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Circuit Protection

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Circuit Protection

mCPR-1



Fuji Electric UL 489 Rated Molded Case Circuit Breakers (MCCBs)

BW Series Fuji molded case circuit breakers are more compact (especially 100A, 125A, 250A frames) than any breakers on the market, so control panels take up less space than ever before. This product group maintains conformity to all worldwide standards, including cULus / IEC / CE Marking / JIS (Japan) / CCC (China).

- Suitable for branch circuit protection
- Standard type and high-interrupting capacities are available in identically sized breakers
- Auxiliary Switch and Shunt Trip can be installed in the field

Available in five frame sizes, max 600V

- BW125 frame size 15 to 125 amps
- BW250 frame size 125 to 250 amps
- BW400 frame size 250 to 400 amps
- BW630 frame size 500 to 600 amps
- BW800 frame size 700 to 800 amps

starting at
\$274.00

Fuji BW Series Accessories



Auxiliary Contacts

The auxiliary contacts are accessory contacts for the indication of circuit breaker open-closed or tripped.



Flexible Shaft Handle

Flexible cable mechanisms allow the external operation of circuit breakers installed in tall, deep enclosures where placement flexibility is required.



Undervoltage Release

The undervoltage release will trip the circuit breaker when the connected voltage drops to less than 70% of undervoltage release voltage rating. It will allow the circuit breaker to close when the voltage is approximately 85% of rated voltage.



Replacement Lugs

Replacement box type wiring lugs, line or load side, for Fuji 125 and 250 A frame MCCBs.



Rotary Handle and Shafts

Rotary handle and shaft assemblies make it possible to externally operate circuit breakers installed in an enclosure.



Shunt Trip

The shunt trip is for remote tripping of the circuit breaker.



Lockout Attachment

The lockout attachment is a padlocking device that allows a circuit breaker to be safely locked out in the OFF position by up to three padlocks. It helps to ensure equipment stays safely powered down during maintenance and repair work.



Terminal Covers

Terminal covers act as guards to shield the operator from touching live terminations. They fit either the line or load side.

3P Series UL 489 Molded Case Circuit Breakers (MCCBs)

The 3P series provides branch and feeder circuit protection in industrial control panels.

- G-frame size 15 to 100 amps
- F-frame size 100 to 225 amps
- K-frame size 250 to 400 amps
- L-frame size 400 to 600 amps
- UL 489
- Up to 600 amps
- 65kA @ 240 VAC interrupting rating

starting at
\$428.00



3P Series Accessories

Rotary Handles

Rotary handles available for each 3P series MCCB frame size and for use with NEMA 1/4/4X and 12 enclosures.

Flex Shaft™ Flexible Handles

These metallic handles make it possible to operate the circuit breaker externally for NEMA 1/3R/and 12 enclosures.

High Performance Flex Shaft™ Flange Handles

These high-strength nylon two-position flange handles feature external front mounting and provide external operation of type G-, F-, K- and L-frame MCCBs for NEMA 1/3R/4/4X/12 enclosures.

Six-Wire Connector

3P series six-wire connectors provide multi-wire connections to MCCB terminals, eliminating the need for load side power distribution blocks.



Multi-Wire Box Type Wiring Lug

Multi-wire box type wiring lugs for 3P series G-, F- or K-frame MCCBs are designed for load-side mounting.

Replacement Lug Kit

Replacement lugs replace existing line and load terminals and provide wire connecting capabilities for specific current ratings and wire types.

DIN Rail Mounting Clip

DIN rail mounting clips are used for mounting 3P series G-Frame MCCBs to 35 mm Din rail.

NEMA 12 Safety Door Hardware

Type C361 door interlocking safety handle kits for 3P series MCCBs and flexible handle when mounted in an SDN12, or equivalent, enclosure. These handles secure the SDN12 enclosure, protecting against unauthorized entry while the MCCB is in the ON position.



Gladiator GCB Series UL 489 Rated Molded Case Circuit Breakers (MCCBs)

Gladiator GCB Series molded case circuit breakers are designed to provide UL 489 protection for low voltage electrical systems from damage caused by overloads and short circuits. This product line offers 2- and 3-pole breakers, three types of trip units, and high-performance options with up to 100kA interrupting capacity.

High Performance

- Ultimate breaking capacity (kA rms)
- Max 100kA @480VAC and 50kA @600V

Trip Units

- Adjustable thermal & magnetic
- Fixed thermal & magnetic
- Electronic self-powered



Available in Seven Frame Sizes, max 600V

- GCB100 Series sizes 15 to 100 amps
- GCB150 Series sizes 40 to 150 amps
- GCB250 Series sizes 150 to 250 amps
- GCB400 Series sizes 250 to 400 amps
- GCB600 Series sizes 500 to 600 amps
- GCB800 Series sizes 800 amps
- GCB1200 Series sizes 1200 amps

Gladiator GCB Series Accessories



Auxiliary Contacts

Auxiliary contacts are used to signal external monitoring equipment when the circuit breaker is tripped.



Rotary Handles and Shafts

Rotary handle and shaft assemblies make it possible to externally operate circuit breakers installed in an enclosure.



Shunt Trip

The shunt trip mechanically trips the breaker when power is applied to the shunt trip terminals.



Lockout Attachment

The lockout attachment is a padlocking device that allows a circuit breaker to be safely locked out in the OFF position by up to three padlocks. It helps to ensure equipment stays safely powered down during maintenance and repair work.



Alarm Contacts

Alarm contacts indicate that a circuit breaker has tripped due to an overload, short circuit, shunt trip, undervoltage trip, or the "push-to-trip" button. The contacts only actuate when the breaker is tripped by a fault condition; they are not triggered when the breaker is operated manually.



Flexible Shaft Handle

Flange-mounted cable mechanisms allow the external operation of circuit breakers installed in tall, deep enclosures where placement flexibility is required.



Undervoltage Trip

The undervoltage release protects sensitive downstream equipment from brown-out conditions by tripping the breaker when power drops below 70 percent of the rated line voltage.



Insulation Barrier

Insulation barriers provide additional isolation between breaker phases.

Eaton FAZ-NA and FAZ-NA-L Series UL 489 Miniature Circuit Breakers



starting at \$23.00

The FAZ-NA and FAZ-NA-L series are DIN-rail mountable and can be used in branch circuit applications up to 63 amps and are available with B, C or D trip characteristics.

- UL 489
- DIN-rail mounted
- Up to 63 amps
- 1, 2, or 3-pole available
- 10kAIC @ 277/480VAC

Gladiator UL 489 Rated Miniature Circuit Breakers (MCBs)

Gladiator GMCBU series miniature circuit breakers are quality and affordable AC and DC rated DIN-rail mountable true branch circuit breakers and can be used in feeder and branch circuit applications up to 63 amps. These circuit breakers are available with B, C or D trip characteristics in accordance with UL 489.

- True branch circuit protection (UL489) circuit breakers.
- Up to 63 amps
- AC and DC rated
- Single-pole, two-pole and three-pole models
- B, C and D trip curves
- Trip-free design – breaker cannot be defeated by holding the handle in the “ON” position
- Captive screws cannot be lost
- Can also be used in applications for which UL 1077 or CSA C22.2 No.235 are also allowed
- Field installable shunt trip and auxiliary switches, side mountable shunt and undervoltage trip
- Contact position indicator (red / green)
- Small size and 35mm DIN rail mountable
- Suitable for reverse feed



starting at \$17.00

Gladiator UL 1077 Rated Miniature Supplementary Protectors



starting at \$8.50

Gladiator UL 1077 rated GMCB series miniature supplementary protectors provide overcurrent protection where branch protection is already provided or not required. The units can be installed as a component within, or as a part of, an appliance or a piece of electrical equipment and are ideal replacements for fuses that are applied as a supplementary protector. Their advantage over fuses is that it is resettable and the device’s status is easily and clearly identified by the position of the handle and the flag indicator.

- AC and DC rated
- Single-pole, two-pole and three-pole models
- Thermal magnetic overcurrent protection; B, C and D trip curves
- Trip-free design – breaker cannot be defeated by holding the handle in the “ON” position
- Small size
- 35mm DIN-rail mountable
- Box terminals accept #14 to #4 wire
- Color-coded status indicator window: Red = ON or Green = OFF
- IP20 finger protection
- Captive screws cannot be lost
- Suitable for reverse feed applications

Gladiator GMCB and GMCBU Series Accessories

Auxiliary Contacts

Auxiliary contacts signal external monitoring equipment the operational status of the breaker.

Alarm Contacts

Alarm contacts only change state when the breaker or protector is tripped, indicating an alarm condition for the device; they are not triggered when the breaker is operated manually.

Shunt Trips

Shunt trips provide a way to switch the breaker or supplementary protector off remotely when voltage is applied to the shunt trip terminals.

Undervoltage Trips

Undervoltage trips protect downstream equipment from voltage dips by tripping the breaker when power drops below 70 percent of the rated line voltage.

Locking Devices

Locking devices are safety lockout devices that allow a circuit breaker to be safely locked out in the OFF position. They ensure equipment stays safely powered down during maintenance and repair work.

Busbar Systems

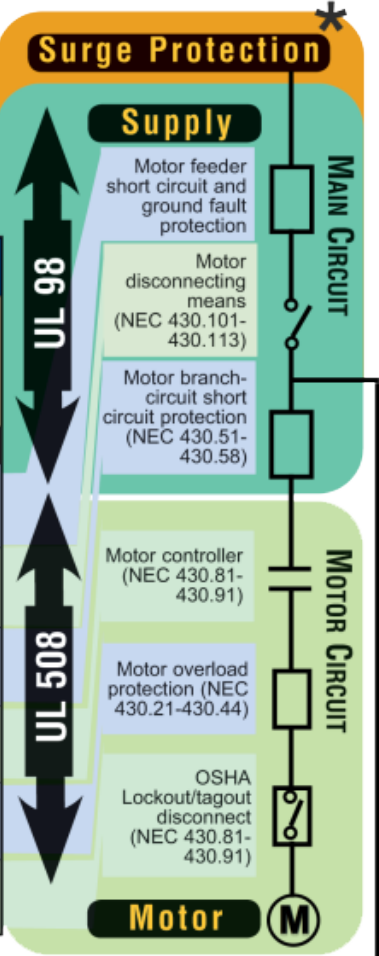
Cuttable busbar systems for the GMCB and GMCBU series support up to 57 breakers, provide up to 100A capacity, and are available with a range of accessories. They offer quick and easy connection options, allowing power to be fed from the top, bottom, center, or end.

starting at \$14.50



Which type of Circuit Protection are you looking for?

Circuit Protection Selection							
	Molded Case and DIN rail mounted UL489 Circuit Breakers	Current Limiting Fuses UL 248	Disconnect Switches UL 98	Manual Motor Starters (MMS) UL 508	Load Switches UL 508	Supplementary Protectors UL 1077	General Fuses UL 248
Short circuit and ground fault protection for feeder and branch circuits	YES	YES	YES	NO	NO	NO	NO
Motor disconnecting means (NEC 430.101-430.113)	YES	YES	YES	NO	NO	NO	NO
Motor branch-circuit short circuit protection (NEC 430.51-430.58)	YES	YES	YES	NO	NO	NO	NO
Motor controller (NEC 430.81-430.91)	YES	YES	YES	NO	NO	NO	NO
Motor overload protection (NEC 430.21-430.44)	YES	YES	YES	YES	NO	NO	NO
OSHA Lockout/tagout disconnect (NEC 430.81-430.91)	YES	YES	YES	YES	YES	NO	NO



* Optional Feeder protection, required for Safety Interlock circuits NEC 670.6 (2017)

CONTROL CIRCUIT	Supplementary Protection Selection	
	Supplementary Protectors UL 1077	General Fuses UL 248-14
PLC I/O	YES	YES
Contactor Coils	YES	YES
Relays	YES	YES
Anywhere branch circuit, overcurrent protection is already provided or not needed		



Edison Single and Dual-element Fuses

Industry standard extremely fast-acting, single element Class T and dual element time delay Class RK5, RK1, and Class J current limiting short circuit protection is available up to 600 amps.

High-speed Class J (JHL) combines electronic and motor branch circuit protection in one fuse.

These fuses are recommended for AC power distribution feeder and branch circuits; they provide ideal protection for motors and all general purpose applications including lighting, heating, inductive and non-inductive loads.

Class L fast-acting current limiting fuses are particularly suited for protection of circuit breakers with lower interrupting ratings, non-inductive loads such as lighting and heating circuits and drive protection applications.



Modular and Power Distribution Fuse Blocks

Modular Class CC/ Midget/ J/ R Fuse Blocks

- Class R, 250V & 600V, 30-600A; Class J 600V, 30-600A
- CC and midget 600V, 30A
- Modular snap-together design
- New blocks have phase barriers between phases
- Snap on covers have lockout feature, blown fuse indication available
- DIN rail mountable up to 60A

Modular Class J Power Distribution Fuse Blocks

- Class J, 600V, 100-600A
- Combines power distribution block into fuse block body
- Saves space and labor



Edison Current-limiting and General Purpose Fuses

We carry industry standard current limiting class CC, general purpose class M (Midget) and small dimension glass and ceramic circuit protection, fuse holders and accessories.

They provide ideal supplementary protection up to 30 amps to branch circuits and end-of-line equipment.

starting at
\$29.00
MOL10



Modular Fuse Holders

Modular fuse holders for Class CC, Midget, and Class J fuses help complete overcurrent protection circuits for industrial systems and are available in 1-, 2- or 3-pole models with up to 60A capacities. Models with blown fuse indicators allow operators to quickly identify fuses that need to be replaced.

starting at
\$5.00
57010015-1PK



Eaton Supplementary Protectors (UL1077)

Supplementary protectors are UL 1077 recognized and are used in applications where branch circuit protection is not required or is already provided.

FAZ Series

- DIN rail mountable
- Full line of auxiliary switches, alarm switches and padlock lockout accessories
- B trip curve 1 to 63 amps
- C trip curve 0.5 to 63 amps
- D trip curve 0.5 to 40 amps

starting at
\$17.50



starting at
\$66.00

Merz UL 508 Non-Fusible Disconnect Switches

Merz disconnect switches safely break power to motor loads and other equipment for service; they can withstand high fault currents and remain operational.

These disconnects are manual motor controllers (MMC) capable of across-the-line starting/stopping, according to UL508.

The NEC requires each motor controller to have a disconnect within line of sight (article 430.102). The code also recognizes that a controller and disconnect can be the same unit (article 430.109).

These devices are manual controllers and disconnects in a single switch. The controller is listed as "Suitable as Motor Disconnect," in compliance with both the controller and disconnect requirements of the NEC.

Open switches/disconnects

- 3-Pole; 16 to 125A
- Shafts/handles/Accessories

Enclosed Disconnects

- 3-Pole; 25 to 125A
- 3-Pole + N; 40 & 63A

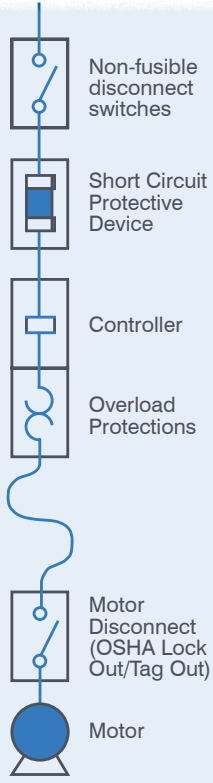
Merz Non-UL Cam Changeover Switches

Rotary Transfer Cam switches are CSA rated MMCs and are also rated for switching of other power circuits such as heaters, but motor loads are the primary use. These cam switches are capable of across-the-line switching of 2- or 3-pole motor loads. They are 3-position switches with:

- Transfer functions; I-OFF-II
- Reversing; Forward-OFF-Reverse



starting at
\$35.00



Bryant Pin and Sleeve Mechanical Interlocks

Interlocked motor disconnects use pin and sleeve technology to conveniently connect and disconnect equipment safely. They provide an OSHA lockout/tagout point, prevent the connection of devices with different voltage and current ratings, and prevent the installation and removal of a plug when the switch is in the on position.

- 20, 30, 60, and 100A models
- Six voltage types from 120 to 600 VAC
- 2- and 3-pole models
- 3-, 4-, and 5-wire models
- 10kA SCCR standard; 65kA SCCR with fuses (20 & 30A Models)
- Handles satisfy OSHA lockout/tagout requirements
- Watertight conduit hub and grounding plate included
- NEMA 12/4/4X, IP69K protection ratings

starting at
\$513.00



Socomec UL 98 and UL 508 Disconnects

Socomec offers disconnect switches in small, compact frames or larger, heavy-duty switches for more demanding uses. All fused or non-fused disconnects provide a high short-circuit current rating and can make or break under load to provide safe isolation. The versatile Socomec disconnect switches are suitable for a variety of applications.



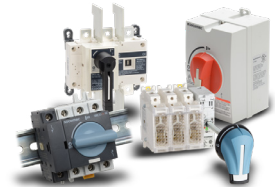
FUSERBLOC Series Fused Disconnects (30-600 Amps)

- UL 98 and UL 489 ratings
- 30A to 600A compact and large heavy duty frame
- 100 to 200kA SCCR @ 600VAC
- Front or side operated UL 98 Class J fusible rotary switch

SIRCO and SIRCO M Series Non-Fused Disconnects (16-600 Amps)

- UL 98, UL 98B, and UL 508 ratings
- 65 to 200kA SCCR (AC switches)
20kA @ 600VDC (DC switches)
- 3 and 4-pole
- 16A to 600A ratings
- Enclosed, DIN rail, panel mount options

starting at
\$29.50



Socomec SIRCOVER UL 1008 Manual Transfer Switch

Durable Socomec SIRCOVER transfer switches are UL 1008 rated, suitable for the most demanding applications.

- Transferring between normal and generator power supplies
- Bypass operations
- Three stable completely isolated positions
- Compact design

starting at
\$410.00

