

Series G, 15–2500 Amperes for UL, CSA and IEC Applications

2



## Contents

### Description

	<i>Page</i>
Series G	
Standards and Certifications . . . . .	<b>V4-T2-109</b>
Product Selection Overview . . . . .	<b>V4-T2-110</b>
Product Selection Guide . . . . .	<b>V4-T2-111</b>
Technical Data and Specifications . . . . .	<b>V4-T2-113</b>
Dimensions and Weights . . . . .	<b>V4-T2-118</b>
EG-Frame (15–125 Amperes) . . . . .	<b>V4-T2-119</b>
JG-Frame (63–250 Amperes) . . . . .	<b>V4-T2-133</b>
LG-Frame (250–630 Amperes) . . . . .	<b>V4-T2-151</b>
NG-Frame (320–1200 Amperes) . . . . .	<b>V4-T2-169</b>
RG-Frame (800–2500 Amperes) . . . . .	<b>V4-T2-178</b>
Motor Circuit Protectors (MCP) . . . . .	<b>V4-T2-189</b>
Motor Protector Circuit Breakers (MPCB) . . . . .	<b>V4-T2-193</b>
30 mA Ground Fault (Earth Leakage) Module . . . . .	<b>V4-T2-196</b>
Current Limiting Circuit Breaker Module . . . . .	<b>V4-T2-200</b>
High Instantaneous Circuit Breaker for	
Selective Coordination . . . . .	<b>V4-T2-205</b>
Special Features and Accessories . . . . .	<b>V4-T2-208</b>
Motor Operators . . . . .	<b>V4-T2-216</b>
Plug-In Blocks . . . . .	<b>V4-T2-218</b>
Drawout Cassette . . . . .	<b>V4-T2-219</b>

Learn  
OnlineDrawings  
Online

## Product Overview

### Series G, 15–2500 Amperes for UL, CSA and IEC Applications

Eaton 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. Other advantages include:

- Field-fit accessories
- Common accessories through 630 amperes
- Electronic trip units from 20 to 2500 amperes
- UL-listed and IEC-rated, 30 mA ground fault/earth leakage modules
- Built-in ground fault protection down to 20 amperes

The EG, JG and LG frames are designed around space-saving footprints. The NG and RG use the proven Eaton Series C ND and RD designs.

The Series G family includes five frame sizes in ratings from 15 to 2500 amperes. Series G offers a choice of several interrupting capacities up to 200 kA at 480 volts AC (200 kA at 240 volts AC).

Series G molded case circuit breakers are also available in direct current options. Please see Specialty Breakers **Section 2.6** for more details.

Standard calibration is 40 °C. For applications in high ambient temperature conditions, 50 °C factory calibration is available on thermal-magnetic breakers (not UL).

### The Most Logically Designed Contact Assembly

The flexibility and outstanding performance characteristics of Eaton 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.

Eaton 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.

### Thorough In-Plant Testing

The quality, dependability and reliability of every Eaton 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.

### Current Limiting Characteristics

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

Eaton offers one of the most complete lines of current limiting breakers in the industry. The industrial breakers are available in current limiting versions with interrupting capacities up to 200 kA at 480 V without fuses in the same physical size as standard and high interrupting capacity breakers.

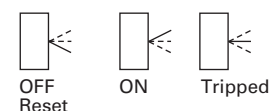
### Operating Mechanisms

Eaton 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- to RG-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.

### Positions of the Toggle Handle Drive



### Standards and Certifications

Eaton Series G circuit breakers meet applicable UL 489 and IEC 60947-2 standards.

Molded case circuit breakers from Eaton are designed to conform with the following international standards:

- Australian Standard AS 2184 and AS 3947-2 molded case circuit breakers
- British Standards Institution Standard EN60947.2
- International Electromechanical Commission Recommendations IEC 60947.2 circuit breakers
- CE
- Japanese T-Mark standard molded case circuit breakers
- National Electrical Manufacturers Association Standards Publication No. AB1-1993 molded case circuit breakers
- South African Bureau of Standards, Standard SANS 156, Standard Specification for molded case circuit breakers
- Swiss Electro-Technical Association Standard SEV 947.2, Safety Regulations for circuit breakers
- Union Technique de l'Electricite Standard NF C 63-120, low voltage switchgear and control gear circuit breaker requirements
- Verband Deutscher Elektrotechnike (Association of German Electrical Engineers) Standard VDE 0660, low voltage switchgear and control gear, circuit breakers

### Global Third-Party Certification

Certification marks ensure product compliance with the total standard via the third party witnessing of tests by globally recognized independent certification organizations.

KEMA is a highly recognized, independent international organization that offers certification and inspection facilities for equipment in many industries. The KEMA-KEUR mark is the highest certification an electrical product can receive from KEMA. Our IEC 60947-2 molded case circuit breakers are KEMA tested and certified. These breakers are also listed in accordance with UL 489, as well as CSA C22.2 No. 5-02.

KEMA, UL and CSA provide ongoing follow-up testing and inspections to ensure that Eaton molded case circuit breakers continue to meet their exacting standards.

### ISO Certification

Eaton circuit breakers are manufactured in ISO® certified facilities.

## Product Selection Overview

### Electronic Trip Units (Digitrip RMS Trip Units)—Multi-Function Electronic Trip Units for All Applications

2

#### True rms Sensing

Digitrip RMS trip units use Eaton's microprocessor-based intelligence to provide true rms sensing, permitting increased accuracy and reliable system protection. True rms sensing is not susceptible to nuisance tripping when waveforms containing high harmonic currents are present.

#### Digitrip RMS 310+

Digitrip RMS 310+ electronic trip units are available with Eaton Series G circuit breakers JG, LG, NG and RG, as well as Series C FD, KD, LD and MDL circuit breakers.

Digitrip 310+ trip units are equipped with an integrated  $I_r$  switch that allows users to modify the continuous current rating of the breaker without having to replace a rating plug. This provides further flexibility for coordination in systems. The trip units may be used in 50 Hz or 60 Hz applications. The Digitrip 310+ offers true rms sensing, is front adjustable and has an optional local display of current and cause of trip.

#### Curve Shaping

When selectively coordinated systems are called for, Digitrip RMS 310+ will provide a cost-effective solution for a variety of applications.

The standard Digitrip RMS 310+ includes an adjustable short time pickup setting encompassing an  $I^2t$  ramp function that provides the basic LS curve shaping function.

Digitrip 310+ trip units also include selectable long time delay ( $t_{LD}$ ) and pickup settings ( $I_r$ ). A rating plug is not required.

The optional Digitrip RMS 310+ LSI and LSI $G$  provide additional flat response short time delay adjustments and an instantaneous setting to provide LSI curve shaping capability.

Digitrip RMS 310+ LSG and LSI $G$  units are available with ground fault pickup and flat response ground fault delay. Ground fault alarm options are available with trip and no trip functionality as a means to notify users of a ground fault condition with the option to maintain the breaker online.

Digitrip RMS 310+ trip units can effectively coordinate with both sophisticated upstream power breakers as well as downstream thermal-magnetic breakers, making Digitrip RMS 310+ trip units the cost-effective reliable choice for selectively coordinated systems.

#### Thermal Memory

All Digitrip RMS trip units incorporate a long delay. Thermal memory prevents the system from cumulative overheating due to repeated overcurrent events that may occur in quick succession.

#### Field Testing

A field test kit is available for Digitrip RMS 310+ trip units.

#### Arcflash Reduction Maintenance Mode (ARMS)

ARMS is an available feature on KD, LG, LD, MDL, NG and RG frames with 310+ electronic trip units. This feature increases worker safety by providing an accelerated instantaneous trip unit to reduce arc flash. Additionally, LG, NG and RG frames with the ARMS feature include a fully adjustable instantaneous setting.

#### Digitrip RMS 610 and 910

Digitrip RMS 610 and 910 trip units are available with Eaton R-Frame circuit breakers 800 through 2500 amperes. Digitrip 610 and 910 trip units provide unparalleled system protection with the added convenience of a local display.

#### Curve Shaping

Digitrip RMS 610 and 910 trip units are available with up to nine curve shaping choices achieved by adjusting up to seven switches on the front of the unit for optimum system coordination. Maximum curve shaping flexibility is provided by dependent long and short delay adjustments that are long delay pickup ( $I_r$ ) based, depicted on the front of the unit by the blue portion of the time-current curve.

Additional coordination capability can be provided by utilizing the short delay and ground fault zone selective interlocking features available on these trip units.

#### System Diagnostics

Digitrip RMS 610 and 910 models of trip units provide long delay, short delay, instantaneous, and ground fault cause of trip LEDs on the front of the unit. Their display shows a magnitude of trip information, as well as remote signal contacts, for improved system alarming.

#### System Monitoring

Digitrip 610 and 910 trip units have the capability to monitor phase currents, as well as neutral or ground currents. This information is displayed on a large digital display mounted on the unit.

Digitrip RMS 910 trip units can also provide the user with power and energy monitoring capability. Peak power demand, present power demand, and total energy, as well as forward and reverse energy can be monitored with this unit.

Digitrip RMS 910 trip units have the additional capability of monitoring line-to-line voltage, as well as system power factor. Both parameters are displayed in the digital display window and are supported by LEDs to indicate which parameter is being displayed.

#### Harmonics Monitoring

Digitrip RMS 910 trip units are capable of displaying values of current harmonics in the digital display window. Percentage of harmonic content can be monitored for each phase, up to the 27th harmonic. Additionally, a total harmonic distortion value can be calculated and displayed.

#### Communications

Digitrip RMS 910 units have built-in communications options to allow all protection, monitoring, and control information to be transmitted back to a central location via the Eaton PowerNet™ system.

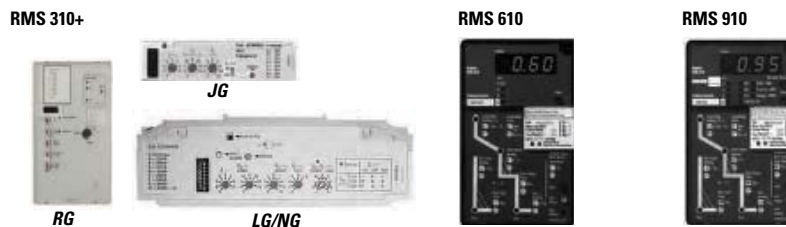
#### Field Testing

Integral field testing capability is provided on all 610 and 910 trip units. No additional test set is needed to perform both trip and no trip field testing.

## Product Selection Guide

## Electronic Trip Units

## Digitrip—RMS 310+, 610 and 910



Breaker Type					
Series G frame(s)		JG-, LG-, NG- and RG-Frames		RG-Frame	RG-Frame
Ampere rating		20–2500 A		800–2500 A	800–2500 A
Interrupting rating at 415 V		35, 70, 100 kA		70, 100 kA	70, 100 kA
Trip Unit Sensing					
rms sensing		Yes		Yes	Yes
Protection and Coordination <sup>①</sup>					
Protection	Ordering options	LS, LSG	LSI, LSIG	LI, LS, LSI, LIG, LSG, LSIG	LI, LS, LSI, LIG, LSG, LSIG
	Fixed rating plug ( $I_n$ ) <sup>②</sup>	Yes	Yes	Yes	Yes
	Overtemperature trip	Yes	Yes	Yes	Yes
Long delay	Adjustable $I_r$ switch	Yes	Yes	No	No
	Long delay setting	VAR/frame	VAR/frame	0.5–1.0 x ( $I_n$ )	0.5–1.0 x ( $I_n$ )
	Long delay time $I^2t$ at 6x	10 seconds <sup>③</sup>	10 seconds <sup>③</sup>	2–24 seconds	2–24 seconds
	Long delay thermal memory	Yes	Yes	Yes	Yes
	High load alarm	1.05 $I_r$	1.05 $I_r$	0.85 x $I_r$	0.85 x $I_r$
Short delay	Short delay setting	VAR/frame <sup>④</sup>	VAR/frame <sup>④</sup>	200–600% S1 and S2 x ( $I_r$ )	200–600% S1 and S2 x ( $I_r$ )
	Short delay time $I^2t$	100 ms	No	100, 300, 500 ms	100, 300, 500 ms
	Short delay time flat	No	l–300 ms	100–500 ms	100–500 ms
	Short delay time ZSI	No	Yes	Yes	Yes
Instantaneous	Independent adjustable Inst. setting	No	Yes <sup>⑤</sup>	Yes	Yes
	Instantaneous setting	No	VAR/frame	200–600% M1 and M2 x ( $I_n$ )	200–600% M1 and M2 x ( $I_n$ )
	Discriminator	No	No	Yes <sup>⑥</sup>	Yes <sup>⑥</sup>
	Instantaneous override	Yes	Yes	Yes	Yes
Ground fault	Ground fault setting	VAR/frame <sup>⑦</sup>	VAR/frame <sup>⑦</sup>	25–100% x ( $I_n$ ) <sup>⑦</sup>	25–100% x ( $I_n$ ) <sup>⑦</sup>
	Ground fault delay $I^2t$ at 0.62x	No	No	100, 300, 500 ms	100, 300, 500 ms
	Ground fault delay flat	l–300 ms	l–300 ms	100–500 ms	100–500 ms
	Ground fault ZSI	No	Yes	Yes	Yes
	Ground fault thermal memory	No	No	Yes	Yes

## Notes

$I_n$  = Rating plug rating.  
 $I_r$  = Long delay setting.

① 310+ details are included by frame in **Pages V4-T2-148** (JG), **V4-T2-166** (LG), **V4-T2-176** (NG), and **V4-T2-187** (RG).

② 310+ trip units have selectable settings instead of a rating plug.

③ 310+ trip units have adjustable long delay times of 2–24 seconds, except NG 310+ for 800 A frame, for which it is 2–14 seconds.

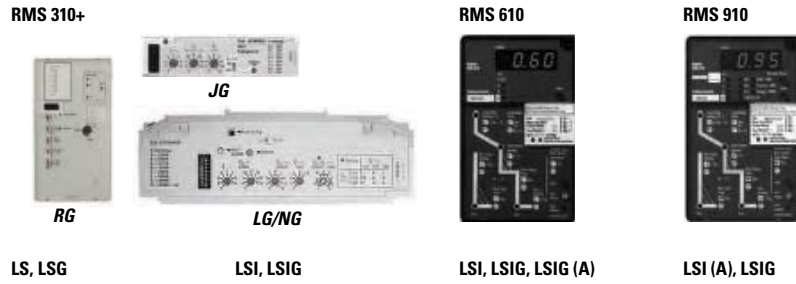
④ JG/LG: 2X–14X ( $I_n$ ); NG: 2X–8X ( $I_n$ ); RG: 2X–9X ( $I_n$ ); 2500 ampere RG-Frame 2X–6X% x ( $I_n$ ).

⑤ LG, NG and RG ALSI and ALSIG 310+ trip units include an independently adjustable Instantaneous ( $I_i$ ) setting.

⑥ LS, LSG only.

⑦ Not to exceed 1200 amperes.

#### Digitrip—RMS 310+, 610 and 910, continued



	LS, LSG	LSI, LSIG	LSI, LSIG, LSIG (A)	LSI (A), LSIG
<b>System Diagnostics</b>				
Cause of trip LEDs	Yes <sup>①②</sup>	Yes <sup>①②</sup>	Yes	Yes
Magnitude of trip information	No	No	Yes	Yes
Remote signal contacts	No	No	Yes	Yes
<b>System Monitoring</b>				
Digital display	Yes <sup>③</sup>	Yes <sup>③</sup>	Yes	Yes
Current	Yes <sup>③</sup>	Yes <sup>③</sup>	Yes	Yes
Voltage	No	No	No	Yes
Power and energy	No	No	No	Yes
Power quality—harmonics	No	No	No	Yes
Power factor	No	No	No	Yes
<b>System Communications</b>				
PowerNet	No	No	No	Yes
<b>Field Testing</b>				
Testing method	Test set <sup>④</sup>	Test set <sup>④</sup>	Integral	Integral

**Notes**

- ① Using cause of trip module (catalog number **TRIP-LED**).
- ② RG 310+ trip units include integrated cause of trip LEDs.
- ③ Using ammeter or remote ammeter/cause of trip display (catalog number **DIGIVIEW** and **DIGIVIEWR06**).
- ④ Test kit available for field testing 310+ trip units (catalog number **MTST230V**).

Technical Data and Specifications

Ratings

Frames EG, JG and LG

EG



JG



LG



Maximum rated current (amperes)		125, 160 <sup>①</sup>								250						400, 630 <sup>②</sup>						
Breaker type <sup>③</sup>		B	B	E	S	S	H	H	C	E	S	H	C	U	X	E	S	H	C	U	X	
Number of poles		1	2, 3, 4	2, 3, 4	1	2, 3, 4	1	2, 3, 4	3, 4	2, 3, 4	2, 3, 4	2, 3, 4	3, 4	3, 4	3, 4	3, 4	3, 4	3, 4	3, 4	3, 4	3, 4	
<b>Breaker Capacity (kA rms) Vac 50–60 Hz</b>																						
NEMA <sup>®</sup> , UL, CSA	240 Vac	25	25	35	85	85	100	100	200	65	85	100	200	200	200	65	85	100	200	200	200	
	480 Vac	—	18	25	—	35	—	65	100	25	35	65	100	150	200	35	50	65	100	150	200	
	600 Vac <sup>④</sup>	—	—	18	—	22	—	25	35	18	18	25	35	50	50	18	25	35	50	65	65	
	125/250 Vdc <sup>⑤</sup>	10 <sup>⑥</sup>	10	10	35 <sup>⑥</sup>	35	42 <sup>⑥</sup>	42	42	10	22	22	42	50	50	22	22	42	42	50	50	
IEC 60947-2	220–240 Vac	<i>I<sub>CU</sub></i>	25	25	35	85	85	100	100	200	65	85	100	200	200	200	65	85	100	200	200	200
		<i>I<sub>CS</sub></i>	25	25	35	43	43	50	50	200	65	85	100	200	200	200	65	85	100	200	200	200
	380–415 Vac	<i>I<sub>CU</sub></i>	—	18	25	—	40	—	70	100	25	40	70	100	150	200	35	50	70	100	150	200
		<i>I<sub>CS</sub></i>	—	18	25	—	30	—	35	100	25	40	70	100	150	200	35	50	53	100	150	200
	660–690 Vac	<i>I<sub>CU</sub></i>	—	—	—	—	—	—	—	—	12	12	14	16	18	18	12	20	25	30	35	35
		<i>I<sub>CS</sub></i>	—	—	—	—	—	—	—	—	6	6	7	12	14	14	6	10	13	15	18	18
	125/250 Vdc <sup>⑤</sup>	<i>I<sub>CU</sub></i>	10 <sup>⑥</sup>	10	10	35 <sup>⑥</sup>	35	42 <sup>⑥</sup>	42	42	10	22	22	42	50	50	22	22	42	42	50	50
		<i>I<sub>CS</sub></i>	10 <sup>⑥</sup>	10	10	35 <sup>⑥</sup>	35	42 <sup>⑥</sup>	42	42	10	22	22	42	50	50	22	22	42	42	50	50
Ampere range		15–160 A <sup>①</sup>								20–250 A						100–630 A <sup>②</sup>						
Trip Units		FT-FM								FT-AM						FT-AM						
F = Fixed		AT-FM								AT-AM						AT-AM						
A = Adjustable										Electronic (Digitrip RMS 310)						Electronic (Digitrip RMS 310)						
T = Thermal																						
M = Magnetic																						
Interchangeable		—	—	—	—	—	—	—	—	■	■	■	■	■	■	■	■	■	■	■	■	
Built-in		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
Thermal magnetic	Fixed thermal	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
	Adjustable thermal	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
	Magnetic	Fixed								Adjustable						Adjustable						
Electronic RMS <sup>⑦</sup>	LS	—	—	—	—	—	—	—	—	■	■	■	■	■	■	■	■	■	■	■	■	
	LSI	—	—	—	—	—	—	—	—	■	■	■	■	■	■	■	■	■	■	■	■	
	LSG	—	—	—	—	—	—	—	—	■	■	■	■	■	■	■	■	■	■	■	■	
	LSIG	—	—	—	—	—	—	—	—	■	■	■	■	■	■	■	■	■	■	■	■	
	ALSI	—	—	—	—	—	—	—	—	—	—	—	—	—	—	■	■	■	■	■	■	
	ALSIG	—	—	—	—	—	—	—	—	—	—	—	—	—	—	■	■	■	■	■	■	
Utilization category		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	

Notes

- ① 125 amperes is the maximum UL and CSA rating for the EG.
- ② 630 amperes is not a UL or CSA listed rating. 600 amperes is the maximum UL and CSA listed rating for the LG.
- ③ Breaker type C, U and X are current limiting per UL 489.
- ④ EG breaker rated 600/347 Vac.
- ⑤ Two poles in series.
- ⑥ 125 Vdc only for single-pole breakers.
- ⑦ Not suitable for DC application. Four-pole ground fault not available.

# 2.3

## Molded Case Circuit Breakers

### Series G

#### Frames NG and RG

NG



RG



Maximum rated current (amperes)		800, 1200	800, 1200	800, 1200	1600 <sup>①</sup>	800	1600, 2000, 2500	1600, 2000, 2500	
Breaker type		S	H	C <sup>②</sup>	S	U	H	C <sup>②</sup>	
Number of poles		2, 3, 4	2, 3, 4	2, 3, 4	3	3	3, 4	3, 4	
<b>Breaker Capacity (kA rms) AC 50–60 Hz</b>									
NEMA, UL, CSA	240 Vac	85	100	200	—	200	125	200	
	480 Vac	50	65	100	—	150	65	100	
	600 Vac	25	35	65	—	65	50	65	
IEC 60947-2	220–240 Vac	$I_{cu}$	85	100	200	85	—	135	200
		$I_{cs}$	85	100	100	85	—	100	100
	380–415 Vac	$I_{cu}$	50	70	100	50	—	70	100
		$I_{cs}$	50	50	50	50	—	50	50
	660–690 Vac	$I_{cu}$	20 <sup>③</sup>	25 <sup>③</sup>	35	20 <sup>③</sup>	—	25 <sup>③</sup>	35 <sup>③</sup>
		$I_{cs}$	10	13	18	10	—	13	18
	250 Vdc	$I_{cu}$	—	—	—	—	—	—	—
		$I_{cs}$	—	—	—	—	—	—	—
Ampere range		400–1200 A	400–1200 A	400–1200 A	1600 A	800 A	800–2500 A	800–2500 A	
Trip units		Electronic (Digitrip RMS 310+)				Electronic (Digitrip RMS 310+ and 910)			
	Interchangeable	—	—	—	—	—	■ <sup>⑤</sup>	■ <sup>⑤</sup>	
	Built-in	■	■	■	■	■	■	■	
Electronic <sup>④</sup>	LI	—	—	—	—	—	■ <sup>⑥</sup>	■ <sup>⑥</sup>	
	LS	■	■	■	■	■	■	■	
	LSI	■	■	■	■	■	■	■	
	LIG	—	—	—	—	—	■ <sup>⑥</sup>	■ <sup>⑥</sup>	
	LSG	■	■	■	■	■	■	■	
	LSIG	■	■	■	■	■	■	■	
	ALSI	■	■	■	■	—	■	■	
	ALSIG	■	■	■	■	—	■	■	
Utilization category		A	A	A	A	A	A	A	

#### Notes

- ① NG 1600 ampere frame is not UL or CSA listed.
- ② Not KEMA-KEUR listed.
- ③ IEC 60947-2 H.5 Annex H is not KEMA-KEUR tested.
- ④ Not suitable for DC application. Four-pole ground fault not available.
- ⑤ RG 310+ are interchangeable with the exception of: FROM not ground fault equipped TO ground fault equipped
- ⑥ Available only on Digitrip 910 trip units.

## General Specifications

## All Series G Frames

	EG		JG		LG		NG		RG	
Maximum rated current $I_n$ depending on the version	160 A <sup>①</sup>		250 A		400, 630 A <sup>②</sup>		800, 1200, 1600 A <sup>③</sup>		1600, 2000, 2500 A	
Rated insulation voltage U, according to IEC 60947-2										
Main conducting paths	500 Vac		750 Vac		750 Vac		750 Vac		750 Vac	
Auxiliary circuits	500 Vac		690 Vac		690 Vac		690 Vac		690 Vac	
Rated impulse withstand voltage $U_{imp}$										
Main conducting paths	6 kV		8 kV		8 kV		8 kV		8 kV	
Auxiliary circuits	4 kV		4 kV		4 kV		4 kV		4 kV	
Rated operational voltage $U_e$										
IEC	415 Vac		690 Vac		690 Vac		690 Vac		690 Vac	
NEMA	600Y/347 Vac		600 Vac		600 Vac		600 Vac		600 Vac	
UL and CSA listed	Yes <sup>①</sup>		Yes		Yes <sup>②</sup>		Yes <sup>③</sup>		Yes	
Permissible ambient temperature	-20 ° to 70 °C		-20 ° to 70 °C		-20 ° to 70 °C		-20 ° to 70 °C		-20 ° to 70 °C	
Permissible load for various ambient temperatures close to the circuit breaker, related to the rated current of the circuit breaker	④      ⑤		④      ⑤		④      ⑤		—		—	
Circuit breakers for plant protection										
At 40 °C	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
At 50 °C	96%	92%	96%	94%	96%	91%	91%	91%	91%	91%
At 55 °C	93%	87%	94%	90%	93%	86%	85%	85%	85%	85%
At 60 °C	91%	83%	92%	87%	90%	82%	81%	81%	81%	81%
At 70 °C	86%	73%	88%	80%	84%	70%	70%	70%	70%	70%
Circuit breakers for motor protection										
At 40 °C	—		100%		100%		—		—	
At 50 °C	—		100%		100%		—		—	
At 55 °C	—		100%		100%		—		—	
At 60 °C	—		100%		100%		—		—	
At 70 °C	—		90%		90%		—		—	
Circuit breakers for starter combinations and isolating circuit breakers										
At 40 °C	100%		100%		100%		100%		100%	
At 50 °C	100%		100%		100%		91%		91%	
At 55 °C	96%		96%		95%		85%		85%	
At 60 °C	91%		82%		90%		81%		81%	
At 70 °C	86%		88%		84%		—		—	
Rated short-circuit breaking capacity (DC) Not for circuit breakers for motor protection (Time constant $t = 10$ rms)										
Two conducting paths in series For EG to LG up to 250 Vdc	42 kA max.		42 kA max.		42 kA max.		⑥		⑥	
NEMA (time constant $t = 8$ rms) Two conducting paths in series 250 Vdc	42 kA max.		42 kA max.		42 kA max.		⑥		⑥	

## Notes

- ① 125 amperes is the maximum UL and CSA rating for the EG.
- ② 630 amperes is not a UL or CSA listed rating. 600 amperes is the maximum UL and CSA rating for the LG.
- ③ 1200 amperes is the maximum UL and CSA rating for the NG.
- ④ Thermal overload release set to the lower value.
- ⑤ Thermal overload release set to the upper value.
- ⑥ Not suitable for DC switching.

# 2.3

## Molded Case Circuit Breakers

### Series G

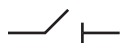
#### All Series G Frames, continued

2

	EG	JG	LG	NG	RG	
Main switch characteristics according to IEC 60947-2 in combination with lockable rotary drives	Yes	Yes	Yes	Yes	Yes	
Rated short circuit breaking capacity according to IEC 60947-2 (at AC 50/60 Hz)	For rated short circuit breaking capacity, see <b>Page V4-T2-113</b> .					
Endurance (operating cycles)	10,000	10,000	8,000	3,000	3,000	
Maximum switching frequency	300 1/h	240 1/h	240 1/h	60 1/h	60 1/h	
Conductor cross sections and terminal types for main conductors	Box terminals	Box terminals	Box terminals	Flat bar terminals	Flat bar terminals	Flat bar terminals
Solid or stranded	2.5 to 95 mm <sup>2</sup>	50 to 150 mm <sup>2</sup>	95 to 240 mm <sup>2</sup>	—	—	—
Finely stranded with end sleeve	2.5 to 50/70 mm <sup>2</sup>	35 to 120 mm <sup>2</sup>	70 to 150 mm <sup>2</sup>	—	—	—
Busbar	—	—	—	600 A	Optional	Optional
Tightening torque for box terminals	5.6 Nm	20 Nm	42 Nm	31 Nm	31 Nm	—
Tightening torque for busbar connection pieces	5.6 Nm	15 Nm	30 Nm	6 Nm	50 Nm	20 Nm
Conductor cross sections for auxiliary circuits with terminal connection or terminal strip						
Solid	0.75 to 2.5 mm <sup>2</sup>	0.75 to 2.5 mm <sup>2</sup>	0.75 to 2.5 mm <sup>2</sup>	Up to 2x4 mm <sup>2</sup>	Up to 2x4 mm <sup>2</sup>	
Finely stranded with end sleeve	0.75 to 2.5 mm <sup>2</sup>	0.75 to 2.5 mm <sup>2</sup>	0.75 to 2.5 mm <sup>2</sup>	Up to 2x2.5 mm <sup>2</sup>	Up to 2x2.5 mm <sup>2</sup>	
With brought-out cable ends	—	0.82 (AWG 18) mm <sup>2</sup>	0.82 (AWG 18) mm <sup>2</sup>	0.82 (AWG 18) mm <sup>2</sup>	0.82 (AWG 18) mm <sup>2</sup>	
Tightening torque for fitting screws	—	0.8 to 1.4 Nm	0.8 to 1.4 Nm	0.8 to 1.4 Nm	0.8 to 1.4 Nm	
Power loss per circuit breaker at maximum rated current I <sub>n</sub> (the power losses of the undervoltage releases ("r" releases) must be observed if necessary) at three-phase symmetrical load)						
			<b>400 A:</b>	<b>600 A:</b>		
For plant protection	40 W	45 W	65 W	120 W	87/210 W	220/270/400 W
As isolating circuit breaker	40 W	45 W	65 W	120 W	87/210 W	220/270/400 W
For starter combinations	40 W	45 W	65 W	120 W	—	—
For motor protection	—	45 W	65 W	120 W	—	—
Permissible mounting position						
Arc spacing— suitable for reverse-feed applications	Yes (except HMCPE)	Yes	Yes	Yes	Yes	
<b>Auxiliary Switches</b>						
Rated thermal current I <sub>th</sub>	6A	6A	6A	6A	6A	
Rated making capacity	20 A	20 A	20 A	20 A	20 A	
	<b>AC-14</b>	<b>AC-14</b>	<b>AC-14</b>	<b>AC-15</b>	<b>AC-15</b>	
Rated operational voltage	230/400/600 V	230/400/600 V	230/400/600 V	600 V	600 V	
Rated operational current	6/3/0.25 A	6/3/0.25 A	6/3/0.25 A	6A	6A	
				<b>DC-13</b>	<b>DC-13</b>	
Rated operational voltage	125/250V	125/250V	125/250V	125/250V	125/250V	
Rated operational current	0.5/0.15 A	0.5/0.15 A	0.5/0.15 A	0.5/0.25 A	0.5/0.25 A	
Backup fuse	6/4/4 A	(4) 6/4/4 A	(4) 6/4/4 A	(4) 6/4/4 A	(4) 6/4/4 A	
Miniature circuit breaker	6/4 A	6/4 A	6/4 A	6/4 A	6/4 A	

## All Series G Frames, continued

	EG	JG	LG	NG	RG
<b>Releases</b>					
Undervoltage releases ("r" releases)					
Response voltage:					
Drop (breaker tripped) $U_s$	35–70%	35–70%	35–70%	35–70%	35–70%
Pickup (breaker may be switched on) $U_s$	85–110%	85–110%	85–110%	85–110%	85–110%
Power consumption in continuous operation at:					
50/60 Hz 12 Vac	—	—	—	1.9 VA	2.9 VA
50/60 Hz 24 Vac	0.72 VA	3.9 VA	3.9 VA	2.4 VA	3.1 VA
50/60 Hz 48–60 Vac	1.15–1.78 VA	2.5–3.8 VA	2.5–3.8 VA	2.3–4.1 VA	3.4–6.0 VA
50/60 Hz 110–127 Vac	0.96–1.25 VA	1.8–2.4 VA	1.8–2.4 VA	3.4–4.2 VA	3.3–3.8 VA
50/60 Hz 208–240 Vac	1.28–1.68 VA	2.7–3.8 VA	2.7–3.8 VA	4.8–6.5 VA	4.2–7.2 VA
50/60 Hz 380–500 Vac	2.2–3.9 VA	3.4–5.8 VA	3.4–5.8 VA	6.8–12.0 VA	3.8–10.0 VA
50/60 Hz 525–600 Vac	3.4–4.3 VA	3.4–4.3 VA	3.4–4.3 VA	—	—
12 Vdc	—	—	—	2.6W	3.4W
24 Vdc	0.70 W	3.1W	3.1W	3.6W	4.3W
48–60 Vdc	1.12–1.76W	2.0–3.1W	2.0–3.1W	3.5–5.5W	4.8–7.2W
110–125 Vdc	0.94–1.21W	1.6–2.2W	1.6–2.2W	2.9–3.6W	3.3–3.8W
220–250 Vdc	1.45–1.86W	3.1–4W	3.1–4W	4.8–6.3W	6.6–7.5W
Maximum opening time	50 ms	50 ms	50 ms	62 ms	62 ms
<b>Shunt Trips</b>					
Shunt trips ("f" releases)					
Response voltage:					
Pickup (breaker tripped) $U_s$	70–110%	70–110%	70–110%	70–110%	70–110%
Power consumption in (short time) at:					
50/60 Hz 24 Vac	10–41 VA	87–405 VA	87–405 VA	98–475 VA	612 VA
50/60 Hz 48–60 Vac	139–210 VA	710–1105 VA	710–1105 VA	24–50 VA	403–666 VA
50/60 Hz 48–127 Vac	—	—	—	—	—
50/60 Hz 110–240 Vac	83–360 VA	66–432 VA	66–432 VA	67–432 VA	396–1896 VA
50/60 Hz 380–440 Vac	—	127–188 VA	127–188 VA	76–110 VA	1596–2156 VA
50/60 Hz 380–600 Vac	418–1080 VA	—	—	—	—
50/60 Hz 480–600 Vac	—	34–60 VA	34–60 VA	19–42 VA	230–384 VA
12–24 Vdc	29–120 W	164–631 W	164–631 W	145–610 W	396 W
48–60 Vdc	475–720 W	830–1580 W	830–1580 W	67–102 W	341–528 W
110–125 Vdc	99–121 W	112–150 W	112–150 W	121–150 W	264–350 W
220–250 Vdc	—	40–58W	40–58 W	46–55 W	374–475 W
Maximum load duration	Interrupts automatically	Interrupts automatically	Interrupts automatically	Interrupts automatically	Interrupts automatically
Maximum opening time	50 ms	50 ms	50 ms	62 ms	62 ms
<b>Molded Case Switch (with High Magnetic Trip)</b>					
Unfused kAIC at 480 Vac (415 Vac)	65 (70)	65 (70)	65 (70)	65 (70)	65 (70)
Self-protected, will trip above	1250 for EG125; 1600 for EG160	2500	4000/6300	12,500	20,000



# 2.3

## Molded Case Circuit Breakers

### Series G

#### Dimensions and Weights

Approximate Dimensions in Inches (mm)

2

##### Series G—Frame EG, JG and LG

	EG			JG			LG		
	H	W	D	H	W	D	H	W	D
<b>Single-pole</b>	5.50 (139.7)	1.00 (25.4)	2.99 (76.0)	—	—	—	—	—	—
<b>Two-pole</b>	5.50 (139.7)	2.00 (50.8)	2.99 (76.0)	7.00 (177.8)	4.13 (105.0)	3.57 (87.4)	—	—	—
<b>Three-pole</b>	5.50 (139.7)	3.00 (76.2)	2.99 (76.0)	7.00 (177.8)	4.13 (105.0)	3.57 (87.4)	10.13 (258.0)	5.48 (140.0)	4.09 (104.0)
<b>Four-pole</b>	5.50 (139.7)	4.00 (101.6)	2.99 (76.0)	7.00 (177.8)	5.34 (135.6)	3.57 (87.4)	10.13 (258.0)	7.22 (183.0)	4.09 (104.0)

##### Series G—Frame NG and RG

	NG			RG		
	H	W	D	H	W	D
<b>Single-pole</b>	—	—	—	—	—	—
<b>Two-pole</b>	—	—	—	—	—	—
<b>Three-pole</b>	16.00 (406.0)	8.25 (210.0)	5.50 (140.0)	16.00 (406.0)	15.50 (394.0)	9.75 (229.0)
<b>Four-pole</b>	16.00 (406.0)	11.13 (280.0)	5.50 (140.0)	16.00 (406.0)	20.00 (508.0)	9.75 (229.0)

Approximate Shipping Weight in Lbs (kg)

##### Series G—Frame EG, JG and LG

	EG	JG	LG	NG	RG
<b>Single-pole</b>	0.85 (0.39)	—	—	—	—
<b>Two-pole</b>	1.57 (0.71)	11.3 (5.13)	—	—	—
<b>Three-pole</b>	2.28 (1.04)	5.06 (2.30) T/M 5.31 (2.41) ETU	12.36 (5.61) T/M 13.04 (5.92) ETU	46.8 (21.3)	103.0 (47.0)
<b>Four-pole</b>	2.85 (1.29)	6.76 (3.07) T/M 7.12 (3.23) ETU	16.27 (7.39) T/M 16.92 (7.68) ETU	62.0 (28.3)	118.4 (54.0)

EG-Frame (15–125 Amperes)



## EG-Frame (15–125 Amperes)

### Product Description

EG breaker is HACR rated.

## Contents

### Description

### Page

EG-Frame (15–125 Amperes)	
Catalog Number Selection . . . . .	<b>V4-T2-120</b>
Product Selection . . . . .	<b>V4-T2-121</b>
Accessories . . . . .	<b>V4-T2-130</b>
Technical Data and Specifications . . . . .	<b>V4-T2-131</b>
Dimensions and Weights. . . . .	<b>V4-T2-131</b>
JG-Frame (63–250 Amperes) . . . . .	<b>V4-T2-133</b>
LG-Frame (250–630 Amperes) . . . . .	<b>V4-T2-151</b>
NG-Frame (320–1200 Amperes) . . . . .	<b>V4-T2-169</b>
RG-Frame (800–2500 Amperes) . . . . .	<b>V4-T2-178</b>
Motor Circuit Protectors (MCP) . . . . .	<b>V4-T2-189</b>
Motor Protector Circuit Breakers (MPCB). . . . .	<b>V4-T2-193</b>
30 mA Ground Fault (Earth Leakage) Module. . . . .	<b>V4-T2-196</b>
Current Limiting Circuit Breaker Module . . . . .	<b>V4-T2-200</b>
High Instantaneous Circuit Breaker for Selective Coordination . . . . .	<b>V4-T2-205</b>
Special Features and Accessories. . . . .	<b>V4-T2-208</b>
Motor Operators . . . . .	<b>V4-T2-216</b>
Plug-In Blocks . . . . .	<b>V4-T2-218</b>
Drawout Cassette . . . . .	<b>V4-T2-219</b>

# 2.3

## Molded Case Circuit Breakers

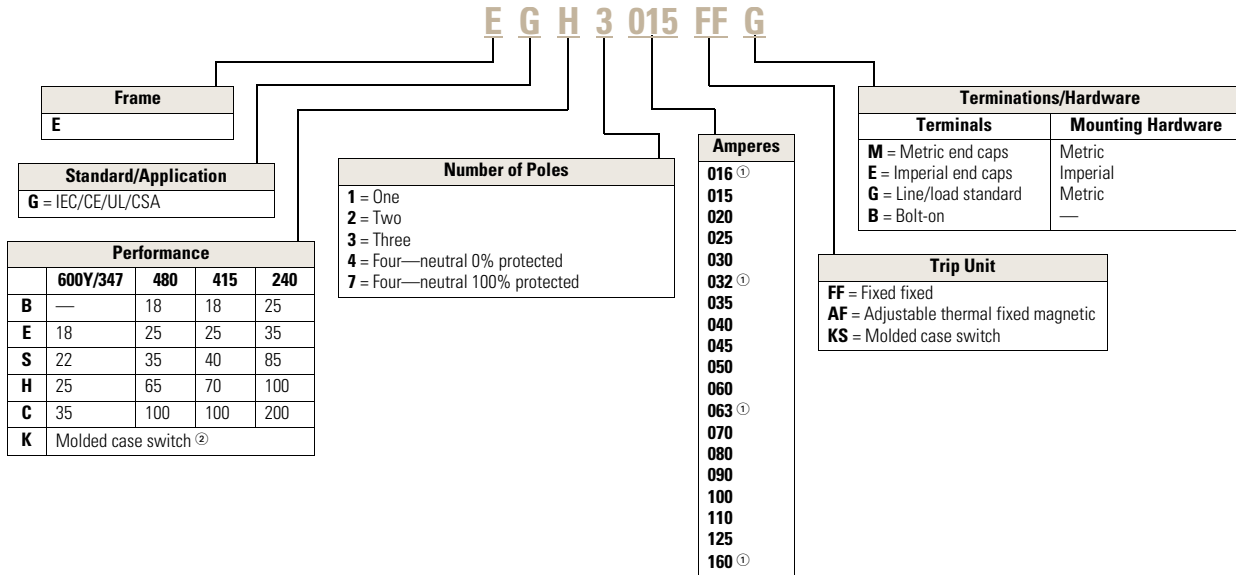
### Series G

2

#### Catalog Number Selection

This information is presented only as an aid to understanding catalog numbers. It is not to be used to build catalog numbers for circuit breakers or trip units.

#### Series G—EG-Frame (15–125 Amperes)



#### Notes

- <sup>①</sup> Cannot be UL rated.
- <sup>②</sup> Available only as 125 and 160 A sizes.

## Product Selection

Complete Breaker (Includes Frame, Trip Unit, Standard Terminals and Mounting Hardware) IC Rating at 415/480 Volts

EG-Frame



## EG-Frame—18/18

Maximum Continuous Amps at 40 °C ①	Single-Pole	Two-Pole	Three-Pole	Adjustable ② Thermal, Fixed Magnetic	Four-Pole ③	Adjustable ② Thermal, Fixed Magnetic
	Fixed Thermal, Fixed Magnetic Catalog Number	Fixed Thermal, Fixed Magnetic Catalog Number	Fixed Thermal, Fixed Magnetic Catalog Number	Fixed Thermal, Fixed Magnetic Catalog Number	Fixed Thermal, Fixed Magnetic Catalog Number	Fixed Thermal, Fixed Magnetic Catalog Number
15	EGB1015FFG	EGB2015FFG	EGB3015FFG	—	EGB4015FFG	—
16	EGB1016FFG	EGB2016FFG	EGB3016FFG	—	EGB4016FFG	—
20	EGB1020FFG	EGB2020FFG	EGB3020FFG	—	EGB4020FFG	EGB4020AFG
25	EGB1025FFG	EGB2025FFG	EGB3025FFG	EGB3025AFG	EGB4025FFG	EGB4025AFG
30	EGB1030FFG	EGB2030FFG	EGB3030FFG	—	EGB4030FFG	—
32	EGB1032FFG	EGB2032FFG	EGB3032FFG	EGB3032AFG	EGB4032FFG	EGB4032AFG
35	EGB1035FFG	EGB2035FFG	EGB3035FFG	—	EGB4035FFG	—
40	EGB1040FFG	EGB2040FFG	EGB3040FFG	EGB3040AFG	EGB4040FFG	EGB4040AFG
45	EGB1045FFG	EGB2045FFG	EGB3045FFG	—	EGB4045FFG	—
50	EGB1050FFG	EGB2050FFG	EGB3050FFG	EGB3050AFG	EGB4050FFG	EGB4050AFG
60	EGB1060FFG	EGB2060FFG	EGB3060FFG	—	EGB4060FFG	—
63	EGB1063FFG	EGB2063FFG	EGB3063FFG	EGB3063AFG	EGB4063FFG	EGB4063AFG
70	EGB1070FFG	EGB2070FFG	EGB3070FFG	—	EGB4070FFG	—
80	EGB1080FFG	EGB2080FFG	EGB3080FFG	EGB3080AFG	EGB4080FFG	EGB4080AFG
90	EGB1090FFG	EGB2090FFG	EGB3090FFG	—	EGB4090FFG	—
100	EGB1100FFG	EGB2100FFG	EGB3100FFG	EGB3100AFG	EGB4100FFG	EGB4100AFG
110	EGB1110FFG	EGB2110FFG	EGB3110FFG	—	EGB4110FFG	—
125	EGB1125FFG	EGB2125FFG	EGB3125FFG	EGB3125AFG	EGB4125FFG	EGB4125AFG
160	—	—	EGB3160FFG	EGB3160AFG	EGB4160FFG	EGB4160AFG

**Notes**

① 16, 32, 63 and 160 A are not UL listed ratings.

② Adjustable thermal are not UL listed.

③ Change the fourth digit to 7 for 100% neutral protection. Neutral is on the LH side.

# 2.3

## Molded Case Circuit Breakers

### Series G

EG-Frame—25/25 Single-Pole Unavailable

2

EG-Frame

EG-Frame—25/25



Maximum Continuous Amps at 40 °C <sup>①</sup>	Two-Pole		Three-Pole		Four-Pole <sup>③</sup>	
	Fixed Thermal, Fixed Magnetic Catalog Number	Fixed Thermal, Fixed Magnetic Catalog Number	Adjustable <sup>②</sup> Thermal, Fixed Magnetic Catalog Number	Adjustable <sup>②</sup> Thermal, Fixed Magnetic Catalog Number	Fixed Thermal, Fixed Magnetic Catalog Number	Adjustable <sup>②</sup> Thermal, Fixed Magnetic Catalog Number
15	EGE2015FFG	EGE3015FFG	—	—	EGE4015FFG	—
16	EGE2016FFG	EGE3016FFG	—	—	EGE4016FFG	—
20	EGE2020FFG	EGE3020FFG	—	—	EGE4020FFG	EGE4020AFG
25	EGE2025FFG	EGE3025FFG	EGE3025AFG	—	EGE4025FFG	EGE4025AFG
30	EGE2030FFG	EGE3030FFG	—	—	EGE4030FFG	—
32	EGE2032FFG	EGE3032FFG	EGE3032AFG	—	EGE4032FFG	EGE4032AFG
35	EGE2035FFG	EGE3035FFG	—	—	EGE4035FFG	—
40	EGE2040FFG	EGE3040FFG	EGE3040AFG	—	EGE4040FFG	EGE4040AFG
45	EGE2045FFG	EGE3045FFG	EGE3050AFG	—	EGE4045FFG	—
50	EGE2050FFG	EGE3050FFG	—	—	EGE4050FFG	EGE4050AFG
60	EGE2060FFG	EGE3060FFG	—	—	EGE4060FFG	—
63	EGE2063FFG	EGE3063FFG	EGE3063AFG	—	EGE4063FFG	EGE4063AFG
70	EGE2070FFG	EGE3070FFG	—	—	EGE4070FFG	—
80	EGE2080FFG	EGE3080FFG	EGE3080AFG	—	EGE4080FFG	EGE4080AFG
90	EGE2090FFG	EGE3090FFG	—	—	EGE4090FFG	—
100	EGE2100FFG	EGE3100FFG	EGE3100AFG	—	EGE4100FFG	EGE4100AFG
125	EGE2125FFG	EGE3125FFG	EGE3125AFG	—	EGE4125FFG	EGE4125AFG
160	—	EGE3160FFG	EGE3160AFG	—	EGE4160FFG	EGE4160AFG

**Notes**

- ① 16, 32, 63 and 160 A are not UL listed ratings.
- ② Adjustable thermal are not UL listed.
- ③ Change the fourth digit to 7 for 100% neutral protection. Neutral is on the LH side.

## EG-Frame

## EG-Frame—40/35



Maximum Continuous Amps at 40 °C <sup>①</sup>	Single-Pole	Two-Pole	Three-Pole	Adjustable Thermal, Fixed Magnetic <sup>②</sup> Catalog Number	Four-Pole <sup>③</sup>	Adjustable <sup>②</sup> Thermal, Fixed Magnetic Catalog Number
	Fixed Thermal, Fixed Magnetic Catalog Number	Fixed Thermal, Fixed Magnetic Catalog Number	Fixed Thermal, Fixed Magnetic Catalog Number		Fixed Thermal, Fixed Magnetic Catalog Number	
15	EGS1015FFG	EGS2015FFG	EGS3015FFG	—	EGS4015FFG	—
16	EGS1016FFG	EGS2016FFG	EGS3016FFG	—	EGS4016FFG	—
20	EGS1020FFG	EGS2020FFG	EGS3020FFG	—	EGS4020FFG	EGS4020AFG
25	EGS1025FFG	EGS2025FFG	EGS3025FFG	EGS3025AFG	EGS4025FFG	EGS4025AFG
30	EGS1030FFG	EGS2030FFG	EGS3030FFG	—	EGS4030FFG	—
32	EGS1032FFG	EGS2032FFG	EGS3032FFG	EGS3032AFG	EGS4032FFG	EGS4032AFG
35	EGS1035FFG	EGS2035FFG	EGS3035FFG	—	EGS4035FFG	—
40	EGS1040FFG	EGS2040FFG	EGS3040FFG	EGS3040AFG	EGS4040FFG	EGS4040AFG
45	EGS1045FFG	EGS2045FFG	EGS3045FFG	—	EGS4045FFG	—
50	EGS1050FFG	EGS2050FFG	EGS3050FFG	EGS3050AFG	EGS4050FFG	EGS4050AFG
60	EGS1060FFG	EGS2060FFG	EGS3060FFG	—	EGS4060FFG	—
63	EGS1063FFG	EGS2063FFG	EGS3063FFG	EGS3063AFG	EGS4063FFG	EGS4063AFG
70	EGS1070FFG	EGS2070FFG	EGS3070FFG	—	EGS4070FFG	—
80	EGS1080FFG	EGS2080FFG	EGS3080FFG	EGS3080AFG	EGS4080FFG	EGS4080AFG
90	EGS1090FFG	EGS2090FFG	EGS3090FFG	—	EGS4090FFG	—
100	EGS1100FFG	EGS2100FFG	EGS3100FFG	EGS3100AFG	EGS4100FFG	EGS4100AFG
125	EGS1125FFG	EGS2125FFG	EGS3125FFG	EGS3125AFG	EGS4125FFG	EGS4125AFG
160	—	—	EGS3160FFG	EGS3160AFG	EGS4160FFG	EGS4160AFG

**Notes**

- <sup>①</sup> 16, 32, 63 and 160 A are not UL listed ratings.  
<sup>②</sup> Adjustable thermal are not UL listed.  
<sup>③</sup> Change the fourth digit to 7 for 100% neutral protection. Neutral is on the LH side.

EG-Frame



## EG-Frame—70/65

Maximum Continuous Amps at 40 °C <sup>①</sup>	Single-Pole	Two-Pole	Three-Pole	Adjustable <sup>②</sup> Thermal, Fixed Magnetic Catalog Number	Four-Pole <sup>③</sup>	Adjustable <sup>②</sup> Thermal, Fixed Magnetic Catalog Number
	Fixed Thermal, Fixed Magnetic Catalog Number	Fixed Thermal, Fixed Magnetic Catalog Number	Fixed Thermal, Fixed Magnetic Catalog Number		Fixed Thermal, Fixed Magnetic Catalog Number	
15	EGH1015FFG	EGH2015FFG	EGH3015FFG	—	EGH4015FFG	—
16	EGH1016FFG	EGH2016FFG	EGH3016FFG	—	EGH4016FFG	—
20	EGH1020FFG	EGH2020FFG	EGH3020FFG	EGH3020AFG	EGH4020FFG	EGH4020AFG
25	EGH1025FFG	EGH2025FFG	EGH3025FFG	EGH3025AFG	EGH4025FFG	EGH4025AFG
30	EGH1030FFG	EGH2030FFG	EGH3030FFG	—	EGH4030FFG	—
32	EGH1032FFG	EGH2032FFG	EGH3032FFG	EGH3032AFG	EGH4032FFG	EGH4032AFG
35	EGH1035FFG	EGH2035FFG	EGH3035FFG	—	EGH4035FFG	—
40	EGH1040FFG	EGH2040FFG	EGH3040FFG	EGH3040AFG	EGH4040FFG	EGH4040AFG
45	EGH1045FFG	EGH2045FFG	EGH3045FFG	—	EGH4045FFG	EGH4050AFG
50	EGH1050FFG	EGH2050FFG	EGH3050FFG	EGH3050AFG	EGH4050FFG	—
60	EGH1060FFG	EGH2060FFG	EGH3060FFG	—	EGH4060FFG	—
63	EGH1063FFG	EGH2063FFG	EGH3063FFG	EGH3063AFG	EGH4063FFG	EGH4063AFG
70	EGH1070FFG	EGH2070FFG	EGH3070FFG	—	EGH4070FFG	—
80	EGH1080FFG	EGH2080FFG	EGH3080FFG	EGH3080AFG	EGH4080FFG	EGH4080AFG
90	EGH1090FFG	EGH2090FFG	EGH3090FFG	—	EGH4090FFG	—
100	EGH1100FFG	EGH2100FFG	EGH3100FFG	EGH3100AFG	EGH4100FFG	EGH4100AFG
125	EGH1125FFG	EGH2125FFG	EGH3125FFG	EGH3125AFG	EGH4125FFG	EGH4125AFG

**Notes**

- ① 16, 32, 63A are not UL listed ratings.
- ② Adjustable thermal are not UL listed.
- ③ Change the fourth digit to 7 for 100% neutral protection. Neutral is on the LH side.

EG-Frame—100/100 Current Limiting (Single-Pole and Two-Pole Unavailable)

EG-Frame



## EG-Frame — 100/100

Maximum Continuous Amps at 40 °C <sup>①</sup>	Three-Pole		Four-Pole 0% Protected Neutral <sup>③</sup>	
	Fixed Thermal, Fixed Magnetic Catalog Number	Adjustable <sup>②</sup> Thermal, Fixed Magnetic Catalog Number	Fixed Thermal, Fixed Magnetic Catalog Number	Adjustable <sup>②</sup> Thermal, Fixed Magnetic Catalog Number
15	EGC3015FFG	—	EGC7015FFG	—
16	EGC3016FFG	—	EGC7016FFG	—
20	EGC3020FFG	EGC3020AFG	EGC7020FFG	EGC7020AFG
25	EGC3025FFG	EGC3025AFG	EGC7025FFG	EGC7025AFG
30	EGC3030FFG	—	EGC7030FFG	—
32	EGC3032FFG	EGC3032AFG	EGC7032FFG	EGC7032AFG
35	EGC3035FFG	—	EGC7035FFG	—
40	EGC3040FFG	EGC3040AFG	EGC7040FFG	EGC7040AFG
45	EGC3045FFG	—	EGC7045FFG	—
50	EGC3050FFG	EGC3050AFG	EGC7050FFG	EGC7050AFG
60	EGC3060FFG	—	EGC7060FFG	—
63	EGC3063FFG	EGC3063AFG	EGC7063FFG	EGC7063AFG
70	EGC3070FFG	—	EGC7070FFG	—
80	EGC3080FFG	EGC3080AFG	EGC7080FFG	EGC7080AFG
90	EGC3090FFG	—	EGC7090FFG	—
100	EGC3100FFG	EGC3100AFG	EGC7100FFG	EGC7100AFG
125	EGC3125FFG	EGC3125AFG	EGC7125FFG	EGC7125AFG

Molded Case Switches <sup>④</sup>

Catalog Number

EGK3125KSG

EGK7125KSG

EGK3160KSG

EGK7160KSG

## Notes

- ① 16, 32, 63A are not UL listed ratings.
- ② Adjustable thermal is not UL listed.
- ③ Change the fourth digit to 7 for 100% neutral protection. Neutral is on LH side.
- ④ Molded case switches may open above 1250 A.

# 2.3

## Molded Case Circuit Breakers

### Series G

#### EG Bolt-On Complete Breaker (Includes Frame, Trip Unit and Mounting Hardware)

2

EG-Frame



#### EG-Frame—18 kAIC at 480 Vac

Maximum Continuous Amps at 40 °C	Single-Pole Fixed Thermal, Fixed Magnetic Catalog Number <sup>①</sup>	Two-Pole Fixed Thermal, Fixed Magnetic Catalog Number <sup>②</sup>	Three-Pole Fixed Thermal, Fixed Magnetic Catalog Number <sup>③</sup>
15	EGB1015FFB	EGB2015FFB	EGB3015FFB
20	EGB1020FFB	EGB2020FFB	EGB3020FFB
25	EGB1025FFB	EGB2025FFB	EGB3025FFB
30	EGB1030FFB	EGB2030FFB	EGB3030FFB
35	EGB1035FFB	EGB2035FFB	EGB3035FFB
40	EGB1040FFB	EGB2040FFB	EGB3040FFB
45	EGB1045FFB	EGB2045FFB	EGB3045FFB
50	EGB1050FFB	EGB2050FFB	EGB3050FFB
60	EGB1060FFB	EGB2060FFB	EGB3060FFB
70	EGB1070FFB	EGB2070FFB	EGB3070FFB
80	EGB1080FFB	EGB2080FFB	EGB3080FFB
90	EGB1090FFB	EGB2090FFB	EGB3090FFB
100	EGB1100FFB	EGB2100FFB	EGB3100FFB
110	EGB1110FFB	EGB2110FFB	EGB3110FFB
125	EGB1125FFB	EGB2125FFB	EGB3125FFB

EG-Frame



#### EG-Frame—35 kAIC at 480 Vac

Maximum Continuous Amps at 40 °C	Single-Pole Fixed Thermal, Fixed Magnetic Catalog Number <sup>①</sup>	Two-Pole Fixed Thermal, Fixed Magnetic Catalog Number <sup>②</sup>	Three-Pole Fixed Thermal, Fixed Magnetic Catalog Number <sup>③</sup>
15	EGS1015FFB	EGS2015FFB	EGS3015FFB
20	EGS1020FFB	EGS2020FFB	EGS3020FFB
25	EGS1025FFB	EGS2025FFB	EGS3025FFB
30	EGS1030FFB	EGS2030FFB	EGS3030FFB
35	EGS1035FFB	EGS2035FFB	EGS3035FFB
40	EGS1040FFB	EGS2040FFB	EGS3040FFB
45	EGS1045FFB	EGS2045FFB	EGS3045FFB
50	EGS1050FFB	EGS2050FFB	EGS3050FFB
60	EGS1060FFB	EGS2060FFB	EGS3060FFB
70	EGS1070FFB	EGS2070FFB	EGS3070FFB
80	EGS1080FFB	EGS2080FFB	EGS3080FFB
90	EGS1090FFB	EGS2090FFB	EGS3090FFB
100	EGS1100FFB	EGS2100FFB	EGS3100FFB
110	EGS1110FFB	EGS2110FFB	EGS3110FFB
125	EGS1125FFB	EGS2125FFB	EGS3125FFB

**Notes**

- ① For bulk pack 24, add suffix BP24 and order quantities of 24.
- ② For bulk pack 12, add suffix BP12 and order quantities of 12.
- ③ For bulk pack 8, add suffix BP8 and order quantities of 8.

## EG-Frame



## EG-Frame—65 kAIC at 480 Vac

Maximum Continuous Amps at 40 °C	Single-Pole Fixed Thermal, Fixed Magnetic Catalog Number <sup>①</sup>	Two-Pole Fixed Thermal, Fixed Magnetic Catalog Number <sup>②</sup>	Three-Pole Fixed Thermal, Fixed Magnetic Catalog Number <sup>③</sup>
15	EGH1015FFB	EGH2015FFB	EGH3015FFB
20	EGH1020FFB	EGH2020FFB	EGH3020FFB
25	EGH1025FFB	EGH2025FFB	EGH3025FFB
30	EGH1030FFB	EGH2030FFB	EGH3030FFB
35	EGH1035FFB	EGH2035FFB	EGH3035FFB
40	EGH1040FFB	EGH2040FFB	EGH3040FFB
45	EGH1045FFB	EGH2045FFB	EGH3045FFB
50	EGH1050FFB	EGH2050FFB	EGH3050FFB
60	EGH1060FFB	EGH2060FFB	EGH3060FFB
70	EGH1070FFB	EGH2070FFB	EGH3070FFB
80	EGH1080FFB	EGH2080FFB	EGH3080FFB
90	EGH1090FFB	EGH2090FFB	EGH3090FFB
100	EGH1100FFB	EGH2100FFB	EGH3100FFB
110	EGH1110FFB	EGH2110FFB	EGH3110FFB
125	EGH1125FFB	EGH2125FFB	EGH3125FFB

## Load Terminals

Maximum Breaker Amps	Terminal, Body Material	Wire Type	Metric Wire Range mm <sup>2</sup>	AWG Wire Range	(Package of Three Terminals) Catalog Number
<b>Standard Cu/Al Pressure Type Terminals</b>					
15–50	Aluminum	Cu/Al	2.5–50	#14–1/0	3TA125EF
60–125	Aluminum	Cu/Al	16–70	#6–3/0	3TA150EF

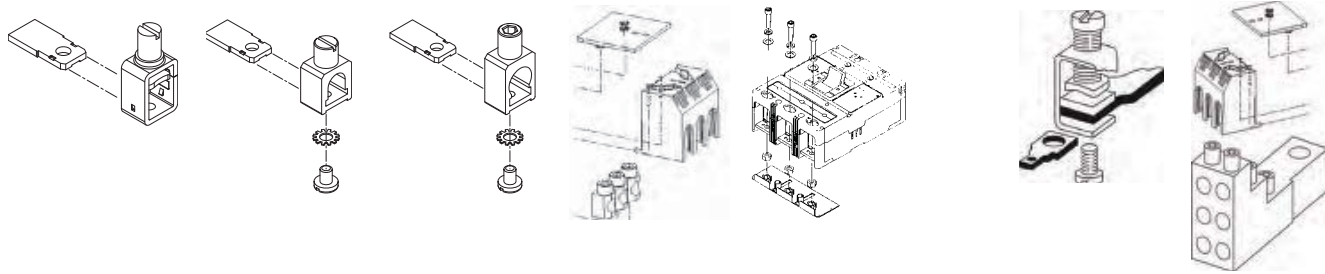
**Notes**

- ① For bulk pack 24, add suffix BP24 and order quantities of 24.  
 ② For bulk pack 12, add suffix BP12 and order quantities of 12.  
 ③ For bulk pack 8, add suffix BP8 and order quantities of 8.

#### Accessories Selection Guide and Ordering Information

2

#### EG-Frame



3T125EF	3TA125EF	3TA150EF	3TA160EFK	EF2RTWK, Two-Pole–Metric EF3RTWK, Three-Pole–Metric EF4RTWK, Four-Pole–Metric EF2RTDK, Two-Pole–Imperial EF3RTDK, Three-Pole–Imperial EF4RTDK, Four-Pole–Imperial	Control Wire Terminal Kit GCWTK	Multiwire Connectors
---------	----------	----------	-----------	--	---------------------------------------	-------------------------

#### Line and Load Terminals

Maximum Breaker Amps	Terminal Body Material	Wire Type	Metric Wire Range mm <sup>2</sup>	AWG Wire Range	(Package of Three Terminals) Catalog Number
<b>Standard Cu/Al Pressure Type Terminals</b>					
125	Steel	Al	4–6	#14-3/0	3T125EF ①
125	Steel	Cu	2.5–95	#14-3/0	3T125EF ①
125	Aluminum	Cu/Al	2.5–50	#14-1/0	3TA125EF
160	Aluminum	Cu/Al	16–70	#6-3/0	3TA150EF
160	Aluminum	Cu/Al	35–120	#3-250	3TA160EFK
160	Aluminum	Cu/Al	35–120	#3-250	4TA160EFK ②

EG-Frame circuit breakers and molded case switches have line and load terminals as standard equipment.

Insert collar enclosing conductor as shown. Locate nut on top of conductor and tighten securely with screw and washer.

**Caution:** Collar must surround conductor.

Insert collar enclosing conductor and center on extrusion. Tighten securely with screw and washer. Endcap kits are used on the E-Frame breaker line side to connect busbar or similar electrical connections. Includes hardware.

#### Notes

- ① Standard line and load terminals.
- ② Four-pole kit with four terminals.

### Control Wire Terminal Kit

	Catalog Number
Control wire terminal kit	5652B38G01
Package of 12—priced individually	

For use with steel or stainless steel standard line and load terminals only.

### Interphase Barriers

	Catalog Number
Interphase barriers	EIPBK
Package includes 2 barriers	

The interphase barrier is available for extended insulation between circuit breaker poles. Specify quantity when ordering.

### Base Mounting Hardware—DIN Rail Mounting

	Catalog Number
DIN rail adapter—single-pole	EF1DIN
DIN rail adapter—two-pole	EGDIN
DIN rail adapter—three- or four-pole	EF34DIN
Metal DIN rail adapter—three-pole	EGGDIN

Metric base mounting hardware is included with a circuit breaker or molded case switch. (Included with breaker.) If required separately, order S/N 8703C80G08.

**Note:** English mounting hardware kit can be supplied separate. Catalog number is **BMHE #6–32** x 3 inches for two-, three- and four-pole. Single-pole mounting hardware metric order **8703C80G11**. English hardware **8703C80G12**. Both sold in quantities of 100.

### Terminal Shields

The terminal shield is available for line terminal areas in three- and four-pole circuit breakers. Special terminal shields are also available for use when an electrical (solenoid) operator is mounted on the circuit breaker. The standard style number by pole for each terminal shield is for a package of 10 and is priced per each package. Special terminal shields are packaged individually.

### Terminal Shields—IP30 Protection

Number of Poles	Catalog Number
3	EFTS3K
4	EFTS4K

### Terminal End Covers (Gas Barrier)

The terminal end cover is available for three-pole circuit breakers only. Two conductor opening sizes are available. Specify quantity (one per circuit breaker) when ordering.

### Terminal End Covers

Conductor Opening Diameter Inches (mm)	Catalog Number
6.35 (0.25)	EEC3K
10.41 (0.41)	EEC4K

### Multiwire Connectors

Field-installed multiwire connectors for the load side (OFF) end terminals. They are used to distribute the load from the circuit breaker to multiple devices without the use of separate distribution terminal blocks.

Multiwire lug kits include mounting hardware, terminal shield insulators and tin-plated aluminum connectors to replace three mechanical load lugs. UL listed as used on the load side (OFF) end.

### EG-Frame Multiwire Connectors Ordering Information (Package of 3) <sup>Ⓢ</sup>

Maximum Amperes	Wires per Terminal	Wire Size Range AWG Cu	Kit Catalog Number
125	3	14–2	3TA125E3K
125	6	14–6	3TA125E6K

#### Note

<sup>Ⓢ</sup> For four-pole kit, change “3” at beginning of catalog number to “4.”

### Accessories

2

#### Allowable Accessory Combinations

Different combinations of accessories can be supplied, depending on the types of accessories and the number of poles in the circuit breaker.

#### EG-Frame Accessories

Description	Reference Page	Single-Pole	Two-Pole		Three-Pole			Four-Pole			Neutral
		Center	Left	Right	Left	Center	Right	Left	Center	Right	
<b>Internal Accessories (Only one internal accessory per pole)</b>											
Alarm lockout (Make/Break)	V4-T2-213	—	—	■	—	—	■	—	—	■	—
Alarm lockout (2Make/2Break)	V4-T2-213	—	—	■	—	—	■	—	—	■	—
Auxiliary switch (1A, 1B)	V4-T2-213	—	—	■	—	—	■	—	—	■	—
Auxiliary switch (2A, 2B)	V4-T2-213	—	—	■	—	—	■	—	—	■	—
Auxiliary switch and alarm switch combination	V4-T2-213	—	—	■	—	—	■	—	—	■	—
Shunt trip—standard	V4-T2-213	—	—	—	■	—	—	■	—	—	—
Undervoltage release mechanism	V4-T2-214	—	—	—	■	—	—	■	—	—	—
<b>External Accessories</b>											
End cap kit	V4-T2-129	—	●	●	●	●	●	●	●	●	●
Control wire terminal kit	V4-T2-129	●	●	●	●	●	●	●	●	●	●
Multiwire connectors	V4-T2-129	●	●	●	●	●	●	●	●	●	●
Base mounting hardware	V4-T2-129	●	●	●	●	●	●	●	●	●	●
Terminal shields	V4-T2-129	●	●	●	●	●	●	●	●	●	●
Terminal end covers	V4-T2-129	—	—	—	●	●	●	—	—	—	—
Interphase barriers	V4-T2-129	—	●	●	●	●	●	●	●	●	●
Non-padlockable handle block	V4-T2-211	■	■	—	—	■	—	—	■	—	—
Snap-on padlockable handle lock hasp	V4-T2-211	■	■	—	—	■	—	—	■	—	—
Padlockable handle lock hasp	V4-T2-211	—	—	■	□	—	□	□	—	□	—
Walking beam interlock—requires two breakers	V4-T2-211	—	—	—	●	●	●	●	●	●	●
Plug-in adapters	V4-T2-211	—	●	●	●	●	●	●	●	●	●
Electrical operator	V4-T2-211	—	—	—	●	●	●	—	—	—	—
Handle mechanisms	V4-T2-496	—	—	—	●	●	●	—	—	—	—
<b>Modifications (Refer to Eaton)</b>											
Moisture fungus treatment	V4-T2-209	●	●	●	●	●	●	●	●	●	●
Freeze-tested circuit breakers	—	●	●	●	●	●	●	●	●	●	●
Marine/naval application, UL 489 Supplement SA and SB	—	●	●	●	●	●	●	●	●	●	●

#### Legend

- Applicable in indicated pole position
- May be mounted on left or right pole—not both
- Accessory available/modification available

## Technical Data and Specifications

### UL 489/IEC 60947-2 Interrupting Capacity (Symmetrical Amperes) (kA) Ratings

Circuit Breaker Type	Number of Poles	Volts AC (50/60 Hz)										Volts DC <sup>①</sup>					
		220–240					380–415					690 <sup>②</sup>		125		250 <sup>③④</sup>	
		120	I <sub>CU</sub>	I <sub>CS</sub>	277	347	I <sub>CU</sub>	I <sub>CS</sub>	480	600Y/347	I <sub>CU</sub>	I <sub>CS</sub>	I <sub>CU</sub>	I <sub>CS</sub>	I <sub>CU</sub>	I <sub>CS</sub>	
EGB125	1	35	25	25	18	—	—	—	—	—	—	—	—	10	10	—	—
	2, 3, 4	—	25	25	—	—	18	18	18	—	—	—	—	—	—	10	10
EGE125	2, 3, 4	—	35	35	—	—	25	25	25	18	—	—	—	—	—	10	10
	1	100	85	43	35	22	—	—	—	—	—	—	—	35	35	—	—
EGS125	2, 3, 4	—	85	43	—	—	40	30	35	22	—	—	—	—	—	35	35
	1	200	100	50	65	25	—	—	—	—	—	—	—	42	42	—	—
EGH125	2, 3, 4	—	100	50	—	—	70	35	65	25	—	—	—	—	—	42	42
	3, 4	—	200	200	—	—	100	100	100	35	—	—	—	—	—	42	42
EGC125 <sup>⑤</sup>	3, 4	—	200	200	—	—	100	100	100	35	—	—	—	—	—	42	42
	1	100	85	43	35	22	—	—	—	—	—	—	—	35	35	—	—
EGB160 <sup>②</sup>	2, 3, 4	—	25	25	—	—	18	18	18	—	—	—	—	—	—	10	10
	1	100	85	43	35	22	—	—	—	—	—	—	—	35	35	—	—
EGE160 <sup>②</sup>	2, 3, 4	—	35	35	—	—	25	25	25	18	—	—	—	—	—	10	10
	1	100	85	43	35	22	—	—	—	—	—	—	—	35	35	—	—
EGS160 <sup>②</sup>	2, 3, 4	—	85	43	—	—	40	30	35	22	—	—	—	—	—	35	35
	1	200	100	50	65	25	—	—	—	—	—	—	—	42	42	—	—

### UL 489 Current Limiting Data

Frame	Circuit	I <sub>p</sub> (kA)	I <sup>2</sup> T (10 <sup>6</sup> A <sup>2</sup> S)
EGC	240 V/200 kA	24.5	0.6310
EGC	480 V/100 kA	24.5	0.6310
EGC	600 Y/35 kA	20.0	1.392

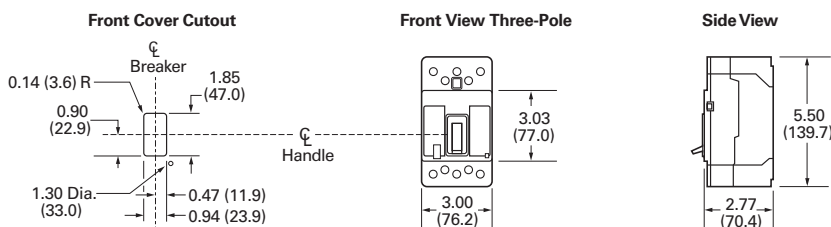
## Dimensions and Weights

Approximate Dimensions in Inches (mm)

### EG-Frame

Number of Poles	Width	Height	Depth
1	1.00 (25.4)	5.50 (139.7)	2.99 (75.9)
2	2.00 (50.8)	5.50 (139.7)	2.99 (75.9)
3	3.00 (76.2)	5.50 (139.7)	2.99 (75.9)
4	4.00 (101.6)	5.50 (139.7)	2.99 (75.9)

### EG-Frame



Approximate Shipping Weight in Lbs (kg)

### EG-Frame

EG Breaker Type	Number of Poles			
	1	2	3	4
EGB125	1.5 (0.68)	2.0 (0.91)	3.0 (1.36)	4.9 (1.82)

### Notes

- ① DC ratings apply to substantially non-inductive circuits.
- ② IEC only.
- ③ Two-pole circuit breaker, or two poles of three-pole circuit breaker.
- ④ Time constant is 3 milliseconds minimum at 10 kA and 8 milliseconds minimum at 42 kA.
- ⑤ Current limiting per UL 489.

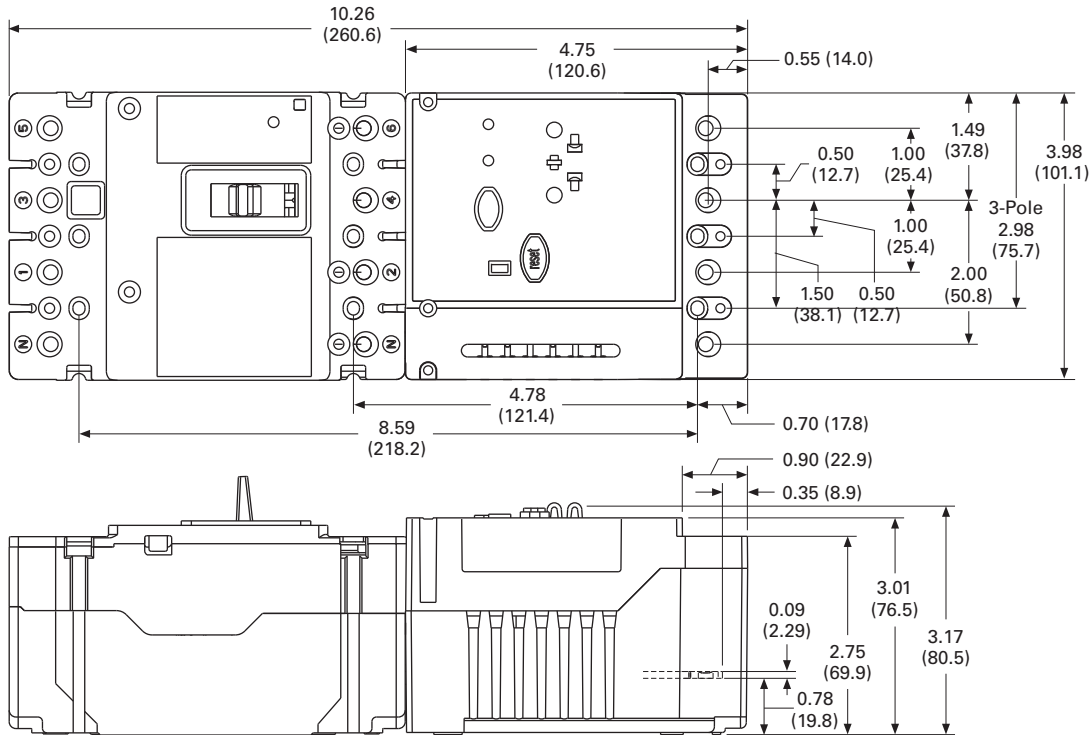
# 2.3

## Molded Case Circuit Breakers

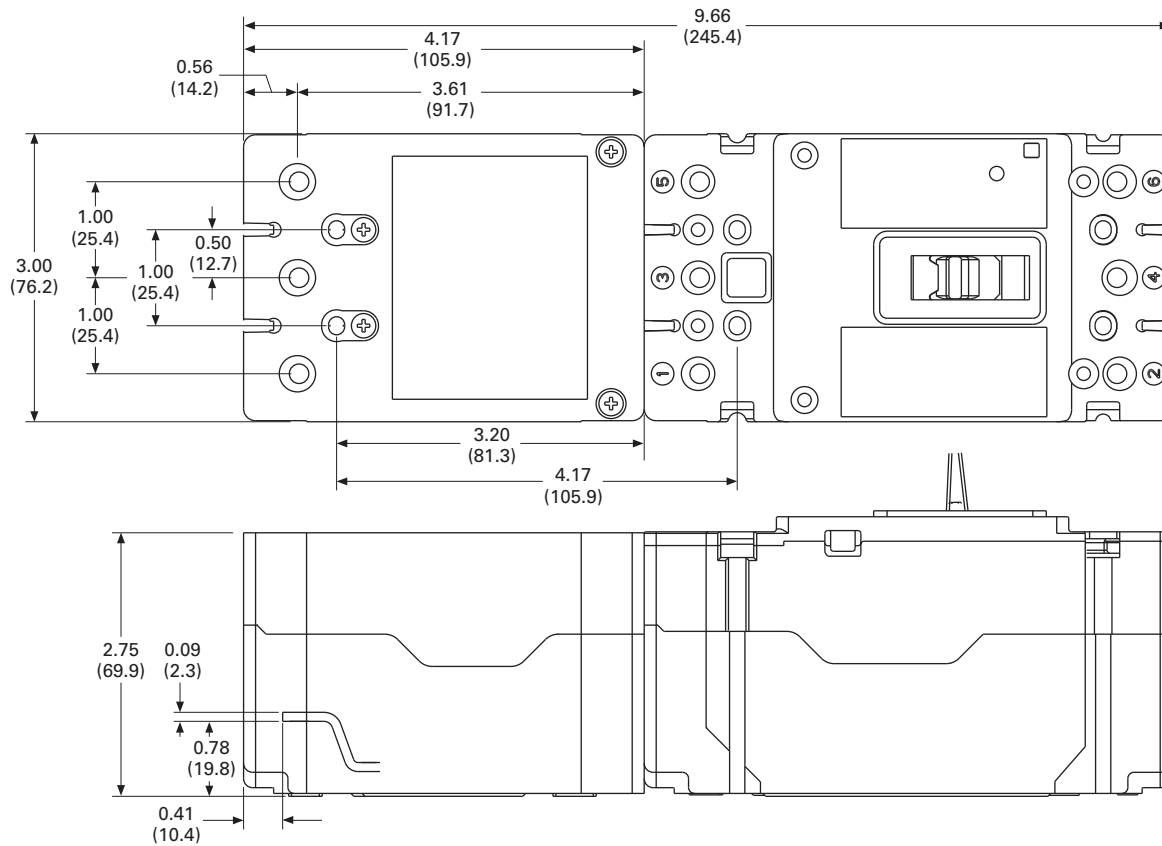
### Series G

#### EG-Frame With Earth Leakage Module

2



#### EG-Frame With Current Limiter Module



**JG-Frame (63–250 Amperes)**



### Contents

<i><b>Description</b></i>	<i><b>Page</b></i>
EG-Frame (15–125 Amperes) . . . . .	<b>V4-T2-119</b>
JG-Frame (63–250 Amperes)	
Catalog Number Selection . . . . .	<b>V4-T2-134</b>
Product Selection . . . . .	<b>V4-T2-135</b>
Accessories . . . . .	<b>V4-T2-146</b>
Technical Data and Specifications . . . . .	<b>V4-T2-147</b>
Dimensions and Weights . . . . .	<b>V4-T2-149</b>
LG-Frame (250–630 Amperes) . . . . .	<b>V4-T2-151</b>
NG-Frame (320–1200 Amperes) . . . . .	<b>V4-T2-169</b>
RG-Frame (800–2500 Amperes) . . . . .	<b>V4-T2-178</b>
Motor Circuit Protectors (MCP) . . . . .	<b>V4-T2-189</b>
Motor Protector Circuit Breakers (MPCB) . . . . .	<b>V4-T2-193</b>
30 mA Ground Fault (Earth Leakage) Module . . . . .	<b>V4-T2-196</b>
Current Limiting Circuit Breaker Module . . . . .	<b>V4-T2-200</b>
High Instantaneous Circuit Breaker for	
Selective Coordination . . . . .	<b>V4-T2-205</b>
Special Features and Accessories . . . . .	<b>V4-T2-208</b>
Motor Operators . . . . .	<b>V4-T2-216</b>
Plug-In Blocks . . . . .	<b>V4-T2-218</b>
Drawout Cassette . . . . .	<b>V4-T2-219</b>

### JG-Frame (63–250 Amperes)

#### Product Description

JG breaker is HACR rated.

# 2.3

## Molded Case Circuit Breakers

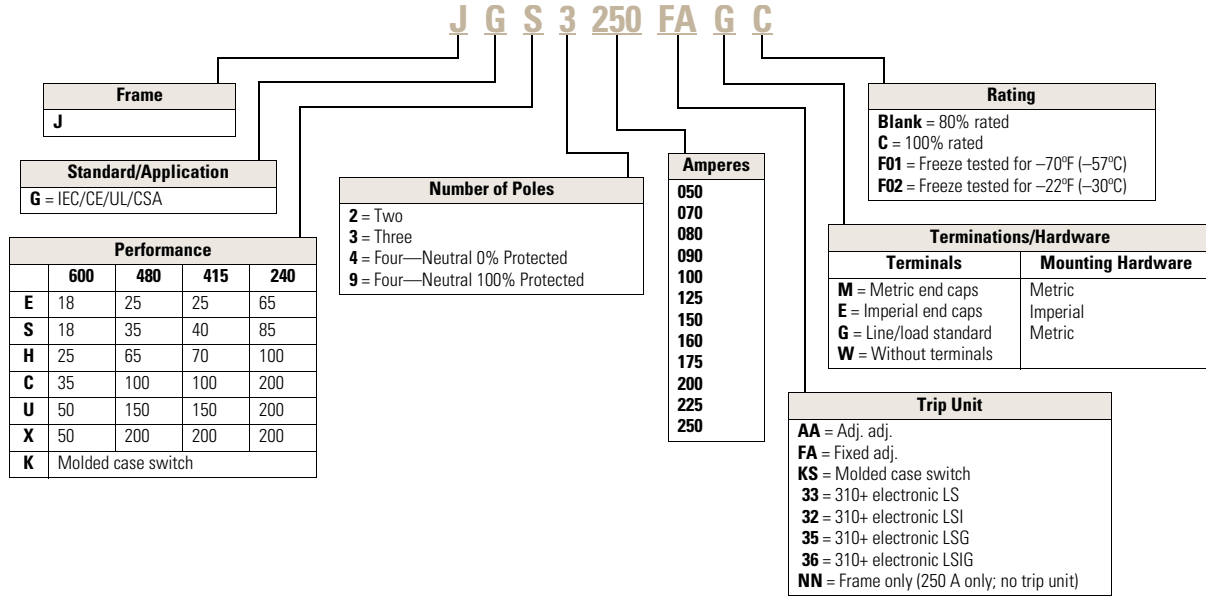
### Series G

#### Catalog Number Selection

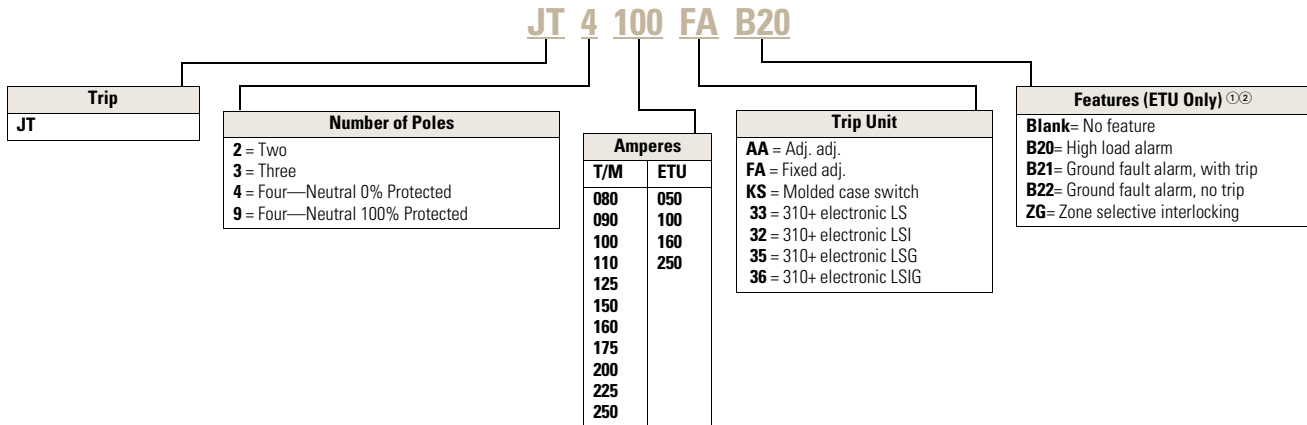
This information is presented only as an aid to understanding catalog numbers. It is not to be used to build catalog numbers for circuit breakers or trip units.

2

#### Series G—JG-Frame (63–250 Amperes)



#### Trip Unit



#### Notes

- ① Bxx features cannot be combined with other Bxx features.
- ② B21 and B22 available with LSG and LSIG trip units.

## Product Selection

**Complete Breaker (Includes Frame, Trip Unit, Standard Terminals and Mounting Hardware)—IC Rating at 415/480 Volts**

## JG-Frame



## JG-Frame—IEC/CE/UL/CSA—25/25

Maximum Continuous Amperes	Magnetic Range	Two-Pole	Three-Pole	Adjustable Thermal, Adjustable Magnetic <sup>①</sup>	Four-Pole 0% <sup>②</sup>	Adjustable Thermal, Adjustable Magnetic <sup>①</sup>
		Fixed Thermal, Adjustable Magnetic	Fixed Thermal, Adjustable Magnetic		Fixed Thermal, Adjustable Magnetic	
		Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
70	350–700	JGE2070FAG	JGE3070FAG	—	JGE4070FAG	—
90	450–900	JGE2090FAG	JGE3090FAG	—	JGE4090FAG	—
100	500–1000	JGE2100FAG	JGE3100FAG	JGE3100AAG	JGE4100FAG	JGE4100AAG
125	625–1250	JGE2125FAG	JGE3125FAG	JGE3125AAG	JGE4125FAG	JGE4125AAG
150	750–1550	JGE2150FAG	JGE3150FAG	—	JGE4150FAG	—
160	800–1600	—	—	JGE3160AAG	—	JGE4160AAG
175	875–1750	JGE2175FAG	JGE3175FAG	—	JGE4175FAG	—
200	1000–2000	JGE2200FAG	JGE3200FAG	JGE3200AAG	JGE4200FAG	JGE4200AAG
225	1125–2250	JGE2225FAG	JGE3225FAG	—	JGE4225FAG	—
250	1250–2500	JGE2250FAG	JGE3250FAG	JGE3250AAG	JGE4250FAG	JGE4250AAG

## JG-Frame



## JG-Frame—IEC/CE/UL/CSA—40/35, Two-Pole

Maximum Continuous Amperes	Magnetic Range	Two-Pole	Three-Pole	Adjustable Thermal, Adjustable Magnetic <sup>①</sup>	Four-Pole 0% <sup>②</sup>	Adjustable Thermal, Adjustable Magnetic <sup>①</sup>
		Fixed Thermal, Adjustable Magnetic	Fixed Thermal, Adjustable Magnetic		Fixed Thermal, Adjustable Magnetic	
		Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
70	350–700	JGS2070FAG	JGS3070FAG	—	JGS4070FAG	—
90	450–900	JGS2090FAG	JGS3090FAG	—	JGS4090FAG	—
100	500–1000	JGS2100FAG	JGS3100FAG	JGS3100AAG	JGS4100FAG	JGS4100AAG
125	625–1250	JGS2125FAG	JGS3125FAG	JGS3125AAG	JGS4125FAG	JGS4125AAG
150	750–1550	JGS2150FAG	JGS3150FAG	—	JGS4150FAG	—
160	800–1600	—	—	JGS3160AAG	—	JGS4160AAG
175	875–1750	JGS2175FAG	JGS3175FAG	—	JGS4175FAG	—
200	1000–2000	JGS2200FAG	JGS3200FAG	JGS3200AAG	JGS4200FAG	JGS4200AAG
225	1125–2250	JGS2225FAG	JGS3225FAG	—	JGS4225FAG	—
250	1250–2500	JGS2250FAG	JGS3250FAG	JGS3250AAG	JGS4250FAG	JGS4250AAG

## Notes

- <sup>①</sup> EC-EN 60947-2 only. Adjustment is 0.8 and 1.0.  
<sup>②</sup> 9 for 0–100% neutral protection. Neutral is on LH side.

JG-Frame



## JG-Frame—IEC/CE/UL/CSA—70/65

Maximum Continuous Amperes	Magnetic Range	Two-Pole Fixed Thermal, Adjustable Magnetic Catalog Number	Three-Pole Fixed Thermal, Adjustable Magnetic Catalog Number	Adjustable Thermal, Fixed Magnetic <sup>①</sup> Catalog Number	Four-Pole 0% <sup>②</sup> Fixed Thermal, Adjustable Magnetic Catalog Number	Adjustable Thermal, Fixed Magnetic <sup>①</sup> Catalog Number
70	350–700	JGH2070FAG	JGH3070FAG	—	JGH4070FAG	—
90	450–900	JGH2090FAG	JGH3090FAG	—	JGH4090FAG	—
100	500–1000	JGH2100FAG	JGH3100FAG	JGH3100AAG	JGH4100FAG	JGH4100AAG
125	625–1250	JGH2125FAG	JGH3125FAG	JGH3125AAG	JGH4125FAG	JGH4125AAG
150	750–1550	JGH2150FAG	JGH3150FAG	—	JGH4150FAG	—
160	800–1600	—	—	JGH3160AAG	—	JGH4160AAG
175	875–1750	JGH2175FAG	JGH3175FAG	—	JGH4175FAG	—
200	1000–2000	JGH2200FAG	JGH3200FAG	JGH3200AAG	JGH4200FAG	JGH4200AAG
225	1125–2250	JGH2225FAG	JGH3225FAG	—	JGH4225FAG	—
250	1250–2500	JGH2250FAG	JGH3250FAG	JGH3250AAG	JGH4250FAG	JGH4250AAG

**Notes**

<sup>①</sup> EC-EN 60947-2 only. Adjustment is 0.8 and 1.0.

<sup>②</sup> 9 for 0–100% neutral protection. Neutral is on LH side.

Two-Pole not available in IEC/CE/UL/CSA 100/100, 150/150

#### JG-Frame

#### JG-Frame—IEC/CE/UL/CSA—100/100, Current Limiting



Maximum Continuous Amperes	Magnetic Range	Three-Pole		Four-Pole 0% <sup>②</sup>	
		Fixed Thermal, Adjustable Magnetic Catalog Number	Adjustable Thermal, Adjustable Magnetic <sup>①</sup> Catalog Number	Fixed Thermal, Adjustable Magnetic Catalog Number	Adjustable Thermal, Adjustable Magnetic <sup>①</sup> Catalog Number
70	350–700	JGC3070FAG	—	JGC4070FAG	—
80	400–800	—	JGC3080AAG	—	JGC4080AAG
90	450–900	JGC3090FAG	—	JGC4090FAG	—
100	500–1000	JGC3100FAG	JGC3100AAG	JGC4100FAG	JGC4100AAG
125	625–1250	JGC3125FAG	JGC3125AAG	JGC4125FAG	JGC4125AAG
150	750–1550	JGC3150FAG	—	JGC4150FAG	—
160	800–1600	—	JGC3160AAG	—	JGC4160AAG
175	875–1750	JGC3175FAG	—	JGC4175FAG	—
200	1000–2000	JGC3200FAG	JGC3200AAG	JGC4200FAG	JGC4200AAG
225	1125–2250	JGC3225FAG	—	JGC4225FAG	—
250	1250–2500	JGC3250FAG	JGC3250AAG	JGC4250FAG	JGC4250AAG

#### JG-Frame

#### JG-Frame—IEC/CE/UL/CSA—150/150, Current Limiting



Maximum Continuous Amperes	Magnetic Range	Three-Pole		Four-Pole 0% <sup>②</sup>	
		Fixed Thermal, Adjustable Magnetic Catalog Number	Adjustable Thermal, Adjustable Magnetic <sup>①</sup> Catalog Number	Fixed Thermal, Adjustable Magnetic Catalog Number	Adjustable Thermal, Adjustable Magnetic <sup>①</sup> Catalog Number
70	350–700	JGU3070FAG	—	JGU4070FAG	—
80	400–800	—	JGU3080AAG	—	JGU4080AAG
90	450–900	JGU3090FAG	—	JGU4090FAG	—
100	500–1000	JGU3100FAG	JGU3100AAG	JGU4100FAG	JGU4100AAG
125	625–1250	JGU3125FAG	JGU3125AAG	JGU4125FAG	JGU4125AAG
150	750–1550	JGU3150FAG	—	JGU4150FAG	—
160	800–1600	—	JGU3160AAG	—	JGU4160AAG
175	875–1750	JGU3175FAG	—	JGU4175FAG	—
200	1000–2000	JGU3200FAG	JGU3200AAG	JGU4200FAG	JGU4200AAG
225	1125–2250	JGU3225FAG	—	JGU4225FAG	—
250	1250–2500	JGU3250FAG	JGU3250AAG	JGU4250FAG	JGU4250AAG

#### Notes

- ① EC-EN 60947-2 only. Adjustment is 0.8 and 1.0.
- ② 9 for 0–100% neutral protection. Neutral is on LH side.

# 2.3

## Molded Case Circuit Breakers

### Series G

Two-Pole not available in IEC/CE/UL/CSA 200/200

2

#### JG-Frame



#### JG-Frame—IEC/CE/UL/CSA 200/200, Current Limiting

Maximum Continuous Amperes	Magnetic Range	Three-Pole		Four-Pole <sup>②</sup>	
		Fixed Thermal, Adjustable Magnetic Catalog Number	Adjustable Thermal, Adjustable Magnetic <sup>①</sup> Catalog Number	Fixed Thermal, Adjustable Magnetic Catalog Number	Adjustable Thermal, Adjustable Magnetic <sup>①</sup> Catalog Number
70	350–700	JGX3070FAG	—	JGX4070FAG	—
80	400–800	—	JGX3080AAG	—	JGX4080AAG
90	450–900	JGX3090FAG	—	JGX4090FAG	—
100	500–1000	JGX3100FAG	JGX3100AAG	JGX4100FAG	JGX4100AAG
125	625–1250	JGX3125FAG	JGX3125AAG	JGX4125FAG	JGX4125AAG
150	750–1550	JGX3150FAG	—	JGX4150FAG	—
160	800–1600	—	JGX3160AAG	—	JGX4160AAG
175	875–1750	JGX3175FAG	—	JGX4175FAG	—
200	1000–2000	JGX3200FAG	JGX3200AAG	JGX4200FAG	JGX4200AAG
225	1125–2250	JGX3225FAG	—	JGX4225FAG	—
250	1250–2500	JGX3250FAG	JGX3250AAG	JGX4250FAG	JGX4250AAG

#### Molded Case Switches <sup>③</sup>

Catalog Number

JGK3250KSG

JGK7250KSG

#### Notes

- ① EC-EN 60947-2 only. Adjustment is 0.8 and 1.0.
- ② 9 for 0–100% neutral protection. Neutral is on LH side.
- ③ Molded case switches will trip above 2500 amperes.

## Frame—IC Rating at 415/480 Volts

Maximum Amperes	Two-Pole Catalog Number	Three-Pole Catalog Number	Four-Pole 0% Catalog Number
<b>25/25</b>			
250	JGE2250NN	JGE3250NN	JGE4250NN
<b>40/35</b>			
250	JGS2250NN	JGS3250NN	JGS4250NN
<b>70/65</b>			
250	JGH2250NN	JGH3250NN	JGH4250NN
<b>100/100 Current Limiting Per UL 489</b>			
250	—	JGC3250NN	JGC4250NN
<b>150/150 Current Limiting Per UL 489</b>			
250	—	JGU3250NN	JGU4250NN
<b>200/200 Current Limiting Per UL 489</b>			
250	—	JGX3250NN	JGX4250NN
<b>25/25 100% Rated Per UL 489 <sup>①</sup></b>			
250	—	JGE3250NNC	—
<b>40/35 100% Rated Per UL 489 <sup>①</sup></b>			
250	—	JGS3250NNC	—
<b>70/65 100% Rated Per UL 489 <sup>①</sup></b>			
250	—	JGH3250NNC	—

## Thermal-Magnetic Trip Unit

Ampere Rating	Range	Catalog Number		Range	Catalog Number		Catalog Number
70	350–700	JT2070FA	JT3070FA	—	—	JT4070FA	—
80	400–800	—	JT3080FA	JT3080AA <sup>②</sup>	64–100	—	JT4080AA <sup>②</sup>
90	450–900	JT2090FA	JT3090FA	—	—	JT4090FA	—
100	500–1000	JT2100FA	JT3100FA	JT3100AA <sup>②</sup>	80–100	JT4100FA	JT4100AA <sup>②</sup>
125	625–1250	JT2125FA	JT3125FA	JT3125AA <sup>②</sup>	100–125	JT4125FA	JT4125AA <sup>②</sup>
150	750–1550	JT2150FA	JT3150FA	—	—	JT4150FA	—
160	800–1600	—	—	JT3160AA <sup>②</sup>	128–160	—	JT4160AA <sup>②</sup>
175	875–1750	JT2175FA	JT3175FA	—	—	JT4175FA	—
200	1000–2000	JT2200FA	JT3200FA	JT3200AA <sup>②</sup>	160–200	JT4200FA	JT4200AA <sup>②</sup>
225	1125–2250	JT2225FA	JT3225FA	—	—	JT4225FA	—
250	1250–2500	JT2250FA	JT3250FA	JT3250AA <sup>②</sup>	200–250	JT4250FA	JT4250AA <sup>②</sup>

## Notes

<sup>①</sup> Components—100% rated frame.

<sup>②</sup> Adjustable thermal trip units are typically used in IEC markets and are not UL or CSA listed.

**310+ Electronic Trip Units**See 310+ adjustability specifications on **Page V4-T2-148**.

2

**JG 310+ Electronic Trip Units**

Ampere Rating	LS Catalog Number	LSI Catalog Number	LSG Catalog Number	LSIG Catalog Number	Neutral CT for LSG and LSIG <sup>①</sup> Catalog Number
<b>Three-Pole</b>					
50	JT305033	JT305032	JT305035	JT305036	JGFCT050
100	JT310033	JT310032	JT310035	JT310036	JGFCT100
160	JT316033	JT316032	JT316035	JT316036	JGFCT160
250	JT325033	JT325032	JT325035	JT325036	JGFCT250
<b>Four-Pole <sup>②③</sup></b>					
50	JT405033	JT405032	JT405035	JT405036	—
100	JT410033	JT410032	JT410035	JT410036	—
160	JT416033	JT416032	JT416035	JT416036	—
250	JT425033	JT425032	JT425035	JT425036	—

**310+ Electronic Trip Unit Accessories**

Description	Catalog Number
Electronic portable test kit	MTST230V
Trip unit tamper protection wire seal	5108A03H01
External neutral sensor (250 A)	JGFCT250
External neutral sensor (160 A)	JGFCT160
External neutral sensor (100 A)	JGFCT100
External neutral sensor (80 A)	JGFCT050
Breaker-mount cause-of-trip indication	TRIP-LED
Breaker-mount ammeter module	DIGIVIEW
Remote-mount ammeter module	DIGIVIEWR06

**Notes**

- ① For use on a three-pole breaker used in a four-wire system if ground fault protection for the neutral is required.
- ② Neutral protection 4 = 0%, 7 = 100% electronic trip unit neutral protection is not adjustable.
- ③ Four-pole breakers with LSG and LSIG trip units are only available with 0% neutral protection.

**Complete Breaker with 310+ Electronic Trip Units**See 310+ adjustability specifications on **Page V4-T2-148**.**IEC/UL/CSA—25/25**

Ampere Rating	LS Catalog Number	LSI Catalog Number	LSG Catalog Number	LSIG Catalog Number	Neutral CT for LSG and LSIG <sup>①</sup> Catalog Number
<b>Three-Pole</b>					
50	JGE305033G	JGE305032G	JGE305035G	JGE305036G	JGFCT050
100	JGE310033G	JGE310032G	JGE310035G	JGE310036G	JGFCT100
160	JGE316033G	JGE316032G	JGE316035G	JGE316036G	JGFCT160
250	JGE325033G	JGE325032G	JGE325035G	JGE325036G	JGFCT250
<b>Four-Pole <sup>②</sup></b>					
50	JGE405033G	JGE405032G	JGE405035G	JGE405036G	—
100	JGE410033G	JGE410032G	JGE410035G	JGE410036G	—
160	JGE416033G	JGE416032G	JGE416035G	JGE416036G	—
250	JGE425033G	JGE425032G	JGE425035G	JGE425036G	—

**IEC/UL/CSA—40/35**

Ampere Rating	LS Catalog Number	LSI Catalog Number	LSG Catalog Number	LSIG Catalog Number	Neutral CT for LSG and LSIG <sup>①</sup> Catalog Number
<b>Three-Pole</b>					
50	JGS305033G	JGS305032G	JGS305035G	JGS305036G	JGFCT050
100	JGS310033G	JGS310032G	JGS310035G	JGS310036G	JGFCT100
160	JGS316033G	JGS316032G	JGS316035G	JGS316036G	JGFCT160
250	JGS325033G	JGS325032G	JGS325035G	JGS325036G	JGFCT250
<b>Four-Pole <sup>②③</sup></b>					
50	JGS405033G	JGS405032G	JGS405035G	JGS405036G	—
100	JGS410033G	JGS410032G	JGS410035G	JGS410036G	—
160	JGS416033G	JGS416032G	JGS416035G	JGS416036G	—
250	JGS425033G	JGS425032G	JGS425035G	JGS425036G	—

**IEC/UL/CSA—70/65**

Ampere Rating	LS Catalog Number	LSI Catalog Number	LSG Catalog Number	LSIG Catalog Number	Neutral CT for LSG and LSIG <sup>①</sup> Catalog Number
<b>Three-Pole</b>					
50	JGH305033G	JGH305032G	JGH305035G	JGH305036G	JGFCT050
100	JGH310033G	JGH310032G	JGH310035G	JGH310036G	JGFCT100
160	JGH316033G	JGH316032G	JGH316035G	JGH316036G	JGFCT160
250	JGH325033G	JGH325032G	JGH325035G	JGH325036G	JGFCT250
<b>Four-Pole <sup>②</sup></b>					
50	JGH405033G	JGH405032G	JGH405035G	JGH405036G	—
100	JGH410033G	JGH410032G	JGH410035G	JGH410036G	—
160	JGH416033G	JGH416032G	JGH416035G	JGH416036G	—
250	JGH425033G	JGH425032G	JGH425035G	JGH425036G	—

**Notes**<sup>①</sup> Required for four-wire systems if neutral protection is required.<sup>②</sup> Neutral protection 4 = 0%, 7 = 100% electronic trip unit neutral protection is not adjustable.<sup>③</sup> Four-pole breakers with LSG and LSIG trip units are only available with 0% neutral protection.

## IEC/UL/CSA—100/100, Current Limiting Per UL 489

Ampere Rating	LS Catalog Number	LSI Catalog Number	LSG Catalog Number	LSIG Catalog Number	Neutral CT for LSG and LSIG <sup>①</sup> Catalog Number
<b>Three-Pole</b>					
50	JGC305033G	JGC305032G	JGC305035G	JGC305036G	JGFCT050
100	JGC310033G	JGC310032G	JGC310035G	JGC310036G	JGFCT100
160	JGC316033G	JGC316032G	JGC316035G	JGC316036G	JGFCT160
250	JGC335033G	JGC325032G	JGC325035G	JGC325036G	JGFCT250
<b>Four-Pole <sup>②</sup></b>					
50	JGC405033G	JGC405032G	JGC405035G	JGC405036G	—
100	JGC410033G	JGC410032G	JGC410035G	JGC410036G	—
160	JGC416033G	JGC416032G	JGC416035G	JGC416036G	—
250	JGC435033G	JGC425032G	JGC425035G	JGC425036G	—

## IEC/UL/CSA—150/150, Current Limiting Per UL 489

Ampere Rating	LS Catalog Number	LSI Catalog Number	LSG Catalog Number	LSIG Catalog Number	Neutral CT for LSG and LSIG <sup>①</sup> Catalog Number
<b>Three-Pole</b>					
50	JGU305033G	JGU305032G	JGU305035G	JGU305036G	JGFCT050
100	JGU310033G	JGU310032G	JGU310035G	JGU310036G	JGFCT100
160	JGU316033G	JGU316032G	JGU316035G	JGU316036G	JGFCT160
250	JGU335033G	JGU325032G	JGU325035G	JGU325036G	JGFCT250
<b>Four-Pole <sup>②③</sup></b>					
50	JGU405033G	JGU405032G	JGU405035G	JGU405036G	—
100	JGU410033G	JGU410032G	JGU410035G	JGU410036G	—
160	JGU416033G	JGU416032G	JGU416035G	JGU416036G	—
250	JGU435033G	JGU425032G	JGU425035G	JGU425036G	—

## IEC/UL/CSA—200/200, Current Limiting Per UL 489

Ampere Rating	LS Catalog Number	LSI Catalog Number	LSG Catalog Number	LSIG Catalog Number	Neutral CT for LSG and LSIG <sup>①</sup> Catalog Number
<b>Three-Pole</b>					
50	JGX305033G	JGX305032G	JGX305035G	JGX305036G	JGFCT050
100	JGX310033G	JGX310032G	JGX310035G	JGX310036G	JGFCT100
160	JGX316033G	JGX316032G	JGX316035G	JGX316036G	JGFCT160
250	JGX325033G	JGX325032G	JGX325035G	JGX325036G	JGFCT250
<b>Four-Pole <sup>②</sup></b>					
50	JGX405033G	JGX405032G	JGX405035G	JGX405036G	—
100	JGX410033G	JGX410032G	JGX410035G	JGX410036G	—
160	JGX416033G	JGX416032G	JGX416035G	JGX416036G	—
250	JGX425033G	JGX425032G	JGX425035G	JGX425036G	—

**Notes**

- ① Required for four-wire systems if neutral protection is required.  
 ② Neutral protection 4 = 0%, 7 = 100% electronic trip unit neutral protection is not adjustable.  
 ③ Four-pole breakers with LSG and LSIG trip units are only available with 0% neutral protection.

**JG 100% Rated Circuit Breaker—Thermal-Magnetic Trip Unit****Complete Breaker (Includes Frame, Trip Unit, Standard Terminals and Mounting Hardware)—IC Rating at 415/480 Volts****JG-Frame****JG-Frame—IEC/CE/UL/CSA—25/25**

Maximum Continuous Amperes	Magnetic Range	Three-Pole
		Fixed Thermal, Adjustable Magnetic Catalog Number
70	350–700	<b>JGE3070FAGC</b>
90	450–900	<b>JGE3090FAGC</b>
100	500–1000	<b>JGE3100FAGC</b>
125	625–1250	<b>JGE3125FAGC</b>
150	750–1550	<b>JGE3150FAGC</b>
160	800–1600	—
175	875–1750	<b>JGE3175FAGC</b>
200	1000–2000	<b>JGE3200FAGC</b>
225	1125–2250	<b>JGE3225FAGC</b>
250	1250–2500	<b>JGE3250FAGC</b>

**JG-Frame—IEC/CE/UL/CSA—70/65**

Maximum Continuous Amperes	Magnetic Range	Three-Pole
		Fixed Thermal, Adjustable Magnetic Catalog Number
70	350–700	<b>JGH3070FAGC</b>
90	450–900	<b>JGH3090FAGC</b>
100	500–1000	<b>JGH3100FAGC</b>
125	625–1250	<b>JGH3125FAGC</b>
150	750–1550	<b>JGH3150FAGC</b>
160	800–1600	—
175	875–1750	<b>JGH3175FAGC</b>
200	1000–2000	<b>JGH3200FAGC</b>
225	1125–2250	<b>JGH3225FAGC</b>
250	1250–2500	<b>JGH3250FAGC</b>

**JG-Frame—IEC/CE/UL/CSA—40/35**

Maximum Continuous Amperes	Magnetic Range	Three-Pole
		Fixed Thermal, Adjustable Magnetic Catalog Number
70	350–700	<b>JGS3070FAGC</b>
90	450–900	<b>JGS3090FAGC</b>
100	500–1000	<b>JGS3100FAGC</b>
125	625–1250	<b>JGS3125FAGC</b>
150	750–1550	<b>JGS3150FAGC</b>
160	800–1600	—
175	875–1750	<b>JGS3175FAGC</b>
200	1000–2000	<b>JGS3200FAGC</b>
225	1125–2250	<b>JGS3225FAGC</b>
250	1250–2500	<b>JGS3250FAGC</b>

# 2.3

## Molded Case Circuit Breakers

### Series G

#### JG 100% Rated 310+ Electronic Trip Unit Circuit Breaker

See 310+ adjustability specifications on **Page V4-T2-148**.

2

#### IEC/UL/CSA—25/25

Ampere Rating	LS Catalog Number	LSI Catalog Number	LSG Catalog Number	LSIG Catalog Number	Neutral CT for LSG and LSIG <sup>①</sup> Catalog Number
50	JGE305033GC	JGE305032GC	JGE305035GC	JGE305036GC	JGFCT050
100	JGE310033GC	JGE310032GC	JGE310035GC	JGE310036GC	JGFCT100
160	JGE316033GC	JGE316032GC	JGE316035GC	JGE316036GC	JGFCT160
250	JGE325033GC	JGE325032GC	JGE325035GC	JGE325036GC	JGFCT250

#### IEC/UL/CSA—40/35

Ampere Rating	LS Catalog Number	LSI Catalog Number	LSG Catalog Number	LSIG Catalog Number	Neutral CT for LSG and LSIG <sup>①</sup> Catalog Number
50	JGS305033GC	JGS305032GC	JGS305035GC	JGS305036GC	JGFCT050
100	JGS310033GC	JGS310032GC	JGS310035GC	JGS310036GC	JGFCT100
160	JGS316033GC	JGS316032GC	JGS316035GC	JGS316036GC	JGFCT160
250	JGS325033GC	JGS325032GC	JGS325035GC	JGS325036GC	JGFCT250

#### IEC/UL/CSA—70/65

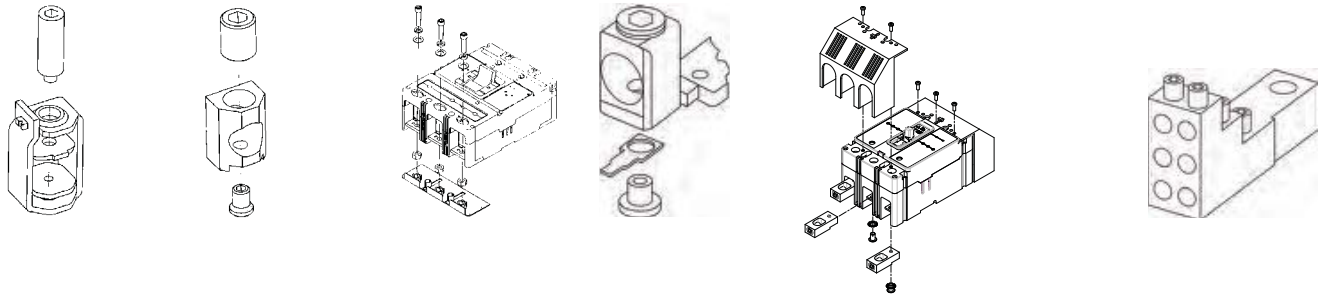
Ampere Rating	LS Catalog Number	LSI Catalog Number	LSG Catalog Number	LSIG Catalog Number	Neutral CT for LSG and LSIG <sup>①</sup> Catalog Number
50	JGH305033GC	JGH305032GC	JGH305035GC	JGH305036GC	JGFCT050
100	JGH310033GC	JGH310032GC	JGH310035GC	JGH310036GC	JGFCT100
160	JGH316033GC	JGH316032GC	JGH316035GC	JGH316036GC	JGFCT160
250	JGH325033GC	JGH325032GC	JGH325035GC	JGH325036GC	JGFCT250

**Note**

<sup>①</sup> Required for four-wire systems if neutral protection is required.

Accessories Selection Guide and Ordering Information

JG-Frame



T250FJ	TA250FJ	Endcap Kit	Control Wire Terminal Kit	Rear Fed Terminals	Multiwire Connectors
--------	---------	------------	---------------------------	--------------------	----------------------

Load and Line Terminals

Maximum Breaker Amperes	Terminal Body Material	Wire Type	Metric Wire Range mm <sup>2</sup>	AWG Wire Range/ Number of Conductors	Catalog Number
<b>Standard Pressure Type Terminals</b>					
250	Stainless steel	Cu	25–185	#4–350 (1)	T250FJ ①
250	Aluminum	Cu/Al	10–185	#8–350 (1)	TA250FJ ①②

JG-Frame circuit breakers include aluminum terminals TA250FJ as standard. When optional stainless steel only terminals are required, order by catalog number.

Endcap Kits

Number of Poles	Catalog Number	
	Metric	Imperial
3	FJ3RTWK	FJ3RTDK
4	FJ4RTWK	FJ4RTDK

Endcap kits are used on J250-Frame breaker to connect busbar or similar electrical connections. Includes hardware.

Control Wire Terminal Kit

Description	Catalog Number
Package of 14 (priced individually)	FJCWTK

For use with aluminum or copper terminals only.

Rear Fed Terminals

Maximum Amperes	Wire Size Range AWG Cu	Catalog Number
250	#4–350 kcmil	TA250JGRF
		3TA250JGRF

Rear fed terminals allow the cable to connect to the breaker from the back instead of the top. Terminal shields or interphase barriers are included with each rear fed terminal kit (depending on frame size). When catalog number starts with a 3, it indicates a kit with three terminals in each kit. Catalog number beginning with a TA indicates one terminal.

Base Mounting Hardware

Base mounting hardware is included with a circuit breaker or molded case switch. (Included with breaker.) If required separately, order 66A2546G02.

Terminal Shields IP30

Location	Number of Poles	Catalog Number
Line or Load	2, 3	FJTS3K
	4	FJTS4K

Interphase Barriers

Number of Poles	Catalog Number
3	FJIPBK ③
4	FJIPBK4 ③

Multiwire Connectors

Field-installed multiwire connectors for the load side (OFF) end terminals are used to distribute the load from the circuit breaker to multiple devices without the use of separate distribution terminal blocks.

Multiwire lug kits include terminal shield, mounting hardware, insulators and tin-plated aluminum connectors to replace three mechanical load lugs. UL listed as used on the load side (OFF) end.

JG-Frame Multiwire Connectors Ordering Information (Package of 3)

Maximum Amperes	Wires per Terminal	Wire Size Range AWG Cu	Kit Catalog Number
250	3	14–2	3TA250FJ3
250	6	14–6	3TA250FJ6

Notes

- ① Individually packed.
- ② Standard line and load.
- ③ Individually priced.

## Accessories

2

**Allowable Accessory Combinations**

Different combinations of accessories can be supplied, depending on the types of accessories and the number of poles in the circuit breaker.

**JG-Frame Accessories**

Description	Reference Page	Two- and Three-Pole			Four-Pole			
		Left	Center	Right	Left	Center	Right	Neutral
<b>Internal Accessories (Only one internal accessory per pole)</b>								
Alarm lockout (Make/Break)	V4-T2-213	—	—	■	—	—	■	—
Auxiliary switch (1A, 1B)	V4-T2-213	—	—	■	—	—	■	—
Auxiliary switch (2A, 2B)	V4-T2-213	—	—	■	—	—	■	—
Auxiliary switch and alarm switch combination	V4-T2-213	—	—	■	—	—	■	—
Shunt trip—standard	V4-T2-213	■	—	—	■	—	—	—
Undervoltage release mechanism	V4-T2-214	■	—	—	■	—	—	—
<b>External Accessories</b>								
End cap kit	V4-T2-145	●	●	●	●	●	●	●
Control wire terminal kit	V4-T2-145	●	●	●	●	●	●	●
Rear fed terminals	V4-T2-145	●	●	●	●	●	●	●
Multiwire connectors	V4-T2-145	●	●	●	●	●	●	●
Base mounting hardware	V4-T2-145	●	●	●	●	●	●	●
Interphase barriers	V4-T2-145	●	●	●	●	●	●	●
Padlockable handle block	V4-T2-211	—	■	—	—	■	—	—
Padlockable handle lock hasp	V4-T2-211	□	—	□	□	—	□	—
Key interlock kit	V4-T2-211	□	—	□	□	—	□	—
Sliding bar interlock—requires two breakers	V4-T2-211	●	●	●	—	—	—	—
Electrical operator	V4-T2-211	●	●	●	●	●	●	●
Plug-in adapters	V4-T2-211	●	●	●	●	●	●	●
Handle mechanisms	V4-T2-496	●	●	●	●	●	●	●
Earth leakage/ground fault protector	V4-T2-196	●	●	●	●	●	●	●
Drawout cassette	V4-T2-219	●	●	●	●	●	●	●
Digitrip 310+ test kit	V4-T2-140	●	●	●	●	●	●	●
Ammeter/cause of trip display	V4-T2-210	●	●	●	●	●	●	●
Cause of trip LED module	V4-T2-210	●	●	●	●	●	●	●
<b>Modifications (Refer to Eaton)</b>								
Moisture fungus treatment	V4-T2-209	●	●	●	●	●	●	●
Freeze-tested circuit breakers	—	●	●	●	●	●	●	●
Marine/naval application, UL 489 supplement SA and SB	①	●	●	●	●	●	●	●

**Legend**

- Applicable in indicated pole position
- May be mounted on left or right pole—not both
- Accessory available/modification available

**Note**

① Contact Eaton.

## Technical Data and Specifications

### UL 489/IEC 60947-2 Interrupting Capacity (Symmetrical Amperes) (kA) Ratings

Circuit Breaker Type	Number of Poles	Volts AC (50/60 Hz)								Volts DC <sup>①</sup>
		220–240		380–415		480	600	690 <sup>②</sup>		250 <sup>②③</sup>
		I <sub>cu</sub>	I <sub>cs</sub>	I <sub>cu</sub>	I <sub>cs</sub>			I <sub>cu</sub>	I <sub>cs</sub>	
JGE250	2, 3, 4	65	65	25	25	25	18	12	6	10
JGS250	2, 3, 4	85	85	40	40	35	18	12	6	22
JGH250	2, 3, 4	100	100	70	70	65	25	14	7	22
JGC250 <sup>④</sup>	3, 4	200	200	100	100	100	35	16	12	42
JGU250 <sup>④</sup>	3, 4	200	200	150	150	150	50	18	14	50
JGX250 <sup>④</sup>	3, 4	200	200	200	200	200	50	18	14	50

### UL 489 Current Limiting Data

Frame	Circuit	I <sub>p</sub> (kA)	I <sup>2</sup> T (10 <sup>6</sup> A <sup>2</sup> S)
JGC	240 V/200 kA	45.1	1.820
JGC	480 V/100 kA	45.1	1.820
JGC	600 V/35 kA	32.8	2.140
JGU	240 V/200 kA	45.1	1.820
JGU	480 V/150 kA	45.1	1.820
JGU	600 V/50 kA	32.8	2.140
JGX	240 V/200 kA	45.1	1.820
JGX	480 V/200 kA	45.1	1.820
JGX	600 V/50 kA	32.8	2.140

### JG 310+ Specifications

Description	Specification
Trip Unit Type	Digitrip RMS 310+
<b>Breaker Type</b>	
Frame designation	JG
Frames available	50 A, 100 A, 160 A 250 A
Continuous current range (A)	20–250A
Ground fault pickup (A)	10–250A
Interrupting capacities at 480 Vac (kAIC)	35, 65, 100, 150, 200
100% rated	Yes
<b>Protection</b>	
Ordering options	LS, LSI, LSG, LSIG
Arcflash reduction maintenance system (or maintenance mode)	No
Interchangeable trip unit	Yes
High load alarm (suffix B20) <sup>⑤</sup>	Yes
Ground fault alarm with trip (suffix B21) <sup>⑤</sup>	Yes
Ground fault alarm, no trip (suffix B22) <sup>⑤</sup>	Yes
Zone selective interlocking (suffix ZG)	LSI, LSIG
Cause of trip indication	Yes
Thru-cover accessories	Yes

#### Notes

- ① DC ratings apply to substantially non-inductive circuits.
- ② Two-pole circuit breaker, or two poles of three-pole circuit breaker.
- ③ Time constant is 3 milliseconds minimum at 10 kA and 8 milliseconds minimum at 22 kA.
- ④ Current limiting per UL 489.
- ⑤ B2x suffixes cannot be combined with B2x suffixes.

## JG 310+ Adjustability Specifications

2

310+ Settings		JG Frame			
		50 A	100 A	160 A	250 A
$I_r$ = continuous current or long delay pickup (amperes) (All 310+)	$I_r$				
	A	20	40	63	100
	B	20	45	80	125
	C	25	50	90	150
	D	30	63	100	160
	E	32	70	110	175
	F	40	80	125	200
	G	45	90	150	225
	H (= $I_n$ )	50	100	160	250
$t_r$ = long delay time (seconds) (All 310+)	Position 1	2	2	2	2
	Position 2	4	4	4	4
	Position 3	7	7	7	7
	Position 4	10	10	10	10
	Position 5	12	12	12	12
	Position 6	15	15	15	15
	Position 7	20	20	20	20
	Position 8	24	24	24	24
$I_{sd}$ (x $I_r$ ) = short delay pickup (All 310+)	Position 1	2x	2x	2x	2x
	Position 2	3x	3x	3x	3x
	Position 3	4x	4x	4x	4x
	Position 4	5x	5x	5x	5x
	Position 5	6x	6x	6x	6x
	Position 6	7x	7x	7x	7x
	Position 7	8x	8x	8x	8x
	Position 8	10x	10x	10x	10x
	Position 9	14x	14x	14x	14x
$t_{sd}$ = short delay time $I^2t$ (milliseconds) (LS, LSG)	Fixed	67 at10x	67 at10x	67 at10x	67 at10x
$t_{sd}$ = short delay time flat (milliseconds) (LSI, LSIG)	Position 1	Inst	Inst	Inst	Inst
	Position 2	120	120	120	120
	Position 3	300	300	300	300
$I_g$ = ground fault pickup (amperes) (LSG, LSIG)	Position 1	10	20	32	50
	Position 2	15	30	48	75
	Position 3	20	40	64	100
	Position 4	30	60	96	150
	Position 5	40	80	128	200
	Position 6	50	100	160	250
$t_g$ = ground fault delay time (milliseconds) (LSG, LSIG)	Position 1	Inst	Inst	Inst	Inst
	Position 2	120	120	120	120
	Position 3	300	300	300	300
Independently Adjustable Instantaneous ( $I_i$ ) setting <sup>①</sup>		N/A			
Maintenance Mode pickup (2.5 x $I_n$ ) (amperes) <sup>②</sup>		N/A			

**Notes**

① Not available for JG. Independently adjustable  $I_i$  setting available in LG, NG and RG ALSI and ALSIG trip units.

② Maintenance Mode not available for JG frames. It is available for KD, LD, MDL, LG, NG, and RG.

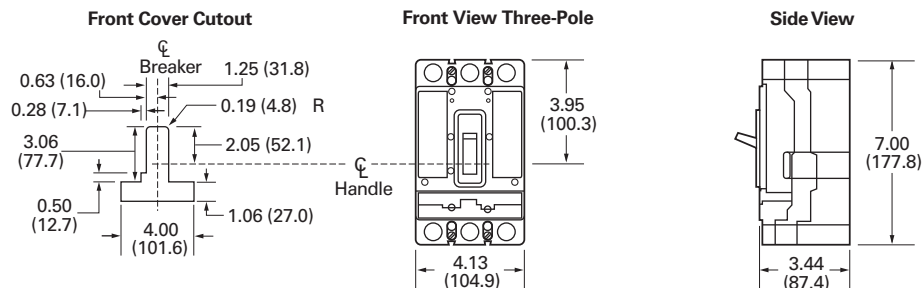
**Dimensions and Weights**

Approximate Dimensions in Inches (mm)

**JG-Frame**

Number of Poles	Width	Height	Depth
2, 3	4.13 (104.9)	7.00 (177.8)	3.57 (90.7)
4	5.34 (135.6)	7.00 (177.8)	3.57 (90.7)

**JG-Frame**



Approximate Shipping Weight in Lbs (kg)

**JG-Frame**

Breaker Type	Number of Poles	
	2, 3	4
JGC	6.00 (2.70)	8.00 (3.60)
JGE	6.00 (2.70)	8.00 (3.60)
JGH	6.00 (2.70)	8.00 (3.60)
JGS	6.00 (2.70)	8.00 (3.60)
JGU	6.00 (2.70)	8.00 (3.60)
JGX	6.00 (2.70)	8.00 (3.60)

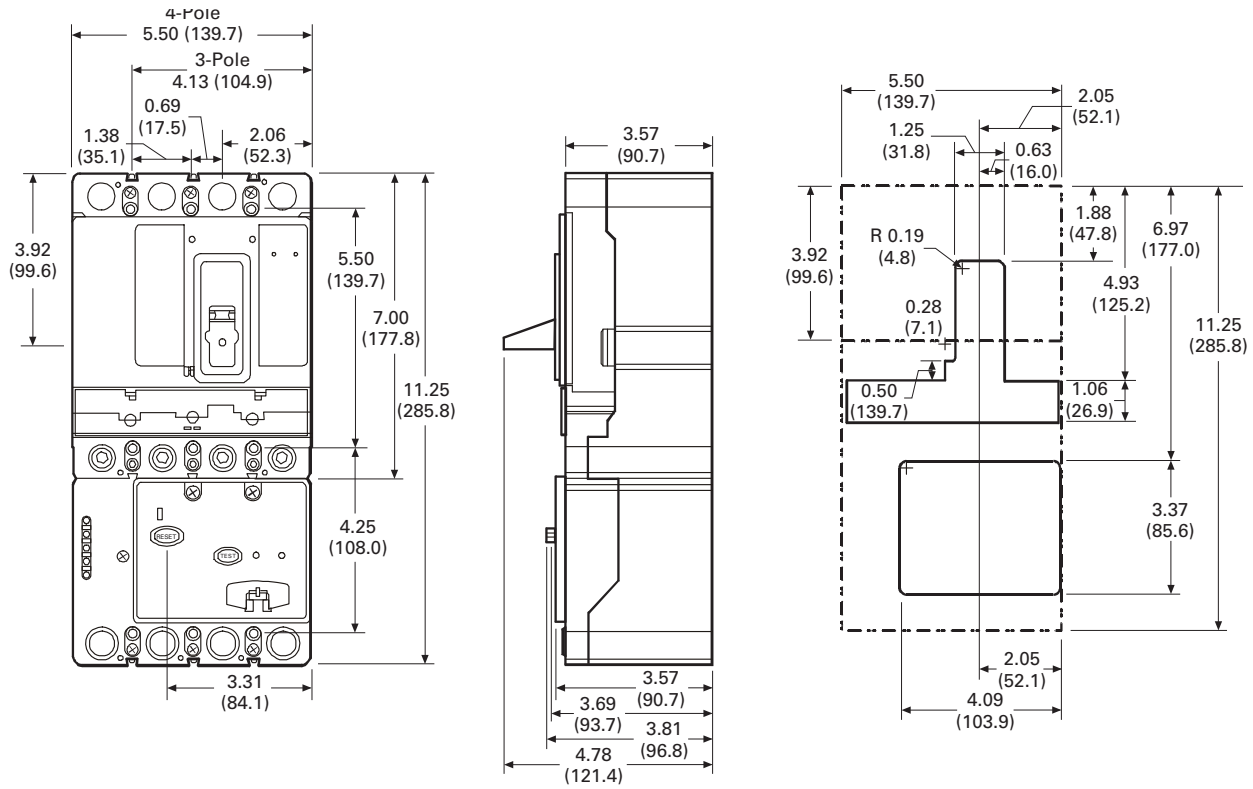
# 2.3

## Molded Case Circuit Breakers

### Series G

#### JG-Frame With Earth Leakage Module

2



**LG-Frame (250–630 Amperes)****LG-Frame (250–630 Amperes)****Product Description**

LG breaker is HACR rated.

**Contents****Description****Page**

EG-Frame (15–125 Amperes) . . . . .	<b>V4-T2-119</b>
JG-Frame (63–250 Amperes) . . . . .	<b>V4-T2-133</b>
LG-Frame (250–630 Amperes)	
Catalog Number Selection . . . . .	<b>V4-T2-152</b>
Product Selection . . . . .	<b>V4-T2-153</b>
Accessories . . . . .	<b>V4-T2-164</b>
Technical Data and Specifications . . . . .	<b>V4-T2-165</b>
Dimensions and Weights. . . . .	<b>V4-T2-167</b>
NG-Frame (320–1200 Amperes) . . . . .	<b>V4-T2-169</b>
RG-Frame (800–2500 Amperes) . . . . .	<b>V4-T2-178</b>
Motor Circuit Protectors (MCP) . . . . .	<b>V4-T2-189</b>
Motor Protector Circuit Breakers (MPCB). . . . .	<b>V4-T2-193</b>
30 mA Ground Fault (Earth Leakage) Module. . . . .	<b>V4-T2-196</b>
Current Limiting Circuit Breaker Module . . . . .	<b>V4-T2-200</b>
High Instantaneous Circuit Breaker for	
Selective Coordination . . . . .	<b>V4-T2-205</b>
Special Features and Accessories. . . . .	<b>V4-T2-208</b>
Motor Operators . . . . .	<b>V4-T2-216</b>
Plug-In Blocks . . . . .	<b>V4-T2-218</b>
Drawout Cassette . . . . .	<b>V4-T2-219</b>

# 2.3

## Molded Case Circuit Breakers

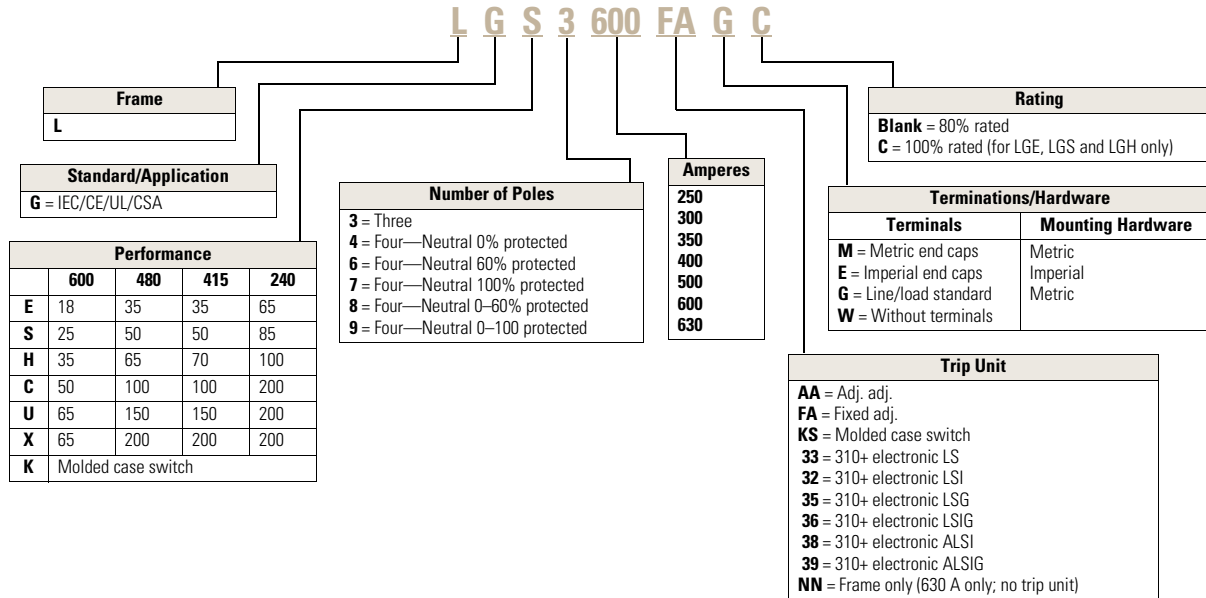
### Series G

#### Catalog Number Selection

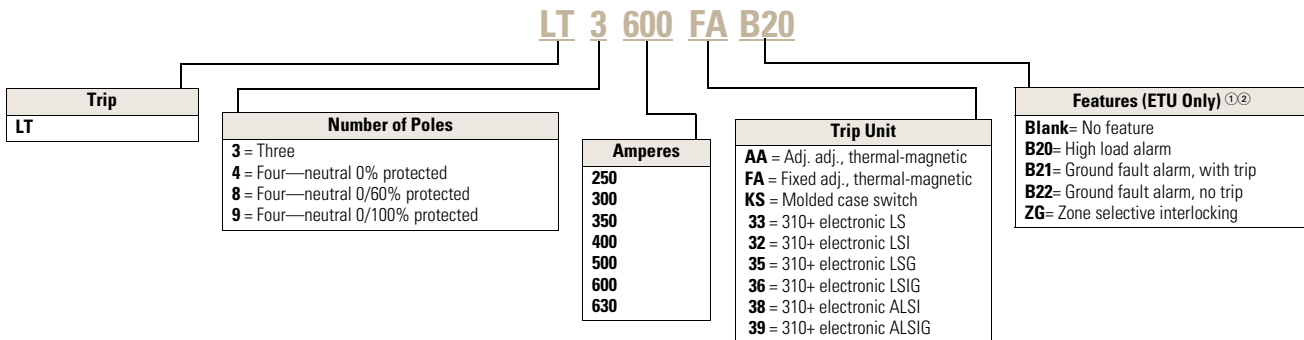
This information is presented only as an aid to understanding catalog numbers. It is not to be used to build catalog numbers for circuit breakers or trip units.

2

#### Series G—LG-Frame (250–630 Amperes)



#### Trip Unit



#### Notes

- ① Bxx features cannot be combined with other Bxx features.
- ② B21 and B22 available with LSG and LSIG trip units.

## Product Selection

Complete Breaker (Includes Frame, Trip Unit, Standard Terminals and Mounting Hardware)

## LG-Frame


**LG-Frame—630 Amperes (600 Amperes UL, CSA)**  
 IC Rating: 35 kAIC at 415 and 480 Vac <sup>①</sup>

Ampere Rating	Three-Pole <sup>②</sup>		Four-Pole (0%) <sup>③</sup>	
	Fixed Thermal, Adjustable Magnetic Catalog Number	Adjustable Thermal, Adjustable Magnetic <sup>④⑤</sup> Catalog Number	Fixed Thermal, Adjustable Magnetic Catalog Number	Adjustable Thermal, Adjustable Magnetic <sup>④⑤</sup> Catalog Number
250	LGE3250FAG	LGE3250AAG	LGE4250FAG	LGE4250AAG
300	LGE3300FAG	—	LGE4300FAG	—
320	—	LGE3320AAG	—	LGE4320AAG
350	LGE3350FAG	—	LGE4350FAG	—
400	LGE3400FAG	LGE3400AAG	LGE4400FAG	LGE4400AAG
500	LGE3500FAG	LGE3500AAG	LGE4500FAG	LGE4500AAG
600	LGE3600FAG	—	LGE4600FAG	—
630 <sup>④</sup>	—	LGE3630AAG	—	LGE4630AAG

## LG-Frame


**LG-Frame—630 Amperes (600 Amperes UL, CSA)**  
 IC Rating: 50 kAIC at 415 and 480 Vac <sup>①</sup>

Ampere Rating	Three-Pole <sup>②</sup>		Four-Pole (0%) <sup>③</sup>	
	Fixed Thermal, Adjustable Magnetic Catalog Number	Adjustable Thermal, Adjustable Magnetic <sup>④⑤</sup> Catalog Number	Fixed Thermal, Adjustable Magnetic Catalog Number	Adjustable Thermal, Adjustable Magnetic <sup>④⑤</sup> Catalog Number
250	LGS3250FAG	LGS3250AAG	LGS4250FAG	LGS4250AAG
300	LGS3300FAG	—	LGS4300FAG	—
320	—	LGS3320AAG	—	LGS4320AAG
350	LGS3350FAG	—	LGS4350FAG	—
400	LGS3400FAG	LGS3400AAG	LGS4400FAG	LGS4400AAG
500	LGS3500FAG	LGS3500AAG	LGS4500FAG	LGS4500AAG
600	LGS3600FAG	—	LGS4600FAG	—
630 <sup>④</sup>	—	LGS3630AAG	—	LGS4630AAG

## LG-Frame


**LG-Frame—630 Amperes (600 Amperes UL, CSA)**  
 IC Rating: 70 kAIC at 415, 65 kAIC at 480 Vac <sup>①</sup>

Ampere Rating	Three-Pole <sup>②</sup>		Four-Pole (0%) <sup>③</sup>	
	Fixed Thermal, Adjustable Magnetic Catalog Number	Adjustable Thermal, Adjustable Magnetic <sup>④⑤</sup> Catalog Number	Fixed Thermal, Adjustable Magnetic Catalog Number	Adjustable Thermal, Adjustable Magnetic <sup>④⑤</sup> Catalog Number
250	LGH3250FAG	LGH3250AAG	LGH4250FAG	LGH4250AAG
300	LGH3300FAG	—	LGH4300FAG	—
320	—	LGH3320AAG	—	LGH4320AAG
350	LGH3350FAG	—	LGH4350FAG	—
400	LGH3400FAG	LGH3400AAG	LGH4400FAG	LGH4400AAG
500	LGH3500FAG	LGH3500AAG	LGH4500FAG	LGH4500AAG
600	LGH3600FAG	—	LGH4600FAG	—
630 <sup>④</sup>	—	LGH3630AAG	—	LGH4630AAG

## Notes

- ① Replace suffix “G” with “W” for no line and load terminals.
- ② For two-pole applications, use two outer poles.
- ③ Neutral protection is indicated by the fourth character: 4 = 0%, 7 = 100%, 8 = adjustable 0–60% and 9 = 0–100%. Neutral is on LH side.
- ④ 320/630 amperes is not a UL or CSA listed rating. 600 amperes is the maximum UL and CSA rating for the LG.
- ⑤ Adjustable thermal units are typically used in IEC markets and are not UL or CSA listed.

# 2.3

## Molded Case Circuit Breakers

### Series G

#### Complete Breaker (Includes Frame, Trip Unit, Standard Terminals and Mounting Hardware)

2

##### LG-Frame



#### LG-Frame—630 Amperes (600 Amperes UL, CSA), Current Limiting Per UL 489 IC Rating: 100 kAIC at 415 and 480 Vac ①

Ampere Rating	Three-Pole ② Fixed Thermal, Adjustable Magnetic		Four-Pole (0%) ③ Fixed Thermal, Adjustable Magnetic	
	Catalog Number	Adjustable Thermal, Adjustable Magnetic ④⑤ Catalog Number	Catalog Number	Adjustable Thermal, Adjustable Magnetic ④⑤ Catalog Number
250	LGC3250FAG	LGC3250AAG	LGC4250FAG	LGC4250AAG
300	LGC3300FAG	—	LGC4300FAG	—
320	—	LGC3320AAG	—	LGC4320AAG
350	LGC3350FAG	—	LGC4350FAG	—
400	LGC3400FAG	LGC3400AAG	LGC4400FAG	LGC4400AAG
500	LGC3500FAG	LGC3500AAG	LGC4500FAG	LGC4500AAG
600	LGC3600FAG	—	LGC4600FAG	—
630 ④	—	LGC3630AAG	—	LGC4630AAG

##### LG-Frame



#### LG-Frame—630 Amperes (600 Amperes UL, CSA), Current Limiting Per UL 489 IC Rating: 150 kAIC at 415 and 480 Vac ①

Ampere Rating	Three-Pole ② Fixed Thermal, Adjustable Magnetic		Four-Pole (0%) ③ Fixed Thermal, Adjustable Magnetic	
	Catalog Number	Adjustable Thermal, Adjustable Magnetic ④⑤ Catalog Number	Catalog Number	Adjustable Thermal, Adjustable Magnetic ④⑤ Catalog Number
250	LGU3250FAG	LGU3250AAG	LGU4250FAG	LGU4250AAG
300	LGU3300FAG	—	LGU4300FAG	—
320	—	LGU3320AAG	—	LGU4320AAG
350	LGU3350FAG	—	LGU4350FAG	—
400	LGU3400FAG	LGU3400AAG	LGU4400FAG	LGU4400AAG
500	LGU3500FAG	LGU3500AAG	LGU4500FAG	LGU4500AAG
600	LGU3600FAG	—	LGU4600FAG	—
630 ④	—	LGU3630AAG	—	LGU4630AAG

##### LG-Frame



#### LG-Frame—630 Amperes (600 Amperes UL, CSA), Current Limiting Per UL 489 IC Rating: 200 kAIC at 415 and 480 Vac ①

Ampere Rating	Three-Pole ② Fixed Thermal, Adjustable Magnetic		Four-Pole (0%) ③ Fixed Thermal, Adjustable Magnetic	
	Catalog Number	Adjustable Thermal, Adjustable Magnetic ④⑤ Catalog Number	Catalog Number	Adjustable Thermal, Adjustable Magnetic ④⑤ Catalog Number
250	LGX3250FAG	LGX3250AAG	LGX4250FAG	LGX4250AAG
300	LGX3300FAG	—	LGX4300FAG	—
320	—	LGX3320AAG	—	LGX4320AAG
350	LGX3350FAG	—	LGX4350FAG	—
400	LGX3400FAG	LGX3400AAG	LGX4400FAG	LGX4400AAG
500	LGX3500FAG	LGX3500AAG	LGX4500FAG	LGX4500AAG
600	LGX3600FAG	—	LGX4600FAG	—
630 ④	—	LGX3630AAG	—	LGX4630AAG

#### Notes

- ① Replace suffix "G" with "W" for no line and load terminals.
- ② For two-pole applications, use two outer poles.
- ③ Neutral protection is indicated by the fourth character: 4 = 0%, 7 = 100%, 8 = adjustable 0–60% and 9 = 0–100%. Neutral is on LH side.
- ④ 320/630 amperes is not a UL or CSA listed rating. 600 amperes is the maximum UL and CSA rating for the LG.
- ⑤ Adjustable thermal units are typically used in IEC markets and are not UL or CSA listed.

**Molded Case Switches** <sup>①</sup>

Ampere Rating	Number of Poles	Catalog Number
400	3 <sup>②</sup>	LGK3400KSG
	4	LGK4400KSG
630 <sup>③</sup>	3 <sup>②</sup>	LGK3630KSG
	4	LGK4630KSG

**Frame—IC Rating at 415/480 Volts**

Maximum Amperes <sup>③</sup>	Three-Pole <sup>②</sup> Catalog Number	Four-Pole 0% Catalog Number
<b>35/35</b>		
630 <sup>③</sup>	LGE3630NN	LGE4630NN
	LGE3630NNWC <sup>④</sup>	—
<b>50/50</b>		
630 <sup>③</sup>	LGS3630NN	LGS4630NN
	LGS3630NNWC <sup>④</sup>	—
<b>70/53</b>		
630 <sup>③</sup>	LGH3630NN	LGH4630NN
	LGH3630NNWC <sup>④</sup>	—
<b>100/100 Current Limiting Per UL 489</b>		
630	LGC3630NN	LGC4630NN
<b>150/150 Current Limiting Per UL 489</b>		
630	LGU3630NN	LGU4630NN
<b>200/200 Current Limiting</b>		
630	LGX3630NN	LGX4630NN

**Thermal-Magnetic Trip Unit**

Ampere Rating	Three-Pole <sup>②</sup> Fixed Thermal, Adjustable Magnetic Catalog Number	Adjustable Thermal, Adjustable Magnetic <sup>⑤</sup> Catalog Number	Four-Pole (0%) <sup>⑥</sup> Fixed Thermal, Adjustable Magnetic Catalog Number	Adjustable Thermal, Adjustable Magnetic <sup>⑤</sup> Catalog Number
	250	LT3250FA	LT3250AA	LT4250FA
300	LT3300FA	—	LT4300FA	—
320	—	LT3320AA	—	LT4320AA
350	LT3350FA	—	LT4350FA	—
400	LT3400FA	LT3400AA	LT4400FA	LT4400AA
500	LT3500FA	LT3500AA	LT4500FA	LT4500AA
600	LT3600FA	—	LT4600FA	—
630	—	LT3630AA	—	LT4630AA

**Notes**

- ① Molded case switches will trip above 6300 amperes.
- ② For two-pole applications, use two outer poles.
- ③ 630 amperes is not a UL or CSA listed rating. 600 amperes is the maximum UL and CSA rating for the LG.
- ④ 100% rated frame.
- ⑤ Adjustable thermal, adjustable magnetic trip units are typically used in IEC markets and are not UL or CSA listed.
- ⑥ Neutral protection is indicated by the third character: 4 = 0%, 7 = 100%, 8 = adjustable 0–60% and 9 = 0–100%.

**Digitrip 310+ Electronic Trip Units**See 310+ adjustability specifications on **Page V4-T2-166**.

2

Ampere Rating	LS Catalog Number	LSI Catalog Number	LSG Catalog Number	LSIG Catalog Number	Neutral CT for LSG and LSIG <sup>①</sup> Catalog Number
<b>Three-Pole</b>					
250	LT325033	LT325032	LT325035	LT325036	LGFACT250
400	LT340033	LT340032	LT340035	LT340036	LGFACT400
600	LT360033	LT360032	LT360035	LT360036	LGFACT600
630 <sup>②</sup>	LT363033	LT363032	LT363035	LT363036	LGFACT600
<b>Four-Pole <sup>③④</sup></b>					
250	LT425033	LT425032	LT425035	LT425036	—
400	LT440033	LT440032	LT440035	LT440036	—
600	LT460033	LT460032	LT460035	LT460036	—
630 <sup>②</sup>	LT463033	LT463032	LT463035	LT463036	—

**310+ Electronic Trip Unit Accessories**

Description	Catalog Number
Electronic portable test kit	MTST230V
Trip unit tamper protection wire seal	5108A03H01
External neutral sensor (630 A)	LGFACT630
External neutral sensor (600 A)	LGFACT600
External neutral sensor (400 A)	LGFACT400
External neutral sensor (250 A)	LGFACT250
Breaker-mount cause-of-trip indication	TRIP-LED
Breaker-mount ammeter module	DIGIVIEW
Remote-mount ammeter module	DIGIVIEWR06

**Notes**

- ① Required for four-wire systems if neutral protection is desired.
- ② 630 amperes is not a UL or CSA listed rating. 600 amperes is the maximum UL and CSA listed rating for the LG.
- ③ Neutral protection: 4= 0%, 6 = 60%, 7 = 100%. Electronic trip unit neutral protection is not adjustable.
- ④ Four-pole LSG and LSIG trip units are only available with 0% neutral protection.

**IC Rating at 415/480 V****Complete LG Breakers with Electronic Trip Unit (Includes Frame, Trip Unit, Standard Terminals and Mounting Hardware) ①**See 310+ adjustability specifications on **Page V4-T2-166**.**IC Rating: 35 kAIC at 415 and 480 Vac**

Ampere Rating	LS Catalog Number	LSI Catalog Number	LSG Catalog Number	LSIG Catalog Number	Neutral CT for LSG and LSIG ② Catalog Number
<b>Three-Pole ③</b>					
250	LGE325033G	LGE325032G	LGE325035G	LGE325036G	LGFACT250
400	LGE340033G	LGE340032G	LGE340035G	LGE340036G	LGFACT400
600	LGE360033G	LGE360032G	LGE360035G	LGE360036G	LGFACT600
630 ④	LGE363033G	LGE363032G	LGE363035G	LGE363036G	LGFACT600
<b>Four-Pole ⑤</b>					
250	LGE425033G	LGE425032G	LGE425035G	LGE425036G	—
400	LGE440033G	LGE440032G	LGE440035G	LGE440036G	—
600	LGE460033G	LGE460032G	LGE460035G	LGE460036G	—
630 ④	LGE463033G	LGE463032G	LGE463035G	LGE463036G	—

**IC Rating: 50 kAIC at 415 and 480 Vac**

Ampere Rating	LS Catalog Number	LSI Catalog Number	LSG Catalog Number	LSIG Catalog Number	Neutral CT for LSG and LSIG ② Catalog Number
<b>Three-Pole ③</b>					
250	LGS325033G	LGS325032G	LGS325035G	LGS325036G	LGFACT250
400	LGS340033G	LGS340032G	LGS340035G	LGS340036G	LGFACT400
600	LGS360033G	LGS360032G	LGS360035G	LGS360036G	LGFACT600
630 ④	LGS363033G	LGS363032G	LGS363035G	LGS363036G	LGFACT600
<b>Four-Pole ⑤⑥</b>					
250	LGS425033G	LGS425032G	LGS425035G	LGS425036G	—
400	LGS440033G	LGS440032G	LGS440035G	LGS440036G	—
600	LGS460033G	LGS460032G	LGS460035G	LGS460036G	—
630 ④	LGS463033G	LGS463032G	LGS463035G	LGS463036G	—

**IC Rating: 70 kAIC at 415 Vac, 65 kAIC at 480 Vac**

Ampere Rating	LS Catalog Number	LSI Catalog Number	LSG Catalog Number	LSIG Catalog Number	Neutral CT for LSG and LSIG ② Catalog Number
<b>Three-Pole ③</b>					
250	LGH325033G	LGH325032G	LGH325035G	LGH325036G	LGFACT250
400	LGH340033G	LGH340032G	LGH340035G	LGH340036G	LGFACT400
600	LGH360033G	LGH360032G	LGH360035G	LGH360036G	LGFACT600
630 ④	LGH363033G	LGH363032G	LGH363035G	LGH363036G	LGFACT600
<b>Four-Pole ⑤⑥</b>					
250	LGH425033G	LGH425032G	LGH425035G	LGH425036G	—
400	LGH440033G	LGH440032G	LGH440035G	LGH440036G	—
600	LGH460033G	LGH460032G	LGH460035G	LGH460036G	—
630 ④	LGH463033G	LGH463032G	LGH463035G	LGH463036G	—

**Notes**

- ① Replace suffix "G" with "W" for no line and load terminals.
- ② Required for four-wire systems if neutral protection is desired.
- ③ For two-pole applications, use two outer poles.
- ④ 630 amperes is not a UL or CSA listed rating. 600 amperes is the maximum UL and CSA listed rating for the LG.
- ⑤ Neutral protection: 4 = 0%, 6 = 60%, 7 = 100%. Electronic trip unit neutral protection is not adjustable.
- ⑥ Four-pole breakers with LSG and LSIG trip units are only available with 0% neutral protection.

**IC Rating at 415/480 V****Complete LG Breakers with Electronic Trip Unit (Includes Frame, Trip Unit, Standard Terminals and Mounting Hardware)**<sup>①</sup>See 310+ adjustability specifications on **Page V4-T2-166**.**IC Rating: 100 kAIC at 415 Vac and 480 Vac, Current Limiting Per UL 489**

Ampere Rating	LS Catalog Number	LSI Catalog Number	LSG Catalog Number	LSIG Catalog Number	Neutral CT for LSG and LSIG <sup>②</sup> Catalog Number
<b>Three-Pole <sup>③</sup></b>					
250	LGC325033G	LGC325032G	LGC325035G	LGC325036G	LGFACT250
400	LGC340033G	LGC340032G	LGC340035G	LGC340036G	LGFACT400
600	LGC360033G	LGC360032G	LGC360035G	LGC360036G	LGFACT600
630 <sup>④</sup>	LGC363033G	LGC363032G	LGC363035G	LGC363036G	LGFACT600
<b>Four-Pole <sup>⑤⑥</sup></b>					
250	LGC425033G	LGC425032G	LGC425035G	LGC425036G	—
400	LGC440033G	LGC440032G	LGC440035G	LGC440036G	—
600	LGC460033G	LGC460032G	LGC460035G	LGC460036G	—
630 <sup>④</sup>	LGC463033G	LGC463032G	LGC463035G	LGC463036G	—

**IC Rating: 150 kAIC at 415 Vac and 480 Vac, Current Limiting Per UL 489**

Ampere Rating	LS Catalog Number	LSI Catalog Number	LSG Catalog Number	LSIG Catalog Number	Neutral CT for LSG and LSIG <sup>②</sup> Catalog Number
<b>Three-Pole <sup>③</sup></b>					
250	LGU325033G	LGU325032G	LGU325035G	LGU325036G	LGFACT250
400	LGU340033G	LGU340032G	LGU340035G	LGU340036G	LGFACT400
600	LGU360033G	LGU360032G	LGU360035G	LGU360036G	LGFACT600
630 <sup>④</sup>	LGU363033G	LGU363032G	LGU363035G	LGU363036G	LGFACT600
<b>Four-Pole <sup>⑤</sup></b>					
250	LGU425033G	LGU425032G	LGU425035G	LGU425036G	—
400	LGU440033G	LGU440032G	LGU440035G	LGU440036G	—
600	LGU460033G	LGU460032G	LGU460035G	LGU460036G	—
630 <sup>④</sup>	LGU463033G	LGU463032G	LGU463035G	LGU463036G	—

**IC Rating: 200 kAIC at 415 Vac and 480 Vac, Current Limiting Per UL 489**

Ampere Rating	LS Catalog Number	LSI Catalog Number	LSG Catalog Number	LSIG Catalog Number	Neutral CT for LSG and LSIG <sup>②</sup> Catalog Number
<b>Three-Pole <sup>③</sup></b>					
250	LGX325033G	LGX325032G	LGX325035G	LGX325036G	LGFACT250
400	LGX340033G	LGX340032G	LGX340035G	LGX340036G	LGFACT400
600	LGX360033G	LGX360032G	LGX360035G	LGX360036G	LGFACT600
630 <sup>④</sup>	LGX363033G	LGX363032G	LGX363035G	LGX363036G	LGFACT600
<b>Four-Pole <sup>⑤</sup></b>					
250	LGX425033G	LGX425032G	LGX425035G	LGX425036G	—
400	LGX440033G	LGX440032G	LGX440035G	LGX440036G	—
600	LGX460033G	LGX460032G	LGX460035G	LGX460036G	—
630 <sup>④</sup>	LGX463033G	LGX463032G	LGX463035G	LGX463036G	—

**Notes**

- ① Replace suffix "G" with "W" for no line and load terminals.
- ② Required for four-wire systems if neutral protection is desired.
- ③ For two-pole applications, use two outer poles.
- ④ 630 amperes is not a UL or CSA listed rating. 600 amperes is the maximum UL and CSA listed rating for the LG.
- ⑤ Neutral protection: 4= 0%, 6 = 60%, 7 = 100%. Electronic trip unit neutral protection is not adjustable.
- ⑥ Four-pole breakers with LSG and LSIG trip units are only available with 0% neutral protection.

**LG 100% Rated Circuit Breaker—Thermal-Magnetic Trip Unit****Complete Breaker (Includes Frame, Trip Unit, Standard Terminals and Mounting Hardware)****LG-Frame****LG-Frame—630 Amperes (600 Amperes UL, CSA) IC Rating: 35 kAIC at 415 and 480 Vac <sup>①</sup>**

Ampere Rating	Three-Pole <sup>②</sup> Fixed Thermal, Adjustable Magnetic Catalog Number
250	LGE3250FAGC
300	LGE3300FAGC
320	—
350	LGE3350FAGC
400	LGE3400FAGC
500	LGE3500FAGC
600	LGE3600FAGC
630 <sup>④</sup>	—

**LG-Frame—630 Amperes (600 Amperes UL, CSA) IC Rating: 50 kAIC at 415 and 480 Vac <sup>①</sup>**

Ampere Rating	Three-Pole <sup>②</sup> Fixed Thermal, Adjustable Magnetic Catalog Number
250	LGS3250FAGC
300	LGS3300FAGC
320	—
350	LGS3350FAGC
400	LGS3400FAGC
500	LGS3500FAGC
600	LGS3600FAGC
630 <sup>④</sup>	—

**LG-Frame—630 Amperes (600 Amperes UL, CSA) IC Rating: 70 kAIC at 415, 65 kAIC at 480 Vac <sup>①</sup>**

Ampere Rating	Three-Pole <sup>②</sup> Fixed Thermal, Adjustable Magnetic Catalog Number
250	LGH3250FAGC
300	LGH3300FAGC
320	—
350	LGH3350FAGC
400	LGH3400FAGC
500	LGH3500FAGC
600	LGH3600FAGC
630 <sup>④</sup>	—

**Notes**

<sup>①</sup> Replace suffix "G" with "W" for no line and load terminals.

<sup>②</sup> For two-pole applications, use two outer poles.

**LG 100% Rated Electronic Breaker Per UL 489**See 310+ adjustability specifications on **Page V4-T2-166**.

2

**IEC/UL/CSA 35 kAIC at 415 and 480 Vac**

Ampere Rating	LS Catalog Number	LSI Catalog Number	LSG Catalog Number	LSIG Catalog Number	Neutral CT for LSG and LSIG <sup>①</sup> Catalog Number
250	LGE325033GC	LGE325032GC	LGE325035GC	LGE325036GC	LGFACT250
400	LGE340033GC	LGE340032GC	LGE340035GC	LGE340036GC	LGFACT400
600	LGE360033GC	LGE360032GC	LGE360035GC	LGE360036GC	LGFACT600
630 <sup>②</sup>	LGE363033GC	LGE363032GC	LGE363035GC	LGE363036GC	LGFACT600

**IEC/UL/CSA 50 kAIC at 415 and 480 Vac**

Ampere Rating	LS Catalog Number	LSI Catalog Number	LSG Catalog Number	LSIG Catalog Number	Neutral CT for LSG and LSIG <sup>①</sup> Catalog Number
250	LGS325033GC	LGS325032GC	LGS325035GC	LGS325036GC	LGFACT250
400	LGS340033GC	LGS340032GC	LGS340035GC	LGS340036GC	LGFACT400
600	LGS360033GC	LGS360032GC	LGS360035GC	LGS360036GC	LGFACT600
630 <sup>②</sup>	LGS363033GC	LGS363032GC	LGS363035GC	LGS363036GC	LGFACT600

**IEC/UL/CSA 70 kAIC at 415 and 480 Vac**

Ampere Rating	LS Catalog Number	LSI Catalog Number	LSG Catalog Number	LSIG Catalog Number	Neutral CT for LSG and LSIG <sup>①</sup> Catalog Number
250	LGH325033GC	LGH325032GC	LGH325035GC	LGH325036GC	LGFACT250
400	LGH340033GC	LGH340032GC	LGH340035GC	LGH340036GC	LGFACT400
600	LGH360033GC	LGH360032GC	LGH360035GC	LGH360036GC	LGFACT600
630 <sup>②</sup>	LGH363033GC	LGH363032GC	LGH363035GC	LGH363036GC	LGFACT600

**Notes**<sup>①</sup> Required for four-wire systems if neutral protection is required.<sup>②</sup> 630 amperes is not a UL or CSA listed rating. 600 amperes is the maximum UL and CSA listed rating for the LG.

**LG Electronic Breaker with Arcflash Reduction Maintenance System**

See 310+ adjustability specifications on **Page V4-T2-166**.

Series G LG circuit breakers are available with the Arcflash Reduction Maintenance System™ integrated into the electronic trip units helping to improve safety by providing a

simple and reliable method to reduce fault clearing time. The Arcflash Reduction Maintenance System unit utilizes a separate analog trip circuit that provides faster

interruption times than the standard (digital) “instantaneous” protection. Work locations downstream of a circuit breaker with an Arcflash Reduction

Maintenance System unit can have a significantly lower incident energy level, reducing arc flash potential to the system.

**LG with Arcflash Reduction Maintenance System****LG Electronic Breaker with Arcflash Reduction Maintenance System**

Ampere Rating	ALSI Catalog Number	ALSIG Catalog Number	Neutral CT for LSG and LSIG ① Catalog Number
<b>IEC/UL/CSA 35 kAIC at 415 and 480 Vac</b>			
250	LGE325038G	LGE365039G	LGFC250
400	LGE340038G	LGE340039G	LGFC400
600	LGE360038G	LGE360039G	LGFC600
630	LGE363038G	LGE363039G	LGFC600
<b>IEC/UL/CSA 50 kAIC at 415 and 480 Vac</b>			
250	LGS325038G	LGS365039G	LGFC250
400	LGS340038G	LGS340039G	LGFC400
600	LGS360038G	LGS360039G	LGFC600
630	LGS363038G	LGS363039G	LGFC600
<b>IEC/UL/CSA 70 kAIC at 415 and 480 Vac</b>			
250	LGH325038G	LGH365039G	LGFC250
400	LGH340038G	LGH340039G	LGFC400
600	LGH360038G	LGH360039G	LGFC600
630	LGH363038G	LGH363039G	LGFC600
<b>IEC/UL/CSA 100 kAIC at 415 and 480 Vac, Current Limiting Per UL 489</b>			
250	LGC325038G	LGC365039G	LGFC250
400	LGC340038G	LGC340039G	LGFC400
600	LGC360038G	LGC360039G	LGFC600
630	LGC363038G	LGC363039G	LGFC600
<b>IEC/UL/CSA 150 kAIC at 415 and 480 Vac, Current Limiting Per UL 489</b>			
250	LGU325038G	LGU365039G	LGFC250
400	LGU340038G	LGU340039G	LGFC400
600	LGU360038G	LGU360039G	LGFC600
630	LGU363038G	LGU363039G	LGFC600
<b>IEC/UL/CSA 200 kAIC at 415 and 480 Vac, Current Limiting Per UL 489</b>			
250	LGX325038G	LGX365039G	LGFC250
400	LGX340038G	LGX340039G	LGFC400
600	LGX360038G	LGX360039G	LGFC600
630	LGX363038G	LGX363039G	LGFC600

**LG Electronic Trip Units with Arcflash Reduction Maintenance System**

Ampere Rating	ALSI Catalog Number	ALSIG Catalog Number	Neutral CT for LSG and LSIG ① Catalog Number
250	LT325038	LT325039	LGFC250
400	LT340038	LT340039	LGFC400
600	LT360038	LT360039	LGFC600
630	LT363038	LT363039	LGFC600

**Note**

① Required for four-wire systems if neutral protection is required.

## Accessories Selection Guide and Ordering Information

## 2

## Line and Load Terminals

Maximum Breaker Amperes	Terminal Body Material	Wire Type	AWG Wire Range/ Number of Conductors	Metric Wire Range (mm <sup>2</sup> )	Number of Terminals Included	Catalog Number
400	Aluminum	Cu/Al	500–750 (1)	240–380 (1)	3	3TA631LK <sup>①</sup>
400	Aluminum	Cu/Al	500–750 (1)	240–380 (1)	4	4TA631LK <sup>①</sup>
400	Copper	Cu	500–750 (1)	240–380 (1)	3	3T631LK <sup>①</sup>
400	Copper	Cu	500–750 (1)	240–380 (1)	4	4T631LK <sup>①</sup>
630	Aluminum	Cu/Al	2–500 (2)	35–240 (2)	1	TA632L
630	Aluminum	Cu/Al	2–500 (2)	35–240 (2)	3	3TA632LK <sup>①②</sup>
630	Aluminum	Cu/Al	2–500 (2)	35–240 (2)	4	4TA632LK <sup>①②</sup>
630	Copper	Cu	2–500 (2)	35–240 (2)	3	3T632LK <sup>①</sup>
630	Copper	Cu	2–500 (2)	35–240 (2)	4	4T632LK <sup>①</sup>
400	Aluminum	Cu/Al	3–500 (1)	35–240 (1)	1	TA350LK <sup>②</sup>
400	Copper	Cu	3–500 (1)	35–240 (1)	1	T350LK

## Base Mounting Hardware

Base mounting hardware is included with a circuit breaker or molded case switch. (Included with breaker.) If required separately, order 66A4560G03.

## Terminal Covers

Description	Catalog Number
Three-pole terminal cover <sup>③</sup>	LTS3K
Four-pole terminal cover <sup>③</sup>	LTS4K

## End Cap Kits (MIO Metric Nuts)

Number of Poles	Catalog Number
3	L3RTWK
4	L4RTWK

## Control Wire Terminal Kit

Description	Terminal Body Type	Catalog Number
Three-pole kit	Aluminum	3TA632LKW
Four-pole kit	Aluminum	4TA632LKW
Three-pole kit	Copper	3T632LKW
Four-pole kit	Copper	4T632LKW

## Terminal Spreaders

Number of Poles	Catalog Number
3	LGTEW3
4	LGTEW4

## Terminal Extensions

Number of Poles	Catalog Number
3	LGTES3
4	LGTES4

## Handle Extension

Description	Catalog Number
Handle extension	HEXLG

## Interphase Barrier

Package of 2	Catalog Number
Interphase barrier	IPB3

## Rear Fed Terminals

Maximum Amperes	Wire Size Range AWG Cu	Catalog Number
400	2–500 kcmil	TA350LKRF
400	2–500 kcmil	3TA350LKRF
630	2–500 (2) kcmil	TA632LKRF
630	2–500 (2) kcmil	3TA632LKRF

Rear fed terminals allow the cable to connect to the breaker from the back instead of the top. Terminal shields or interphase barriers are included with each rear fed terminal kit (depending on frame size). When catalog number starts with a 3, it indicates a kit with three terminals in each kit. Catalog number beginning with a TA indicates one terminal.

## Multiwire Connectors

Field-installed multiwire connectors for the load side (OFF) end terminals are used to distribute the load from the circuit breaker to multiple devices without the use of separate distribution terminal blocks.

Multiwire lug kits include terminal shield, mounting hardware, insulators and tin-plated aluminum connectors to replace three mechanical load lugs. UL listed as used on the load side (OFF) end.

## LG-Frame Multiwire Connectors Ordering Information (Package of 3)

Maximum Amperes	Wires per Terminal	Wire Size Range AWG Cu	Kit Catalog Number
600	6	14–1/0	3TA600L6K

## Notes

- ① Includes LTS3K (three-pole) or LTS4K (four-pole) terminal covers.
- ② Standard terminal included with complete breaker.
- ③ Included in TA631L, T631L, TA632L kits listed above.

**StrandAble Multiwire Terminals**

Field-installed multiwire terminals are UL listed for nearly any class of rigid or fine strand wire without the use of additional fittings.

Used on the load side of circuit breaker to distribute the load to multiple devices without the use of a power distribution block.

StrandAble multiwire terminals are available in three-pole kits that include the necessary hardware and shielding.

3TA600L6SWK

**LG Frame StrandAble Multiwire Terminals (Three-Pole Kits)**

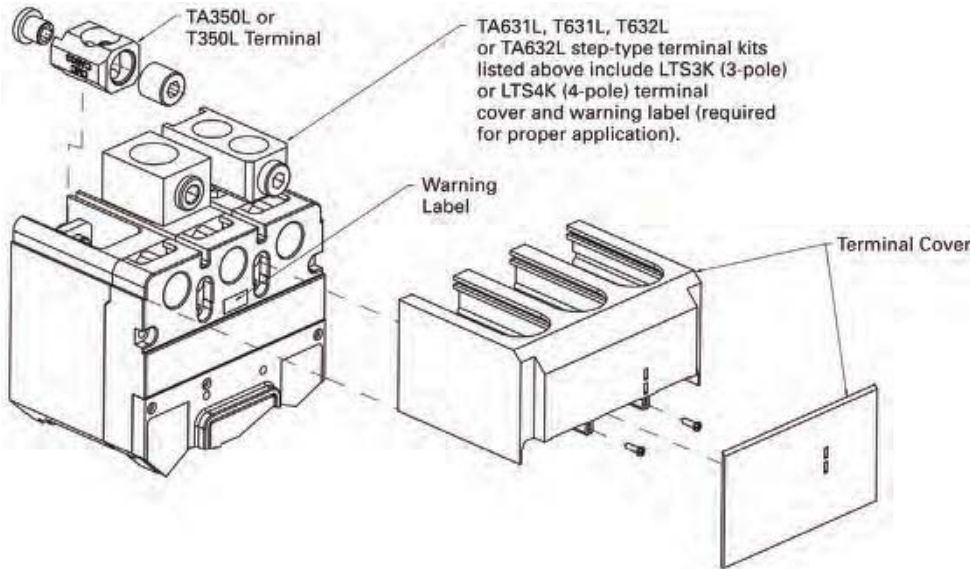


Maximum Amperage	Wire Class	Wire Range	Shield Included	Catalog Number
600	B and C	(6) 12–2/0	Interphase barrier	<b>3TA600L6SWKI</b>
600	D, G, H, I, K, M	(6) 8–1/0	Interphase barrier	
600	B and C	(6) 12–2/0	Terminal shield	<b>3TA600L6SWKS</b>
600	D, G, H, I, K, M	(6) 8–1/0	Terminal shield	

**Terminals and Terminal Cover**

**Terminals and Terminal Cover for the LG Breaker—Includes LTS3K (Three-Pole) or LTS4K (Four-Pole) Terminal Covers**

**Note:** Extended terminal covers add 2.13 inches (54.0 mm) to breaker length.



## Accessories

## 2

**Base Mounting Hardware**

Base mounting hardware is included with a circuit breaker or molded case switch. (Included with breaker.) If required separately, order 66A4560G03.

**Allowable Accessory Combinations**

Different combinations of accessories can be supplied, depending on the types of accessories and the number of poles in the circuit breaker.

**LG-Frame Accessories**

Description	Reference Page	Three-Pole			Four-Pole			Neu.
		Left	Center	Right	Left	Center	Right	
<b>Internal Accessories (Only One Internal Accessory Per Pole)</b>								
Alarm lockout (Make/Break)	V4-T2-213			■			■	
Auxiliary switch (1A, 1B)	V4-T2-213			■			■	
Auxiliary switch (2A, 2B)	V4-T2-213			■			■	
Auxiliary switch and alarm switch combination	V4-T2-213			■			■	
Shunt trip—standard	V4-T2-213	■			■			
Undervoltage release mechanism	V4-T2-214	■			■			
<b>External Accessories</b>								
End cap kit	V4-T2-162	●			●			
Handle extension	V4-T2-162	●			●			
Terminal cover	V4-T2-162	●			●			
Rear fed terminals	V4-T2-162	●	●	●	●	●	●	●
Multewire connectors	V4-T2-162	●	●	●	●	●	●	●
Padlockable handle block	V4-T2-211		■			■		
Padlockable handle lock hasp	V4-T2-211	□		□	□		□	
Key interlock kit	V4-T2-211	□		□	□		□	
Sliding bar interlock—requires two breakers	V4-T2-211	●	●	●	●	●	●	●
Electrical operator	V4-T2-211	●	●	●	●	●	●	●
Plug-in adapters	V4-T2-211	●	●	●	●	●	●	●
Rear connecting studs	V4-T2-211	●	●	●	●	●	●	●
Handle mechanisms	V4-T2-496	●	●	●	●	●	●	●
Earth leakage/ground fault protector	V4-T2-196	●	●	●	●	●	●	●
Drawout cassette	V4-T2-219	●	●	●	●	●	●	●
Digitrip 310+ test kit	V4-T2-156	●	●	●	●	●	●	●
Ammeter/cause of trip display	V4-T2-210	●	●	●	●	●	●	●
Cause of trip LED module	V4-T2-210	●	●	●	●	●	●	●
<b>Modifications (Refer to Eaton)</b>								
Moisture fungus treatment	V4-T2-209	●	●	●	●	●	●	●
Freeze-tested circuit breakers	—	●	●	●	●	●	●	●
Marine/naval application, UL 489 Supplement SA and SB	①	●	●	●	●	●	●	●

**Legend**

- Applicable in indicated pole position
- May be mounted on left or right pole—not both
- Accessory available/modification available

**Note**

① Contact Eaton.

## Technical Data and Specifications

### Interrupting Capacity Ratings

#### UL 489/IEC 60947-2 Interrupting Capacity Ratings

Circuit Breaker Type	Number of Poles	Interrupting Capacity (kA rms Symmetrical Amperes) (kA)								Volts DC <sup>①</sup>	
		Volts AC (50/60 Hz)								250 <sup>②③</sup>	
		240–240		380–415		480	600	690		Icu	Ics
LGE630	3, 4	65	65	35	35	35	18	12	6	22	22
LGS630	3, 4	85	85	50	50	50	25	20	10	22	22
LGH630	3, 4	100	100	70	70	65	35	25	13	42	42
LGC630 <sup>④</sup>	3, 4	200	200	100	100	100	50	30	15	42	42
LGU630 <sup>④</sup>	3, 4	200	200	150	150	150	65	35	18	50	50
LGX630 <sup>④</sup>	3, 4	200 <sup>⑤</sup>	200	200	200	200	65	35	18	50	50

#### UL 489 Current Limiting Data

Frame	Circuit	I <sub>p</sub> (kA)	I <sup>2</sup> T (10 <sup>6</sup> A <sup>2</sup> S)
LGC	240 V/200 kA	56.4	5.873
LGC	480 V/100 kA	56.4	5.873
LGC	600 V/50 kA	56.4	6.690
LGU	240 V/200 kA	77.7	7.320
LGU	480 V/150 kA	77.7	7.320
LGU	600 V/65 kA	50.6	6.690
LGX	240 V/200 kA	77.7	7.320
LGX	480 V/200 kA	77.7	7.320
LGX	600 V/65 kA	50.6	6.690

#### LG 310+ Specifications

Description	Specification
Trip Unit Type	Digitrip RMS 310+
<b>Breaker Type</b>	
Frame designation	LG
Frames available	250 A, 400 A, 600 A
Continuous current range (A)	100–600 A
Ground fault pickup (A)	50–600 A
Interrupting capacities at 480 Vac (kAIC)	35, 65, 100, 150, 200
100% rated	Yes
<b>Protection</b>	
Ordering options	LS, LSI, LSG, LSIG, ALSI, ALSIG
Arcflash reduction maintenance system (or maintenance mode)	Yes
Interchangeable trip unit	Yes
High load alarm (suffix B20) <sup>⑥</sup>	Yes
Ground fault alarm with trip (suffix B21) <sup>⑥</sup>	Yes
Ground fault alarm, no trip (suffix B22) <sup>⑥</sup>	Yes
Zone selective interlocking (suffix ZG)	LSI, LSIG, ALSI, ALSIG
Cause of trip indication	Yes
Thru-cover accessories	Yes

#### Notes

- ① DC rating apply to substantially non-inductive circuits.
- ② Two-pole circuit breaker, or two poles of three-pole circuits.
- ③ Time constant is 3 milliseconds minimum at 10 kA and 8 milliseconds minimum at –kA.
- ④ Current limiting per UL 489.
- ⑤ IEC rating is 300 kA at 240 Vac.
- ⑥ B2x suffixes cannot be combined with B2x suffixes.

## LG 310+ Adjustability Specifications

2

310+ Settings		LG Frame		
		250 A	400 A	600 A
$I_r$ = continuous current or long delay pickup (amperes) (All 310+)	$I_r$			
	A	100	160	250
	B	125	200	300
	C	150	225	315
	D	160	250	350
	E	175	300	400
	F	200	315	450
	G	225	350	500
	H (= $I_n$ )	250	400	600
$t_r$ = long delay time (seconds) (All 310+)	Position 1	2	2	2
	Position 2	4	4	4
	Position 3	7	7	7
	Position 4	10	10	10
	Position 5	12	12	12
	Position 6	15	15	15
	Position 7	20	20	20
	Position 8	24	24	24
	$I_{sd}$ (x $I_r$ ) = short delay pickup (All 310+)	Position 1	2x	2x
Position 2		3x	3x	3x
Position 3		4x	4x	4x
Position 4		5x	5x	5x
Position 5		6x	6x	6x
Position 6		7x	7x	7x
Position 7		8x	8x	8x
Position 8		10x	10x	10x
Position 9		12x	12x	12x
$t_{sd}$ = short delay time $I^2t$ (milliseconds) (LS, LSG)	Fixed	67 at10x	67 at10x	67 at10x
$t_{sd}$ = short delay time flat (milliseconds) ① (LSI, LSIG, ALSI, ALSIG)	Position 1	Inst	Inst	Inst
	Position 2	120	120	120
	Position 3	300	300	300
$I_g$ = ground fault pickup (amperes) (LSG, LSIG, ALSIG)	Position 1	50	80	120
	Position 2	75	120	180
	Position 3	100	160	240
	Position 4	150	240	360
	Position 5	200	320	480
	Position 6	250	400	600
$t_g$ = ground fault delay time (milliseconds) (LSG, LSIG, ALSIG)	Position 1	Inst	Inst	Inst
	Position 2	120	120	120
	Position 3	300	300	300
Independently Adjustable Instantaneous ( $I_i$ ) setting (ALSI, ALSIG)	Yes	2.5x, 4x, 6x, 7x, 8x, 10x, 12x	2.5x, 4x, 6x, 7x, 8x, 10x, 12x	2.5x, 4x, 6x, 7x, 8x, 10x, 12x
Maintenance Mode (remote) pickup ( $2.5 \times I_n$ ) ② (ALSI, ALSIG)	Fixed	2.5x		

**Notes**

① 50 ms for ALSI and ALSIG trip units.

② Maintenance Mode is enabled remotely using a 24 Vdc circuit.

**Dimensions and Weights**

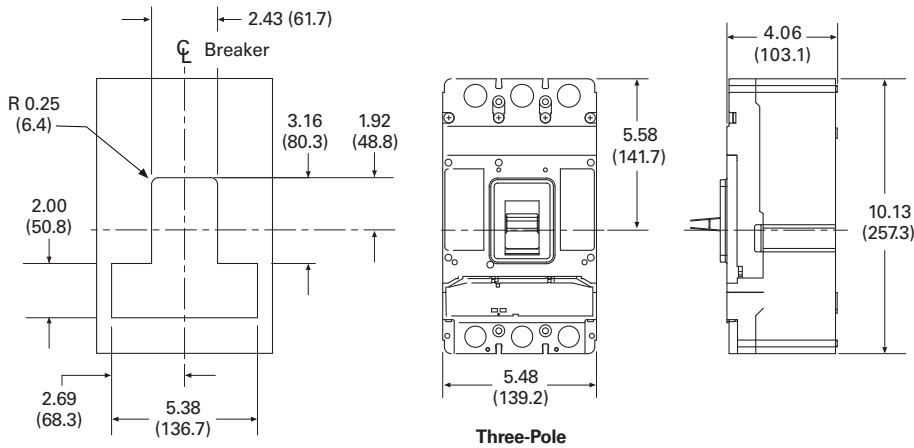
Approximate Dimensions in Inches (mm)

**LG-Frame**

Number of Poles	Width	Height	Depth
2, 3	5.48 (139.2)	10.13 (257.3)	4.09 (103.9)
4	7.22 (183.4)	10.13 (257.3)	4.09 (103.9)

**LG-Frame**

**Note:** TA631L, T631L, T632L, TA632L terminals add 1.19 inches (30.2 mm) to line or load side of LG. LTS3K or LTS4K terminal covers add 2.13 inches (54.1 mm) to line or load side of LG.



Approximate Shipping Weight in Lbs (kg)

**LG-Frame**

Breaker Type	Two- and Three-Pole	Four-Pole
LGE, LGS, LGH, LGC, LGU, LGX	16 (7.3)	20 (9.1)

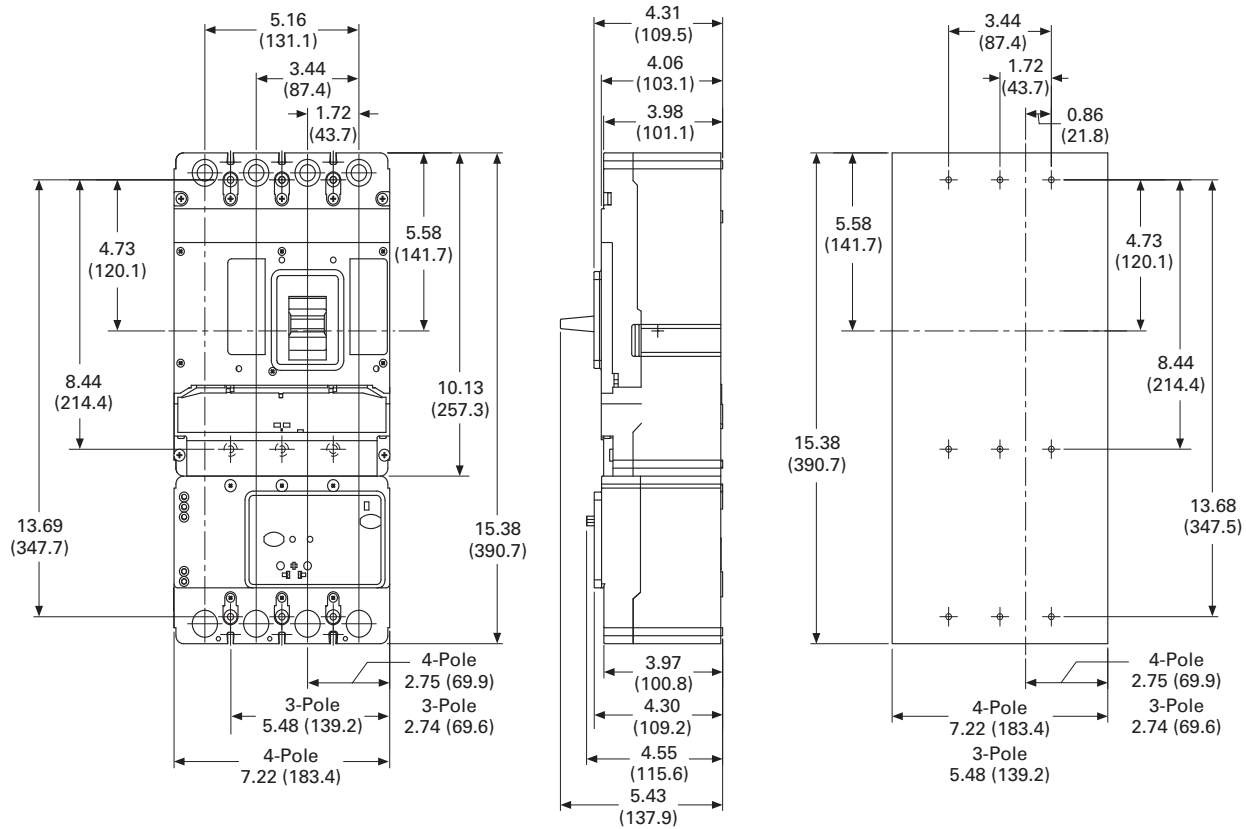
# 2.3

## Molded Case Circuit Breakers

### Series G

#### LG-Frame With Earth Leakage Module

2



**NG-Frame (1200 Ampere)****Contents**

<b>Description</b>	<b>Page</b>
EG-Frame (15–125 Amperes) . . . . .	<b>V4-T2-119</b>
JG-Frame (63–250 Amperes) . . . . .	<b>V4-T2-133</b>
LG-Frame (250–630 Amperes) . . . . .	<b>V4-T2-151</b>
NG-Frame (320–1200 Amperes)	
Catalog Number Selection . . . . .	<b>V4-T2-170</b>
Product Selection Guide and Ordering Information . . . . .	<b>V4-T2-171</b>
Accessories . . . . .	<b>V4-T2-174</b>
Technical Data and Specifications . . . . .	<b>V4-T2-175</b>
Dimensions and Weights . . . . .	<b>V4-T2-177</b>
RG-Frame (800–2500 Amperes) . . . . .	<b>V4-T2-178</b>
Motor Circuit Protectors (MCP) . . . . .	<b>V4-T2-189</b>
Motor Protector Circuit Breakers (MPCB) . . . . .	<b>V4-T2-193</b>
30 mA Ground Fault (Earth Leakage) Module . . . . .	<b>V4-T2-196</b>
Current Limiting Circuit Breaker Module . . . . .	<b>V4-T2-200</b>
High Instantaneous Circuit Breaker for Selective Coordination . . . . .	<b>V4-T2-205</b>
Special Features and Accessories . . . . .	<b>V4-T2-208</b>
Motor Operators . . . . .	<b>V4-T2-216</b>
Plug-In Blocks . . . . .	<b>V4-T2-218</b>
Drawout Cassette . . . . .	<b>V4-T2-219</b>

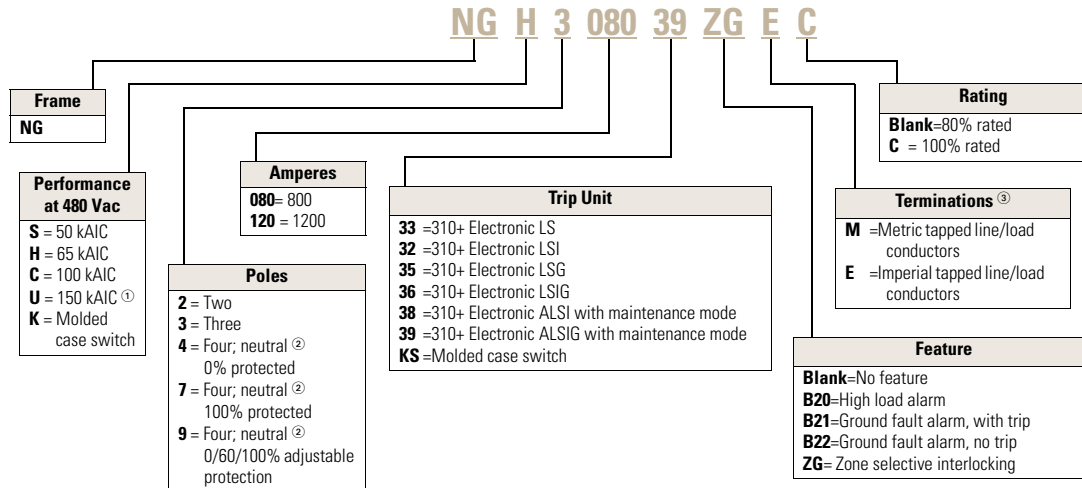
**NG-Frame (320–1200 Amperes)****Product Description**

- All Eaton NG-Frame circuit breakers are suitable for reverse feed use
- All NG-Frame circuit breakers are HACR rated

#### Catalog Number Selection

This information is presented only as an aid to understanding catalog numbers. It is not to be used to build catalog numbers for circuit breakers or trip units.

#### NG Circuit Breaker with 310+ Electronic Trip Unit



#### Notes

- ① 800 A only.
  - ② Neutral inn left pole on GN; right pole on NG.
  - ③ Breakers do not ship with lugs.
- Trip units are factory installable only.

## Product Selection Guide and Ordering Information

### Type NGS Standard Interrupting Capacity— $U_e$ Max. 690 Vac, 50 kA $I_{cu}$ at 480 Vac or 415 Vac

See 310+ adjustability specifications on **Page V4-T2-176**.

Maximum Continuous Ampere Rating at 40 °C <sup>①②</sup>	Number of Poles	Circuit Breaker Frame Including Digitrip Electronic Trip Unit with Imperial Tapped Conductors						Neutral CT for LSG and LSIG <sup>③</sup>
		LS	LSI	LSG	LSIG	ALSI	ALSIG	
800	2	NGS208033E	NGS208032E	NGS208035E	NGS208036E	—	—	—
	3	NGS308033E	NGS308032E	NGS308035E	NGS308036E	NGS308038E	NGS308039E	NGFCT120
	4	NGS408033E	NGS408032E	NGS408035E <sup>④</sup>	NGS408036E <sup>④</sup>	NGS408038E	NGS408039E <sup>④</sup>	—
	4 <sup>⑤</sup>	NGS708033E	NGS708032E	—	—	NGS708038E	—	—
	4 <sup>⑥</sup>	NGS908033E	NGS908032E	—	—	NGS908038E	—	—
1200 <sup>⑥</sup>	2	NGS212033E	NGS212032E	NGS212035E	NGS212036E	—	—	—
	3	NGS312033E	NGS312032E	NGS312035E	NGS312036E	NGS312038E	NGS312039E	NGFCT120
	4	NGS412033E	NGS412032E	NGS412035E <sup>④</sup>	NGS412036E <sup>④</sup>	—	NGS412039E <sup>④</sup>	—
	4 <sup>⑤</sup>	NGS712033E	NGS712032E	—	—	NGS712038E	—	—
	4 <sup>⑥</sup>	NGS912033E	NGS912032E	—	—	NGS912038E	—	—

### Molded Case Switches <sup>⑦⑧⑨⑩</sup>

$U_e$  Maximum 690 Vac

Ampere Rating	Three-Pole	Catalog Number	Four-Pole	Catalog Number
800	MCS with Imperial line and load terminals	NGK3080KSE	MCS with Imperial line and load terminals	NGK4080KSE
1200	MCS with Imperial line and load terminals	NGK3120KSE	MCS with Imperial line and load terminals	NGK4120KSE
1250	MCS with Imperial line and load terminals	NGK3125KSE	MCS with Imperial line and load terminals	NGK43125KSE

#### Notes

- ① For AC use only.
- ② NG MCCBs are suitable for 40 °C or 50 °C applications. Order suffix V3 to eliminate standard 40 °C labeling.
- ③ Required for four-wire systems if neutral protection is desired. Sold separately.
- ④ Neutral 0% protected. NG, neutral in right pole; GN, neutral in left pole.
- ⑤ Neutral 100% protected (denoted by 7 in digit four); no neutral protection available with LSG or LSIG trip units.
- ⑥ Neutral 0%/60%/100% adjustable protection (denoted by 9 in digit four).
- ⑦ Non-UL listed NG 1250 with 1250 ampere trip unit is also available.
- ⑧ For AC use only. Molded case switch will trip above 14,000 amperes.
- ⑨ For two-pole applications, use outer poles of three-pole molded case switch.
- ⑩ Add "M" to above catalog numbers for metric tapped line/load conductors.

# 2.3

## Molded Case Circuit Breakers

### Series G

#### Type NGH High Interrupting Capacity— $U_e$ Max. 690 Vac, 65 kA $I_{cu}$ at 480 Vac or 415 Vac

See 310+ adjustability specifications on **Page V4-T2-176**.

2

Maximum Continuous Ampere Rating at 40 °C <sup>①②</sup>	Number of Poles	Circuit Breaker Frame Including Digitrip Electronic Trip Unit						Neutral CT for LSG and LSIG <sup>③</sup>
		LS	LSI	LSG	LSIG	ALSI	ALSIG	
800	2	NGH208033E	NGH208032E	NGH208035E	NGH208036E	—	—	—
	3	NGH308033E	NGH308032E	NGH308035E	NGH308036E	NGH308038E	NGH308039E	NGFCT120
	4	NGH408033E	NGH408032E	NGH408035E <sup>④</sup>	NGH408036E <sup>④</sup>	NGH408038E	NGH408039E <sup>④</sup>	—
	4 <sup>⑤</sup>	NGH708033E	NGH708032E	—	—	NGH708038E	—	—
	4 <sup>⑥</sup>	NGH908033E	NGH908032E	—	—	NGH908038E	—	—
1200	2	NGH212033E	NGH212032E	NGH212035E	NGH212036E	—	—	—
	3	NGH312033E	NGH312032E	NGH312035E	NGH312036E	NGH312038E	NGH312039E	NGFCT120
	4	NGH412033E	NGH412032E	NGH412035E <sup>④</sup>	NGH412036E <sup>④</sup>	—	NGH412039E <sup>④</sup>	—
	4 <sup>⑤</sup>	NGH712033E	NGH712032E	—	—	NGH712038E	—	—
	4 <sup>⑥</sup>	NGH912033E	NGH912032E	—	—	NGH912038E	—	—

#### Type NGC Very High Capacity— $U_e$ Max. 690 Vac, 100 kA $I_{cu}$ at 480 Vac or 415 Vac

See 310+ adjustability specifications on **Page V4-T2-176**.

Maximum Continuous Ampere Rating at 40 °C <sup>①②</sup>	Number of Poles	Circuit Breaker Frame Including Digitrip Electronic Trip Unit						Neutral CT for LSG and LSIG <sup>③</sup>
		LS	LSI	LSG	LSIG	ALSI	ALSIG	
800	2	NGC208033E	NGC208032E	NGC208035E	NGC208036E	—	—	—
	3	NGC308033E	NGC308032E	NGC308035E	NGC308036E	NGC308038E	NGC308039E	NGFCT120
	4	NGC408033E	NGC408032E	NGC408035E <sup>④</sup>	NGC408036E <sup>④</sup>	NGC408038E	NGC408039E <sup>④</sup>	—
	4 <sup>⑤</sup>	NGC708033E	NGC708032E	—	—	NGC708038E	—	—
	4 <sup>⑥</sup>	NGC908033E	NGC908032E	—	—	NGC908038E	—	—
1200	2	NGC212033E	NGC212032E	NGC212035E	NGC212036E	—	—	—
	3	NGC312033E	NGC312032E	NGC312035E	NGC312036E	NGC312038E	NGC312039E	NGFCT120
	4	NGC412033E	NGC412032E	NGC412035E <sup>④</sup>	NGC412036E <sup>④</sup>	—	NGC412039E <sup>④</sup>	—
	4 <sup>⑤</sup>	NGC712033E	NGC712032E	—	—	NGC712038E	—	—
	4 <sup>⑥</sup>	NGC912033E	NGC912032E	—	—	NGC912038E	—	—

#### Type NGU Ultra High Capacity— $U_e$ Max. 600 Vac, 150 kA at 480 Vac

See 310+ adjustability specifications on **Page V4-T2-176**.

Maximum Continuous Ampere Rating at 40 °C <sup>①②</sup>	Number of Poles	Circuit Breaker Frame Including Digitrip Electronic Trip Unit						Neutral CT for LSG and LSIG <sup>③</sup>
		LS	LSI	LSG	LSIG	ALSI	ALSIG	
800	3	NGU308033E	NGU308032E	NGU308035E	NGU308036E	NGU308038E	NGU308039E	NGFCT120

#### Notes

- ① For AC use only.
- ② NG MCCBs are suitable for 40 °C or 50 °C applications. Order suffix V3 to eliminate standard 40 °C labeling.
- ③ Required for four-wire systems if neutral protection is desired. Sold separately.
- ④ Neutral 0% protected. NG, neutral in right pole; GN, neutral in left pole.
- ⑤ Neutral 100% protected (denoted by 7 in digit four); no neutral protection available with LSG or LSIG trip units.
- ⑥ Neutral 0%/60%/100% adjustable protection (denoted by 9 in digit four).

## Accessories Selection Guide and Ordering Information

### Line and Load Terminals

N-Frame circuit breakers do not include terminals as standard. When copper or Cu/Al terminals are required, order by catalog number.

### Line and Load Terminals

Maximum Breaker Amperes	Terminal Body Material	Wire Type	AWG Wire (Number of Conductors)	AWG Wire Catalog Number <sup>①</sup>	Metric Wire Range mm <sup>2</sup>	Metric Catalog Number <sup>①</sup>
<b>Standard Cu/Al Pressure Terminals</b>						
700	Aluminum	Cu/Al	1–500 (2)	<b>TA700NB1</b>	50–240	<b>TA700NB1M</b>
1000	Aluminum	Cu/Al	3/0–400 (3)	<b>TA1000NB1</b>	95–185	<b>TA1000NB1M</b>
1200	Aluminum	Cu/Al	4/0–500 (4)	<b>TA1200NB1</b>	120–240	<b>TA1200NB1M</b>
1200	Aluminum	Cu/Al	500–750 (3)	<b>TA1201NB1</b>	300–400	<b>TA1201NB1M</b>
<b>Optional Copper and Cu/Al Pressure Type Terminals</b>						
700	Copper	Cu	2/0–500 (2)	<b>T700NB1</b>	70–240	<b>T700NB1M</b>
1000	Copper	Cu	3/0–500 (3)	<b>T1000NB1</b>	95–240	<b>T1000NB1M</b>
1200	Copper	Cu	3/0–400 (4)	<b>T1200NB3</b>	95–185	<b>T1200NB3M</b>

### 310+ Electronic Trip Unit Accessories

Description	Catalog Number
Electronic portable test kit	<b>MTST230V</b>
Trip unit tamper protection wire seal	<b>5108A03H01</b>
External neutral sensor (1200 A) <sup>②</sup>	<b>NGFCT120</b>
External neutral sensor (800 A) <sup>②</sup>	<b>NGFCT120</b>
Breaker-mount cause-of-trip indication	<b>TRIP-LED</b>
Breaker-mount ammeter module	<b>DIGIVIEW</b>
Remote-mount ammeter module	<b>DIGIVIEWR06</b>

### Base Mounting Hardware

Base mounting hardware is included with a circuit breaker or molded case switch.

### Base Mounting Hardware <sup>③</sup>

Number of Poles	Description	Catalog Number
Three- and four-pole	Imperial hardware: 0.3125–18 x 1.25 pan-head steel screws and lock washers	<b>BMH5</b>
Three- and four-pole	Metric hardware: M8 pan-head steel screws and lock washers	<b>BMH5M</b>

### Terminal Shield

### Terminal Shield

Description	Catalog Number
Three-pole terminal shield	<b>NTS3K</b>

### Conductor Extension Kit

### Conductor Extension Kit <sup>④</sup>

Description	Catalog Number
Three-pole both ends Metric	<b>5104A24G04</b>
Three-pole both ends English	<b>5104A24G02</b>

### Keeper Nut

Not required on NG-Frame. Terminals are threaded.

### Handle Extension

Included with breaker. Additional handle extensions are available.

### Handle Extension

Description	Catalog Number
Single handle extension	<b>HEX5</b>

### Interphase Barriers

The interphase barriers provide additional electrical clearance between circuit breaker poles for special termination applications. Barriers are high dielectric insulating plates that are installed in the molded slots between the terminals. (Field installation only.)

### Interphase Barriers

Description	Catalog Number
Interphase barriers <sup>④</sup>	<b>IPB5</b>

### Notes

- <sup>①</sup> Single terminals individually packed.
- <sup>②</sup> Required for four-wire systems if neutral protection is desired. Sold separately.
- <sup>③</sup> Metric hardware included with breaker.
- <sup>④</sup> Included as standard on 100% rated 1200 A breakers only.

## Accessories

2

### Allowable Accessory Combinations

Different combinations of accessories can be supplied, depending on the types of accessories and the number of poles in the circuit breaker.

### NG-Frame Accessories

Description	Reference Page	Three-Pole			Four-Pole			Neu.
		Left	Center	Right	Left	Center	Right	
<b>Internal Accessories (Only One Internal Accessory Per Pole)</b>								
Alarm lockout (Make/Break)	V4-T2-213	●		■	●		■	
Auxiliary switch (1A, 1B)	V4-T2-213	●		■	●		■	
Auxiliary switch (2A, 2B)	V4-T2-213	●		■	●		■	
Auxiliary switch and alarm switch combination	V4-T2-213	●		■	●		■	
Shunt trip—standard	V4-T2-213	■			■			
Undervoltage release mechanism	V4-T2-214	■			■			
<b>External Accessories</b>								
Base mounting hardware	V4-T2-173	●	●	●	●	●	●	●
Interphase barriers	V4-T2-173	●	●	●	●	●	●	●
Non-padlockable handle block	V4-T2-211		■			■		
Padlockable handle lock hasp	V4-T2-211	□		□	□		□	
Key interlock kit	V4-T2-211	□		□	□		□	
Sliding bar interlock—requires two breakers	V4-T2-211	●	●	●				
Electrical operator	V4-T2-211	●	●	●	●	●	●	●
Plug-in adapters	V4-T2-218	●	●	●	●	●	●	●
Rear connecting studs	V4-T2-211	●	●	●	●	●	●	●
Handle mechanisms	V4-T2-496	●	●	●	●	●	●	●
Drawout cassette	V4-T2-219	●	●	●	●	●	●	●
Handle extension	V4-T2-173	●	●	●	●	●	●	●
Ammeter/cause of trip display	V4-T2-210	●	●	●	●	●	●	●
Cause of trip LED module	V4-T2-210	●	●	●	●	●	●	●
Digitrip 310+ test kit	V4-T2-210	●	●	●	●	●	●	●
<b>Modifications (Refer to Eaton)</b>								
Moisture fungus treatment	V4-T2-209	●	●	●	●	●	●	●
Freeze-tested circuit breakers	—	●	●	●	●	●	●	●
Marine/Naval application, UL 489 Supplement SA and SB	①	●	●	●	●	●	●	●

#### Legend

- Applicable in indicated pole position
- May be mounted on left or right pole—not both
- Accessory available/modification available

#### Note

- ① Contact Eaton.

## Technical Data and Specifications

### Interrupting Capacity Ratings

#### UL 489/IEC 60947-2 Interrupting Capacity Ratings <sup>①</sup>

Circuit Breaker Type	Number of Poles	Interrupting Capacity (kA Symmetrical Amperes)									
		Volts AC (50/60 Hz)									
		220–240		380–415		480		600		690	
		I <sub>CU</sub>	I <sub>CS</sub>	I <sub>CU</sub>	I <sub>CS</sub>	I <sub>CU</sub>	I <sub>CS</sub>	I <sub>CU</sub>	I <sub>CS</sub>	I <sub>CU</sub>	I <sub>CS</sub>
NGS <sup>①</sup>	2, 3, 4	65	85	85	50	50	50	25	20	10	
NGH	2, 3, 4	100	100	100	70	50	65	35	25	13	
NGC	2, 3, 4	200	200	100	100	50	100	65	35	18	
NGU	3, 4	200	—	—	—	—	150	65	—	—	

### NG-Frame Digitrip Specifications

#### NG 310+ Specifications

Description	Specification
Trip Unit Type	Digitrip RMS 310+
<b>Breaker Type</b>	
Frame designation	NG
Frames available	800 A, 1200 A
Continuous current range (A)	320–1200A
Ground fault pickup (A)	160–1200A
Interrupting capacities at 480 Vac (kAIC)	35, 65, 100, 150
100% rated	Yes
<b>Protection</b>	
Ordering options	LS, LSI, LSG, LSIG, ALSI, ALSIG
Arcflash reduction maintenance system (or maintenance mode)	Yes
Interchangeable trip unit	No
High load alarm (suffix B20) <sup>②</sup>	Yes
Ground fault alarm with trip (suffix B21) <sup>②</sup>	Yes
Ground fault alarm, no trip (suffix B22) <sup>②</sup>	Yes
Zone selective interlocking (suffix ZG)	LSI, LSIG, ALSI, ALSIG
Cause of trip indication	Yes
Thru-cover accessories	No

#### Notes

<sup>①</sup> 1600 amperes is not a UL or CSA listed rating. 1200 amperes is the maximum UL and CSA rating for NG.

<sup>②</sup> B2x suffixes cannot be combined with B2x suffixes.

## NG 310+ Adjustability Specifications

2

310+ Settings		NG Frame	
		800 A	1200 A
$I_r$ = continuous current or long delay pickup (amperes) (All 310+)	$I_r$		
	A	320	500
	B	400	600
	C	450	630
	D	500	700
	E	600	800
	F	630	900
	G	700	1000
	H (= $I_n$ )	800	1200
$t_r$ = long delay time (seconds) (All 310+)	Position 1	2	2
	Position 2	4	4
	Position 3	6	7
	Position 4	8	10
	Position 5	10	12
	Position 6	12	15
	Position 7	14	20
	Position 8	14	24
$I_{sd}$ (x $I_r$ ) = short delay pickup (All 310+)	Position 1	2x	2x
	Position 2	3x	3x
	Position 3	4x	4x
	Position 4	5x	5x
	Position 5	6x	6x
	Position 6	7x	7x
	Position 7	8x	8x
	Position 8	9x	9x
	Position 9	9x	9x
$t_{sd}$ = short delay time $I^2t$ (milliseconds) (LS, LSG)	Fixed	67 at10x	67 at10x
$t_{sd}$ = short delay time flat (milliseconds) (LSI, LSIG, ALSI, ALSIG) ①	Position 1	Inst	Inst
	Position 2	120	120
	Position 3	300	300
$I_g$ = ground fault pickup (amperes) (LSG, LSIG, ALSIG)	Position 1	160	240
	Position 2	240	360
	Position 3	320	480
	Position 4	480	720
	Position 5	640	960
	Position 6	800	1200
$t_g$ = ground fault delay time (milliseconds) (LSG, LSIG, ALSIG)	Position 1	Inst	Inst
	Position 2	120	120
	Position 3	300	300
Independently Adjustable Instantaneous ( $I_i$ ) setting (ALSI, ALSIG)	Yes	2.5x, 4x, 6x, 7x, 8x, 10x, 18x	2.5x, 4x, 6x, 7x, 8x, 10x, 12x
Maintenance Mode (remote) pickup ( $2.5 \times I_n$ ) (ALSI, ALSIG) ②	Fixed	2.5x	2.5x

**Notes**

① 50 ms for ALSI and ALSIG trip units.

② Maintenance Mode is enabled remotely using a 24 Vdc circuit.

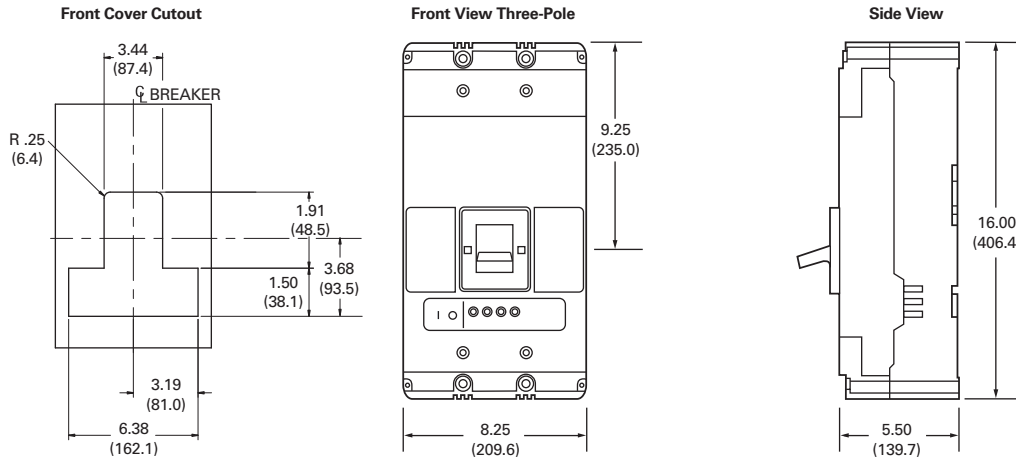
**Dimensions and Weights**

Approximate Dimensions in Inches (mm)

**NG-Frame**

Number of Poles	Width	Height	Depth
3	8.25 (209.6)	16.00 (406.4)	5.50 (139.7)
4	11.13 (282.6)	16.00 (406.4)	5.50 (139.7)

**NG-Frame**



Approximate Shipping Weight in Lbs (kg)

**NG-Frame**

Breaker Type	Complete Breaker	
	Three-Pole	Four-Pole
NGS, NGH, NGC	45 (20.4)	58 (26.3)

RG-Frame (800–2500 Amperes)

2



### Contents

<i>Description</i>	<i>Page</i>
EG-Frame (15–125 Amperes) . . . . .	<b>V4-T2-119</b>
JG-Frame (63–250 Amperes) . . . . .	<b>V4-T2-133</b>
LG-Frame (250–630 Amperes) . . . . .	<b>V4-T2-151</b>
NG-Frame (320–1200 Amperes) . . . . .	<b>V4-T2-169</b>
RG-Frame (800–2500 Amperes)	
Catalog Number Selection . . . . .	<b>V4-T2-179</b>
Product Selection . . . . .	<b>V4-T2-180</b>
Accessories . . . . .	<b>V4-T2-185</b>
Technical Data and Specifications . . . . .	<b>V4-T2-186</b>
Dimensions and Weights . . . . .	<b>V4-T2-188</b>
Motor Circuit Protectors (MCP) . . . . .	<b>V4-T2-189</b>
Motor Protector Circuit Breakers (MPCB) . . . . .	<b>V4-T2-193</b>
30 mA Ground Fault (Earth Leakage) Module . . . . .	<b>V4-T2-196</b>
Current Limiting Circuit Breaker Module . . . . .	<b>V4-T2-200</b>
High Instantaneous Circuit Breaker for	
Selective Coordination . . . . .	<b>V4-T2-205</b>
Special Features and Accessories . . . . .	<b>V4-T2-208</b>
Motor Operators . . . . .	<b>V4-T2-216</b>
Plug-In Blocks . . . . .	<b>V4-T2-218</b>
Drawout Cassette . . . . .	<b>V4-T2-219</b>

### RG-Frame (800–2500 Amperes)

#### Product Description

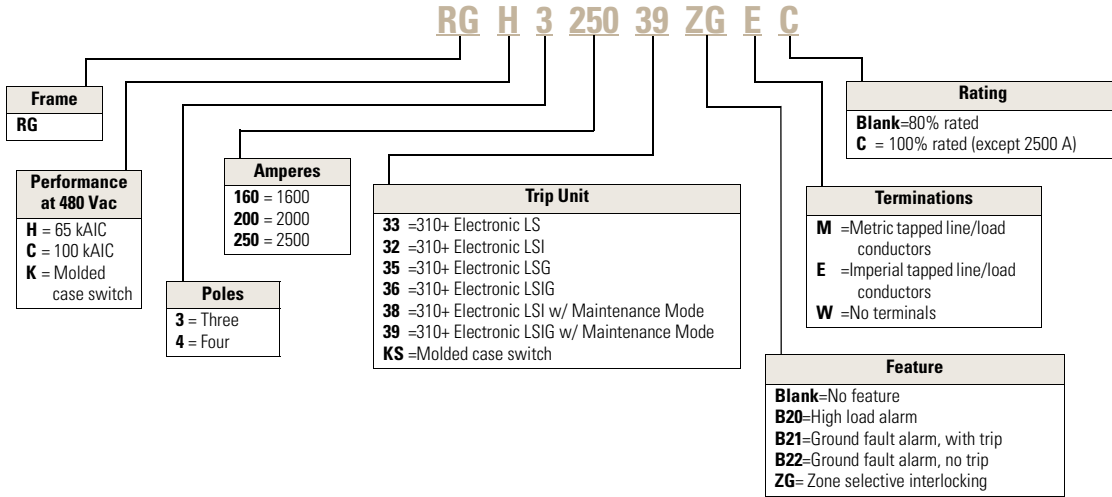
- Eaton's RG-Frame circuit breakers are available as frame (which includes trip unit), rating plug and terminals
- All R-Frame circuit breakers are suitable for reverse feed use

## Catalog Number Selection

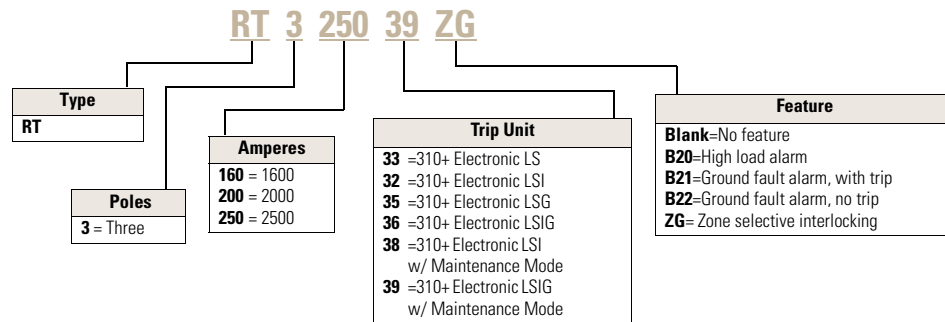
This information is presented only as an aid to understanding catalog numbers. It is not to be used to build catalog numbers for circuit breakers or trip units.

70 kA at 415 Vac and 65 kA at 480 Vac

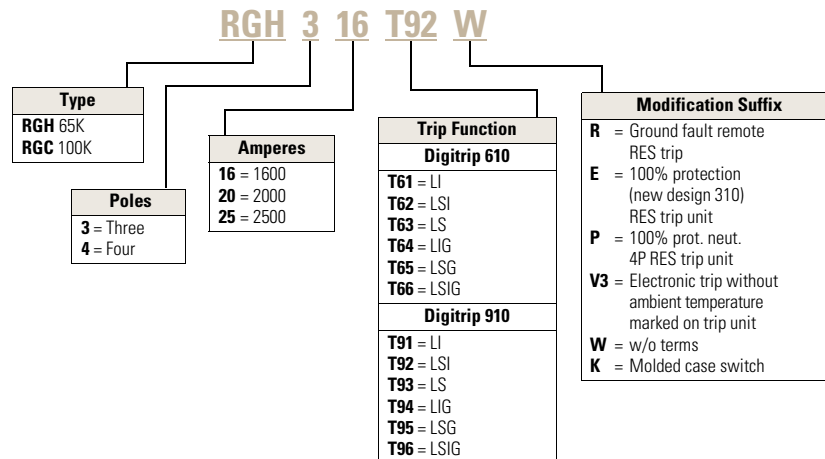
### RG Circuit Breaker With 310+ Electronic Trip Unit



### RG 310+ Electronic Trip Unit



### RG Circuit Breaker with OPTIM 610 and 910 Electronic Trip Unit



## Product Selection

2

**70 kA at 415 Vac and 65 kA at 480 Vac****Type RGH with Digitrip 310+ High Interrupting Capacity— $U_e$  Maximum 690 Vac, 70 kA  $I_{cu}$  at 415 Vac**See 310+ adjustability specifications on **Page V4-T2-187**.

Maximum Continuous Ampere Rating at 40 °C ①	Number of Poles	Circuit Breaker Frame Including Digitrip RMS 310+ Electronic Trip Unit with Adjustable Rating Plugs—Catalog Number ②						Neutral CT for LSG and LSIG ④
		LS	LSI	LSG ③	LSIG ③	ALSI	ALSIG	
1600 ①	3	RGH316033E	RGH316032E	RGH316035E	RGH316036E	RGH316038E	RGH316039E	RGFCT160A
2000	3	RGH320033E	RGH320032E	RGH320035E	RGH320036E	RGH320038E	RGH320039E	RGFCT200A
2500	3	RGH325033E	RGH325032E	RGH325035E	RGH325036E	RGH325038E	RGH325039E	RGFCT250A

**100 kA at Both 415 Vac and 480 Vac****Type RGH with Digitrip 310+ High Interrupting Capacity— $U_e$  Maximum 690 Vac, 70 kA  $I_{cu}$  at 415 Vac**See 310+ adjustability specifications on **Page V4-T2-187**.

Maximum Continuous Ampere Rating at 40 °C ①	Number of Poles	Circuit Breaker Frame Including Digitrip RMS 310+ Electronic Trip Unit with Adjustable Rating Plugs—Catalog Number ②					
		LS	LSI	LSG ③⑤	LSIG ③⑤	ALSI	ALSIG ③⑤
1600 ①	4 ⑥	RGH416033E	RGH416032E	—	—	RGH416038E	—
2000	4 ⑥	RGH420033E	RGH420032E	—	—	RGH420038E	—
2500	4 ⑥	RGH425033E	RGH425032E	—	—	RGH425038E	—

**Notes**

① For SCR application, use 2000 ampere frame.

② Order terminals separately. Mounting hardware not included.

③ Ground fault equipped trip units available with remote indicating panel. Add "R" to catalog number, for example, "RGH316035RW."

④ Required for four-wire systems if neutral protection is desired. Sold separately.

⑤ No neutral protection available on four-pole breakers with LSG or LSIG trip units.

⑥ Unprotected left pole neutral. Add "P" to catalog number for 100% protected left pole neutral, add "E" for 60% protected, for example, "RGH416033PW," "RGH416033EW."

RG MCCBs have English threading on line and load conductors. Use suffix "M" for metric threading.

**100 kA at Both 415 Vac and 480 Vac****Type RGC with Digitrip 310+ Very High Interrupting Capacity— $U_e$  Maximum 690 Vac, 100 kA  $I_{cu}$  at 415 Vac**See 310+ adjustability specifications on **Page V4-T2-187**.

Maximum Continuous Ampere Rating at 40 °C ①	Number of Poles	Circuit Breaker Frame Including Digitrip RMS 310+ Electronic Trip Unit with Adjustable Rating Plugs—Catalog Number ②						Neutral CT for LSG and LSIG ④
		LS	LSI	LSG ③	LSIG ③	ALSI	ALSIG	
1600 ①	3	RGC316033E	RGC316032E	RGC316035E	RGC316036E	RGC316038E	RGC316039E	RGFCT160A
2000	3	RGC320033E	RGC320032E	RGC320035E	RGC320036E	RGC320038E	RGC320039E	RGFCT200A
2500	3	RGC325033E	RGC325032E	RGC325035E	RGC325036E	RGC325038E	RGC325039E	RGFCT250A

**Type RGC with Digitrip 310+ Very High Interrupting Capacity— $U_e$  Maximum 690 Vac, 100 kA  $I_{cu}$  at 415 Vac, continued**See 310+ adjustability specifications on **Page V4-T2-187**.

Maximum Continuous Ampere Rating at 40 °C ①	Number of Poles	Circuit Breaker Frame Including Digitrip RMS 310+ Electronic Trip Unit with Adjustable Rating Plugs—Catalog Number ②					
		LS	LSI	LSG ③⑤	LSIG ③⑤	ALSI	ALSIG ③⑤
1600 ①	4 ⑥	RGC416033E	RGC416032E	—	—	RGC416038E	—
2000	4 ⑥	RGC420033E	RGC420032E	—	—	RGC420038E	—
2500	4 ⑥	RGC425033E	RGC425032E	—	—	RGC425038E	—

**Molded Case Switches ⑦**

Ampere Rating	Number of Poles	Catalog Number
1600	3	RGK3160KSE
2000	3	RGK3200KSE
1600	4	RGK4160KSE
2000	4	RGK4200KSE

**Notes**

- ① For SCR application, use 2000 ampere frame.
- ② Order terminals separately. Mounting hardware not included.
- ③ Ground fault equipped trip units available with remote indicating panel. Add "R" to catalog number, for example, "RGH316035RW."
- ④ Required for four-wire systems if neutral protection is desired. Sold separately.
- ⑤ No neutral protection available on four-pole breakers with LSG or LSIG trip units.
- ⑥ Unprotected left pole neutral. Add "P" to catalog number for 100% protected left pole neutral, add "E" for 60% protected, for example, "RGH416033PW," "RGH416033EW."
- ⑦ Molded case switch will trip above 17,500 amperes.

RG MCCBs have English threading on line and load conductors. Use suffix "M" for metric threading.

# 2.3

## Molded Case Circuit Breakers

### Series G

2

#### Type RG with Digitrip 610 and 910

Circuit Breaker Frame Including Digitrip RMS 610 and 910 Electronic Trip Unit with Rating Plugs  
Order as Individual Component—Catalog Number ①

Maximum Continuous Ampere Rating at 40 °C	Number of Poles	Circuit Breaker Frame Including Digitrip RMS 610 and 910 Electronic Trip Unit with Rating Plugs Order as Individual Component—Catalog Number ①						Digitrip RMS Interchangeable Rating Plug (Order as Individual Component)	Fixed Rating Plug
		LI	LS	LSI	LIG	LSG	LSIG		
<b>Long Delay Pickup</b>		0.5–1.0 x I <sub>n</sub>	0.5–1.0 <sub>n</sub>	0.5–1.0 x I <sub>n</sub>	0.5–1.0 x I <sub>n</sub>	0.5–1.0 x I <sub>n</sub>	0.5–1.0 x I <sub>n</sub>		
<b>Long Delay Time</b>		2–24 Seconds	2–24 Seconds	2–24 Seconds	2–24 Seconds	2–24 Seconds	2–24 Seconds		
<b>Short Time Range</b>		2–6 x I <sub>r</sub>	2–6 x I <sub>r</sub>	2–6 x I <sub>r</sub>	2–6 x I <sub>r</sub>	2–6 x I <sub>r</sub>	2–6 x I <sub>r</sub>		
<b>Short Time Delay</b>		—	100–500 ms	100–500 ms	—	100–500 ms	100–500 ms		
<b>Instantaneous</b>		2–6 x M1 and M2	—	2–6 x M1 and M2	2–6 x M1 and M2	—	2–6 x M1 and M2		
<b>Ground Fault Pickup</b>		—	—	—	0.25–1.0 x I <sub>n</sub> ②	0.25–1.0 x I <sub>n</sub> ②	0.25–1.0 x I <sub>n</sub> ②	<b>Ampere Rating</b>	
<b>Ground Fault Delay</b>		—	—	—	100–500 ms	100–500 ms	100–500 ms	<b>Catalog Number</b>	

#### Type RGH with Digitrip 610 High Interrupting Capacity—U<sub>e</sub> Max. 690 Vac, 70 kA I<sub>cu</sub> at 415 Vac

1600	3	RGH316T61WP44	RGH316T63WP44	RGH316T62WP44	RGH316T64WP44	RGH316T65WP44	RGH316T66WP44	800	RP6R16A080
								1000	RP6R16A100
								1200	RP6R16A120
								1250	RP6R16A125
								1600	RP6R16A160
<b>Includes 1600 A rating plug</b>									
2000	3	RGH320T61WP49	RGH320T63WP49	RGH320T62WP49	RGH320T64WP49	RGH320T65WP49	RGH320T66WP49	1000	RP6R20A100
								1200	RP6R20A120
								1250	RP6R20A125
								1600	RP6R20A160
								2000	RP6R20A200
<b>Includes 2000 A rating plug</b>									
2500	3	RGH325T61WP53	RGH325T63WP53	RGH325T62WP53	RGH325T64WP53	RGH325T65WP53	RGH325T66WP53	1600	RP6R25A160
								2000	RP6R25A200
								2500	RP6R25A250

#### Type RGC with Digitrip 610 Very High Interrupting Capacity—U<sub>e</sub> Max. 690 Vac, 100 kA I<sub>cu</sub> at 415 Vac

1600	3	RGC316T61WP44	RGC316T63WP44	RGC316T62WP44	RGC316T64WP44	RGC316T65WP44	RGC316T66WP44	800	RP6R16A080
								1000	RP6R16A100
								1200	RP6R16A120
								1250	RP6R16A125
								1600	RP6R16A160
<b>Includes 1600 A rating plug</b>									
2000	3	RGC320T61WP49	RGC320T63WP49	RGC320T62WP49	RGC320T64WP49	RGC320T65WP49	RGC320T66WP49	1000	RP6R20A100
								1200	RP6R20A120
								1250	RP6R20A125
								1600	RP6R20A160
								2000	RP6R20A200
<b>Includes 2000 A rating plug</b>									
2500	3	RGC325T61WP53	RGC325T63WP53	RGC325T62WP53	RGC325T64WP53	RGC325T65WP53	RGC325T66WP53	1600	RP6R25A160
								2000	RP6R25A200
								2500	RP6R25A250

#### Notes

① Order terminals separately. Mounting hardware not included.

② Not to exceed 1200 ampere ground fault pickup.

RG MCCBs have metric threading on line and load conductors. Use RD MCCBs if imperial threading is required.

Type RG with Digitrip 610 and 910, continued

		Circuit Breaker Frame Including Digitrip RMS 610 and 910 Electronic Trip Unit with Rating Plugs Order as Individual Component—Catalog Number ①						Digitrip RMS Interchangeable Rating Plug (Order as Individual Component)			
Maximum Continuous Ampere Rating at 40 °C	Number of Poles	L – Adjustable Long Delay Pickup ( $I_L$ ) with Adjustable Long Delay Time S – Adjustable Short Delay Pickup with Adjustable Short Delay Time ( $I^2t$ or Flat Response) I – Adjustable Instantaneous Pickup G – Adjustable Ground Fault Pickup with Adjustable Ground Fault Time Delay ( $I^2t$ or Flat Response)						Fixed Rating Plug	Ampere Rating	Catalog Number	
		LI	LS	LSI	LIG	LSG	LSIG				
Long Delay Pickup		0.5–1.0 x $I_n$	0.5–1.0 <sub>n</sub>	0.5–1.0 x $I_n$	0.5–1.0 x $I_n$	0.5–1.0 x $I_n$	0.5–1.0 x $I_n$				
Long Delay Time		2–24 Seconds	2–24 Seconds	2–24 Seconds	2–24 Seconds	2–24 Seconds	2–24 Seconds				
Short Time Range		2–6 x $I_r$	2–6 x $I_r$	2–6 x $I_r$	2–6 x $I_r$	2–6 x $I_r$	2–6 x $I_r$				
Short Time Delay		—	100–500 ms	100–500 ms	—	100–500 ms	100–500 ms				
Instantaneous		2–6 x M1 and M2	—	2–6 x M1 and M2	2–6 x M1 and M2	—	2–6 x M1 and M2				
Ground Fault Pickup		—	—	—	0.25–1.0 x $I_n$ ②	0.25–1.0 x $I_n$ ②	0.25–1.0 x $I_n$ ②				
Ground Fault Delay		—	—	—	100–500 ms	100–500 ms	100–500 ms				
<b>Type RGH with Digitrip 910 High Interrupting Capacity—<math>U_e</math> Max. 690 Vac, 70 kA <math>I_{cu}</math> at 415 Vac</b>											
1600	3	RGH316T91WP44	RGH316T93WP44	RGH316T92WP44	RGH316T94WP44	RGH316T95WP44	RGH316T96WP44	800	RP6R16A080		
								1000	RP6R16A100		
								1200	RP6R16A120		
								1250	RP6R16A125		
		Includes 1600 A rating plug							1600	RP6R16A160	
2000	3	RGH320T91WP49	RGH320T93WP49	RGH320T92WP49	RGH320T94WP49	RGH320T95WP49	RGH320T96WP49	1000	RP6R20A100		
								1200	RP6R20A120		
								1250	RP6R20A125		
								1600	RP6R20A160		
		Includes 2000 A rating plug							2000	RP6R20A200	
2500	3	RGH325T91WP53	RGH325T93WP53	RGH325T92WP53	RGH325T94WP53	RGH325T95WP53	RGH325T96WP53	1600	RP6R25A160		
								2000	RP6R25A200		
		Includes 2500 A rating plug							2500	RP6R25A250	
<b>Type RGC with Digitrip 910 Very High Interrupting Capacity—<math>U_e</math> Max. 690 Vac, 100 kA <math>I_{cu}</math> at 415 Vac</b>											
1600	3	RGC316T91WP44	RGC316T93WP44	RGC316T92WP44	RGC316T94WP44	RGC316T95WP44	RGC316T96WP44	800	RP6R16A080		
								1000	RP6R16A100		
								1200	RP6R16A120		
								1250	RP6R16A125		
		Includes 1600 A rating plug							1600	RP6R16A160	
2000	3	RGC320T91WP49	RGC320T93WP49	RGC320T92WP49	RGC320T94WP49	RGC320T95WP49	RGC320T96WP49	1000	RP6R20A100		
								1200	RP6R20A120		
								1250	RP6R20A125		
								1600	RP6R20A160		
		Includes 2000 A rating plug							2000	RP6R20A200	
2500	3	RGC325T91WP53	RGC325T93WP53	RGC325T92WP53	RGC325T94WP53	RGC325T95WP53	RGC325T96WP53	1600	RP6R25A160		
								2000	RP6R25A200		
		Includes 2500 A rating plug							2500	RP6R25A250	

Notes

① Order terminals separately. Mounting hardware not included.

② Not to exceed 1200 ampere ground fault pickup.

RG MCCBs have metric threading on line and load conductors. Use RD MCCBs if imperial threading is required.

### Accessories Selection Guide and Ordering Information

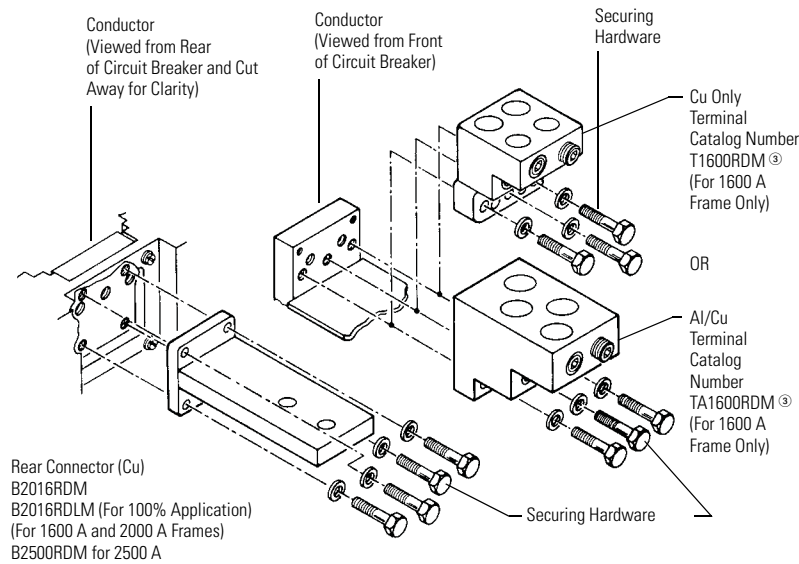
#### Line and Load Terminals

R-Frame circuit breakers use Cu/Al terminals as standard and copper only terminals as an option. Specify if factory installation is required. Must have terminals for 100% rated and or freeze testing requirements.

#### Line and Load Terminals

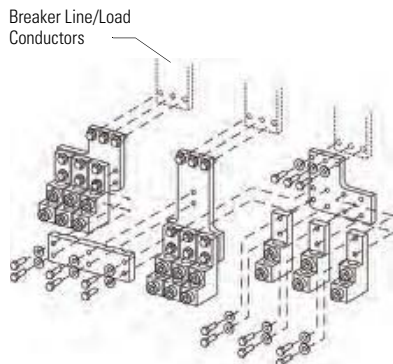
Maximum Breaker Amperes	Terminal Body Material	Wire Type	Hardware	AWG/kcmil Wire Range/ Number of Conductors	Metric Wire Range mm <sup>2</sup>	Catalog Number
<b>Wire Terminals</b>						
1600	Aluminum	Cu/Al	Metric	500–1000 (4)	300–500	<b>TA1600RDM</b> ①
1600	Copper	Cu	Metric	1–600 (4)	50–300	<b>T1600RDM</b> ①
2000	Aluminum	Cu/Al	Metric	2–600 (6)	35–300	<b>TA2000RDM</b> ②
<b>Rear Connectors</b>						
2000	Copper	—	Metric	—	—	<b>B2016RDM</b> ①
2000	Copper	—	Metric	—	—	<b>B2016RDLM</b> ①
2500	Copper	—	Metric	—	—	<b>B2500RDM</b> ①

#### RG Rear Connector Exploded View



#### TA2000RD Wire Terminal

**Note:** Order one TA2000RDM kit per three poles. Catalog number includes bus connection, terminals and hardware for either line side or load side of three-pole breaker.



#### Base Mounting Hardware

Supplied by customer.

#### Handle Extension

Included with breaker. Additional handle extensions are available.

#### Handle Extension

Description	Catalog Number
Single handle extension	<b>HEX6</b>

#### Wire Seal

The wire seal can be used to secure the cover on the trip unit to prevent adjustments after settings are confirmed.

#### Wire Seal

Description	Catalog Number
Wire seal	<b>5108A03H01</b>

#### Notes

- ① Order one per pole—single terminals individually packed.
- ② Order one TA2000RD kit per three poles. Catalog number includes bus connection, terminals and hardware for either line side or load side of three-pole breaker.
- ③ For use with 2500 A Frame. Do not order separately unless for replacement purposes. Included in breaker carton when 2500 A frame is ordered.

RG MCCBs have metric threading on line and load conductors. Use RD MCCBs if imperial threading is required.

## Accessories

### Allowable Accessory Combinations

Different combinations of accessories can be supplied, depending on the types of accessories and the number of poles in the circuit breaker.

### RG-Frame Accessories

Description	Reference Page	Three-Pole			Four-Pole			
		Left	Center	Right	Left	Center	Right	Neutral
<b>Internal Accessories (Only One Internal Accessory Per Pole)</b>								
Alarm lockout (Make/Break)	V4-T2-213			■			■	
Auxiliary switch (1A, 1B)	V4-T2-213			■			■	
Auxiliary switch (2A, 2B)	V4-T2-213			■			■	
Auxiliary switch and alarm switch combination	V4-T2-213			■			■	
Shunt trip—standard	V4-T2-213			●			●	
Undervoltage release mechanism	V4-T2-214			●			●	
<b>External Accessories</b>								
Base mounting hardware	V4-T2-184	●	●	●	●	●	●	●
Padlockable handle lock hasp	V4-T2-211	□		□	□		□	
Key interlock kit	V4-T2-211	□		□	□		□	
Electrical operator	V4-T2-211	●	●	●	●	●	●	●
Handle mechanisms	V4-T2-496	●	●	●	●	●	●	●
Handle extension	V4-T2-184	●	●	●	●	●	●	●
Digitrip 310+ test kit	V4-T2-210	●	●	●	●	●	●	●
<b>Modifications (Refer to Eaton)</b>								
Moisture fungus treatment	V4-T2-209	●	●	●	●	●	●	●
Freeze-tested circuit breakers	—	●	●	●	●	●	●	●
Marine/naval application, UL 489 Supplement SA and SB	①	●	●	●	●	●	●	●

### Legend

- Applicable in indicated pole position
- May be mounted on left or right pole—not both
- Accessory available/modification available

### 310+ Electronic Trip Unit Accessories

Description	Catalog Number
Electronic portable test kit	MTST230V
Trip unit tamper protection wire seal	5108A03H01
External neutral sensor (2500 A) ②	RGFCT250A
External neutral sensor (2000 A) ②	RGFCT200A
External neutral sensor (1600 A) ②	RGFCT160A
Breaker-mount cause-of-trip indication ③	—
Breaker-mount ammeter module	DIGIVIEW
Remote-mount ammeter module	DIGIEWR06

### Notes

- ① Contact Eaton.
- ② Required for four-wire systems if neutral protection is desired. Sold separately.
- ③ Cause-of-trip indication LEDs integrated in RG 310+ trip units.

## Technical Data and Specifications

2

### UL 489/CSA Interrupting Capacity Ratings <sup>①</sup>

Circuit Breaker Type	Number of Poles	Interrupting Capacity (kA Symmetrical Amperes)			
		Volts AC (50/60 Hz)			
		240	277	480	600
RGH	3, 4	125	—	65	50
RGC	3, 4	200	—	100	65

### IEC 947-2 Interrupting Capacity Ratings <sup>①</sup>

Circuit Breaker Type	Number of Poles	Interrupting Capacity (kA Symmetrical Amperes)		
		Volts AC (50/60 Hz)		
		240	415	690
RGH	3, 4			
$I_{cu}$		135	70	25
$I_{cs}$		100	50	13
RGC	3, 4			
$I_{cu}$		200	100	35
$I_{cs}$		100	50	18

### RG 310+ Specifications

Description	Specification
Trip Unit Type	Digitrip RMS 310+
<b>Breaker Type</b>	
Frame designation	RG
Frames available	1600 A, 2000 A, 2500 A
Continuous current range (A)	800–2500 A
Ground fault pickup (A)	200–1200 A
Interrupting capacities at 480 Vac (kAIC)	65, 100
100% rated	Yes
<b>Protection</b>	
Ordering options	LS, LSI, LSG, LSIG, ALSI, ALSIG
Arcflash reduction maintenance system (or maintenance mode)	Yes
Interchangeable trip unit	Yes
High load alarm (suffix B20) <sup>②</sup>	Yes
Ground fault alarm with trip (suffix B21) <sup>②</sup>	Yes
Ground fault alarm, no trip (suffix B22) <sup>②</sup>	Yes
Zone selective interlocking (suffix ZG)	LSI, LSIG, ALSI, ALSIG
Cause of trip indication	Yes
Thru-cover accessories	No

#### Notes

<sup>①</sup> Utilization Category A circuit breakers.

<sup>②</sup> B2x suffixes cannot be combined with B2x suffixes.

See **Page V4-T2-178** for trip unit specifications.

## RG 310+ Adjustability Specifications

310+ Settings		RG Frame		
		1600 A	2000 A	2500 A
$I_r$ = continuous current or long delay pickup (amperes) (All 310+)	$I_r$			
	A	800	1000	1600
	B	900	1200	1700
	C	1000	1400	1800
	D	1100	1600	2000
	E	1200	1700	2100
	F	1400	1800	2200
	G	1500	1900	2400
	H (= $I_n$ )	1600	2000	2500
$t_r$ = long delay time (seconds) (All 310+)	Position 1	2	2	2
	Position 2	4	4	4
	Position 3	7	7	7
	Position 4	10	10	10
	Position 5	12	12	12
	Position 6	15	15	15
	Position 7	20	20	20
	Position 8	24	24	24
$I_{sd}$ ( $\times I_r$ ) = short delay pickup (All 310+)	Position 1	2x	2x	2x
	Position 2	3x	3x	2x
	Position 3	4x	4x	2x
	Position 4	5x	5x	3x
	Position 5	6x	6x	4x
	Position 6	7x	7x	5x
	Position 7	8x	8x	6x
	Position 8	8x	8x	6x
	Position 9	9x	9x	6x
$t_{sd}$ = short delay time $I^2t$ (milliseconds) (LS, LSG)	Fixed	67 at10x	67 at10x	67 at10x
$t_{sd}$ = short delay time flat (milliseconds) (LSI, LSIG, ALSI, ALSIG) ①	Position 1	Inst	Inst	Inst
	Position 2	120	120	120
	Position 3	300	300	300
	Position 4	300	300	300
$I_g$ = ground fault pickup (amperes) (LSG, LSIG, ALSIG)	Position 1	200	200	200
	Position 2	400	400	400
	Position 3	600	600	600
	Position 4	800	800	800
	Position 5	1000	1000	1000
	Position 6	1200	1200	1200
$t_g$ = ground fault delay time (milliseconds) (LSG, LSIG, ALSIG)	Position 1	Inst	Inst	Inst
	Position 2	120	120	120
	Position 3	300	300	300
Independently Adjustable Instantaneous ( $I_i$ ) setting (ALSI, ALSIG)	Yes	2.5x, 4x, 6x, 7x, 8x, 11x	2.5x, 4x, 6x, 7x, 8x, 9x	2.5x, 4x, 6x, 7x
Maintenance Mode (remote) pickup ( $2.5 \times I_n$ ) (ALSI, ALSIG) ②	Fixed	2.5x	2.5x	2.5x

**Notes**

- ① 50 ms for ALSI and ALSIG trip units.
- ② Maintenance Mode is enabled remotely using a 24 Vdc circuit.

# 2.3

## Molded Case Circuit Breakers

### Series G

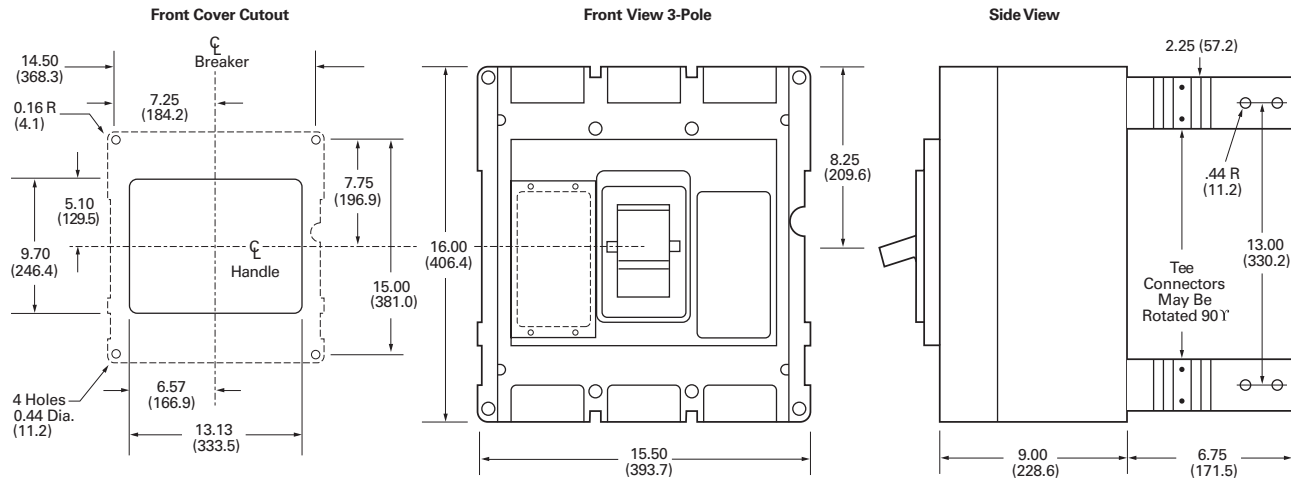
#### Dimensions and Weights

Approximate Dimensions in Inches (mm)

2

#### RG-Frame

Number of Poles	Width	Height	Depth
3	15.50 (393.7)	16.00 (406.4)	9.75 (247.7)
4	20.00 (508.0)	16.00 (406.4)	9.75 (247.7)



Approximate Shipping Weight in Lbs (kg)

#### RG-Frame

Breaker Type	Complete Breaker	
	Number of Poles Three-Pole	Four-Pole
<b>1600 Amperes</b>		
RGH, RGC	102 (46.3)	135 (61.2)
<b>2000 Amperes</b>		
RGH, RGC	102 (46.3)	135 (61.2)
<b>2500 Amperes</b>		
RGH, RGC	135 (61.2)	182 (82.6)

Motor Circuit 480 Vac, Protectors



**Motor Circuit Protectors (MCP)**

**Contents**

<i><b>Description</b></i>	<i><b>Page</b></i>
EG-Frame (15–125 Amperes) . . . . .	<b>V4-T2-119</b>
JG-Frame (63–250 Amperes) . . . . .	<b>V4-T2-133</b>
LG-Frame (250–630 Amperes) . . . . .	<b>V4-T2-151</b>
NG-Frame (320–1200 Amperes) . . . . .	<b>V4-T2-169</b>
RG-Frame (800–2500 Amperes) . . . . .	<b>V4-T2-178</b>
Motor Circuit Protectors (MCP) Product Selection Guide and Ordering Information . . . . .	<b>V4-T2-190</b>
Motor Protector Circuit Breakers (MPCB). . . . .	<b>V4-T2-193</b>
30 mA Ground Fault (Earth Leakage) Module. . . . .	<b>V4-T2-196</b>
Current Limiting Circuit Breaker Module . . . . .	<b>V4-T2-200</b>
High Instantaneous Circuit Breaker for Selective Coordination . . . . .	<b>V4-T2-205</b>
Special Features and Accessories. . . . .	<b>V4-T2-208</b>
Motor Operators . . . . .	<b>V4-T2-216</b>
Plug-In Blocks . . . . .	<b>V4-T2-218</b>
Drawout Cassette . . . . .	<b>V4-T2-219</b>

## Product Selection Guide and Ordering Information

2

EG-Frame—480 Vac, 600Y/347 Vac Maximum <sup>①</sup>

Continuous Amperes	Cam Setting	Motor Full Load Current Amperes <sup>②</sup>	MCP Trip Setting <sup>③</sup>	MCP Catalog Number
3	A	0.69–0.91	9	HMCPE003A0C
	B	1.1–1.3	15	
	C	1.6–1.7	21	
	D	2.0–2.2	27	
	E	2.3–2.5	30	
	F	2.6–2.8	33	
7	A	1.5–2.0	21	HMCPE007C0C
	B	2.6–3.1	35	
	C	3.7–3.9	49	
	D	4.8–5.2	63	
	E	5.3–5.7	70	
	F	5.8–6.1	77	
15	A	3.4–4.5	45	HMCPE015E0C
	B	5.7–6.8	75	
	C	8.0–9.1	105	
	D	10.4–11.4	135	
	E	11.5–12.6	150	
	F	12.7–13.0	165	
30	A	3.9–9.1	90	HMCPE030H1C
	B	11.5–13.7	150	
	C	16.1–18.3	210	
	D	20.7–22.9	270	
	E	23.0–25.2	300	
	F	25.3–26.1	330	

**Notes**

- ① UL listed for use with Eaton Motor Starters.
- ② Motor FLA ranges are typical. The corresponding trip setting is at 13 times the minimum FLA value shown. Where a 13 times setting is required for an intermediate FLA value, alternate cam settings and/or MCP ratings should be used.
- ③ For DC applications, actual trip levels are approximately 40% higher than values shown.

EG-Frame—480 Vac, 600Y/347 Vac Maximum, continued <sup>①</sup>

Continuous Amperes	Cam Setting	Motor Full Load Current Amperes <sup>②</sup>	MCP Trip Setting <sup>③</sup>	MCP Catalog Number
50	A	11.5–15.2	150	HMCPE050K2C
	B	19.2–22.9	250	
	C	26.9–30.6	350	
	D	34.6–38.3	450	
	E	38.4–42.1	500	
	F	42.2–43.5	550	
70	A	16.1–30.6	210	HMCPE070M2C
	B	26.9–32.2	350	
	C	37.6–42.9	490	
	D	48.4–53.7	630	
	E	53.8–59.1	700	
	F	59.2–60.9	770	
100	A	23.0–30.6	300	HMCPE100R3C
	B	38.4–46.0	500	
	C	53.8–61.4	700	
	D	69.2–76.8	900	
	E	76.9–84.5	1000	
	F	84.6–87.0	1100	
100	A	38.4–46.0	500	HMCPE100T3C
	B	57.6–65.2	750	
	C	76.9–84.5	1000	
	D	④	1250	
	E	④	1375	
	F	④	1500	

JG-Frame—600 Vac Maximum, 250 Vdc Maximum <sup>①</sup>

Continuous Amperes	MCP Trip Range (Amperes)	MCP Catalog Number
250	500–1000	HMCPJ250D5L
	625–1250	HMCPJ250F5L
	750–1500	HMCPJ250G5L
	875–1750	HMCPJ250J5L
	1000–2000	HMCPJ250K5L
	1125–2250	HMCPJ250L5L
	1250–2500	HMCPJ250W5L

**Notes**

- <sup>①</sup> UL listed for use with Eaton Motor Starters.
- <sup>②</sup> Motor FLA ranges are typical. The corresponding trip setting is at 13 times the minimum FLA value shown. Where a 13 times setting is required for an intermediate FLA value, alternate cam settings and/or MCP ratings should be used.
- <sup>③</sup> For DC applications, actual trip levels are approximately 40% higher than values shown.
- <sup>④</sup> Settings above  $10 \times I_n$  are for special applications. Where the ampere rating of the disconnecting means cannot be less than 115% of the motor full load ampere rating.

LG-Frame—600 Vac Maximum, 250 Vdc Maximum <sup>①</sup>

2

Continuous Amperes	MCP Trip Range (Amperes)	MCP Catalog Number
600	1250–2500	HMCPL600L6G
	1500–3000	HMCPL600N6G
	1750–3500	HMCPL600R6G
	2000–4000	HMCPL600X6G
	2250–4500	HMCPL600Y6G
	2500–5000	HMCPL600P6G
	3000–6000	HMCPL600M6G

**Notes**

<sup>①</sup> UL listed for use with Eaton Motor Starters.

800 and 1200 ampere, 600 Vac maximum motor circuit protectors are available as Series C HMCP product.

Series G Motor Protector Circuit Breakers (MPCB)



### Contents

<i>Description</i>	<i>Page</i>
EG-Frame (15–125 Amperes) . . . . .	<b>V4-T2-119</b>
JG-Frame (63–250 Amperes) . . . . .	<b>V4-T2-133</b>
LG-Frame (250–630 Amperes) . . . . .	<b>V4-T2-151</b>
NG-Frame (320–1200 Amperes) . . . . .	<b>V4-T2-169</b>
RG-Frame (800–2500 Amperes) . . . . .	<b>V4-T2-178</b>
Motor Circuit Protectors (MCP) . . . . .	<b>V4-T2-189</b>
Motor Protector Circuit Breakers (MPCB)	
Product Selection . . . . .	<b>V4-T2-194</b>
Technical Data and Specifications . . . . .	<b>V4-T2-195</b>
30 mA Ground Fault (Earth Leakage) Module . . . . .	<b>V4-T2-196</b>
Current Limiting Circuit Breaker Module . . . . .	<b>V4-T2-200</b>
High Instantaneous Circuit Breaker for	
Selective Coordination . . . . .	<b>V4-T2-205</b>
Special Features and Accessories . . . . .	<b>V4-T2-208</b>
Motor Operators . . . . .	<b>V4-T2-216</b>
Plug-In Blocks . . . . .	<b>V4-T2-218</b>
Drawout Cassette . . . . .	<b>V4-T2-219</b>

## Motor Protector Circuit Breakers (MPCB)

### Product Description

- Eliminates need for separate overload relay

### Application Description

- Can be used with contactor to eliminate need for overload relay and still create manual motor control
- Meets requirement for motor branch protection, including:
  - Disconnecting means
  - Branch circuit short circuit protection
  - Overload protection

### Features and Benefits

- Phase unbalance protection
- Phase loss protection
- Hot trip/cold trip
- High load alarm
- Pre-detection trip relay option
- Class 10, 15, 20, 30 protection

### Standards and Certifications

- IEC 60947-2
- UL 489 100% rated
- UL 508
- CSA C22.2



## Product Selection

2

## JGMP Catalog Numbers

Continuous Amperes	35 kAIC Catalog Number	65 kAIC Catalog Number
50	JGMPS050G	JGMPH050G
100	JGMPS100G	JGMPH100G
160	JGMPS160G	JGMPH160G
250	JGMPS250G	JGMPH250G

## JGMP FLA Ie Dial Setting

Continuous Amperes	A	B	C	D	E	F	G	H
50	20	20	25	30	32	40	45	50
100	40	45	50	63	70	80	90	100
160	63	80	90	100	110	125	150	160
250	100	125	150	160	175	200	225	250

## LGMP Catalog Numbers

Continuous Amperes	50 kAIC Catalog Number	65 kAIC Catalog Number
250	LGMP250G	LGMPH250G
400	LGMP400G	LGMPH400G
600	LGMP600G	LGMPH600G
630 ①	LGMP630G	LGMPH630G

## LGMP FLA Ie Dial Setting

Continuous Amperes	A	B	C	D	E	F	G	H
250	100	125	150	160	175	200	225	250
400	160	200	225	250	300	315	350	400
600	250	300	315	350	400	450	500	600
630 ①	250	300	315	350	400	500	600	630

**Notes**

① 630 amperes is not a UL listed rating. 600 amperes is the maximum UL or CSA for LG breaker.

For pre-trip alarm option, order Style Number 5721B31G02.

For additional breaker solutions, see **Page V4-T2-371**.

## Technical Data and Specifications

### JGMPS and JGMPH Rating and Ampere Range

Breaker Capacity (kA rms) AC 50–60 Hz			Maximum Rated Current—250 A	
			Breaker Type	
			JGMPS	JGMPH
IEC 60947-2	220–240 Vac	I cu	85	100
		I cs	85	100
	380–415 Vac	I cu	40	70
		I cs	40	70
	660–690 Vac	I cu	12	14
		I cs	6	7
NEMA UL 489	240 Vac		85	100
	480 Vac		35	65
	600 Vac		25	35
Number of poles			3	3
Ampere range			50–250	50–250

### LGMP5 and LGMPH Rating and Ampere Range

Breaker Capacity (kA rms) AC 50–60 Hz			Maximum Rated Current—630 A <sup>①</sup>	
			Breaker Type	
			LGMP5	LGMPH
IEC 60947-2	220–240 Vac	I cu	85	100
		I cs	85	100
	380–415 Vac	I cu	50	70
		I cs	50	53
	660–690 Vac	I cu	20	25
		I cs	10	13
NEMA UL 489	240 Vac		85	100
	480 Vac		50	65
	600 Vac		25	35
Number of poles			3	3
Ampere range			250–630 <sup>①</sup>	250–630 <sup>①</sup>

#### Notes

<sup>①</sup> 630 amperes is not a UL listed rating. 600 amperes is the maximum UL or CSA for LG breaker.

For pre-trip alarm option, order Style Number 5721B31G02.

#### 30 mA Ground Fault (Earth Leakage) Modules



**Clockwise from Left:  
JG, LG, EG MCCBs Shown with  
Ground Fault (Earth Leakage) Module**

### 30 mA Ground Fault (Earth Leakage) Module

#### Product Description

Eaton offers three- and four-pole 30 mA ground fault (earth leakage) protection modules for Series G E-, J- and L-frame molded case circuit breakers (MCCBs). Separate UL listed and IEC rated devices are available for each frame.

The modules are bottom mounted and are available for each frame circuits up to:

- EG: 125 amperes
- JG: 150 (UL), 160 (IEC) or 250 amperes
- LG: 400, 600 (UL) or 630 (IEC) amperes

The module is completely self contained, including a current sensor, relay and power supply inside the device. Current pickup settings are selectable from 0.03 to 10 amperes for all devices, except for the UL listed module, for which settings are selectable from 0.03 to 30 amperes. Time delays are also selectable from Instantaneous to 1.0 second for pickup settings of 0.10 amperes and above. The current pickup setting of 0.03 amperes defaults to an Instantaneous time setting regardless of the time dial's position.

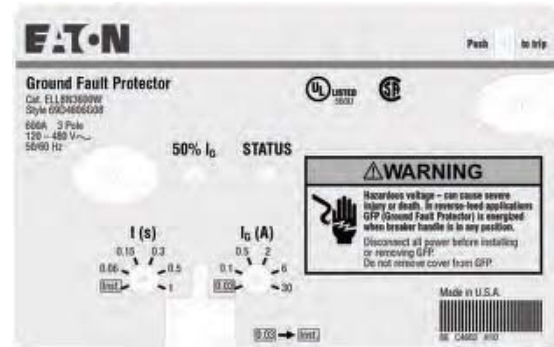
Two alarm contacts are included with each device, which can be wired externally for remote indication. Both of these are also indicated by an LED on the front of the device:

1. 50% pre-trip: alarms when the earth leakage current reaches 50% of the set pickup setting value.
2. 100% after trip: alarms when the breaker reaches the set pickup setting value and the breaker trips.

### Contents

Description	Page
EG-Frame (15–125 Amperes)	V4-T2-119
JG-Frame (63–250 Amperes)	V4-T2-133
LG-Frame (250–630 Amperes)	V4-T2-151
NG-Frame (320–1200 Amperes)	V4-T2-169
RG-Frame (800–2500 Amperes)	V4-T2-178
Motor Circuit Protectors (MCP)	V4-T2-189
Motor Protector Circuit Breakers (MPCB)	V4-T2-193
30 mA Ground Fault (Earth Leakage) Module	
Product Selection	V4-T2-197
Dimensions	V4-T2-198
Current Limiting Circuit Breaker Module	V4-T2-200
High Instantaneous Circuit Breaker for	
Selective Coordination	V4-T2-205
Special Features and Accessories	V4-T2-208
Motor Operators	V4-T2-216
Plug-In Blocks	V4-T2-218
Drawout Cassette	V4-T2-219

#### UL-Rated LG-Frame Earth Leakage Module Faceplate



#### IEC-Rated LG-Frame Earth Leakage Module Faceplate



## Product Selection

## EG-Frame


**EG-Frame Ground Fault Modules, UL-Rated (Bottom Mounted, 120–480 Vac, 50/60 Hz) ①**

Ampere Rating	Number of Poles	Catalog Number
125	3	ELEBN3125G
125	4	ELEBN4125G

**EG-Frame Earth Leakage Modules, IEC-Rated (Bottom Mounted, 230–415 Vac, 50/60 Hz)**

Ampere Rating	Number of Poles	Catalog Number
125	3	ELEBE3125G
125	4	ELEBE4125G

## JG-Frame


**JG-Frame Ground Fault Modules, UL-Rated (Bottom Mounted, 120–480 Vac, 50/60 Hz)**

Ampere Rating	Number of Poles	Catalog Number
150	3	ELJBN3150W
150	4	ELJBN4150W
250	3	ELJBN3250W
250	4	ELJBN4250W

**JG-Frame Earth Leakage Modules, IEC-Rated (Bottom Mounted, 230–415 Vac, 50/60 Hz)**

Ampere Rating	Number of Poles	Catalog Number
160	3	ELJBE3160W
160	4	ELJBE4160W
250	3	ELJBE3250W
250	4	ELJBE4250W

**Note**

① Shunt trip and undervoltage release cannot be used in an EG breaker connected to an earth leakage module.

## LG-Frame


**LG-Frame Ground Fault Modules, UL-Rated (Bottom Mounted, 120–480 Vac, 50/60 Hz)**

Ampere Rating	Number of Poles	Catalog Number
400	3	ELLBN3400W
400	4	ELLBN4400W
600	3	ELLBN3600W
600	4	ELLBN4600W

**LG-Frame Earth Leakage Modules, IEC-Rated (Bottom Mounted, 230–415 Vac, 50/60 Hz)**

Ampere Rating	Number of Poles	Catalog Number
400	3	ELLBE3400W
400	4	ELLBE4400W
630	3	ELLBE3630W
630	4	ELLBE4630W

### Dimensions

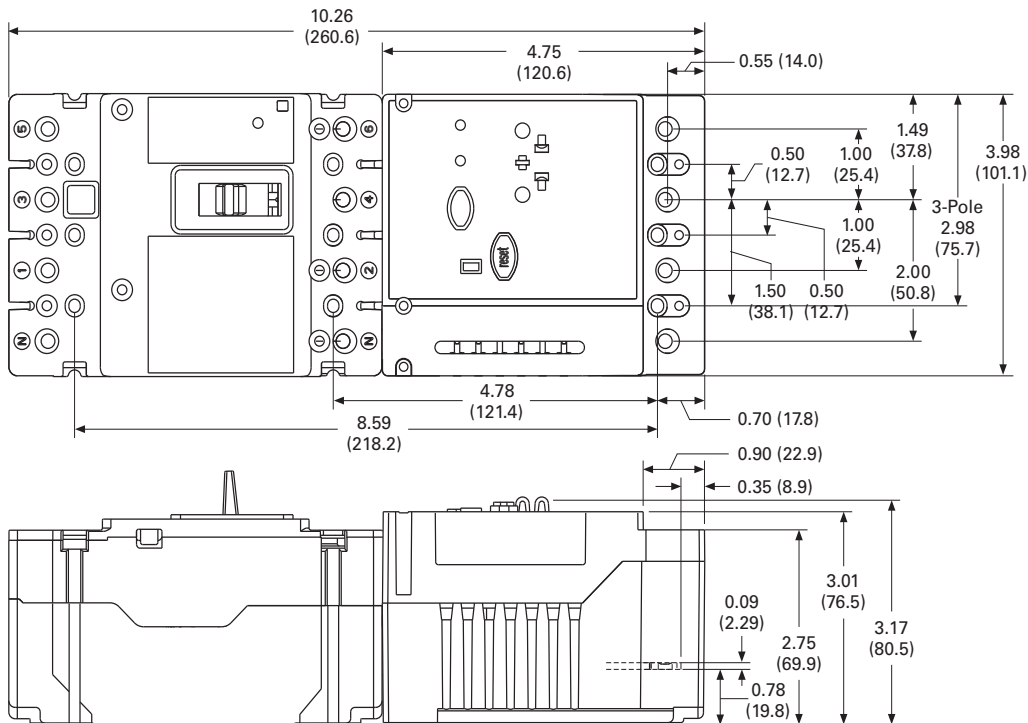
Approximate Dimensions in Inches (mm)

2

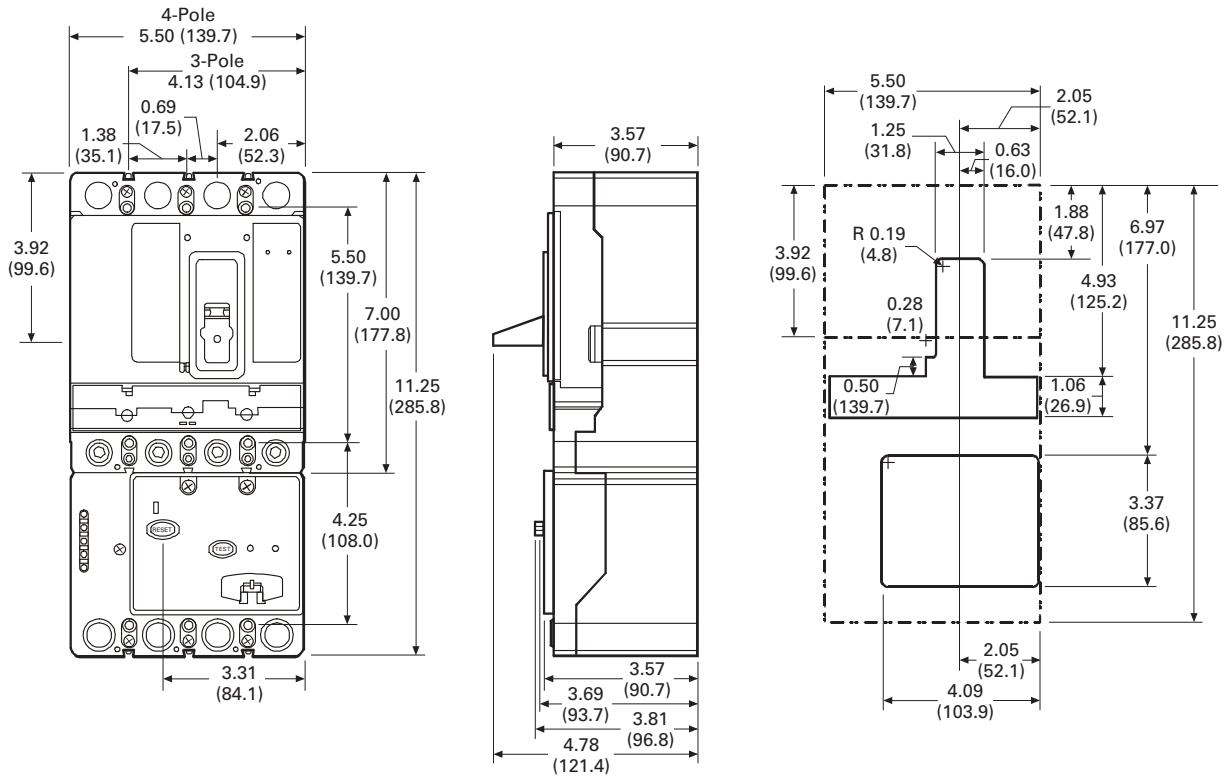
#### Assembled Breaker and Earth Leakage Module

Frame	Height	Width	Depth
<b>Three-Pole</b>			
EG	10.25 (260.3)	3.00 (76.2)	2.98 (75.8)
JG	11.25 (285.8)	4.13 (104.9)	3.57 (90.7)
LG	15.38 (390.7)	5.48 (139.2)	4.06 (103.1)
<b>Four-Pole</b>			
EG	10.25 (260.3)	4.00 (101.6)	2.98 (75.8)
JG	11.25 (285.8)	5.50 (139.7)	3.57 (90.7)
LG	15.38 (390.7)	7.23 (183.6)	4.06 (103.1)

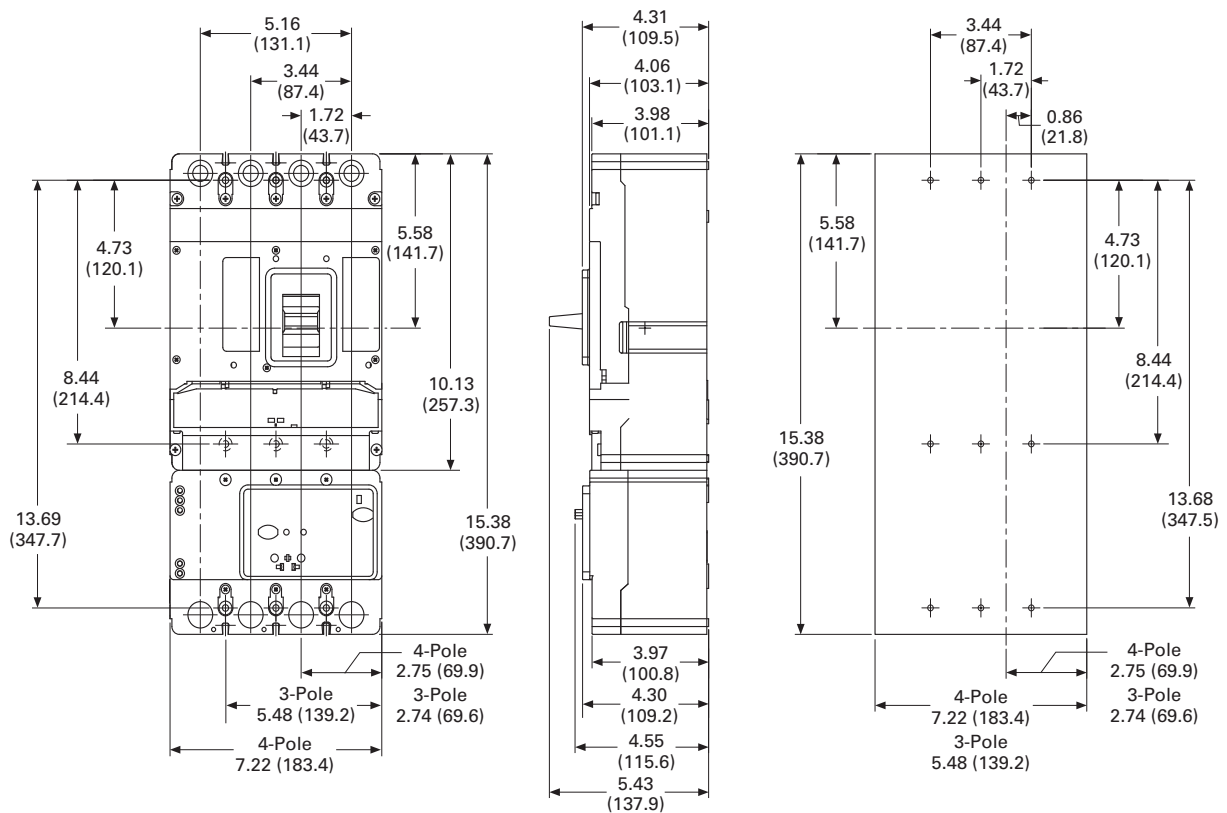
#### EG-Frame With Earth Leakage Module



JG-Frame With Earth Leakage Module



LG-Frame With Earth Leakage Module



#### Current Limiting Circuit Breaker Modules

2



#### Contents

<i>Description</i>	<i>Page</i>
EG-Frame (15–125 Amperes) . . . . .	<b>V4-T2-119</b>
JG-Frame (63–250 Amperes) . . . . .	<b>V4-T2-133</b>
LG-Frame (250–630 Amperes) . . . . .	<b>V4-T2-151</b>
NG-Frame (320–1200 Amperes) . . . . .	<b>V4-T2-169</b>
RG-Frame (800–2500 Amperes) . . . . .	<b>V4-T2-178</b>
Motor Circuit Protectors (MCP) . . . . .	<b>V4-T2-189</b>
Motor Protector Circuit Breakers (MPCB) . . . . .	<b>V4-T2-193</b>
30 mA Ground Fault (Earth Leakage) Module . . . . .	<b>V4-T2-196</b>
Current Limiting Circuit Breaker Module	
Product Selection . . . . .	<b>V4-T2-201</b>
Technical Data and Specifications . . . . .	<b>V4-T2-202</b>
Dimensions and Weights . . . . .	<b>V4-T2-202</b>
High Instantaneous Circuit Breaker for	
Selective Coordination . . . . .	<b>V4-T2-205</b>
Special Features and Accessories . . . . .	<b>V4-T2-208</b>
Motor Operators . . . . .	<b>V4-T2-216</b>
Plug-In Blocks . . . . .	<b>V4-T2-218</b>
Drawout Cassette . . . . .	<b>V4-T2-219</b>

### Current Limiting Circuit Breaker Module

#### Product Overview

Power demand continues to grow in new and existing facilities. To meet increased demand, larger utility supplies, spot networks and large facility transformers are installed. The increased capacity of the electrical source results in increased fault currents in excess of 100 kA short-circuit protection. Eaton manufactures non-fused current limiting modules with interrupting capacities up to 200 kA at 600 Vac or 70 kA at 690 Vac. Unlike fused current limiters with a one-time use, a current limiter module provides an automatic reset of the module after a short-circuit event. Resetting the molded-case circuit breaker is the only action required to restore critical power to the system; there is no time wasted with sourcing the correct replacement fuses or module to bring system back online.

#### Product Description

The current limiting breaker modules use a unique contact design to enhance the system protection similar to that of the circuit breaker. When high short-circuit current is flowing through the contacts of these modules, the design results in very high interrupting capacities and improved current limiting characteristics.

#### Application Description

High-performance breakers are most commonly applied when very high fault levels are available and with applications where the current limiting capability is used upstream of the final load to limit current. Typical loads include lighting, power distribution, and motor control applications.

#### Features and Benefits

Superior system protection:

- Auto reset improves system uptime and eliminates the need for finding replacement parts
- No fuses to replace, reducing the overall cost of ownership and the waste created by fuses
- Overloads, by using inverse time current tripping characteristics of the molded-case circuit breaker
- Low-level short circuits, by using instantaneous and/or short-time delay tripping characteristics of the molded-case circuit breaker
- High-level short circuits, by using ultra-high-speed, blow-apart contacts of the current limiting module in series with the circuit breaker contacts
- Let-through currents, by improved opening speed of the contacts, the resultant rapid rise of arc voltage introduces impedance into the system

#### Standards and Certifications

- IEC 60947-2
- UL 489
- CSA C22.2



## Product Selection

## Series G High Performance Family Offering

Type	Product	Amperes	480 Vac (UL)		415 Vac (IEC)		690 Vac (IEC)	
			I <sub>cu</sub>	I <sub>cs</sub>	I <sub>cu</sub>	I <sub>cs</sub>	I <sub>cu</sub>	I <sub>cs</sub>
EGC 3P thermal-magnetic	Breaker only	15–125	100	35 ①	100	100	—	—
	With limiter	15–100	150	100 ①	150	150	—	—
JG 3P thermal-magnetic	Breaker only	70–250	200	50	200	200	18	14
	With limiter	70–225	200	200	200	150	70	18
JG 3P electronic	Breaker only	20–250	200	50	200	200	18	14
	With limiter	100–250	200	200	200	150	70	18
LG 3P thermal-magnetic	Breaker only	250–600	200	65	200	200	35	18
LG3P electronic	Breaker only	100–600	200	65	200	200	35	18

## EG-Frame



## EG IC Rating—150 kAIC at 415 and 480 Vac

UL Listed (NEMA/IEC Rated) Base Molded Case Circuit Breaker	Breaker with Line Side Mounted Current Limiter	Breaker with Load Side Mounted Current Limiter	Line and Load Terminations Included ②	Interphase Barrier Included for Limiter
EGC3015FFG	EGC3015FFGQ01	EGC3015FFGQ02	T125EF	EIPBSK
EGC3016FFG	EGC3016FFGQ01	EGC3016FFGQ02	T125EF	EIPBSK
EGC3020FFG	EGC3020FFGQ01	EGC3020FFGQ02	T125EF	EIPBSK
EGC3025FFG	EGC3025FFGQ01	EGC3025FFGQ02	T125EF	EIPBSK
EGC3030FFG	EGC3030FFGQ01	EGC3030FFGQ02	T125EF	EIPBSK
EGC3032FFG	EGC3032FFGQ01	EGC3032FFGQ02	T125EF	EIPBSK
EGC3035FFG	EGC3035FFGQ01	EGC3035FFGQ02	T125EF	EIPBSK
EGC3040FFG	EGC3040FFGQ01	EGC3040FFGQ02	T125EF	EIPBSK
EGC3045FFG	EGC3045FFGQ01	EGC3045FFGQ02	T125EF	EIPBSK
EGC3050FFG	EGC3050FFGQ01	EGC3050FFGQ02	T125EF	EIPBSK
EGC3060FFG	EGC3060FFGQ01	EGC3060FFGQ02	T125EF	EIPBSK
EGC3063FFG	EGC3063FFGQ01	EGC3063FFGQ02	T125EF	EIPBSK
EGC3070FFG	EGC3070FFGQ01	EGC3070FFGQ02	T125EF	EIPBSK
EGC3080FFG	EGC3080FFGQ01	EGC3080FFGQ02	T125EF	EIPBSK
EGC3090FFG	EGC3090FFGQ01	EGC3090FFGQ02	T125EF	EIPBSK
EGC3100FFG	EGC3100FFGQ01	EGC3100FFGQ02	T125EF	EIPBSK

## Notes

① 600Y/347V.

② Two interphase barriers included on line end mounted limiter; (2) line end of limiter. Four interphase barriers included on load end mounted limiter; (2) line end of breaker (2) load end of limiter.



JG Frame



### JG IC Rating—200 kAIC at 600 Vac and 70 kAIC at 690 Vac

Ampere Rating	Magnetic Range	UL Listed, IEC Rated Breaker With Line Side Mounted Current Limiter <sup>①</sup>	UL Listed, IEC Rated Breaker With Load Side Mounted Current Limiter <sup>②</sup>	IEC Rated Breaker With Line Side Mounted Current Limiter <sup>①</sup>	IEC Rated Breaker With Load Side Mounted Current Limiter <sup>②</sup>
		Fixed Thermal, Adjustable Magnetic	Adjustable Thermal, Adjustable Magnetic		
70	350–700	JGH3070FAGQ01	JGH3070FAGQ02	—	—
90	450–900	JGH3090FAGQ01	JGH3090FAGQ02	—	—
100	500–1000	JGH3100FAGQ01	JGH3100FAGQ02	JGH3100AAGQ01	JGH3100AAGQ02
125	625–1250	JGH3125FAGQ01	JGH3125FAGQ02	JGH3125AAGQ01	JGH3125AAGQ02
150	750–1550	JGH3150FAGQ01	JGH3150FAGQ02	—	—
160	800–1600	—	—	JGH3160AAGQ01	JGH3160AAGQ02
175	875–1750	JGH3175FAGQ01	JGH3175FAGQ02	—	—
200	1000–2000	JGH3200FAGQ01	JGH3200FAGQ02	JGH3200AAGQ01	JGH3200AAGQ02
225	1125–2250	JGH3225FAGQ01	JGH3225FAGQ02	—	—
<b>Electronic Trip LS</b>					
250	—	JGH325033GQ01	JGH325033GQ02	—	—
<b>Electronic Trip LSI</b>					
250	—	JGH325032GQ01	JGH325032GQ02	—	—
<b>Electronic Trip LSG</b>					
250	—	JGH325035GQ01	JGH325035GQ02	—	—
<b>Electronic Trip LSIG</b>					
250	—	JGH325036GQ01	JGH325036GQ02	—	—

### Series G HMCP

Ampere Rating	Motor Circuit Protector with Line Side Mounted Current Limiter	Breaker with Load Side Mounted Current Limiter
250	HMCPJ250D5LQ01	HMCPJ250D5LQ02
250	HMCPJ250F5LQ01	HMCPJ250F5LQ02
250	HMCPJ250G5LQ01	HMCPJ250G5LQ02
250	HMCPJ250J5LQ01	HMCPJ250J5LQ02
250	HMCPJ250K5LQ01	HMCPJ250K5LQ02
250	HMCPJ250L5LQ01	HMCPJ250L5LQ02

### Line and Load Terminals

Maximum Breaker Amperes	Terminal Body Material	Wire Type	Metric Wire Range mm <sup>2</sup>	AWG Wire Range/ Number of Conductors	Catalog Number
<b>Standard Pressure Type Terminals</b>					
250	Aluminum	Cu/Al	10–185	#8–350 (1)	TA250FJ <sup>③</sup>

#### Notes

- ① Two interphase barriers provided, mounted on line end of limiter, catalog number **FJIPBK**.
- ② Four interphase barriers provided, (2) line end of breaker, (2) load end of limiter.
- ③ Line and load terminals included with products listed above.

### Technical Data and Specifications

2

#### UL 489 Current Limiting Data

Frame	Circuit	I <sub>p</sub> (kA)	I <sup>2</sup> T (10 <sup>6</sup> A <sup>2</sup> S)
JGH...Q	240 V/200 kA	48.60	2.47
JGH...Q	480 V/200 kA	48.60	2.47
JGH...Q	600 V/200 kA	48.60	2.47

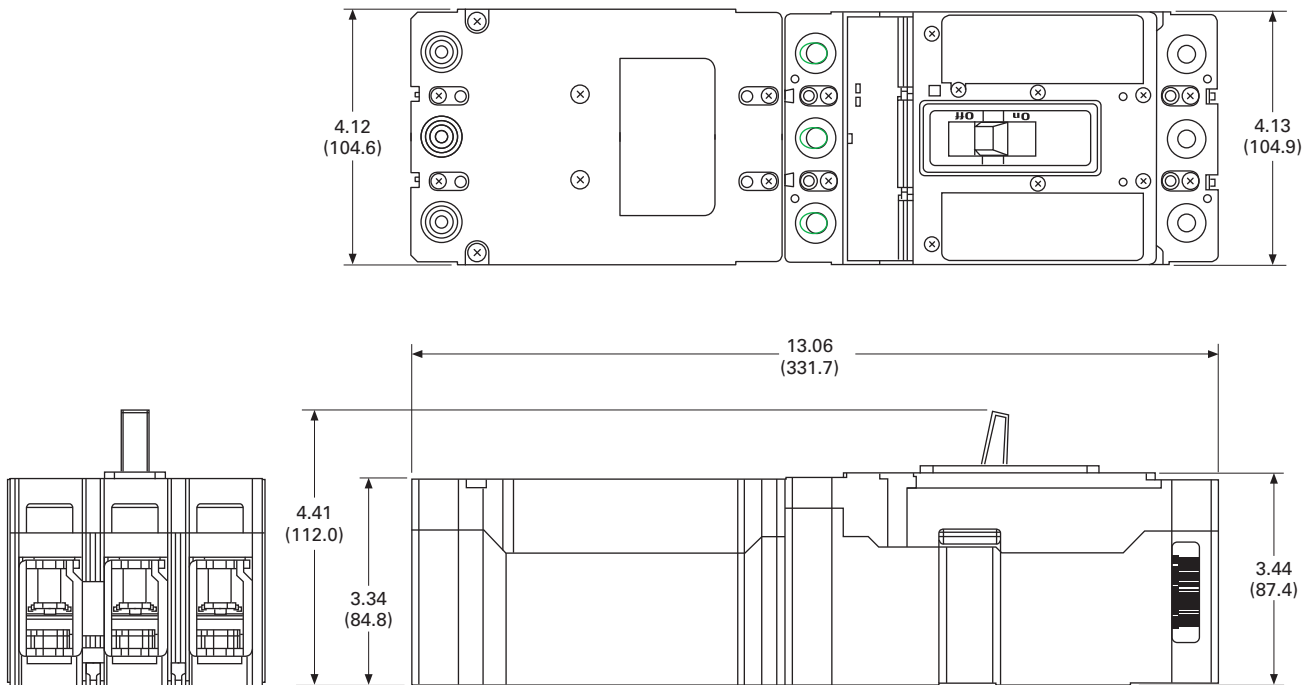
### Dimensions and Weights

Approximate Dimensions in Inches (mm)

#### Assembled Breaker and Current Limiting Module

Frame	Height	Width	Depth	Weight in lbs (kg)
JG + limiter	13.06 (331.7)	4.13 (104.9)	3.44 (87.4)	9.87 (4.48)
HMCP	13.06 (331.7)	4.13 (104.9)	3.44 (87.4)	9.87 (4.48)

#### JG-Frame With Current Limiter Module



**High Instantaneous Circuit Breaker for Selective Coordination****Contents**

<i>Description</i>	<i>Page</i>
EG-Frame (15–125 Amperes) . . . . .	<b>V4-T2-119</b>
JG-Frame (63–250 Amperes) . . . . .	<b>V4-T2-133</b>
LG-Frame (250–630 Amperes) . . . . .	<b>V4-T2-151</b>
NG-Frame (320–1200 Amperes) . . . . .	<b>V4-T2-169</b>
RG-Frame (800–2500 Amperes) . . . . .	<b>V4-T2-178</b>
Motor Circuit Protectors (MCP) . . . . .	<b>V4-T2-189</b>
Motor Protector Circuit Breakers (MPCB) . . . . .	<b>V4-T2-193</b>
30 mA Ground Fault (Earth Leakage) Module . . . . .	<b>V4-T2-196</b>
Current Limiting Circuit Breaker Module . . . . .	<b>V4-T2-200</b>
High Instantaneous Circuit Breaker for Selective Coordination	
Product Selection . . . . .	<b>V4-T2-206</b>
Technical Data and Specifications . . . . .	<b>V4-T2-207</b>
Dimensions . . . . .	<b>V4-T2-207</b>
Special Features and Accessories . . . . .	<b>V4-T2-208</b>
Motor Operators . . . . .	<b>V4-T2-216</b>
Plug-In Blocks . . . . .	<b>V4-T2-218</b>
Drawout Cassette . . . . .	<b>V4-T2-219</b>

**High Instantaneous Circuit Breaker for Selective Coordination****Product Description**

Eaton's Electrical Sector introduces new high-magnetic withstand molded case circuit breakers, specifically designed for critical operations and selective coordination requirements. The high-magnetic withstand LHH and NHH frames continue the legacy of circuit breaker innovation for which Eaton is recognized throughout the world. The LHH and NHH breakers are equipped with 125 to 400 ampere trip units with high-magnetic capability. This design enables the breakers to withstand up to 90 times rated current before opening under short-circuit conditions.

The LHH and NHH circuit breakers incorporate a higher level of instantaneous pickup, thus allowing for higher current levels of selective coordination. Standard molded case circuit breakers typically are furnished with a magnetic pickup or electronic instantaneous adjustment or instantaneous override set at 10 times (10x) the continuous trip rating.

**Features, Benefits and Functions**

Eaton's new LHH and NHH molded case circuit breakers are furnished with a higher level of magnetic pickup or electronic instantaneous settings as indicated in table on **Page V4-T2-207**. These higher levels of magnetic pickup and electronic instantaneous values in turn allow the system designer to obtain selective coordination at fault current levels up to these higher ratings. Greater values of selective coordination are available based on manufacturer tested combinations using the LHH and NHH as line-side breakers and standard breakers as load-side devices. Refer to IA01200002E to determine the maximum fault values that selective coordination achieves. When the line-side and load-side molded case circuit breaker trip ratings are chosen to coordinate in the overload range, they also can be selectively coordinated in the fault range up to the values listed in the table on **Page V4-T2-207** or IA01200002E. For overcurrents protected by circuit breakers on the load-side of the LHH or NHH, only the effected load-side

circuit breaker will open, while the line-side LHH and/or NHH circuit breakers remain closed, thus providing continuity of power to the other critical loads supplied by the LHH or NHH circuit breakers.

**Benefits of Using the LHH and NHH Molded Case Circuit Breakers**

Customer expectations and codes are driving product development to protect customers' critical operations. NEC® 2005 and 2008 requires circuits with elevators, emergency systems, legally required standby systems, health care essential systems and critical operation power systems to be selectively coordinated. Simply stated, only the closest protective device directly protecting the circuit having an overcurrent (overload or fault) condition should open.

All other overcurrent protective devices within these systems shall remain closed. Similarly, backup power system designs of a critical nature that are not code mandated may also require overcurrent protective devices to be selectively coordinated as much as practicable to provide a higher level of uptime.

## Product Selection

LHH



## LHH and NHH Catalog Numbers

Ampere Rating	Thermal-Magnetic Trip Unit		LSI Electronic Trip Unit
	LHH Frame	NHH Frame	
125	LHH3125FFG	—	
150	LHH3150FFG	NHH3150T52X15	
175	LHH3175FFG	NHH3175T52X15	
200	LHH3200FFG	NHH3200T52X15	
225	LHH3225FFG	NHH3225T52X15	
250	LHH3250FFG	NHH3250T52X15	
300	LHH3300FFG	NHH3300T52X15	
350	LHH3350FFG	NHH3350T52X15	
400	LHH3400FFG	—	

## 2 Proven Technology and Performance

The LHH is based on the Series G L-Frame circuit breaker, sharing the same small footprint and field-fit accessories as the L-Frame breaker. The NHH is based on the Series G N-Frame circuit breaker and shares the same footprint and accessories as the N-Frame breaker. NHH accessories must be factory installed.

The LHH incorporates a thermal-magnetic trip unit with fixed thermal and fixed magnetic settings. The NHH has an OPTIM™ electronic trip unit with LSI adjustment capabilities. The instantaneous setting is adjustable from 1000–4000 A or may be turned off to default to the frame override of 14,000 A. A hand-held OPTIMizer must be used with the NHH to adjust short-time delay and instantaneous, however, the long delay pickup is fixed and cannot be adjusted.

The LHH and NHH breakers are available in Eaton's panelboards and switchboards.

### Standards and Certifications

- UL
- CSA



**Technical Data and Specifications**

- Three-pole
- 65 kAIC at 480 Vac
- 125–400 ampere LHH
- 150–350 ampere NHH
- Trip units:
- LHH—thermal-magnetic
- NHH—LSI electronic trip unit
- No rating plugs required
- Factory-sealed breakers
- LHH uses same internal and external accessories as standard Series G L-Frame circuit breaker
- NHH uses same internal and external accessories as standard Series G N-Frame circuit breaker

**LHH and NHH Electrical Characteristics**

**Short-Circuit Current Ratings (kA rms) AC 50–60 Hz**

Description	Breaker Type	
	LHH	NHH
Max. rated current (amperes)	400	350
NEMA UL 489		
240 Vac	100	100
480 Vac	65	65
600 Vac	35	35
250 Vac	42	—
IEC 60947-2		
220 Vac	100	100
415 Vac	70	70
690 Vac	25	25
125/250 Vdc	22	—
Number of poles	3	3
Ampere range	125–400 A	150–350 A

**Continuous Current Ratings**

Continuous Current Rating (I <sub>c</sub> )	Magnetic Trip Point	Continuous Current Multiplier	Instantaneous Trip Point	Continuous Current Multiplier	Short Delay Pickup
125 A	2500 A	20x	—	—	—
150 A	2500 A	16x	14,000 A	93x	225–1200 A
175 A	4000 A	22x	14,000 A	80x	260–1400 A
200 A	4000 A	20x	14,000 A	70x	300–1600 A
225 A	6000 A	26x	14,000 A	62x	338–1800 A
250 A	6000 A	24x	14,000 A	56x	375–2000 A
300 A	6000 A	20x	14,000 A	47x	450–2400 A
350 A	6000 A	17x	14,000 A	40x	525–2800 A
400 A	6000 A	15x	—	—	—

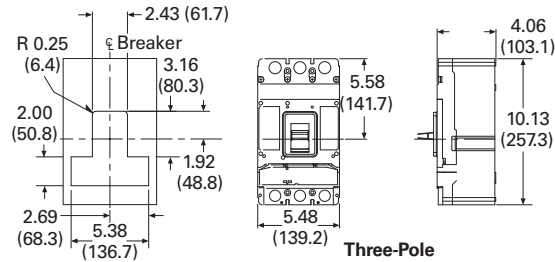
**Dimensions**

Approximate Dimensions in Inches (mm)

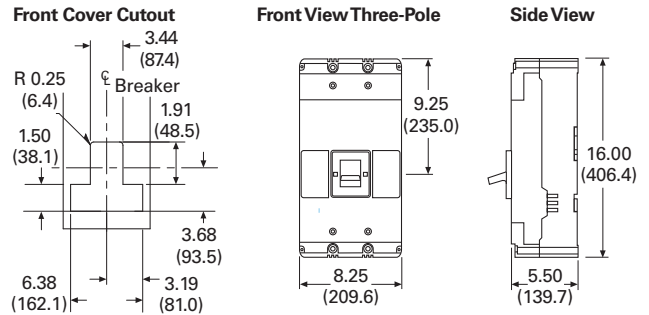
**Dimensions**

Description	Height	Width	Depth	Weight in Lbs (kg)
LHH	10.13 (257.3)	5.48 (139.2)	4.09 (103.9)	12.36 (5.6)
NHH	16.00 (406.4)	8.25 (209.5)	5.50 (139.7)	46.80 (21.2)

**L-Frame**



**N-Frame**



### Contents

<i>Description</i>	<i>Page</i>
EG-Frame (15–125 Amperes) . . . . .	<b>V4-T2-119</b>
JG-Frame (63–250 Amperes) . . . . .	<b>V4-T2-133</b>
LG-Frame (250–630 Amperes) . . . . .	<b>V4-T2-151</b>
NG-Frame (320–1200 Amperes) . . . . .	<b>V4-T2-169</b>
RG-Frame (800–2500 Amperes) . . . . .	<b>V4-T2-178</b>
Motor Circuit Protectors (MCP) . . . . .	<b>V4-T2-189</b>
Motor Protector Circuit Breakers (MPCB) . . . . .	<b>V4-T2-193</b>
30 mA Ground Fault (Earth Leakage) Module . . . . .	<b>V4-T2-196</b>
Current Limiting Circuit Breaker Module . . . . .	<b>V4-T2-200</b>
High Instantaneous Circuit Breaker for Selective Coordination . . . . .	<b>V4-T2-205</b>
Special Features and Accessories	
Internal Accessories . . . . .	<b>V4-T2-210</b>
External Accessories and Test Kit . . . . .	<b>V4-T2-211</b>
Accessories . . . . .	<b>V4-T2-213</b>
Motor Operators . . . . .	<b>V4-T2-216</b>
Plug-In Blocks . . . . .	<b>V4-T2-218</b>
Drawout Cassette . . . . .	<b>V4-T2-219</b>

### Special Features and Accessories

Eaton’s molded case circuit breakers are designed to provide circuit protection for low voltage distribution systems. They are described by NEMA as, “... a device for closing and interrupting a circuit between separable contacts under both normal and abnormal conditions,” and furthermore as, “... a breaker assembled as an integral unit in a supporting and enclosing housing of insulating material.” The National Electrical Code (NEC) describes them as, “A device designed to open and close a circuit by non-automatic means, and to open the circuit automatically on a predetermined overload of current, without injury to itself when properly applied within its rating.”

So designed, Eaton circuit breakers protect conductors against overloads and conductors and connected apparatus, such as motors and motor starters, against short circuits.

In low voltage distribution systems, there are many varied applications of molded case circuit breakers. Eaton offers the most comprehensive family of molded case circuit breakers in the industry.

This section of circuit breakers includes:

- Thermal-magnetic trip breakers
- Electronic rms trip breakers
- Molded case switches
- Motor circuit protectors
- Current limiting breakers
- Special application breakers

#### Modified Breakers

Eaton breakers can be ordered with internal accessories installed. These modified breakers will be subject to an addition charge.

### Special Calibration

Special non-UL listed calibrations are available for certain ambient temperatures other than 40 °C and for frequencies other than 50/60 Hz or DC. Reduced interrupting ratings will apply for 400 Hz applications.

- Add suffix H01 to breaker catalog number for 400 Hz rating

### 50 °C Calibration

**Note:** Breakers equipped with electronic trip units can operate reliably in ambient temperatures of 50 °C. Add suffix “V3” to NG MCCBs to remove standard 40 °C labeling.

Add suffix “V” to catalog number for complete thermal magnetic breaker when ordering listed ampere ratings for breakers to be used in 50 °C ambients. 50 °C ambient MCCBs are not UL listed.

Contact Eaton for availability.

### Calibrations and Treatment

Description	Frame				
	EG	JG	LG	NG	RG
Special calibration	■	■	■	■	■
Moisture-fungus treatment	■	■	■	■	■

**Moisture-Fungus Treatment**

All Eaton circuit breaker cases are molded from glass-polyester, which does not support the growth of fungus. Any parts that are susceptible to the growth of fungus will require special treatment.

Order by description.

- Add suffix J01 to breaker catalog number

**Freeze-Tested Circuit Breakers**

The circuit breakers may be ordered with freeze testing. This option uses special lubrication and mechanical operation is verified at  $-40^{\circ}\text{C}$ .

- Add suffix F01 to catalog number  $-57^{\circ}\text{F}$ , F02  $-30^{\circ}\text{F}$

**Marine Applications**

E- to R-Framed circuit breakers can be supplied to meet the following marine specifications:

- U.S. Coast Guard CFR 46; ABS—American Bureau of Shipping; IEEE 45; DNV; and Lloyds

These specifications generally require molded case circuit breakers to be supplied with  $50^{\circ}\text{C}$  ambient, and plug-in adapter kits. When plug-in adapter kits are used, no terminals need be supplied (switchboard applications).

Circuit breakers can also be supplied to meet UL 489 Supplement SA (Marine use) and UL 489 Supplement SB (Naval Use).

UL 489 Supplement SA applies to vessels over 65 feet (19.8m) in length.

Requirements include  $40^{\circ}\text{C}$  ambient calibration, special labeling, and no use of aluminum conductors or terminals. (No  $50^{\circ}\text{C}$ .)

- Add suffix H08

Or you can choose to add  $50^{\circ}\text{C}$  ambient but then there is no "UL" mark.

- Add suffix VH08

UL 489 Supplement SB requires partial  $50^{\circ}\text{C}$  ambient calibration, vibration testing, special nameplating and no use of aluminum conductors or terminals. Eaton chooses to always fully calibrate to  $50^{\circ}\text{C}$  ambient. ("Naval" labeled per UL but no "UL" mark due to  $50^{\circ}\text{C}$  label.)

- Add suffix VH09

**Certified Test Reports**

Eaton breakers can be ordered with certified test reports at the time of order entry. Test report documents the thermal and magnetic or electronic tripping characteristics of the individual breaker. Breaker and test report must be ordered together. Add suffix 12 to breaker catalog number and enter separate line item on order for certified test report.

**Standards and Certifications**

Molded case circuit breakers are designed to conform with the following standards:

- Underwriters Laboratories Inc., Standard UL 489, molded case circuit breakers and circuit breaker enclosures
- National Electrical Manufacturers Association (NEMA) Standards Publication No. AB1-1993, molded case circuit breakers
- Australian Standard AS 2184, molded case circuit breakers
- British Standards Institution Standard BS 4752: Part 1, switchgear and control gear Part 1: circuit breakers
- Canadian Standards Association (CSA) Standard C22.2 No. 5, service entrance and branch circuit breakers
- International Electrotechnical Commission Recommendations IEC 60947-2, circuit breakers
- Japanese T-Mark Standard molded case circuit breakers
- South African Bureau of Standards, Standard SABS 156, Standard Specification for molded case circuit breakers
- Swiss Electro-Technical Association Standard SEV 157-1, safety regulations for circuit breakers
- Union Technique de l'Electricite Standard NF C 63-120, low voltage switchgear and control gear circuit breaker requirements
- Verband Deutscher Elektrotechniker (Association of German Electrical Engineers) Standard VDE 0660, low voltage switchgear and control gear, circuit breakers

Conformance with these standards satisfies most local and international codes, assuming user acceptability and simplified application.

Molded case circuit breakers equal or exceed Federal Specification Classification W-C-375b requirements for the particular class associated with the circuit breaker frame being considered.

Open breakers do not have service entrance ratings. Service entrance rating is part of the enclosure.



## Internal Accessories

2

### Alarm Lockout

The alarm switches operate when the circuit breaker is tripped by a short circuit or overcurrent, but also when it is tripped by a shunt trip or undervoltage release.

### Auxiliary Switches

Auxiliary switches are used for signaling and control purposes. The various functions of the auxiliary switches (changeover) are shown on **Page V4-T2-212**.

### Shunt Trips

The shunt trip is used for remote tripping.

The coil of the shunt trip is rated only for short-time operation.

It is not permissible with the circuit breaker open to apply a continuous opening command to the shunt trip in order to prevent the breaker from closing. This means that interlocking circuits with continuous commands may not be set up with shunt trips.

### Undervoltage Releases

The circuit breaker cannot be closed until the undervoltage release is energized. If the release is not energized, the circuit breaker can only perform an idle switching operation.

Frequent idle switching actions should be avoided as they shorten the endurance of the circuit breaker.

## Digitrip 310+ Electronic Trip Unit Accessories

### Cause of Trip Display/Remote Mount Cause of Trip Display

The Cause of Trip Display can be field-installed on any Digitrip RMS 310+ trip unit. The device provides breaker information through an LCD screen, such as cause of trip, phrase current, ground current and low loads. The display is ideal for troubleshooting common trips such as ground fault, long delay, and instantaneous/short delay. The DIGIVIEW version will provide a local display at the breaker without additional wiring by connecting directly onto the trip unit. The DIGIVIEWR06 version has a 6 foot cable that allows users to mount the display on the outside of an enclosure door and connect to the trip unit that is contained inside the enclosure.

The DIGIVIEWR06 is NEMA 3R rated.

### Cause of Trip Display/Remote Mount Cause of Trip Display

Catalog Number

---

DIGIVIEW

---

DIGIVIEWR06

### Cause of Trip LED Module

The Cause of Trip LED Module can be field-installed on any Digitrip RMS 310+ trip unit. The device provides a cause of trip indication via LED. The Cause of Trip LED Module connects directly onto the trip unit. When the breaker trips, the module indicates the cause of trip (long delay, short delay, instantaneous and ground) via LED indication. The module is reset after the breaker is reset.

### Cause of Trip LED Module

Catalog Number

---

TRIP-LED

### Electronic Portable Test Kit

The electronic portable test kit provides a means to complete field tests using secondary injection on all 310+ trip units. The same test kit is also capable of secondary injection testing on Magnum and Series NRX low voltage power circuit breakers' 520 and 1150 trip units.

### Electronic Portable Test Kit

Catalog Number

---

MTST230V

### Wire Seal

The wire seal can be used to secure the cover of the trip unit to prevent adjustments after settings are confirmed.

### Wire Seal

Catalog Number

---

5108A03H01

## External Accessories and Test Kit

## External Accessories

Description	Fit Type	Frame				
		EG	JG	LG	NG	RG
Non-padlockable handle block	Field	EFHB	—	—	LKD4	—
Padlockable handle block	Field	EFPHB	—	—	—	—
Padlockable handle block off-only	Field	EFPHBOFF	FJPHBOFF	LBHPOFF	—	—
Padlockable handle lock hasp	Field	EFPLK	FJPHL	LPHL	PLK5	HLK6
Padlockable handle lock hasp off-only	Field	EFPHLOFF	FJPHLOFF	LPHLOFF	PLK550FF	HLK60FF
Kirk key interlock kit <sup>①②</sup>	Field	—	KYKJG	KYKLG	KYK4	KYK6
Castell key interlock kit <sup>②③</sup>	Field	—	CTKJG	CTKLG	CTK4	CTK6
Slide bar interlock <sup>④</sup>	Field	EFSBI	FJSBI	LGSBI	SBK5	—
Walking beam interlock <sup>④</sup>	Three-pole	EG3WBI	JG3WBI	LG3WBI	WBL5	WBL6
	Four-pole	EG4WBI	JG4WBI	LG4WBI	WBL5	—
Electrical operator <sup>⑤</sup>	120 Vac	MOPEG240C	MOPJG120C	MOPLG120C	EOP5T07	EOP6T08K
	240 Vac	MOPEG240C	MOPJG240C	MOPLG240C	EOP5T11	EOP6T11K
	24 Vdc	MOPEG48D	MOPJG24D	MOPLG24D	EOP5T21	—
	48 Vdc	MOPEG48D	—	—	EOP5T22	EOP6T21K
	125 Vdc	MOPEG120C	MOPJG120C	MOPLG120C	EOP5T26	—
	220 Vdc	—	MOPJG240C	MOPLG240C	—	—
	250 Vdc	—	MOPJG240C	MOPLG240C	—	—
Plug-in adapters	Three-pole	PAD3E	PAD3J	PAD3L	PAD53	—
	Four-pole	PAD4E	PAD4J	PAD4L	—	—
Wohner busbar adapter	Field top	EG-BUS-T	JG-BUS-TB	LG-BUS-TB	—	—
	Field bottom	EG-BUS-B	JG-BUS-TB	LG-BUS-TB	—	—

**Series G MCCB Frames EG, JG, and LG to mount to the SASY 60 mm Wohner Classic System**

- UL file # E197132
- Compact design
- UL508 tested and certified using Wohner system with Eaton breakers
- No line side wiring required
- Up to 630 A MCCB
- Reverse feed possible

**Wohner Busbar Adapter****Wohner Busbar Adapters**

Breaker Frame	Busbar Adapter	Connection Point
EG	EG-BUS-T	Top
EG	EG-BUS-B	Bottom
JG	JG-BUS-TB	Top or bottom
LG	LG-BUS-TB	Top or bottom

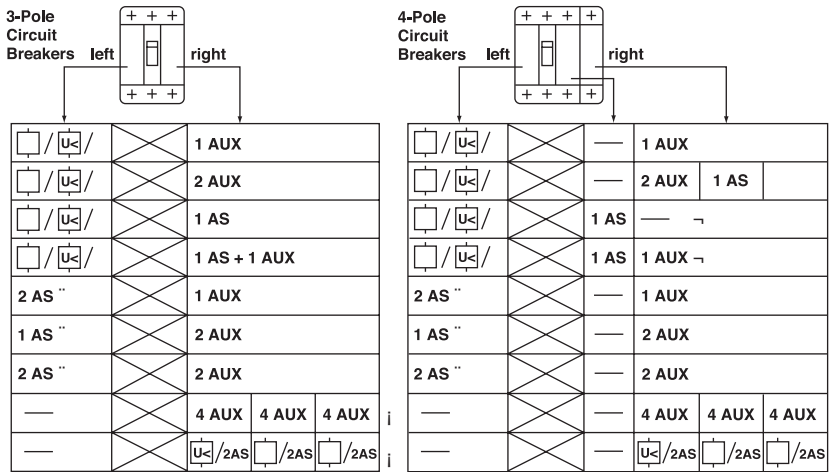
**Notes**

- ① Provision only.
- ② See **Page V4-T2-422** for bolt projection dimensions.
- ③ Castell bolt mounting hole must be 10 mm.
- ④ Requires two breakers.
- ⑤ Contact Eaton for availability of operators for EG- and NG-Frames before December 2004.

### Accessory Configurations for EG–RG Circuit Breakers

## 2

### Internal Accessory Configurations



= Shunt Trip or Undervoltage Release

AUX = Auxiliary Switch

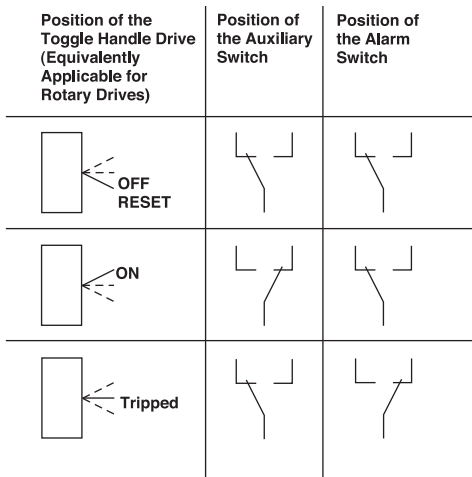
AS = Alarm Switch

“ = For N-Frame Circuit Breakers Only

≠ = For R-Frame Circuit Breakers Only

↔ = For N and R-Frame Circuit Breakers Only

### Contact Making by the Auxiliary and Alarm Switches as a Function of the Switching Position of the Circuit Breaker



## Accessories

### Field Fit Kit Catalog Numbers

#### Alarm Lockout

Description	Pole Location	Frame		
		EG, JG and LG	NG	RG ①
Make/Break	Left	—	A1L5LPK	—
	Right	ALM1M1BEPK ②	A1L5RPK	A1L6RPK
2 Make/2 Break	Left	—	A2L5LPK	—
	Right	ALM2M2BEPK ③	A2L5RPK	A2L6RPK

Description	Pole Location	For Use in Frame	Contact Type	Catalog Number
Make/Break	Right	EG	Silver	ALM1M1BEPK
2 Make/ 2 Break	Right	EG	Silver	ALM2M2BEPK
Make/Break	Right	JG and LG	Silver	ALM1M1BJPK
2 Make/ 2 Break	Right	JG and LG	Silver	ALM2M2BJPK
Make/Break	Right	EG	Gold	ALM1M1BEEPK
2 Make/ 2 Break	Right	EG	Gold	ALM2M2BEEPK
Make/Break	Right	JG and LG	Gold	ALM1M1BEJPK
2 Make/ 2 Break	Right	JG and LG	Gold	ALM2M2BEJPK

#### Auxiliary Switch

Description	Pole Location	Frame		
		EG, JG and LG	NG	RG ①
1A, 1B	Left	—	A1X5PK	—
	Right	AUX1A1BPK	A1X5PK	—
2A, 2B	Left	—	A2X5PK	—
	Right	AUX2A2BPK	A2X5PK	A2X6RPK
3A, 3B	Left	—	A3X5LPK	—
	Right	—	A3X5RPK	—
4A, 4B	Left	—	—	—
	Right	—	—	A4X6RPK

Description	Pole Location	For Use in Frame	Contact Type	Catalog Number
1A, 1B	Right	EG/JG/LG	Silver	AUX1A1BPK
2A, 2B	Right	EG/JG/LG	Silver	AUX2A2BPK
1A, 1B	Right	EG/JG/LG	Gold	AUX1E1BPK
2A, 2B	Right	EG/JG/LG	Gold	AUX2E2BPK

#### Auxiliary Switch/Alarm Lockout

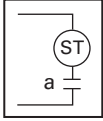
Description	Pole Location	Frame		
		EG, JG and LG	NG	RG ①
—	Left	—	AA115LPK	—
	Right	AUXALRMEPK ④	AA115RPK	—

Description	Pole Location	For Use in Frame	Contact Type	Catalog Number
1A/1B & 1M/1B	Right	EG	Silver	AUXALRMEPK
1A/1B & 1M/1B	Right	JG and LG	Silver	AUXALRMJPK
1A/1B & 1M/1B	Right	EG	Gold	AUXALRMEEPK
1A/1B & 1M/1B	Right	JG and LG	Gold	AUXALRMEJPK

#### Notes

- ① All accessories mount in the RH cavity which will accept one each of shunt trip, UVR, auxiliary switch and alarm switch.
- ② Part number for JG and LG is ALM1M1BJPK.
- ③ Part number for JG and LG is ALM2M2BJPK.
- ④ Part number for JG and LG is AUXALRMJPK.

## Shunt Trip—Standard



## Shunt Trip—Standard

Description	Pole Location	Frame		
		EG, JG and LG <sup>①</sup>	NG	RG <sup>②</sup>
48–60 Vac	Left	SNT4860CPK	SNT5LP05K	—
	Right	—	—	SNT6P05K
110–240 Vac	Left	SNT120CPK	SNT5LP11K	—
	Right	—	—	SNT6P11K
380–600 Vac	Left	SNT480CPK <sup>③</sup>	—	—
	Right	—	—	—
220–250 Vdc or 380–440 Vac	—	—	SNT5LP14K	SNT6P14K
480–600 Vac	—	—	SNT5LP18K	SNT6P18K
12 Vdc	Left	SNT012CPK	—	—
	Right	—	—	—
24 Vac/dc	Left	SNT024CPK	SNT5LP03K	—
	Right	—	—	SNT6P03K
48–60 Vdc	Left	SNT4860CPK	SNT5LP23K	—
	Right	—	—	SNT6P23K
110–125 Vdc	Left	SNT125DPK	SNT5LP26K	—
	Right	—	—	SNT6P26K
250 Vdc	Left	SNT250DPK	—	—
	Right	—	—	—

## Shunt Trip—Low Energy

Description	Pole Location	Frame		
		EG, JG and LG	NG	RG <sup>②</sup>
—	Left	—	LST5LPK	—
—	Right	—	—	LST6RPK

## Undervoltage Release Mechanism

Description	Pole Location	Frame		
		EG, JG and LG <sup>①</sup>	NG	RG <sup>②</sup>
110–127 Vac	Left	UVR120APK	UVH5LP08K	—
	Right	—	—	UVH6RP08K
208–240 Vac	Left	UVR240APK	UVH5LP11K	—
	Right	—	—	UVH6RP11K
24 Vdc	Left	UVR024DPK	UVH5LP21K <sup>④</sup>	—
	Right	—	—	UVH6RP21K <sup>④</sup>
24 Vac	Left	UVR024APK	UVH5LP21K <sup>④</sup>	—
	Right	—	—	UVH6RP21K <sup>④</sup>
48–60 Vdc	Left	UVR048DPK	UVH5LP23K	—
	Right	—	—	UVH6RP23K
48–60 Vac	Left	UVR048APK	UVH5LP05K	—
	Right	—	—	UVH6RP05K
120 Vdc	Left	UVR125DPK	UVH5LP26K	—
	Right	—	—	UVH6RP26K
220–250 Vdc	Left	UVR250DPK	UVH5LP28K	—
	Right	—	—	UVH6RP28K
380–500 Vac	Left	UVR480APK	UVH5LP29K	—
	Right	—	—	UVH6RP29K
525–600 Vac	Left	UVR600APK	—	—
	Right	—	—	—
12 Vdc	Left	—	UVH5LP20K	—
	Right	—	—	UVH6RP20K
12 Vac	Left	—	UVH5LP02K	—
	Right	—	—	UVH6RP02K

## Notes

- ① LH cavity not available for EG frame with earth leakage module.  
 ② All accessories mount in the RH cavity which will accept one each of shunt trip, UVR, auxiliary switch and alarm switch.  
 ③ 380–600 Vdc, 50/60 Hz.  
 ④ 24 Vdc only use UVH5LP03K (NG) UVH6RP03K (RG) for 24 Vac.

### Technical Data and Specifications

**Note:** Gold-plated contacts are well suited for switching low voltages and currents. Lead wires on accessories containing gold-plated contacts are marked with a yellow stripe.

#### Series G Gold Contact Accessory Switch Electrical Ratings

Max. Voltage (Ue)	Frequency	Max. Current (I <sub>n</sub> )	Dielectric Withstand Voltage (UI)
125 V	50/60 Hz	0.1 A	2200 V
30 V	DC	0.25 A	2200 V
5 V	DC	5 mA	2200 V

#### Series G Silver Contact Accessory Switch Electrical Ratings

Max. Voltage (Ue)	Frequency	Max. Current (I <sub>n</sub> )	Dielectric Withstand Voltage (UI)
600 V	50/60 Hz	2 A	2200 V
125/250 V	50/60 Hz	5 A	2200 V
125 V	DC	1 A	2200 V

#### Series GJ Frame: Terminal Extension Kits

	Extension Orientation			
	Edgewise	Right Angle	Spreader	Straight
Three-pole	FJTEE3	FJTER3	FJTEW3	FJTES3
Four-pole	FJTEE4	FJTER4	FJTEW4	FJTES4

#### Series G Motor Operators

2



#### Contents

<i>Description</i>	<i>Page</i>
EG-Frame (15–125 Amperes) . . . . .	<b>V4-T2-119</b>
JG-Frame (63–250 Amperes) . . . . .	<b>V4-T2-133</b>
LG-Frame (250–630 Amperes) . . . . .	<b>V4-T2-151</b>
NG-Frame (320–1200 Amperes) . . . . .	<b>V4-T2-169</b>
RG-Frame (800–2500 Amperes) . . . . .	<b>V4-T2-178</b>
Motor Circuit Protectors (MCP) . . . . .	<b>V4-T2-189</b>
Motor Protector Circuit Breakers (MPCB) . . . . .	<b>V4-T2-193</b>
30 mA Ground Fault (Earth Leakage) Module . . . . .	<b>V4-T2-196</b>
Current Limiting Circuit Breaker Module . . . . .	<b>V4-T2-200</b>
High Instantaneous Circuit Breaker for Selective Coordination . . . . .	<b>V4-T2-205</b>
Special Features and Accessories . . . . .	<b>V4-T2-208</b>
Motor Operators	
Features, Benefits and Functions . . . . .	<b>V4-T2-217</b>
Standards and Certifications . . . . .	<b>V4-T2-217</b>
Product Selection . . . . .	<b>V4-T2-217</b>
Plug-In Blocks . . . . .	<b>V4-T2-218</b>
Drawout Cassette . . . . .	<b>V4-T2-219</b>

### Motor Operators

#### Product Description

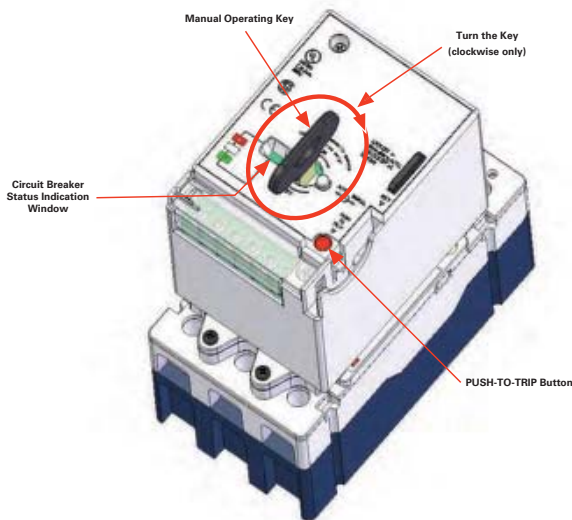
Eaton’s motor operator mechanism enables local and remote ON, OFF and reset switching of a circuit breaker. The motor operator is mounted on the circuit breaker cover within the dimensions of the circuit breaker.

The robust motor operators offer various voltages to maximize customer flexibility. Standard load transfer switching can be accomplished through the use of two circuit breakers fitted with motor operators and a mechanical interlock.

### Features, Benefits and Functions

The motor operator provides special features for ease of customer use and status indication.

- The motor operator allows the circuit breaker to be opened, closed or reset remotely
- The motor operator contains a motor connected to a cam drive mechanism. The cam drives a slide mechanism to operate the circuit breaker handle
- Internal limit switches and relays are used to control motor operation to prevent overdriving the circuit breaker handle and motor overload conditions
- A key is provided to manually operate the circuit breaker
- A special pull-out locking mechanism provides a method for padlocking the circuit breaker handle in the OFF position
- The locking device will accept three padlock shackles with a maximum diameter of 1/4-inch (6.4 mm) each
- The cover provides visual status of the circuit breaker: ON, OFF or TRIPPED. A PUSH-TO-TRIP button allows the user to manually trip the breaker



### Standards and Certifications

The motor operators are UL and CSA listed, and CE marked.



### Product Selection

#### Motor Operators

Frame	Voltage	Frequency	Inrush Current	Catalog Number
Series G E-Frame	100–240 Vac	50/60 Hz	1A	<b>MOPEG240C</b>
	100–220 Vdc	DC	1A	<b>MOPEG240C</b>
	24/48 Vdc	DC	3A	<b>MOPEG48D</b>
Series C F-Frame	208–240 Vac	50/60 Hz	1A	<b>MOPFD240C</b>
	110–127 Vac	50/60 Hz	1A	<b>MOPFD120C</b>
	220–250 Vdc	DC	1A	<b>MOPFD240C</b>
	110–125 Vdc	DC	1A	<b>MOPFD120C</b>
Series G J-Frame	24 Vdc	DC	3A	<b>MOPFD24D</b>
	208–240 Vac	50/60 Hz	1A	<b>MOPJG240C</b>
	110–127 Vac	50/60 Hz	1A	<b>MOPJG120C</b>
	220–250 Vdc	DC	1A	<b>MOPJG240C</b>
Series G L-Frame	110–125 Vdc	DC	1A	<b>MOPJG120C</b>
	24 Vdc	DC	3A	<b>MOPJG24D</b>
	208–240 Vac	50/60 Hz	2A	<b>MOPLG240C</b>
	110–127 Vac	50/60 Hz	2A	<b>MOPLG120C</b>
Series G L-Frame	220–250 Vdc	DC	2A	<b>MOPLG240C</b>
	110–125 Vdc	DC	2A	<b>MOPLG120C</b>
	24 Vdc	DC	6A	<b>MOPLG24D</b>

LG Breaker with Plug-In Block

2



### Contents

<i>Description</i>	<i>Page</i>
EG-Frame (15–125 Amperes) . . . . .	<b>V4-T2-119</b>
JG-Frame (63–250 Amperes) . . . . .	<b>V4-T2-133</b>
LG-Frame (250–630 Amperes) . . . . .	<b>V4-T2-151</b>
NG-Frame (320–1200 Amperes) . . . . .	<b>V4-T2-169</b>
RG-Frame (800–2500 Amperes) . . . . .	<b>V4-T2-178</b>
Motor Circuit Protectors (MCP) . . . . .	<b>V4-T2-189</b>
Motor Protector Circuit Breakers (MPCB) . . . . .	<b>V4-T2-193</b>
30 mA Ground Fault (Earth Leakage) Module . . . . .	<b>V4-T2-196</b>
Current Limiting Circuit Breaker Module . . . . .	<b>V4-T2-200</b>
High Instantaneous Circuit Breaker for Selective Coordination . . . . .	<b>V4-T2-205</b>
Special Features and Accessories . . . . .	<b>V4-T2-208</b>
Motor Operators . . . . .	<b>V4-T2-216</b>
Plug-In Blocks	
Drawout Cassette . . . . .	<b>V4-T2-219</b>

### Plug-In Blocks

#### Product Description

Plug-in adapters simplify installation and front removal of circuit breakers. Plug-ins are available for rear connection applications on three- and four-pole circuit breakers. Trip on drawout interlock kits are included. Stabs for EG, JG and LG plug-ins rotate 90 ° for flexible installation. Use terminal shields for IP30 protection.

#### Product Selection

##### Plug-In Blocks

Breaker Frame	Number of Poles	Catalog Number
<b>EG-, JG- and LG-Frame Plug-In Blocks</b>		
EG	3	<b>PAD3E</b>
EG	4	<b>PAD4E</b>
JG	3	<b>PAD3J</b>
JG	4	<b>PAD4J</b>
LG	4	<b>PAD4L</b>
<b>Trip-On Drawout Interlock Kit <sup>①</sup></b>		
EG	3, 4	<b>PIILEG</b>
JG	3, 4	<b>PIILJG</b>
LG	3, 4	<b>PIILLG</b>
<b>Terminal Shields IP30</b>		
EG	3	<b>EFTS3K</b>
EG	4	<b>EFTS4K</b>
JG	3	<b>FJTS3K</b>
JG	4	<b>FJTS4K</b>
LG	3	<b>LTS3K</b>
LG	4	<b>LTS4K</b>

#### Note

<sup>①</sup> Included with plug-in block. Trips the breaker when breaker is removed from plug-in block.

**Drawout Cassettes**



**Drawout Cassette**

**Product Description**

The drawout cassette is available for use with JG, LG and NG, three- and four-pole breakers. The cassettes consist of two separate components: the movable mechanism, which attaches to the breaker, and the stationary mechanism, which houses in the cassette. For the JG, LG and NG drawout cassettes, all necessary parts for installation are included in the one catalog number.

**Features**

Features of the drawout cassettes for the JG, LG and NG include:

- Trip on drawout—breaker will trip if it is in the ON position when withdrawn from the cassette
- Secondary terminal block—the drawout cassettes include a secondary terminal block for easier access when wiring low voltage accessories, including shunts and undervoltage releases

The drawout mechanism has three primary positions:

- Connected—the breaker is fully connected to the primary stabs and secondary contacts
- Disconnected—both the primary stabs and the secondary contacts are disconnected
- Withdraw—the breaker can be removed from the cassette

**Contents**

**Description**

<i>Description</i>	<i>Page</i>
EG-Frame (15–125 Amperes) . . . . .	<b>V4-T2-119</b>
JG-Frame (63–250 Amperes) . . . . .	<b>V4-T2-133</b>
LG-Frame (250–630 Amperes) . . . . .	<b>V4-T2-151</b>
NG-Frame (320–1200 Amperes) . . . . .	<b>V4-T2-169</b>
RG-Frame (800–2500 Amperes) . . . . .	<b>V4-T2-178</b>
Motor Circuit Protectors (MCP) . . . . .	<b>V4-T2-189</b>
Motor Protector Circuit Breakers (MPCB). . . . .	<b>V4-T2-193</b>
30 mA Ground Fault (Earth Leakage) Module . . . . .	<b>V4-T2-196</b>
Current Limiting Circuit Breaker Module . . . . .	<b>V4-T2-200</b>
High Instantaneous Circuit Breaker for Selective Coordination . . . . .	<b>V4-T2-205</b>
Special Features and Accessories. . . . .	<b>V4-T2-208</b>
Motor Operators . . . . .	<b>V4-T2-216</b>
Plug-In Blocks . . . . .	<b>V4-T2-218</b>
Drawout Cassette	

**Product Selection**

**JG Drawout Cassette**



**JG, LG and NG Drawout Cassettes**

Breaker Frame	Number of Poles	Catalog Number
JG	3	<b>JG3DOM</b>
	4	<b>JG4DOM</b>
LG	3	<b>LG3DOM</b>
	4	<b>LG4DOM</b>
NG	3	<b>NG3DOM</b>
	4	<b>NG4DOM</b>

**LG Drawout Cassette**

