

XT UL short-circuit current ratings

Changes to UL® 508A and the NEC® in recent years have brought a focus to control panel safety with regard to short-circuit current ratings (SCCR). Eaton's **XT** line of IEC power control has a wide variety of SCCR solutions for a variety of applications and SCCR needs. The SCCR data provided in this document reflects the latest information as of July 2016.

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Table 1. Summary

Components	240 V SCCR	480 V SCCR	600 V SCCR
Fuse–contactor	Up to 100 kA	Up to 100 kA	Up to 100 kA
Breaker–contactor	Up to 100 kA	Up to 100 kA	Up to 85 kA
Fuse–contactor–thermal overload relay	Up to 100 kA	Up to 100 kA	Up to 100 kA
Breaker–contactor–thermal overload relay	Up to 65 kA	Up to 65 kA	—
Manual motor controller	Up to 65 kA	Up to 65 kA	Up to 50 kA
Combination motor controllers	Up to 65 kA	Up to 65 kA	Up to 50 kA
Motor protective circuit breaker–contactor	Up to 65 kA	Up to 65 kA	—
Fuse—electronic motor starter	Up to 100 kA	Up to 100 kA	Up to 100 kA

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Eaton.com/XT
Eaton.com/SCCR



Powering Business Worldwide



Table 2. Fuse–contactor high fault

XT part number	kA (600 Vac)	Fuse class	Max. upstream fuse ampere rating
XTCE007B	100	J	20
XTCE009B	100	J	20
XTCE012B	100	J	45
XTCE015B	100	J	60
XTCE018C	100	J	70
XTCE025C	100	J	100
XTCE032C	100	J	125
XTCE040D	100	J	150
XTCE050D	100	J	150
XTCE065D	100	J	150
XTCE080F	100	J	300
XTCE095F	100	J	300
XTCE115G	100	J	300
XTCE150G	100	J	600
XTCE170G	100	J	600
XTCE(S)185H	100	J	600
XTCE(S)225H	100	J	600
XTCE(S)250L	18	L	700
XTCE(S)300L	18	L	800
XTCE(S)400M	100	J	600
XTCE(S)500M	100	J	600
XTCE580N	85		2000
XTCE650N	85		2000
XTCE750N	85		2000
XTCE820N	85		2000
XTCEC10N	85		2000
XTCEC16	85		2000



Table 3. Breaker–contactor high fault

XT part number	kA (480 Vac)	Max. upstream breaker ampere rating	kA (600 Vac)	Max. upstream breaker ampere rating
XTCE007B	65	16		
XTCE009B	65	16		
XTCE018C	65	32	10/22	50/32
XTCE025C	65	32	10/22	50/32
XTCE032C	65	32	10/22	50/32
XTCE040D	65	100	30	250
XTCE050D	65	100	30	250
XTCE065D	65	100	30	250
XTCE080F	65	250	30	250
XTCE095F	65	250	30	250
XTCE115G	65	250	30	250
XTCE150G	65	250	30	250
XTCE170G	65	250	30	250
XTCE(S)185H	65	350	18/50	600/350
XTCE(S)225H	65	350	18/50	600/350
XTCE(S)250L	65	250	18	600
XTCE(S)300L	65	250	18	600
XTCE(S)400M	100	600	30	600
XTCE(S)500M	100	600	30	600
XTCE580N	85	1200	85	1200
XTCE650N	85	1200	85	1200
XTCE750N	85	1200	85	1200
XTCE820N	85	1200	85	1200
XTCEC10N	85	1200	85	1200

High-fault rating combination can be utilized with any series breaker as long as the maximum ampacity coincides with the table and the breaker carries an equivalent kA rating, such as 65 kA.



Table 4. Fuse–contactor–thermal overload relay high fault

Contactor catalog number	Overload relay catalog number	High fault current		
		kA (600 Vac)	Class J fuse size	Class CC fuse size
XTCE007B	XTOBP40BC1	100	1	1
XTCE007B	XTOBP60BC1	100	1	1
XTCE007B	XTOB001BC1	100	1	1
XTCE007B	XTOB001BC1	100	1	1
XTCE007B	XTOB1P6BC1	100	3	3
XTCE007B	XTOB2P4BC1	100	3	3
XTCE007B	XTOB004BC1	100	3	3
XTCE007B	XTOB004BC1	100	6	6
XTCE007B	XTOB006BC1	100	10	10
XTCE009B	XTOB010BC1	100	15	15
XTCE015B	XTOB016BC1	100	30	30
XTCE018C	XTOB016CC1	100	35	
XTCE025C	XTOB024CC1	100	45	
XTCE032C	XTOB032CC1	100	60	
XTCE040D	XTOB040DC1	100	60	
XTCE050D	XTOB057DC1	100	90	
XTCE050D	XTOB057DC1	100	110	
XTCE065D	XTOB065DC1	100	125	
XTCE080F	XTOB100GC1	100	150	
XTCE095F	XTOB100GC1	100	200	
XTCE150G	XTOB125GC1	100	250	
XTCE150G	XTOB150GC1	100	300	



Table 5. Breaker–contactor–thermal overload relay high fault

Contactor catalog number	Overload catalog number	UL 508 high fault rating (kA)			Max. breaker size ampere rating
		208 Vac	240 Vac	480 Vac	
XTCE018C	XTOB1P6C	65	65	65	15
XTCE018C	XTOB2P4C	65	65	65	15
XTCE018C	XTOBP40C	65	65	65	15
XTCE018C	XTOBP60C	65	65	65	15
XTCE018C	XTOB001C	65	65	65	15
XTCE018C	XTOB004C	65	65	65	15
XTCE018C	XTOB006C	65	65	65	15
XTCE018C	XTOB010C	65	65	65	20
XTCE018C	XTOB016C	65	65	65	25
XTCE018C	XTOB024C	65	65	65	35
XTCE025C	XTOB024C	65	65	65	35
XTCE025C	XTOB032C	65	65	65	50
XTCE032C	XTOB032C	65	65	65	50
XTCE040D	XTOB010D	65	65	65	15
XTCE040D	XTOB016D	65	65	65	25
XTCE040D	XTOB024D	65	65	65	50
XTCE040D	XTOB040D	65	65	65	60
XTCE050D	XTOB057D	65	65	65	75
XTCE065D	XTOB065D	65	65	65	100
XTCE072D	XTOB075D	65	65	65	100
XTCE080F	XTOB035G	65	65	65	90
XTCE080F	XTOB050G	65	65	65	125
XTCE080F	XTOB070G	65	65	65	175
XTCE080F	XTOB100G	65	65	65	250
XTCE095F	XTOB100G	65	65	65	250
XTCE115G	XTOB125G	65	65	65	200
XTCE150G	XTOB150G	65	65	65	250
XTCE170G	XTOB175G	65	65	65	250

100 kA achievable at 208–480 Vac and 50 kA at 600 Vac with use of current-limiting breaker, reference UL file E51580 V1 S29, confirm devices in protective suites.



Table 6. Breaker—electronic overload

Overload catalog number	High fault rating (kA)		Max. breaker size ampere rating
	480 V	600 V	
XTOE005	100	35	20
XTOE020	100	35	80
XTOE045	100	35	175
XTOE100	50	50	250
XTOE140	100	65	400
XTOE175	100	65	400



Table 7. Fuse—electronic overload

Overload catalog number	High fault rating (kA)		Max. fuse size ampere rating
	480 V	600 V	
XTOE005	100	100	30
XTOE020	100	100	100
XTOE045	100	100	100
XTOE100	100	100	200
XTOE140	100	100	400
XTOE175	100	100	500



Table 8. Manual motor controllers (manual motor protector + contactor) for use in group motor applications

XTSC and XTSR manual motor controllers (MMC)/starter combinations

				Group installation, UL/CSA				
Assembled controller ①		FLA adjustment range/overload release—I _r (amperes) ^r	Short-circuit release—I _{rm} (amperes) ^{rm}	Max. rms symmetrical short-circuit ratings (kA)			Max. upstream protective device (A/A with current limiter)	
Non-reversing	Reversing			240 V	480 V	600 V	Max. fuse 600 V	Max. circuit breaker 600 V
XTSC and XTSR Frame B MMP + Frame B contactor								
XTSCP16BB_	XTSRP16BB_	0.1–0.16	2.2	65	65	50	600	600
XTSCP25BB_	XTSRP25BB_	0.16–0.25	3.5	65	65	50	600	600
XTSCP40BB_	XTSRP40BB_	0.25–0.4	5.6	65	65	50	600	600
XTSCP63BB_	XTSRP63BB_	0.4–0.36	8.82	65	65	50	600	600
XTSC001BB_	XTSR001BB_	0.36–1	14.0	65	65	50	600	600
XTSC1P6BB_	XTSR1P6BB_	1–1.6	22.4	65	65	50	600	600
XTSC2P5BB_	XTSR2P5BB_	1.6–2.5	35	65	65	50	600	600
XTSC004BB_	XTSR004BB_	2.5–4	56	65	65	50	600	600
XTSC6P3BB_	XTSR6P3BB_	4–6.3	88.2	65	65	50	600	600
XTSC010BB_	XTSR010BB_	6.3–10	140	65	65	22	10/600	15/600
XTSC012BB_	XTSR012BB_	8–12	168	65	65	22	10/600	15/600
XTSC and XTSR Frame B MMP + Frame C contactor								
XTSC016BC_	XTSR016BC_	10–16	224	42	42	50	10/600	10/600
XTSC020BC_	XTSR020BC_	16–20	280	18	18	18	10/600	15/600
XTSC025BC_	XTSR025BC_	20–25	350	18	18	18	10/600	15/600
XTSC032BC_	XTSR032BC_	25–32	448	18	18	18	10/600	15/600
XTSC and XTSR Frame D MMP + Frame C contactor								
XTSC016DC_	XTSR016DC_	10–16	224	65	65	22	600	600
XTSC025DC_	XTSR025DC_	16–25	350	65	65	22	600	600
XTSC032DC_	XTSR032DC_	25–32	448	65	65	22	600	600
XTSC and XTSR Frame D MMP + Frame D contactor								
XTSC040DD_	XTSR040DD_	32–40	560	65	65	22	600	600
XTSC050DD_	XTSR050DD_	40–50	700	65	65	22	600	600
XTSC058DD_	XTSR058DD_	50–58	812	65	65	22		
XTSC063DD_	XTSR063DD_	58–63	882	65	65			

① Underscore (_) indicates magnetic coil suffix required.



Table 9. Combination motor controllers (line side adapter + manual motor protector + contactor) UL 508 Type F self-protected

XTFC and XTFR combination motor controllers (CMC), UL 508 Type F

Assembled controller ①		FLA adjustment— I_L (amperes)	Short-circuit release— I_{rm} (amperes)	UL 508 Type F application ②		
				Max. rms symmetrical short-circuit ratings (kA)		
Non-reversing	Reversing			240 V	480 V	600 V
XTFCP16BB_	XTFRP16BB_	0.1–0.16	2.2	65	65	18
XTFCP25BB_	XTFRP25BB_	0.16–0.25	3.5	65	65	18
XTFCP40BB_	XTFRP40BB_	0.25–0.4	5.6	65	65	18
XTFCP63BB_	XTFRP40BB_	0.4–0.63	8.82	65	65	18
XTFC001BB_	XTFRP63BB_	0.63–1	14	65	65	18
XTFC1P6BB_	XTFR1P6BB_	1–1.6	22.4	65	65	18
XTFC2P5BB_	XTFR2P5BB_	1.6–2.5	35	65	65	18
XTFC001BB_	XTFR004BB_	2.5–4.0	56	65	65	18
XTFC6P3BB_	XTFR6P3BB_	4.0–6.3	88.2	65	65	18
XTFC010BB_	XTFR010BB_	6.3–10	140	65	65	18
XTFC012BB_	XTFR012BB_	8–12	168	65	65	18
XTFC016BB_	—	10–16	224	18	18	—
XTFC and XTFR Frame B MMP + Frame C contactor						
XTFC016BC_ ③	XTFR016BC_ ③	10–16	224	18	18	—
XTFC020BC_	XTFR020BC_	16–20	280	18	18	—
XTFC025BC_	XTFR025BC_	20–25	350	18	18	—
XTFC032BC_	XTFR032BC_	25–32	448	18	18	—
XTFC and XTFR Frame D MMP + Frame C contactor						
XTFC016DC_	XTFR016DC_	10–16	224	65	65	30
XTFC025DC_	XTFR025DC_	16–25	350	65	65	30
XTFC032DC_	XTFR032DC_	25–32	448	65	65	50
XTFC and XTFR Frame D MMP + Frame D contactor						
XTFC040DD_	XTFR040DD_	32–40	560	65	65	50
XTFC050DD_	XTFR050DD_	40–50	700	65	65	
XTFC058DD_	XTFR058DD_	50–58	812	65	65	
XTFC063DD_	XTFR063DD_	55–65	882	65	65	

① Underscore (_) indicates magnetic Coil Suffix required.

② For UL 508 Type F applications, the combination motor controller assembly does not require a dedicated upstream protective device in the panel, thus a maximum rating is not required.

③ For 65 kA UL rating, use Type E rating with contactor.

Note: A **Type F** combination motor controller consists of a **Type E** manual self-protected motor controller and a magnetic motor controller.



Table 10. Manual self-protected motor starters—UL 508 Type E ①

XTPR minimum	XTPR maximum	FLA adjustment—I _L (amperes)	240 V	480 V	600 V	Contactor frame sizes	240 V	480 V	600 V
Frame B MMP + line side adapter XTPAXLSA						With contactor			
XTPRP16BC1_②	XTPR004BC1_②	0–4 A	65	65	50	XTCE007B-015B	65	65	—
XTPRP6P3BC1_②	XTPR010BC1_②	6.3–10 A	65	65	50	XTCE007B-015B	65	65	—
XTPR012BC1_②		12 A	65	65	18	XTCE007B-015B	65	65	—
XTPR016BC1_②		16 A	42	42	—	XTCE018C-032C	65	65	—
XTPR020BC1_②	XTPR032BC1_②	20–32 A	18	18	—	—	—	—	—
Frame D MMP + line side adapter XTPAXLSAD						With contactor			
XTPR016DC1_②	XTPR032DC1_②	16–32 A	65	65	25	XTCE018C-32C	65	65	—
XTPR040DC1_②		40 A	65	65	25	XTCE040D-65D	65	65	—
XTPR050DC1_②		50 A	65	65	25	XTCE050D-65D	65	65	—
XTPR058DC1_②		58 A	65	65	25	XTCE065D	65	65	—
XTPR063DC1_②			65	65	25	—	—	—	—

① For UL 508 Type E applications, the assembly does not require a dedicated upstream protective device in the panel, thus a maximum rating is not required.

② Underscore (_) indicates magnetic coil suffix required.

Most of the XTPR manual motor protectors are UL listed as a manual Type E self-protected motor controller. The critical test for self-protected motor starters is to perform 6000 electrical operations and an additional 4000 mechanical operations after a short circuit.

A combination of a manual self-protected motor starter and contactor can be listed as a Type E self-protected combination motor controller if it passes this test. This means a weld-free performance to meet the additional life requirements. The Type E + contactor can be used as an alternative to the Type F rating.


Table 11. Motor protective circuit breaker–contactor high fault ratings

Contactor	Motor protective circuit breaker	UL 508 high fault rating (kA)		Max. breaker size ampere rating
		240 Vac	480 Vac	
XTCE...D...	FDMP	65	35	100
XTCE...D...	HFDMP	65	65	100
XTCE...F...	FDMP	65	35	205
XTCE...F...	HFDMP	65	65	205
XTCE...G...	FDMP	65	35	205
XTCE...G...	HFDMP	65	65	205
XTCS...L...	FDMP	65	35	205
XTCE...L...	FDMP	65	35	205
XTCS...L...	HFDMP	65	65	205
XTCE...L...	HFDMP	65	65	205
XTCS...L...	JGMPS	65	35	250
XTCE...L...	JGMPS	65	35	250
XTCS...L...	JGMPH	65	65	250
XTCE...L...	JGMPH	65	65	250
XTCS...M...	LGMPs	42	42	600
XTCE...M...	LGMPs	42	42	600

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