

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 |

For additional information, please visit our websites:
Eaton.com/XT
Eaton.com/SCCR



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 |

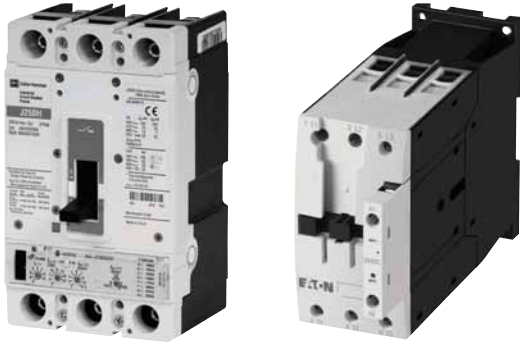


Table 3. Breaker–contactor high fault

| 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

| Assembled controller ① | | FLA adjustment range/overload release – I _r (amperes) ^r | Short-circuit release – I _{rm} (amperes) ^{rm} | Group installation, UL/CSA | | | Max. upstream protective device (A/A with current limiter) | |
|--|------------|--|---|--|-------|-------|--|-------------------------------|
| | | | | Max. rms symmetrical short-circuit ratings (kA) | | | Max. fuse 600 V | Max. circuit breaker 600 V |
| Non-reversing | Reversing | | | 240 V | 480 V | 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_r (amperes) | Short-circuit release— I_{sc}^{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_ | XTFRP63BB_ | 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_n (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 | — |
| XTPR6P3BC1_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... | LGMP5 | 42 | 42 | 600 |
| XTCE...M... | LGMP5 | 42 | 42 | 600 |

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