

XT IEC Manual and Combination Motor Controllers



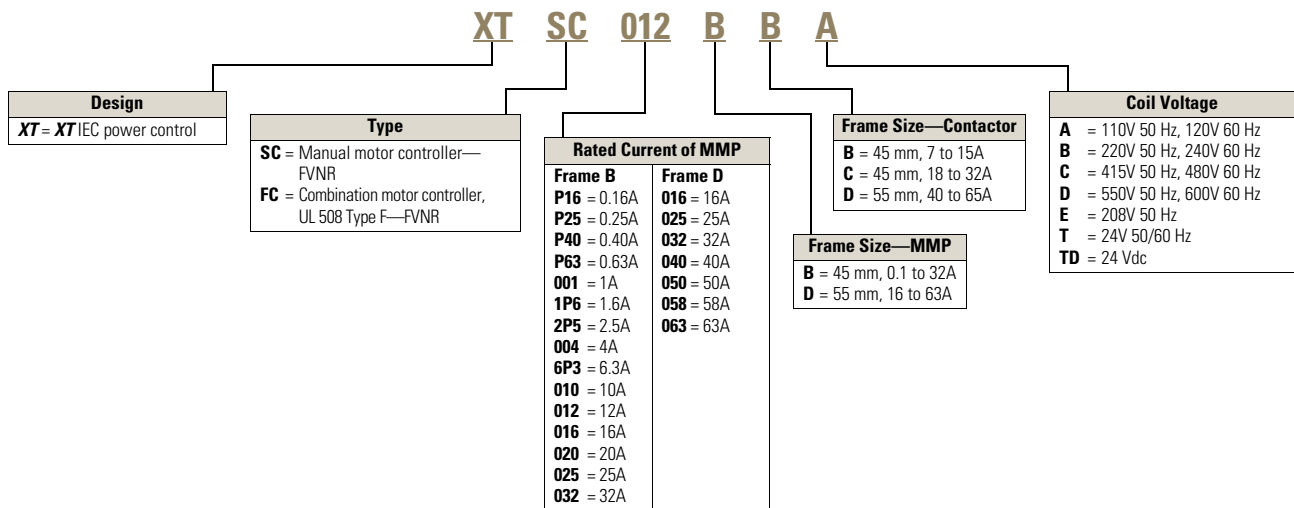
Features

- ON/OFF rotary handle with lockout provision
- Class 10 overload protection
- Adjustment dial for setting motor FLA
- Built-in surge suppression on DC coils as standard
- Assembled manual motor controllers consist of manual motor protector, contactor, connector kit and 1NO-1NC auxiliary contact for MMP
- Assembled combination motor controllers consist of manual motor protector, contactor, connector kit, 1NO-1NC auxiliary contact for MMP and line side adapter
- Combination motor controllers are UL 508 Type F rated, and provide the following functions in a single device
 - Disconnect, short circuit protection, motor overload protection, motor controller

Catalog Number Selection

XT IEC Manual and Combination Motor Controllers

Manual and Combination Motor Controllers



Product Selection

2 XTSC Manual Motor Controllers (MMC)/Starter Combinations

Factory Assembled Motor Protective Device with Thermal and Magnetic Trip + Contactor

FLA Adjustment Range (A) ①	Short Circuit Release— I_{rm} (A)	Maximum Motor Ratings—P ②								Assembled Manual Motor Controller ③ Non-Reversing— Catalog Number
		Maximum kW Rating AC-3—P (kW) Three-Phase			Maximum hp Rating—P (hp) Three-Phase					
		220–240V	380–415V	500V	660–690V	200V	240V	480V	600V	
Frame B MMP + Frame B Contactor										
0.1–0.16	3.2	—	—	—	0.06	④	④	1/2	1/2	XTSCP16BB_
0.16–0.25	3.5	—	0.06	0.06	0.12	④	④	1/2	1/2	XTSCP25BB_
0.25–0.4	5.6	0.06	0.09	0.12	0.18	④	④	1/2	1/2	XTSCP40BB_
0.4–0.63	8.82	0.09	0.18	0.25	0.25	④	④	1/2	1/2	XTSCP63BB_
0.63–1	14	0.12	0.25	0.37	0.55	④	④	1/2	1/2	XTSC001BB_
1–1.6	22.4	0.25	0.55	0.75	1.1	④	④	3/4	1	XTSC1P6BB_
1.6–2.5	35	0.37	0.75	1.1	1.5	1/2	1/2	1	1-1/2	XTSC2P5BB_
2.5–4	56	0.75	1.5	2.2	3	1	1	2	3	XTSC004BB_
4–6.3	88.2	1.1	2.2	3	4	1-1/2	1-1/2	3	5	XTSC6P3BB_
6.3–10	140	2.2	4	4	7.5	3	3	7-1/2	10	XTSC010BB_
8–12	168	3	5.5	5.5	11	3	3	7-1/2	10	XTSC012BB_
10–16	224	4	7.5	9	12.5	3	3	10	10	XTSC016BB_
Frame B MMP + Frame C Contactor										
10–16	224	4	7.5	9	12.5	3	3	10	10	XTSC016BC_
16–20	280	5.5	9	12.5	15	5	5	10	15	XTSC020BC_
20–25	350	5.5	11	15	22	5	7-1/2	15	20	XTSC025BC_
25–32	448	7.5	15	22	30	7-1/2	10	20	25	XTSC032BC_
Frame D MMP + Frame C Contactor										
10–16	224	4	7.5	9	12.5	3	5	10	15	XTSC016DC_
16–25	350	5.5	12.5	12.5	22	7-1/2	7-1/2	20	25	XTSC025DC_
25–32	448	7.5	15	17.5	22	10	10	25	30	XTSC032DC_
Frame D MMP + Frame D Contactor										
32–40	560	11	20	22	30	10	—	30	30	XTSC040DD_
40–50	700	14	25	30	45	15	15	30	40	XTSC050DD_
50–58	812	17	30	37	55	—	—	40	—	XTSC058DD_
55–65	882	18.5	34	37	55	—	—	40	—	XTSC063DD_

Notes

The assembled Manual Motor Controller (MMC) consists of an XTPR Manual Motor Protector (MMP) and an XTCE contactor. For Frame B MMP + Frame B Contactor assemblies, the XTSC can be mounted directly on DIN rail without an adapter. The contactors are supported mechanically with a mechanical connection element (included in XTPAXTPCB). For 16A and above, the assembly is mounted via a DIN rail adapter plate (XTPAXTPCPC, XTPAXTPCPD) and the electrical connection is made with electrical contact modules (XTPAXECMC, XTPAXECMD), both included in XTPAXTPCC and XTPAXTPCD.

Service Factor (SF)—Setting I_r of current scale in dependence of load factor:

SF = 1.15 → $I_r = 1 \times I_n$ mot

SF = 1 → $I_r = 0.9 \times I_n$ mot

① Overload release— I_r .

② Select manual motor protectors by full load amperes. Maximum motor ratings (kW, hp) are for reference only.

③ Underscore (_) indicates magnet coil suffix required. See **Page V9-T2-43**.

④ In this range, calculate motor rating according to rated current. Specified values to NEC 430.6(A)(1).

XTFC Combination Motor Controllers (CMC), UL 508 Type F

Factory Assembled Motor Protective Device with Thermal and Magnetic Trip + Contactor + Required Line Side Adapter

FLA Adjustment Range (A) ①	Short Circuit Release— I_{rm} (A)	Maximum Motor Ratings—P ②									Assembled Manual Motor Controller ③ Non-Reversing— Catalog Number
		Maximum kW Rating AC-3—P (kW) Three-Phase			Maximum hp Rating—P (hp) Three-Phase						
		220–240V	380–415V	500V	660–690V	200V	240V	480V	600V		
Frame B MMP + Frame B Contactor											
0.1–0.16	2.2	—	—	—	0.06	④	④	1/2	1/2	XTFCP16BB_	
0.16–0.25	3.5	—	0.06	0.06	0.12	④	④	1/2	1/2	XTFCP25BB_	
0.25–0.4	5.6	0.06	0.09	0.12	0.18	④	④	1/2	1/2	XTFCP40BB_	
0.4–0.63	8.82	0.09	0.18	0.25	0.25	④	④	1/2	1/2	XTFCP63BB_	
0.63–1	14	0.12	0.25	0.37	0.55	④	④	1/2	1/2	XTFC001BB_	
1–1.6	22.4	0.25	0.55	0.75	1.1	④	④	3/4	1	XTFC1P6BB_	
1.6–2.5	35	0.37	0.75	1.1	1.5	1/2	1/2	1	1-1/2	XTFC2P5BB_	
2.5–4	56	0.75	1.5	2.2	3	1	1	2	3	XTFC004BB_	
4–6.3	88.2	1.1	2.2	3	4	1-1/2	1-1/2	3	5	XTFC6P3BB_	
6.3–10	140	2.2	4	4	7.5	3	3	7-1/2	10	XTFC010BB_	
8–12	168	3	5.5	5.5	11	3	3	7-1/2	—	XTFC012BB_	
10–16	224	4	7.5	9	12.5	3	5	10	—	XTFC016BB_	
Frame B MMP + Frame C Contactor											
10–16	224	4	7.5	9	12.5	3	5	10	—	XTFC016BC_	
16–20	280	5.5	9	12.5	15	5	5	—	—	XTFC020BC_	
20–25	350	5.5	11	15	22	5	7-1/2	15	—	XTFC025BC_	
25–32	448	7.5	15	22	30	7-1/2	10	20	—	XTFC032BC_	
Frame D MMP + Frame C Contactor											
10–16	224	4	7.5	9	12.5	3	5	10	10	XTFC016DC_	
16–25	350	5.5	12.5	12.5	22	7-1/2	7-1/2	20	25	XTFC025DC_	
25–32	448	7.5	15	17.5	22	10	10	25	30	XTFC032DC_	
Frame D MMP + Frame D Contactor											
32–40	560	11	20	22	30	10	10	30	40	XTFC040DD_	
40–50	700	14	25	30	45	10	15	30	—	XTFC050DD_	
50–58	812	17	30	37	55	15	15	40	—	XTFC058DD_	
55–65	882	18.5	34	37	55	15	15	40	—	XTFC063DD_	

Magnet Coil Suffix

Coil Voltage	Suffix Code
110V 50 Hz, 120V 60 Hz	A
220V 50 Hz, 240V 60 Hz	B
24V 50/60 Hz	T
24 Vdc	TD ⑤
415V 50 Hz, 480V 60 Hz	C
550V 50 Hz, 600V 60 Hz	D
208V 60 Hz	E

Notes

The assembled Combination Motor Controller (CMC) consists of an XTPR Manual Motor Protector (MMP) and an XTCE contactor and a required Line Side Adapter. For Frame B MMP + Frame B Contactor assemblies, the XTFC and XTFR can be mounted directly on DIN rail without an adapter. The contactors are supported mechanically with a mechanical connection element (included in XTPAXTPCB, XTPAXRPCR).

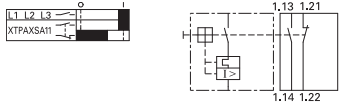
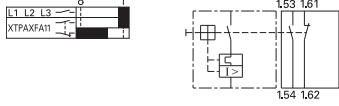
For 16A and above, the assembly is mounted via a DIN rail adapter plate (XTPAXTPCPC, XTPAXTPCPD) and the electrical connection is made with electrical contact modules (XTPAXECMC, XTPAXECMD), both included in XTPAXTPCC and XTPAXTPCD. $SF = 1.15 \rightarrow I_r = 1 \times I_n \text{ mot}$
 $SF = 1 \rightarrow I_r = 0.9 \times I_n \text{ mot}$

- ① Overload release— I_r .
- ② Select combination motor controllers by full load amperes. Maximum motor ratings (kW, hp) are for reference only.
- ③ Underscore (_) indicates magnet coil suffix required. See table at left.
- ④ In this range, calculate motor rating according to rated current. Specified values to NEC 430.6(A)(1).
- ⑤ With DC operation: Integrated diode-resistor combination, coil rating 2.6W.

Accessories

2

Auxiliary Contacts

Contact Configuration	Contact Sequence	Screw Terminals Pkg. Qty.	Catalog Number
Side-Mount			
1NO-1NC		5	XTPAXSA11
Front-Mount			
1NO-1NC		5	XTPAXFA11

Rotary Handle Mechanism



IP65 Rotary Handle Mechanism ①②③

Description	Pkg. Qty.	Catalog Number
Complete Kits—Includes Handle, Shaft and Required Hardware		
Rotary handle mechanism IP65 black—for use on main switches to IEC/EN 60204.	1	XTPAXRHMB
Rotary handle mechanism IP65 red/yellow—for use on main switch with emergency-stop function to IEC/EN 60204.	1	XTPAXRHMR
Rotary handle mechanism IP65 black—for use on main switches to IEC/EN 60204 where XTPR is mounted 90° from vertical.	1	XTPAXRHM90B
Rotary handle mechanism IP65 red/yellow—for use on main switch with emergency-stop function to IEC/EN 60204 where XTPR is mounted 90° from vertical.	1	XTPAXRHM90RY

Shunt Release



Shunt Release

Pkg. Qty.	Screw Terminals— Catalog Number
2	XTPAXSR120V60H
2	XTPAXSR240V60H
2	XTPAXSR480V60H
2	XTPAXSR24VDC

Undervoltage Release



Undervoltage Release

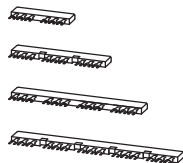
Pkg. Qty.	Screw Terminals— Catalog Number
2	XTPAXUVR120V60H
2	XTPAXUVR240V60H
2	XTPAXUVR480V60H

Notes

- ① With ON/OFF switch position and "+" (tripped), lockable with three padlocks, 4–8 mm hasp. Can be locked in the OFF position, if required.
- ② Rotary handle mechanisms ship with door interlock disabled. See instruction publication with product for how to enable door interlock.
- ③ Not for use with XTPAXFAEM20 early-make front-mount auxiliary contact.

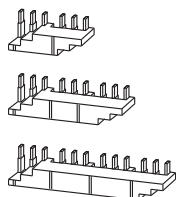
Three-Phase Commoning Links ^①

MMP—Frame B



For Use With...	Qty MMP	Length of Link (mm)	Unit Width (mm)	Pkg. Qty.	Catalog Number
Frame B					
MMP with no side-mounted auxiliaries or voltage releases	2	90	45	10	XTPAXCLKA2
	3	135	45	10	XTPAXCLKA3
	4	180	45	10	XTPAXCLKA4
	5	225	45	10	XTPAXCLKA5

MMP—Frame D



For Use With...	Qty MMP	Length of Link (mm)	Unit Width (mm)	Pkg. Qty.	Catalog Number
Frame D					
MMP with no side-mounted auxiliaries or voltage releases	2	110	55	1	XTPAXCLKA2D
	3	165	55	1	XTPAXCLKA3D
	4	220	55	1	XTPAXCLKA4D

Incoming Terminal



Incoming Terminal for Three-Phase Commoning Link ^②

For Use With...	Pkg. Qty.	Catalog Number
B Frame XTPR, XTPB	5	XTPAXIT

Line-Side Adapter



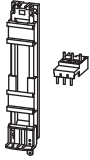
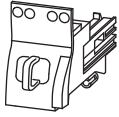
Line-Side Adapter ^③

For Use With...	Pkg. Qty.	Catalog Number
B Frame XTPR to create a UL 508 type E/F manual combination starter	5	XTPAXLSA
D Frame XTPR to create a UL 508 type E/F manual combination starter	1	XTPAXLSAD ^④

Notes

- ① Protected against accidental contact. B Frame short circuit proof Ue = 690V, Iu = 63A; D Frame short circuit proof Ue = 690V, Iu = 128A. Frame B links can be combined by rotating mounting. Frame D links cannot be combined.
- ② For three-phase commoning link, protected against accidental contact, Ue = 690V, Iu = 63A; for conductor cross-sections: 2.5–25 mm² stranded; 2.5–16 mm² flexible with ferrules, AWG 14-6.
- ③ XTPAXLSA is for three-phase commoning link, finger- and back-of-hand proof, Ue = 690V, Iu = 60A; for conductor cross sections: 2.5–25 mm² stranded, 2.5–16 mm² flexible with ferrule, AWG 14-6.
- ④ XTPAXLSAD cannot be combined with three-phase commoning links.

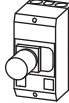
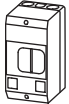
Non-Reversing Starters



Combination Connection Kits for Connection of XTPR MMP with XTCE Contactor

For Use With...	Description	Std. Pack	Catalog Number
Non-Reversing Starters			
XTPR...B + XTCE...B	Comprised of: Mechanical connection element for XTPR...B and contactor Main current wiring between XTPR...B and contactor in tool-less plug connection Cable guidance Use contactor auxiliary switch XTCEXFAT_ Control cable guidance: max. six cables up to 2.5 mm ² external diameter or four cables up to 3.5 mm ² external diameter.	1	XTPAXTPCB
XTPR...B + XTCE...C XTPR...D + XTCE...D	Comprised of: DIN rail adapter plate Main current wiring between XTPR and contactor	1	XTPAXTPCC
		1	XTPAXTPCD

Insulated Enclosures



Insulated Enclosures for Surface Mounting

Degree of Protection	For Use With...	Description	Catalog Number
XTPB Pushbutton Manual Motor Protectors—North American Usage ^{①②}			
IP65 NEMA 3R, 4X, 12, 13	XTPB MMP only or with: XTPAXFA_, XTPBXFAEM20, XTPAXSA_, XTPAXUVR_, XTPAXSR_, XTPAXCL	With actuating diaphragm	XTPBXENAS65
IP65 NEMA 3R, 4X, 12, 13	XTPB MMP only or with: XTPAXFA_, XTPBXFAEM20, XTPAXUVR_, XTPAXSR_, XTPAXCL	With emergency-stop (E-stop) pushbutton actuator, red/yellow	XTPBXENASE65
B Frame (0.1–32A) XTPR Rotary Manual Motor Protectors—North American Usage ^③			
IP55 NEMA 1, 12, 3R	B Frame XTPR Only or with: XTPAXSA_ and XTPAXFA_, XTPAXUVR_ and XTPAXFA_, XTPAXSR_ and XTPAXFA_, XTPAXCL	With red/yellow rotary handle for use as emergency-stop switch to VDE 0113	XTPAXENAS55RY
D Frame (10–65A) XTPR Rotary Manual Motor Protectors ^{④⑤}			
IP65 NEMA 1, 12, 3R, 4X	D Frame XTPR only or with: XTPAXFA_, XTPAXFAEM20, XTPAXSA_, XTPAXSATR_, XTPAXUVR_, XTPAXSR_, XTPAXCL	With red/yellow rotary handle for use as emergency-stop switches to IEC/EN 60204	XTPAXENCSD65RY

Notes

- ① Built-in terminal for PE(N).
- ② North American enclosures come with conduit adapters for use with 1/2 NPT.
- ③ Built-in N and PE terminal, lower part without knockouts.
- ④ Integrated terminal for PE(N) connection.
- ⑤ % Metric knockouts:
Top ÷ bottom: M25/M32
In backplate: M25/M32
Control cable entry: M20