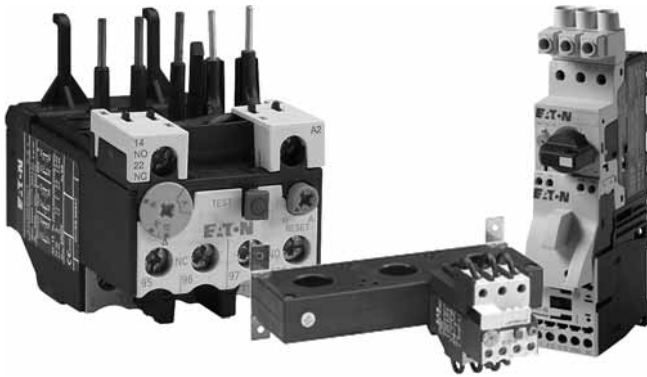



Combination Motor Controllers



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Combination Motor Controllers

Product Description

Eaton's **XT** IEC open non-reversing and reversing manual motor controllers combine a manual motor protector with an IEC contactor(s) to provide a complete motor protection solution by combining motor disconnect function, thermal overload protection, magnetic short-circuit protection and remote control operation in one compact, assembled unit. These assembled manual motor controllers cover motors with FLA ratings from 0.10A to 65A.

The UL 508 Type F labeled combination motor controller (CMC) includes a line side adapter (LSA). These assembled combination motor controllers cover motors with FLA ratings from 0.10A to 65A.

Application Description

The **XT** IEC non-reversing and reversing manual and combination motor controllers can be used in the following applications:

Group Motor Control

Manual motor controllers (MMCs) are ideal for group motor applications where an upstream breaker or fuse provides protection for two or more motors. **XT** manual motor controllers (MMC) combine a manual motor protector, a wiring connector link and IEC contactor.

Individual Branch Circuit for Motor Loads

Combination motor controller (CMC), consisting of a line side adapter, manual motor protector, wiring connector link and IEC contactor, provide an efficient means to build an entire branch circuit. The **XT** CMC is UL 508 Type F approved, meaning it is "self-protected" and doesn't require the use of an additional fuse or breaker for short circuit protection. This approval means CMC's can be used in place of a traditional fuse-starter and breaker-starter motor circuit.

Based around two key functional components (MMP and contactor), the CMC is a very cost effective means to build a branch circuit. Fuses and breakers must be oversized to prevent tripping during motor start up, and thus these oversized devices can no longer protect the motor. To compensate for this, a motor overload relay is necessary to protect the motor.

The manual motor protector was invented in Germany by Moeller to correct this inefficiency. The MMP operates similarly to a circuit breaker, except the inrush (magnetic) protection is set to 14 times the running current, thus accounting for motor start-up current without the necessity to oversize. A overcurrent dial was added to the face of the MMP to serve as the motor overload protection. This "motor protective circuit breaker", as it is referred to in Europe, now accomplishes all four key functions of a motor branch circuit: disconnect, short circuit, motor controller and motor overload protection. With the addition of a contactor, users have the ability to remotely control the starter device.

Whether a single motor application or a multiple motor application, CMC's are an ideal solution for machinery OEMs and panel builders.

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Features

- ON/OFF rotary handle with lockout provision
- Visible trip indication
- Test trip function
- Motor applications from 0.10A to 65A
- Class 10 overload protection
- Built-in heater and magnetic trip elements to protect the motor
- Phase loss sensitivity
- Type 2 coordination
- Ambient compensated up to 55°C [140°F]
- Control inputs located at front of starter for easy access and wiring
- Wide range of coils
- DIN rail mount—XTSC...BB_
- Mounting plates—XTSC...BC_, XTSC...D motor controllers
- Adjustment dial for setting motor FLA
- Short-circuit trip at 14 times the maximum setting of the FLA adjustment dial
- UL 508 Type F CMC high fault short-circuit ratings
- 1NO-1NC auxiliary contact as standard on manual motor controller and combination motor controller

Standards and Certifications

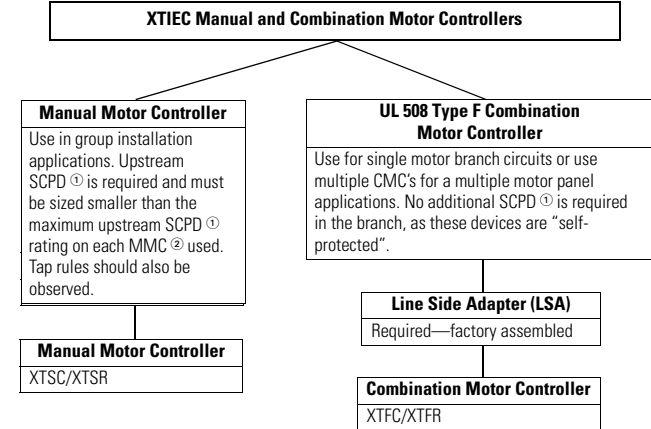
UL 508 Type F combination motor controller

- IEC Type 2 Approved per IEC 60947-4-1
- UL Listed File No. E245398
- CE Mark



Note: For Type 2 Coordination of MMCs, see **Page V5-T1-219**. Protection in different controller types

MMC and CMC Applications



Notes

Technical Paper AP03402001E.

Line side adapters are not required for non-U.S. applications. Most countries outside of the U.S. classify the MMP as a motor-protective circuit breaker.

^① SCPD = Short-circuit protective device (circuit breaker, fuses).

^② MMC = Manual motor controller