

XTMC Miniature Contactor



Miniature Controls

Product Description

Eaton's new line of **XT** miniature controls includes non-reversing and reversing mini contactors, mini overload relays and snap-on accessories. A wide range of applications is possible, including small electrical motors from fractional to 5 hp (460 Vac) or up to 4 kW (400 Vac).

Application Description

Due to its compact size, the **XT** line of mini controls is best suited to be applied in light-duty loads, such as hoisting, packaging, material handling, heating, lighting and automation systems. **XT** mini contactors are a particularly compact, economic and environmentally friendly solution wherever control of small motors or loads is required.


Features

Mini Contactors—Types XTMC and XTMF, 6–9A

- AC control from 12V to 550V 50 Hz, 600V 60 Hz
- DC control from 12V to 220V
- Reversing or non-reversing
- Three- and four-pole configurations
 - Three-pole XTMC
 - Four-pole XTMF
- Panel or DIN rail mounting
- IP20 finger and back-of-hand proof
- Low noise operation
- High degree of climatic proofing
- Large ambient temperature range –25° to 50°C [–13° to 122°F]

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Mini Overload Relays—Bimetallic Type XTOM

- Phase failure sensitivity
- Direct mount to XTMC and XTMF mini contactors
- Trip Class 10
- 11 settings to cover 0.1 to 12A
- Ambient temperature compensated –5° to 50°C [23° to 122°F]
- Manual and automatic reset by selector switch
- One make (NO) or one break (NC) auxiliary contact as standard
- Test/Off button
- Trip-free release

Standards and Certifications

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

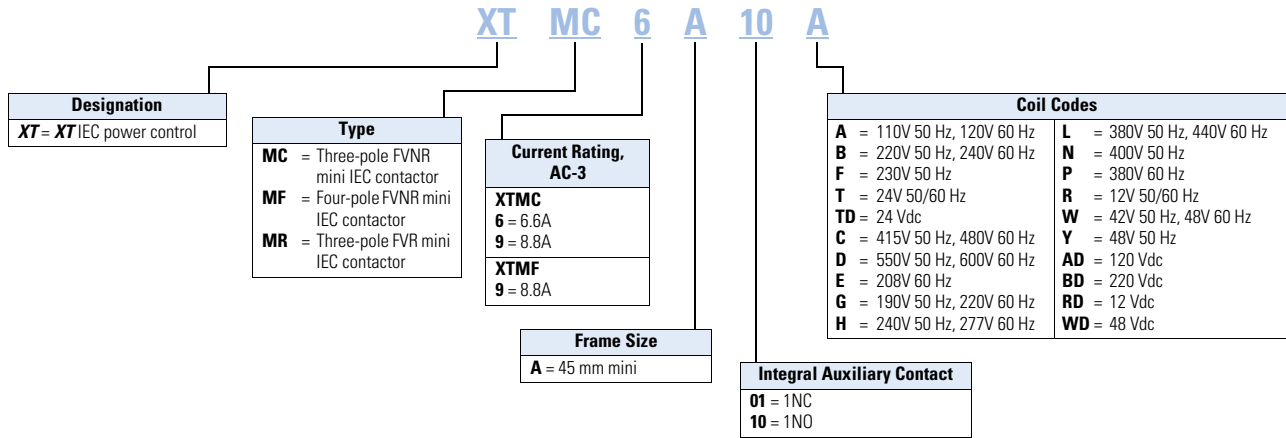


Instructional Leaflets

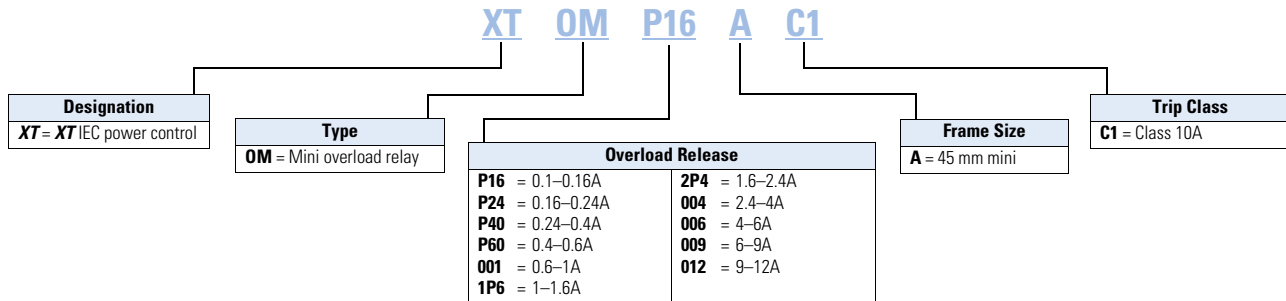
- Pub51219 XTMC, XTMF Mini Contactors, XTRM Mini Control Relay and Accessories
- Pub51243 XTOM Mini Overload Relays
- Pub51206 Mini Reversing Link Kits
- MN03402002E XTOM Mini Overload Relays Installation and User Manual

Catalog Number Selection

XT IEC Miniature Contactors



XT IEC Miniature Overload Relays



Product Selection

Full Voltage Non-Reversing Miniature Contactors

XTMC_



Maximum UL Ratings—Single-Phase and Three-Phase

Horsepower Ratings

Single-Phase			Three-Phase				Number of Power Poles	Auxiliary Contacts	Screw Terminal Catalog Number ^①
115V	200V	230V	200V	230V	460V	575V			
1/4	3/4	1	1-1/2	2	3	3	3	1NO	XTMC6A10_
1/4	3/4	1	1-1/2	2	3	3	3	1NC	XTMC6A01_
1/2	1	1-1/2	2	3	5	5	3	1NO	XTMC9A10_
1/2	1	1-1/2	2	3	5	5	3	1NC	XTMC9A01_
1/2	1	1-1/2	2	3	5	5	4	—	XTMF9A00_

Maximum IEC Ratings AC-3

Operational Current AC-3 Amp Rating 380/400V	Conventional Free Air Thermal Current AC-1 at 50°C	Three-Phase Motors 50–60 Hz				Number of Power Poles	Auxiliary Contacts	Screw Terminal Catalog Number ^①
		220–240V	380–400V	550V	660/690V			
6.6	20	1.5	3	3	3	3	1NO	XTMC6A10_
6.6	20	1.5	3	3	3	3	1NC	XTMC6A01_
8.8	20	2.2	4	4	4	3	1NO	XTMC9A10_
8.8	20	2.2	4	4	4	3	1NC	XTMC9A01_
8.8	20	2.2	4	4	4	4	—	XTMF9A00_

Magnet Coil Suffix

Coil Voltage	Suffix Code	Coil Voltage	Suffix Code	Coil Voltage	Suffix Code	Coil Voltage	Suffix Code
110V 50 Hz, 120V 60 Hz	A	415V 50 Hz, 480V 60 Hz	C	380V 60 Hz	P	120 Vdc	AD
220V 50 Hz, 240V 60 Hz	B	550V 50 Hz, 600V 60 Hz	D ^③	12V 50/60 Hz	R ^③	220 Vdc	BD
230V 50 Hz	F	208V 60 Hz	E	42V 50 Hz, 48V 60 Hz	W	12 Vdc	RD
24V 50/60 Hz	T	190V 50 Hz, 220V 60 Hz	G	48V 50 Hz	Y	48 Vdc	WD
24 Vdc	TD ^②	240V 50 Hz, 277V 60 Hz	H	—	—	—	—
—	—	380V 50 Hz, 440V 60 Hz	L	—	—	—	—

Notes

IEC Utilization Categories, see **Page V5-T1-249**.

AC-1: Non-inductive or slightly inductive loads.

AC-3: Squirrel cage motors—starting, switching of motors during running.

AC-4: Squirrel cage motors—starting, plugging, inching.

^① Underscore (_) indicates magnetic coil suffix required.

^② With DC operation: Integrated diode resistor combination, coil rating 2.6W.

^③ XTMF four-pole contactor not available with “D” or “R” coil voltage suffix.

Full Voltage Reversing Miniature Contactors

XTMR_



Maximum UL Ratings—Single-Phase and Three-Phase

Horsepower Ratings

Single-Phase			Three-Phase				Spare Auxiliary Contacts		Catalog Number ^{①②}
115V	200V	230V	200V	230V	460V	575V	K1M	K2M	
1/4	3/4	1	1-1/2	2	3	3	- 63 64	- 63 64	XTMR6A21_
1/2	1	1-1/2	2	3	5	5	- 63 64	- 63 64	XTMR9A21_

Maximum IEC Ratings AC-3

Three-Phase Motors 50–60 Hz

Operational Current AC-3 Amp Rating 380/400V	Conventional Free Air Thermal Current AC-1 at 50°C	Three-Phase Motors 50–60 Hz				Spare Auxiliary Contacts		Catalog Number ^{①②}
		220/ 230/ 240V	380/ 400/ 440V	500V	660/ 690V	K1M	K2M	
6.6	20	1.5	3	3	3	- 63 64	- 63 64	XTMR6A21_
8.8	20	2.2	4	4	4	- 63 64	- 63 64	XTMR9A21_

Magnet Coil Suffix

Coil Voltage	Suffix Code	Coil Voltage	Suffix Code	Coil Voltage	Suffix Code	Coil Voltage	Suffix Code
110V 50 Hz, 120V 60 Hz	A	415V 50 Hz, 480V 60 Hz	C	380V 60 Hz	P	120 Vdc	AD
220V 50 Hz, 240V 60 Hz	B	550V 50 Hz, 600V 60 Hz	D ^③	12V 50/60 Hz	R ^③	220 Vdc	BD
230V 50 Hz	F	208V 60 Hz	E	42V 50 Hz, 48V 60 Hz	W	12 Vdc	RD
24V 50/60 Hz	T	190V 50 Hz, 220V 60 Hz	G	48V 50 Hz	Y	48 Vdc	WD
24 Vdc	TD ^②	240V 50 Hz, 277V 60 Hz	H	—	—	—	—
—	—	380V 50 Hz, 440V 60 Hz	L	—	—	—	—

Notes

IEC Utilization Categories, see **Page V5-T1-249**.

AC-1: Non-inductive or slightly inductive loads.

AC-3: Squirrel cage motors—starting, switching of motors during running.

AC-4: Squirrel cage motors—starting, plugging, inching.

① Underscore (_) indicates magnetic coil suffix required. See Magnet Coil Suffix table above.

② The factory-installed reversing mini contactor includes (2) XTMC...01 contactors, (2) XTMCXFA20 2NO front-mount auxiliary contacts (1) XTMCXRL reversing link kit and (1) XTMCXML mechanical interlock.

③ XTMF four-pole contactor not available with "D" or "R" coil voltage suffix.

Star-Delta (Wye-Delta) Miniature Contactors

XTMC_



Maximum Current UL Ratings—Single-Phase and Three-Phase ①

Horsepower Ratings								Maximum Changeover Time (sec.)	Spare Auxiliary Contacts K1M	Component Description	Catalog Number ②
Single-Phase			Three-Phase								
115V	200V	230V	200V	230V	460V	575V					
1/2	1	1-1/2	2	3	5	7-1/2	30		K1M main contactor	XTMC9A10_	
									K1M auxiliary contact	XTMCXFC22	
									K5M delta contactor	XTMC9A01_	
									K3M star contactor	XTMC9A10_	
									K3M auxiliary contact	XTMCXFC02	
									K1T timing relay	XTTR6A60S51B	

Maximum IEC Ratings AC-3 ①

Horsepower Ratings				Maximum Changeover Time (sec.)	Spare Auxiliary Contacts K1M	Component Description	Catalog Number ②
Three-Phase Motors 50–60 Hz							
220/230/240V	380/400/440V	500V					
4	5.5	5.5		30		K1M main contactor	XTMC9A10_
						K1M auxiliary contact	XTMCXFC22
						K5M delta contactor	XTMC9A01_
						K3M star contactor	XTMC9A10_
						K3M auxiliary contact	XTMCXFC02
						K1T timing relay	XTTR6A60S51B

Mini Overload Relay Settings (A)

Setting	Starting
A: $I_N \times 0.58$ Motor protection in the Y 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 position.	> 40 sec
Timing relay set to approximately 10 sec.	

Notes

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.

① Operating frequency: 30 starts/hour. See Magnet Coil Suffix table on following page.

② Underscore () indicates magnet coil suffix required.

Magnet Coil Suffix

Coil Voltage	Suffix Code	Coil Voltage	Suffix Code	Coil Voltage	Suffix Code	Coil Voltage	Suffix Code
110V 50 Hz, 120V 60 Hz	A	415V 50 Hz, 480V 60 Hz	C	400V 50 Hz	N	120 Vdc	AD
220V 50 Hz, 240V 60 Hz	B	550V 50 Hz, 600V 60 Hz	D	380V 60 Hz	P	220 Vdc	BD
230V 50 Hz	F	208V 60 Hz	E	12V 50/60 Hz	R	12 Vdc	RD
24V 50/60 Hz	T	190V 50 Hz, 220V 60 Hz	G	24V 50 Hz	U	48 Vdc	WD
24 Vdc	TD ①	240V 50 Hz, 277V 60 Hz	H	42V 50 Hz, 48V 60 Hz	W	—	—
—	—	380V 50 Hz, 440V 60 Hz	L	48V 50 Hz	Y	—	—

Mini Overload Relays

XTOM_ Mini Overload Relays ②③



Overload Release I _n	Trip Class	Contact Sequence	Contact Configuration	Short-Circuit Protection (A)		Circuit Breaker	CEC/NEC Fuse	Catalog Number
				Type 1 Coordination, gG/gL	Type 2 Coordination, gG/gL			
0.1–0.16A	10A	97 95	1NO-1NC	20	0.5	15	—	XTOMP16AC1
0.16–0.24A	10A		1NO-1NC	20	1	15	—	XTOMP24AC1
0.24–0.4A	10A		1NO-1NC	20	2	15	—	XTOMP40AC1
0.4–0.6A	10A		1NO-1NC	20	2	15	—	XTOMP60AC1
0.6–1A	10A		1NO-1NC	20	4	15	3	XTOM001AC1
1–1.6A	10A		1NO-1NC	20	6	15	6	XTOM1P6AC1
1.6–2.4A	10A		1NO-1NC	20	6	15	6	XTOM2P4AC1
2.4–4A	10A		1NO-1NC	20	—	15	15	XTOM004AC1
4–6A	10A		1NO-1NC	20	—	15	20	XTOM006AC1
6–9A	10A		1NO-1NC	20	—	15	35	XTOM009AC1
9–12A	10A		1NO-1NC	—	—	—	45	XTOM012AC1

Notes

- ① With DC operation: Integrated diode resistor combination, coil rating 2.6W.
 ② Short-circuit protection: Observe the maximum permissible fuse of the contactor with direct device mounting. See MN03402002E for more information.
 ③ When fitted directly to the contactor, a clearance of at least 5 mm is required between the overload relays.

Accessories

Auxiliary Contacts

Front-mounted snap-on auxiliary contacts for mini contactors are available with screw terminals in a variety of contact configurations. Auxiliary contact modules are standard with interlocked opposing contacts, except in the case of early-make or late-break contacts.

Front-Mount Auxiliary Contacts for Use with Mini Contactors

Conventional Free Air Thermal Current, $I_{th} = I_e$, AC-1 in Amps	Contact Configuration	Contact Sequence	Pkg. Qty. ①	Screw Terminal Catalog Number
10	2NC		5	XTMCXFC02
10	1NO-1NC		5	XTMCXFD11
10	2NO-2NC		5	XTMCXFC22
10	2NC		5	XTMCXFA02
10	1NO-1NC		5	XTMCXFA11
10	2NO		5	XTMCXFA20
10	4NC		5	XTMCXFA04
10	1NO-3NC		5	XTMCXFA13
10	2NO-2NC		5	XTMCXFA22
10	3NO-1NC		5	XTMCXFA31
10	4NO		5	XTMCXFA40
10	1NO-1NC 1NO _E -1NC _L		5	XTMCXFAL22 ②

Notes

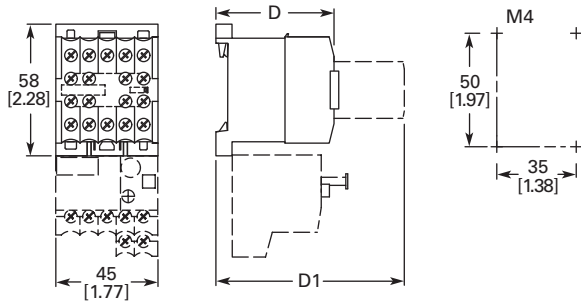
- ① Orders must be placed in multiples of package quantity listed.
- ② One early-make contact (NO_E), one late-break contact (NC_L).

1

Dimensions

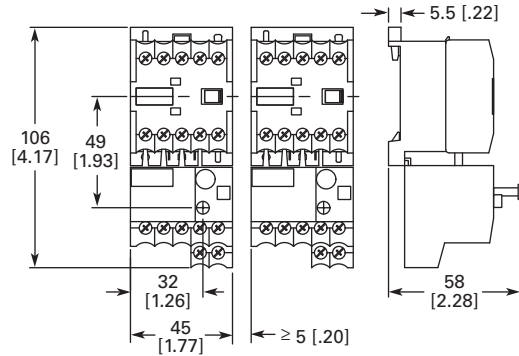
Approximate Dimensions in mm [in.]

Non-Reversing Mini Contactor

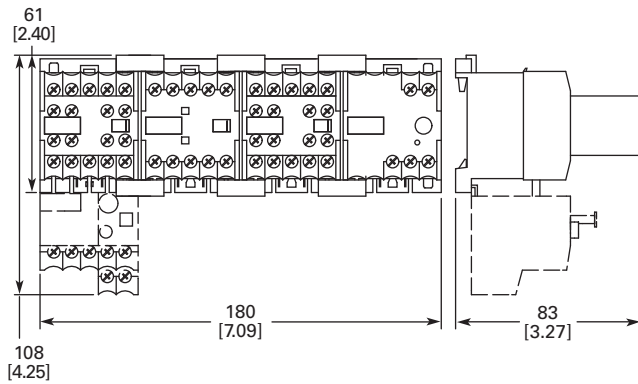


	XTMC	XTMCC
D	52 [2.05]	54 [2.13]
D1	83 [3.27]	86 [3.39]

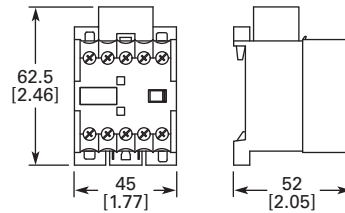
Non-Reversing Mini Contactor with Overload Relay



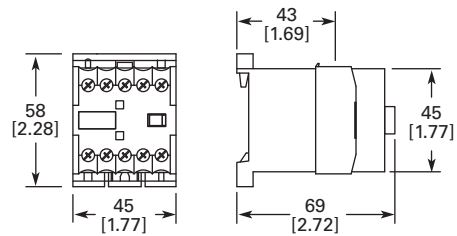
Star-Delta Starter Combinations



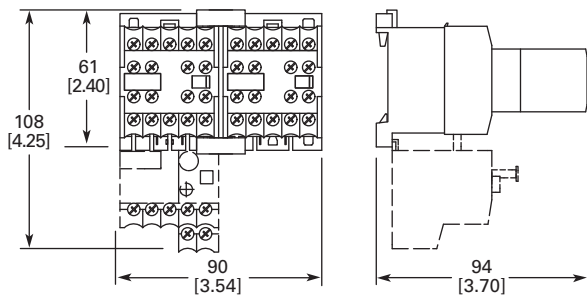
XTMCXRSA, XTMCXVSA Mini Suppressors



XTMCXTSA Mini Sealable Shroud



Reversing Mini Contactor



XTMCXML Mechanical Interlock

