Standard.

② Damp heat, constant, to IEC 60068-2-78; damp heat, cyclic, to IEC 60 068-2-30.

XT Contactors—Frames F–G, continued

Description	XTCE080F	XTCE095F	XTCE115G	XTCE150G	XTCE170G
General, continued					
Terminal capacity control circuit cable—screw terminals					
Solid (mm ²)	1 x (0.75–4) 1 x (0.75–4)	1 x (0.75–4) 1 x (0.75–4)	1 x (0.75–4) 1 x (0.75–4)	1 x (0.75–4) 1 x (0.75–4)	1 x (0.75–4) 1 x (0.75–4)
Flexible with ferrule (mm ²)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)
Solid or stranded (AWG)	18–14	18–14	18–14	18–14	18–14
Control circuit cable connection screw/bolt	M3.5	M3.5	M3.5	M3.5	M3.5
Tightening torque					
Nm	1.2	1.2	1.2	1.2	1.2
Lb-in	10.6	10.6	10.6	10.6	10.6
Tools					
Main circuit cable—screw terminals					
Hexagon socket-head spanner (mm)	5	5	5	5	5
Control circuit cable—screw terminals					
Pozidriv screwdriver	Size 2	Size 2	Size 2	Size 2	Size 2
Standard screwdriver	1 x 6, 0.8 x 5.5	1 x 6, 0.8 x 5.5	1 x 6, 0.8 x 5.5	1 x 6, 0.8 x 5.5	1 x 6, 0.8 x 5.5
Terminal capacity control circuit cable—spring cage terminals					
Solid (mm ²)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)
Flexible (mm ²)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)
Flexible with ferrule (mm ²)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)
Solid or stranded (AWG)	18–14	18–14	18–14	18–14	18–14
Tools					
Control circuit cable—spring cage terminals					
Stripping length (mm)	10	10	10	10	10
Screwdriver blade width (mm)	3.5	3.5	3.5	3.5	3.5
Mounting position, AC and DC operated					
					
Ambient temperature					
Open	–25 to 60°C [–13 to 140°F]	–25 to 60°C [–13 to 140°F]	–25 to 60°C [–13 to 140°F]	–25 to 60°C [–13 to 140°F]	–25 to 60°C [–13 to 140°F]
Enclosed	–25 to 40°C [–13 to 104°F]	–25 to 40°C [–13 to 104°F]	–25 to 40°C [–13 to 104°F]	–25 to 40°C [–13 to 104°F]	–25 to 40°C [–13 to 104°F]
Ambient storage temperature	–40 to 80°C [–40 to 176°F]	–40 to 80°C [–40 to 176°F]	–40 to 80°C [–40 to 176°F]	–40 to 80°C [–40 to 176°F]	–40 to 80°C [–40 to 176°F]
Environmental					
Mechanical shock resistance (IEC/EN 60068-2-27)					
Half-sinusoidal shock 10 ms					
Main contact—NO contact	10g	10g	10g	10g	10g
Auxiliary contact—NO contact	7g	7g	7g	7g	7g
Auxiliary contact—NC contact	5g	5g	5g	5g	5g
Overvoltage category/pollution degree	III/3	III/3	III/3	III/3	III/3

XT Contactors—Frames H–M

Description	XTCE185H	XTCE225H	XTCE250L, XTCS250L	XTCE300L, XTCS300L	XTCE400M XTCS400M	XTCE500M, XTCS500M	XTCE570M XTCS570M
General							
Standards	IEC/EN 60947, VDE 0660, UL, CSA	IEC/EN 60947, VDE 0660, UL, CSA	IEC/EN 60947, VDE 0660, UL, CSA	IEC/EN 60947, VDE 0660, UL, CSA	IEC/EN 60947, VDE 0660, UL, CSA	IEC/EN 60947, VDE 0660, UL, CSA	IEC/EN 60947, VDE 0660, UL, CSA
Weights in kg [lb]	3.2 [7.1]	3.2 [7.1]	6.5 [14.3]	6.5 [14.3]	8 [18]	8 [18]	8 [18]
Mechanical life—operations	10,000,000	10,000,000	10,000,000	10,000,000	7,000,000	7,000,000	7,000,000
Mechanical operating frequency (ops/hr)							
AC operated	3000	3000	3000	3000	2000	2000	2000
DC operated	3000	3000	3000	3000	2000	2000	2000
Mechanical operating frequency (ops/hr)	See Page V5-T1-93						
Climatic proofing	②	②	②	②	②	②	②
Insulation voltage (U _i) Vac	1000	1000	1000	1000	1000	1000	1000
Impulse withstand voltage (U _{imp}) Vac	8000	8000	8000	8000	8000	8000	8000
Operating voltage (U _e) Vac	1000	1000	1000	1000	1000	1000	1000
Safe isolation to VDE 0106 Part 101 and Part 101/A1							
Between coil and contacts (Vac)	500	500	500	500	500	500	500
Between contacts (Vac)	500	500	500	500	500	500	500
Making capacity (amps)	2700	2700	3000	3600	5500	5500	5500
Breaking capacity (amps)							
Between coil and contacts (Vac)							
220/230V	2250	2250	2500	3000	5000	5000	5000
380/400V	2250	2250	2500	3000	5000	5000	5000
500V	2250	2250	2500	3000	5000	5000	5000
660/690V	2250	2250	2500	3000	5000	5000	5000
1000V	760	760	760	950	950	950	950
Short-circuit protection rating maximum fuse							
Type 2 coordination ①							
400V; gG/gL 500V	315	315	315	315	500	500	500
690V; gG/gL 690V	250	250	315	315	500	500	500
1000V; gG/gL 1000V	160	160	160	160	200	200	200
Degree of protection	IP00	IP00	IP00	IP00	IP00	IP00	IP00
Protection against direct contact when actuated from front (IEC 536)	Finger and back-of-hand proof with terminal shroud or terminal block						
Main cable cross-section							
Flexible with cable lug (mm ²)	50–185	50–185	50–240	50–240	50–240	50–240	50–240
Stranded with cable lug (mm ²)	50–185	70–185	70–240	70–240	70–240	70–240	70–240
Solid or stranded (AWG)	1/0–350 kcmil	2/0–250 kcmil	1/0–250 kcmil	2/0–500 kcmil	1/0–250 kcmil	1/0–250 kcmil	1/0–250 kcmil
Flat conductor (mm)	③	③	③	③	③	③	③
Busbar—width in mm	32	32	25	25	25	30	30
Main cable connection screw/bolt	M10	M10	M10	M10	M10	M10	M10
Tightening torque							
Nm	24	24	24	24	2	2	2
Lb-in	213	213	213	213	213	213	213

Notes

- ① IEC 60947 Standard.
- ② Damp heat, constant, to IEC 60068-2-78; damp heat, cyclic, to IEC 60 068-2-30.
- ③ Screw tightening with flat cable terminal or cable terminal blocks. See terminal capacity for cable terminal blocks.

XT Contactors—Frames H–M, continued

Description	XTCE185H	XTCE225H	XTCE250L, XTCS250L	XTCE300L, XTCS300L	XTCE400M XTCS400M	XTCE500M, XTCS500M	XTCE570M XTCS570M
General, continued							
Control circuit cable cross-sections							
Solid (mm ²)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)
Flexible with ferrule (mm ²)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)
Solid or stranded (AWG)	2 x (18–12)	2 x (18–12)	2 x (18–12)	2 x (18–12)	2 x (18–12)	2 x (18–12)	2 x (18–12)
Control circuit cable connection screw/bolt	M3.5	M3.5	M3.5	M3.5	M3.5	M3.5	M3.5
Tightening torque							
Nm	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Lb-in	10.6	10.6	10.6	10.6	10.6	10.6	10.6
Tools							
Main cable wrench	16 mm	16 mm	16 mm	16 mm	16 mm	16 mm	16 mm
Control circuit cable pozidriv screwdriver	Size 2	Size 2	Size 2	Size 2	Size 2	Size 2	Size 2
Mounting position, AC and DC operated							
Ambient temperature	–25 to 60°C [–13 to 140°F]	–25 to 60°C [–13 to 140°F]	–25 to 60°C [–13 to 140°F]	–25 to 60°C [–13 to 140°F]	–25 to 60°C [–13 to 140°F]	–25 to 60°C [–13 to 140°F]	–25 to 60°C [–13 to 140°F]
Ambient storage temperature	–40 to 80°C [–40 to 176°F]	–40 to 80°C [–40 to 176°F]	–40 to 80°C [–40 to 176°F]	–40 to 80°C [–40 to 176°F]	–40 to 80°C [–40 to 176°F]	–40 to 80°C [–40 to 176°F]	–40 to 80°C [–40 to 176°F]
Environmental							
Mechanical shock							
Resistance (IEC/EN 60068-2-27)							
Half-sinusoidal shock 10 ms							
Main contact—NO contact	10g	10g	10g	10g	10g	10g	10g
Auxiliary contact—NO contact	10g	10g	10g	10g	10g	10g	10g
Auxiliary contact—NC contact	8g	8g	8g	8g	8g	8g	8g
Overvoltage category/pollution degree	III/3	III/3	III/3	III/3	III/3	III/3	III/3
Switching capacity, kVAR ^①							
Individual compensation							
230V	—	—	—	—	—	—	—
400/420/440V	—	—	—	—	—	—	—
525V	220	220	—	307	—	—	—
690V	133	133	—	177	—	—	—
Group compensation, with choke							
230V	—	—	100	—	160	160	160
400/420/440V	—	—	190	—	280	280	280
525V	—	—	260	—	370	370	370
690V	—	—	340	—	480	480	480

Note

^① When using contactors for group compensation, a minimum inductance of approx. 6 μ h per capacitor must be available to limit the high inrush current peaks. This corresponds to an air-cored coil with five windings and a coil diameter of approximately 140 mm. The conductor cross-section must be selected according to the rated current per phase.

XT Contactors—Frames N–R

Description	XTCE580N	XTCE650N	XTCE750N, XTCE820N	XTCEC10N	XTCEC14P	XTCEC16R, XTCEC20R
General						
Standards	IEC/EN 60947, VDE 0660, UL, CSA	IEC/EN 60947, VDE 0660, UL, CSA	IEC/EN 60947, VDE 0660, UL, CSA	IEC/EN 60947, VDE 0660, UL, CSA	IEC/EN 60947, VDE 0660, UL, CSA	IEC/EN 60947, VDE 0660, UL, CSA
Weights in kg [lb]	15 [33]	15 [33]	15 [33]	15 [33]	15, [33]	32 [70]
Mechanical life—operations	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
Mechanical operating frequency (ops/hr)						
AC operated	1000	1000	1000	1000	1000	1000
DC operated	1000	1000	1000	1000	1000	1000
Maximum operating frequency (ops/hr)	See Page V5-T1-113					
Climatic proofing	②	②	②	②	②	②
Insulation voltage (U _i) Vac	1000	1000	1000	1000	1000	1000
Impulse withstand voltage (U _{imp}) Vac	8000	8000	8000	8000	8000	8000
Operating voltage (U _e) Vac	1000	1000	1000	1000	1000	1000
Safe isolation to VDE 0106 Part 101 and Part 101/A1						
Between coil and contacts (Vac)	500	500	500	500	500	500
Between contacts (Vac)	500	500	500	500	500	500
Making capacity (amps)	7800	7800	9840	9840	9840	19000, 9840
Breaking capacity (amps)						
220/230V	6500	6500	8200	8200	8200	16000, 8200
380/400V	6500	6500	8200	8200	8200	16000, 8200
500V	6500	6500	8200	8200	8200	16000, 8200
660/690V	6500	6500	8200	8200	8200	16000, 8200
1000V	4350	4350	5800	5800	5800	5800
Short-circuit protection rating maximum fuse						
Type 2 coordination ①						
400V; gG/gL 500V	630	630	630	630	—	—
690V; gG/gL 690V	630	630	630	630	—	—
1000V; gG/gL 1000V	500	500	630	630	—	—
Type 1 coordination ①						
400V; gG/gL 500V	1000	1000	1200	1200	—	—
690V; gG/gL 690V	1000	1000	1200	1200	—	—
1000V; gG/gL 1000V	630	630	800	800	—	—
Degree of protection	IP00	IP00	IP00	IP00	IP00	IP00
Protection against direct contact when actuated from front (IEC 536)	Finger and back-of-hand proof with terminal shroud or terminal block	Finger and back-of-hand proof with terminal shroud or terminal block	Finger and back-of-hand proof with terminal shroud or terminal block	Finger and back-of-hand proof with terminal shroud or terminal block	Finger and back-of-hand proof with terminal shroud or terminal block	Finger and back-of-hand proof with terminal shroud or terminal block
Main cable cross-section						
Flexible with cable lug (mm ²)	50-240	50-240	50-240	50-240	50-240	50-240
Stranded with cable lug (mm ²)	70-240	70-240	70-240	70-240	70-240	70-240
Solid or stranded (AWG)	2/0–500 kcmil	2/0–500 kcmil	2/0–500 kcmil	2/0–500 kcmil	2/0–500 kcmil	2/0–500 kcmil
Flat conductor (mm)	③	③	③	③	③	③
Busbar—width in mm	50	50	50	50	50	50
Main cable connection screw/bolt	M10	M10	M12	M12	M12	M1
Tightening torque						
Nm	24	24	35	35	35	35
Lb-in	213	213	311	311	311	311

Notes

- ① IEC 60947 Standard.
 ② Damp heat, constant, to IEC 60068-2-78; damp heat, cyclic, to IEC 60 068-2-30.
 ③ Screw tightening with flat cable terminal or cable terminal blocks. See terminal capacity for cable terminal blocks.

XT Contactors—Frames N–R, continued

Description	XTCE580N	XTCE650N	XTCE750N, XTCE820N	XTCEC10N	XTCEC14P	XTCEC16R, XTCEC20R
General, continued						
Control circuit cable cross-sections						
Solid (mm ²)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)
Flexible with ferrule (mm ²)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)
Solid or stranded (AWG)	2 x (18–12)	2 x (18–12)	2 x (18–12)	2 x (18–12)	2 x (18–12)	2 x (18–12)
Control circuit cable connection screw/bolt	M3.5	M3.5	M3.5	M3.5	M3.5	M3.5
Tightening torque						
Nm	1.2	1.2	1.2	1.2	1.2	1.2
Lb-in	10.6	10.6	10.6	10.6	10.6	10.6
Tools						
Main cable wrench	16 mm	16 mm	18 mm	18 mm	18 mm	18 mm
Control circuit cable pozidriv screwdriver	Size 2	Size 2	Size 2	Size 2	Size 2	Size 2
Mounting position, AC and DC operated						
Ambient temperature	–25 to 60°C [–13 to 140°F]	–25 to 60°C [–13 to 140°F]	–25 to 60°C [–13 to 140°F]	–25 to 60°C [–13 to 140°F]	–25 to 60°C [–13 to 140°F]	–25 to 60°C [–13 to 140°F]
Ambient storage temperature	–40 to 80°C [–40 to 176°F]	–40 to 80°C [–40 to 176°F]	–40 to 80°C [–40 to 176°F]	–40 to 80°C [–40 to 176°F]	–40 to 80°C [–40 to 176°F]	–40 to 80°C [–40 to 176°F]
Environmental						
Mechanical shock resistance (IEC/EN 60068-2-27)						
Half-sinusoidal shock 10 ms (g)						
Main contact—NO contact	10	10	10	10	10	10
Auxiliary contact—NO contact	10	10	10	10	10	10
Auxiliary contact—NC contact	8	8	8	8	8	8
Overtoltage category/pollution degree	III/3	III/3	III/3	III/3	III/3	III/3
Switching capacity, kVAR ^①						
Individual compensation						
230V	175	—	—	—	—	—
400/420/440V	300	—	—	—	—	—
525V	400	—	—	—	—	—
690V	300	—	—	—	—	—

Note

^① When using contactors for group compensation, a minimum inductance of approx. 6 uH per capacitor must be available to limit the high inrush current peaks. This corresponds to an air-cored coil with five windings and a coil diameter of approximately 140 mm. The conductor cross-section must be selected according to the rated current per phase.

Coil Data—Frames B–D

Description	XTCE007B	XTCE009B	XTCE012B, XTCF020B	XTCE015B	XTCE018C	XTCE025C	XTCE032C	XTCE040D	XTCE050D	XTCE065D, XTCE072D
Voltage Tolerance										
Pickup (x U _c)										
AC operated	0.8–1.1	0.8–1.1	0.8–1.1	0.8–1.1	0.8–1.1	0.8–1.1	0.8–1.1	0.8–1.1	0.8–1.1	0.8–1.1
DC operated	0.8–1.1 ^①	0.8–1.1 ^①	0.8–1.1 ^①	0.8–1.1 ^①	0.7–1.2 ^②	0.7–1.2 ^②	0.7–1.2 ^②	0.7–1.2 ^②	0.7–1.2 ^②	0.7–1.2 ^②
Dropout (x U _c)										
AC operated	0.3–0.6	0.3–0.6	0.3–0.6	0.3–0.6	0.3–0.6	0.3–0.6	0.3–0.6	0.3–0.6	0.3–0.6	0.3–0.6
DC operated	0.15–0.6	0.15–0.6	0.15–0.6	0.15–0.6	0.15–0.6	0.15–0.6	0.15–0.6	0.15–0.6	0.15–0.6	0.15–0.6
Power Consumption of the Coil at Cold State and 1.0 x U_c										
AC operated										
Single-voltage coil 50 Hz										
Pickup VA	24	24	24	24	52	52	52	149	149	149
Pickup W	19	19	19	19	40	40	40	80	80	80
Sealing VA	3.4	3.4	3.4	3.4	7.1	7.1	7.1	16	16	16
Sealing W	1.2	1.2	1.2	1.2	2.1	2.1	2.1	4.3	4.3	4.3
Single-voltage coil 60 Hz										
Pickup VA	30	30	30	30	67	67	67	178	178	178
Pickup W	23	23	23	23	50	50	50	117	117	117
Sealing VA	4.4	4.4	4.4	4.4	8.7	8.7	8.7	19	19	19
Sealing W	1.4	1.4	1.4	1.4	2.6	2.6	2.6	5.3	5.3	5.3
50/60 Hz										
Pickup VA	27 25	27 25	27 25	27 25	62 58	62 58	62 58	168 154	168 154	168 154
Pickup W	22 21	22 21	22 21	22 21	48 43	48 43	48 43	120 43	120 43	120 43
Sealing VA	4.2 3.3	4.2 3.3	4.2 3.3	4.2 3.3	9.1 6.5	9.1 6.5	9.1 6.5	22 14	22 14	22 14
Sealing W	1.4 1.2	1.4 1.2	1.4 1.2	1.4 1.2	2.5 2	2.5 2	2.5 2	5.3 4.3	5.3 4.3	5.3 4.3
DC operated										
Pickup W	3	3	4.5	4.5	12 at 24V	12 at 24V	12 at 24V	24 at 24V	24 at 24V	24 at 24V
Sealing W	3	3	4.5	4.5	0.5 at 24V	0.5 at 24V	0.5 at 24V	0.5 at 24V	0.5 at 24V	0.5 at 24V
Duty factor (%DF)	100	100	100	100	100	100	100	100	100	100
Switching Time at 100% U_c (Approximate Values)										
Main contact										
AC operated										
Closing delay (ms)	<21	<21	<21	<21	<22	<22	<22	<18	<18	<18
Opening delay (ms)	<18	<18	<18	<18	<14	<14	<14	<13	<13	<13
DC operated										
Closing delay (ms)	<31	<31	<31	<31	<47	<47	<47	<54	<54	<54
Opening delay (ms)	<12	<12	<12	<12	<30	<30	<30	<24	<24	<24
Arcing time (ms)	10	10	10	10	10	10	10	10	10	10
Electromagnetic Compatibility (EMC)										
Emitted interference	To EN-60947-1	To EN-60947-1	To EN-60947-1	To EN-60947-1	To EN-60947-1	To EN-60947-1	To EN-60947-1	To EN-60947-1	To EN-60947-1	To EN-60947-1
Noise immunity	To EN-60947-1	To EN-60947-1	To EN-60947-1	To EN-60947-1	To EN-60947-1	To EN-60947-1	To EN-60947-1	To EN-60947-1	To EN-60947-1	To EN-60947-1

Notes

① 0.7–1.3 without additional auxiliary contact modules and ambient temperature +40°C [104°F].

② Coil Suffix TD: U_{min} 24 Vdc/U_{max} 27 Vdc.
 Coil Suffix WD: U_{min} 48 Vdc/U_{max} 60 Vdc.
 Coil Suffix AD: U_{min} 110 Vdc/U_{max} 130 Vdc.
 Coil Suffix BD: U_{min} 200 Vdc/U_{max} 240 Vdc.

Example:

$$U_c = 0.7 \times U_{\min} \text{—} 1.2 \times U_{\max}$$

$$U_c = 0.7 \times 24V \text{—} 1.2 \times 27 Vdc$$

Coil Data—Frames F–G

Description	XTCE80F	XTCE95F	XTCE115G	XTCE150G	XTCE170G
Voltage Tolerance					
Pickup (x U _c)					
AC operated	0.8–1.1	0.8–1.1	0.8–1.1	0.8–1.1	0.8–1.1
DC operated	0.7–1.2 ^①	0.7–1.2 ^①	0.7–1.2 ^①	0.7–1.2 ^①	0.7–1.2 ^①
Dropout (x U _c)					
AC operated	0.3–0.6	0.3–0.6	0.25–0.6	0.25–0.6	0.25–0.6
DC operated	0.15–0.6	0.15–0.6	0.15–0.6	0.15–0.6	0.15–0.6
Power Consumption of the Coil at Cold State and 1.0 x U_c					
AC operated					
Single-voltage coil 50 Hz					
Pickup VA	310	310	180	180	180
Pickup W	165	165	130	130	130
Sealing VA	26	26	3.1	3.1	3.1
Sealing W	5.8	5.8	2.1	2.1	2.1
Single-voltage coil 60 Hz					
Pickup VA	345	345	170	170	170
Pickup W	190	190	130	130	130
Sealing VA	30	30	3.1	3.1	3.1
Sealing W	7.1	7.1	2.1	2.1	2.1
50/60 Hz					
Pickup VA	372	328	170	170	170
Pickup W	190	190	130	130	130
Sealing VA	37.1	22.6	3.1	3.1	3.1
Sealing W	7.5	6.1	2.1	2.1	2.1
DC operated					
Pickup W	90 at 24V	90 at 24V	149 at 24V	149 at 24V	149 at 24V
Sealing W	1.3 at 24V	1.3 at 24V	2.1 at 24V	2.1 at 24V	2.1 at 24V
Duty factor (%DF)	100	100	100	100	100
Switching Time at 100% U_c (Approximate Values)					
Main contact					
AC operated					
Closing delay (ms)	<20	<20	<33	<33	<33
Opening delay (ms)	<14	<14	<41	<41	<41
DC operated					
Closing delay (ms)	<45	<45	<35	<35	<35
Opening delay (ms)	<34	<34	<30	<30	<30
Arcing time (ms)	15	15	15	15	15
Permissible residual current with actuation of A1–A2 by the electronics (with 0 signal) (mA)	≤1	≤1	≤1	≤1	≤1
Electromagnetic Compatibility (EMC)					
Emitted interference	To EN60947-1	To EN60947-1	To EN60947-1	To EN60947-1	To EN60947-1
Noise immunity	To EN60947-1	To EN60947-1	To EN60947-1	To EN60947-1	To EN60947-1

Note

① At 24V: 0.7–1.3 without additional auxiliary contact modules and ambient temperature +40°C [104°F].

Coil Data—Frames H–R

Description	XTCE185H, XTCE225H	XTCE250L, XTCS250L	XTCE300L, XTCS300L	XTCE400M, XTCS400M, XTCE500M, XTCS500M, XTCE570M, XTCS570M
Voltage Tolerance				
Pickup ($x U_c$)				
XTCE185H–XTCEC20R	$0.8 \times U_{cmin} - 1.15 \times U_{cmax}$	$0.7 \times U_{cmin} - 1.15 \times U_{cmax}$	$0.7 \times U_{cmin} - 1.15 \times U_{cmax}$	$0.7 \times U_{cmin} - 1.15 \times U_{cmax}$
XTCS250L–XTCS500M	—	$0.85 \times U_{cmin} - 1.1 \times U_{cmax}$	$0.85 \times U_{cmin} - 1.1 \times U_{cmax}$	$0.85 \times U_{cmin} - 1.1 \times U_{cmax}$
Dropout ($x U_c$)				
XTCE185H–XTCEC20R	$0.2 \times U_{cmin} - 0.6 \times U_{cmax}$	$0.2 \times U_{cmin} - 0.6 \times U_{cmax}$	$0.2 \times U_{cmin} - 0.6 \times U_{cmax}$	$0.2 \times U_{cmin} - 0.6 \times U_{cmax}$
XTCS250L–XTCS500M	—	$0.2 \times U_{cmin} - 0.4 \times U_{cmax}$	$0.2 \times U_{cmin} - 0.4 \times U_{cmax}$	$0.2 \times U_{cmin} - 0.4 \times U_{cmax}$
Power Consumption of the Coil at Cold State and 1.0 x U_c				
XTCE185H–XTCEC20R				
Pickup VA	210 ①	250 ①	380 ①	450 ①
Pickup W	180	200	250	350
Sealing VA	2.6	4.3	4.3	4.3
Sealing W	2.1	3.3	3.3	3.3
XTCS250L–XTCS500M				
Pickup VA	—	360	360	715
Pickup W	—	325	625	645
Sealing VA	—	4.3	4.3	4.3
Sealing W	—	3.3	3.3	3.3
Duty factor (%DF)	—	100	100	100
Switching Time at 100% Main Contact U_c (Approximate Values)				
XTCE185H–XTCEC20R				
Closing delay (ms)	<60	<100	<80	<80
Opening delay (ms)	<40	<80	<110	<80
XTCS250L–XTCS500M				
Closing delay (ms)	—	<50	<55	<50
Opening delay (ms)	—	<40	<40	<40
Reaction in Threshold and Sealing State Transition Range (XTCE185H–XTCEC20R)				
Voltage interruptions				
($0 - 0.2 \times U_{cmin}$) ≤ 10 ms	Time is bridged successfully	Time is bridged successfully	Time is bridged successfully	Time is bridged successfully
($0 - 0.2 \times U_{cmin}$) > 10 ms	Dropout of the contactor	Dropout of the contactor	Dropout of the contactor	Dropout of the contactor
Voltage dips				
($0.2 - 0.6 \times U_{cmin}$) ≤ 12 ms	Time is bridged successfully	Time is bridged successfully	Time is bridged successfully	Time is bridged successfully
($0.2 - 0.6 \times U_{cmin}$) > 12 ms	Contactors remains switched on	Contactors remains switched on	Dropout of the contactor	Contactors remains switched on
($0.6 - 0.7 \times U_{cmin}$)	Contactors remains switched on	Contactors remains switched on	Contactors remains switched on	Contactors remains switched on
Excess voltage				
($1.15 - 1.3 \times U_{cmax}$)	Contactors remains switched on	Contactors remains switched on	Contactors remains switched on	Contactors remains switched on
($> 1.3 \times U_{cmax}$) ≤ 3s	Contactors remains switched on	Contactors remains switched on	Contactors remains switched on	Contactors remains switched on
($> 1.3 \times U_{cmax}$) > 3s	Dropout of the contactor	Dropout of the contactor	Dropout of the contactor	Dropout of the contactor
Pickup phase				
($0 - 0.7 \times U_{cmin}$)	Contactors does not switch on	Contactors does not switch on	Contactors does not switch on	Contactors does not switch on
($0.7 \times U_{cmin} - 1.15 \times U_{cmax}$)	Contactors switches on with certainty	Contactors switches on with certainty	Contactors switches on with certainty	Contactors switches on with certainty
($> 1.15 \times U_{cmax}$)	Contactors switches on with certainty	Contactors switches on with certainty	Contactors switches on with certainty	Contactors switches on with certainty

Note① Control transformer with $U_k \leq 6\%$.

Coil Data—Frames H–R, continued

Description	XTCE185H, XTCE225H	XTCE250L, XTCS250L	XTCE300L, XTCS300L	XTCE400M, XTCS400M, XTCE500M, XTCS500M, XTCE570M, XTCS570M
Reaction in Threshold and Sealing State Transition Range (XTCE185H–XTCEC20R), continued				
Permissible contact resistance (of the external command device with actuation of A11), ohms	—	≤500	≤500	≤500
Permissible residual current (with actuation of A11 by the electronics with 0 signal)	—	≤1	≤1	≤1
SPS signal level (A3–A4) to IEC/EN 61131-2 (Type 2)				
High	15V	15V	15V	15V
Low	5V	5V	5V	5V
Electromagnetic compatibility (EMC)	This product is designed for operation in industrial environments (environment 2). The use in residential environments (environment 1) could cause electrical interference so that addition suppression must be planned.			

Coil Data—Frames N–R

Description	XTCE580N	XTCE750N, XTCE820N	XTCEC10N	XTCEC14P	XTCE16R, XTCEC20R
Voltage Tolerance					
Pickup ($\times U_c$)					
XTCE185L–XTCEC20R	$0.7 \times U_{cmin} - 1.15 \times U_{cmax}$	$0.7 \times U_{cmin} - 1.15 \times U_{cmax}$	$0.7 \times U_{cmin} - 1.15 \times U_{cmax}$	$0.7 \times U_{cmin} - 1.15 \times U_{cmax}$	$0.7 \times U_{cmin} - 1.15 \times U_{cmax}$
XTCS185L–XTCS500M	$0.85 \times U_{cmin} - 1.1 \times U_{cmax}$	$0.85 \times U_{cmin} - 1.1 \times U_{cmax}$	$0.85 \times U_{cmin} - 1.1 \times U_{cmax}$	$0.85 \times U_{cmin} - 1.1 \times U_{cmax}$	$0.85 \times U_{cmin} - 1.1 \times U_{cmax}$
Dropout ($\times U_c$)					
XTCE185L–XTCEC20R	$0.2 \times U_{cmin} - 0.6 \times U_{cmax}$	$0.2 \times U_{cmin} - 0.6 \times U_{cmax}$	$0.2 \times U_{cmin} - 0.6 \times U_{cmax}$	$0.2 \times U_{cmin} - 0.6 \times U_{cmax}$	$0.2 \times U_{cmin} - 0.6 \times U_{cmax}$
XTCS185L–XTCS500M	$0.2 \times U_{cmin} - 0.4 \times U_{cmax}$	$0.2 \times U_{cmin} - 0.4 \times U_{cmax}$	$0.2 \times U_{cmin} - 0.4 \times U_{cmax}$	$0.2 \times U_{cmin} - 0.4 \times U_{cmax}$	$0.2 \times U_{cmin} - 0.4 \times U_{cmax}$
Power Consumption of the Coil at Cold State and $1.0 \times U_c$					
XTCE185L–XTCEC20R					
Pickup VA	800 ^①	800 ^①	800 ^①	800 ^①	1600 ^①
Pickup W	700	700	700	700	1400
Sealing VA	7.5	7.5	7.5	7.5	15
Sealing W	6.5	6.5	6.5	6.5	13
XTCS185L–XTCS500M					
Pickup VA	—	—	—	—	—
Pickup W	—	—	—	—	—
Sealing VA	—	—	—	—	—
Sealing W	—	—	—	—	—
Duty factor (%DF)	100	100	100	100	100
Switching Time at 100% Main Contact U_c (Approximate Values)					
XTCE185L–XTCEC20R					
Closing delay (ms)	<70	<70	<70	<70	<70
Opening delay (ms)	<70	<70	<70	<40	<40
XTCS185L–XTCS500M					
Closing delay (ms)	—	—	—	—	—
Opening delay (ms)	—	—	—	—	—

Note

① Control transformer with $U_k \leq 7\%$.

Coil Data—Frames N–R, continued

Description	XTCE580N	XTCE750N, XTCE820N	XTCEC10N	XTCEC14P	XTCE16R, XTCEC20R
Reaction in Threshold and Sealing State Transition Range (XTCE185L–XTCEC20R)					
Voltage interruptions					
$(0-0.2 \times U_{cmin}) \leq 10$ ms	Time is bridged successfully	Time is bridged successfully	Time is bridged successfully	Time is bridged successfully	Time is bridged successfully
$(0-0.2 \times U_{cmin}) > 10$ ms	Dropout of the contactor	Dropout of the contactor	Dropout of the contactor	Dropout of the contactor	Dropout of the contactor
Voltage dips					
$(0.2-0.6 \times U_{cmin}) \leq 12$ ms	Time is bridged successfully	Time is bridged successfully	Time is bridged successfully	Time is bridged successfully	Time is bridged successfully
$(0.2-0.6 \times U_{cmin}) > 12$ ms	Dropout of the contactor	Dropout of the contactor	Dropout of the contactor	Dropout of the contactor	Dropout of the contactor
$(0.6-0.7 \times U_{cmin})$	Contactor remains switched on	Contactor remains switched on	Contactor remains switched on	Contactor remains switched on	Contactor remains switched on
Excess voltage					
$(1.15-1.3 \times U_{cmax})$	Contactor remains switched on	Contactor remains switched on	Contactor remains switched on	Contactor remains switched on	Contactor remains switched on
$(>1.3 \times U_{cmax}) \leq 3$ s	Contactor remains switched on	Contactor remains switched on	Contactor remains switched on	Contactor remains switched on	Contactor remains switched on
$(>1.3 \times U_{cmax}) > 3$ s	Dropout of the contactor	Dropout of the contactor	Dropout of the contactor	Dropout of the contactor	Dropout of the contactor
Pickup phase					
$(0-0.7 \times U_{cmin})$	Contactor does not switch on	Contactor does not switch on	Contactor does not switch on	Contactor does not switch on	Contactor does not switch on
$(0.7 \times U_{cmin} - 1.15 \times U_{cmax})$	Contactor switches on with certainty	Contactor switches on with certainty	Contactor switches on with certainty	Contactor switches on with certainty	Contactor switches on with certainty
$(>1.15 \times U_{cmax})$	Contactor switches on with certainty	Contactor switches on with certainty	Contactor switches on with certainty	Contactor switches on with certainty	Contactor switches on with certainty
Permissible contact resistance (of the external command device with actuation of A11), ohms	≤ 500	≤ 500	≤ 500	≤ 500	≤ 500
Permissible residual current (with actuation of A11 by the electronics with 0 signal)	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1
SPS signal level (A3–A4) to IEC/EN 61131-2 (Type 2)					
High	15V	15V	15V	15V	15V
Low	5V	5V	5V	5V	5V
Electromagnetic compatibility (EMC)	①	①	①	①	①

Note

- ① This product is designed for operation in industrial environments. Usage in domestic areas can cause radio frequency interference (RFI). Noise suppression measures must be provided for the additional interference.

XT Contactors—Four-Pole

Description	XTCF020B	XTCF032C	XTCF045C	XTCF063D	XTCF080D	XTCF125G	XTCF160G	XTCF200G
General								
Standards	IEC/EN 60947, VDE 0660, UL, CSA	IEC/EN 60947, VDE 0660, UL, CSA	IEC/EN 60947, VDE 0660, UL, CSA	IEC/EN 60947, VDE 0660, UL, CSA	IEC/EN 60947, VDE 0660, UL, CSA	IEC/EN 60947, VDE 0660, UL, CSA	IEC/EN 60947, VDE 0660, UL, CSA	IEC/EN 60947, VDE 0660, UL, CSA
Weights in kg [lb]								
AC operated	0.22 [0.49]	0.49 [1.1]	0.49 [1.1]	1.0 [2.3]	1.0 [2.3]	2.8 [6.2]	2.8 [6.2]	2.8 [6.2]
DC operated	0.29 [0.64]	0.49 [1.1]	0.49 [1.1]	1.0 [2.3]	1.0 [2.3]	2.8 [6.2]	2.8 [6.2]	2.8 [6.2]
Mechanical life—operations	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000
Mechanical operating frequency (ops/hr)								
AC operated	5000	5000	5000	5000	5000	3600	3600	3600
DC operated	5000	5000	5000	5000	5000	3600	3600	3600
Electrical life	See Curves, Page V5-T1-111	See Curves, Page V5-T1-111	See Curves, Page V5-T1-111	See Curves, Page V5-T1-111	See Curves, Page V5-T1-111	See Curves, Page V5-T1-111	See Curves, Page V5-T1-111	See Curves, Page V5-T1-111
Electrical operating frequency (ops/hr)	600	600	600	600	600	600	600	600
Climatic proofing								
	①	①	①	①	①	①	①	①
	②	②	②	②	②	②	②	②
Insulation voltage (U _i) Vac	690	690	690	690	690	690	690	690
Impulse withstand voltage (U _{imp}) Vac	8000	8000	8000	8000	8000	8000	8000	8000
Operation voltage (U _e) Vac	690	690	690	690	690	690	690	690
Safe isolation to VDE 0106 Part 101 and Part 101/A1								
Between coil and contacts (Vac)	400	440	440	440	440	440	440	440
Between contacts (Vac)	400	440	440	440	440	440	440	440
Making capacity up to 690V (amps)	144	238	350	560	700	1120	1330	1800
Breaking capacity (amps)								
220/230V	120	180	250	00	00	800	950	1150
380/400V	120	180	250	400	500	800	950	1150
500V	100	180	250	400	500	800	950	1150
660/690V	70	120	144	250	296	650	750	800
Short-circuit protection rating maximum fuse								
Type 2 coordination								
400V; gG/gL 500V	20	35	35	63	80	160	160	250
690V; gG/gL 690V	2	35	35	50	63	160	160	200
Type 1 coordination								
400V; gG/gL 500V	35	6	100	125	160	250	250	250
690V; gG/gL 690V	25	50	50	80	80	200	200	200
Degree of protection with accessories								
	IP20	IP00	IP00	IP00	IP00	IP00	IP00	IP00
	—	—	—	IP20	IP20	IP20	IP20	IP20
Protection against direct contact when actuated from front (IEC 536)								
	Finger and back-of-hand proof	Finger and back-of-hand proof	Finger and back-of-hand proof	Finger and back-of-hand proof	Finger and back-of-hand proof	Finger and back-of-hand proof	Finger and back-of-hand proof	Finger and back-of-hand proof

Notes

- ① Damp heat, constant, to IEC 60068-2-3.
 ② Damp heat, cyclical, to IEC 60068-2-30.

XT Contactors—Four-Pole, continued

Description	XTCF020B	XTCF032C	XTCF045C	XTCF063D	XTCF080D	XTCF125G	XTCF160G	XTCF200G
General, continued								
Terminal capacity main cable—screw terminals								
Solid (mm ²)	1 x (0.75–4) 2 x (0.75–2.5)	1 x (0.75–16) 2 x (0.75–10)	1 x (0.75–16) 2 x (0.75–10)	1 x (2.5–16) 2 x (2.5–16)	1 x (2.5–16) 2 x (2.5–16)	—	—	—
Flexible with ferrule (mm ²)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–16) 2 x (0.75–10)	1 x (0.75–16) 2 x (0.75–10)	1 x (2.5–35) 2 x (2.5–25)	1 x (2.5–35) 2 x (2.5–25)	1 x (10–95) 2 x (10–70)	1 x (10–95) 2 x (10–70)	1 x (10–95) 2 x (10–70)
Solid or stranded (AWG)	18–14	18–6	18–6	12–2	12–2	8–250 kcmil	8–250 kcmil	8–250 kcmil
Terminal capacity control circuit cable—screw terminals								
Solid (mm ²)	1 x (0.75–4) 2 x (0.75–2.5)	1 x (0.75–4) 2 x (0.75–2.5)	1 x (0.75–4) 2 x (0.75–2.5)	1 x (0.75–4) 2 x (0.75–2.5)	1 x (0.75–4) 2 x (0.75–2.5)	1 x (0.75–4) 2 x (0.75–2.5)	1 x (0.75–4) 2 x (0.75–2.5)	1 x (0.75–4) 2 x (0.75–2.5)
Flexible with ferrule (mm ²)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)	1 x (0.75–2.5) 2 x (0.75–2.5)
Solid or stranded (AWG)	18–14	18–14	18–14	18–14	18–14	18–14	18–14	18–14
Main cable connection screw/bolt								
Tightening torque								
Nm	1.2	3	3	3.3	3.3	14	14	14
Lb-in	10.6	26.6	26.6	29.2	29.2	123.9	123.9	123.9
Control circuit cable connection screw/bolt								
Tightening torque								
Nm	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Lb-in	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6
Tools								
Main and control circuit cable—								
Screw terminals	2	2	2	2	2	—	—	—
Pozidriv screwdriver	0.8 x 5.5	0.8 x 5.5	0.8 x 5.5	0.8 x 5.5	0.8 x 5.5	—	—	—
Standard screwdriver	1 x 6	1 x 6	1 x 6	1 x 6	1 x 6	—	—	—
Mounting position, AC and DC operated								
Ambient temperature								
Open	–25 to 60°C (–13 to 140°F)	–25 to 60°C (–13 to 140°F)	–25 to 60°C (–13 to 140°F)	–25 to 60°C (–13 to 140°F)	–25 to 60°C (–13 to 140°F)	–25 to 60°C (–13 to 140°F)	–25 to 60°C (–13 to 140°F)	–25 to 60°C (–13 to 140°F)
Enclosed	–25 to 40°C (–13 to 104°F)	–25 to 40°C (–13 to 104°F)	–25 to 40°C (–13 to 104°F)	–25 to 40°C (–13 to 104°F)	–25 to 40°C (–13 to 104°F)	–25 to 40°C (–13 to 104°F)	–25 to 40°C (–13 to 104°F)	–25 to 40°C (–13 to 104°F)
Ambient storage temperature	–40 to 80°C (–40 to 176°F)	–40 to 80°C (–40 to 176°F)	–40 to 80°C (–40 to 176°F)	–40 to 80°C (–40 to 176°F)	–40 to 80°C (–40 to 176°F)	–40 to 80°C (–40 to 176°F)	–40 to 80°C (–40 to 176°F)	–40 to 80°C (–40 to 176°F)

XT Contactors—Four-Pole, continued

Description	XTCF020B	XTCF032C	XTCF045C	XTCF063D	XTCF080D	XTCF125G	XTCF160G	XTCF200G
Environmental								
Mechanical shock resistance (IEC/EN 60068-2-27)								
Half-sinusoidal shock 10 ms								
Main contact—NO contact	10g	10g	10g	10g	10g	10g	10g	10g
Auxiliary contact—NO contact	7g	7g	7g	7g	7g	7g	7g	7g
Auxiliary contact—NC contact	5g	5g	5g	5g	5g	5g	5g	5g
Overvoltage category/pollution degree	III/3	III/3	III/3	III/3	III/3	III/3	III/3	III/3
Coil Data Voltage Tolerance								
Pickup ($\times U_c$)								
AC operated	0.8–1.1	0.8–1.1	0.8–1.1	0.8–1.1	0.8–1.1	0.8–1.1	0.8–1.1	0.8–1.1
DC operated	0.8–1.1	0.7–1.2	0.7–1.2	0.7–1.2	0.7–1.2	0.7–1.2	0.7–1.2	0.7–1.2
Dropout ($\times U_c$)								
AC operated	0.4–0.6	0.4–0.6	0.4–0.6	0.4–0.6	0.4–0.6	0.4–0.6	0.4–0.6	0.4–0.6
DC operated	0.2–0.6	0.2–0.6	0.2–0.6	0.2–0.6	0.2–0.6	0.2–0.6	0.2–0.6	0.2–0.6
Power Consumption of the Coil at Cold State and 1.0 $\times U_c$								
AC operated 50/50Hz								
Pickup VA	24	50	50	150	150	180	180	180
Pickup W	19	40	40	95	95	150	150	150
Sealing VA	4	8	8	16	16	3.1	3.1	3.1
Sealing W	1.2	2.4	2.4	4	4	2.1	2.1	2.1
DC operated								
Pickup W	4.5	12	12	24	24	149	149	149
Sealing W	4.5	0.5	0.5	0.5	0.5	2.1	2.1	2.1
Duty factor (%DF)	100	100	100	100	100	100	100	100
Switching Time at 100% U_c (Approximate Values)								
Main contact								
AC operated								
Closing delay (ms)	15 to 21	6 to 22	6 to 22	12 to 18	12 to 18	28 to 33	28 to 33	28 to 33
Opening delay (ms)	9 to 18	8 to 14	8 to 14	8 to 13	8 to 13	35 to 41	35 to 41	35 to 41
DC operated								
Closing delay (ms)	31	47	47	54	54	35	35	35
Opening delay (ms)	12	30	30	24	24	30	30	30
Arcing time (ms)	10	10	10	10	10	15	15	15

Parallel Link

Description	XTCEXPLKB	XTECXPLKC	XTCEXPLKD	XTCEXPLKG	XTCEXPLK185
Terminal capacity					
Solid (mm ²)	1–16	16	16	—	—
Flexible with ferrule (mm ²)	1 x (0.5–25) 2 x (0.5–16)	1 x (16–35)	1 x (16–120)	—	—
Stranded (mm ²)	1 x (0.5–25) 2 x (0.5–16)	1 x (16–50)	1 x (16–120)	1 x (35–300) 2 x (35–120)	—
Flat conductor—number of segments x width x thickness (mm)	6 x 9 x 0.8	—	—	2 x (11 x 21 x 1)	1 x (6 x 16 x 0.8) 2 x (20 x 32 x 0.5) 2 x (11 x 21 x 1)
Tightening torque (Nm)	4	4	14	—	—
Tools					
Pozidriv screwdriver	Size 2	Size 2	—	—	—
Hexagon socket head spanner—SW (mm)	—	—	5	6	—
Conventional thermal current					
Three-pole (I _{th}) A	50	100	180	400	—
Four-pole (I _{th}) A	60	—	—	—	—

Cable Terminal Block, Flat Cable Terminal

Description	XTCEXTLA225A	XTCEXTLA400	XTCEXPLK185	XTCEXTFB650	XTCEXTFB820
Terminal capacity					
Stranded (mm ²)	1 x (16–185) 2 x (16–150)	1 x (120–300) 2 x (70–240)	—	—	—
Stranded (AWG)	1 x (6–350 kcmil) 2 x (6–350 kcmil)	1 x (250–600 kcmil) 2 x (2/0–500 kcmil)	—	—	—
Flat conductor—number of segments x width x thickness (mm)	—	—	1 x (6 x 16 x 0.8) 2 x (20 x 32 x 0.5) 2 x (11 x 21 x 1)	1 x (6 x 16 x 0.8) 2 x (20 x 32 x 0.5) 2 x (11 x 21 x 1)	1 x (6 x 16 x 0.8) 2 x (10 x 40 x 1) 2 x (20 x 40 x 0.5)

AC Ratings—AC-1 Operation

Description	XTCE007B	XTCE009B	XTCE012B	XTCE015B	XTCE018C	XTCE025C	XTCE032C
Conventional free air thermal current, three-pole, 50–60 Hz							
Open							
at 40°C (I _{th})	22A	22A	22A	22A	40A	45A	45A
at 50°C (I _{th})	21A	21A	21A	21A	38A	43A	43A
at 55°C (I _{th})	21A	21A	21A	21A	37A	42A	42A
at 60°C (I _{th})	20A	20A	20A	20A	35A	40A	40A
Enclosed	18A	18A	18A	18A	32A	36A	36A
Conventional free air thermal current, single-pole (I _{th})							
Open	50A	50A	50A	50A	88A	100A	100A
Enclosed	45A	45A	45A	45A	80A	90A	90A

AC Ratings—AC-3 Operation

Description	XTCE007B	XTCE009B	XTCE012B	XTCE015B	XTCE018C	XTCE025C	XTCE032C
Rated operational current, 50/60 Hz ^① (I _g) in amperes							
220/230V	7	9	12	15.5	18	25	32
240V	7	9	12	15.5	18	25	32
380/400V	7	9	12	15.5	18	25	32
415V	7	9	12	15.5	18	25	32
440V	7	9	12	15.5	18	25	32
500V	5	7	10	12.5	18	25	32
660/690V	4	5	7	9	12	15	18
1000V	—	—	—	—	—	—	—
Rated power (P) in kilowatts							
220/230V	2.2	2.5	3.5	4	5	7.5	10
240V	2.2	3	4	4.6	5.5	8.5	11
380/400V	3	4	5.5	7.5	7.5	11	15
415V	4	5.5	7	8	10	14.5	19
440V	4.5	5.5	7.5	8.4	10.5	15.5	20
500V	3.5	4.5	7	7.5	12	17.5	23
660/690V	3.5	4.5	6.5	7	11	14	17
1000V	—	—	—	—	—	—	—

AC Ratings—AC-4 Operation

Description	XTCE007B	XTCE009B	XTCE012B	XTCE015B	XTCE018C	XTCE025C	XTCE032C
Rated operational current, 50/60 Hz ^② (I _g) in amperes							
220/230V	5	6	7	7	10	13	15
240V	5	6	7	7	10	13	15
380/400V	5	6	7	7	10	13	15
415V	5	6	7	7	10	13	15
440V	5	6	7	7	10	13	15
500V	4.5	5	6	6	1	13	1
660/690V	4	4.5	5	5	8	10	12
1000V	—	—	—	—	—	—	—
Rated power (P) in kilowatts							
220/230V	1	1.5	2	2	2.5	3.5	4
240V	1.5	1.6	2.2	2.2	3	4	4.5
380/400V	2.2	2.5	3	3	4.5	6	7
415V	2.3	2.8	3.4	3.4	5	6.5	7.5
440V	2.4	3	3.6	3.6	5.5	7	8
500V	2.5	2.8	3.5	3.5	6	8	9
660/690V	2.9	3.6	4.4	4.4	6.5	8.5	10
1000V	—	—	—	—	—	—	—

Notes

① At maximum permissible ambient temperature.

② Example—

The transformer has a nominal current of 10A with an inrush current of 18 times the nominal current. So, the contactor must have an AC-3 current of $18/6 \times 10A = 30A$. Using an XTCE032C (32A AC-3) contactor is recommended.

AC Ratings—AC-6A Operation

Description	XTCE007B	XTCE009B	XTCE012B	XTCE015B	XTCE018C	XTCE025C	XTCE032C
Transformer loads	Values are application specific	Values are application specific	Values are application specific	Values are application specific	Values are application specific	Values are application specific	Values are application specific
Calculation is $I_g \text{ AC-3} = X / 6 * I_g$ transformer where X is the inrush current of the transformer and I_g transformer is the nominal current. ①							

AC Ratings—AC-6B Operation

Description	XTCE007B	XTCE009B	XTCE012B	XTCE015B	XTCE018C	XTCE025C	XTCE032C
Capacitor loads							
Individual compensation rated operational current I_g of three-phase capacitors in amperes							
Up to 525V							See Page V5-T1-63 for capacitor ratings
690V							See Page V5-T1-63 for capacitor ratings
Maximum inrush current peak (x I_g)	30	30	30	30	30	30	30
Component lifesaving (operations)	—	—	—	—	—	—	—
Maximum operating frequency (ops/hr)	—	—	—	—	—	—	—

AC Ratings—AC-1 Operation

Description	XTCE040D	XTCE050D	XTCE065D	XTCE072D	XTCE080F	XTCE095F	XTCE115G	XTCE150G	XTCE170G
Conventional free air thermal current, three-pole, 50–60 Hz									
Open									
at 40°C (I_{th})	60A	80A	98A	98A	110A	130A	160A	190A	275A ②
at 50°C (I_{th})	57A	71A	88A	88A	98A	125A	142A	180A	200A
at 55°C (I_{th})	55A	68A	83A	83A	94A	115A	135A	170A	190A
at 60°C (I_{th})	50A	65A	80A	80A	90A	110A	130A	160A	185A
Enclosed	45A	58A	72A	72A	80A	100A	115A	144A	166A
Conventional free air thermal current, single-pole (I_{th})									
Open	125A	162A	200A	200A	225A	275A	325A	400A	460A
Enclosed	112A	145A	180A	180A	200A	250A	285A	360A	415A

Notes

- ① Example—
The transformer has a nominal current of 10A with an inrush current of 18 times the nominal current. So, the contactor must have an AC-3 current of $18/6 \times 10A = 30A$. Using an XTCE032C (32A AC-3) contactor is recommended.
- ② For 225–275A, use 2X 70 mm² wire.
- ③ At maximum permissible ambient temperature.

AC Ratings—AC-3 Operation

Description	XTCE040D	XTCE050D	XTCE065D	XTCE072D	XTCE080F	XTCE095F	XTCE115G	XTCE150G	XTCE170G
Rated operational current, 50/60 Hz ^① (I _g) in amperes									
220/230V	40	50	65	72	80	95	115	150	170
240V	40	50	65	72	80	95	115	150	170
380/400V	40	50	65	7	80	95	115	150	170
415V	40	50	65	72	80	95	115	150	170
440V	40	50	65	72	80	95	115	15	170
500V	40	50	65	72	80	95	115	150	170
660/690	25	32	37	37	65	80	93	100	150
1000V	—	—	—	—	—	—	—	—	—
Rated power (P) in kilowatts									
220/230V	12.5	15.5	20	22	25	30	37	48	52
240V	13.5	17	22	35	27.5	34	40	52	57
380/400V	18.5	22	30	37	37	45	55	75	90
415V	24	30	39	41	43	57	70	91	100
440V	25	32	41	44	51	60	75	95	105
500V	28	36	47	45	58	70	85	110	120
660/690V	23	30	35	35	63	75	90	96	140
1000V	—	—	—	—	—	—	—	—	—

AC Ratings—AC-4 Operation

Description	XTCE040D	XTCE050D	XTCE065D	XTCE072D	XTCE080F	XTCE095F	XTCE115G	XTCE150G	XTCE170G
Rated operational current, 50/60 Hz ^① (I _g) in amperes									
220/230V	18	21	25	25	40	50	55	65	65
240V	18	21	25	25	40	50	55	65	65
380/400V	18	21	25	25	40	50	55	65	65
415V	18	21	25	25	40	50	55	65	65
440V	18	21	25	25	40	50	55	65	65
500V	18	21	25	25	40	50	55	65	65
660/690V	14	17	20	20	40	50	45	50	50
1000V	—	—	—	—	—	—	—	—	—
Rated power (P) in kilowatts									
220/230V	5	6	7	7	12	16	17	20	20
240V	5.5	6.5	7.5	7.5	13	17	19	22	22
380/400V	9	10	12	12	20	26	28	33	33
415V	9.5	11	13	13	24	30	33	39	39
440V	10	12	14	14	25	32	35	41	41
500V	11	13	16	16	29	36	40	47	47
660/690V	12	14	17	17	26	35	43	48	48
1000V	—	—	—	—	—	—	—	—	—

Note

^① At maximum permissible ambient temperature.

AC Ratings—AC6-A Operation

Description	XTCE040D	XTCE050D	XTCE065D	XTCE072D	XTCE080F	XTCE095F	XTCE115G	XTCE150G	XTCE170G
Transformer loads	Values are application specific	Values are application specific	Values are application specific	Values are application specific	Values are application specific	Values are application specific	Values are application specific	Values are application specific	Values are application specific

Calculation is $I_g AC-3 = X / 6 * I_g$ transformer where X is the inrush current of the transformer and I_g transformer is the nominal current. ^①

AC Ratings—AC6-B Operation

Description	XTCE040D	XTCE050D	XTCE065D	XTCE072D	XTCE080F	XTCE095F	XTCE115G	XTCE150G	XTCE170G
Capacitor loads									
Individual compensation rated operational current I_g of three-phase capacitors in amperes									
Up to 525V									
690V									
Maximum inrush current peak (x I_g)	30	30	30	30	30	30	30	30	30
Component lifesaving (operations)	—	—	—	—	—	—	—	—	—
Maximum operating frequency (ops/hr)	—	—	—	—	—	—	—	—	—

See **Page V5-T1-63** for capacitor ratings

See **Page V5-T1-63** for capacitor ratings

AC Ratings—AC-1 Operation

Description	XTCE185H	XTCE225L	XTCE250L	XTCE300L	XTCE400M	XTCE500M	XTCE570M	XTCE580N
Conventional free air thermal current, three-pole, 50–60 Hz								
at 40°C (I_{th})	337	356	429	490	612	857	857	980
at 50°C (I_{th})	301	310	383	438	548	767	767	876
at 55°C (I_{th})	287	295	366	418	522	731	731	836
at 60°C (I_{th})	275	285	350	400	500	700	700	800
Conventional free air thermal current, single-pole (I_{th})	245	275	875	315	1250	1750	1750	2000

Note

^① Example—The transformer has a nominal current of 10A with an inrush current of 18 times the nominal current. So, the contactor must have an AC-3 current of $18/6 \times 10A = 30A$. Using an XTCE032C (32A AC-3) contactor is recommended.

AC Ratings—AC-3 Operation

Description	XTCE185H	XTCE225L	XTCE250L	XTCE300L	XTCE400M	XTCE500M	XTCE570M	XTCE580N
Rated operational current, 50/60 Hz ^① (I _g) in amperes								
220/230V	185	225	250	300	400	500	580	580
240V	185	225	250	300	400	500	580	580
380/400V	185	225	250	300	400	500	580	580
415V	185	225	250	300	400	500	580	580
440V	185	225	250	300	400	500	580	580
500V	185	225	250	300	400	500	580	580
660/690V	150	160	250	210	400	500	580	580
1000V	76	76	76	95	95	95	95	435
Rated power (P) in kilowatts								
220/230V	55	70	75	90	125	155	185	185
240V	62	75	85	100	132	170	200	200
380/400V	90	110	132	160	200	250	315	315
415V	110	132	148	180	240	300	348	348
440V	115	138	157	185	255	345	370	370
500V	132	160	180	215	290	360	420	420
660/690V	140	150	240	195	344	344	344	560
1000V	108	108	108	132	132	132	132	600

AC Ratings—AC-4 Operation

Description	XTCE185H	XTCE225L	XTCE250L	XTCE300L	XTCE400M	XTCE500M	XTCE570M	XTCE580N
Rated operational current, 50/60 Hz ^① (I _g) in amperes								
220/230V	136	164	200	200	296	360	360	456
240V	136	164	200	200	296	360	360	456
380/400V	136	164	200	200	296	360	360	456
415V	136	164	200	200	296	360	360	456
440V	136	164	200	200	296	360	360	456
500V	136	164	200	200	296	360	360	456
660/690V	110	120	200	200	296	360	360	456
1000V	55	55	76	76	95	95	95	348
Rated power (P) in kilowatts								
220/230V	41	51	62	75	92	112	112	143
240V	45	54	68	82	101	122	122	156
380/400V	75	90	110	132	160	200	200	250
415V	80	96	117	142	176	216	216	274
440V	85	102	125	150	186	229	229	290
500V	96	116	143	172	214	260	260	330
660/690V	102	110	189	160	283	344	344	440
1000V	77	77	108	109	132	132	132	509

Note

^① At maximum permissible ambient temperature.

AC Ratings—AC-1 Operation

Description	XTCE650N	XTCE750N	XTCE820N	XTCEC10N	XTCEC14P	XTCEC16R	XTCEC20R
Conventional free air thermal current, three-pole, 50–60 Hz							
at 40°C (I_{th})	1041	1102	1225	1225	1714 ①	2200	2450 ①
at 50°C (I_{th})	931	986	1095	1095	1533 ①	1970	2190 ①
at 55°C (I_{th})	888	940	1044	1044	1462 ①	1800	2089 ①
at 60°C (I_{th})	850	900	1000	1000	1400 ①	1800	2000 ①
Conventional free air thermal current, single-pole (I_{th})	2125	2250	2500	2500	3500	4500	5000

AC Ratings—AC-3 Operation

Description	XTCE650N	XTCE750N	XTCE820N	XTCEC10N	XTCEC14P	XTCEC16R	XTCEC20R
Rated operational current, 50/60 Hz ② (I_b) in amperes							
220/230V	650	750	820	1000	—	1600	—
240V	650	750	820	1000	—	1600	—
380/400V	650	750	820	1000	—	1600	—
415V	650	750	820	1000	—	1600	—
440V	650	750	820	1000	—	1600	—
500V	650	750	820	1000	—	1600	—
660/690V	650	750	820	1000	—	1600	—
1000V	435	580	580	700	—	—	—
Rated power (P) in kilowatts							
220/230V	205	240	260	315	—	500	—
240V	225	260	285	340	—	550	—
380/400V	355	400	450	560	—	900	—
415V	390	455	500	610	—	930	—
440V	420	480	525	650	—	1000	—
500V	470	550	600	730	—	1180	—
660/690V	630	720	750	1000	—	1600	—
1000V	600	800	800	1000	—	—	—

Notes

① Up to 690V.

② At maximum permissible ambient temperature.

AC Ratings—AC-4 Operation

Description	XTCE650N	XTCE750N	XTCE820N	XTCEC10N	XTCEC14P	XTCEC16R	XTCEC20R
Rated operational current, 50/60 Hz ^① (I _g) in amperes							
220/230V	512	576	656	800	—	1280	—
240V	512	576	656	800	—	1280	—
380/400V	512	576	656	800	—	1280	—
415V	512	576	656	800	—	1280	—
440V	512	576	656	800	—	1280	—
500V	512	576	656	800	—	1280	—
660/690V	512	576	656	800	—	1280	—
1000V	348	464	464	700	—	—	—
Rated power (P) in kilowatts							
220/230V	161	181	209	260	—	30	—
240V	176	200	228	280	—	450	—
380/400V	280	315	355	450	—	750	—
415V	307	346	394	490	—	770	—
440V	32	367	41	520	—	830	—
500V	370	417	474	590	—	940	—
660/690V	494	556	633	780	—	1300	—
1000V	509	678	678	1000	—	—	—

AC Ratings—AC-6A Operation

Description	XTCE650N	XTCE750N	XTCE820N	XTCEC10N	XTCEC14P	XTCEC16R	XTCEC20R
Transformer loads	Values are application specific	Values are application specific	Values are application specific	Values are application specific	Values are application specific	Values are application specific	Values are application specific
Calculation is I _g AC-3 = X / 6 * I _g transformer where X is the inrush current of the transformer and I _g transformer is the nominal current. ^②							

Notes

^① At maximum permissible ambient temperature.

^② Example—The transformer has a nominal current of 10A with an inrush current of 18 times the nominal current. So, the contactor must have an AC-3 current of 18/6 x 10A = 30A. Using an XTCE032C (32A AC-3) contactor is recommended.

AC Ratings—AC-6B Operation

Description	XTCE650N	XTCE750N	XTCE820N	XTCEC10N	XTCEC14P	XTCEC16R	XTCEC20R
Capacitor loads Individual compensation rated operational current I_b of three-phase capacitors in amperes							
Up to 525V	463	463	463	463	—	—	—
690V	265	265	265	265	—	—	—
Maximum inrush current peak ($\times I_b$)	30	30	30	30	—	—	—
Component lifesaving (operations)	100,000	100,000	100,000	100,000	—	—	—
Maximum operating frequency (ops/hr)	200	200	200	200	—	—	—

AC Ratings—Four-Pole—AC-1 Operation

Description	XTCF020B	XTCF032C	XTCF045C	XTCF063D	XTCF080D	XTCF125G	XTCF160G	XTCF200G
Conventional free air thermal current, three-pole, 50-60 Hz								
Open (amps)								
at 40°C (I_{th})	22	32	45	3	80	125	160	200
at 50°C (I_{th})	21	30	41	60	76	116	15	188
at 60°C (I_{th})	20	28	39	54	69	108	138	172
Enclosed (amps)	18	27	36	50	64	100	128	160
Conventional free air thermal current, single-pole								
Open (amps)	60	84	117	162	207	325	415	516
Enclosed (amps)	54	76	105	146	186	292	373	464

AC Ratings—Four-Pole—AC-3 Operation

Description	XTCF020B	XTCF032C	XTCF045C	XTCF063D	XTCF080D	XTCF125G	XTCF160G	XTCF200G
Rated operational current, 50/60 Hz (I_b) in amperes								
220/230V	12	18	25	40	50	80	95	115
240V	12	18	25	40	50	80	95	115
380/400V	12	18	25	40	50	80	95	115
415V	12	18	25	40	50	80	95	115
440V	12	18	25	40	50	80	95	115
500V	10	18	25	40	50	80	95	115
660/690V	7	12	15	25	32	65	80	93
Rated power, (P) in kilowatts								
220/230V	3.5	5	7.5	2.5	15.5	25	30	37
240V	4	5.5	8.5	13.5	17	27.5	33	40
380/400V	5.5	7.5	11	18.5	22	37	45	55
415V	7	10	14.5	24	30	48	57	70
440V	7.5	10.5	15.5	25	32	51	60	75
500V	47	12	17.5	28	36	58	70	85
660/690V	6.5	11	14	23	30	63	75	90

DC Ratings—DC-1

Description
Rated Operation
Current {1} (I_o) in
Amperes

	XTCE007B	XTCE009B	XTCE012B, XTCF020B	XTCE015B	XTCE018C	XTCE025C	XTCE032C	XTCE040D	XTCE050D	XTCE065D
60V	20	20	20	20	35	40	40	50	60	72
110V	20	20	20	20	35	40	40	50	50	72
220V	15	15	15	15	3	4	40	45	45	65
440V	1	1.3	1.3	1.3	2.9	2.9	2.9	2.9	2.9	2.9

	XTCE080F	XTCE095F	XTCE115G	XTCE150G	XTCE185H	XTCE225H	XTCE250L	XTCE300L	XTCE400M	XTCE500M
60V	110	110	160	160	300	300	300	300	400	400
110V	110	110	16	160	300	300	300	300	400	400
220V	70	70	90	90	300	300	300	300	400	400
440V	4.5	4.5	4.5	4.5	11	11	11	11	11	11

	XTCE580N	XTCE650N	XTCE750N	XTCE820N	XTCEC10N	XTCEC14P	XTCEC20R	XTCEC16R
60V	—	—	—	—	—	—	—	—
110V	—	—	—	—	—	—	—	—
220V	—	—	—	—	—	—	—	—
440V	—	—	—	—	—	—	—	—

DC Ratings—DC-3

Description
Rated Operation
Current {1} (I_o) in
Amperes

	XTCE007B	XTCE009B	XTCE012B	XTCE015B	XTCE018C	XTCE025C	XTCE032C	XTCE040D	XTCE050D	XTCE065D
60V	20	20	20	20	35	35	40	50	60	72
110V	20	20	20	20	35	35	40	50	50	72
220V	1.5	1.5	1.5	1.5	10	10	25	25	25	35
440V	0.2	0.2	0.2	0.2	0.6	0.6	0.6	0.6	0.6	0.6

	XTCE080F	XTCE095F	XTCE115G	XTCE150G	XTCE185H	XTCE225H	XTCE250L	XTCE300L	XTCE400M	XTCE500M
60V	110	110	160	160	300	300	300	300	400	400
110V	110	110	160	160	300	300	300	300	400	400
220V	35	35	40	40	300	300	300	300	400	400
440V	1	1	1	1	—	—	—	—	—	—

	XTCE580N	XTCE650N	XTCE750N	XTCE820N	XTCEC10N	XTCEC14P	XTCEC20R	XTCEC16R
60V	—	—	—	—	—	—	—	—
110V	—	—	—	—	—	—	—	—
220V	—	—	—	—	—	—	—	—
440V	—	—	—	—	—	—	—	—

DC Ratings—DC-5

Description Rated Operation Current {1} (I _e) in Amperes										
	XTCE007B	XTCE009B	XTCE012B	XTCE015B	XTCE018C	XTCE025C	XTCE032C	XTCE040D	XTCE050D	XTCE065D
60V	20	20	20	20	35	35	40	50	60	72
110V	20	20	20	20	35	35	40	50	50	72
220V	1.5	1.5	1.5	1.5	10	10	25	25	25	35
440V	0.2	0.2	0.2	0.2	0.6	0.6	0.6	0.6	0.6	0.6

Description Rated Operation Current {1} (I _e) in Amperes										
	XTCE080F	XTCE095F	XTCE115G	XTCE150G	XTCE185H	XTCE225H	XTCE250L	XTCE300L	XTCE400M	XTCE500M
60V	110	110	160	160	300	300	300	300	400	400
110V	110	110	160	160	300	300	300	300	400	400
220V	35	35	40	40	300	300	300	300	400	400
440V	1	1	1	1	—	—	—	—	—	—

Description Rated Operation Current {1} (I _e) in Amperes							
	XTCE580N	XTCE650N	XTCE750N	XTCE820N	XTCEC10N	XTCEC14P	XTCEC20R
60V	—	—	—	—	—	—	—
110V	—	—	—	—	—	—	—
220V	—	—	—	—	—	—	—
440V	—	—	—	—	—	—	—

DC Ratings—Four-Pole—DC-1 Operation

Description Rated Operation Current {1} (I _e) in Amperes								
	XTCF020B	XTCF032C	XTCF045C	XTCF063D	XTCF080D	XTCF125G	XTCF160G	XTCF200G
60V	22	32	45	63	80	125	160	200
110V	22	32	45	6	80	125	160	200
220V	6	32	45	63	80	125	160	200
440V	1.3	3	3	5	5	100	125	150

DC Ratings—Four-Pole—DC-3 Operation

Description Rated Operation Current {1} (I _e) in Amperes								
	XTCF020B	XTCF032C	XTCF045C	XTCF063D	XTCF080D	XTCF125G	XTCF160G	XTCF200G
60V	20	32	45	63	80	125	160	200
110V	20	32	45	63	80	125	160	200
220V	1.5	32	45	63	80	125	160	200
440V	0.2	6	6	8	8	75	95	115

DC Ratings—Four-Pole—DC-5 Operation

Description Rated Operation Current {1} (I _e) in Amperes								
	XTCF020B	XTCF032C	XTCF045C	XTCF063D	XTCF080D	XTCF125G	XTCF160G	XTCF200G
60V	20	32	45	63	80	125	160	200
110V	20	25	32	508	80	125	160	200
220V	1.5	15	22	38	70	100	125	150
440V	0.2	4	4	8	8	60	75	90

Current Heat Loss (Three-Pole) in Watts

Description	XTCE007B	XTCE009B	XTCE012B, XTCF020B	XTCE015B	XTCE018C	XTCE025C	XTCE032C	XTCE040D
Current heat loss (three-pole) in watts								
at I_{th}	3	3	3	3	7.3	9.6	12.1	11.3
at I_{θ} to AC-3/400V	0.37	0.6	1.1	1.8	1.9	3.8	6.1	7.2
Impedance per pole, megohms	2.5	2.5	2.5	2.5	2	2	2	1.5

	XTCE050D	XTCE065D	XTCE072D	XTCE080F	XTCE095F	XTCE115G	XTCE150G	XTCE170G
Current heat loss (three-pole) in watts								
at I_{th}	19	28.8	28.8	12.2	18.2	20.3	30.7	41.1
at I_{θ} to AC-3/400V	11.3	19	23	9.6	13.5	15.9	27.0	34.7
Impedance per pole, megohms	1.5	1.5	1.5	0.5	0.5	0.4	0.4	0.4

	XTCE185H	XTCE225H	XTCE250L	XTCE300L	XTCE400M	XTCE500M	XTCE580N	XTCE650N
Current heat loss (three-pole) in watts								
at I_{th}	34	45	55	37	58	113	61	69
at I_{θ} to AC-3/400V	16	23	28	21	37	58	32	41
Impedance per pole, megohms	—	—	—	—	—	—	—	—

	XTCE750N	XTCE820N	XTCEC10N	XTCEC14P	XTCEC20R	XTCEC16R
Current heat loss (three-pole) in watts						
at I_{th}	78	96	96	188	192	155
at I_{θ} to AC-3/400V	54	65	96	—	—	123
Impedance per pole, megohms	—	—	—	—	—	—

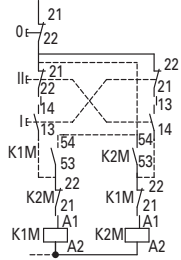
Current Heat Loss (Four-Pole) in Watts

Description	XTCF020B	XTCF032C	XTCF045C	XTCF063D	XTCF080D	XTCF125G	XTCF160G	XTCF200G
Current heat loss (four-pole) in watts								
at I_{th}	4.7	8.2	12	16	23	29	46	60
Impedance per pole, megohms	2.5	2	1.5	1	0.7	0.6	0.6	0.5

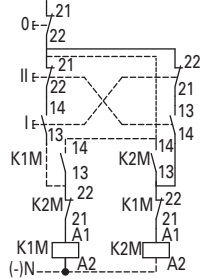
Wiring Diagrams

7–150A XTGR Reversing Contactors

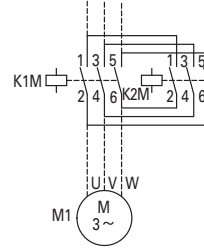
Control Circuit—7–32A



Control Circuit—40–170A

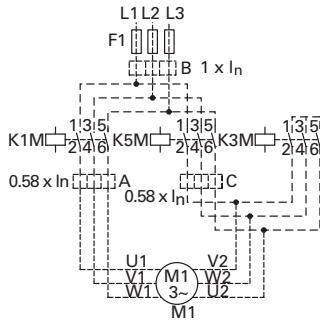


Power Circuit—7–150A with Mechanical Interlock 80–150A on Mounting Plate



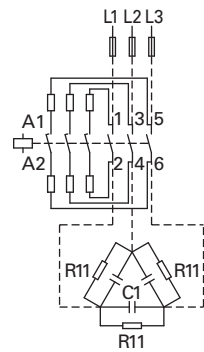
Star-Delta (Wye-Delta) Starters

Power Circuit—12–385A AC-3

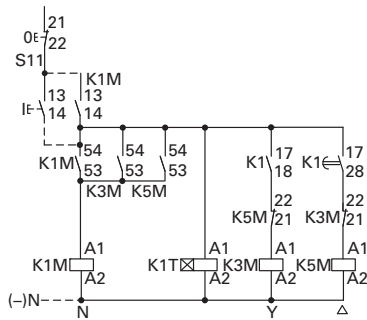


XTCC Contactors for Three-Phase Capacitors

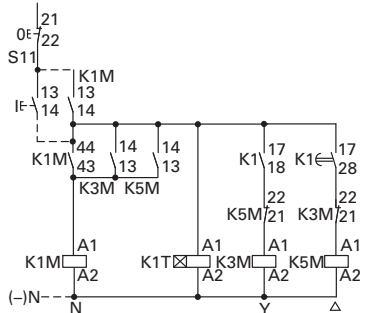
Power Circuit—11–85 kVAR



Control Circuit—12–55A AC-3



Control Circuit—70–1700A AC-3



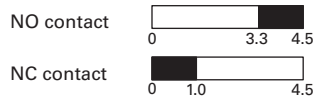
In the case of group compensation, multi-stage capacitor banks are connected to the mains, as required. In the process, transient currents of up to $180 \times I_e$ can flow between the capacitors. The capacitors are pre-charged via the early-make auxiliary contacts and the fitted wire resistors, thereby reducing the inrush current. The main contacts then close after a time lag and carry the uninterrupted current. The contactors for capacitors are weld-resistant with inrush current peaks up to $180 \times 1 I_e$ due to their special contacts. For switching reactive-power compensation equipment with chokes, observe design notes.

For switching of power factor connection with reactors, please observe engineering notes, **Page V5-T1-64**. Use of the contactors XTCE without series resistor for centralized power factor correction—when using contactors for group compensation, a minimum inductance of approximately $6 \mu\text{H}$ per capacitor must be available to limit the high inrush current peaks. This corresponds to an air-cored coil with 5 windings and a coil diameter of approximately 140 mm diameter. The conductor cross-section must be selected according to the rated current per phase.

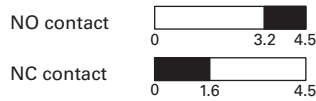
Contactor Contact Travel Diagrams

Frame B

XTCE 7–15A, XTC—AC



XTCEXSAC11

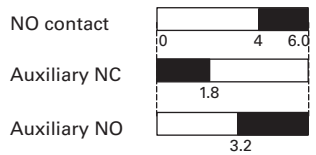


XTCEXF...LC_

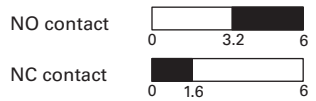


Frame C

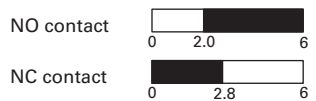
XTCE 15–32A



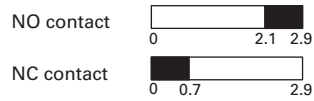
XTCEXSAC11, XTCEXF...C_



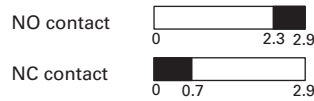
XTCEXF...LC_



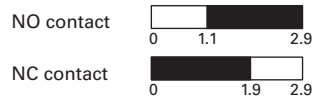
XTCE 7–9A—DC



XTCEXSAC11



XTCEXF...LC_

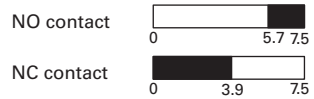


Frame D

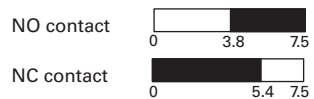
XTCE 40–72A



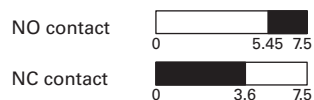
XTCEXF...G_



XTCEXF...LG_



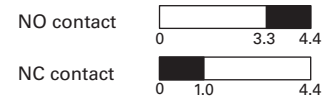
XTCEXS...N_



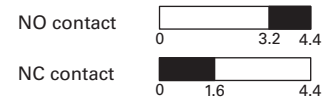
XTCEXSBLN11



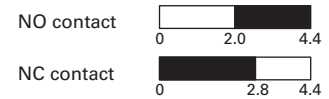
XTCE 12–15A, XTCF—DC



XTCEXSAC11



XTCEXF...LC_

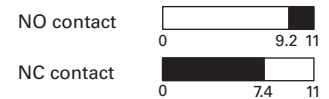


Frames F and G

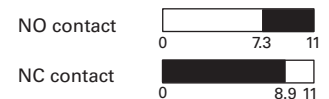
XTCE 80–170A



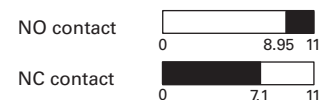
XTCEXF...G_



XTCEXF...LG_



XTCEXS...N_



XTCEXSBLN11

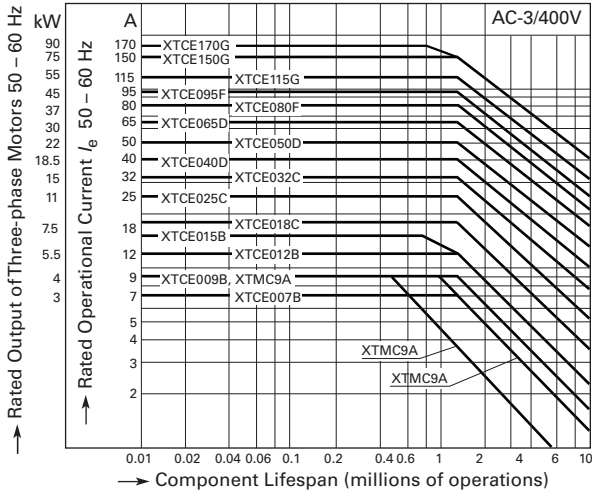


Note: The diagrams indicate the closing and travel of the contacts of the contactors and auxiliary contacts at no-load. Tolerances are not taken into consideration.

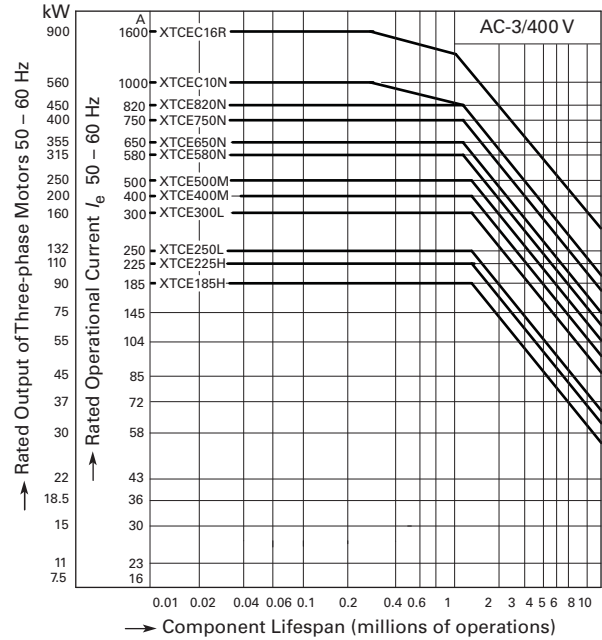
Electrical Life Curves

Normal Switching Duty

XTCE007B–XTCE170G

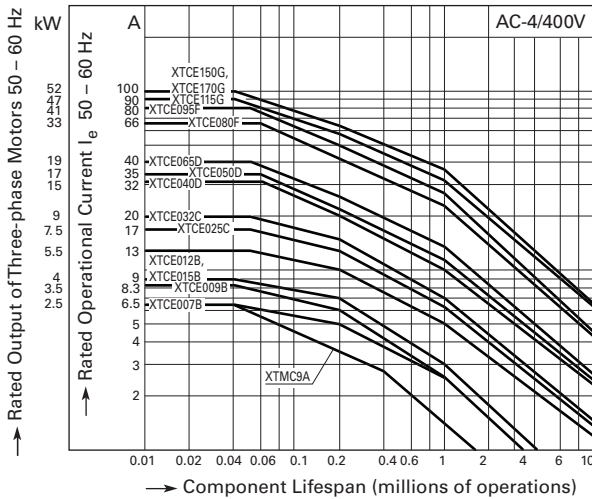


XTCE185H–XTCEC16R

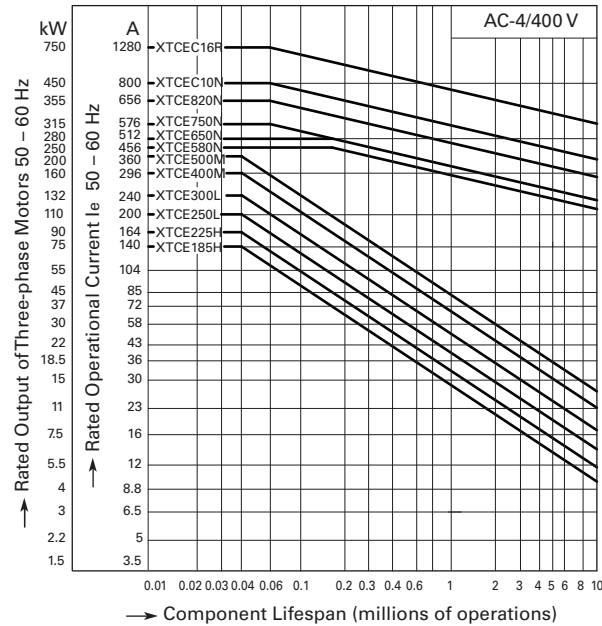


Extreme Switching Duty

XTCE007B–XTCE170G

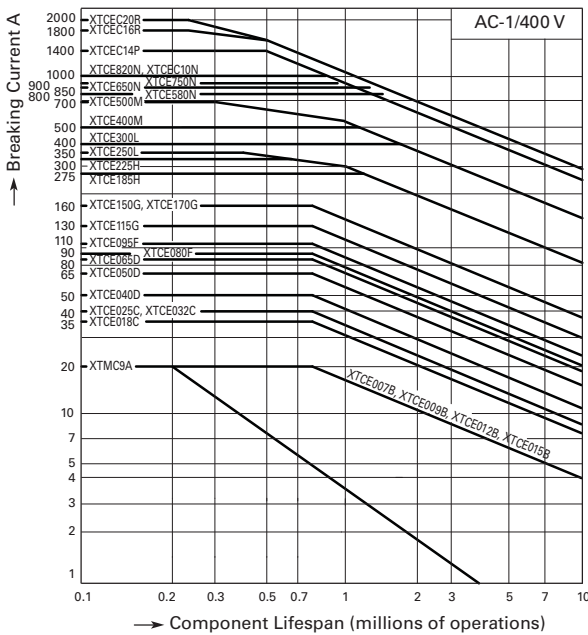


XTCE185H–XTCEC16R

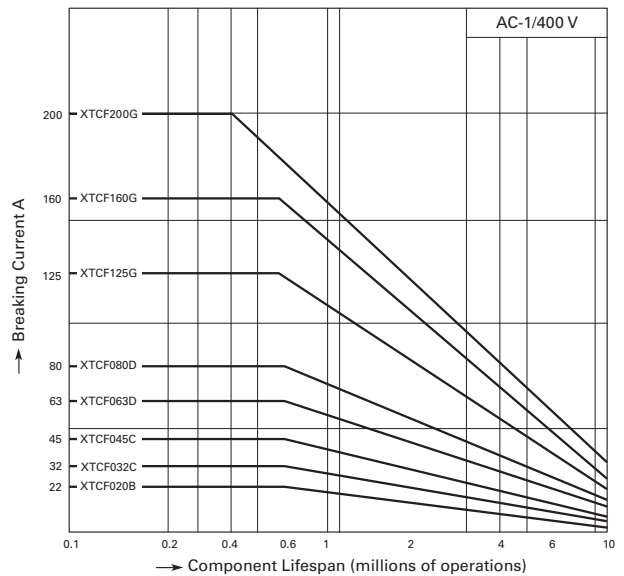


Switching Duty for Non-Motor Loads

Three-Pole—XTCE007B–XTCEC20R



Four-Pole—XTCF020B–XTCF200G



Operating characteristics:
 Non-inductive and slightly inductive loads

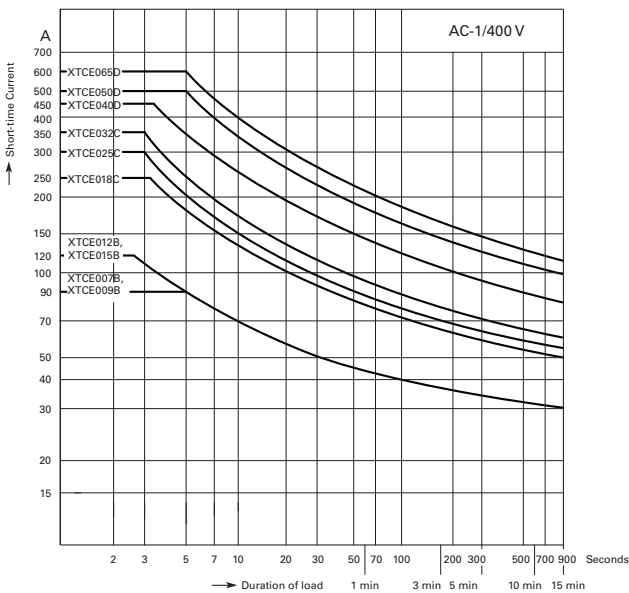
Electrical characteristics:
 Switch on: 1 x Rated current
 Switch off: 1 x Rated current

Utilization category:
 100% AC-1

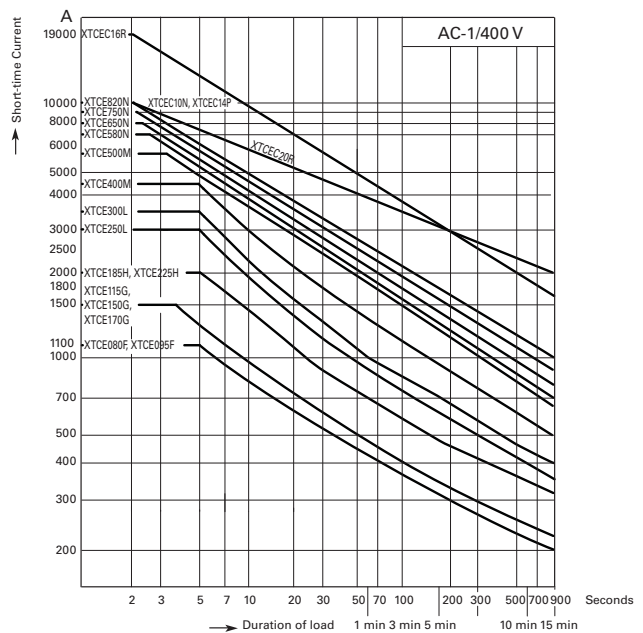
Typical applications:
 Electrical heating

Short-Time Loading

Three-Pole—XTCE007B–XTCEC20R

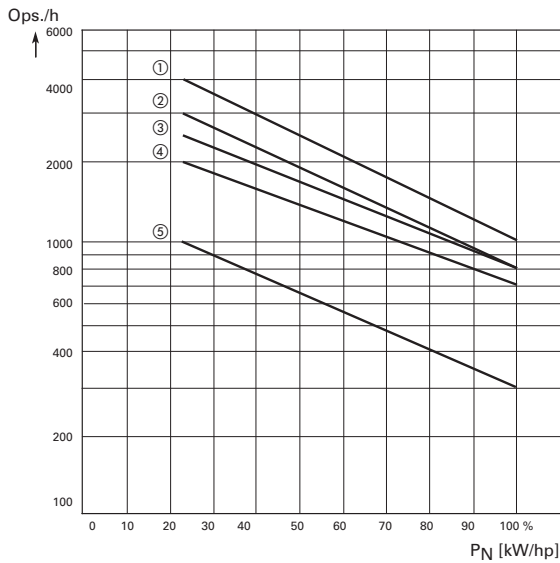


Three-Pole—XTCE080F–XTCEC16R

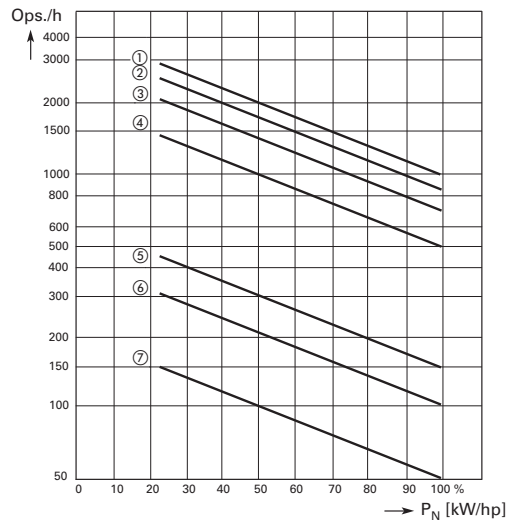


Maximum Operating Frequency—Related to Rating and Utilization Category (400V)

7 to 150 hp



185 to 820 hp



Utilization Category ①

Type	Characteristic Curve Above		
	AC-1	AC-3	AC-2, AC-4
XTCE007B–XTCE015B	3	1	5
XTCE018C–XTCE032C	3	2	5
XTCE040D–XTCE065D	3	2	5
XTCE080F–XTCE150G	3	4	5

Utilization Category ①

Type	Characteristic Curve Above		
	AC-1	AC-3	AC-2, AC-4
XTCE185H	2	1	6
XTCE225H	2	1	6
XTCE250L	2	1	6
XTCE300L	3	2	7
XTCE400M	3	2	7
XTCE500M	3	2	7
XTCE580N	3	4	5
XTCE650N	3	4	5
XTCE750N	3	4	5
XTCE820N	3	4	5

Note

① P_N = max. motor rating (kW/hp) of the relevant contactor.
ops./h = max. number of operations per hour.

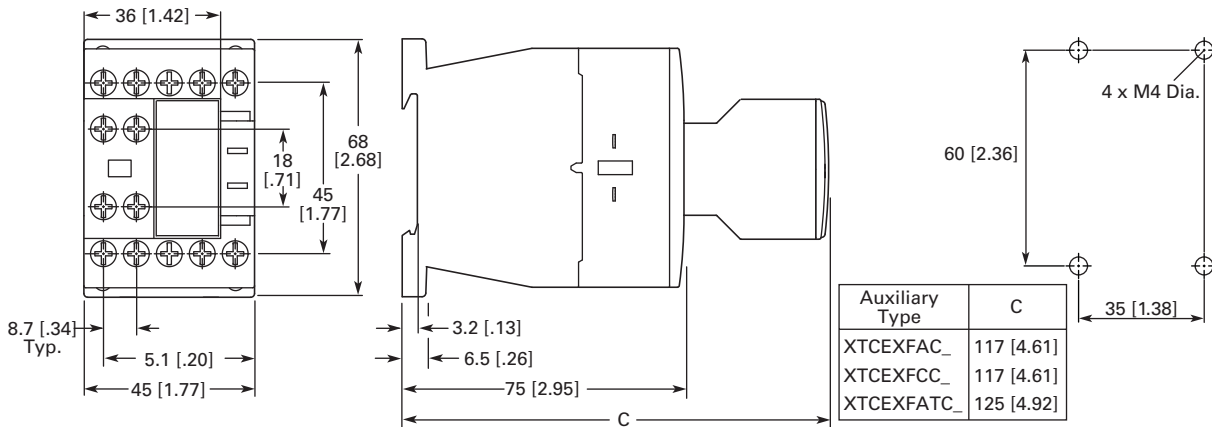
1

Dimensions

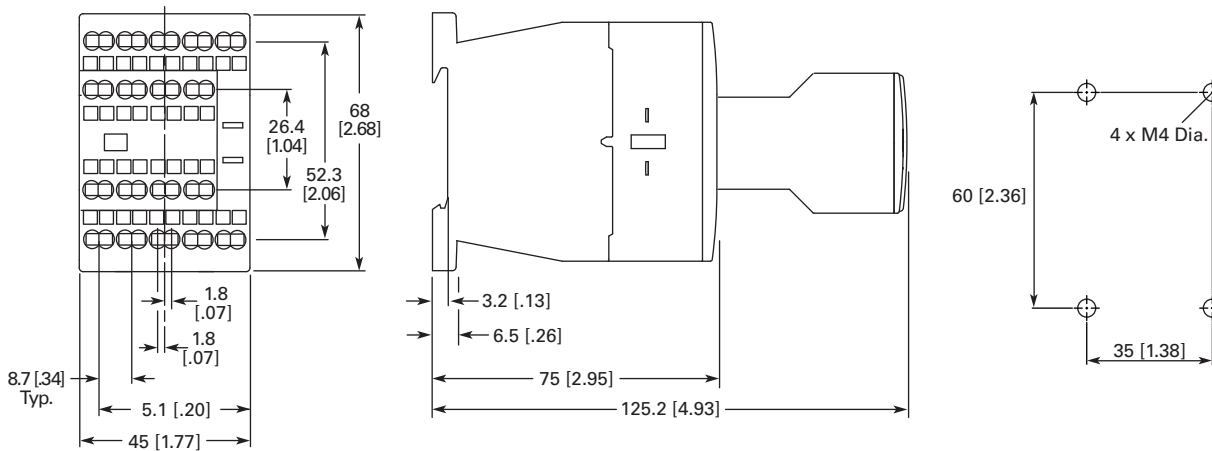
Approximate Dimensions in mm [in]

XTCE Contactors (Three-Pole)

Frame B, XTCE007B and XTCE015B Contactors with Screw Terminals (7–15A) XTCE020B

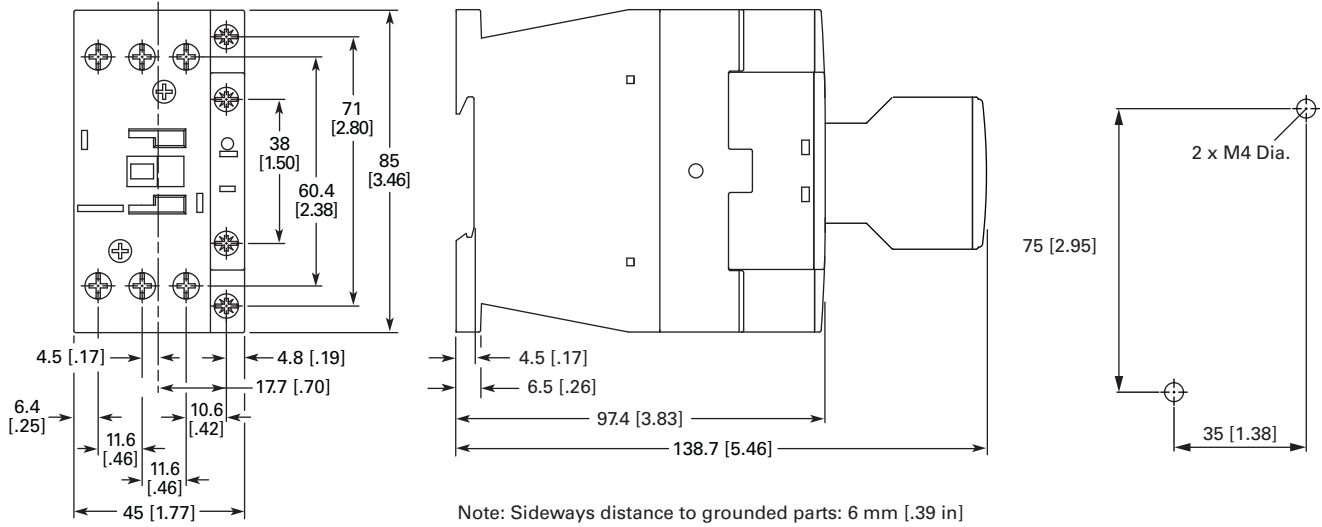


Frame B, XTCEC007B–XTCEC012B Contactors with Spring Cage Terminals (7–12A)

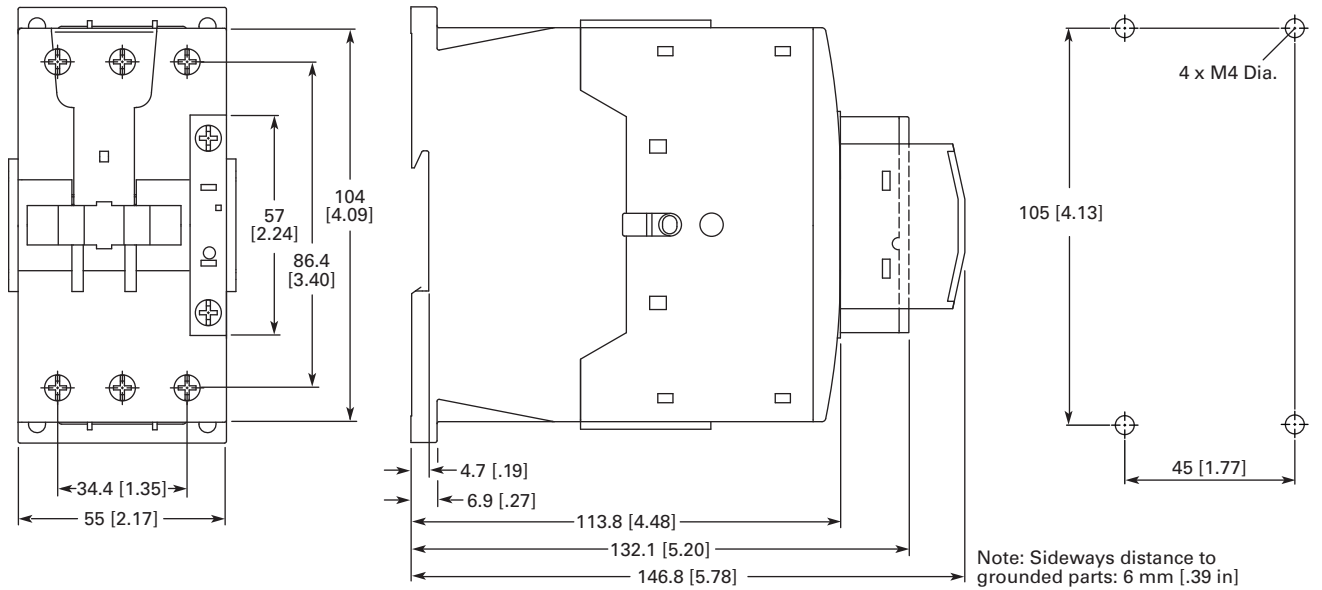


Approximate Dimensions in mm [in]

Frame C, XTCE018C–XTCE032C Contactors (18–32A)



Frame D, XTCE040D–XTCE072D Contactors (72A)



1.1

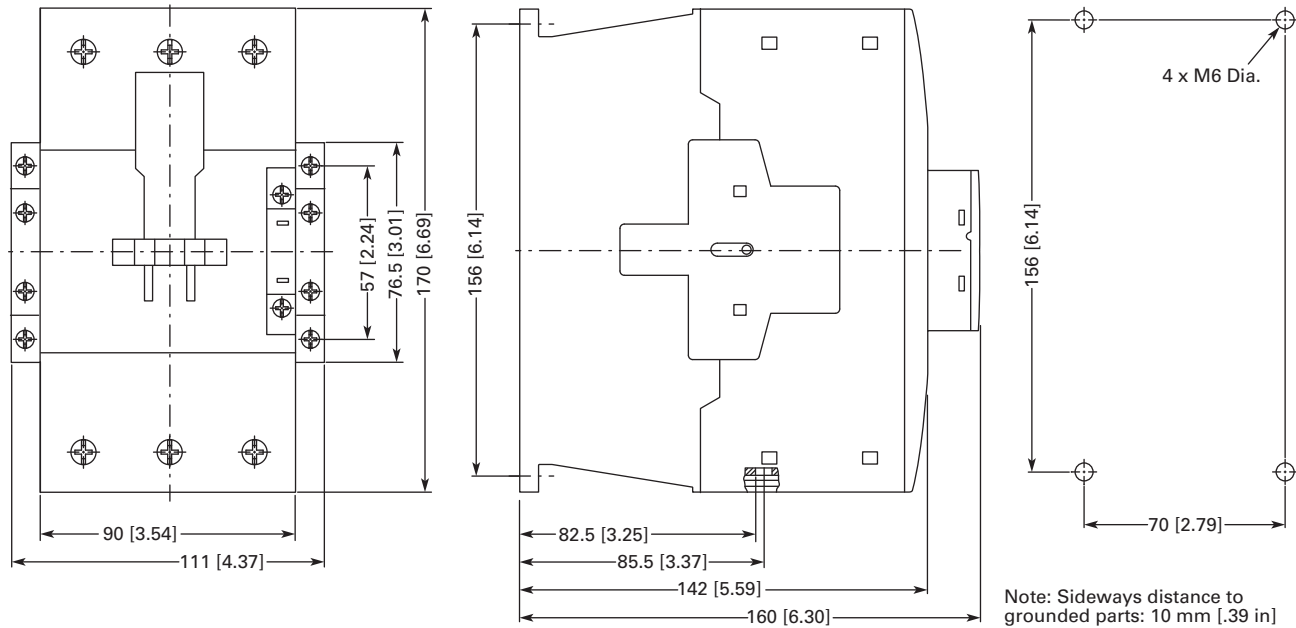
IEC Contactors and Starters

XT IEC Power Control

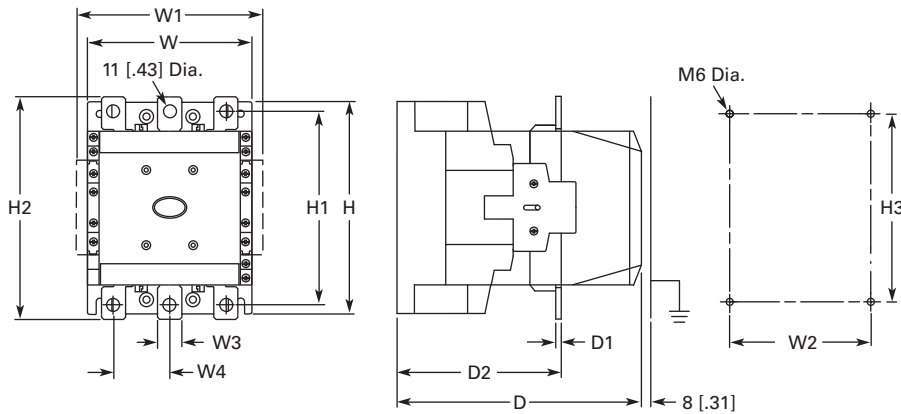
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Approximate Dimensions in mm [in]

Frames F–G, XTCE080F–XTCE170G Contactors (80–170A)



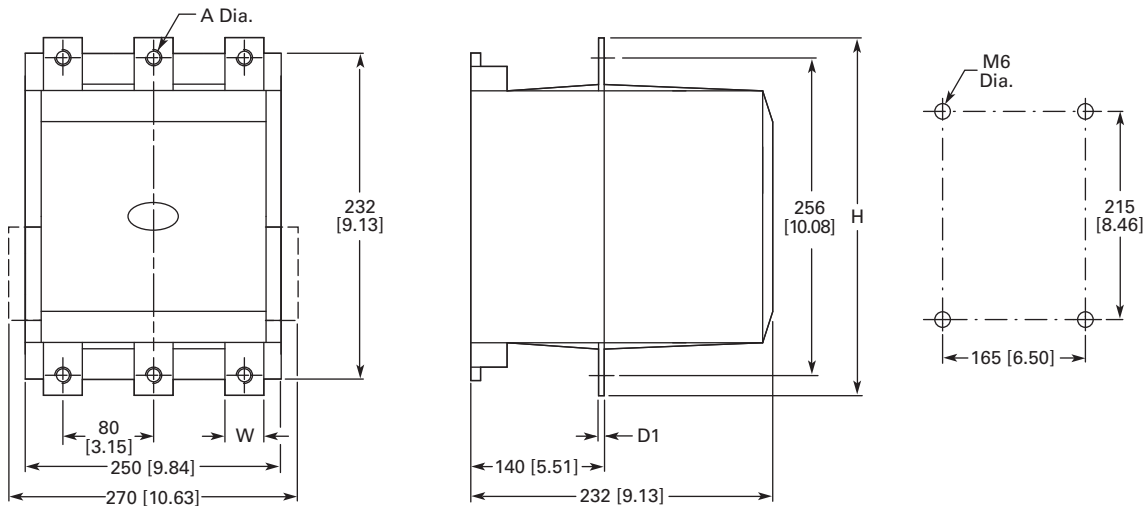
Frames H–M, XTCE185H–XTCE570M Contactors (185–580A)



	W	W1	W2	W3	W4	H	H1	H2	H3	D	D1	D2
Frame H	140 [5.51]	160 [6.30]	120 [4.72]	20 [.79]	41 [1.61]	180 [7.09]	165 [6.50]	190 [7.48]	160 [6.30]	158 [6.22]	4 [.16]	83 [3.27]
Frame L	140 [5.51]	160 [6.30]	120 [4.72]	20 [.79]	48 [1.89]	180 [7.09]	164 [6.46]	189 [7.44]	160 [6.30]	208 [8.19]	5 [.20]	140 [5.51]
Frame M	160 [6.30]	180 [7.09]	130 [5.12]	25 [.98]	48 [1.89]	200 [7.87]	184 [7.24]	209 [8.23]	180 [7.09]	216 [8.50]	6 [.24]	140 [5.51]
	160 [6.30]	180 [7.09]	130 [5.12]	38 [1.50]	57 [2.24]	200 [7.87]	189 [7.44]	219 [8.62]	180 [7.09]	216 [8.50]	6 [.24]	140 [5.51]

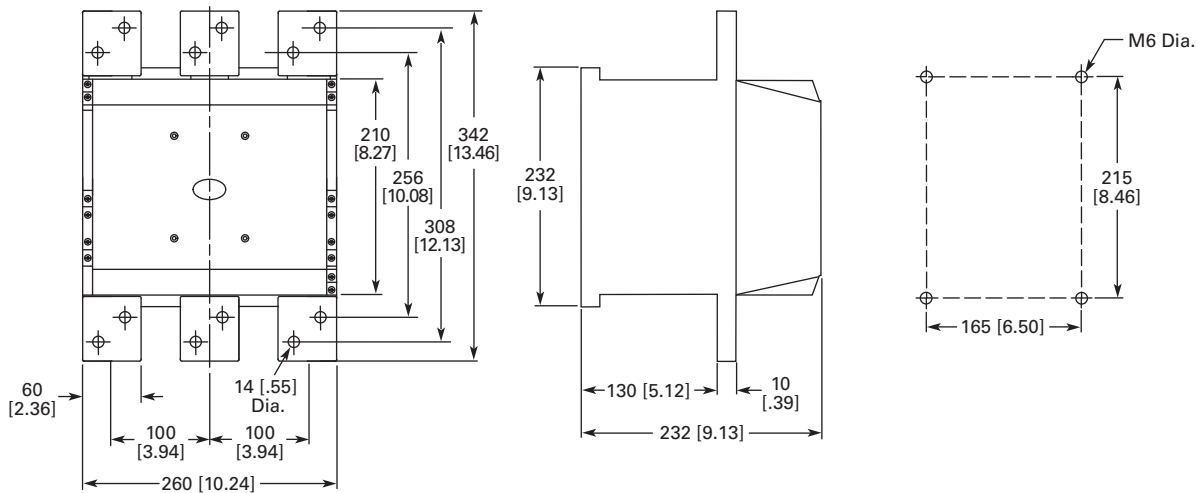
Approximate Dimensions in mm [in]

Frame N, XTCE580N–XTCEC10N Contactors (580–1000A)



	W	H	D1	A (Dia.)
XTCE580N	45 [1.77]	296 [11.65]	6 [.24]	13.5 [.53]
XTCE650N	45 [1.77]	296 [11.65]	6 [.24]	13.5 [.53]
XTCE750N	45 [1.77]	296 [11.65]	6 [.24]	13.5 [.53]
XTCE820N	45 [1.77]	296 [11.65]	6 [.24]	13.5 [.53]
XTCEC10N	45 [1.77]	296 [11.65]	10 [.40]	13.5 [.53]

Frame P, XTCEC14P Contactor (1400A, AC-1)



1.1

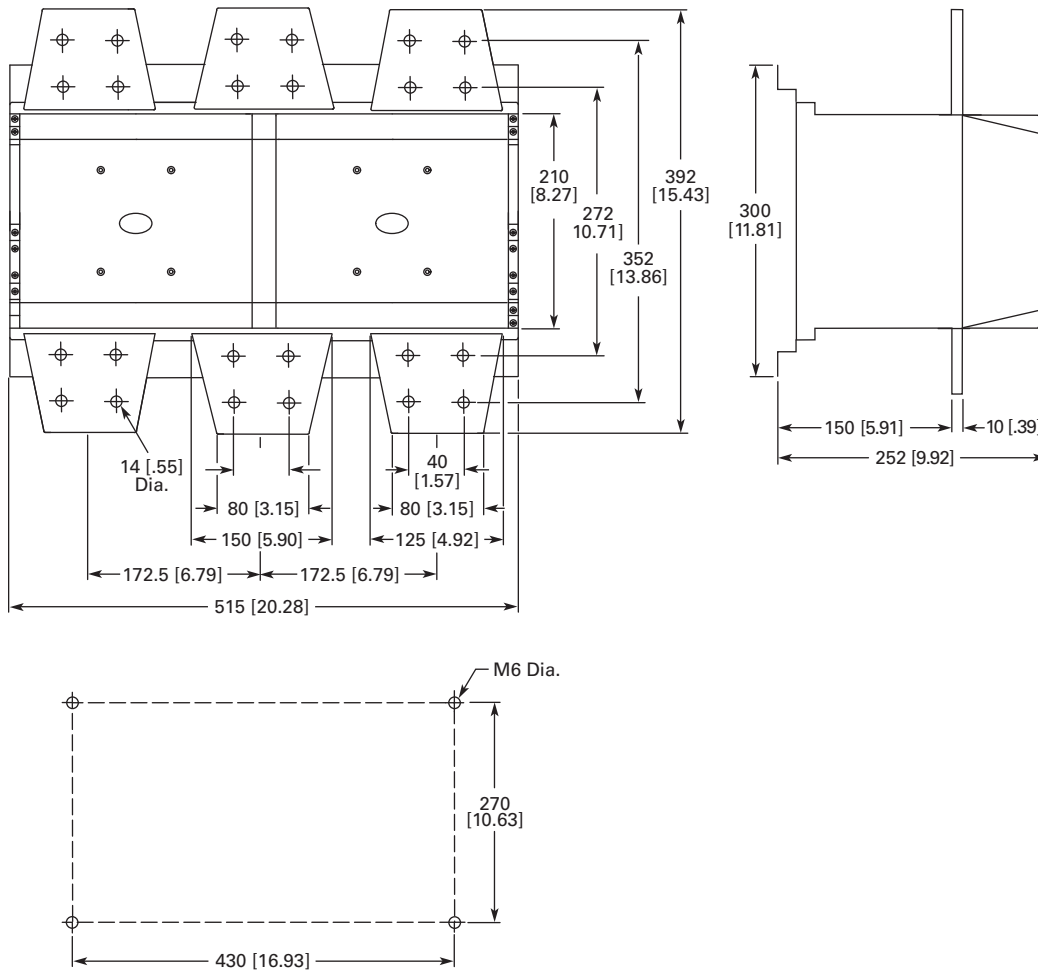
IEC Contactors and Starters

XT IEC Power Control

1

Approximate Dimensions in mm [in]

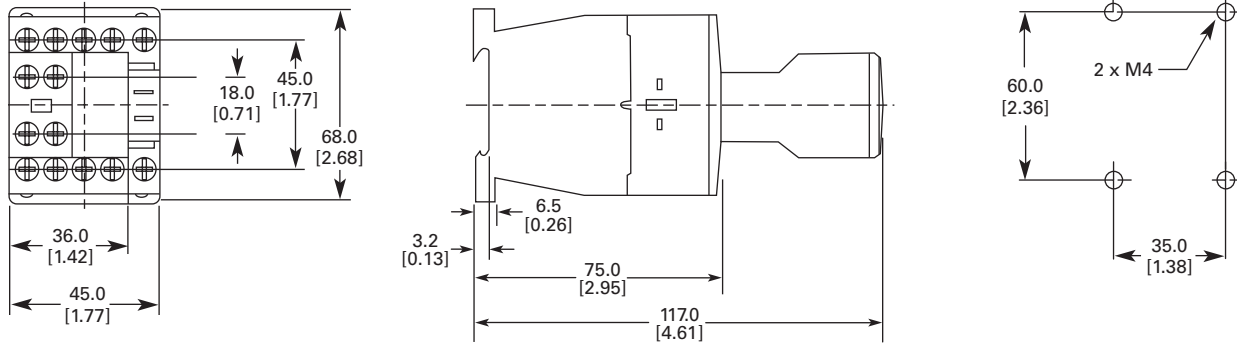
Frame R, XTCEC16R, XTCEC20R Contactors



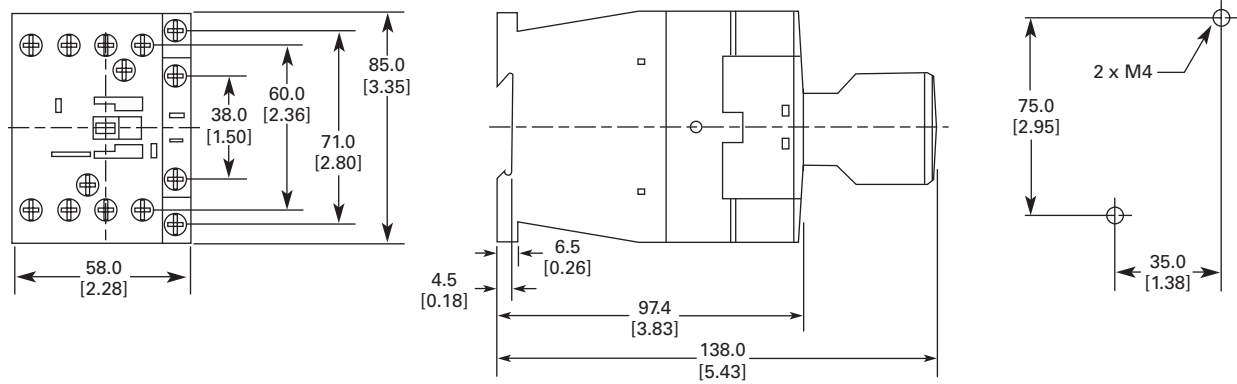
Approximate Dimensions in mm [in]

XTCF Contactors (Four-Pole)

Frame B, XTCF020B Contactors



Frame C, XTCF032C–XTCF045C Contactors



1.1

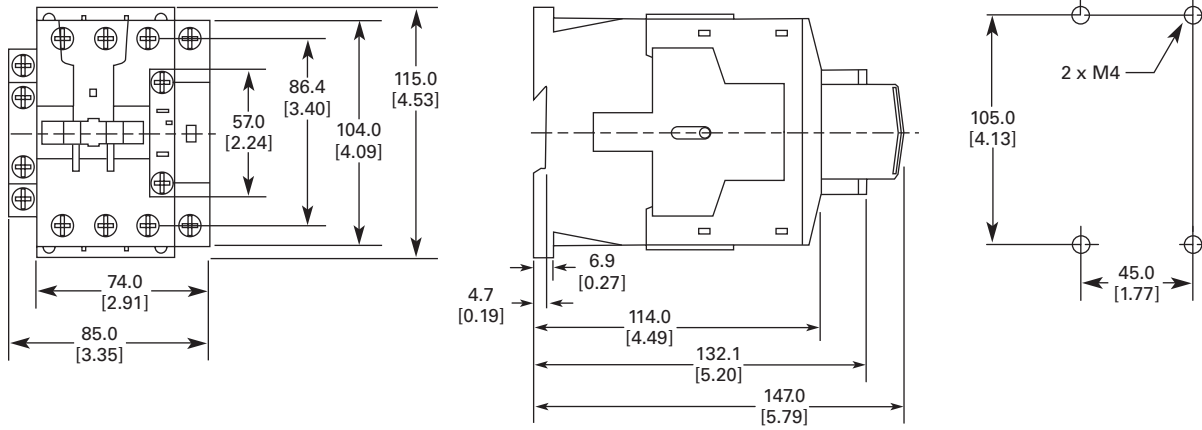
IEC Contactors and Starters

XT IEC Power Control

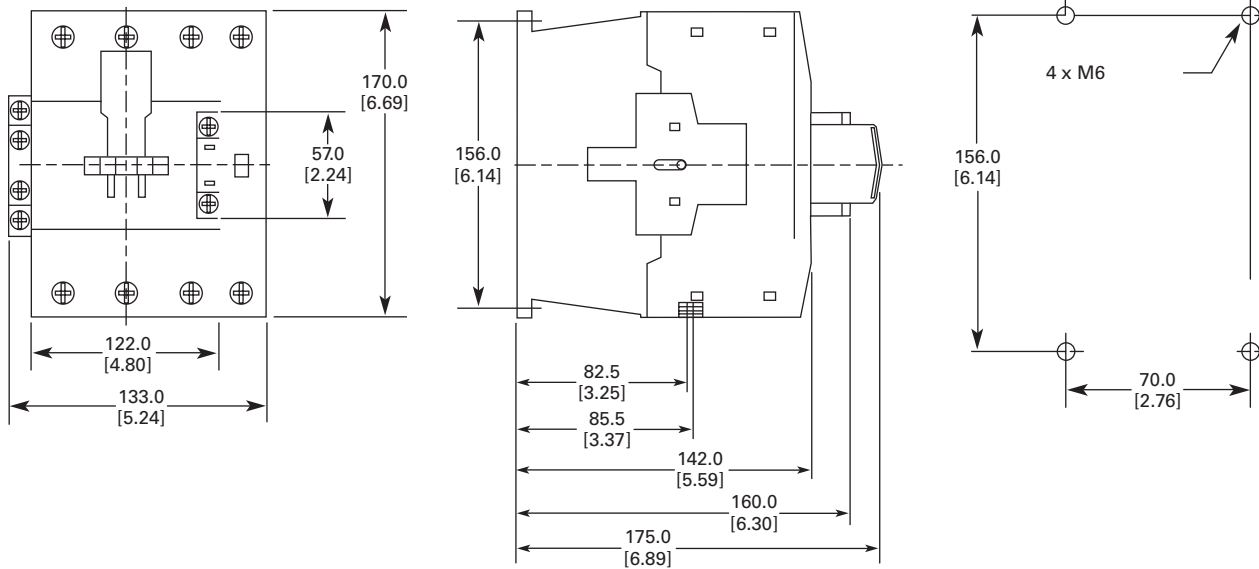
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Approximate Dimensions in mm [in]

Frame D, XTFC063D–XTFC080D Contactors



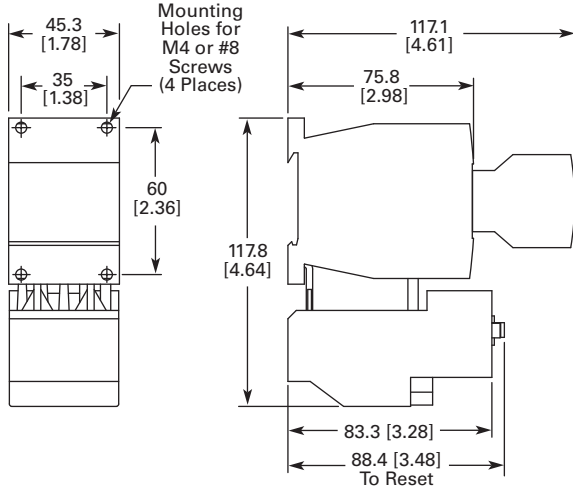
Frame G, XTFC125G–XTFC200G Contactors



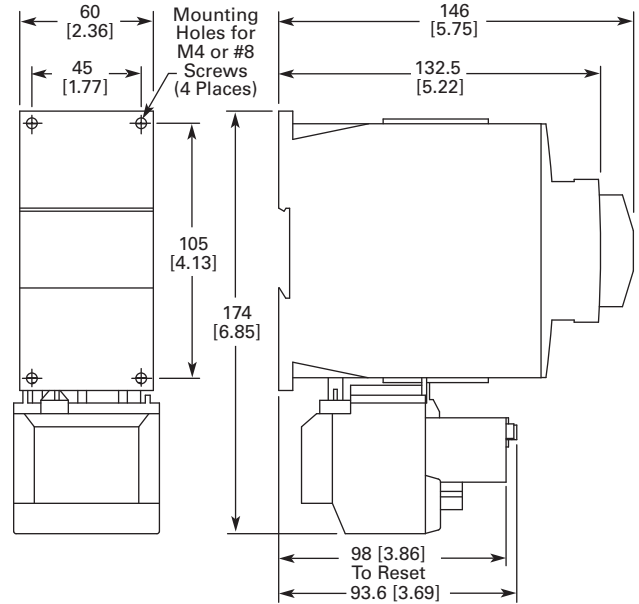
Approximate Dimensions in mm [in]

XTAE Starters with XTOB Overload Relay

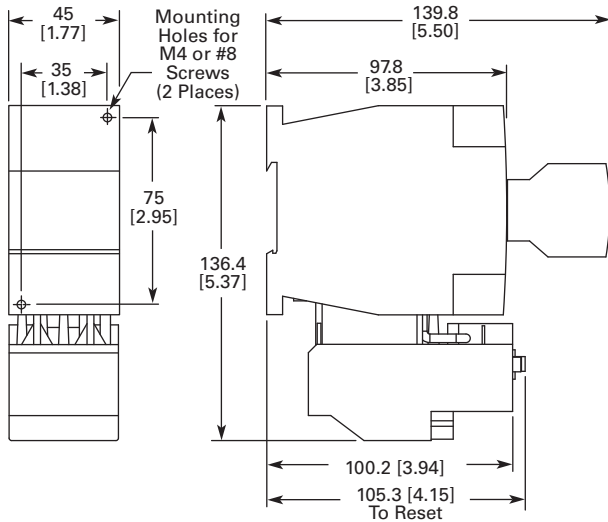
Frame B, XTAE007B–XTAE015B Starters with XTOB (7–12A)



Frame D, XTAE040D–XTAE065D Starters with XTOB (40–65A)



Frame C, XTAE018C–XTAE032C Starters with XTOB (18–32A)



1.1

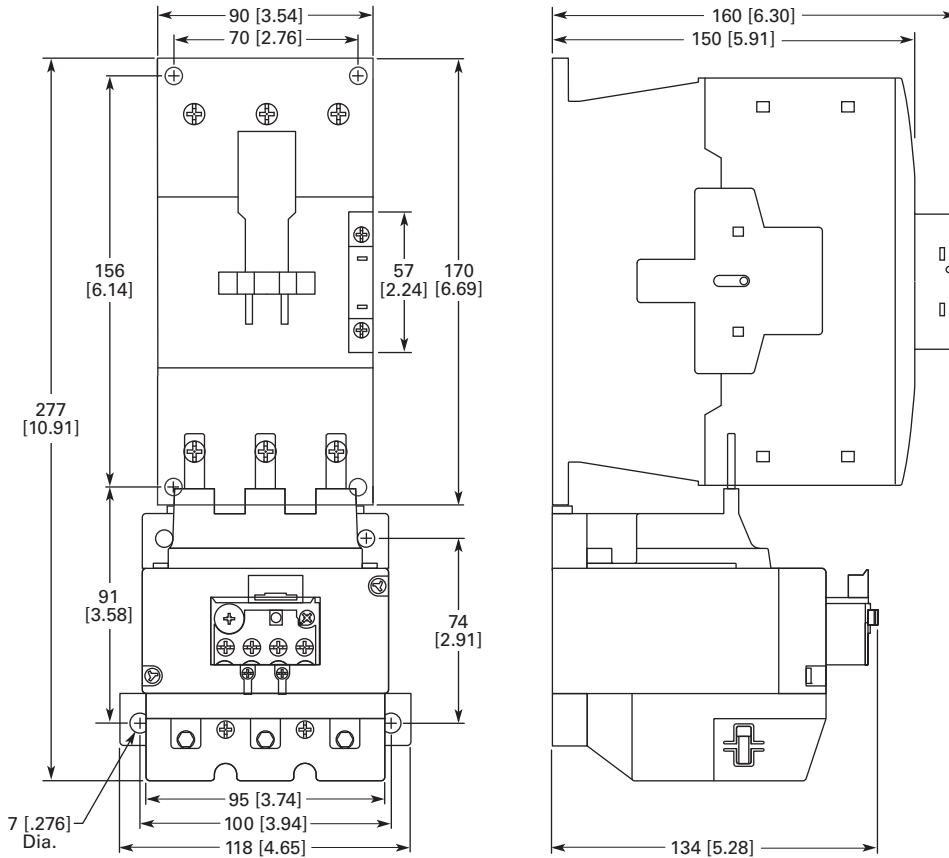
IEC Contactors and Starters

XT IEC Power Control

1

Approximate Dimensions in mm [in]

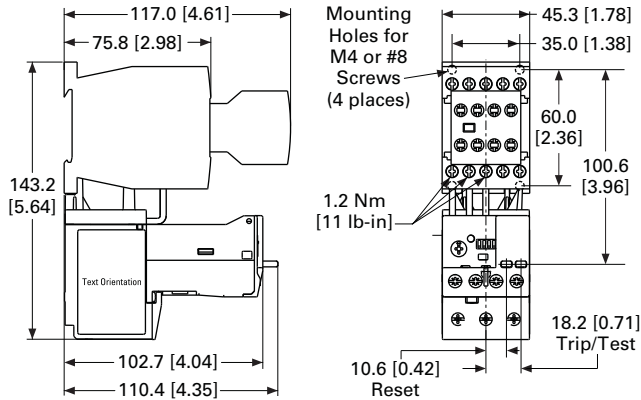
Frames F–G, XTAE080F–XTAE150G Starters with XTOB (80–150A)



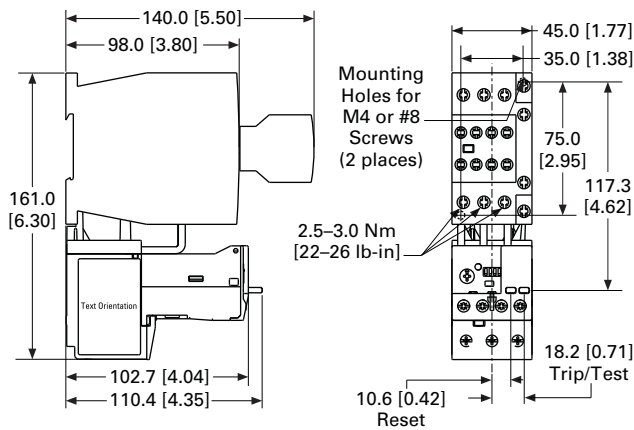
Approximate Dimensions in mm [in]

XTAE Starters with XTOE Overload Relay

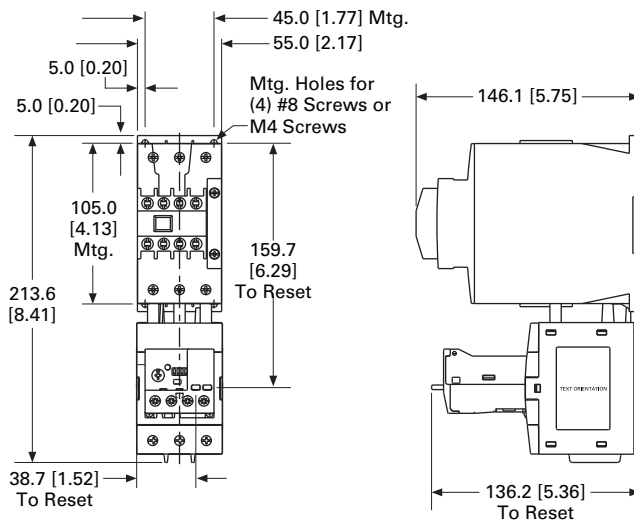
Frame B, XTAE007B–XTAE012B Starters with XTOE (0.35–20A)



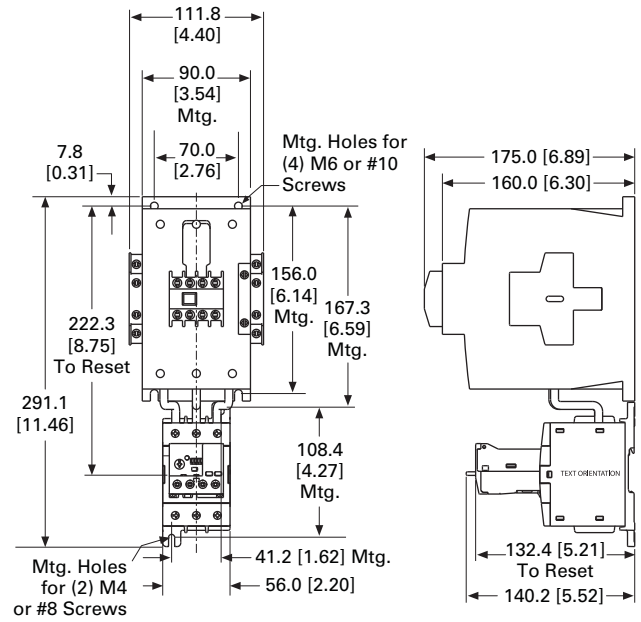
Frame C, XTAE018C–XTAE032C Starters with XTOE (0.35–45A)



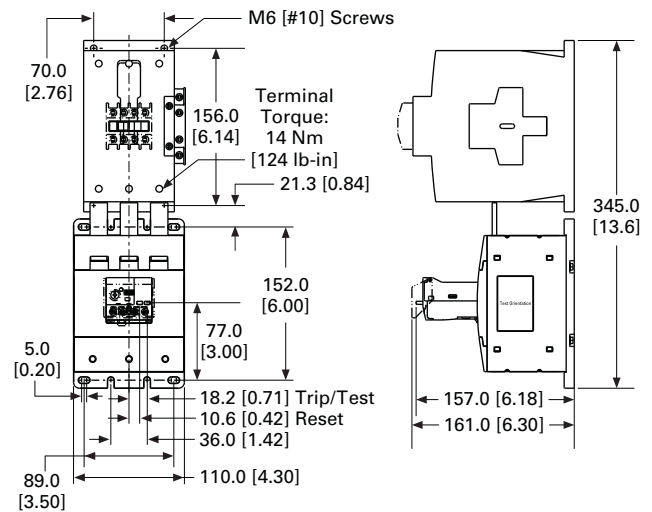
Frame D, XTAE040D–XTAE065D Starters with XTOE (20–100A)



Frames F–G, XTAE080F–XTAE115G Starters with XTOE (20–100A)



Frame G, XTAE115G–XTAE150G Starters with XTOE (100–175A)



1.1

IEC Contactors and Starters

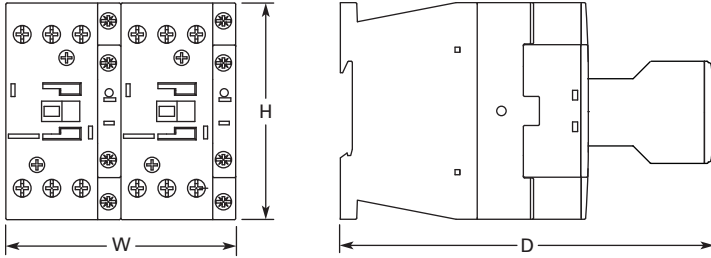
XT IEC Power Control

1

Approximate Dimensions in mm [in]

XTCR Reversing Combination

Frames B–D



Frame B (7–15A)

W	H	D
90	68	117
[3.54]	[2.68]	[4.61]

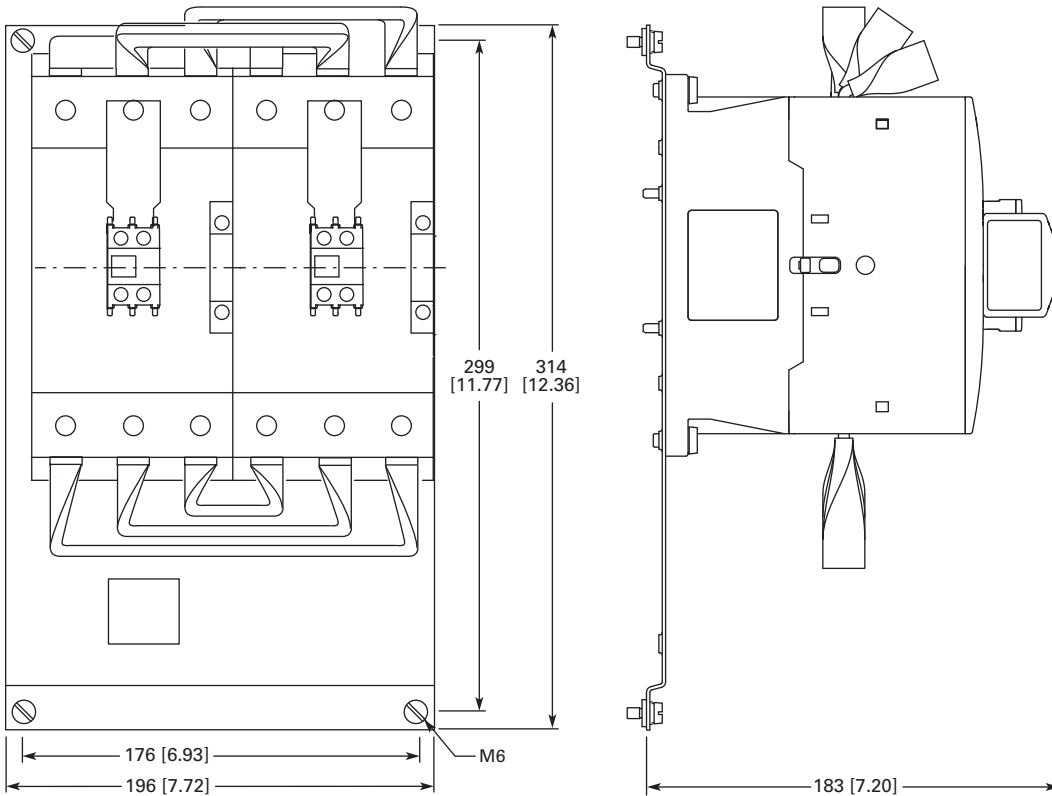
Frame C (18–32A)

W	H	D
90	85	138
[3.54]	[3.34]	[5.43]

Frame D (40–65A)

W	H	D
110	115	146.8
[4.33]	[4.53]	[5.78]

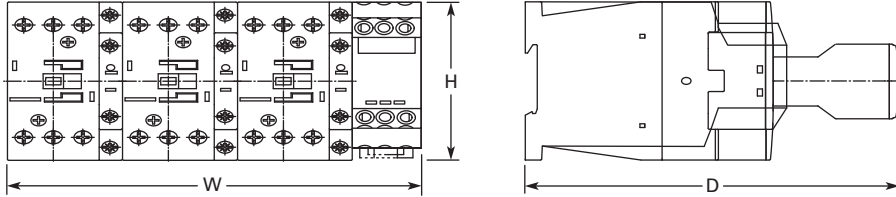
Frames F–G



Approximate Dimensions in mm [in]

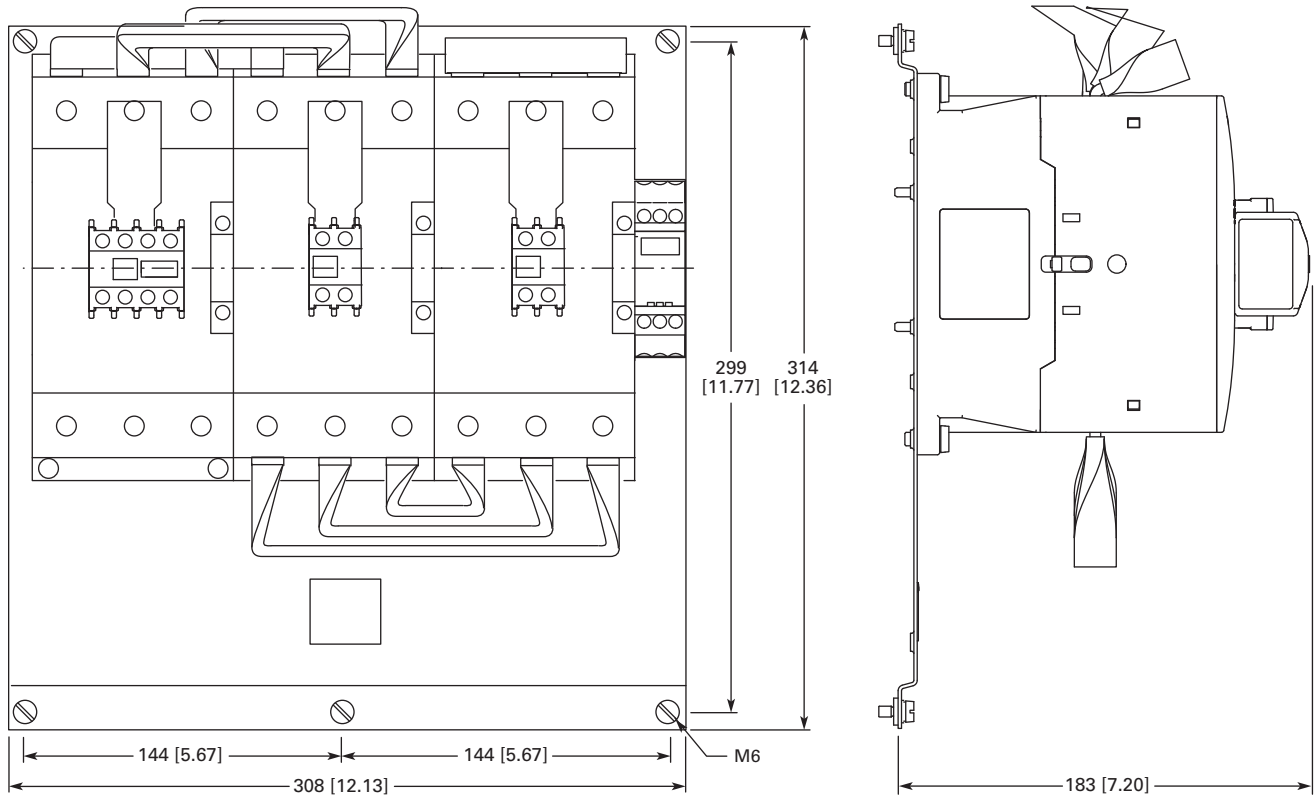
Star-Delta Combination

Frames B–D



Frame B			Frame C			Frame D		
W	H	D	W	H	D	W	H	D
158	68	117	158	85	138	188	115	146.8
[6.22]	[2.68]	[4.61]	[6.22]	[3.34]	[5.43]	[7.40]	[4.53]	[5.78]

Frames F–G

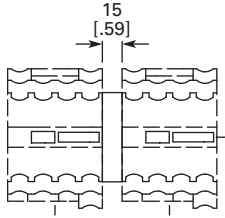


1

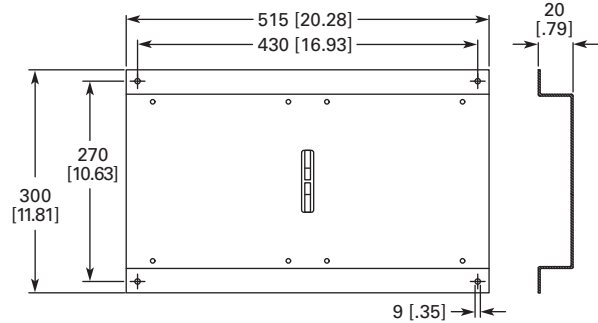
Approximate Dimensions in mm [in]

Mechanical Interlock

Frames H–M—XTCEXMLM

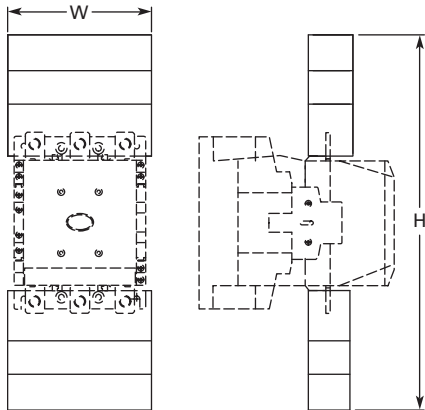


XTCEXMLN



Contactors with Terminal Shroud

Frames L–N Contactors, XTCE250L–XTCEC10N, with Terminal Shroud XTLEXTS

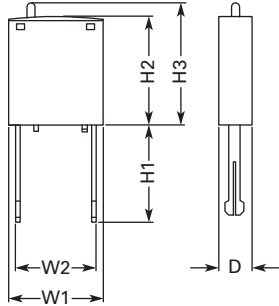


XTCE250L		XTCE400M		XTCE500M, XTCE570M		XTCE580N, XTCE650N, XTCE750N, XTCE820N, XTCEC10N	
W	H	W	H	W	H	W	H
150	384	150	404	174	426	236	506
[5.91]	[15.12]	[5.91]	[15.91]	[6.85]	[16.77]	[9.29]	[19.92]

Approximate Dimensions in mm [in]

Suppressor

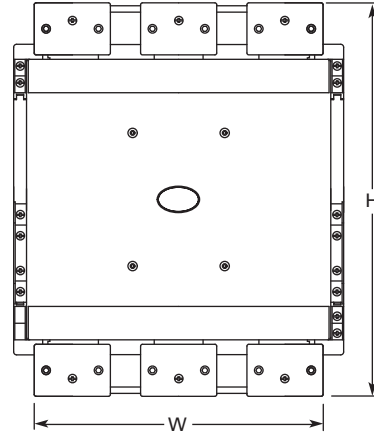
XTCE_Suppressor



	W1	W2	H1	H2	H3	D
XTCEXRSB_	25	9.2	25.9	28	32	9
XTCEXVSB_	[.98]	[.36]	[1.02]	[1.10]	[1.26]	[.35]
XTCEXVSLB_						
XTCEXDSB_						
XTCEXRSC_	25	9.2	16	28	32	9
XTCEXVSC_	[.98]	[.36]	[.63]	[1.10]	[1.26]	[.35]
XTCEXVSLC_						
XTCEXRSF_	25	20	18.5	28	32	9
XTCEXVSF_	[.98]	[.79]	[.73]	[1.10]	[1.26]	[.35]
XTCEXVSLF_						

Flat Strip Conductor Terminals

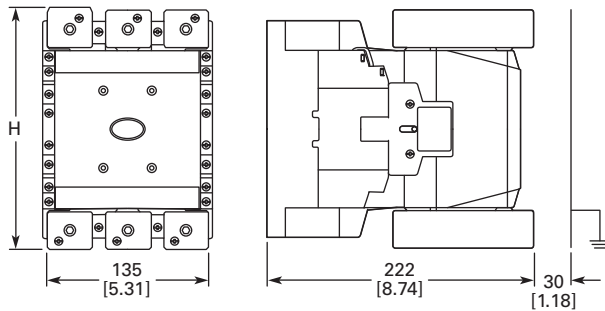
XTCEXTFB



	W	H
XTCE500M–XTCE570M	171 [6.73]	232 [9.13]
XTCE750N–XTCE820N	231 [9.09]	310 [12.20]

Cable Terminal Block

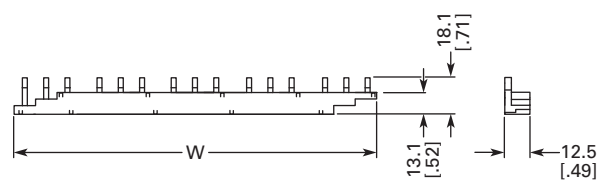
XTCEXTLA



	H
XTCE250L	198 [7.80]
XTCE400M	218 [8.58]

Three-Phase Commoning Link

Frame B



	W
XTCEXCLK3B	112 [4.41]
XTCEXCLK4B	157 [6.18]
XTCBXCLK5B	202 [7.95]