

# MOLDED CASE CIRCUIT BREAKERS

## Series G



- **Small and Compact**
- **15 to 100 Amp Models Available**
- **Quality Thermal Magnetic Circuit Breakers**

Series G molded case circuit breakers provide increased performance in considerably less space than standard circuit breakers or comparable fusible devices. The “G” signifies global applications: Series G circuit breakers are marked with UL, CSA, CE, IEC and KEMA KEUR listings.

The EG frames are designed around space-saving footprints. Series G circuit breakers meet applicable UL 489 and IEC 60947-2 standards. The G family includes five frame sizes in ratings from 15 to 100 amperes. Series G interrupting capacity 15 to 18 kA at 415 and 480 Vac. Standard calibration is 40°C.

The flexibility and outstanding performance characteristics of the circuit breakers are made possible by the best contact designs in circuit breaker history. Our technology creates a high-speed “blow-open” action using the electromechanical forces produced by high-level fault currents.

These circuit breakers are operated by a toggle-type mechanism that is mechanically trip-free from the handle so that the contacts cannot be held closed against short circuit currents. Tripping due to overload or short circuits is clearly indicated by the position on the handle. This remarkably fast and dependable contact action is designed to enhance safety.

The quality, dependability and reliability of every circuit breaker is ensured by a thorough program of in-plant testing. Two calibration tests are conducted on every pole of every circuit breaker to verify the trip mechanism, operating mechanism, continuity and accuracy.

Circuit breakers are current limiting because of their high repulsion contact arrangement and use of state-of-the-art arc extinguishing technology.

Circuit Breakers have a toggle handle operating mechanism, which also serves as a switching position indicator. The indicator shows the positions of: ON, OFF and TRIPPED.

The toggle handle snaps into the TRIPPED position if the breaker is tripped by one of its overcurrent, short circuit, shunt or undervoltage releases. Before the circuit breaker can be reclosed following a trip-out, the toggle handle must be brought beyond the OFF position (RESET). The circuit breaker can then be reclosed.

As an additional switching position indicator for EG- Frame circuit breakers, there are two windows on the right and on the left of the toggle handle, in which the switching state is indicated by means of the colors red, green and white corresponding to the ON, OFF and TRIPPED positions respectively.



EGB3015FFG shown smaller than actual size.

### SPECIFICATION

**Number of Poles:** 3

**BREAKER CAPACITY (KA RMS)  
AC 50 TO 60 HZ**

**NEMA, UL, CSA:**

**240 Vac:** 25

**480 Vac:** 18

**IEC60947-2:**

**Icu 220 to 240 Vac:** 25

**Icu 380 to 425 Vac:** 18

**Ampere Range:** 15 to 100 A

**Trip Units:** FT-FM (fixed thermal - fixed magnetic)

**Dimensions:** 139.7 H x 76.2 W x 76 mm D (5.5 x 3.0 x 2.9")

**Weight:** 1.4 kg (3.1 lbs)

**Utilization Category:** A

### ELECTRICAL CHARACTERISTICS

**Maximum Rated Current:** 100 A

**Rated Insulation Voltage U,  
According to IEC 60947-2:**

**Main Conducting Paths:** 690 Vac

**Auxiliary Circuits:** 690 Vac

**Rated Impulse Withstand  
Voltage Uimp:**

**Main Conducting Paths:** 6 kV

**Auxiliary Circuits:** 4 kV

**Rated Operational Voltage Ue:**

**IEC:** 690 Vac

**NEMA:** 600 Y/347 Vac

**UL and CSA Listed:** Yes

**Permissible Ambient Temperature:**  
-20 to 70°C (-4 to 158°F)

### PERMISSIBLE LOAD FOR VARIOUS AMBIENT TEMPERATURES CLOSE TO THE CIRCUIT BREAKER, RELATED TO THE RATED CURRENT OF THE CIRCUIT BREAKER:

#### Circuit Breakers for Plant Protection:

Thermal overload release set to the lower value	Thermal overload release set to the upper value
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<b>At 40°C:</b> 100%	100%
<b>At 50°C:</b> 96%	92%
<b>At 55°C:</b> 93%	87%
<b>At 60°C:</b> 91%	83%
<b>At 70°C:</b> 86%	73%

#### Circuit Breakers for Starter Combinations and Isolating Circuit Breakers:

<b>At 40°C:</b> 100%
<b>At 50°C:</b> 100%
<b>At 55°C:</b> 96%
<b>At 60°C:</b> 91%
<b>At 70°C:</b> 86%

### RATED SHORT CIRCUIT BREAKING CAPACITY (DC) NOT FOR CIRCUIT BREAKERS FOR MOTOR PROTECTION (TIME CONSTANT = 10 RMS):

#### 2 Conducting Paths in Series:

**For EG up to 250 Vdc:** 10 kA maximum  
**NEMA (Time Constant = 8 rms)**

#### 2 Conducting Paths in Series:

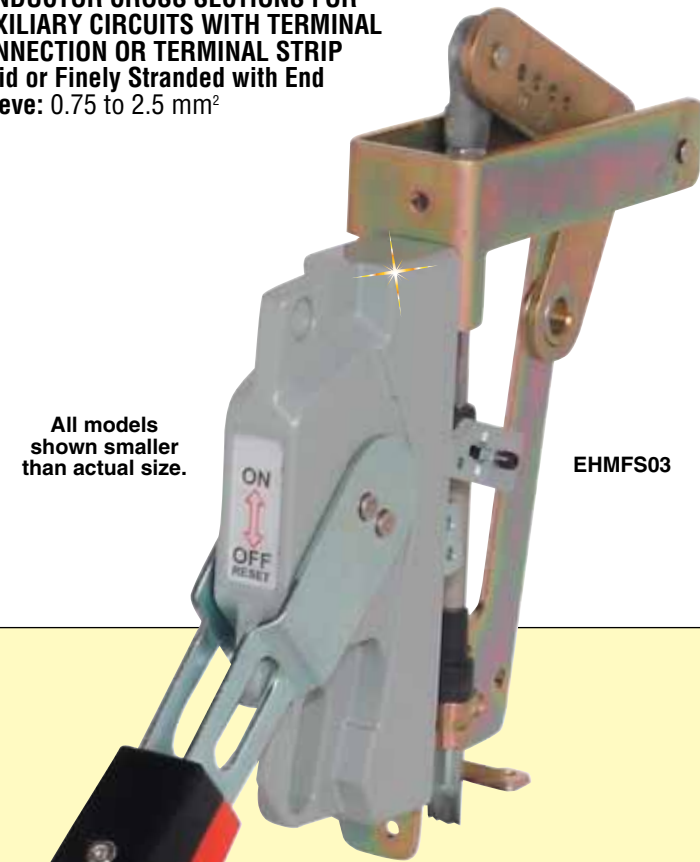
250 Vdc 10 kA maximum

**Main Switch Characteristics According to IEC 60947-2 in Combination with Lockable Rotary Drives:** Yes  
**Rated Short Circuit Breaking Capacity According to IEC 60947-2 (at AC 50/60 Hz):** Rated short circuit breaking capacity  
**Endurance (Operating Cycles):** 10,000  
**Maximum Switching Frequency:** 300 1/h  
**Conductor Cross Sections and Terminal Types for Main Conductors:** Box Terminals  
**Solid or Stranded:** 2.5 to 95 mm<sup>2</sup>  
**Finely Stranded with End Sleeve:** 2.5 to 50/70 mm<sup>2</sup>  
**Tightening Torque for Box Terminals:** 5.6 Nm  
**Tightening Torque for Bus Bar Connection Pieces:** 5.6 Nm

**CONDUCTOR CROSS SECTIONS FOR AUXILIARY CIRCUITS WITH TERMINAL CONNECTION OR TERMINAL STRIP**  
**Solid or Finely Stranded with End Sleeve:** 0.75 to 2.5 mm<sup>2</sup>

All models shown smaller than actual size.

EHMFS03



EHMVD12B attached to EG3015FFG



**To Order Visit [omega.com/gseries](http://omega.com/gseries) for Pricing and Details**

MODEL NO.	DESCRIPTION
EGB3015FFG	EG 3P 15 A 18kA @ 415 and 480V fixed thermal, fixed magnetic
EGB3020FFG	EG 3P 20 A 18kA @ 415 and 480V fixed thermal, fixed magnetic
EGB3030FFG	EG 3P 30 A 18kA @ 415 and 480V fixed thermal, fixed magnetic
EGB3050FFG	EG 3P 50 A 18kA @ 415 and 480V fixed thermal, fixed magnetic
EGB3060FFG	EG 3P 60 A 18kA @ 415 and 480V fixed thermal, fixed magnetic
EGB3100FFG	EG 3P 100 A 18kA @ 415 and 480V fixed thermal, fixed magnetic

**ACCESSORIES**

MODEL NO.	DESCRIPTION
EHMFS03	Frame flex shaft handle 0.91 m (3') NEMA 1, 3R
EHMVD12B	Universal rotary handle 305 mm (12") black, NEMA 1, 12

*Comes complete with operators manual.*  
**Ordering Example:** EG3015FFG, 15 A circuit breaker, and EHMVD12B, variable depth handle.