Contents

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, CCC 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 – 240V AC/DC Control
- Available with screw or spring cage terminals
- 4-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

Standards and Certifications

- IEC EN 60947
- CE Approved
- UL
- CSA
- CCC
- ATEX

Instructional Leaflets

Pub51219	Inside of Packaging XTRM Mini Control Relays
Pub51210	Inside of Packaging 7-15A XTCE Contactors and XTRE Control Relays
Pub51244	XTTR Electronic Star-Delta (Wye-Delta) Timer
Pub51245	XTMT Mini Electronic On-Delay and Multi-Function Timers

catalogueue Number Selection

Table B-1. *XT* — Relay catalogueue Numbering System

XT RE C 10 B 22 AD

Product Line Prefix
XT = ***XT*** IEC Power Control

Product Family Code
RM = Mini IEC Control Relay **RE** = IEC Control Relay

Terminations
Blank = Screw Terminals **C** = Spring Cage Terminals

Conventional Thermal Current Rating
10 = 10A

Frame
For XTRM
A = 45 mm — Mini
For XTRE
B = 45 mm — Standard

Contact Configuration
40 = 4NO **31** = 3NO-1NC **22** = 2NO-2NC

Coil Code
See **Table B-5** on **Page B-4**.

Table B-2. *XT* — Timers catalogueue Numbering System

XT MT 6 B 30S 11 B

Product Line Prefix
XT = ***XT*** IEC Power Control

Product Family Code
MT = Mini IEC Timing Relay **TR** = Electronic Timing Relay Star-Delta (Wye-Delta)

Conventional Thermal Current Rating
6 = 6A

Frame
A = 45 mm

Time Range Max.
For XTMT
30S = 1.5 – 30 s **60H** = 0.05 – 1 s 0.15 – 3 s 0.5 – 10 s 3 – 60 s 0.15 – 3 min 0.5 – 3 min 3 – 60 min 0.15 – 3 h 0.5 – 3 h 3 – 60 h
For XTTR
60S = 3 – 60 s

Function
For XTMT
11 = On-Delay **70** = Adjustable
For XTTR
51 = Star-Delta

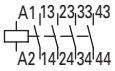
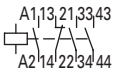
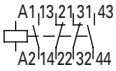
Coil Code
B = 24 – 240V AC/DC

Product Selection

B

Mini Control Relays

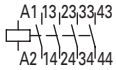
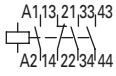
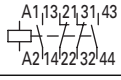
Table B-3. Mini Control Relays

Conventional Thermal Current I_{th} (A)	Contact Configuration	Rated Operational Current AC-15 I_e (A)			Circuit Symbol	Screw Terminals	Spring Cage Terminals	Price	
		220 – 240V	380 – 415V	500V		catalogueue Number ①	catalogueue Number ①	AC Coil	DC Coil
10	4NO	6	3	1.5		**XTRM10A40_**	**XTRMC10A40_**		
10	3NO-1NC	6	3	1.5		**XTRM10A31_**	**XTRMC10A31_**		
10	2NO-2NC	6	3	1.5		**XTRM10A22_**	**XTRMC10A22_**		

① Underscore (_) indicates magnet coil suffix required. See **Table B-5**.

Control Relays

Table B-4. 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 Terminals	Spring Cage Terminals	Price	
		220 – 240V	380 – 415V	500V		catalogueue Number ②	catalogueue Number ②	AC Coil	DC Coil
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_** ③	**XTREC10B22_** ③		

② Underscore (_) indicates magnet coil suffix required. See **Table B-5**.

③ DC operated control relays XTRE(C)10B22_ can only be combined with 2-pole auxiliary contacts.

Table B-5. Coil Voltage Suffix

Coil Voltage	Suffix Code
110V 50 Hz, 120V 60 Hz	**A**
220V 50 Hz, 240V 60 Hz	**B**
230V 50 Hz	**F**
24V 50/60 Hz	**T**
24V DC	**TD**
415V 50 Hz, 480V 60 Hz	**C**
550V 50 Hz, 600V 60 Hz	**D**

Coil Voltage	Suffix Code
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**

Coil Voltage	Suffix Code
24V 50 Hz	**U**
42V 50 Hz, 48V 60 Hz	**W**
48V 50 Hz	**Y**
120V DC	**AD**
220V DC	**BD**
12V DC	**RD**
48V DC	**WD**

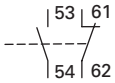
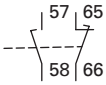
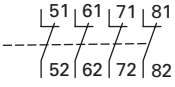
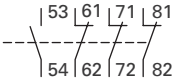
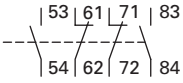
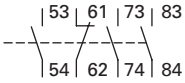
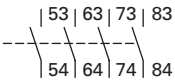
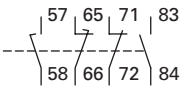
Notes:
- Orders must be placed in multiples of the package quantity listed.
- DC operated control relays have a built-in suppressor circuit.
- Contact terminal numbers to EN50011.
- Coil terminal numbers to EN50005.

Accessories ..... **Page B-5**
Dimensions ..... **Page B-13**
Discount Symbol **MC7/MC8**

Accessories

Auxiliary Contacts

Table B-6. Front Mount Auxiliary Contacts for Use with XTRM Mini Control Relays

Conventional thermal current, I_{th} Open (A)	Rated Operational Current AC-15 I_e (A)			Contact Configuration	Contact Sequence	Package Qty.	Screw Terminals	Spring Cage Terminals	Price ①
	220V 230V 240V	380V 400V 415V	500V				catalogueue Number	catalogueue Number	
10	4	2	1.5	2NC		5	**XTMCXFA02**	—	
10	4	2	1.5	1NO-1NC		5	**XTMCXFA11**	**XTMCXFAC11**	
10	4	2	1.5	2NO		5	**XTMCXFA20**	—	
10	4	2	1.5	$1NO_E$-$1NC_L$		5	**XTMCXFAL11** ②	—	
10	4	2	1.5	4NC		5	**XTMCXFA04**	**XTMCXFAC04**	
10	4	2	1.5	1NO-3NC		5	**XTMCXFA13**	**XTMCXFAC13**	
10	4	2	1.5	2NO-2NC		5	**XTMCXFA22**	**XTMCXFAC22**	
10	4	2	1.5	3NO-1NC		5	**XTMCXFA31**	**XTMCXFAC31**	
10	4	2	1.5	4NO		5	**XTMCXFA40**	**XTMCXFAC40**	
10	4	2	1.5	1NO-1NC $1NO_E$-$1NC_L$		5	**XTMCXFAL22** ②	**XTMCXFCLC22** ②	

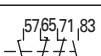
① Orders must be placed in multiples of package quantity listed.

② 1 early-make contact (NO_E), 1 late-break contact (NC_L).

Discount Symbol **MC8**

B

Table B-7. Front Mount Auxiliary Contacts for Use with XTRE Control Relays ③

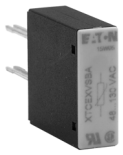
	Conventional Thermal Current, I_{th} (A), Open at 60°C	Poles	Rated Operational Current AC-15 I_e (A) 220V 230V 240V	380V 400V 415V	500V	Contact Configuration	Circuit Symbol	Pkg. Qty.	Screw Terminals catalogueue Number	Spring Cage Terminals catalogueue Number	Price ①
	16	2	6	3	1.5	2NO		5	**XTCEXFAC20**	**XTCEXFACC20**	
	16	2	6	3	1.5	1NO-1NC		5	**XTCEXFAC11**	**XTCEXFACC11**	
	16	2	6	3	1.5	2NC		5	**XTCEXFAC02**	**XTCEXFACC02**	
	16	2	6	3	1.5	$1NO_E$-$1NC_L$		5	**XTCEXFALC11** ②	**XTCEXFALCC11** ②	
	16	4	6	3	1.5	4NO		5	**XTCEXFAC40**	**XTCEXFACC40**	
	16	4	6	3	1.5	3NO-1NC		5	**XTCEXFAC31**	**XTCEXFACC31**	
	16	4	6	3	1.5	2NO-2NC		5	**XTCEXFAC22**	**XTCEXFACC22**	
	16	4	6	3	1.5	1NO-3NC		5	**XTCEXFAC13**	**XTCEXFACC13**	
	16	4	6	3	1.5	4NC		5	**XTCEXFAC04**	**XTCEXFACC04**	
	16	4	6	3	1.5	1NO-1NC $1NO_E$-$1NC_L$		5	**XTCEXFCLC22** ②	**XTCEXFCLCC22** ②	

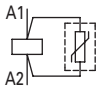
① Orders must be placed in multiples of package quantity listed.
② 1 early-make contact (NO_E), 1 late-break contact (NC_L).
③ Interlocked opposing contacts, to IEC/EN 60947-5-1 Annex L (positively driven), within the auxiliary contact modules (not NO_E and NC_L contacts) and between the auxiliary contacts and built-in contacts of the XTRE control relays.

Suppressors

For AC operated contactors 50 – 60 Hz. On DC operated contactor relays and on XTRE10B the suppressor circuit is built-in. Note drop-out relay.

Varistor Suppressor ④⑤





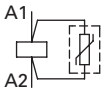
Contact Sequence

Table B-8. Varistor Suppressor for XTRE

Voltage	For Use with…	Pkg. Qty.	catalogueue Number	Price ⑥
24 – 48	XTCE007B – XTCE015B, XTCF020B, XTRE(C)10B	10	**XTCEXVSBW**	
48 – 130		10	**XTCEXVSBA**	
130 – 240		10	**XTCEXVSBB**	
240 – 500		10	**XTCEXVSBC**	

④ Note drop-out delay.
⑤ For AC operated contactors, 50/60 Hz. DC operated contactors have an integrated suppressor.
⑥ Orders must be placed in multiples of package quantity listed.

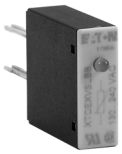
Table B-9. Varistor Suppressor for XTRM ⑦

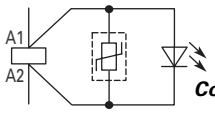
Voltage	For Use with…	Circuit Symbol	Package Qty.	catalogueue Number	Price ⑧
24 – 48	XTRM6A…, XTRM9A…		10	**XTMCXVSW**	
48 – 130	XTRM6A…, XTRM9A…		10	**XTMCXVSA**	
110 – 250	XTRM6A…, XTRM9A…		10	**XTMCXVSB**	
380 – 415	XTRM6A…, XTRM9A…		10	**XTMCXVSN**	
24 – 48	XTRMC6A…, XTRMC9A…		10	**XTMCXVSCW**	
48 – 130	XTRMC6A…, XTRMC9A…		10	**XTMCXVSCA**	
110 – 250	XTRMC6A…, XTRMC9A…		10	**XTMCXVSCB**	

⑦ For AC operated contactors, 50/60 Hz. DC operated contactors have integrated varistor suppressors.
⑧ Orders must be placed in multiples of package quantity listed.

Discount Symbol **MC7/MC8**

Varistor Suppressor with Integrated LED ①②





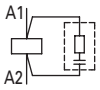
Contact Sequence

Table B-10. Varistor Suppressor for XTRE

Voltage	For Use with…	Pkg. Qty.	catalogueue Number	Price ③
24 – 48 130 – 240	XTRE(C)10B	10 10	**XTCEXVSLBW** **XTCEXVSLBB**	

① Note drop-out delay.
② For AC operated contactors, 50/60 Hz. DC operated contactors have an integrated suppressor.
③ Orders must be placed in multiples of package quantity listed.

RC Suppressor ④⑤



Contact Sequence

Table B-11. RC Suppressor for XTRE

Voltage	For Use with…	Pkg. Qty.	catalogueue Number	Price ⑥
24 – 48 48 – 130 110 – 240 240 – 500	XTRE(C)10B	10 10 10 10	**XTCEXRSBW** **XTCEXRSBA** **XTCEXRSBB** **XTCEXRSBC**	

④ Note drop-out delay.
⑤ For AC operated contactors, 50/60 Hz. DC operated contactors have an integrated suppressor.
⑥ Orders must be placed in multiples of package quantity listed.

Table B-12. RC Suppressor for XTRM ⑦

Voltage	For Use with…	Circuit Symbol	Package Qty.	catalogueue Number	Price ⑧
24 – 48	XTRM6A…, XTRM9A…	A1 A2	10	**XTMCXRSW**	
48 – 130	XTRM6A…, XTRM9A…		10	**XTMCXRSA**	
110 – 250	XTRM6A…, XTRM9A…		10	**XTMCXRSB**	
24 – 48	XTRMC6A…, XTRMC9A…		10	**XTMCXRSCW**	
48 – 130	XTRMC6A…, XTRMC9A…		10	**XTMCXRSCA**	
110 – 250	XTRMC6A…, XTRMC9A…		10	**XTMCXRSCB**	

⑦ For AC operated contactors, 50/60 Hz. Note drop-out delay.
⑧ Orders must be placed in multiples of package quantity listed.

Free-Wheel Diode Suppressor

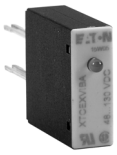
In addition to the built-in suppressor circuit for DC actuated contactors. Prevents negativie breaking voltage when contactors are used in combination with a safety PLC.

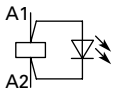
Table B-13. Free-Wheel Diode Suppressor for XTRE

Voltage	For Use with…	Pkg. Qty.	catalogueue Number	Price ⑨
12 – 250 DC	XTRE10B	10	**XTCEXD5B**	

⑨ Orders must be placed in multiples of package quantity listed.

Voltage Indicator





Contact Sequence

Table B-14. Voltage Indicator for XTRE

Voltage	For Use with…	Pkg. Qty.	catalogueue Number	Price ⑩
24 – 48 110 – 120 110 – 250	XTRE(C)10B	10 10 10	**XTCEXVIBW** **XTCEXVIBA** **XTCEXVIBB**	

⑩ Orders must be placed in multiples of package quantity listed.

Discount Symbol **MC7/MC8**

B

Connector ①

Table B-15. Connector

	For Use with…	Pkg. Qty.	catalogueue Number	Price ②
	XTRE(C)10B	50	**XTCEXCNC**	
	XTRM10A	50	**XTMCXCN**	

① For mechanically arranging contactors in combinations. Distance between contactors is 0 mm.
② Orders must be placed in multiples of package quantity listed.

Mechanical Interlock ③

Table B-16. Mechanical Interlock

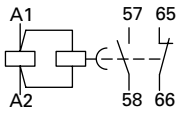
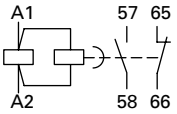
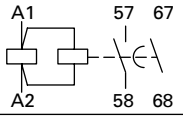
	For Use with…	Pkg. Qty.	catalogueue Number	Price ④
	XTRE10B...	5	**XTCEXMLB**	
	XTRM10A...	5	**XTMCXML**	

③ For two contactors with AC or DC operated magnet system which are horizontally or vertically mounted. For B frame, mechanical lifespan is 2.5 x 10^6 operations and the distance between contactors is 0 mm.
④ Orders must be placed in multiples of package quantity listed.

Electronic Timer Modules

Front (Top) mounted timer modules for use with XTRE10B control relays. Can not be combined with top mount auxiliary contacts, XTCEXF_C_.

Table B-17. Electronic Timer Modules for XTRE

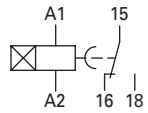
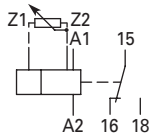
Voltage	Contact Sequence	Timing Range	For Use with…	Pkg. Qty.	catalogueue Number	Price ⑤
On-Delayed						
24V AC/DC		0.05 – 1 s 0.5 – 10 s 15 – 100 s	XTRE10B_	1	**XTCEXTEEC11T**	
100 – 130V AC					**XTCEXTEEC11A**	
200 – 240V AC					**XTCEXTEEC11B**	
Off-Delayed						
24V AC/DC		0.05 – 1 s	XTRE10B_	1	**XTCEXTED1C11T**	
100 – 130V AC					**XTCEXTED1C11A**	
200 – 240V AC					**XTCEXTED1C11B**	
24V AC/DC		0.5 – 10 s	XTRE10B_	1	**XTCEXTED10C11T**	
100 – 130V AC					**XTCEXTED10C11A**	
200 – 240V AC					**XTCEXTED10C11B**	
24V AC/DC		5 – 100 s	XTRE10B_	1	**XTCEXTED100C11T**	
100 – 130V AC					**XTCEXTED100C11A**	
200 – 240V AC					**XTCEXTED100C11B**	
Star-Delta						
24V AC/DC		1 – 30 s	XTRE10B_	1	**XTCEXTEYC20T**	
100 – 130V AC					**XTCEXTEYC20A**	
200 – 240V AC					**XTCEXTEYC20B**	
Sealable Shroud						
	Transparent sealable shroud used to protect electronic timer modules from unwanted access.		XTCEXTEE, XTCEXTED, XTCEXTEY	1	**XTCEXTESHRD**	

⑤ Orders must be placed in multiples of package quantity listed.

Discount Symbol **MC8/MC7**

Mini Electronic Timers


Table B-18. Mini Electronic On-Delay Timers

Conventional Thermal Current I_e (A)	Rated Operational Current I_e AC-11 Amps		Time Range	Function	Terminal Marking According to EN 50042	catalogueue Number	Price
	220/230/240V	380/400/440V					
6	3	3	1.5 – 30 sec 0.05 – 1 sec 0.15 – 3 sec 0.5 – 10 sec 3 – 60 sec	Fixed, On-delay		**XTMT6A30S11B**	
6	3	6	0.15 – 3 min 0.5 – 10 min 3 – 60 min 0.15 – 3 h 0.5 – 10 h 3 – 60 h	Fixed, On-delay		**XTMT6A60H11B**	
6	3	3	0.05 – 1 sec 0.15 – 3 sec 0.5 – 10 sec 3 – 60 sec 0.15 – 3 min 0.5 – 10 min 3 – 60 min 0.15 – 3 h 0.5 – 10 h 3 – 60 h	Adjustable: On-delayed; Fleeting contact on energization; Flashing; Pulse generating; ON-OFF		**XTMT6A60H70B**	

Notes —

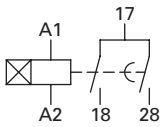
Actuating Voltage
24 – 240 50/60 Hz
24 – 240V DC

Admissible Cable Length
Cable unscreened, with cable cross-section 0.5 – 1.5 mm^2
Two-core cable
Two-core cable in the same cable duct with the main cable, 50/60 Hz

Connection to
Y1/Y2, Z1/Z2
M250
M50

Electronic Star-Delta (Wye-Delta) Timers

Table B-19. Electronic Star-Delta (Wye-Delta) Timers

Conventional Thermal Current I_e (A)	Rated Operational Current I_e AC-11 Amps		Time Range	Function	Terminal Marking According to EN 50042	catalogueue Number	Price
	230V	400V					
6	3	3	3 – 60 sec	Fixed, Star-Delta		**XTTR6A60S51B**	

Notes —

Actuating Voltage
24 – 240 50/60 Hz
24 – 240V DC

Admissible Cable Length
Cable unscreened, with cable cross-section 0.5 – 1.5 mm^2
Two-core cable
Two-core cable in the same cable duct with the main cable, 50/60 Hz

Connection to
B1, Z1/Z2
M250
M50

Discount Symbol **MC7/MC8**

B

Technical Data and Specifications

Table B-20. Relays and Timers — Technical Data and Specifications

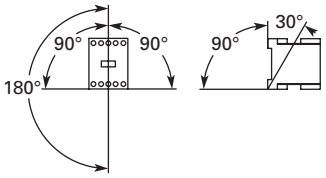
Description	XTRE	XTCEXFAC_	XTCEXTE_	XTRM	XTMCXFA_
General					
Standards	IEC/EN 60947, VDE 0660, UL, CSA		DIN EN 61812, IEC/EN 60947, VDE 060, UL, CSA	IEC/EN 60947, VDE 0660, UL, CSA	
Lifespan, Mechanical AC Operated DC Operated	 20,000,000 20,000,000	 10,000,000 10,000,000	 3,000,000 3,000,000	 10,000,000 20,000,000	 10,000,000 20,000,000
Maximum operating frequency (ops/hr)	9000	9000	—	9000	9000
Climatic Proofing	Damp heat, constant, to IEC 60068-2-78; Damp heat, cyclical, to IEC 60068-2-30				
Ambient Temperature Open (°C, min/max) Enclosed (°C, min/max) Ambient Temperature for Storage (°C, min/max)	 -25/60 -25/40 -40/80	 -25/60 -25/40 -40/80	 -40/80 -25 – 60 -25 – 40	 -25/50 -25/40 —	 -25/50 -25/40 —
Mounting Position			As required, not suspended	As required, except vertically A1/A2 at the bottom	
Mechanical shock resistance (IEC/EN 60068-2-27) Half-sinusoidal shock 10 ms Base unit with auxiliary contact module Make contact Break contact	 7g 5g	 7g 5g	 6g 6g	 10g 8g	 10g 8g
Degree of Protection	IP20	IP20	IP20	IP20	IP20
Protection against direct contact from the front when actuated by a perpendicular test finger (IEC 536)	Finger- and back-of-hand proof				
Weight AC operated (kg) DC operated (kg)	 0.23 0.28	 0.05 0.05	 0.08 0.08	 0.17 0.20	 — —
Terminal capacity Screw terminals Solid (mm^2) Flexible with ferrule (mm^2) Solid or stranded (AWG)	 1 x (0.75 – 4) 2 x (0.75 – 2.5) 1 x (0.75 – 2.5) 2 x (0.75 – 2.5) 18 – 14		 1 x (0.75 – 2.5) 2 x (0.75 – 2.5) 1 x (0.75 – 1.5) 2 x (0.75 – 1.5) 18 – 14	 1 x (0.75 – 2.5) 2 x (0.75 – 2.5) 1 x (0.75 – 1.5) 2 x (0.75 – 1.5) 18 – 14	
Terminal screw	M3.5	M3.5	M3.5	M3.5	M3.5
Pozidriv screwdriver	Size 2	Size 2	Size 2	Size 2	Size 2
Standard screwdriver (mm)	0.8 x 5.5 1 x 6		0.8 x 5.5 1 x 6	0.8 x 5.5 1 x 6	
Max. tightening torque (Nm)	1.2	1.2	1.2	1.2	1.2
Spring cage terminals Solid (mm^2) Flexible with or without ferrule DIN 46228 (mm^2) Solid or stranded (AWG)	 1 x (0.75 – 2.5) 2 x (0.75 – 2.5) 1 x (0.75 – 2.5) 2 x (0.75 – 2.5) 18 – 14		 — — — — —	 1 x (0.75 – 2.5) 2 x (0.75 – 2.5) 1 x (0.75 – 2.5) 2 x (0.75 – 2.5) 18 – 14	
Standard screwdriver (mm)	0.6 x 3.5		—	0.6 x 3.5	
Contacts					
Interlocked opposing contacts to ZH 1/457, including auxiliary contact module	Yes	Yes	No	Yes	Yes
Rated impulse withstand voltage (U_{imp}) V AC	6000	6000	6000	6000	6000
Overvoltage category/pollution degree	III/3	III/3	III/3	III/3	III/3
Rated insulation voltage (U_i) V AC	690	690	600	690	690
Rated operational voltage (U_e) V AC	690	500	400	600	600
Safe isolation to VDE 0106 Part 101 and Part 101/A1 Between coil and auxiliary contacts (V AC) Between the auxiliary contacts (V AC)	 400 400	 400 400	 250 250	 300 300	 300 300
Rated operational current AC-15 220/240V I_e 380/415V I_e 500V I_e	 6 4 1.5	 6 3 —	 Please inquire Please inquire —	 6 3 1.5	 4 2 1.5

Table B-20. Relays and Timers — Technical Data and Specifications (Continued)

Description	XTRE	XTCEXFAC_	XTCEXTE_	XTRM	XTMCXFA_
Contacts (Continued)					
DC-13 ①					
DC13 L/R ≤ 15 mS					
Contacts in series: Voltage:					
1 24V	10	10	—	2.5	2.5
1 60V	6	6	—	—	—
2 60V	10	10	—	2.5	2.5
1 110V	3	3	—	—	—
3 110V	6	6	—	1.5	1.5
1 220V	1	1	—	—	—
3 220V	5	5	—	0.5	0.5
DC-13 L/R ≤ 50 mS					
Contacts in series: Voltage:					
3 24V	4	—	—	—	—
3 60V	4	—	—	—	—
3 110V	2	—	—	—	—
3 220V	1	—	—	—	—
Control circuit reliability (at U_e = 24V DC, U_{min} = 17, I_{min} = 5.4 mA)	Faillure rate = $<10^{-8}$, < one failure in 100 million operations		—	Faillure rate = $<10^{-8}$, < one failure in 100 million operations	
Conventional thermal current (I_{th})	16	16	6	10	10
Short-circuit rating without welding					
Maximum overcurrent protective device					
220/240V – XTPR Frame B	4	—	—	4	4
380/415V – XTPR Frame B	4	—	—	4	4
Short-circuit protection, max. fuse					
500V (A gG/gL)	10	10	6	6	6
500V (A fast)	—	—	—	10	10
Current heat losses at load of I_{th}					
AC operated (W)	0.3	0.3	—	0.2	0.2
DC operated (W)	0.3	0.3	—	0.3	0.3
Magnet Systems					
Pick-up and drop-out values					
AC operated					
Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz (Pick-up x U_c)	0.8 – 1.1	—	0.85 – 11	0.8 – 1.1	—
Dual-frequency coil 50/60 Hz (Pick-up x U_c)	0.8 – 1.1	—	—	0.85 – 1.1	—
DC operated ②					
Pick -up voltage (Pick-up x U_c)	0.8 – 1.1	—	0.7 – 1.2	0.85 – 1.3	—
At 24V: without auxiliary contact module (40°C) (Pick-up x U_c)	0.7 – 1.3	—	—	0.7 – 1.3	—
Power consumption					
Single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz					
Pick-up VA	24	—	—	25	—
Pick-up W	19	—	—	22	—
Sealing VA	3.4	—	2	4.6	—
Sealing W	1.2	—	1.8	1.3	—
Dual-frequency coil 50/60 Hz at 50 Hz					
Pick-up VA	27	—	—	30	—
Pick-up W	22	—	—	26	—
Sealing VA	4.2	—	—	5.4	—
Sealing W	1.4	—	—	1.6	—
Dual-frequency coil 50/60 Hz at 60 Hz					
Pick-up VA	25	—	—	29	—
Pick-up W	21	—	—	24	—
Sealing VA	3.3	—	—	3.9	—
Sealing W	1.2	—	—	1.2	—
DC operated					
Pull-in = sealing (W)	3	—	—	2.6	—
Duty factor (% DF)	100	—	100	100	—
Switching times at 100% U_c (approximate values)					
AC operated closing delay (mS)	≤21	—	—	14 – 21	—
AC operated NO contact opening delay (mS)	≤18	—	—	8 – 18	—
AC operated with auxiliary contact module, max. closing delay (mS)	—	—	—	45	45
DC operated closing delay (mS)	≤31	—	—	26 – 35	—
DC operated NO contact opening delay (mS)	≤12	—	—	15 – 25	—
DC operated with auxiliary contact module, max. closing delay (mS)	—	—	—	70	70

① Making and breaking conditions to DC13, time constant as stated.

② Smoothed DC or three-phase bridge rectifier.

B

Control Relays

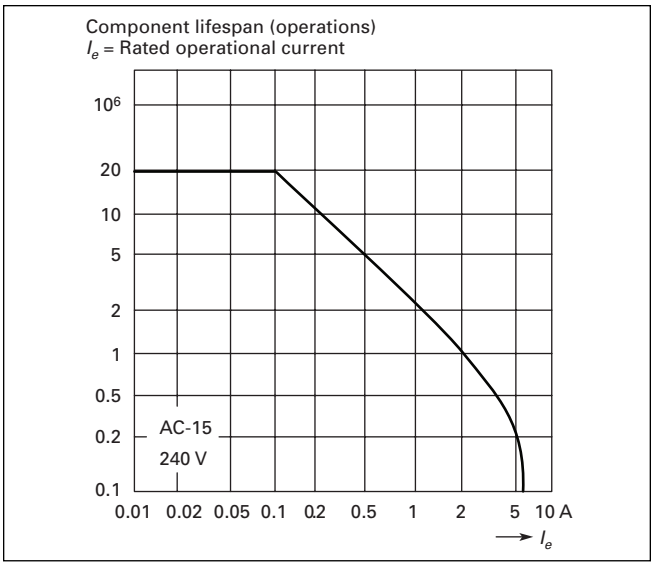


Figure B-1. XTRE (AC-15) Characteristic Curve

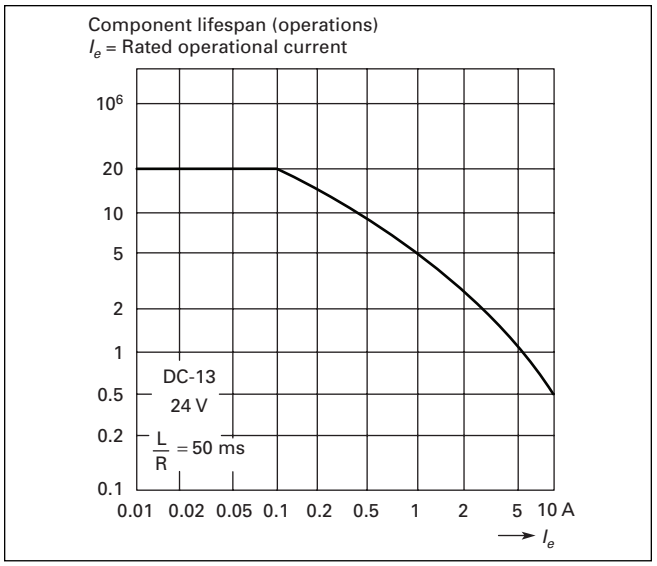


Figure B-2. XTRE (DC-13) Characteristic Curve ①

① Making and breaking conditions to DC-13, time constant as stated.

The diagrams show the closing and opening travel of the contact of the contactor relays and auxilliary contacts at no load. Tolerances are not taken into consideration.

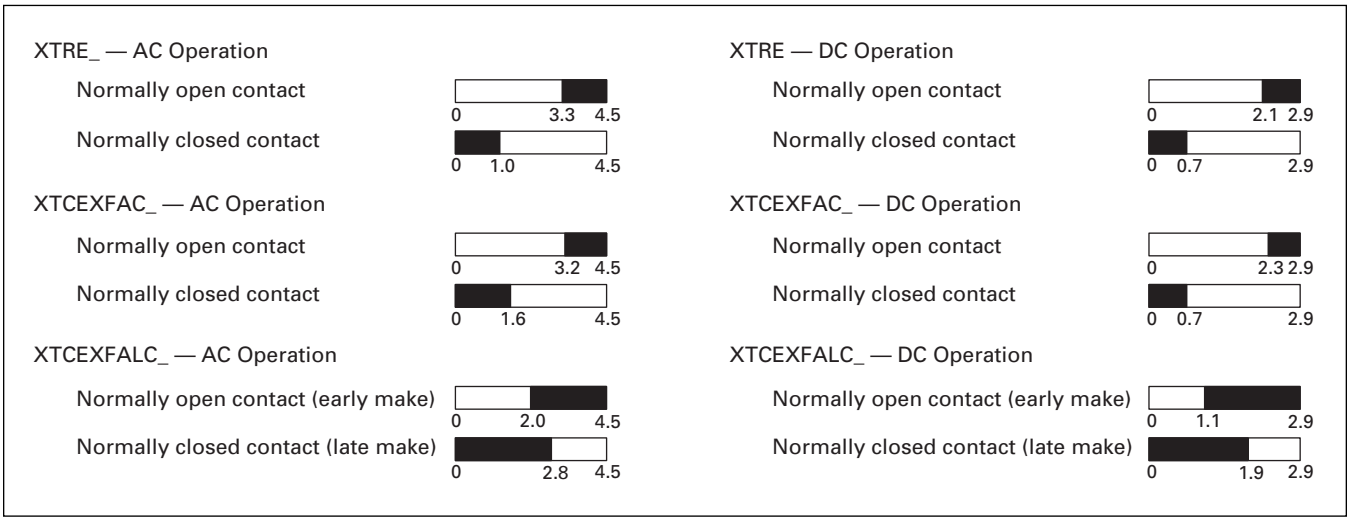


Figure B-3. Contact Travel Diagrams — XTRE

Flow Diagrams — Electronic Timers

XTMT Mini Timers

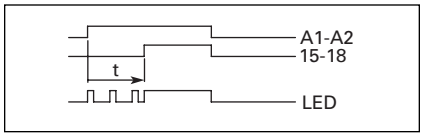


Figure B-4. On-Delayed

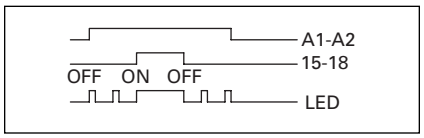


Figure B-5. ON-OFF Function

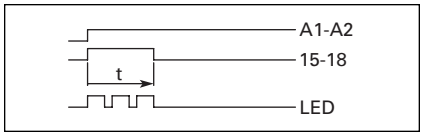


Figure B-6. Fleeting Contact on Energization

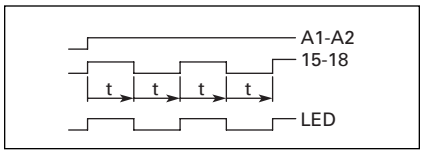


Figure B-7. Flashing, Pulse Initiating

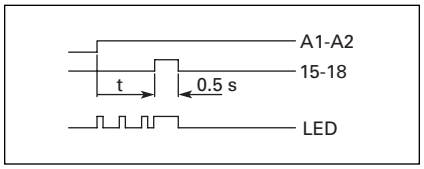


Figure B-8. Pulse Generating

Star-Delta (Wye-Delta) Timer

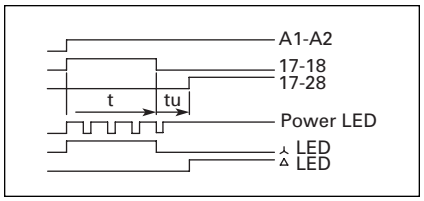


Figure B-9. Star-Delta

Rating Data

Table B-21. Rating Data for Approved Types

Pilot Duty	General Use
Control Relays — XTMR	
A600, P300	10A – 600V AC 0.5A – 250V DC
Timers — XTMT, XTTR	
B300	6A – 250V AC

Dimensions

Mini Control Relays

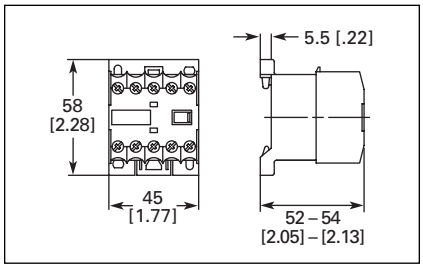


Figure B-10. Mini Control Relay XTRM — Approximate Dimensions in mm [in.]

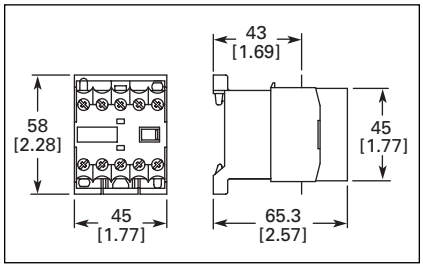


Figure B-11. XTRM Mini Control Relay with IP40 XTMCX Shroud — Approximate Dimensions in mm [in.]

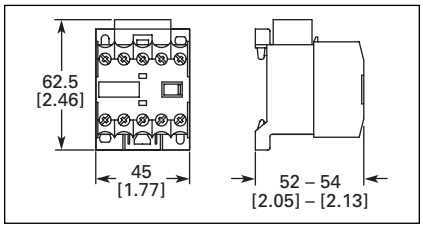


Figure B-12. XTRM Mini Control Relay with RC or Varistor Suppressor — Approximate Dimensions in mm [in.]

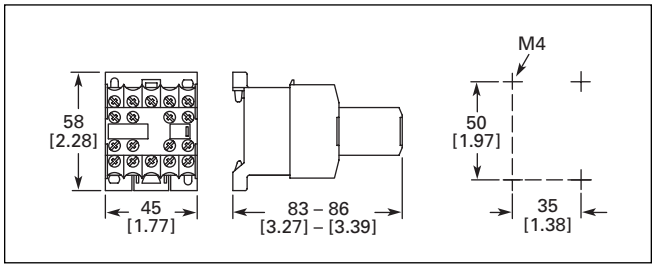


Figure B-13. XTRM Mini Control Relay with XTMCXFA Auxiliary Contact — Approximate Dimensions in mm [in.]

B

Control Relays

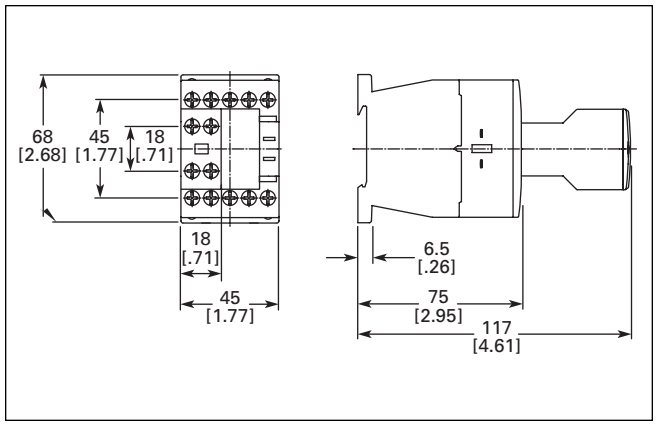


Figure B-14. Control Relay XTRE with XTCEXFA Auxiliary Contact — Approximate Dimensions in Inches (mm)

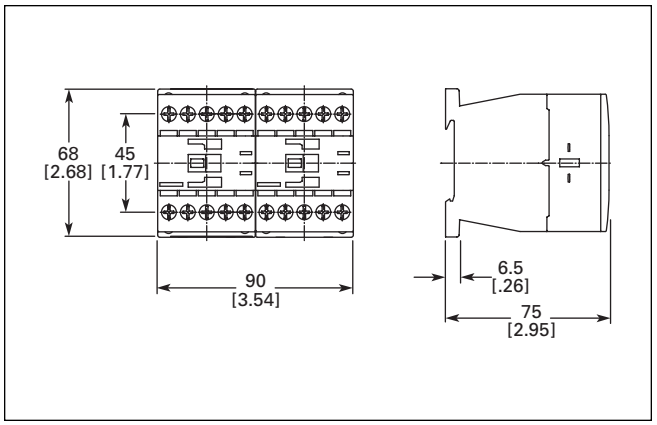


Figure B-17. Control Relays XTRE with XTCEXMLB Mechanical Interlock — Approximate Dimensions in Inches (mm)

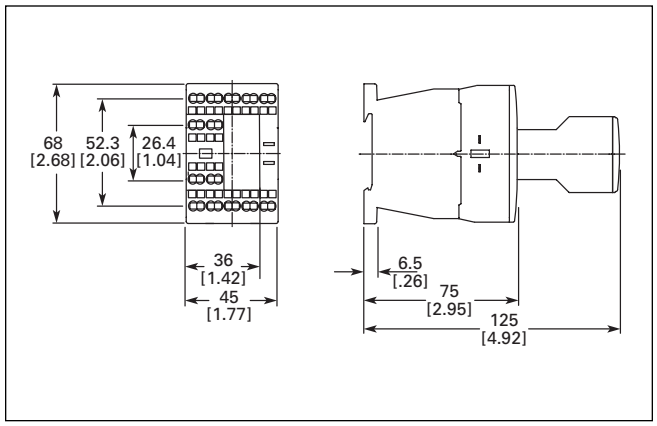


Figure B-15. Control Relay with Spring Cage Terminals XTREC with XTCEXFA Auxiliary Contact — Approximate Dimensions in Inches (mm)

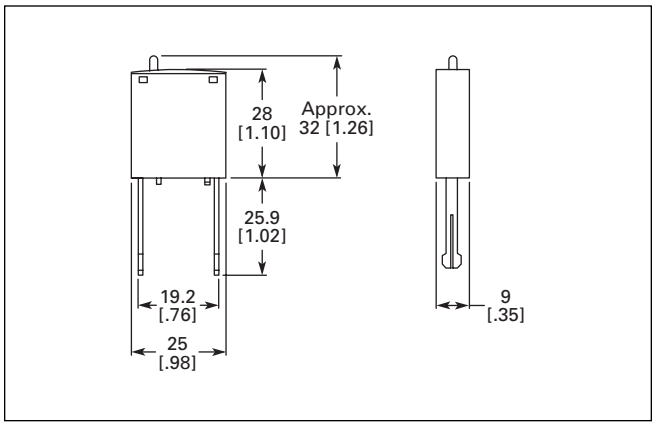


Figure B-18. Coil Suppressors for Use with XTRE Control Relays — Approximate Dimensions in Inches (mm)

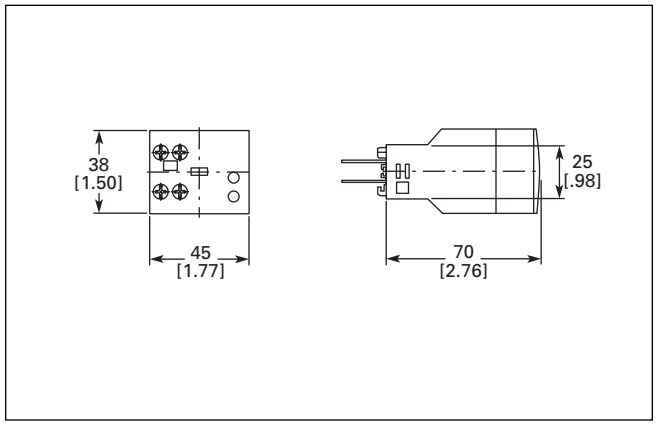


Figure B-16. Electronic Timer Module XTCEXTE — Approximate Dimensions in Inches (mm)