

## Relays and Timers



## Relays and Timers

## Product Description


Eaton's new line of **XT** relays and timers includes mini and standard frame control relays and auxiliary contacts, mini electronic on-delay and multi-function timers and an electronic star-delta (wye-delta) timer for use in star-delta (wye-delta) combinations. Because **XT** meets 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.

## Features

- For use with mini and standard frame size contactors and starters
- Control relays
  - AC control from 12V to 550V 50 Hz, 600V 60 Hz
  - DC control from 12V to 220V
- On-delay and multi-function timers
  - 24–240 Vac/Vdc control
- Available with screw or spring cage terminals
- Four-pole configurations
- IP20 finger and back-of-hand proof
- Large ambient temperature range: –25° to 50°C [–13° to 122°F]
- The XTRE control relays have positively driven contacts between the relay and the auxiliary contact modules as well as within the auxiliary contact modules

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## Standards and Certifications

- IEC EN 60947
- CE approved
- UL
- CSA



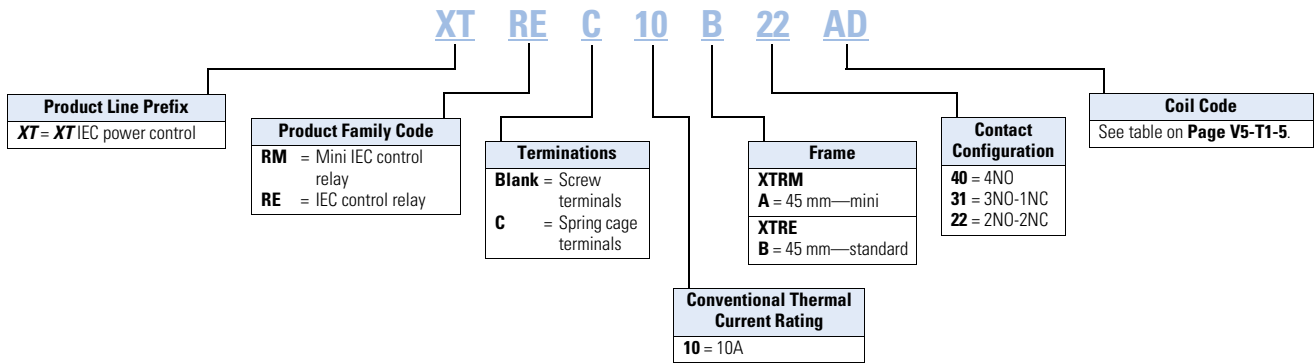
## Instructional Leaflets

Pub51219	XTRM Mini Control Relays
Pub51210	XTRE Control Relays
Pub51244	XTTR Electronic Star-Delta (Wye-Delta) Timer
Pub51245	XTMT Mini Electronic On-Delay and Multi-Function Timers

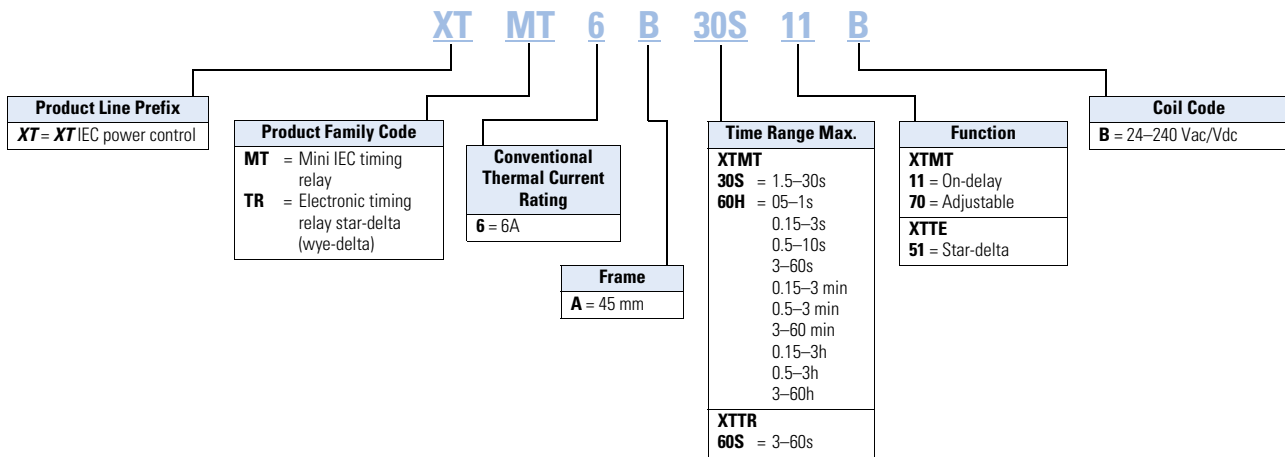
#### 1

### Catalog Number Selection

#### XT—Relays



#### XT—Timers



## Product Selection

### When Ordering

- Orders must be placed in multiples of the package quantity listed
- DC operated control relays have a built-in suppressor circuit
- Contact terminal numbers to EN50011
- Coil terminal numbers to EN50005

### XTRM10A\_



### Mini Control Relays

Conventional Thermal Current $I_{th}$ (A)	Contact Configuration	Rated Operational Current AC-15 $I_e$ (A)			Circuit Symbol	Screw Terminal Catalog Number <sup>①</sup>
		220–240V	380–415V	500V		
10	4NO	6	3	1.5		XTRM10A40_
10	3NO-1NC	6	3	1.5		XTRM10A31_
10	2NO-2NC	6	3	1.5		XTRM10A22_ <sup>②</sup>

### XTREC10\_



### Control Relays

Conventional Thermal Current Open at 60°C $I_{th}$ (A)	Contact Configuration	Rated Operational Current AC-15 $I_e$ (A)			Circuit Symbol	Screw Terminal Catalog Number <sup>①</sup>	Spring Cage Terminal Catalog Number <sup>①</sup>
		220–240V	380–415V	500V			
16	4NO	6	4	1.5		XTRE10B40_	XTREC10B40_
16	3NO-1NC	6	4	1.5		XTRE10B31_	XTREC10B31_
16	2NO-2NC	6	4	1.5		XTRE10B22_ <sup>③</sup>	XTREC10B22_ <sup>③</sup>

### Coil Voltage Suffix

Coil Voltage	Suffix Code	Coil Voltage	Suffix Code	Coil Voltage	Suffix Code	Coil Voltage	Suffix Code
110V 50 Hz, 120V 60 Hz	<b>A</b>	415V 50 Hz, 480V 60 Hz	<b>C</b>	380V 50 Hz, 440V 60 Hz	<b>L</b>	120 Vdc	<b>AD</b>
220V 50 Hz, 240V 60 Hz	<b>B</b>	550V 50 Hz, 600V 60 Hz	<b>D</b>	380V 60 Hz	<b>P</b>	220 Vdc	<b>BD</b>
230V 50 Hz	<b>F</b>	208V 60 Hz	<b>E</b>	12V 50/60 Hz	<b>R</b>	12 Vdc	<b>RD</b>
24V 50/60 Hz	<b>T</b>	190V 50 Hz, 220V 60 Hz	<b>G</b>	42V 50 Hz, 48V 60 Hz	<b>W</b>	48 Vdc	<b>WD</b>
24 Vdc	<b>TD</b>	240V 50 Hz, 277V 60 Hz	<b>H</b>	48V 50 Hz	<b>Y</b>		

### Notes

- ① Underscore (\_) indicates magnet coil suffix required. See Coil Voltage Suffix table above.
- ② DC operated control relays XTRM(C)10A22\_ cannot be used with front mount auxiliary contacts.
- ③ DC operated control relays XTRE(C)10B22\_ can only be combined with two-pole auxiliary contacts.

## Accessories

### Auxiliary Contacts

XTMCF\_









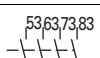
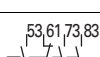
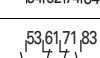
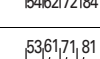
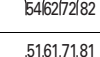
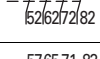
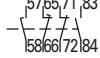
### Front-Mount Auxiliary Contacts for Use with XTRM Mini Control Relays

Conventional Thermal Current, I <sub>th</sub> Open (A)	Rated Operational Current AC-15 I <sub>o</sub> (A)			Contact Configuration	Contact Sequence	Pkg. Qty. ①	Screw Terminal Catalog Number
	220V	380V	500V				
10	4	2	1.5	2NC		5	XTMCXFA02
10	4	2	1.5	1NO-1NC		5	XTMCXFA11
10	4	2	1.5	2NO		5	XTMCXFA20
10	4	2	1.5	4NC		5	XTMCXFA04
10	4	2	1.5	1NO-3NC		5	XTMCXFA13
10	4	2	1.5	2NO-2NC		5	XTMCXFA22
10	4	2	1.5	3NO-1NC		5	XTMCXFA31
10	4	2	1.5	4NO		5	XTMCXFA40
10	4	2	1.5	1NO-1NC 1NO <sub>E</sub> -1NC <sub>L</sub>		5	XTMCXFA122 ②

#### Notes

- ① Orders must be placed in multiples of package quantity listed.
- ② One early-make contact (NO<sub>E</sub>), one late-break contact (NC<sub>L</sub>).

Front-Mount Auxiliary Contacts for Use with XTRE Control Relays <sup>①</sup>

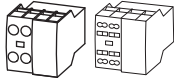
	Conventional Thermal Current, $I_{th}$ (A), Open at 60°C	Poles	Rated Operational Current AC-15 $I_e$ (A)			Contact Configuration	Circuit Symbol	Pkg. Qty. <sup>②</sup>	Screw Terminal Catalog Number
			220V 230V 240V	380V 400V 415V	500V				
<b>Two-Pole</b> 	16	2	6	3	1.5	2NO		5	XTCEXFAC20
	16	2	6	3	1.5	1NO-1NC		5	XTCEXFAC11 <sup>③</sup>
	16	2	6	3	1.5	2NC		5	XTCEXFAC02
	16	2	6	3	1.5	1NO <sub>E</sub> -1NC <sub>L</sub>		5	XTCEXFALC11 <sup>④</sup>
<b>Four-Pole</b> 	16	4	6	3	1.5	4NO		5	XTCEXFAC40 <sup>③</sup>
	16	4	6	3	1.5	3NO-1NC		5	XTCEXFAC31 <sup>③</sup>
	16	4	6	3	1.5	2NO-2NC		5	XTCEXFAC22 <sup>③</sup>
	16	4	6	3	1.5	1NO-3NC		5	XTCEXFAC13
	16	4	6	3	1.5	4NC		5	XTCEXFAC04
	16	4	6	3	1.5	1NO-1NC 1NO <sub>E</sub> -1NC <sub>L</sub>		5	XTCEXFALC22 <sup>④</sup>
	16	4	6	3	1.5				

**Notes**

- ① Interlocked opposing contacts, to IEC/EN 60947-5-1 Annex L (positively driven), within the auxiliary contact modules (not NO<sub>E</sub> and NC<sub>L</sub> contacts) and between the auxiliary contacts and built-in contacts of the XTRE control relays.
- ② Orders must be placed in multiples of package quantity listed.
- ③ 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.
- ④ One early-make contact (NO<sub>E</sub>), one late-break contact (NC<sub>L</sub>).

## Auxiliary Contacts

XTCEXF\_

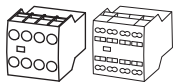


## Frames B–C, Front (Top) Mount—Two-Pole

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 <sub>E</sub> -1NC <sub>L</sub>		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 <sub>E</sub> -1NC <sub>L</sub>		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<sub>E</sub>), 1 late-break contact (1NC<sub>L</sub>).
- 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.

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#### 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

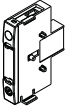
#### XTCEXFATC22



#### 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

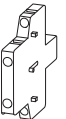
#### XTCEXSAB\_



#### 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 ③
16	1NC		1	XTCEXSAB01 ③

#### XTCEXSACC11



#### 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	XTCEXSACC11 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 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, XTCEXSDB, XTPAXTPCB, XTPAXTPCRB, XTPAX.

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

③ 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 <sub>E</sub> -1NC <sub>L</sub>		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.

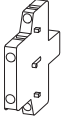
② A “\_” denotes catalog numbers are incomplete. To complete the catalog number for ordering a spring cage terminal, insert a **C** in the “\_” position or remove “\_” for screw type terminal.

③ One early-make contact (1NO<sub>E</sub>), one late-break contact (1NC<sub>L</sub>).



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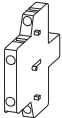
XTCEXS\_



#### 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 <sub>E</sub> –1NC <sub>L</sub>		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 <sub>E</sub> –1NC <sub>L</sub>		1	XTCEXSBLR11
10	1NO–1NC		1	XTCEXSBR11

#### Notes

- ① Orders must be placed in multiples of package quantity listed.
- ② 1 early-make contact (1NO<sub>E</sub>), 1 late-break contact (1NC<sub>L</sub>).
- 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 XTCEXSBR11.