Industrial control circuit breakers

Molded-case circuit breakers
Miniature circuit breakers
Supplementary protectors
Hydraulic-magnetic circuit breakers

Comprehensive circuit protection for control panel applications

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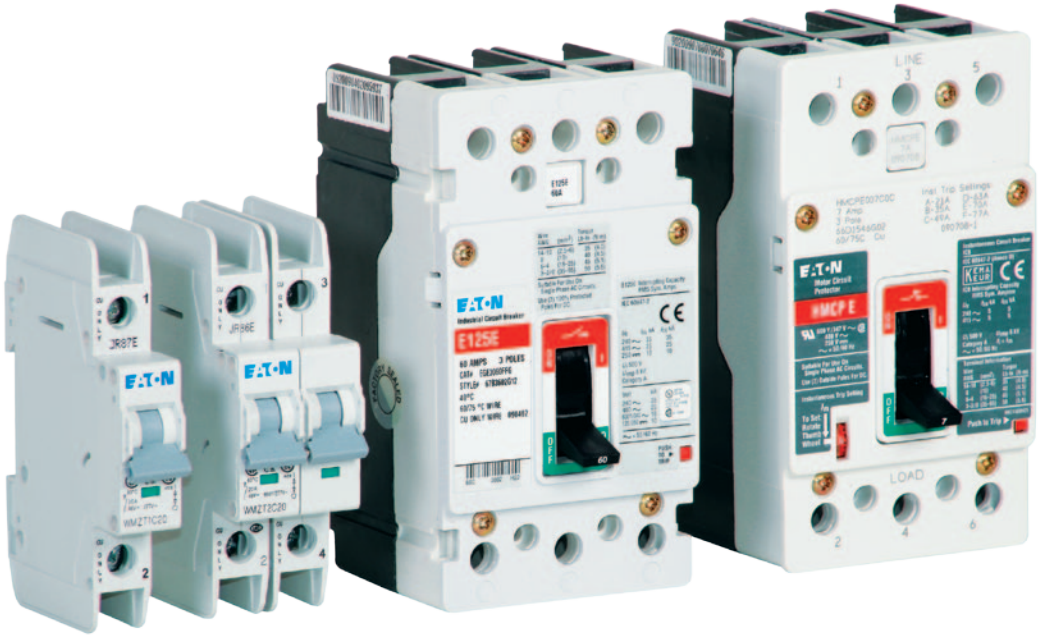
UL 489 circuit breakers

The complete family of molded-case and miniature circuit breakers:

DIN rail, individual and front panel mounted



UL 489 Listed performance for branch circuit overcurrent protection and disconnecting means

Molded-case circuit breakers listed under UL® 489 are required to pass stringent short-circuit and switching test requirements. In all cases, interruption must occur successfully without the assistance of a backup device. In no instance are the contacts permitted to weld. Required electrical spacings and clearances are larger, and regular witnessed follow-up tests are mandatory.

When applications call for compliance with the National Electrical Code® (NEC®) and UL requirements for branch circuit protection and disconnecting means, choose from the industry's most extensive line of UL 489 circuit breaker products and accessories.

Molded-case circuit breakers—UL 489 Listed

Series G® molded-case circuit breakers are listed for use as branch circuit overcurrent protection and disconnecting means.

- 15 to 2500A
- Up to 200 kAIC at 480V

Motor protector circuit breakers—UL 489 Listed

Series G motor protector circuit breakers are used to eliminate the need for a separate overload relay by providing superior thermal protection as well as serving as a disconnecting means and supplying motor branch short-circuit protection.

Motor circuit protectors—UL 489 Recognized

Series G HMCP magnetic-only motor circuit protectors are UL recognized for use as motor branch short-circuit protection and disconnecting means and provide a UL listed solution when used with tested combination starters.

Miniature circuit breakers—UL 489 Listed

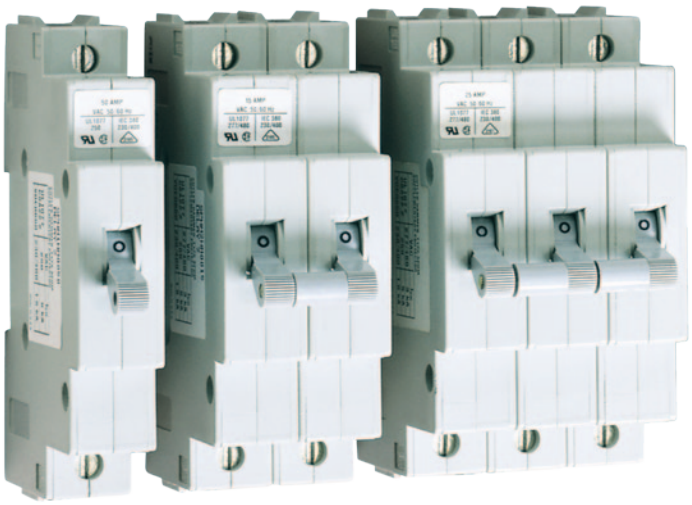
Eaton's WMZT DIN rail mountable miniature circuit breakers offer a complete range from 0.5 to 40A with two levels of short-circuit protection categorized by C and D curves.

Export applications

Series G molded-case circuit breakers are also world-class rated to meet IEC 60947-2 standards for export of assembled products that require IEC compliance.

UL 1077 supplementary protectors

The complete family of supplementary protectors:
DIN rail mounted



UL 1077 recognized equipment and control circuit protection

When compliance with the National Electrical Code or UL is required, supplementary protectors are approved for use on circuits where branch circuit protection has already been provided or is not required.

Eaton exclusively offers selection from two types of DIN rail mounted supplementary protectors:

WMZS—supplementary protector current limiting

- Dual rated to IEC 60947-2
- 0.5 to 63A, up to 277/480V
- B, C and D curves

SPHM—supplementary protector hydraulic-magnetic

- In conformance with IEC 60950 and EN-60947
- Ambient temperature independent
- 0.1 to 30A at 480 Vac
- 0.1 to 50A at 250/277 Vac

WMZS and SPHM offer unique product technology, providing features to respond to specific equipment and control circuit overcurrent protection requirements. Both products are an attractive and resettable alternative to control circuit fuses.

Export applications

WMZS and SPHM supplementary protectors also meet IEC standards. They have the flexibility to be IEC circuit breakers when applications require export of assembled products to areas that require IEC compliance.

Series G molded-case circuit breakers
UL 489 solution

Featuring the EG: The Industry's Smallest 125A UL Breaker

Earth Leakage Module

Applications

Series G molded-case circuit breakers provide the world's most comprehensive product solutions for applications from 15 to 2500A at 208 to 690V.

Branch circuit protection

Series G molded-case circuit breakers provide for the protection of cable, and meet or exceed the requirements of the NEC for branch circuit protection.

Disconnecting means

Series G UL 489 molded-case circuit breakers exceed the requirements of the NEC for use as disconnecting means in branch and motor branch circuits.

Circuit breaker mounting

EG-Frame circuit breakers can be DIN rail mounted, or base or front panel mounted. All other Series G frame breakers can be panel mounted.

30 mA ground fault (earth leakage) modules

Eaton offers a UL Listed Earth Leakage Solution consisting of a three- and four-pole 30 mA ground fault (earth leakage) protection module for EG, JG and LG breakers, while not restricting the use of other breaker accessories.

Technology

Series G employs the world's most advanced molded-case circuit breaker technology. Patented reverse loop contact designs provide for current limiting performance and the highest interrupting ratings in the industry's most compact breaker sizes.

Standards

Series G molded-case circuit breakers are available in versions that meet all major electrical standards of the world.

UL Listed
Series G molded-case circuit breakers meet NEMA® design standards. They are tested and listed per UL 489, ensuring conformance with the NEC.

CSA® Certified
Series G molded-case circuit breakers are certified in accordance with CSA 22.2 No. 5-02.

IEC 60947-2 CE Mark
Eaton's world-class Series G molded-case circuit breakers exceed the performance specifications of IEC 60947-2. They carry the CE mark for applications where European compliance is required.

China Compulsory Certified
The China Compulsory Certificate mark (CCC Mark) is a compulsory safety mark for many products sold on the Chinese market.

IEC Third-Party Certification
In addition to self certification to IEC 60947-2 standard, Eaton's Series G circuit breakers are witness tested by certified third-party IEC test labs. Please check Eaton's Web site for a list of available certificates.

Series G molded-case circuit breaker accessories

UL 489 solution

Series G breaker frame capabilities

		Maximum Voltages		Maximum Interrupting Ratings						Dimensions in Inches Three Poles		
Frame	Maximum Amperes ❶	NEMA, UL, CSA	IEC 60947-2	UL 240V	UL 480V	UL 600V	IEC 240V	IEC 415V	IEC 690V	H	W	D
E	125	600Y/347	415	200 kA	100 kA	35 kA	200 kA	100 kA	N/A	5.50	3.00	2.99
J	250	600	690	200 kA	200 kA	50 kA	200 kA	200 kA	18 kA	7.00	4.13	3.57
L	600	600	690	200 kA	200 kA	65 kA	200 kA	200 kA	35 kA	10.13	5.48	4.09
N	1200	600	690	200 kA	150 kA	65 kA	200 kA	100 kA	35 kA	16.00	8.25	5.50
R	2500	600	690	200 kA	100 kA	65 kA	200 kA	100 kA	35 kA	16.00	15.50	9.75

❶ Per UL and CSA listed ratings.

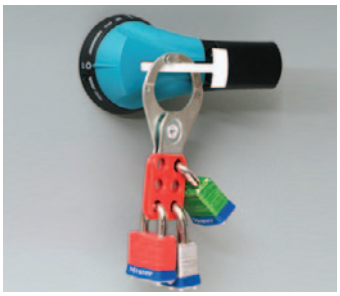
Series G accessories

Termination Options and Accessories

Control panel and enclosure accessories

Flex Shaft

Power Distribution Blocks



High Performance Handle with Padlocks

Universal Rotary

Accessories

Series G breakers are available with a comprehensive range of accessories, including shunt trips, undervoltage releases, alarm lockout and auxiliary switches, multi-wire lug kits, control wire terminal kits, etc., that are field installable.

Plug-in blocks

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.

Flex Shaft™ handle mechanism

Flex Shaft handle mechanisms make installing and operating enclosure-mounted breakers easier than ever. Installation and adjustment of this flange-mounted mechanism can be accomplished in about 10 minutes or less. Optional early break auxiliary switch handle is available. Use for Type 1, 12, 4 and 4X environments.

High-performance handle mechanism

In addition to its robust design features, the handle mechanism has stand-off support that allows for easy operation with a gloved hand. Use for Type 1, 12, 3R or 4X environments. The high performance external handle can accept padlocks or multi-hasp locks.

Power distribution blocks

Eaton power distribution blocks are designed for high short-circuit current rating applications when applied with Series G breakers. Available in three-pole open style and single-pole enclosed style with a variety of terminal arrangements and current-carrying capability up to 570A.

Rotary door-mounted handle mechanism

Rotary handle mechanisms are available for EG-, JG-, LG- and NG-Frame breakers. Use for Type 1 and 12 environments. This rugged through-the-door rotary handle mechanism is designed to accommodate a gloved hand.

Motor protector circuit breakers
UL 489 solution

Motor circuit protection selection chart

	Frame/Rating					
Feature	**FDMP ❶**	**HFDMP ❶**	**JGMPS**	**JGMPH**	**LGMPS**	**LGMPH**
Interruption rating at 240V	65 kA	100 kA	85 kA	100 kA	85 kA	100 kA
Interruption rating at 480V	35 kA	65 kA	35 kA	65 kA	50 kA	65 kA
Interruption rating at 600V	18 kA	25 kA	18 kA	25 kA	25 kA	35 kA
Icu/Ics at 240V	65 kA/33 kA ❷	100 kA/50 kA ❷	85 kA/85 kA	100 kA/100 kA	85 kA/85 kA	100 kA/100 kA
Icu/Ics at 415V	35 kA/18 kA ❷	65 kA/33 kA ❷	40 kA/40 kA	70 kA/53 kA	50 kA/50 kA	70 kA/70 kA
100% rated	No	No	Yes	Yes	Yes	Yes
FLA range (A)	40–205	40–205	50–250	50–250	250–630 ❸	250–630 ❸
Motor class protection ❹	5, 10, 15, 20	5, 10, 15, 20	10, 15, 20, 30	10, 15, 20, 30	10, 15, 20, 30	10, 15, 20, 30

❶ FDMP and HFDMP are part of Eaton's Series C® family.

❷ IEC ratings available only on FWMP and HFWMP.

❸ 630A is not a UL Listed rating. 600A is the maximum UL or CSA rating for LG breaker.

❹ FDMP and HFDMP have adjustable and fixed motor class protection options. JGMP and LGMP have adjustable motor class protection only.

Applications

MPCBs can be used with a contactor to eliminate need for overload relay and still create manual motor control based on NEC standards. This UL 489 Listed device meets requirements for motor branch protection by incorporating disconnecting means, branch short-circuit protection and overload protection in applications from 50 to 630A and 240 to 690V.

Features

MPCBs provide phase unbalance protection, phase loss protection, hot trip/cold trip, high load alarm to warn of potential faults, field installable and interchangeable accessories, and Class 10, 15, 20, 30 protection.

Accessories

A comprehensive range of accessories is available: shunt trips, undervoltage releases, alarm lockout and auxiliary switches, and pre-trip alarms.

Handle mechanisms

Handle mechanisms facilitate the use of MPCBs in applications where external operation of enclosure mounted units is required.

Standards

UL Listed
All Eaton MPCBs are UL 489 Listed.

CSA Certified
Motor protector circuit breakers comply with CSA 22.2, meeting the requirements for motor protector circuit breakers.

CE Mark
Eaton's JG- and LG-Frame MPCBs meet the performance specifications of IEC 60947-2. They carry the CE mark for applications where European compliance is required.

Series G motor circuit protectors EG-Frame, JG-Frame and LG-Frame
UL 489 solution

Motor circuit protection selection chart

	Maximum Ratings		Dimensions in Inches		
Frame Size	**Amperes**	**Volts**	**Width**	**Height**	**Depth**
E	84.5	480 Vac, 600Y/347 Vac	5.50	3.00	2.99
J	2500	600 Vac, 250 Vdc	7.00	4.13	3.57
L	6000	600 Vac, 250 Vdc	10.13	5.48	4.09

Applications

The NEC permits the use of adjustable instantaneous-only circuit breakers (MCPs) in motor branch circuits as part of a listed combination motor controller. The MCP and motor controller act in concert. The MCP provides the disconnecting means and short-circuit protection, and the motor controller provides the overload protection.

Adjustable instantaneous trip

MCPs have no thermal element. The instantaneous trip characteristic is adjustable, providing for placement of the trip setting just above motor inrush. The MCP clears low-level faults quickly, ignores motor starting currents and improves coordination with motor overload relays.

HMCP

The HMCP is available in Series G-, EG-, JG- and LG-Frames to suit larger motor applications requiring higher continuous current and short-circuit performance.

Accessories

A comprehensive range of accessories is available: shunt trips, undervoltage releases and alarm lockout and auxiliary switches, both field and factory installable.

Handle mechanisms

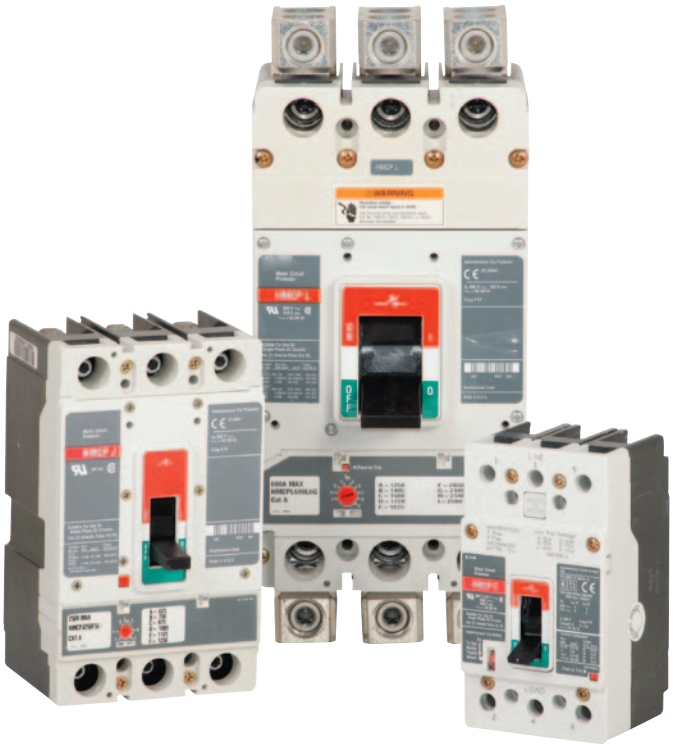
Series G handle mechanisms facilitate the use of Series G MCPs in applications where external operation of enclosure mounted units is required.

Standards

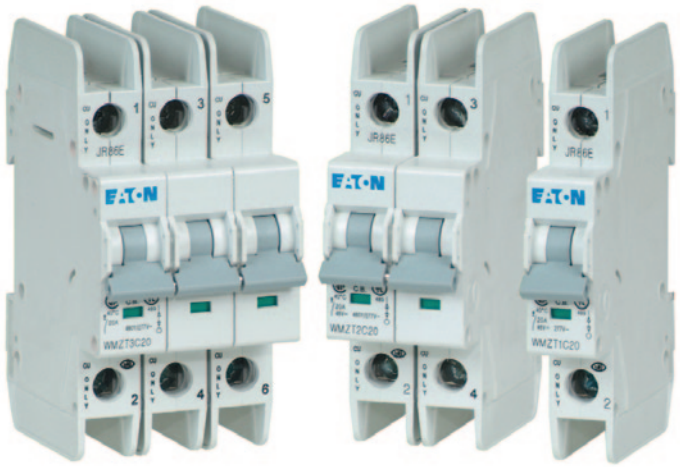
UL Recognized
All Eaton MCPs are UL 489 Recognized and Listed for use with Eaton's IEC or NEMA motor starters (***XT*** and Freedom Series starters). Additional UL Listing combinations with numerous other control products have been obtained.

CSA Certified
Motor circuit protectors comply with CSA 22.2, meeting the requirements for motor circuit protectors.

CE Mark
Eaton HMCPs meet the performance specifications of IEC 60947-2. They carry the CE mark for applications where European compliance is required.



WMZT miniature circuit breakers
UL 489 solution



Applications

WMZT miniature circuit breakers are suitable for branch circuit protection while providing thermal-magnetic overcurrent protection in applications from 0.5 to 40A.

Technology

WMZT employs a current limiting design to provide fast short-circuit interruption to reduce the let-through energy categorized by C and D curves. The trip-free design cannot be defeated by holding the handle in the ON position.

Accessories

A comprehensive range of accessories is available: trip indicating contacts, auxiliary contacts, shunt trips, padlock hasps and bus bars.

Standards

UL Listed
WMZT miniature circuit breakers meet NEMA design standards. They are tested and listed per UL 489, ensuring conformance with the NEC.

CSA Certified
WMZT miniature circuit breakers are certified in accordance with CSA 22.2 No. 5.

CE Mark
Eaton's world-class WMZT miniature circuit breakers exceed the performance specifications of IEC 60947-2. They carry the CE mark for applications where European compliance is required.

RoHS Certified

WMZT miniature circuit breaker specifications

Description	Specification
Design according to	UL 489, CSA C22.2 No.5, IEC 60947-2
WMZT	
UL/CSA	10 kAIC at 277/480V from 0.5 to 32A
UL/CSA	10 kAIC at 240 Vac for 40A
UL/CSA	10 kAIC at 48 Vdc per pole
IEC 947-2	15 kAIC at 240/415 Vac
WMZD	
UL/CSA	10 kAIC at 125 Vdc per pole (two poles max.) 10 kAIC at 250 Vdc with two poles connected in series
WMZH	
UL/CSA	14 kAIC at 277/480V at listed amperages
IEC 947-2	15 kAIC at 240/415 Vac
Rated frequency	50/60 Hz
Characteristics	C, D
Endurance	≥ 20,000 operations
Line voltage connection	Suitable for reverse feed

WMZS current limiting supplementary protector
UL 1077 solution

Applications

WMZS supplementary protectors are IEC current limiting type circuit breakers that provide thermal-magnetic protection in applications from 0.5 to 63A.

Control circuits

WMZS current limiting performance and current ratings below 10A provide an attractive, resettable alternative to fuses in protecting control circuits:

- Motor control circuits (per NEC 430-71, Part F)
- Control circuit transformers
- PLC I/O points
- Contactor coils
- Relays

Standards

WMZS supplementary protectors exceed the requirements of UL 1077 and IEC 60947-2, and carry the following approval marks:

UL Recognized
For applications in the United States where NEC and UL requirements apply, supplementary protectors are intended for use where branch circuit protection has been provided or is not required in accordance with NFPA® 70 (NEC).

CE Mark
WMZS protectors carry the CE mark.

CSA Certified
WMZS supplementary protectors comply with CSA 22.2 No. 235, meeting the requirements for supplementary protectors.

RoHS Certified

Current Limiting Technology in a DIN Rail Mounted Compact IEC Circuit Breaker

Technology

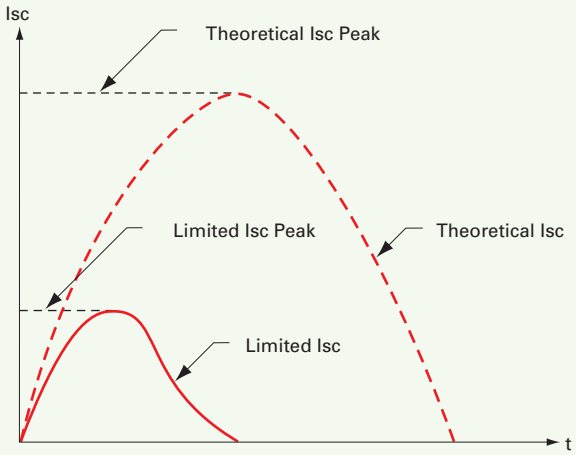
The current limiting design includes a magnetic coil and plunger assembly that acts to quickly trip the breaker during short-circuit conditions. Arc runners channel the arc into the arc chutes, extinguishing the arc before it would otherwise reach current zero, reducing the damaging short-circuit current and the resultant let-through energy to the connected circuit or equipment.

WMZS construction

The WMZS internal construction ensures current limiting performance and compliance with IEC standards.

- Visual Contact Position Indicator Window: Red = On and Green = Off
- Three-position handle: 1 = On, 0 = Off, Center = Tripped
- Quick snap-on clip for secure installation and easy removal from DIN rail
- Interphase insulation barriers on multi-pole units comply with UL 1077 electrical clearance requirements
- Captive posidrive terminal screws offer finger and back-of-hand protection (IP2)

Current limiting interruption performance



Theoretical Current and Actual Limited Current

WMZS current limiting supplementary protector
UL 1077 solution

Technical data

Description	B Curve	C Curve	D Curve
Electrical			
Approvals	UR (UL 1077), CSA (CSA 22.2 No. 235), CE		
Standards	IEC/EN 60947-2		
Short-circuit trip response	3 x 5 I_n	5 x 10 I_n	10 x 20 I_n
Supplementary Protectors—UL/CSA			
Current range	6–63A	0.5–63A	0.5–40A
Maximum voltage ratings—UL/CSA			
Single-pole	277 Vac 48 Vdc	277 Vac 48 Vdc	277 Vac 48 Vdc
Two-, three-pole	480Y/277 Vac	480Y/277 Vac	480Y/277 Vac
Two-pole	96 Vdc	96 Vdc	96 Vdc
Thermal tripping characteristics			
Single-pole	1.35 x I_n @ 40°C	1.35 x I_n @ 40°C	1.35 x I_n @ 40°C
Multi-pole	1.45 x I_n @ 40°C	1.45 x I_n @ 40°C	1.45 x I_n @ 40°C
Short-circuit ratings (at maximum voltage)			
Single-pole	10 kA (5 kA for 40A device)	10 kA (5 kA for 40A device)	10 kA (5 kA for 40A device)
Two-, three-pole	10 kA (5 kA for 40A device)	10 kA (5 kA for 40A device)	10 kA (5 kA for 40A device)
Two poles in series	10 kA @ 96 Vdc	10 kA @ 96 Vdc	10 kA @ 96 Vdc
Miniature Circuit Breaker—IEC			
Current range	6–63A	0.5–63A	0.5–40A
Maximum voltage ratings—IEC 60947-2			
Single-pole	230 Vac 48 Vdc	230 Vac 48 Vdc	230 Vac 48 Vdc
Two-, three-pole	230/400 Vac	230/400 Vac	230/400 Vac
Maximum voltage ratings—IEC 60898			
Single-pole	240 Vac 48 Vdc	240 Vac 48 Vdc	240 Vac 48 Vdc
Two-, three-pole	240/415 Vac	240/415 Vac	240/415 Vac
Thermal tripping characteristics			
Single-pole	>1 hour @ 1.05 x I_n	>1 hour @ 1.05 x I_n	>1 hour @ 1.05 x I_n
Multi-pole	<1 hour @ 1.3 x I_n	<1 hour @ 1.3 x I_n	<1 hour @ 1.3 x I_n
Interrupting ratings (at maximum voltage)			
IEC 60974-2	15 kA	15 kA	15 kA
IEC 60868	10 kA	10 kA	10 kA
Operational switching capacity	7.5 kA	7.5 kA	7.5 kA
Maximum back-up fuse [gL/gG]	125A	125A	125A
Rated impulse withstand—U_{imp}	4000 Vac	4000 Vac	4000 Vac
Rated insulation voltage—U_i	440 Vac	440 Vac	440 Vac

Accessories

Lock-off devices

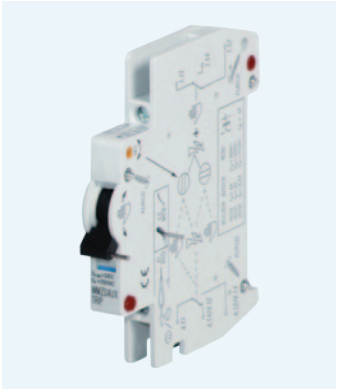
To lock off any WMZS protector, use padlockable device Catalog Number WMZPLK.

Bus bar systems

Bus bars are available for use with or without auxiliary contacts. The bars can be fed from line or load side.

Trip indicating contact

Auxiliary/trip indicating contact is field installable to the left side of a WMZS or shunt trip and is selectable between auxiliary and trip indicating modes. Use Catalog Number WMZSAUXTRIP.



Trip Indicating Contact

Supplementary protector type SPHM hydraulic-magnetic
UL 1077 solution

Applications

SPHM supplementary protectors provide magnetic-only overcurrent protection for applications from 0.1 to 50A at 250/277V, 0.1 to 30A at 480 Vac and 0.1 to 63A at 80 Vdc.

Equipment and control circuit protection

Long, medium and short delay overcurrent curves provide for close overcurrent protection in applications like:

- Electronics
- Motor control circuits (per NEC 430-71, Part F)
- Control circuit transformers
- PLC I/O points
- Contactor coils
- Relays

Precise overload protection

Protection is not affected by ambient temperatures (–40 to +85°C). The protector will hold 100% rated current, eliminating nuisance tripping at higher ambients, and will not allow higher than rated current at lower ambients.

Hydraulic-Magnetic Technology in a DIN Rail Mounted Compact IEC Circuit Breaker

Precise and Accurate Overcurrent Performance Independent from Ambient Temperature

High Resistance to Shock and Vibration

Integrally Mounted Auxiliary Switch (optional)

Immediate reset

The protector can be reset (closed) immediately after an overcurrent trip, maximizing continuity to the affected circuit.

High inrush tolerance

Half cycle immunity to high inrush is available at 8, 18 or 25 times the continuous current rating for high inrush applications like electronic power supplies.

High vibration and shock

SPHM protectors meet MIL standard for vibration (MIL-STD-202 Method 204) and shock (MIL-STD-202, Method 213).

Standards

SPHM supplementary protectors exceed the requirements of UL 1077 and IEC 60950 and carry the following approval marks:

UL Recognized
For applications where NEC and UL requirements apply, supplementary protectors are intended for use where branch circuit protection has been provided or is not required.

VDE Approved
For export applications where IEC requirements apply, SPHM supplementary protectors can be applied as circuit breakers that exceed the requirements of IEC 60950.

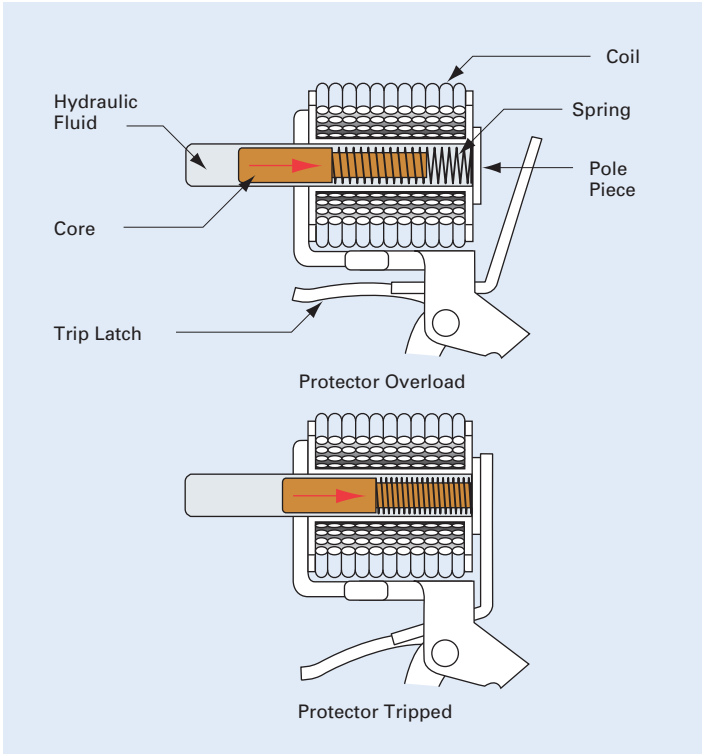
CE Mark
SPHM protectors carry the CE mark in accordance with Low Voltage Directive (LVD) (73/23/EEC).

RoHS Compliant
SPHM protectors submit to limiting the presence of hazardous chemicals in accordance with the Restriction on Hazardous Substances (RoHS) directive 2002/95/EC.

Technology

The hydraulic-magnetic design includes an iron core that moves against a spring in an oil-filled tube. A current-carrying magnetic coil wraps around the tube assembly. During overload conditions, the magnetic flux generated by the coil moves the core through the oil enough to overcome the spring force and trip the breaker. The result is overcurrent protection that is purely current-sensitive and resistant to changes in ambient temperature.

Hydraulic-magnetic design

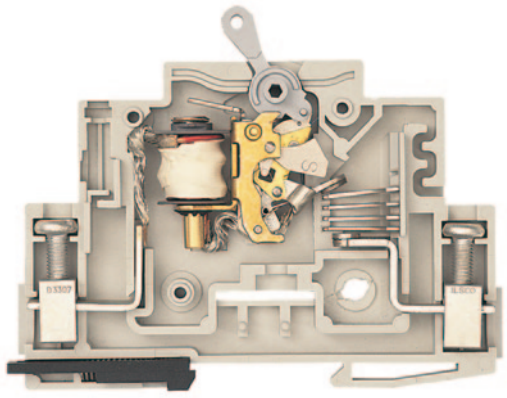


Supplementary protector hydraulic-magnetic
UL 1077 solution

SPHM construction

The SPHM hydraulic-magnetic construction ensures precise overcurrent protection independent of ambient temperature and resistant to shock and vibration.

- Two-position handle: 1= On, 0 = Off (tripped)
- Spring clip for secure installation and easy removal from DIN rail
- Hydraulic-magnetic tube provides precise overcurrent protection
- Integral auxiliary switch available
- Overcurrent curves, long, medium or short delay—time characteristic curves are available as short, medium or long delay
- Integral auxiliary switch (optional selection)—one auxiliary switch (a or b) can be factory installed per pole—a separate pole for auxiliary is not required. Contact Eaton for price adder



SPHM approvals VDE, UL, CSA

	Type	Number of Poles	Rating Operating Voltage U_e	Rating Current I_n	Interrupting Capacity Icu = Ics
EN 60947-2 ❶ Certified CENELEC					
	SPHM	1	230V 50/60 Hz	0.1–63A	1500A
	SPHM	2–4	400V 50/60 Hz	0.1–63A	1500A
	SPHM	1–2	80 Vdc	0.1–63A	3000A
UL 1077 CSA C22.2					
	SPHM	3	250 Vac	0.1–50A	5000A ❷
	SPHM	1–4	277 Vac	0.1–50A	5000A ❷
	SPHM	3	480 Vac	0.1–30A	3000A ❷
	SPHM	1–4	65 Vdc	0.1–50A	5000A ❸
	SPHM	1–4	80 Vdc	0.1–50A	5000A ❷
	SPHM	1–4	80 Vdc	51–63A	5000A ❹

❶ Rating insulation voltage (Ui): 400 Vac.
Working shock strength voltage (Uimp): 8 kV, T1/T2 = 1.2/50 µs.
Working category: A.

❷ Series fuse required: In fuse between 15A and 4 times I_n of the protector.

❸ Series fuse not required.

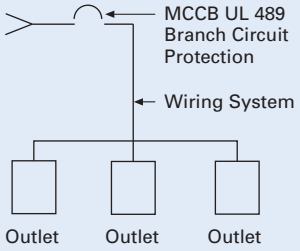
❹ Series fuse required. I_n Fuse maximum 200A.

NEC branch circuit

NEC Article 210

The circuit conductors between the final overcurrent device protecting the circuit and the outlet(s) where:

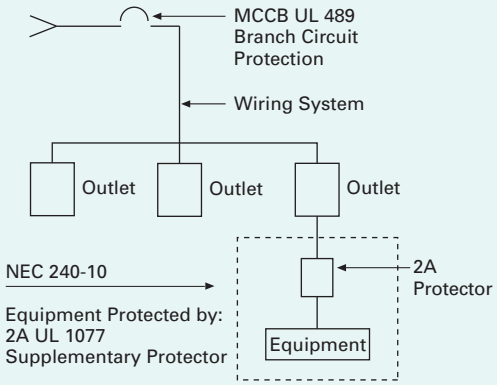
- Overcurrent device: Branch circuit protector
- Outlet(s): Point on the wiring system at which current is taken to supply utilization equipment



Typical supplementary overcurrent protection

NEC Article 240-10

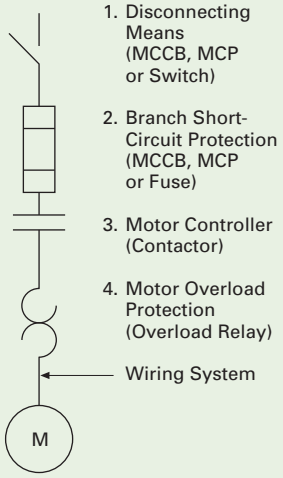
Where supplementary overcurrent protection is used … it shall not be used as a substitute for branch circuit overcurrent devices or in place of the branch circuit protection in Article 210.



NEC motor branch circuits

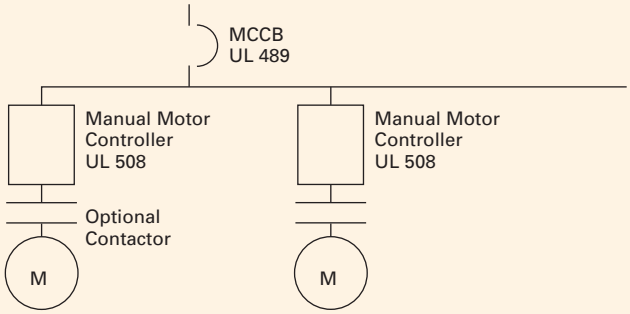
NEC Article 430

Requires that each motor branch circuit contain the following components or functions:



Typical group motor circuit

NEC 430-112



NEC 430-53(c)

A single short-circuit and ground fault protective device is permitted for a group of motors if each motor controller and each motor overload device is listed for group installations with a specified rating of fuse or inverse time circuit breaker, or both.

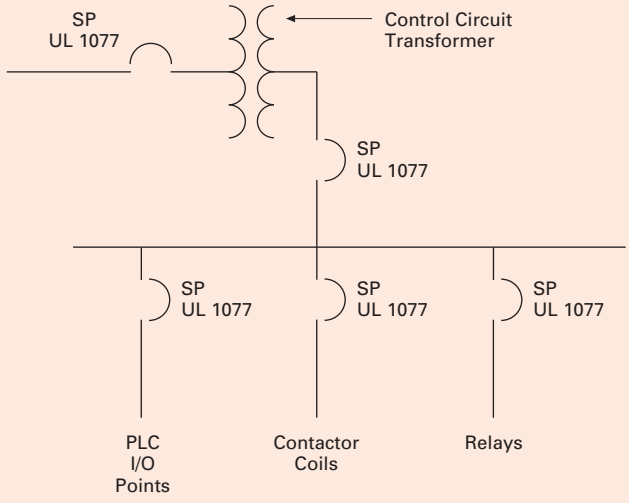
Typical motor control circuit

NEC 430 Part F

Applies to the particular conditions of motor control circuits.

Definition of Motor Control Circuit

The circuit of a control apparatus or system that carries the electric signals directing the performance of the controller, but does not carry the main power current.



A Guide to Industrial Control Circuit Breaker Selection and the Requirements of the National Electrical Code

For Direct Application to NEC, See Color Coordinated Bases		Standards		Product Ratings				NEC 210 Branch Circuit Application	
		UL Standards and Approvals	IEC Standard Marks and Standards	Number of Poles	Current Range Amperes (Min.–Max.)	UL Voltage Ratings (Volts AC)	Interrupting Ratings at Maximum UL Voltage (kA) ❶	Branch Circuit Disconnecting Means	Branch Short-Circuit Protection
Molded-case circuit breakers (MCCB) UL 489 Listed thermal-magnetic protection	Series G E-Frame	UL 489 Listed	IEC 60947-2	1–4	15–160A ❷	220–480 Vac 125/250 Vdc	35 kA	Yes	Yes
	Series G J-Frame	UL 489 Listed	IEC 60947-2	2–4	20–250A	220–600 Vac 125/250 Vdc	50 kA	Yes	Yes
	Series G L-Frame	UL 489 Listed	IEC 60947-2	3–4	100–630A	220–600 Vac 125/250 Vdc	65 kA	Yes	Yes
	Series G N-Frame	UL 489 Listed	IEC 60947-2	2–4	400–1200A	220–600 Vac	65 kA	Yes	Yes
	Series G R-Frame	UL 489 Listed	IEC 60947-2	3–4	800–2500A	220–600 Vac	65 kA	Yes	Yes
Motor protector circuit breaker (MPCB) UL 489 Listed	Series G	UL 489 Listed	IEC 60947-2	3	250–630A	220–600 Vac	35 kA	Yes	Yes
Motor circuit protector (MCP) UL 489 Recognized	Series G	UL 489 Recognized		3	3–600A	600 Vac 250 Vdc		Listed Combination ❸	Listed Combination ❸
Miniature circuit breakers (MCB) UL 489 Listed thermal-magnetic protection	WMZT	UL 489 Listed	IEC 60947-2	1–3	0.5–40A	277/480 Vac	10 kA UL/CSA 15 kA IEC 60947		
Supplementary protectors (SP) UL 1077 Recognized supplementary overcurrent protection	WMZS Thermal-magnetic protection	UL 1077 Recognized	IEC 60947-2	1–3	0.5–63A	277/480 Vac	10 kA		
	SPHM Hydraulic-magnetic protection	UL 1077 Recognized	IEC 60947-2 IEC 60950 VDE 0660	1–4	0.1–50A 0.1–50A 0.1–30A	250 Vac 277 Vac 480 Vac	5 kA ❹ 5 kA ❹ 3 kA ❹		
Manual motor controller UL 508 Listed Type F	MMC	UL 508 Listed Type F	IEC 60947-4-1	3	0.16–65A	220–600 Vac		Yes	Yes

❶ Contact Eaton for DC voltage ratings.

❷ 125A maximum rated per UL.

❸ UL Listed for use with Eaton motor starters.

❹ Series fuse required. I_n fuse between 15A and 4 times I_n of the protector.

NEC 420 Motor Branch Circuit							Miscellaneous		
Branch Circuit Overload Protection	**Supplementary Overcurrent Protection**	**Motor Branch Circuit Disconnecting Means**	**Motor Branch Short-Circuit Protection**	**Motor Branch Overload Protection**	**Multi-Motor (Group) Motor Circuits**	**Motor Control Circuit Overcurrent Protection**	**Handle Mechanism**	**Breaker DIN Rail Mount**	**Product Notes and Unique Features**
Yes		Yes	Yes		Group circuit disconnecting means and overcurrent protection	Yes	Flex Shaft, rotary or close-coupled	Yes with adapter	Mounting hardware and lugs included for your convenience Other accessory options include alarm switch, auxiliary switch, undervoltage release, safety devices, shunt trip, terminations Breaker can be reset after a trip condition, unlike fusible switches, reducing downtime and eliminating the need for replacement
Yes		Yes	Yes		Group circuit disconnecting means and overcurrent protection	Yes	Flex Shaft, rotary or close-coupled		
Yes		Yes	Yes		Group circuit disconnecting means and overcurrent protection	Yes	Flex Shaft, rotary or close-coupled		
Yes		Yes	Yes		Group circuit disconnecting means and overcurrent protection	Yes	Flex Shaft or rotary		
Yes		Yes	Yes		Group circuit disconnecting means and overcurrent protection	Yes	Flex Shaft or rotary		
Yes		Yes	Yes	Yes	Group circuit disconnecting means and overcurrent protection	Yes	Flex Shaft, rotary or close-coupled		Eliminates need for separate overload relay
		Listed Combination ❸	Listed Combination ❸				Flex Shaft, rotary or close-coupled		Listed for use with Eaton motor starters
				Yes		Yes		Yes standard mounting	Ideal for feeder and branch circuit protec-tion applications
	Yes					Yes		Yes standard mounting	Current limiting interruption ideal for replacing fuses in control circuits
	Yes					Yes		Yes standard mounting	Precise overload protection regardless of ambient temperature
Yes		Yes	Yes	Yes		Yes		Yes standard mounting	Provides a complete motor protection solution by combining disconnect function, overload protection, short-circuit protection and remote operation in one compact unit

Refer to Page 13 for circuit breaker selection drawings

NEC branch circuit

Typical supplementary overcurrent protection

NEC motor branch circuits

Typical group motor circuit

Typical motor control circuit

Eaton's Electrical Sector is a global leader in power distribution, power quality, control and automation, and monitoring products. When combined with Eaton's full-scale engineering services, these products provide customer-driven PowerChain™ solutions to serve the power system needs of the data center, industrial, institutional, public sector, utility, commercial, residential, IT, mission critical, alternative energy and OEM markets worldwide.

PowerChain solutions help enterprises achieve sustainable and competitive advantages through proactive management of the power system as a strategic, integrated asset throughout its life cycle, resulting in enhanced safety, greater reliability and energy efficiency. For more information, visit www.eaton.com/electrical.

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Series G Circuit Breakers

2.1 Introduction

Product Overview V4-T2-2
Typical Applications V4-T2-2
Eaton Molded Case Circuit Breakers in Assemblies V4-T2-3

2.2 Series G®

Globally Accepted Breakers

Product Overview V4-T2-4
Product Selection Overview V4-T2-6
Product Selection Guide V4-T2-7
Technical Data and Specifications V4-T2-9
Dimensions and Weights V4-T2-14
EG-Frame (15–125 Amperes) V4-T2-15
JG-Frame (63–250 Amperes) V4-T2-29
LG-Frame (250–630 Amperes) V4-T2-47
NG-Frame (320–1200 Amperes) V4-T2-65
RG-Frame (800–2500 Amperes) V4-T2-74
Motor Circuit Protectors (MCP) V4-T2-85
Motor Protector Circuit Breakers (MPCB) V4-T2-89
30 mA Ground Fault (Earth Leakage) Module V4-T2-92
Current Limiting Circuit Breaker Module V4-T2-96
High Instantaneous Circuit Breaker for Selective Coordination V4-T2-101
Special Features and Accessories V4-T2-104
Motor Operators V4-T2-112
Plug-In Blocks V4-T2-114
Drawout Cassette V4-T2-115

2.3 Series C®

North American Standards and Special Application Breakers

Product Overview V4-T2-116
Standards and Certifications V4-T2-117
Quick Reference V4-T2-118
G-Frame (15–100 Amperes) V4-T2-121
F-Frame (10–225 Amperes) V4-T2-135
J-Frame (70–250 Amperes) V4-T2-153
K-Frame (70–400 Amperes) V4-T2-161
L-Frame (125–600 Amperes) V4-T2-185
M-Frame (300–800 Amperes) V4-T2-211
N-Frame (400–1200 Amperes) V4-T2-222
R-Frame (800–2500 Amperes) V4-T2-237
Motor Circuit Protectors (MCP) V4-T2-256
Motor Protection Circuit Breakers (MPCB) V4-T2-267
Type ELC Current Limiter Attachment (Size 0–4) V4-T2-269
Current Limiting Circuit Breaker Module V4-T2-270
Internal Accessories V4-T2-273
External Accessories V4-T2-304

2.4 Definite Purpose

Optimized solution for HVAC/R and Pumping Applications.

Definite Purpose Molded Case Circuit Breakers V4-T2-331

2.5 Metering and Communications

Power Monitoring and Metering with Modbus RTU

PM3 Monitoring and Metering Module V4-T2-338

2.6 Specialty

Specialty Breakers

Engine Generator Circuit Breakers V4-T2-341
Direct Current Circuit Breakers V4-T2-347
PVGard™ Solar Circuit Breakers V4-T2-361
E2 Mining Service Breakers V4-T2-374
E2VAC Mining Vacuum Circuit Breaker V4-T2-400
Classic Mining Breakers V4-T2-403
Add-On Ground Fault Protection—Type GFR V4-T2-417

2.7 Handle Mechanisms

Handle Mechanisms—Series G V4-T2-420
Handle Mechanisms—Series C V4-T2-432

Learn Online

Drawings Online

Series G E-Frame and Series C F-Frame Molded Case Circuit Breakers

Contents

Description	*Page*
Introduction	
Series G	**V4-T2-4**
Series C	**V4-T2-116**
Definite Purpose	**V4-T2-331**
PM3 Monitoring and Metering Module	**V4-T2-338**
Specialty Breakers	**V4-T2-341**

Learn Online Drawings Online

Product Overview

Series G vs. Series C

Eaton's Electrical Sector, under the Eaton brand, offers the widest variety of molded case circuit breakers available today. Designed for electrical and machinery OEMs serving a range of industries and applications, these proven designs incorporate the latest in innovation with the high reliability that has been our hallmark since the advent of the circuit breaker in the 1920s.

The Series C family ranges from 15–2500 amperes, and includes thermal-magnetic breakers, electronic trip breakers, molded case switches, motor circuit protectors, and specially designed breakers for engine generator, DC and mining applications.

The new Series G line features an average 35% size reduction, common field-installable internal accessories, and advanced trip unit functionality that eliminates the need for rating plugs. These breakers meet the requirements of UL®, CSA®, IEC, CCC and CE, allowing the OEM to standardize on a design that meets the needs of their global customer base.

Application Description

Eaton molded case circuit breakers cover the widest range of applications in the industry:

- Electrical OEMs
- Machinery OEMs
- Navy breakers:
  - UL 489 Supplement SB
  - MIL-C-17588
  - MIL-C-17361
  - ABS/NVR
- Mining breakers up to 1100 Vac
- Earth leakage
- DC breakers 125–750 Vdc
- Engine generator breakers 15–1200 amperes
- Current limiting breakers

Typical Applications

Machine Tool Control Panels and Motor Control Centers

Designed for these equipment requirements, including new world-class accessories.

Panelboards

As both main and branch circuit protection devices.

Feeder Pillars

In distribution systems to provide main and branch circuit protection.

Switchgear

In distribution systems to provide main and branch circuit protection up to 2500 amperes (RG-Frame).

Busbar Trunking Tap-Offs

In busbar trunking tap-offs to provide circuit protection.

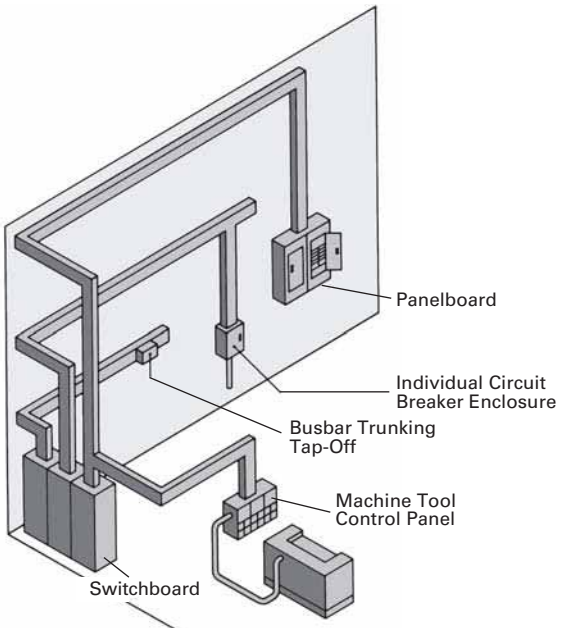
Individual Enclosures

Completely assembled in enclosures to meet specific customer requirements.

Additional Applications

Special versions of each Eaton frame are available to provide safe equipment control and protection in mining and other applications. Contact your Eaton agent or distributor for additional information.

Typical Eaton Applications



Eaton Molded Case Circuit Breakers in Assemblies

Applications

		Panelboards										Switchboards			Motor Control Centers				
Frame	**Ampere Range**	**1A**	**2A**	**1A-LX**	**2A-LX**	**3A**	**3E**	**4**	**4B**	**4D**	**5P**	**PRL-C**	**PRL-i**	**PRL-C/i**	**Freedom**	***IT.***	**Enclosed Control**	**Bus Plugs**	**Enclosed Breaker**
Series G																			
EG	15–160 ①	—	—	—	—	—	■	—	—	—	—	—	—	—	■	■	■	—	—
JG	20–250	—	—	—	—	—	—	—	—	■	—	—	—	—	—	—	—	—	—
LG	100–630 ②	■	■	—	—	■	■	■	■	■	—	■	—	■	—	—	—	—	■
NG	400–1600	—	—	—	—	—	—	—	■	■	—	■	■	■	■	■	—	—	■
RG	800–2500 ③	—	—	—	—	—	—	—	—	—	—	■	—	■	■	■	—	—	—
Series C																			
FD/ED	15–225	■	■	■	■	■	■	■	■	■	■	■	■	—	■	■	■	■	■
JD	70–250	■	■	—	—	■	—	■	■	■	■	■	■	—	■	■	■	■	■
KD	70–400	■	■	—	—	■	■	■	■	■	■	■	■	■	■	■	■	■	■
LD	400–600	—	—	—	—	■	—	■	■	■	■	■	■	■	■	■	■	■	■
MDL	300–800	—	—	—	—	—	—	■	■	■	■	■	■	■	■	■	■	■	■
ND	400–1200	—	—	—	—	—	—	■	■	■	■	■	■	■	■	■	■	■	■
RD	800–2500	—	—	—	—	—	—	—	—	—	■	■	-	■	■	■	—	—	—

Notes

① 125 amperes is the maximum UL and CSA rating for EG.
② 600 amperes is the maximum UL and CSA rating for LG.
③ 1200 amperes is the maximum UL and CSA rating for NG.

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

Contents

Description	*Page*
Series G	
Standards and Certifications	**V4-T2-5**
Product Selection Overview	**V4-T2-6**
Product Selection Guide	**V4-T2-7**
Technical Data and Specifications	**V4-T2-9**
Dimensions and Weights	**V4-T2-14**
EG-Frame (15–125 Amperes)	**V4-T2-15**
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NG-Frame (320–1200 Amperes)	**V4-T2-65**
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Motor Protector Circuit Breakers (MPCB)	**V4-T2-89**
30 mA Ground Fault (Earth Leakage) Module	**V4-T2-92**
Current Limiting Circuit Breaker Module	**V4-T2-96**
High Instantaneous Circuit Breaker for Selective Coordination	**V4-T2-101**
Special Features and Accessories	**V4-T2-104**
Motor Operators	**V4-T2-112**
Plug-In Blocks	**V4-T2-114**
Drawout Cassette	**V4-T2-115**

Learn Online Drawings 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.

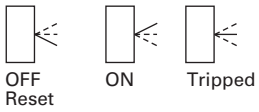
Operating Mechanisms

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

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 LSIG provide additional flat response short time delay adjustments and an instantaneous setting to provide LSI curve shaping capability.

Digitrip RMS 310+ LSG and LSIG 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

RMS 310+

RMS 610

RMS 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					
Protection	Ordering options	LS, LSG	LSI, LSIG	LI, LS, LSI, LIG, LSG, LSIG	LI, LS, LSI, LIG, LSG, LSIG
	Fixed rating plug (I_n) ①	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 ②	10 seconds ②	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 ④	VAR/frame ④	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	I–300 ms	100–500 ms	100–500 ms
	Short delay time ZSI	No	Yes	Yes	Yes
Instantaneous	Independent adjustable Inst. setting	No	Yes ⑤	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 ⑥	Yes ⑥
	Instantaneous override	Yes	Yes	Yes	Yes
Ground fault	Ground fault setting	VAR/Frame ⑦	VAR/Frame ⑦	25–100% x (I_n) ⑦	25–100% x (I_n) ⑦
	Ground fault delay I^2t at 0.62x	No	No	100, 300, 500 ms	100, 300, 500 ms
	Ground fault delay flat	I–300 ms	I–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+ trip units have selectable settings instead of a rating plug.
② 310+ 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.
③ 310+ details are included by frame in **Pages V4-T2-44** (JG), **V4-T2-62** (LG), **V4-T2-72** (NG), and **V4-T2-83** (RG).
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

RMS 310+

RG

JG

LG/NG

RMS 610

RMS 910

	LS, LSG	LSI, LSIG	LSI, LSIG, LSIG (A)	LSI (A), LSIG
System Diagnostics				
Cause of trip LEDs	Yes ①②	Yes ①②	Yes	Yes
Magnitude of trip information	No	No	Yes	Yes
Remote signal contacts	No	No	Yes	Yes
System Monitoring				
Digital display	Yes ③	Yes ③	Yes	Yes
Current	Yes ③	Yes ③	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
System Communications				
PowerNet	No	No	No	Yes
Field Testing				
Testing method	Test set ④	Test set ④	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 ①								250						400, 630 ②					
Breaker type ③			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
Breaker Capacity (kA rms) Vac 50–60 Hz																						
NEMA®, 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 ④		—	—	18	—	22	—	25	35	18	18	25	35	50	50	18	25	35	50	65	65
	125/250 Vdc ⑤		10 ⑥	10	10	35 ⑥	35	42 ⑥	42	42	10	22	22	42	50	50	22	22	42	42	50	50
IEC 60947-2	220–240 Vac	I_{cu}	25	25	35	85	85	100	100	200	65	85	100	200	200	200	65	85	100	200	200	200
		I_{cs}	25	25	35	43	43	50	50	200	65	85	100	200	200	200	65	85	100	200	200	200
	380–415 Vac	I_{cu}	—	18	25	—	40	—	70	100	25	40	70	100	150	200	35	50	70	100	150	200
		I_{cs}	—	18	25	—	30	—	35	100	25	40	70	100	150	200	35	50	53	100	150	200
	660–690 Vac	I_{cu}	—	—	—	—	—	—	—	—	12	12	14	16	18	18	12	20	25	30	35	35
		I_{cs}	—	—	—	—	—	—	—	—	6	6	7	12	14	14	6	10	13	15	18	18
	125/250 Vdc ⑤	I_{cu}	10 ⑥	10	10	35 ⑥	35	42 ⑥	42	42	10	22	22	42	50	50	22	22	42	42	50	50
		I_{cs}	10 ⑥	10	10	35 ⑥	35	42 ⑥	42	42	10	22	22	42	50	50	22	22	42	42	50	50
Ampere range			15–160 A ①								20–250 A						100–630 A ②					
Trip Units F = Fixed A = Adjustable T = Thermal M = Magnetic			FT-FM AT-FM								FT-AM AT-AM Electronic (Digitrip RMS 310)						FT-AM AT-AM Electronic (Digitrip RMS 310)					
	Interchangeable		—	—	—	—	—	—	—	—	■	■	■	■	■	■	■	■	■	■	■	■
	Built-in		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Thermal magnetic	Fixed thermal		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Adjustable thermal		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Magnetic		Fixed								Adjustable						Adjustable					
Electronic RMS ⑦	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.

Frames NG and RG

NG

RG

Maximum rated current (amperes)			800, 1200	800, 1200	800, 1200	1600 ①	800	1600, 2000, 2500	1600, 2000, 2500
Breaker type			S	H	C ②	S	U	H	C ②
Number of poles			2, 3, 4	2, 3, 4	2, 3, 4	3	3	3, 4	3, 4
Breaker Capacity (kA rms) AC 50–60 Hz									
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 ③	25 ③	35	20 ③	—	25 ③	35 ③
		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		—	—	—	—	—	■ ⑤	■ ⑤
	Built-in		■	■	■	■	■	■	■
Electronic ④	LI		—	—	—	—	—	■ ⑥	■ ⑥
	LS		■	■	■	■	■	■	■
	LSI		■	■	■	■	■	■	■
	LIG		—	—	—	—	—	■ ⑥	■ ⑥
	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

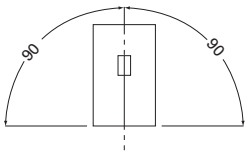
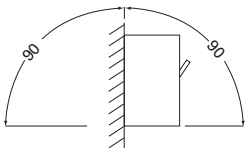
All Series G Frames

	EG	JG	LG	NG	RG
Maximum rated current I_n depending on the version	160 A ①	250 A	400, 630 A ②	800, 1200, 1600 A ③	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 ①	Yes	Yes ②	Yes ③	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%
At 50 °C	96% 92%	96% 94%	96% 91%	91%	91%
At 55 °C	93% 87%	94% 90%	93% 86%	85%	85%
At 60 °C	91% 83%	92% 87%	90% 82%	81%	81%
At 70 °C	86% 73%	88% 80%	84% 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.

All Series G Frames, continued

	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 **Page V4-T2-9**.					
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^2	50 to 150 mm^2	95 to 240 mm^2	—	—	—
Finely stranded with end sleeve	2.5 to 50/70 mm^2	35 to 120 mm^2	70 to 150 mm^2	—	—	—
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^2	0.75 to 2.5 mm^2	0.75 to 2.5 mm^2		Up to 2x4 mm^2	Up to 2x4 mm^2
Finely stranded with end sleeve	0.75 to 2.5 mm^2	0.75 to 2.5 mm^2	0.75 to 2.5 mm^2		Up to 2x2.5 mm^2	Up to 2x2.5 mm^2
With brought-out cable ends	—	0.82 (AWG 18) mm^2	0.82 (AWG 18) mm^2		0.82 (AWG 18) mm^2	0.82 (AWG 18) mm^2
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_n (the power losses of the undervoltage releases ("r" releases) must be observed if necessary) at three-phase symmetrical load)			400 A:	600 A:		
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
Auxiliary Switches						
Rated thermal current I_{th}	6A	6A	6A		6A	6A
Rated making capacity	20 A	20 A	20 A		20 A	20 A
	AC-14	**AC-14**	**AC-14**		**AC-15**	**AC-15**
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
					DC-13	**DC-13**
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
Releases					
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
Shunt Trips					
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
Molded Case Switch (with High Magnetic Trip)					
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

Dimensions and Weights

Approximate Dimensions in Inches (mm)

Series G—Frame EG, JG and LG

	EG			JG			LG		
	H	W	D	H	W	D	H	W	D
Single-pole	5.50 (139.7)	1.00 (25.4)	2.99 (76.0)	—	—	—	—	—	—
Two-pole	5.50 (139.7)	2.00 (50.8)	2.99 (76.0)	7.00 (177.8)	4.13 (105.0)	3.57 (87.4)	—	—	—
Three-pole	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)
Four-pole	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
Single-pole	—	—	—	—	—	—
Two-pole	—	—	—	—	—	—
Three-pole	16.00 (406.0)	8.25 (210.0)	5.50 (140.0)	16.00 (406.0)	15.50 (394.0)	9.75 (229.0)
Four-pole	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
Single-pole	0.85 (0.39)	—	—	—	—
Two-pole	1.57 (0.71)	11.3 (5.13)	—	—	—
Three-pole	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)
Four-pole	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)

Contents

Description	*Page*
EG-Frame (15–125 Amperes)	
Catalog Number Selection	**V4-T2-16**
Product Selection	**V4-T2-17**
Accessories	**V4-T2-26**
Technical Data and Specifications	**V4-T2-27**
Dimensions and Weights	**V4-T2-27**
JG-Frame (63–250 Amperes)	**V4-T2-29**
LG-Frame (250–630 Amperes)	**V4-T2-47**
NG-Frame (320–1200 Amperes)	**V4-T2-65**
RG-Frame (800–2500 Amperes)	**V4-T2-74**
Motor Circuit Protectors (MCP)	**V4-T2-85**
Motor Protector Circuit Breakers (MPCB)	**V4-T2-89**
30 mA Ground Fault (Earth Leakage) Module	**V4-T2-92**
Current Limiting Circuit Breaker Module	**V4-T2-96**
High Instantaneous Circuit Breaker for Selective Coordination	**V4-T2-101**
Special Features and Accessories	**V4-T2-104**
Motor Operators	**V4-T2-112**
Plug-In Blocks	**V4-T2-114**
Drawout Cassette	**V4-T2-115**

EG-Frame (15–125 Amperes)

Product Description

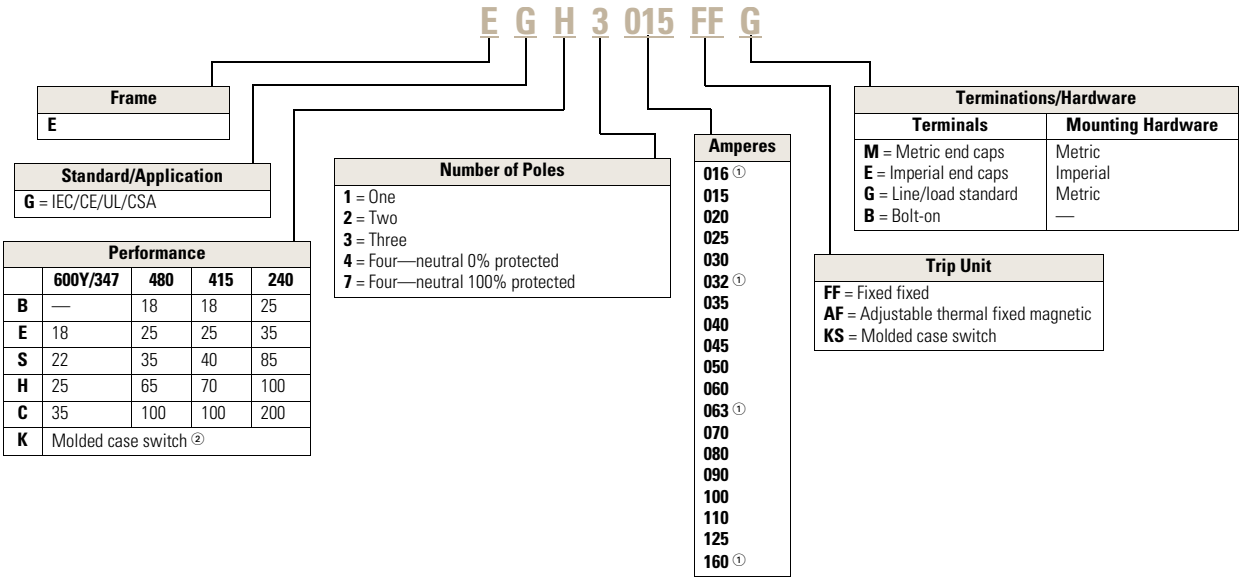
EG breaker is HACR rated.

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.

2

Series G—EG-Frame (15–125 Amperes)



Frame
E

Standard/Application
G = IEC/CE/UL/CSA

Performance				
	600Y/347	**480**	**415**	**240**
B	—	18	18	25
E	18	25	25	35
S	22	35	40	85
H	25	65	70	100
C	35	100	100	200
K	Molded case switch ②			

Number of Poles
1 = One
2 = Two
3 = Three
4 = Four—neutral 0% protected
7 = Four—neutral 100% protected

Amperes
016 ①
015
020
025
030
032 ①
035
040
045
050
060
063 ①
070
080
090
100
110
125
160 ①

Terminations/Hardware	
Terminals	**Mounting Hardware**
M = Metric end caps	Metric
E = Imperial end caps	Imperial
G = Line/load standard	Metric
B = Bolt-on	—

Trip Unit
FF = Fixed fixed
AF = Adjustable thermal fixed magnetic
KS = Molded case switch

Notes

① Cannot be UL rated.

② 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 Fixed Thermal, Fixed Magnetic Catalog Number	Two-Pole Fixed Thermal, Fixed Magnetic Catalog Number	Three-Pole Fixed Thermal, Fixed Magnetic Catalog Number	Three-Pole Adjustable ② Thermal, Fixed Magnetic Catalog Number	Four-Pole ③ Fixed Thermal, Fixed Magnetic Catalog Number	Four-Pole ③ Adjustable ② 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.

EG-Frame—25/25 Single-Pole Unavailable

2

EG-Frame

EG-Frame—25/25

Maximum Continuous Amps at 40 °C ①	Two-Pole Fixed Thermal, Fixed Magnetic Catalog Number	Three-Pole Fixed Thermal, Fixed Magnetic Catalog Number	Three-Pole Adjustable ② Thermal, Fixed Magnetic Catalog Number	Four-Pole ③ Fixed Thermal, Fixed Magnetic Catalog Number	Four-Pole Adjustable ② 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 ①	Single-Pole Fixed Thermal, Fixed Magnetic Catalog Number	Two-Pole Fixed Thermal, Fixed Magnetic Catalog Number	Three-Pole Fixed Thermal, Fixed Magnetic Catalog Number	Three-Pole Adjustable ② Thermal, Fixed Magnetic Catalog Number	Four-Pole ③ Fixed Thermal, Fixed Magnetic Catalog Number	Four-Pole ③ Adjustable ② 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

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

EG-Frame

EG-Frame—70/65

Maximum Continuous Amps at 40 °C ①	Single-Pole Fixed Thermal, Fixed Magnetic Catalog Number	Two-Pole Fixed Thermal, Fixed Magnetic Catalog Number	Three-Pole Fixed Thermal, Fixed Magnetic Catalog Number	Three-Pole Adjustable ② Thermal, Fixed Magnetic Catalog Number	Four-Pole ③ Fixed Thermal, Fixed Magnetic Catalog Number	Four-Pole ③ Adjustable ② 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

	Three-Pole		Four-Pole 0% Protected Neutral ③	
	Fixed Thermal, Fixed Magnetic	Adjustable ② Thermal, Fixed Magnetic	Fixed Thermal, Fixed Magnetic	Adjustable ② Thermal, Fixed Magnetic
Maximum Continuous Amps at 40 °C ①	Catalog Number	Catalog Number	Catalog Number	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 ④

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.

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

EG-Frame

EG-Frame—18 kAIC at 480 Vac

Maximum Continuous Amps at 40 °C	Single-Pole Fixed Thermal, Fixed Magnetic Catalog Number ①	Two-Pole Fixed Thermal, Fixed Magnetic Catalog Number ②	Three-Pole Fixed Thermal, Fixed Magnetic Catalog Number ③
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 ①	Two-Pole Fixed Thermal, Fixed Magnetic Catalog Number ②	Three-Pole Fixed Thermal, Fixed Magnetic Catalog Number ③
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 ①	Two-Pole Fixed Thermal, Fixed Magnetic Catalog Number ②	Three-Pole Fixed Thermal, Fixed Magnetic Catalog Number ③
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

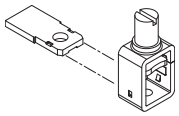
Maximum Breaker Amps	Terminal, Body Material	Wire Type	Metric Wire Range mm^2	AWG Wire Range	(Package of Three Terminals) Catalog Number
Standard Cu/Al Pressure Type Terminals					
15–50	Aluminum	Cu/Al	2.5–50	#14–1/0	**3TA125EF**
60–125	Aluminum	Cu/Al	16–70	#6–3/0	**3TA150EF**

Notes

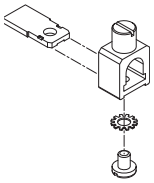
① For bulk pack 24, add suffix BP24 and order quantities of 24.
② For bulk pack 12, add suffix BP12 and order quantities of 12.
③ For bulk pack 8, add suffix BP8 and order quantities of 8.

Accessories Selection Guide and Ordering Information

EG-Frame



3T125EF



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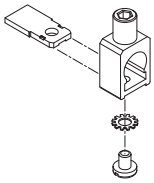
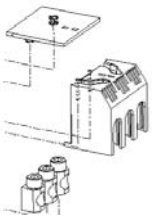
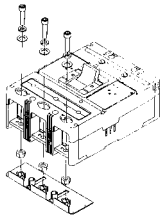


3TA150EF

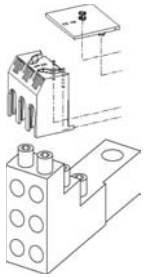


3TA160EFK



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 mm²	AWG Wire Range	(Package of Three Terminals) Catalog Number
Standard Cu/Al Pressure Type Terminals					
125	Steel	Al	4–6	#12-10	**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 of 12—priced individually	

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	**EGGDDIN**

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) ①

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

Note

① For four-pole kit, change "3" at beginning of catalog number to "4."

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.

EG-Frame Accessories

Description	Reference Page	Single-Pole	Two-Pole		Three-Pole			Four-Pole			
		Center	Left	Right	Left	Center	Right	Left	Center	Right	Neutral
Internal Accessories (Only one internal accessory per pole)											
Alarm lockout (Make/Break)	**V4-T2-109**	—	—	■	—	—	■	—	—	■	—
Alarm lockout (2Make/2Break)	**V4-T2-109**	—	—	■	—	—	■	—	—	■	—
Auxiliary switch (1A, 1B)	**V4-T2-109**	—	—	■	—	—	■	—	—	■	—
Auxiliary switch (2A, 2B)	**V4-T2-109**	—	—	■	—	—	■	—	—	■	—
Auxiliary switch and alarm switch combination	**V4-T2-109**	—	—	■	—	—	■	—	—	■	—
Shunt trip—standard	**V4-T2-109**	—	—	—	■	—	—	■	—	—	—
Undervoltage release mechanism	**V4-T2-110**	—	—	—	■	—	—	■	—	—	—
External Accessories											
End cap kit	**V4-T2-25**	—	●	●	●	●	●	●	●	●	●
Control wire terminal kit	**V4-T2-25**	●	●	●	●	●	●	●	●	●	●
Multiwire connectors	**V4-T2-25**	●	●	●	●	●	●	●	●	●	●
Base mounting hardware	**V4-T2-25**	●	●	●	●	●	●	●	●	●	●
Terminal shields	**V4-T2-25**	●	●	●	●	●	●	●	●	●	●
Terminal end covers	**V4-T2-25**	—	—	—	●	●	●	—	—	—	—
Interphase barriers	**V4-T2-25**	—	●	●	●	●	●	●	●	●	●
Non-padlockable handle block	**V4-T2-107**	■	■	—	—	■	—	—	■	—	—
Snap-on padlockable handle lock hasp	**V4-T2-107**	■	■	—	—	■	—	—	■	—	—
Padlockable handle lock hasp	**V4-T2-107**	—	—	■	❑	—	❑	❑	—	❑	—
Walking beam interlock—requires two breakers	**V4-T2-107**	—	—	—	●	●	●	●	●	●	●
Plug-in adapters	**V4-T2-107**	—	●	●	●	●	●	●	●	●	●
Electrical operator	**V4-T2-107**	—	—	—	●	●	●	—	—	—	—
Handle mechanisms	**V4-T2-420**	—	—	—	●	●	●	—	—	—	—
Modifications (Refer to Eaton)											
Moisture fungus treatment	**V4-T2-105**	●	●	●	●	●	●	●	●	●	●
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) 120	220–240 I_{cu}	220–240 I_{cs}	277	347	380–415 I_{cu}	380–415 I_{cs}	480	600Y/347	690 ② I_{cu}	690 ② I_{cs}	Volts DC ① 125 I_{cu}	125 I_{cs}	250 ③④ I_{cu}	250 ③④ I_{cs}
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
EGS125	1	100	85	43	35	22	—	—	—	—	—	—	35	35	—	—
	2, 3, 4	—	85	43	—	—	40	30	35	22	—	—	—	—	35	35
EGH125	1	200	100	50	65	25	—	—	—	—	—	—	42	42	—	—
	2, 3, 4	—	100	50	—	—	70	35	65	25	—	—	—	—	42	42
EGC125 ⑤	3, 4	—	200	200	—	—	100	100	100	35	—	—	—	—	42	42
EGB160 ②	3, 4	—	25	25	—	—	18	18	18	—	—	—	—	—	10	10
EGE160 ②	3, 4	—	35	35	—	—	25	25	25	18	—	—	—	—	10	10
EGS160 ②	3, 4	—	85	43	—	—	40	30	35	22	—	—	—	—	35	35

UL 489 Current Limiting Data

Frame	Circuit	Ip (kA)	I^2T (10^6A^2S)
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

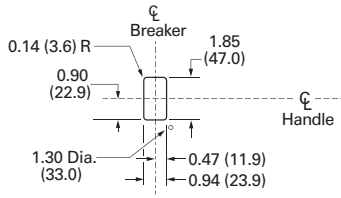
Approximate Dimensions in Inches (mm)

EG-Frame

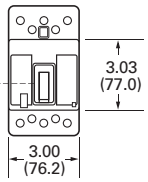
Number of Poles	Width	Height	Depth
1	1.00 (25.4)	5.50 (139.7)	2.99 (75.9)
2	2.00 (50.8)	5.50 (139.7)	2.99 (75.9)
3	3.00 (76.2)	5.50 (139.7)	2.99 (75.9)
4	4.00 (101.6)	5.50 (139.7)	2.99 (75.9)

EG-Frame

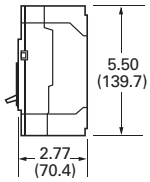
Front Cover Cutout



Front View Three-Pole



Side View



Approximate Shipping Weight in Lbs (kg)

EG-Frame

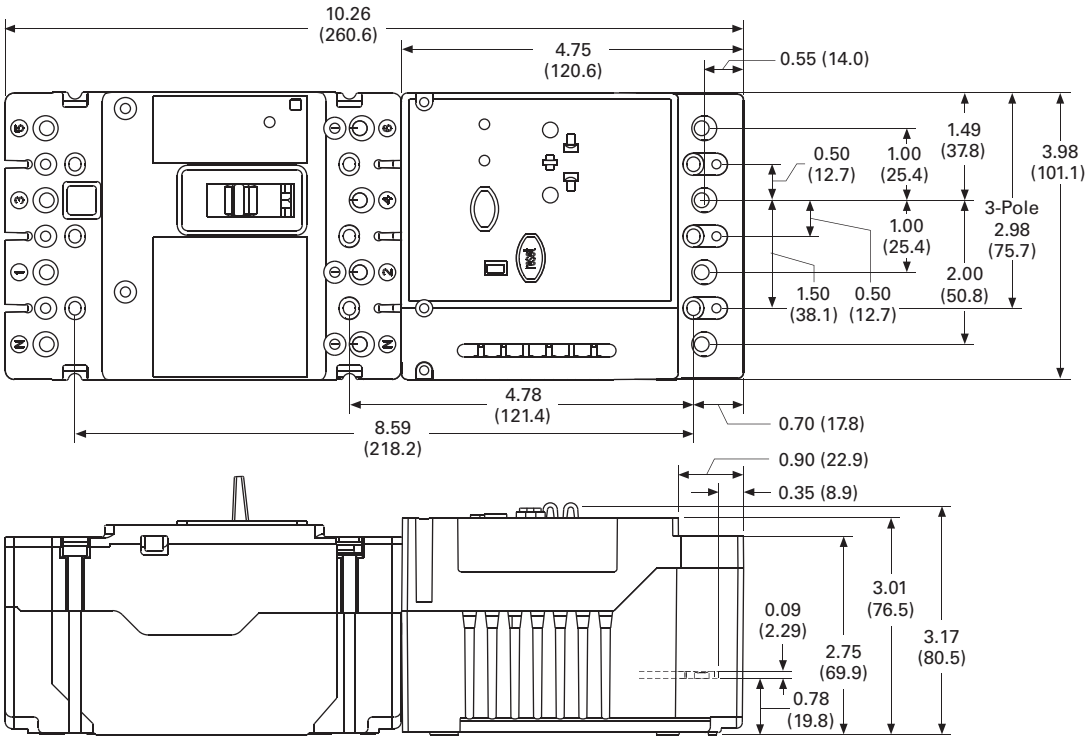
EG Breaker Type	Number of Poles 1	2	3	4
EGB125	1.5 (0.68)	2.0 (0.91)	3.0 (1.36)	4.9 (1.82)

Notes

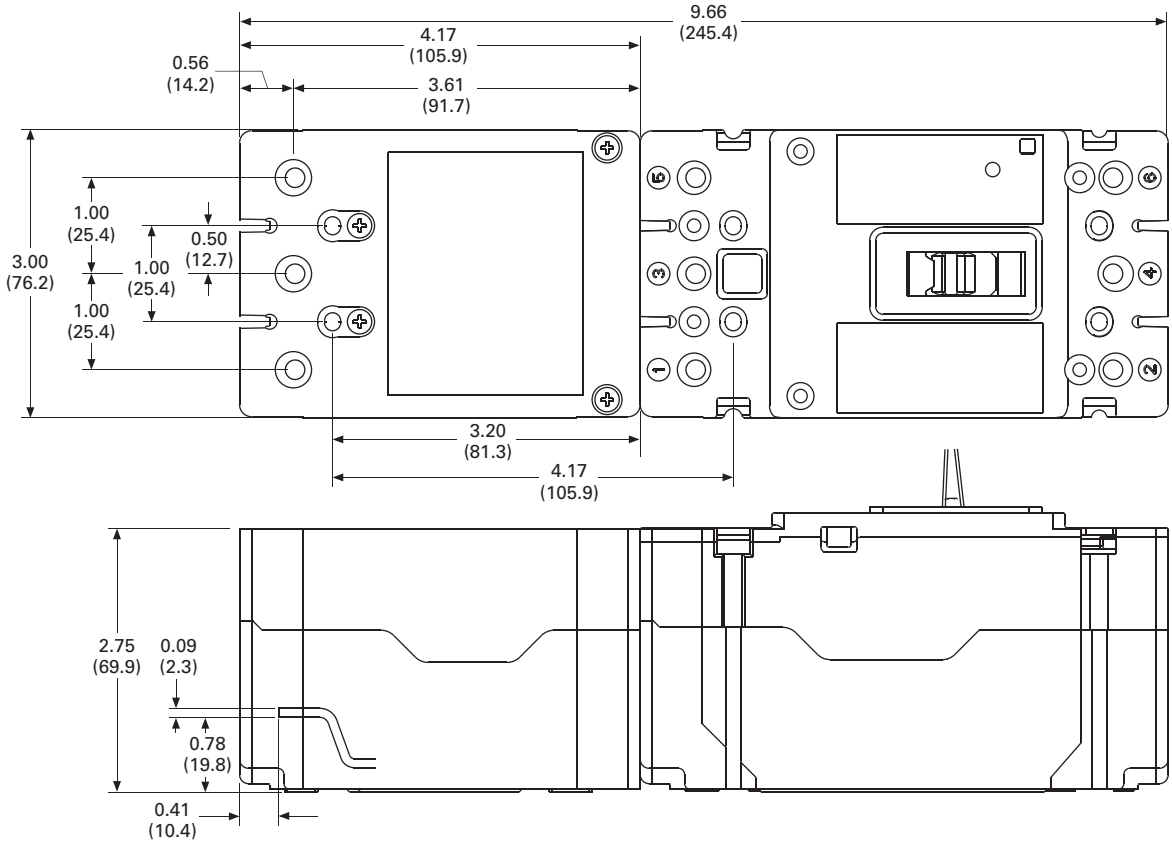
① DC ratings apply to substantially non-inductive circuits.
② IEC only.
③ Two-pole circuit breaker, or two poles of three-pole circuit breaker.
④ Time constant is 3 milliseconds minimum at 10 kA and 8 milliseconds minimum at 42 kA.
⑤ Current limiting per UL 489.

2

EG-Frame With Earth Leakage Module



EG-Frame With Current Limiter Module



JG-Frame (63–250 Amperes)

Contents

Description	*Page*
EG-Frame (15–125 Amperes)	**V4-T2-15**
JG-Frame (63–250 Amperes)	
Catalog Number Selection	**V4-T2-30**
Product Selection	**V4-T2-31**
Accessories	**V4-T2-42**
Technical Data and Specifications	**V4-T2-43**
Dimensions and Weights	**V4-T2-45**
LG-Frame (250–630 Amperes)	**V4-T2-47**
NG-Frame (320–1200 Amperes)	**V4-T2-65**
RG-Frame (800–2500 Amperes)	**V4-T2-74**
Motor Circuit Protectors (MCP)	**V4-T2-85**
Motor Protector Circuit Breakers (MPCB)	**V4-T2-89**
30 mA Ground Fault (Earth Leakage) Module	**V4-T2-92**
Current Limiting Circuit Breaker Module	**V4-T2-96**
High Instantaneous Circuit Breaker for Selective Coordination	**V4-T2-101**
Special Features and Accessories	**V4-T2-104**
Motor Operators	**V4-T2-112**
Plug-In Blocks	**V4-T2-114**
Drawout Cassette	**V4-T2-115**

JG-Frame (63–250 Amperes)

Product Description

JG breaker is 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.

2

Series G—JG-Frame (63–250 Amperes)

J G S 3 250 FA G C

Frame
J

Standard/Application
G = IEC/CE/UL/CSA

Performance

	600	480	415	240
E	18	25	25	65
S	18	35	40	85
H	25	65	70	100
C	35	100	100	200
U	50	150	150	200
X	50	200	200	200
K	Molded case switch			

Number of Poles
2 = Two
3 = Three
4 = Four—Neutral 0% Protected
9 = Four—Neutral 100% Protected

Amperes
050
070
080
090
100
125
150
160
175
200
225
250

Trip Unit
AA = Adj. adj.
FA = Fixed adj.
KS = Molded case switch
33 = 310+ electronic LS
32 = 310+ electronic LSI
35 = 310+ electronic LSG
36 = 310+ electronic LSIG
NN = Frame only (250 A only; no trip unit)

Terminations/Hardware

Terminals	Mounting Hardware
M = Metric end caps	Metric
E = Imperial end caps	Imperial
G = Line/load standard	Metric
W = Without terminals	

Rating
Blank = 80% rated
C = 100% rated
F01 = Freeze tested for –70ºF (–57ºC)
F02 = Freeze tested for –22ºF (–30ºC)

Trip Unit

JT 4 100 FA B20

Trip
JT

Number of Poles
2 = Two
3 = Three
4 = Four—Neutral 0% Protected
9 = Four—Neutral 100% Protected

Amperes

T/M	ETU
080	**050**
090	**100**
100	**160**
110	**250**
125	
150	
160	
175	
200	
225	
250	

Trip Unit
AA = Adj. adj.
FA = Fixed adj.
KS = Molded case switch
33 = 310+ electronic LS
32 = 310+ electronic LSI
35 = 310+ electronic LSG
36 = 310+ electronic LSIG

Features (ETU Only) ①②
Blank= No feature
B20 = High load alarm
B21 = Ground fault alarm, with trip
B22 = Ground fault alarm, no trip
ZG = Zone selective interlocking

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 Fixed Thermal, Adjustable Magnetic Catalog Number	Three-Pole Fixed Thermal, Adjustable Magnetic Catalog Number	Adjustable Thermal, Adjustable Magnetic ① Catalog Number	Four-Pole 0%② Fixed Thermal, Adjustable Magnetic Catalog Number	Adjustable Thermal, Adjustable Magnetic ① 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 Fixed Thermal, Adjustable Magnetic Catalog Number	Three-Pole Fixed Thermal, Adjustable Magnetic Catalog Number	Adjustable Thermal, Adjustable Magnetic ① Catalog Number	Four-Pole 0%② Fixed Thermal, Adjustable Magnetic Catalog Number	Adjustable Thermal, Adjustable Magnetic ① 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

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

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 ① Catalog Number	Four-Pole 0%② Fixed Thermal, Adjustable Magnetic Catalog Number	Adjustable Thermal, Fixed Magnetic ① 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

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.

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 Fixed Thermal, Adjustable Magnetic Catalog Number	Three-Pole Adjustable Thermal, Adjustable Magnetic ① Catalog Number	Four-Pole 0% ② Fixed Thermal, Adjustable Magnetic Catalog Number	Four-Pole 0% ② Adjustable Thermal, Adjustable Magnetic ① 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 Fixed Thermal, Adjustable Magnetic Catalog Number	Three-Pole Adjustable Thermal, Adjustable Magnetic ① Catalog Number	Four-Pole 0% ② Fixed Thermal, Adjustable Magnetic Catalog Number	Four-Pole 0% ② Adjustable Thermal, Adjustable Magnetic ① 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.

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

JG-Frame

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

		Three-Pole		Four-Pole ②	
		Fixed Thermal, Adjustable Magnetic	Adjustable Thermal, Adjustable Magnetic ①	Fixed Thermal, Adjustable Magnetic	Adjustable Thermal, Adjustable Magnetic ①
Maximum Continuous Amperes	Magnetic Range	Catalog Number	Catalog Number	Catalog Number	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 ③

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
25/25			
250	**JGE2250NN**	**JGE3250NN**	**JGE4250NN**
40/35			
250	**JGS2250NN**	**JGS3250NN**	**JGS4250NN**
70/65			
250	**JGH2250NN**	**JGH3250NN**	**JGH4250NN**
100/100 Current Limiting Per UL 489			
250	—	**JGC3250NN**	**JGC4250NN**
150/150 Current Limiting Per UL 489			
250	—	**JGU3250NN**	**JGU4250NN**
200/200 Current Limiting Per UL 489			
250	—	**JGX3250NN**	**JGX4250NN**
25/25 100% Rated Per UL 489 ②			
250	—	**JGE3250NNC**	—
40/35 100% Rated Per UL 489 ②			
250	—	**JGS3250NNC**	—
70/65 100% Rated Per UL 489 ②			
250	—	**JGH3250NNC**	—

Thermal-Magnetic Trip Unit

Ampere Rating	Range	Catalog Number			Range	Catalog Number	
70	350–700	**JT2070FA**	**JT3070FA**	—	—	**JT4070FA**	—
80	400–800	—	**JT3080FA**	**JT3080AA** ③	64–100	—	**JT4080AA** ③
90	450–900	**JT2090FA**	**JT3090FA**	—	—	**JT4090FA**	—
100	500–1000	**JT2100FA**	**JT3100FA**	**JT3100AA** ③	80–100	**JT4100FA**	**JT4100AA** ③
125	625–1250	**JT2125FA**	**JT3125FA**	**JT3125AA** ③	100–125	**JT4125FA**	**JT4125AA** ③
150	750–1550	**JT2150FA**	**JT3150FA**	—	—	**JT4150FA**	—
160	800–1600	—	—	**JT3160AA** ③	128–160	—	**JT4160AA** ③
175	875–1750	**JT2175FA**	**JT3175FA**	—	—	**JT4175FA**	—
200	1000–2000	**JT2200FA**	**JT3200FA**	**JT3200AA** ③	160–200	**JT4200FA**	**JT4200AA** ③
225	1125–2250	**JT2225FA**	**JT3225FA**	—	—	**JT4225FA**	—
250	1250–2500	**JT2250FA**	**JT3250FA**	**JT3250AA** ③	200–250	**JT4250FA**	**JT4250AA** ③

Notes

① Standard line and load terminals.
② Components—100% rated frame.
③ 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-T2-44**.

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 ① Catalog Number
Three-Pole					
50	**JT305033**	**JT305032**	**JT305035**	**JT305036**	**JGFCT050**
100	**JT310033**	**JT310032**	**JT310035**	**JT310036**	**JGFCT100**
160	**JT316033**	**JT316032**	**JT316035**	**JT316036**	**JGFCT160**
250	**JT325033**	**JT325032**	**JT325035**	**JT325036**	**JGFCT250**
Four-Pole ②③					
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-T2-44**.

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 ① Catalog Number
Three-Pole					
50	**JGE305033G**	**JGE305032G**	**JGE305035G**	**JGE305036G**	**JGFCT050**
100	**JGE310033G**	**JGE310032G**	**JGE310035G**	**JGE310036G**	**JGFCT100**
160	**JGE316033G**	**JGE316032G**	**JGE316035G**	**JGE316036G**	**JGFCT160**
250	**JGE325033G**	**JGE325032G**	**JGE325035G**	**JGE325036G**	**JGFCT250**
Four-Pole ②					
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 ① Catalog Number
Three-Pole					
50	**JGS305033G**	**JGS305032G**	**JGS305035G**	**JGS305036G**	**JGFCT050**
100	**JGS310033G**	**JGS310032G**	**JGS310035G**	**JGS310036G**	**JGFCT100**
160	**JGS316033G**	**JGS316032G**	**JGS316035G**	**JGS316036G**	**JGFCT160**
250	**JGS325033G**	**JGS325032G**	**JGS325035G**	**JGS325036G**	**JGFCT250**
Four-Pole ②③					
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 ① Catalog Number
Three-Pole					
50	**JGH305033G**	**JGH305032G**	**JGH305035G**	**JGH305036G**	**JGFCT050**
100	**JGH310033G**	**JGH310032G**	**JGH310035G**	**JGH310036G**	**JGFCT100**
160	**JGH316033G**	**JGH316032G**	**JGH316035G**	**JGH316036G**	**JGFCT160**
250	**JGH325033G**	**JGH325032G**	**JGH325035G**	**JGH325036G**	**JGFCT250**
Four-Pole ②					
50	**JGH405033G**	**JGH405032G**	**JGH405035G**	**JGH405036G**	—
100	**JGH410033G**	**JGH410032G**	**JGH410035G**	**JGH410036G**	—
160	**JGH416033G**	**JGH416032G**	**JGH416035G**	**JGH416036G**	—
250	**JGH425033G**	**JGH425032G**	**JGH425035G**	**JGH425036G**	—

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.

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 ① Catalog Number
Three-Pole					
50	**JGC305033G**	**JGC305032G**	**JGC305035G**	**JGC305036G**	**JGFCT050**
100	**JGC310033G**	**JGC310032G**	**JGC310035G**	**JGC310036G**	**JGFCT100**
160	**JGC316033G**	**JGC316032G**	**JGC316035G**	**JGC316036G**	**JGFCT160**
250	**JGC335033G**	**JGC325032G**	**JGC325035G**	**JGC325036G**	**JGFCT250**
Four-Pole ②					
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 ① Catalog Number
Three-Pole					
50	**JGU305033G**	**JGU305032G**	**JGU305035G**	**JGU305036G**	**JGFCT050**
100	**JGU310033G**	**JGU310032G**	**JGU310035G**	**JGU310036G**	**JGFCT100**
160	**JGU316033G**	**JGU316032G**	**JGU316035G**	**JGU316036G**	**JGFCT160**
250	**JGU335033G**	**JGU325032G**	**JGU325035G**	**JGU325036G**	**JGFCT250**
Four-Pole ②③					
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 ① Catalog Number
Three-Pole					
50	**JGX305033G**	**JGX305032G**	**JGX305035G**	**JGX305036G**	**JGFCT050**
100	**JGX310033G**	**JGX310032G**	**JGX310035G**	**JGX310036G**	**JGFCT100**
160	**JGX316033G**	**JGX316032G**	**JGX316035G**	**JGX316036G**	**JGFCT160**
250	**JGX325033G**	**JGX325032G**	**JGX325035G**	**JGX325036G**	**JGFCT250**
Four-Pole ②					
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	**JGE3070FAGC**
90	450–900	**JGE3090FAGC**
100	500–1000	**JGE3100FAGC**
125	625–1250	**JGE3125FAGC**
150	750–1550	**JGE3150FAGC**
160	800–1600	—
175	875–1750	**JGE3175FAGC**
200	1000–2000	**JGE3200FAGC**
225	1125–2250	**JGE3225FAGC**
250	1250–2500	**JGE3250FAGC**

JG-Frame—IEC/CE/UL/CSA—70/65

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

JG-Frame—IEC/CE/UL/CSA—40/35

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

JG 100% Rated 310+ Electronic Trip Unit Circuit Breaker

See 310+ adjustability specifications on **Page V4-T2-44**.

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 ① 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 ① 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

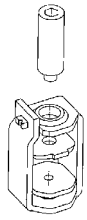
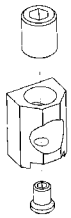
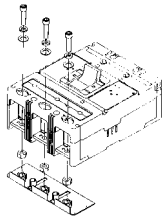
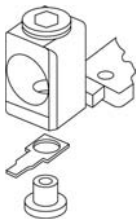
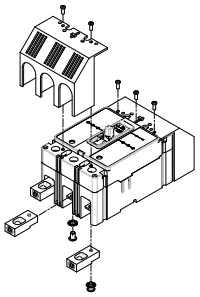
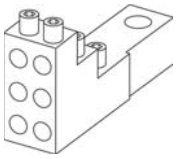
Ampere Rating	LS Catalog Number	LSI Catalog Number	LSG Catalog Number	LSIG Catalog Number	Neutral CT for LSG and LSIG ① Catalog Number
50	**JGH305033GC**	**JGH305032GC**	**JGH305035GC**	**JGH305036GC**	**JGFCT050**
100	**JGH310033GC**	**JGH310032GC**	**JGH310035GC**	**JGH310036GC**	**JGFCT100**
160	**JGH316033GC**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

Note

① 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^2	AWG Wire Range/ Number of Conductors	Catalog Number
Standard Pressure Type Terminals					
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

	Catalog Number	
Number of Poles	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

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 Left	Center	Right	Four-Pole Left	Center	Right	Neutral
Internal Accessories (Only one internal accessory per pole)								
Alarm lockout (Make/Break)	**V4-T2-109**	—	—	■	—	—	■	—
Auxiliary switch (1A, 1B)	**V4-T2-109**	—	—	■	—	—	■	—
Auxiliary switch (2A, 2B)	**V4-T2-109**	—	—	■	—	—	■	—
Auxiliary switch and alarm switch combination	**V4-T2-109**	—	—	■	—	—	■	—
Shunt trip—standard	**V4-T2-109**	■	—	—	■	—	—	—
Undervoltage release mechanism	**V4-T2-110**	■	—	—	■	—	—	—
External Accessories								
End cap kit	**V4-T2-41**	●	●	●	●	●	●	●
Control wire terminal kit	**V4-T2-41**	●	●	●	●	●	●	●
Rear fed terminals	**V4-T2-41**	●	●	●	●	●	●	●
Multiwire connectors	**V4-T2-41**	●	●	●	●	●	●	●
Base mounting hardware	**V4-T2-41**	●	●	●	●	●	●	●
Interphase barriers	**V4-T2-41**	●	●	●	●	●	●	●
Padlockable handle block	**V4-T2-107**	—	■	—	—	■	—	—
Padlockable handle lock hasp	**V4-T2-107**	❑	—	❑	❑	—	❑	—
Key interlock kit	**V4-T2-107**	❑	—	❑	❑	—	❑	—
Sliding bar interlock—requires two breakers	**V4-T2-107**	●	●	●	—	—	—	—
Electrical operator	**V4-T2-107**	●	●	●	●	●	●	●
Plug-in adapters	**V4-T2-107**	●	●	●	●	●	●	●
Handle mechanisms	**V4-T2-420**	●	●	●	●	●	●	●
Earth leakage/ground fault protector	**V4-T2-92**	●	●	●	●	●	●	●
Drawout cassette	**V4-T2-115**	●	●	●	●	●	●	●
Digitrip 310+ test kit	**V4-T2-36**	●	●	●	●	●	●	●
Ammeter/cause of trip display	**V4-T2-106**	●	●	●	●	●	●	●
Cause of trip LED module	**V4-T2-106**	●	●	●	●	●	●	●
Modifications (Refer to Eaton)								
Moisture fungus treatment	**V4-T2-105**	●	●	●	●	●	●	●
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) 220–240 I_{cu}	220–240 I_{cs}	380–415 I_{cu}	380–415 I_{cs}	480	600	690 ② I_{cu}	690 ② I_{cs}	Volts DC ① 250 ②③
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 ④	3, 4	200	200	100	100	100	35	16	12	42
JGU250 ④	3, 4	200	200	150	150	150	50	18	14	50
JGX250 ④	3, 4	200	200	200	200	200	50	18	14	50

UL 489 Current Limiting Data

Frame	Circuit	Ip (kA)	I^2T (10^6A^2S)
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+
Breaker Type	
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
Protection	
Ordering options	LS, LSI, LSG, LSIG
Arcflash reduction maintenance system (or maintenance mode)	No
Interchangeable trip unit	Yes
High load alarm (suffix B20) ⑤	Yes
Ground fault alarm with trip (suffix B21) ⑤	Yes
Ground fault alarm, no trip (suffix B22) ⑤	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

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 = gound 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 ①	N/A				
Maintenance Mode pickup (2.5 x I_n) (amperes) ②	N/A				

Notes

① Not available for JG. Independently adjustable Ii 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.

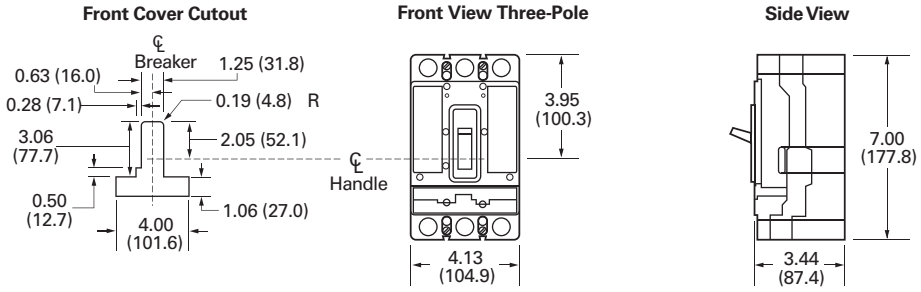
Dimensions and Weights

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



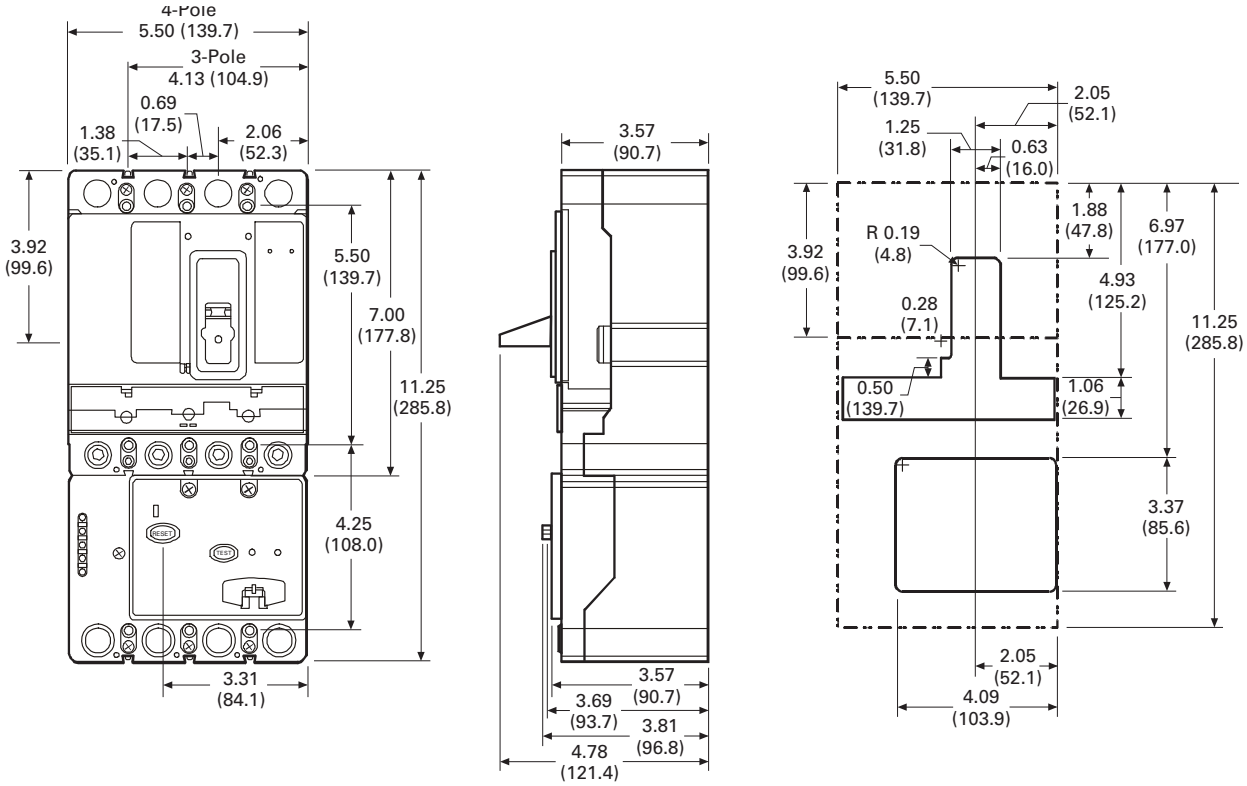
Approximate Shipping Weight in Lbs (kg)

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

JG-Frame With Earth Leakage Module



LG-Frame (250–630 Amperes)

Contents

Description	*Page*
EG-Frame (15–125 Amperes)	**V4-T2-15**
JG-Frame (63–250 Amperes)	**V4-T2-29**
LG-Frame (250–630 Amperes)	
Catalog Number Selection	**V4-T2-48**
Product Selection	**V4-T2-49**
Accessories	**V4-T2-60**
Technical Data and Specifications	**V4-T2-61**
Dimensions and Weights	**V4-T2-63**
NG-Frame (320–1200 Amperes)	**V4-T2-65**
RG-Frame (800–2500 Amperes)	**V4-T2-74**
Motor Circuit Protectors (MCP)	**V4-T2-85**
Motor Protector Circuit Breakers (MPCB)	**V4-T2-89**
30 mA Ground Fault (Earth Leakage) Module	**V4-T2-92**
Current Limiting Circuit Breaker Module	**V4-T2-96**
High Instantaneous Circuit Breaker for Selective Coordination	**V4-T2-101**
Special Features and Accessories	**V4-T2-104**
Motor Operators	**V4-T2-112**
Plug-In Blocks	**V4-T2-114**
Drawout Cassette	**V4-T2-115**

LG-Frame (250–630 Amperes)

Product Description

LG breaker is 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.

2

Series G—LG-Frame (250–630 Amperes)

L G S 3 600 FA G C

Frame
L

Standard/Application
G = IEC/CE/UL/CSA

Performance

	600	480	415	240
E	18	35	35	65
S	25	50	50	85
H	35	65	70	100
C	50	100	100	200
U	65	150	150	200
X	65	200	200	200
K	Molded case switch			

Number of Poles
3 = Three
4 = Four—Neutral 0% protected
6 = Four—Neutral 60% protected
7 = Four—Neutral 100% protected
8 = Four—Neutral 0–60% protected
9 = Four—Neutral 0–100 protected

Amperes
250
300
350
400
500
600
630

Trip Unit
AA = Adj. adj.
FA = Fixed adj.
KS = Molded case switch
33 = 310+ electronic LS
32 = 310+ electronic LSI
35 = 310+ electronic LSG
36 = 310+ electronic LSIG
38 = 310+ electronic ALSI
39 = 310+ electronic ALSIG
NN = Frame only (630 A only; no trip unit)

Terminations/Hardware

Terminals	Mounting Hardware
M = Metric end caps	Metric
E = Imperial end caps	Imperial
G = Line/load standard	Metric
W = Without terminals	

Rating
Blank = 80% rated
C = 100% rated (for LGE, LGS and LGH only)

Trip Unit

LT 3 600 FA B20

Trip
LT

Number of Poles
3 = Three
4 = Four—neutral 0% protected
8 = Four—neutral 0/60% protected
9 = Four—neutral 0/100% protected

Amperes
250
300
350
400
500
600
630

Trip Unit
AA = Adj. adj., thermal-magnetic
FA = Fixed adj., thermal-magnetic
KS = Molded case switch
33 = 310+ electronic LS
32 = 310+ electronic LSI
35 = 310+ electronic LSG
36 = 310+ electronic LSIG
38 = 310+ electronic ALSI
39 = 310+ electronic ALSIG

Features (ETU Only) ①②
Blank= No feature
B20 = High load alarm
B21 = Ground fault alarm, with trip
B22 = Ground fault alarm, no trip
ZG = Zone selective interlocking

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 ①

	Three-Pole ②		Four-Pole (0%) ③	
	Fixed Thermal, Adjustable Magnetic	Adjustable Thermal, Adjustable Magnetic ④⑤	Fixed Thermal, Adjustable Magnetic	Adjustable Thermal, Adjustable Magnetic ④⑤
Ampere Rating	Catalog Number	Catalog Number	Catalog Number	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 ④	—	LGE3630AAG	—	LGE4630AAG

LG-Frame

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

	Three-Pole ②		Four-Pole (0%) ③	
	Fixed Thermal, Adjustable Magnetic	Adjustable Thermal, Adjustable Magnetic ④⑤	Fixed Thermal, Adjustable Magnetic	Adjustable Thermal, Adjustable Magnetic ④⑤
Ampere Rating	Catalog Number	Catalog Number	Catalog Number	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 ④	—	LGS3630AAG	—	LGS4630AAG

LG-Frame

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

	Three-Pole ②		Four-Pole (0%) ③	
	Fixed Thermal, Adjustable Magnetic	Adjustable Thermal, Adjustable Magnetic ④⑤	Fixed Thermal, Adjustable Magnetic	Adjustable Thermal, Adjustable Magnetic ④⑤
Ampere Rating	Catalog Number	Catalog Number	Catalog Number	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 ④	—	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.

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

	Three-Pole ②		Four-Pole (0%) ③	
	Fixed Thermal, Adjustable Magnetic	Adjustable Thermal, Adjustable Magnetic ④⑤	Fixed Thermal, Adjustable Magnetic	Adjustable Thermal, Adjustable Magnetic ④⑤
Ampere Rating	Catalog Number	Catalog Number	Catalog Number	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

	Three-Pole ②		Four-Pole (0%) ③	
	Fixed Thermal, Adjustable Magnetic	Adjustable Thermal, Adjustable Magnetic ④⑤	Fixed Thermal, Adjustable Magnetic	Adjustable Thermal, Adjustable Magnetic ④⑤
Ampere Rating	Catalog Number	Catalog Number	Catalog Number	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

	Three-Pole ②		Four-Pole (0%) ③	
	Fixed Thermal, Adjustable Magnetic	Adjustable Thermal, Adjustable Magnetic ④⑤	Fixed Thermal, Adjustable Magnetic	Adjustable Thermal, Adjustable Magnetic ④⑤
Ampere Rating	Catalog Number	Catalog Number	Catalog Number	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 [1]

Ampere Rating	Number of Poles	Catalog Number
400	3 [2]	LGK3400KSG
	4	LGK4400KSG
630 [3]	3 [2]	LGK3630KSG
	4	LGK4630KSG

Frame—IC Rating at 415/480 Volts

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

Thermal-Magnetic Trip Unit

	Three-Pole [2]		Four-Pole (0%) [5]	
	Fixed Thermal, Adjustable Magnetic	Adjustable Thermal, Adjustable Magnetic [4]	Fixed Thermal, Adjustable Magnetic	Adjustable Thermal, Adjustable Magnetic [4]
Ampere Rating	Catalog Number	Catalog Number	Catalog Number	Catalog Number
250	LT3250FA	LT3250AA	LT4250FA	LT4250AA
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] Adjustable thermal, adjustable magnetic trip units are typically used in IEC markets and are not UL or CSA listed.
[5] Neutral protection is indicated by the third character: 4 = 0%, 7 = 100%, 8 = adjustable 0–60% and 9 = 0–100%.
[6] 100% rated frame.

2

Digitrip 310+ Electronic Trip Units

See 310+ adjustability specifications on **Page V4-T2-62**.

Ampere Rating	LS Catalog Number	LSI Catalog Number	LSG Catalog Number	LSIG Catalog Number	Neutral CT for LSG and LSIG ① Catalog Number
Three-Pole					
250	**LT325033**	**LT325032**	**LT325035**	**LT325036**	**LGFCT250**
400	**LT340033**	**LT340032**	**LT340035**	**LT340036**	**LGFCT400**
600	**LT360033**	**LT360032**	**LT360035**	**LT360036**	**LGFCT600**
630 ②	**LT363033**	**LT363032**	**LT363035**	**LT363036**	**LGFCT600**
Four-Pole ③④					
250	**LT425033**	**LT425032**	**LT425035**	**LT425036**	—
400	**LT440033**	**LT440032**	**LT440035**	**LT440036**	—
600	**LT460033**	**LT460032**	**LT460035**	**LT460036**	—
630 ②	**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)	**LGFCT630**
External neutral sensor (600 A)	**LGFCT600**
External neutral sensor (400 A)	**LGFCT400**
External neutral sensor (250 A)	**LGFCT250**
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-T2-62**.

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
Three-Pole ③					
250	**LGE325033G**	**LGE325032G**	**LGE325035G**	**LGE325036G**	**LGFCT250**
400	**LGE340033G**	**LGE340032G**	**LGE340035G**	**LGE340036G**	**LGFCT400**
600	**LGE360033G**	**LGE360032G**	**LGE360035G**	**LGE360036G**	**LGFCT600**
630 ④	**LGE363033G**	**LGE363032G**	**LGE363035G**	**LGE363036G**	**LGFCT600**
Four-Pole ⑤					
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
Three-Pole ③					
250	**LGS325033G**	**LGS325032G**	**LGS325035G**	**LGS325036G**	**LGFCT250**
400	**LGS340033G**	**LGS340032G**	**LGS340035G**	**LGS340036G**	**LGFCT400**
600	**LGS360033G**	**LGS360032G**	**LGS360035G**	**LGS360036G**	**LGFCT600**
630 ④	**LGS363033G**	**LGS363032G**	**LGS363035G**	**LGS363036G**	**LGFCT600**
Four-Pole ⑤⑥					
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
Three-Pole ③					
250	**LGH325033G**	**LGH325032G**	**LGH325035G**	**LGH325036G**	**LGFCT250**
400	**LGH340033G**	**LGH340032G**	**LGH340035G**	**LGH340036G**	**LGFCT400**
600	**LGH360033G**	**LGH360032G**	**LGH360035G**	**LGH360036G**	**LGFCT600**
630 ④	**LGH363033G**	**LGH363032G**	**LGH363035G**	**LGH363036G**	**LGFCT600**
Four-Pole ⑤⑥					
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) ①

2

See 310+ adjustability specifications on **Page V4-T2-62**.

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 ② Catalog Number
Three-Pole ③					
250	**LGC325033G**	**LGC325032G**	**LGC325035G**	**LGC325036G**	**LGFCT250**
400	**LGC340033G**	**LGC340032G**	**LGC340035G**	**LGC340036G**	**LGFCT400**
600	**LGC360033G**	**LGC360032G**	**LGC360035G**	**LGC360036G**	**LGFCT600**
630 ④	**LGC363033G**	**LGC363032G**	**LGC363035G**	**LGC363036G**	**LGFCT600**
Four-Pole ⑤⑥					
250	**LGC425033G**	**LGC425032G**	**LGC425035G**	**LGC425036G**	—
400	**LGC440033G**	**LGC440032G**	**LGC440035G**	**LGC440036G**	—
600	**LGC460033G**	**LGC460032G**	**LGC460035G**	**LGC460036G**	—
630 ④	**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 ② Catalog Number
Three-Pole ③					
250	**LGU325033G**	**LGU325032G**	**LGU325035G**	**LGU325036G**	**LGFCT250**
400	**LGU340033G**	**LGU340032G**	**LGU340035G**	**LGU340036G**	**LGFCT400**
600	**LGU360033G**	**LGU360032G**	**LGU360035G**	**LGU360036G**	**LGFCT600**
630 ④	**LGU363033G**	**LGU363032G**	**LGU363035G**	**LGU363036G**	**LGFCT600**
Four-Pole ⑤					
250	**LGU425033G**	**LGU425032G**	**LGU425035G**	**LGU425036G**	—
400	**LGU440033G**	**LGU440032G**	**LGU440035G**	**LGU440036G**	—
600	**LGU460033G**	**LGU460032G**	**LGU460035G**	**LGU460036G**	—
630 ④	**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 ② Catalog Number
Three-Pole ③					
250	**LGX325033G**	**LGX325032G**	**LGX325035G**	**LGX325036G**	**LGFCT250**
400	**LGX340033G**	**LGX340032G**	**LGX340035G**	**LGX340036G**	**LGFCT400**
600	**LGX360033G**	**LGX360032G**	**LGX360035G**	**LGX360036G**	**LGFCT600**
630 ④	**LGX363033G**	**LGX363032G**	**LGX363035G**	**LGX363036G**	**LGFCT600**
Four-Pole ⑤					
250	**LGX425033G**	**LGX425032G**	**LGX425035G**	**LGX425036G**	—
400	**LGX440033G**	**LGX440032G**	**LGX440035G**	**LGX440036G**	—
600	**LGX460033G**	**LGX460032G**	**LGX460035G**	**LGX460036G**	—
630 ④	**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 ①

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

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

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

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

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

Notes

① Replace suffix "G" with "W" for no line and load terminals.
② For two-pole applications, use two outer poles.

LG 100% Rated Electronic Breaker Per UL 489

See 310+ adjustability specifications on **Page V4-T2-62**.

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 ① Catalog Number
250	**LGE325033GC**	**LGE325032GC**	**LGE325035GC**	**LGE325036GC**	**LGFCT250**
400	**LGE340033GC**	**LGE340032GC**	**LGE340035GC**	**LGE340036GC**	**LGFCT400**
600	**LGE360033GC**	**LGE360032GC**	**LGE360035GC**	**LGE360036GC**	**LGFCT600**
630 ②	**LGE363033GC**	**LGE363032GC**	**LGE363035GC**	**LGE363036GC**	**LGFCT600**

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 ① Catalog Number
250	**LGS325033GC**	**LGS325032GC**	**LGS325035GC**	**LGS325036GC**	**LGFCT250**
400	**LGS340033GC**	**LGS340032GC**	**LGS340035GC**	**LGS340036GC**	**LGFCT400**
600	**LGS360033GC**	**LGS360032GC**	**LGS360035GC**	**LGS360036GC**	**LGFCT600**
630 ②	**LGS363033GC**	**LGS363032GC**	**LGS363035GC**	**LGS363036GC**	**LGFCT600**

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 ① Catalog Number
250	**LGH325033GC**	**LGH325032GC**	**LGH325035GC**	**LGH325036GC**	**LGFCT250**
400	**LGH340033GC**	**LGH340032GC**	**LGH340035GC**	**LGH340036GC**	**LGFCT400**
600	**LGH360033GC**	**LGH360032GC**	**LGH360035GC**	**LGH360036GC**	**LGFCT600**
630 ②	**LGH363033GC**	**LGH363032GC**	**LGH363035GC**	**LGH363036GC**	**LGFCT600**

Notes

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

② 630 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-T2-62**.

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
IEC/UL/CSA 35 kAIC at 415 and 480 Vac			
250	**LGE325038G**	**LGE365039G**	**LGFCT250**
400	**LGE340038G**	**LGE340039G**	**LGFCT400**
600	**LGE360038G**	**LGE360039G**	**LGFCT600**
630	**LGE363038G**	**LGE363039G**	**LGFCT600**
IEC/UL/CSA 50 kAIC at 415 and 480 Vac			
250	**LGS325038G**	**LGS365039G**	**LGFCT250**
400	**LGS340038G**	**LGS340039G**	**LGFCT400**
600	**LGS360038G**	**LGS360039G**	**LGFCT600**
630	**LGS363038G**	**LGS363039G**	**LGFCT600**
IEC/UL/CSA 70 kAIC at 415 and 480 Vac			
250	**LGH325038G**	**LGH365039G**	**LGFCT250**
400	**LGH340038G**	**LGH340039G**	**LGFCT400**
600	**LGH360038G**	**LGH360039G**	**LGFCT600**
630	**LGH363038G**	**LGH363039G**	**LGFCT600**
IEC/UL/CSA 100 kAIC at 415 and 480 Vac, Current Limiting Per UL 489			
250	**LGC325038G**	**LGC365039G**	**LGFCT250**
400	**LGC340038G**	**LGC340039G**	**LGFCT400**
600	**LGC360038G**	**LGC360039G**	**LGFCT600**
630	**LGC363038G**	**LGC363039G**	**LGFCT600**
IEC/UL/CSA 150 kAIC at 415 and 480 Vac, Current Limiting Per UL 489			
250	**LGU325038G**	**LGU365039G**	**LGFCT250**
400	**LGU340038G**	**LGU340039G**	**LGFCT400**
600	**LGU360038G**	**LGU360039G**	**LGFCT600**
630	**LGU363038G**	**LGU363039G**	**LGFCT600**
IEC/UL/CSA 200 kAIC at 415 and 480 Vac, Current Limiting Per UL 489			
250	**LGX325038G**	**LGX365039G**	**LGFCT250**
400	**LGX340038G**	**LGX340039G**	**LGFCT400**
600	**LGX360038G**	**LGX360039G**	**LGFCT600**
630	**LGX363038G**	**LGX363039G**	**LGFCT600**

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**	**LGFCT250**
400	**LT340038**	**LT340039**	**LGFCT400**
600	**LT360038**	**LT360039**	**LGFCT600**
630	**LT363038**	**LT363039**	**LGFCT600**

Note

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

Accessories Selection Guide and Ordering Information

Line and Load Terminals

Maximum Breaker Amperes	Terminal Body Material	Wire Type	AWG Wire Range/ Number of Conductors	Metric Wire Range (mm^2)	Number of Terminals Included	Catalog Number
400	Aluminum	Cu/Al	500–750 (1)	240–380 (1)	3	**3TA631LK** ①
400	Aluminum	Cu/Al	500–750 (1)	240–380 (1)	4	**4TA631LK** ①
400	Copper	Cu	500–750 (1)	240–380 (1)	3	**3T631LK** ①
400	Copper	Cu	500–750 (1)	240–380 (1)	4	**4T631LK** ①
630	Aluminum	Cu/Al	2–500 (2)	35–240 (2)	1	**TA632L**
630	Aluminum	Cu/Al	2–500 (2)	35–240 (2)	3	**3TA632LK** ①②
630	Aluminum	Cu/Al	2–500 (2)	35–240 (2)	4	**4TA632LK** ①②
630	Copper	Cu	2–500 (2)	35–240 (2)	3	**3T632LK** ①
630	Copper	Cu	2–500 (2)	35–240 (2)	4	**4T632LK** ①
400	Aluminum	Cu/Al	3–500 (1)	35–240 (1)	1	**TA350LK** ②
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 ③	**LTS3K**
Four-pole terminal cover ③	**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)

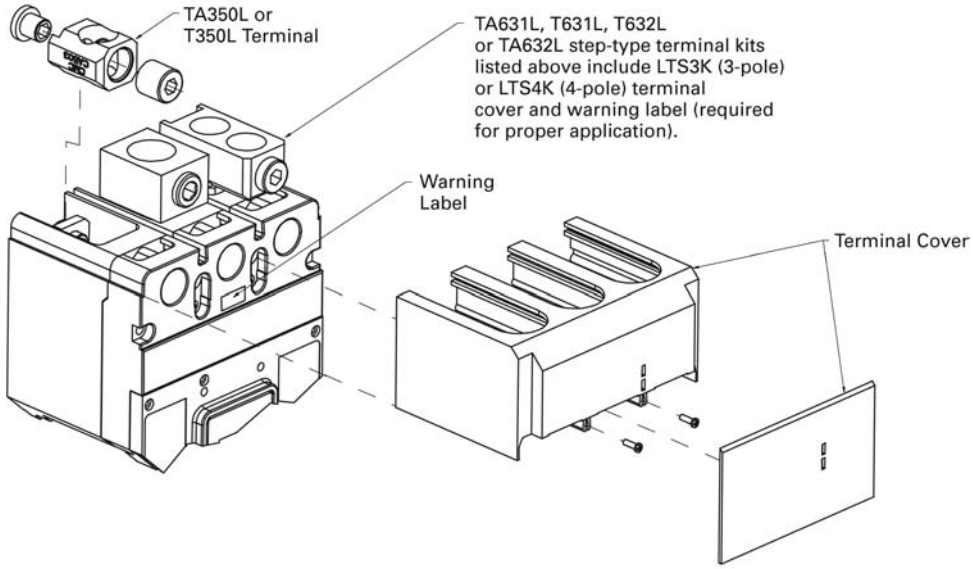
Maximum Amperes	Wires per Terminal	Wire Size Range AWG Cu	Kit Catalog Number
600	6	14–1/0	**3TA600L6K**

Notes

① Includes LTS3K (three-pole) or LTS4K (four-pole) terminal covers.
② Standard terminal included with complete breaker.
③ Included in TA63IL, T63IL, TA632L kits listed above.

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

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 Left	Center	Right	Four-Pole Left	Center	Right	Neu.
Internal Accessories (Only One Internal Accessory Per Pole)								
Alarm lockout (Make/Break)	**V4-T2-109**			■			■	
Auxiliary switch (1A, 1B)	**V4-T2-109**			■			■	
Auxiliary switch (2A, 2B)	**V4-T2-109**			■			■	
Auxiliary switch and alarm switch combination	**V4-T2-109**			■			■	
Shunt trip—standard	**V4-T2-109**	■			■			
Undervoltage release mechanism	**V4-T2-110**	■			■			
External Accessories								
End cap kit	**V4-T2-58**	●			●			
Handle extension	**V4-T2-58**	●			●			
Terminal cover	**V4-T2-58**	●			●			
Rear fed terminals	**V4-T2-58**	●	●	●	●	●	●	●
Multiwire connectors	**V4-T2-58**	●	●	●	●	●	●	●
Padlockable handle block	**V4-T2-107**		■			■		
Padlockable handle lock hasp	**V4-T2-107**	❑		❑	❑		❑	
Key interlock kit	**V4-T2-107**	❑		❑	❑		❑	
Sliding bar interlock—requires two breakers	**V4-T2-107**	●	●	●	●	●	●	●
Electrical operator	**V4-T2-107**	●	●	●	●	●	●	●
Plug-in adapters	**V4-T2-107**	●	●	●	●	●	●	●
Rear connecting studs	**V4-T2-107**	●	●	●	●	●	●	●
Handle mechanisms	**V4-T2-420**	●	●	●	●	●	●	●
Earth leakage/ground fault protector	**V4-T2-92**	●	●	●	●	●	●	●
Drawout cassette	**V4-T2-115**	●	●	●	●	●	●	●
Digitrip 310+ test kit	**V4-T2-52**	●	●	●	●	●	●	●
Ammeter/cause of trip display	**V4-T2-106**	●	●	●	●	●	●	●
Cause of trip LED module	**V4-T2-106**	●	●	●	●	●	●	●
Modifications (Refer to Eaton)								
Moisture fungus treatment	**V4-T2-105**	●	●	●	●	●	●	●
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 AC (50/60 Hz) 240–240 Icu	Ics	380–415 Icu	Ics	480	600	690 Icu	Ics	Volts DC ① 250 ②③ 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 ④	3, 4	200	200	100	100	100	50	30	15	42	42
LGU630 ④	3, 4	200	200	150	150	150	65	35	18	50	50
LGX630 ④	3, 4	200 ⑤	200	200	200	200	65	35	18	50	50

UL 489 Current Limiting Data

Frame	Circuit	Ip (kA)	I^2T (10^6A^2S)
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+
Breaker Type	
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
Protection	
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) ⑤	Yes
Ground fault alarm with trip (suffix B21) ⑤	Yes
Ground fault alarm, no trip (suffix B22) ⑤	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 B2x suffixes cannot be combined with B2x suffixes.

LG 310+ Adjustability Specifications

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	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 = gound 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 x 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

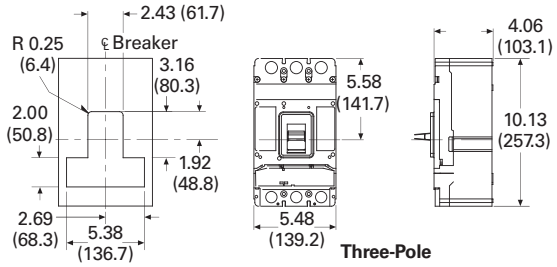
Approximate Dimensions in Inches (mm)

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: TA63IL, T63IL, 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.



Three-Pole

Approximate Shipping Weight in Lbs (kg)

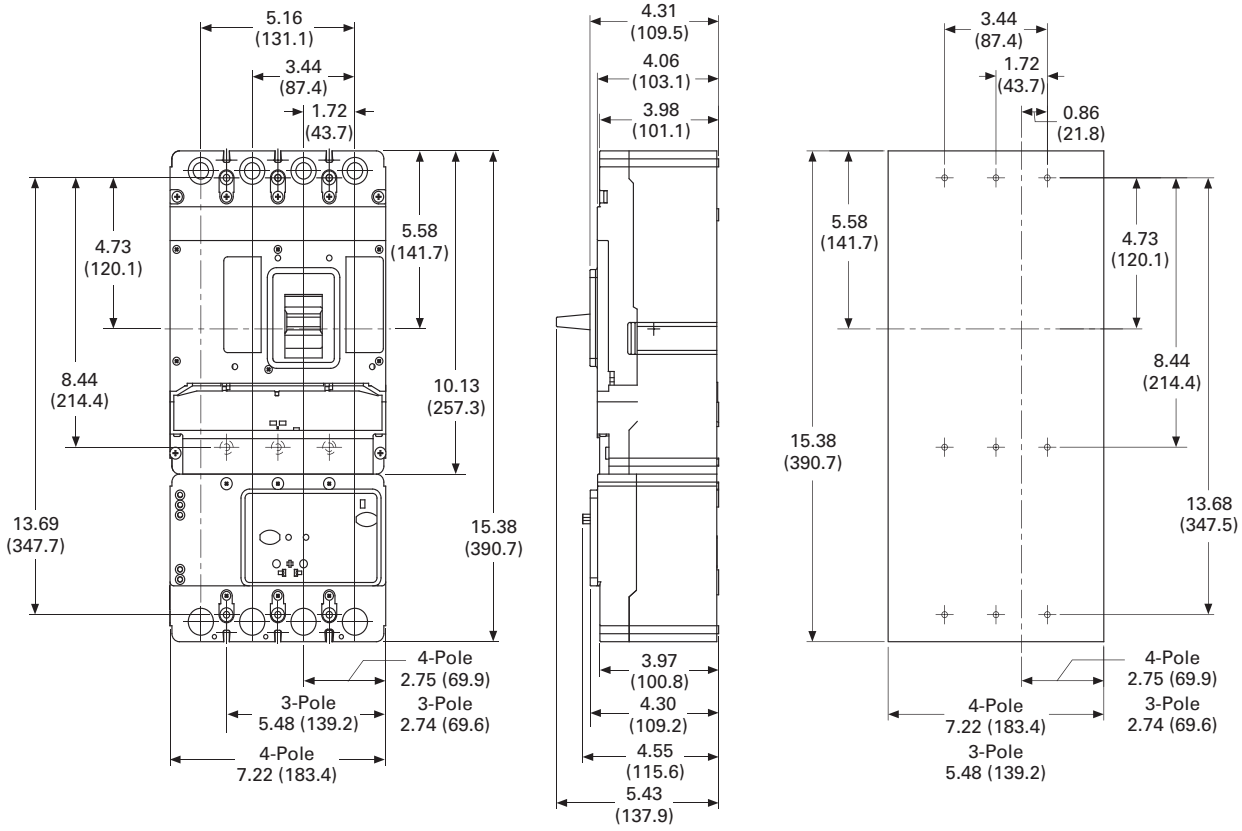
LG-Frame

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

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 Three-poles in series. 750 Vdc ratings available (four-pole in series, not UL listed). Contact Eaton.
⑤ IEC rating is 300 kA at 240 Vac.
⑥ Current limiting per UL 489.

LG-Frame With Earth Leakage Module



NG-Frame (1200 Ampere)

Contents

Description	*Page*
EG-Frame (15–125 Amperes)	**V4-T2-15**
JG-Frame (63–250 Amperes)	**V4-T2-29**
LG-Frame (250–630 Amperes)	**V4-T2-47**
NG-Frame (320–1200 Amperes)	
Catalog Number Selection	**V4-T2-66**
Product Selection Guide and Ordering Information	**V4-T2-67**
Accessories	**V4-T2-70**
Technical Data and Specifications	**V4-T2-71**
Dimensions and Weights	**V4-T2-73**
RG-Frame (800–2500 Amperes)	**V4-T2-74**
Motor Circuit Protectors (MCP)	**V4-T2-85**
Motor Protector Circuit Breakers (MPCB)	**V4-T2-89**
30 mA Ground Fault (Earth Leakage) Module	**V4-T2-92**
Current Limiting Circuit Breaker Module	**V4-T2-96**
High Instantaneous Circuit Breaker for Selective Coordination	**V4-T2-101**
Special Features and Accessories	**V4-T2-104**
Motor Operators	**V4-T2-112**
Plug-In Blocks	**V4-T2-114**
Drawout Cassette	**V4-T2-115**

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.

2

NG Circuit Breaker with 310+ Electronic Trip Unit

NG H 3 080 39 ZG E C

Frame
NG

Performance at 480 Vac
S = 50 kAIC
H = 65 kAIC
C = 100 kAIC
U = 150 kAIC ①
K = Molded case switch

Poles
3 = Three
4 = Four; neutral ② 0% protected
7 = Four; neutral ② 100% protected
9 = Four; neutral ② 0/60/100% adjustable protection

Amperes
080 = 800
120 = 1200

Trip Unit
33 = 310+ Electronic LS
32 = 310+ Electronic LSI
35 = 310+ Electronic LSG
36 = 310+ Electronic LSIG
38 = 310+ Electronic ALSI with maintenance mode
39 = 310+ Electronic ALSIG with maintenance mode
KS = Molded case switch

Feature
Blank = No feature
B20 = High load alarm
B21 = Ground fault alarm, with trip
B22 = Ground fault alarm, no trip
ZG = Zone selective interlocking

Terminations ③
M = Metric tapped line/load conductors
E = Imperial tapped line/load conductors

Rating
Blank = 80% rated
C = 100% rated

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-T2-72**.

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

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

See 310+ adjustability specifications on **Page V4-T2-72**.

Maximum Continuous Ampere Rating at 40 °C ①②	Number of Poles	Circuit Breaker Frame Including Digitrip Electronic Trip Unit with Metric Tapped Conductors						
		LS	LSI	LSG	LSIG	ALSI	ALSIG	Neutral CT for LSG and LSIG ③
800	3	NGS308033M	NGS308032M	NGS308035M	NGS308036M	NGS308038M	NGS308039M	NGFCT120
	4	NGS408033M	NGS408032M	NGS408035M ④	NGS408036M ④	NGS408038M	NGS408039M ④	—
	4 ⑤	NGS708033M	NGS708032M	—	—	NGS708038M	—	—
	4 ⑥	NGS908033M	NGS908032M	—	—	NGS908038M	—	—
1200	3	NGS312033M	NGS312032M	NGS312035M	NGS312036M	NGS312038M	NGS312039M	NGFCT120
	4	NGS412033M	NGS412032M	NGS412035M ④	NGS412036M ④	—	NGS412039M ④	—
	4 ⑤	NGS712033M	NGS712032M	—	—	NGS712038M	—	—
	4 ⑥	NGS912033M	NGS912032M	—	—	NGS912038M	—	—

Molded Case Switches ⑧⑨

Ampere Rating	U_e Maximum 690 Vac 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.

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-T2-72**.

Maximum Continuous Ampere Rating at 40 °C ①②	Number of Poles	Circuit Breaker Frame Including Digitrip Electronic Trip Unit						
		LS	LSI	LSG	LSIG	ALSI	ALSIG	Neutral CT for LSG and LSIG ③
800	3	NGH308033E	NGH308032E	NGH308035E	NGH308036E	NGH308038E	NGH308039E	NGFCT120
	4	NGH408033E	NGH408032E	NGH408035E ④	NGH408036E ④	NGH408038E	NGH408039E ④	—
	4 ⑤	NGH708033E	NGH708032E	—	—	NGH708038E	—	—
	4 ⑥	NGH908033E	NGH908032E	—	—	NGH908038E	—	—
1200	3	NGH312033E	NGH312032E	NGH312035E	NGH312036E	NGH312038E	NGH312039E	NGFCT120
	4	NGH412033E	NGH412032E	NGH412035E ④	NGH412036E ④	—	NGH412039E ④	—
	4 ⑤	NGH712033E	NGH712032E	—	—	NGH712038E	—	—
	4 ⑥	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-T2-72**.

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

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 ①	Metric Wire Range mm^2	Metric Catalog Number ①
Standard Cu/Al Pressure Terminals						
700	Aluminum	Cu/Al	1–500 (2)	**TA700NB1**	50–240	**TA700NB1M**
1000	Aluminum	Cu/Al	3/0–400 (3)	**TA1000NB1**	95–185	**TA1000NB1M**
1200	Aluminum	Cu/Al	4/0–500 (4)	**TA1200NB1**	120–240	**TA1200NB1M**
1200	Aluminum	Cu/Al	500–750 (3)	**TA1201NB1**	300–400	**TA1201NB1M**
Optional Copper and Cu/Al Pressure Type Terminals						
700	Copper	Cu	2/0–500 (2)	**T700NB1**	70–240	**T700NB1M**
1000	Copper	Cu	3/0–500 (3)	**T1000NB1**	95–240	**T1000NB1M**
1200	Copper	Cu	3/0–400 (4)	**T1200NB3**	95–185	**T1200NB3M**

310+ Electronic Trip Unit Accessories

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

Base Mounting Hardware

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

Base Mounting Hardware ③

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	**BMH5**
Three- and four-pole	Metric hardware: M8 pan-head steel screws and lock washers	**BMH5M**

Terminal Shield

Terminal Shield

Description	Catalog Number
Three-pole terminal shield	**NTS3K**

Conductor Extension Kit

Conductor Extension Kit ④

Description	Catalog Number
Three-pole both ends Metric	**5104A24G04**
Three-pole both ends English	**5104A24G02**

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	**HEX5**

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 ④	**IPB5**

Notes

① Single terminals individually packed.
② Required for four-wire systems if neutral protection is desired. Sold separately.
③ Metric hardware included with breaker.
④ 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			
		Left	Center	Right	Left	Center	Right	Neu.
Internal Accessories (Only One Internal Accessory Per Pole)								
Alarm lockout (Make/Break)	**V4-T2-109**	●		■	●		■	
Auxiliary switch (1A, 1B)	**V4-T2-109**	●		■	●		■	
Auxiliary switch (2A, 2B)	**V4-T2-109**	●		■	●		■	
Auxiliary switch and alarm switch combination	**V4-T2-109**	●		■	●		■	
Shunt trip—standard	**V4-T2-109**	■			■			
Undervoltage release mechanism	**V4-T2-110**	■			■			
External Accessories								
Base mounting hardware	**V4-T2-69**	●	●	●	●	●	●	●
Interphase barriers	**V4-T2-69**	●	●	●	●	●	●	●
Non-padlockable handle block	**V4-T2-107**		■			■		
Padlockable handle lock hasp	**V4-T2-107**	❑		❑	❑		❑	
Key interlock kit	**V4-T2-107**	❑		❑	❑		❑	
Sliding bar interlock—requires two breakers	**V4-T2-107**	●	●	●				
Electrical operator	**V4-T2-107**	●	●	●	●	●	●	●
Plug-in adapters	**V4-T2-114**	●	●	●	●	●	●	●
Rear connecting studs	**V4-T2-107**	●	●	●	●	●	●	●
Handle mechanisms	**V4-T2-420**	●	●	●	●	●	●	●
Drawout cassette	**V4-T2-115**	●	●	●	●	●	●	●
Handle extension	**V4-T2-69**	●	●	●	●	●	●	●
Ammeter/cause of trip display	**V4-T2-106**	●	●	●	●	●	●	●
Cause of trip LED module	**V4-T2-106**	●	●	●	●	●	●	●
Digitrip 310+ test kit	**V4-T2-106**	●	●	●	●	●	●	●
Modifications (Refer to Eaton)								
Moisture fungus treatment	**V4-T2-105**	●	●	●	●	●	●	●
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 ①

Circuit Breaker Type	Number of Poles	Interrupting Capacity (kA Symmetrical Amperes) Volts AC (50/60 Hz) 240 (UL)	220–240		380–415		480	600	690	
			I_{cu}	I_{cs}	I_{cu}	I_{cs}			I_{cu}	I_{cs}
NGS ①	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

NG-Frame Digitrip Specifications

NG 310+ Specifications

Description	Specification
Trip Unit Type	Digitrip RMS 310+
Breaker Type	
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
Protection	
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) ②	Yes
Ground fault alarm with trip (suffix B21) ②	Yes
Ground fault alarm, no trip (suffix B22) ②	Yes
Zone selective interlocking (suffix ZG)	LSI, LSIG, ALSI, ALSIG
Cause of trip indication	Yes
Thru-cover accessories	No

Notes

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

② B2x suffixes cannot be combined with B2x suffixes.

NG 310+ Adjustability Specifications

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 = gound 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 x 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

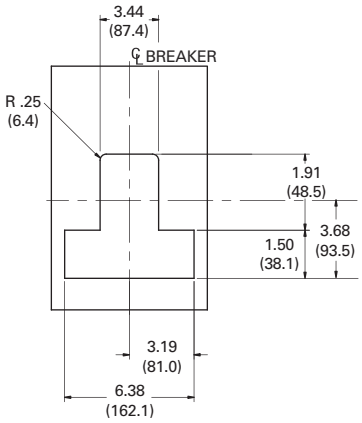
Approximate Dimensions in Inches (mm)

NG-Frame

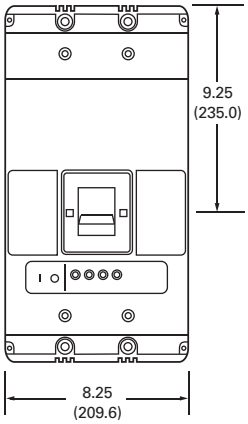
Number of Poles	Width	Height	Depth
3	8.25 (209.6)	16.00 (406.4)	5.50 (139.7)
4	11.13 (282.6)	16.00 (406.4)	5.50 (139.7)

NG-Frame

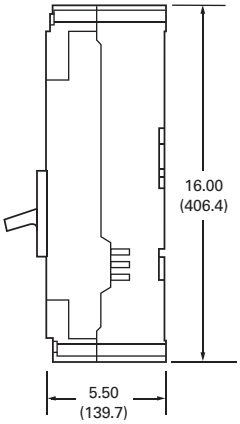
Front Cover Cutout



Front View Three-Pole



Side View



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)

Contents

Description	*Page*
EG-Frame (15–125 Amperes)	**V4-T2-15**
JG-Frame (63–250 Amperes)	**V4-T2-29**
LG-Frame (250–630 Amperes)	**V4-T2-47**
NG-Frame (320–1200 Amperes)	**V4-T2-65**
RG-Frame (800–2500 Amperes)	
Catalog Number Selection	**V4-T2-75**
Product Selection	**V4-T2-76**
Accessories	**V4-T2-81**
Technical Data and Specifications	**V4-T2-82**
Dimensions and Weights	**V4-T2-84**
Motor Circuit Protectors (MCP)	**V4-T2-85**
Motor Protector Circuit Breakers (MPCB)	**V4-T2-89**
30 mA Ground Fault (Earth Leakage) Module	**V4-T2-92**
Current Limiting Circuit Breaker Module	**V4-T2-96**
High Instantaneous Circuit Breaker for Selective Coordination	**V4-T2-101**
Special Features and Accessories	**V4-T2-104**
Motor Operators	**V4-T2-112**
Plug-In Blocks	**V4-T2-114**
Drawout Cassette	**V4-T2-115**

RG-Frame (800–2500 Amperes)

Product Description

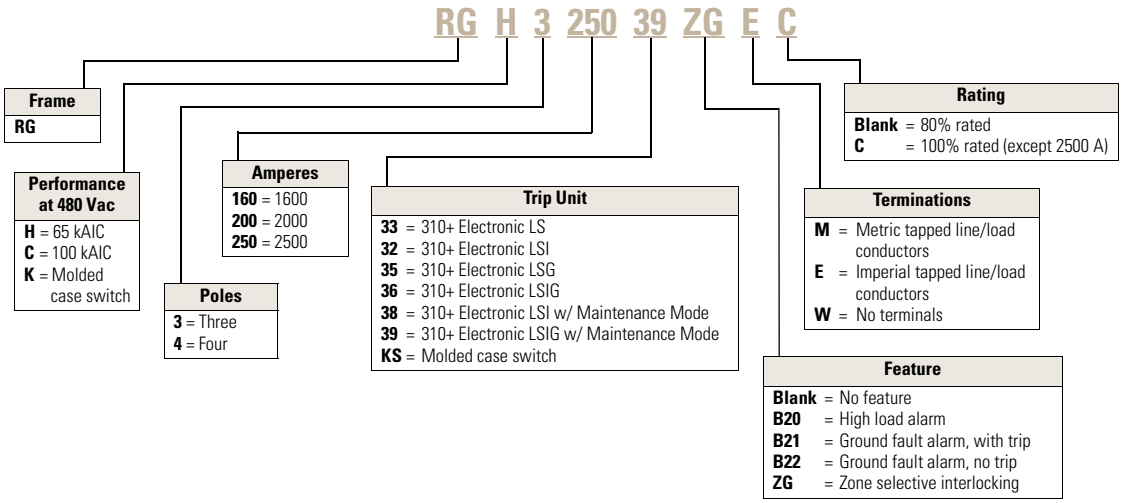
- Eaton's RG-Frame circuit breakers are available as frame (which includes trip unit), rating plug and terminals
- All R-Frame circuit breakers are suitable for reverse feed use

Catalog Number Selection

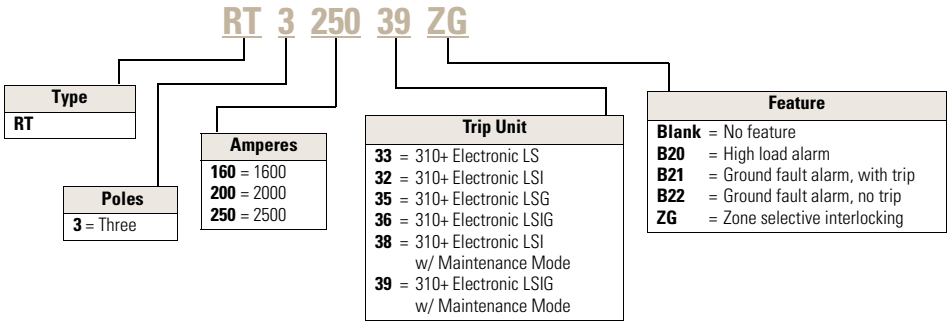
This information is presented only as an aid to understanding catalog numbers.
It is not to be used to build catalog numbers for circuit breakers or trip units.

70 kA at 415 Vac and 65 kA at 480 Vac

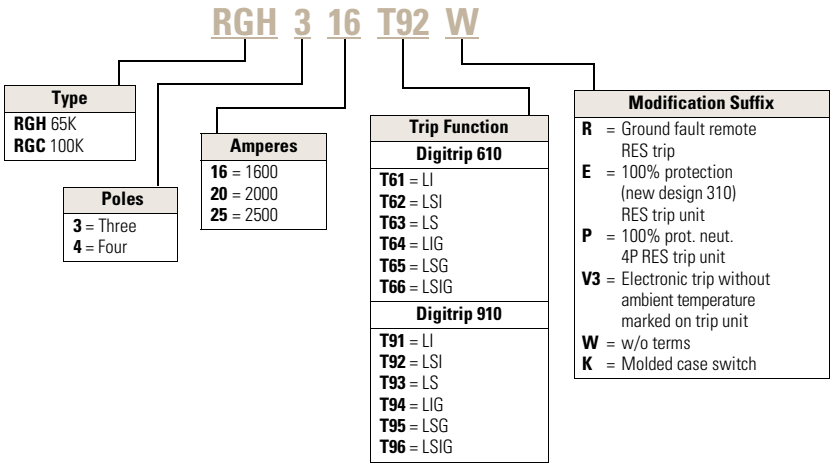
RG Circuit Breaker With 310+ Electronic Trip Unit



RG 310+ Electronic Trip Unit



RG Circuit Breaker with OPTIM 610 and 910 Electronic Trip Unit



Product Selection

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-T2-83**.

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 ③	LSIG ③	ALSI	ALSIG	Neutral CT for LSG and LSIG ④
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-T2-83**.

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-T2-83**.

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 ③	LSIG ③	ALSI	ALSIG	Neutral CT for LSG and LSIG ④
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-T2-83**.

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.

Type RG with Digitrip 610 and 910

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 L – Adjustable Long Delay Pickup (I_r) 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)						Digitrip RMS Interchangeable Rating Plug (Order as Individual Component)	
		LI	LS	LSI	LIG	LSG	LSIG	Fixed Rating Plug	
Long Delay Pickup		0.5–1.0 x I_n	0.5–I.0$_n$	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	Ampere Rating	Catalog Number
Ground Fault Delay		—	—	—	100–500 ms	100–500 ms	100–500 ms		
Type RGH with Digitrip 610 High Interrupting Capacity—U_e Max. 690 Vac, 70 kA I_{cu} at 415 Vac									
1600	3	**RGH316T61WP44**	**RGH316T63WP44**	**RGH316T62WP44**	**RGH316T64WP44**	**RGH316T65WP44**	**RGH316T66WP44**	800	**RP6R16A080**
								1000	**RP6R16A100**
								1200	**RP6R16A120**
								1250	**RP6R16A125**
		Includes 1600 A rating plug						1600	**RP6R16A160**
2000	3	**RGH320T61WP49**	**RGH320T63WP49**	**RGH320T62WP49**	**RGH320T64WP49**	**RGH320T65WP49**	**RGH320T66WP49**	1000	**RP6R20A100**
								1200	**RP6R20A120**
								1250	**RP6R20A125**
								1600	**RP6R20A160**
		Includes 2000 A rating plug						2000	**RP6R20A200**
2500	3	**RGH325T61WP53**	**RGH325T63WP53**	**RGH325T62WP53**	**RGH325T64WP53**	**RGH325T65WP53**	**RGH325T66WP53**	1600	**RP6R25A160**
								2000	**RP6R25A200**
								2500	**RP6R25A250**
Type RGC with Digitrip 610 Very High Interrupting Capacity—U_e Max. 690 Vac, 100 kA I_{cu} at 415 Vac									
1600	3	**RGC316T61WP44**	**RGC316T63WP44**	**RGC316T62WP44**	**RGC316T64WP44**	**RGC316T65WP44**	**RGC316T66WP44**	800	**RP6R16A080**
								1000	**RP6R16A100**
								1200	**RP6R16A120**
								1250	**RP6R16A125**
		Includes 1600 A rating plug						1600	**RP6R16A160**
2000	3	**RGC320T61WP49**	**RGC320T63WP49**	**RGC320T62WP49**	**RGC320T64WP49**	**RGC320T65WP49**	**RGC320T66WP49**	1000	**RP6R20A100**
								1200	**RP6R20A120**
								1250	**RP6R20A125**
								1600	**RP6R20A160**
		Includes 2000 A rating plug						2000	**RP6R20A200**
2500	3	**RGC325T61WP53**	**RGC325T63WP53**	**RGC325T62WP53**	**RGC325T64WP53**	**RGC325T65WP53**	**RGC325T66WP53**	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.

Type RG with Digitrip 610 and 910, continued

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)	
		L – Adjustable Long Delay Pickup (I_r) 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)							
		LI	LS	LSI	LIG	LSG	LSIG	Fixed Rating Plug	
Long Delay Pickup		0.5–1.0 x I_n	0.5–I.0$_n$	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 In ②	0.25–1.0 x In ②	0.25–1.0 x In ②		
Ground Fault Delay		—	—	—	100–500 ms	100–500 ms	100–500 ms		
								Ampere Rating	Catalog Number
Type RGH with Digitrip 910 High Interrupting Capacity—U_e Max. 690 Vac, 70 kA I_{cu} at 415 Vac									
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**
Type RGC with Digitrip 910 Very High Interrupting Capacity—U_e Max. 690 Vac, 100 kA I_{cu} at 415 Vac									
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**	**RGC25T96WP53**	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

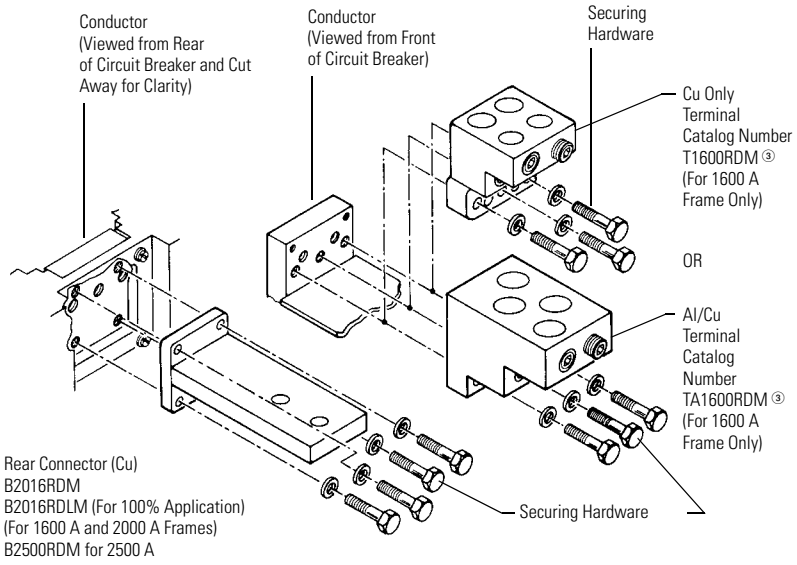
Line and Load Terminals

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

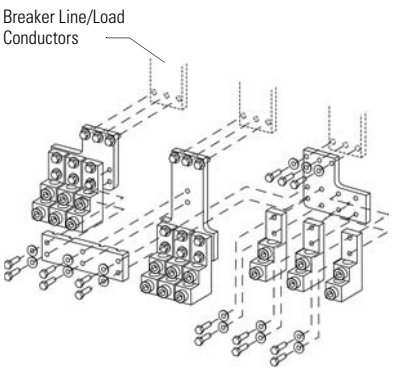
Maximum Breaker Amperes	Terminal Body Material	Wire Type	Hardware	AWG/kcmil Wire Range/ Number of Conductors	Metric Wire Range mm²	Catalog Number
Wire Terminals						
1600	Aluminum	Cu/Al	Metric	500–1000 (4)	300–500	**TA1600RDM** ①
1600	Copper	Cu	Metric	1–600 (4)	50–300	**T1600RDM** ①
2000	Aluminum	Cu/Al	Metric	2–600 (6)	35–300	**TA2000RDM** ②
Rear Connectors						
2000	Copper	—	Metric	—	—	**B2016RDM** ①
2000	Copper	—	Metric	—	—	**B2016RDLM** ①
2500	Copper	—	Metric	—	—	**B2500RDM** 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	**HEX6**

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	**5108A03H01**

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 Left	Three-Pole Center	Three-Pole Right	Four-Pole Left	Four-Pole Center	Four-Pole Right	Four-Pole Neutral
Internal Accessories (Only One Internal Accessory Per Pole)								
Alarm lockout (Make/Break)	**V4-T2-109**			■			■	
Auxiliary switch (1A, 1B)	**V4-T2-109**			■			■	
Auxiliary switch (2A, 2B)	**V4-T2-109**			■			■	
Auxiliary switch and alarm switch combination	**V4-T2-109**			■			■	
Shunt trip—standard	**V4-T2-109**			●			●	
Undervoltage release mechanism	**V4-T2-110**			●			●	
External Accessories								
Base mounting hardware	**V4-T2-80**	●	●	●	●	●	●	●
Padlockable handle lock hasp	**V4-T2-107**	❑		❑	❑		❑	
Key interlock kit	**V4-T2-107**	❑		❑	❑		❑	
Electrical operator	**V4-T2-107**	●	●	●	●	●	●	●
Handle mechanisms	**V4-T2-420**	●	●	●	●	●	●	●
Handle extension	**V4-T2-80**	●	●	●	●	●	●	●
Digitrip 310+ test kit	**V4-T2-106**	●	●	●	●	●	●	●
Modifications (Refer to Eaton)								
Moisture fungus treatment	**V4-T2-105**	●	●	●	●	●	●	●
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	**DIGIVIEWR06**

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

UL 489/CSA Interrupting Capacity Ratings ①

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 ①

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+
Breaker Type	
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
Protection	
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) ②	Yes
Ground fault alarm with trip (suffix B21) ②	Yes
Ground fault alarm, no trip (suffix B22) ②	Yes
Zone selective interlocking (suffix ZG)	LSI, LSIG, ALSI, ALSIG
Cause of trip indication	Yes
Thru-cover accessories	No

Notes

① Utilization Category A circuit breakers.

② B2x suffixes cannot be combined with B2x suffixes.

See **Page V4-T2-74** 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} (x 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
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 x 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.

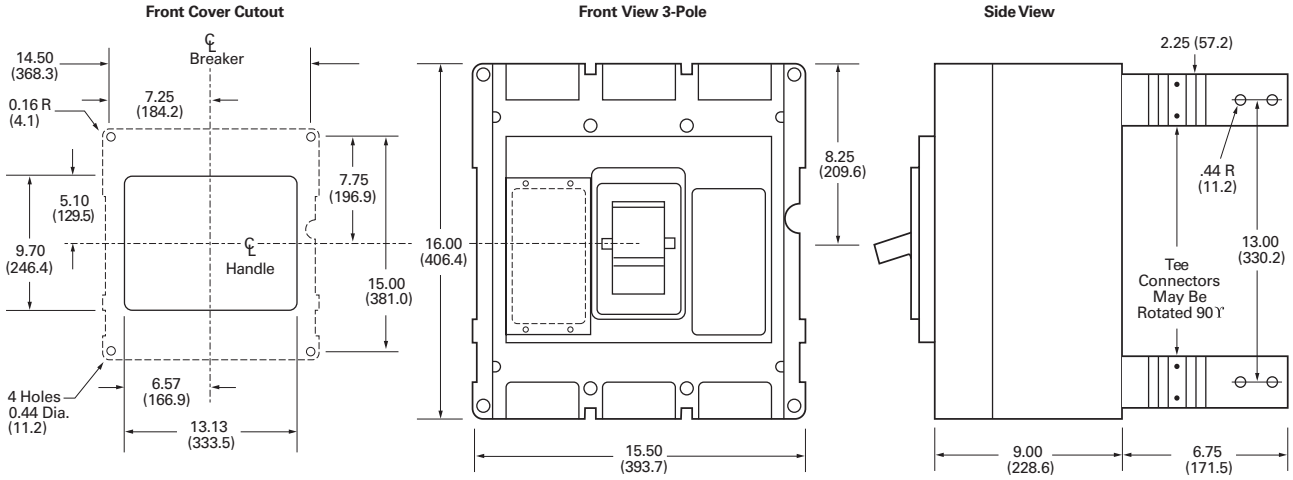
Dimensions and Weights

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
1600 Amperes		
RGH, RGC	102 (46.3)	135 (61.2)
2000 Amperes		
RGH, RGC	102 (46.3)	135 (61.2)
2500 Amperes		
RGH, RGC	135 (61.2)	182 (82.6)

Motor Circuit 480 Vac, Protectors

Contents

Description	*Page*
EG-Frame (15–125 Amperes)	**V4-T2-15**
JG-Frame (63–250 Amperes)	**V4-T2-29**
LG-Frame (250–630 Amperes)	**V4-T2-47**
NG-Frame (320–1200 Amperes)	**V4-T2-65**
RG-Frame (800–2500 Amperes)	**V4-T2-74**
Motor Circuit Protectors (MCP) Product Selection Guide and Ordering Information	**V4-T2-86**
Motor Protector Circuit Breakers (MPCB)	**V4-T2-89**
30 mA Ground Fault (Earth Leakage) Module	**V4-T2-92**
Current Limiting Circuit Breaker Module	**V4-T2-96**
High Instantaneous Circuit Breaker for Selective Coordination	**V4-T2-101**
Special Features and Accessories	**V4-T2-104**
Motor Operators	**V4-T2-112**
Plug-In Blocks	**V4-T2-114**
Drawout Cassette	**V4-T2-115**

Motor Circuit Protectors (MCP)

Product Selection Guide and Ordering Information

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

Continuous Amperes	Cam Setting	Motor Full Load Current Amperes ②	MCP Trip Setting ③	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 ①

Continuous Amperes	Cam Setting	Motor Full Load Current Amperes ②	MCP Trip Setting ③	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 ①

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

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.

④ Settings above 10 x 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 ①

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

① 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

Description	*Page*
EG-Frame (15–125 Amperes)	**V4-T2-15**
JG-Frame (63–250 Amperes)	**V4-T2-29**
LG-Frame (250–630 Amperes)	**V4-T2-47**
NG-Frame (320–1200 Amperes)	**V4-T2-65**
RG-Frame (800–2500 Amperes)	**V4-T2-74**
Motor Circuit Protectors (MCP)	**V4-T2-85**
Motor Protector Circuit Breakers (MPCB)	
Product Selection	**V4-T2-90**
Technical Data and Specifications	**V4-T2-91**
30 mA Ground Fault (Earth Leakage) Module	**V4-T2-92**
Current Limiting Circuit Breaker Module	**V4-T2-96**
High Instantaneous Circuit Breaker for Selective Coordination	**V4-T2-101**
Special Features and Accessories	**V4-T2-104**
Motor Operators	**V4-T2-112**
Plug-In Blocks	**V4-T2-114**
Drawout Cassette	**V4-T2-115**

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

Listed

Product Selection

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	**LGMPS250G**	**LGMPH250G**
400	**LGMPS400G**	**LGMPH400G**
600	**LGMPS600G**	**LGMPH600G**
630 ①	**LGMPS630G**	**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-T2-267**.

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

LGMPS and LGMPH Rating and Ampere Range

Breaker Capacity (kA rms) AC 50–60 Hz			Maximum Rated Current—630 A ① Breaker Type LGMPS	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 ①	250 –630 ①

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.

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

Contents

Description	*Page*
EG-Frame (15–125 Amperes)	**V4-T2-15**
JG-Frame (63–250 Amperes)	**V4-T2-29**
LG-Frame (250–630 Amperes)	**V4-T2-47**
NG-Frame (320–1200 Amperes)	**V4-T2-65**
RG-Frame (800–2500 Amperes)	**V4-T2-74**
Motor Circuit Protectors (MCP)	**V4-T2-85**
Motor Protector Circuit Breakers (MPCB)	**V4-T2-89**
30 mA Ground Fault (Earth Leakage) Module	
Product Selection	**V4-T2-93**
Dimensions	**V4-T2-94**
Current Limiting Circuit Breaker Module	**V4-T2-96**
High Instantaneous Circuit Breaker for Selective Coordination	**V4-T2-101**
Special Features and Accessories	**V4-T2-104**
Motor Operators	**V4-T2-112**
Plug-In Blocks	**V4-T2-114**
Drawout Cassette	**V4-T2-115**

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:

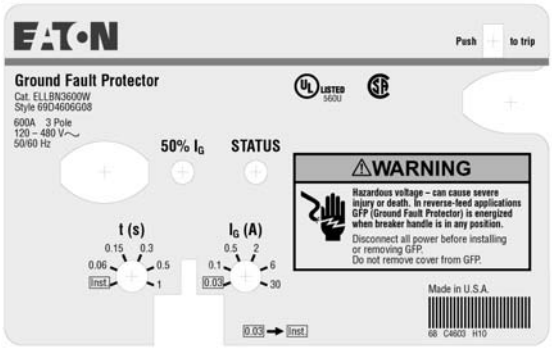
- EG: 125 amperes
- JG: 150 (UL), 160 (IEC) or 250 amperes
- LG: 400, 600 (UL) or 630 (IEC) amperes

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.

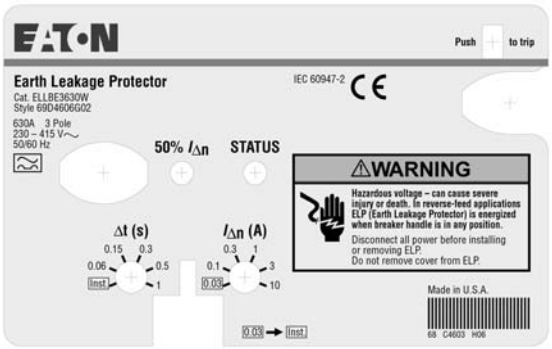
Two alarm contacts are included with each device, which can be wired externally for remote indication. Both of these are also indicated by an LED on the front of the device:

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.

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

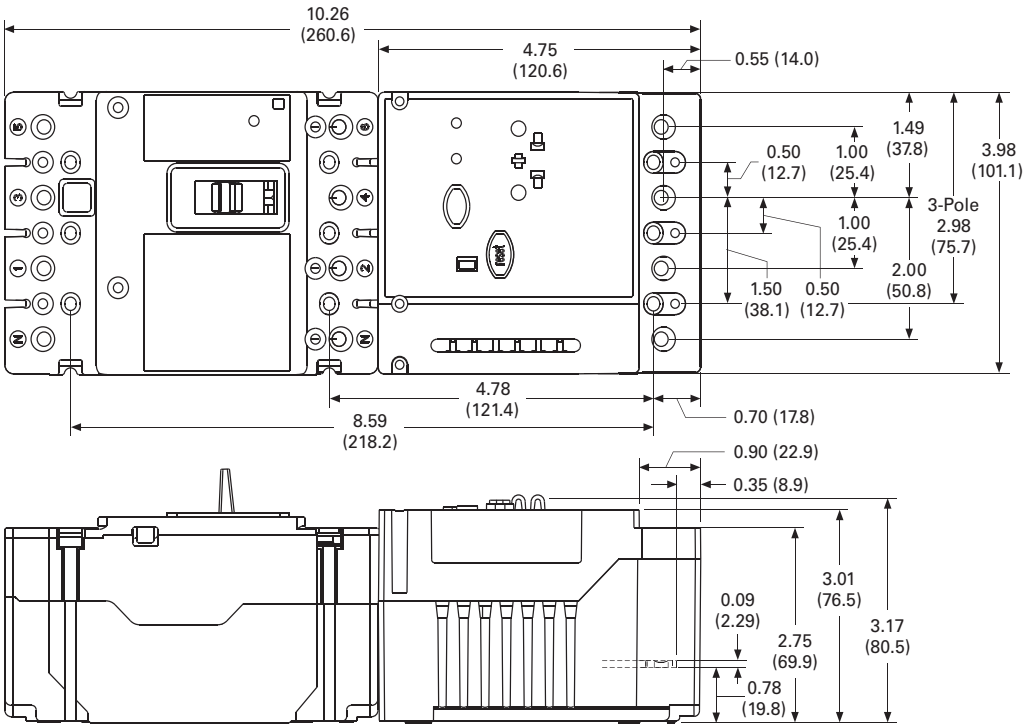
Approximate Dimensions in Inches (mm)

2

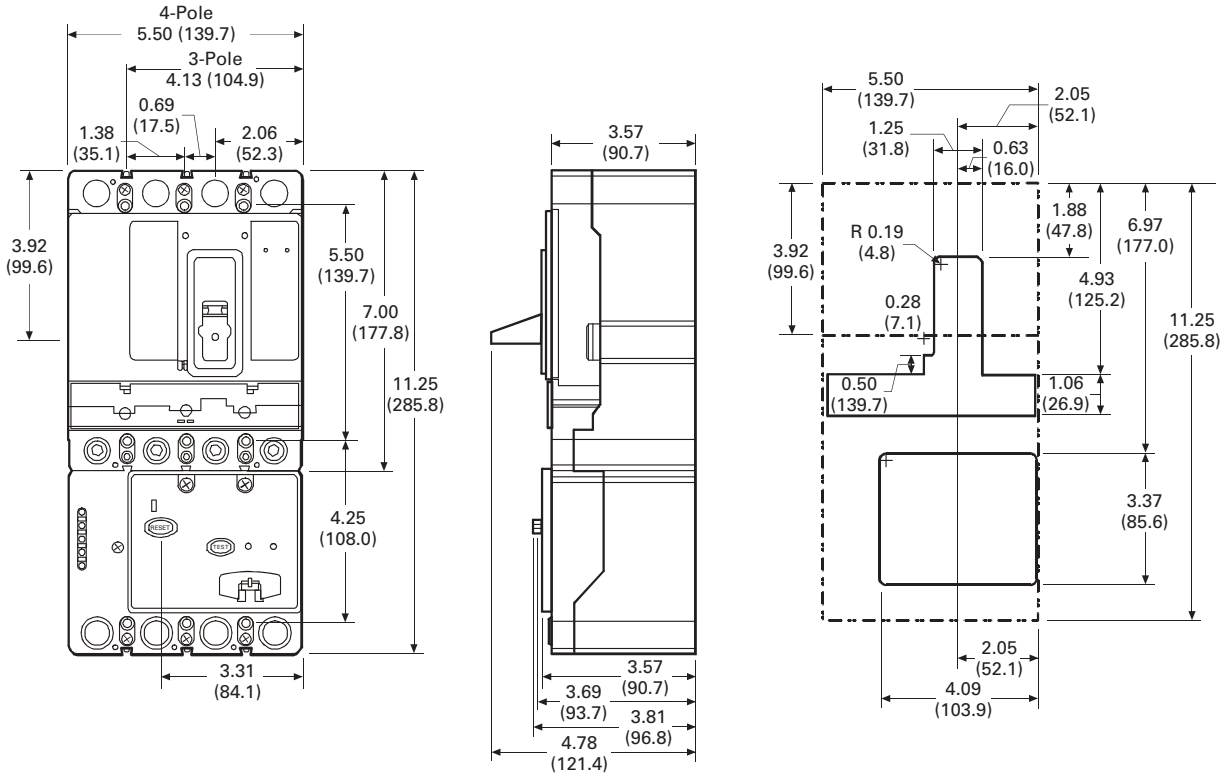
Assembled Breaker and Earth Leakage Module

Frame	Height	Width	Depth
Three-Pole			
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)
Four-Pole			
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)

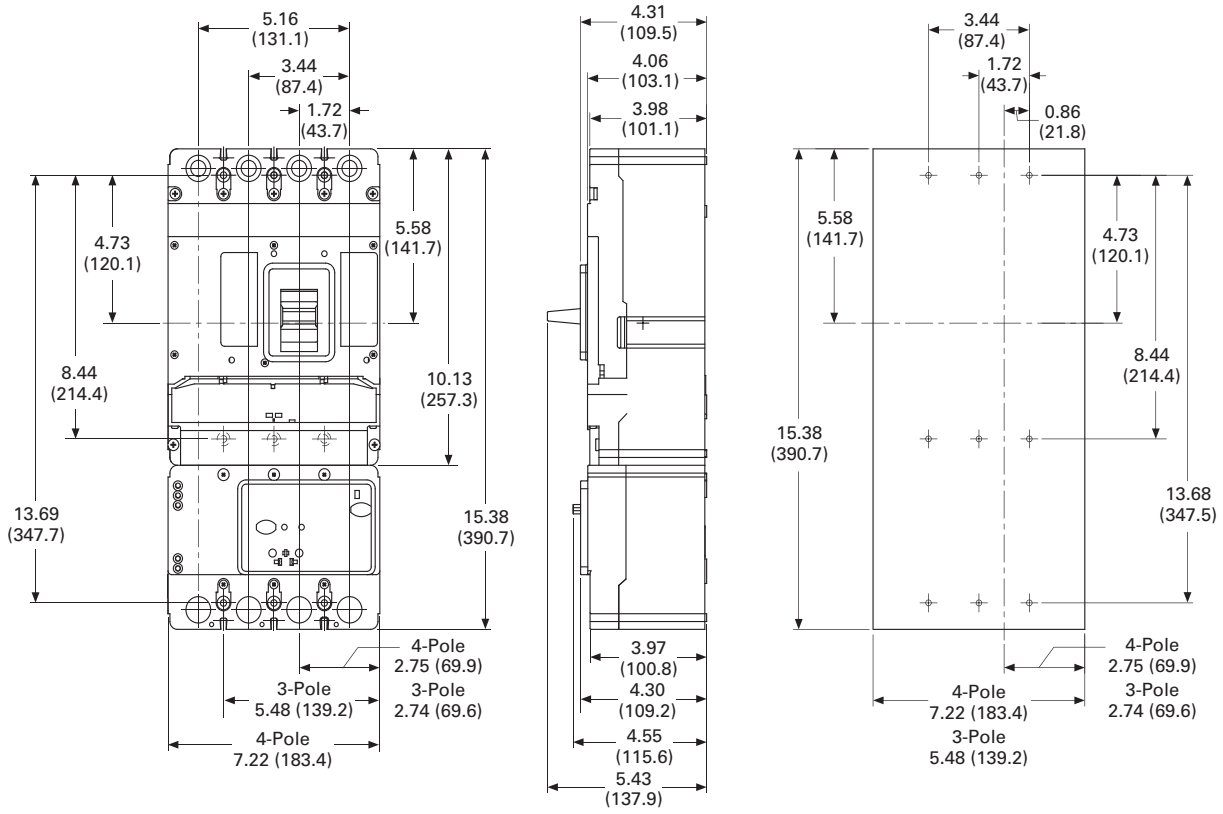
EG-Frame With Earth Leakage Module



JG-Frame With Earth Leakage Module



LG-Frame With Earth Leakage Module



Current Limiting Circuit Breaker Modules

2

Contents

Description	*Page*
EG-Frame (15–125 Amperes)	**V4-T2-15**
JG-Frame (63–250 Amperes)	**V4-T2-29**
LG-Frame (250–630 Amperes)	**V4-T2-47**
NG-Frame (320–1200 Amperes)	**V4-T2-65**
RG-Frame (800–2500 Amperes)	**V4-T2-74**
Motor Circuit Protectors (MCP)	**V4-T2-85**
Motor Protector Circuit Breakers (MPCB)	**V4-T2-89**
30 mA Ground Fault (Earth Leakage) Module	**V4-T2-92**
Current Limiting Circuit Breaker Module	
Product Selection	**V4-T2-97**
Technical Data and Specifications	**V4-T2-98**
Dimensions and Weights	**V4-T2-98**
High Instantaneous Circuit Breaker for Selective Coordination	**V4-T2-101**
Special Features and Accessories	**V4-T2-104**
Motor Operators	**V4-T2-112**
Plug-In Blocks	**V4-T2-114**
Drawout Cassette	**V4-T2-115**

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

Listed

Product Selection

Series G High Performance Family Offering

Type	Product	Amperes	480 Vac (UL)	600 Vac (UL)	415 Vac (IEC) I_{cu}	415 Vac (IEC) I_{cs}	690 Vac (IEC) I_{cu}	690 Vac (IEC) I_{cs}
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.

Technical Data and Specifications

UL 489 Current Limiting Data

Frame	Circuit	Ip (kA)	I^2T (10^6A^2S)
EGC…Q	240 V/150 kA	21.80	0.277
EGC…Q	480 V/150 kA	21.80	0.277
EGC…Q	600 V/100 kA	22.60	0.387

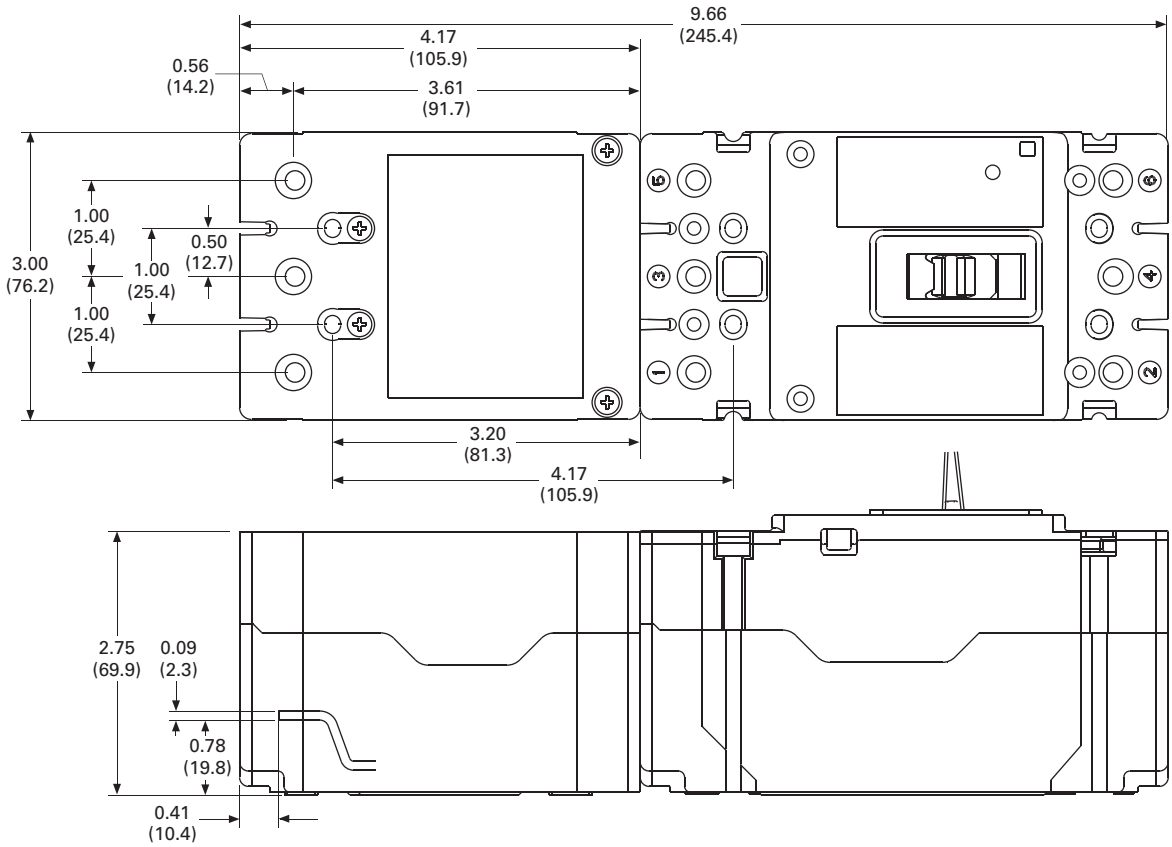
Dimensions and Weights

Approximate Dimensions in Inches (mm)

Assembled Breaker and Current Limiting Module

Frame	Height	Width	Depth	Weight in lbs (kg)
EG	9.66 (245.7)	3.00 (76.2)	2.98 (75.8)	2.91 (1.32)
HMCP	9.66 (245.7)	3.00 (76.2)	2.98 (75.8)	4.18 (1.90)

EG-Frame With Current Limiter Module



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 ①	UL Listed, IEC Rated Breaker With Load Side Mounted Current Limiter ②	IEC Rated Breaker With Line Side Mounted Current Limiter ①	IEC Rated Breaker With Load Side Mounted Current Limiter ②
		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**	—	—
		Electronic Trip LS			
250	—	**JGH325033GQ01**	**JGH325033GQ02**	—	—
		Electronic Trip LSI			
250	—	**JGH325032GQ01**	**JGH325032GQ02**	—	—
		Electronic Trip LSG			
250	—	**JGH325035GQ01**	**JGH325035GQ02**	—	—
		Electronic Trip LSIG			
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^2	AWG Wire Range/ Number of Conductors	Catalog Number
Standard Pressure Type Terminals					
250	Aluminum	Cu/Al	10–185	#8–350 (1)	**TA250FJ** ③

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

UL 489 Current Limiting Data

Frame	Circuit	Ip (kA)	I^2T (10^6A^2S)
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

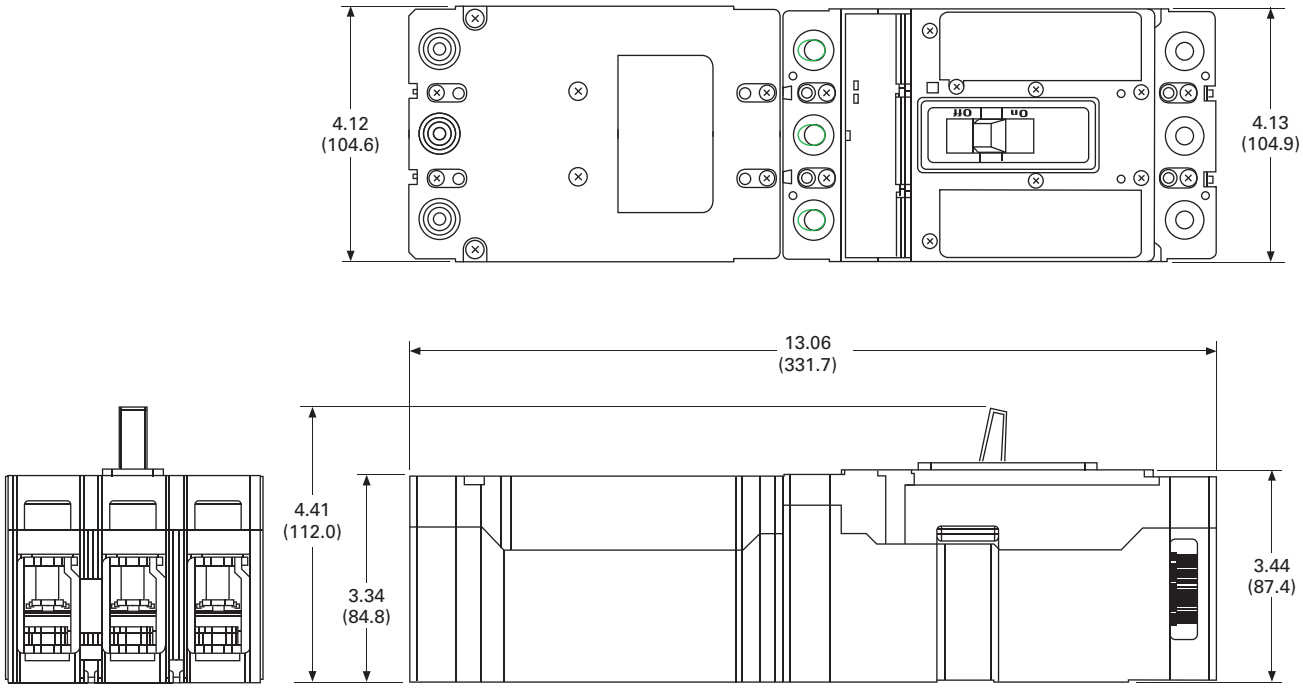
Dimensions and Weights

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

Description	*Page*
EG-Frame (15–125 Amperes)	**V4-T2-15**
JG-Frame (63–250 Amperes)	**V4-T2-29**
LG-Frame (250–630 Amperes)	**V4-T2-47**
NG-Frame (320–1200 Amperes)	**V4-T2-65**
RG-Frame (800–2500 Amperes)	**V4-T2-74**
Motor Circuit Protectors (MCP)	**V4-T2-85**
Motor Protector Circuit Breakers (MPCB)	**V4-T2-89**
30 mA Ground Fault (Earth Leakage) Module	**V4-T2-92**
Current Limiting Circuit Breaker Module	**V4-T2-96**
High Instantaneous Circuit Breaker for Selective Coordination	
Product Selection	**V4-T2-102**
Technical Data and Specifications	**V4-T2-103**
Dimensions	**V4-T2-103**
Special Features and Accessories	**V4-T2-104**
Motor Operators	**V4-T2-112**
Plug-In Blocks	**V4-T2-114**
Drawout Cassette	**V4-T2-115**

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-T2-103**. 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-T2-103** 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

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

Listed

LHH

LHH and NHH Catalog Numbers

Ampere Rating	Thermal-Magnetic Trip Unit LHH Frame	LSI Electronic Trip Unit 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**	—

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_r)	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	—	—	—

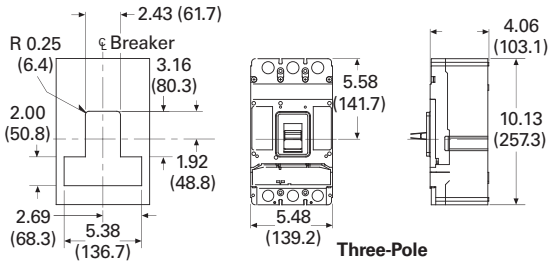
Dimensions

Approximate Dimensions in Inches (mm)

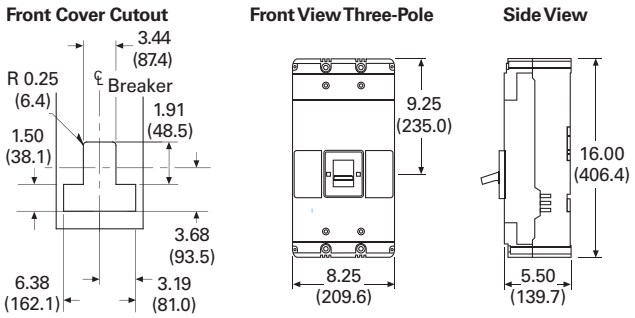
Dimensions

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



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Contents

Description	Page
EG-Frame (15–125 Amperes)	V4-T2-15
JG-Frame (63–250 Amperes)	V4-T2-29
LG-Frame (250–630 Amperes)	V4-T2-47
NG-Frame (320–1200 Amperes)	V4-T2-65
RG-Frame (800–2500 Amperes)	V4-T2-74
Motor Circuit Protectors (MCP)	V4-T2-85
Motor Protector Circuit Breakers (MPCB)	V4-T2-89
30 mA Ground Fault (Earth Leakage) Module	V4-T2-92
Current Limiting Circuit Breaker Module	V4-T2-96
High Instantaneous Circuit Breaker for Selective Coordination	V4-T2-101
Special Features and Accessories	
Internal Accessories	V4-T2-106
External Accessories and Test Kit	V4-T2-107
Accessories	V4-T2-109
Motor Operators	V4-T2-112
Plug-In Blocks	V4-T2-114
Drawout Cassette	V4-T2-115

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 °C.

- Add suffix F01 to catalog number –57 °F, F02 –30 °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 °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 °C ambient calibration, special labeling, and no use of aluminum conductors or terminals. (No 50 °C.)

- Add suffix H08

Or you can choose to add 50°C ambient but then there is no "UL" mark.

- Add suffix VH08

UL 489 Supplement SB requires partial 50 °C ambient calibration, vibration testing, special nameplating and no use of aluminum conductors or terminals. Eaton chooses to always fully calibrate to 50 °C ambient. ("Naval" labeled per UL but no "UL" mark due to 50 °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.

Listed

Internal Accessories

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-T2-108**.

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**	**PLK55OFF**	**HLK6OFF**
Kirk key interlock kit ①②	Field	—	**KYKJG**	**KYKLG**	**KYK4**	**KYK6**
Castell key interlock kit ②③	Field	—	**CTKJG**	**CTKLG**	**CTK4**	**CTK6**
Slide bar interlock ④	Field	**EFSBI**	**FJSBI**	**LGSBI**	**SBK5**	—
Walking beam interlock ④	Three-pole	**EG3WBI**	**JG3WBI**	**LG3WBI**	**WBL5**	**WBL6**
	Four-pole	**EG4WBI**	**JG4WBI**	**LG4WBI**	**WBL5**	—
Electrical operator ⑤	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

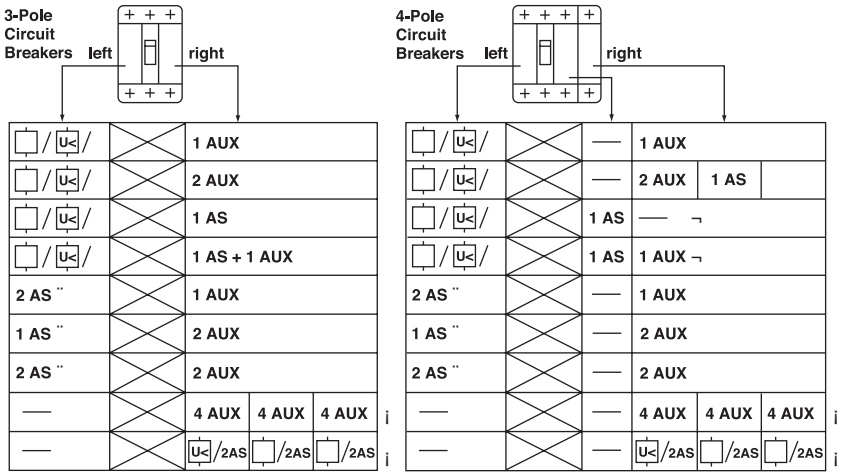
Notes

① Provision only.
② See **Page V4-T2-316** 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

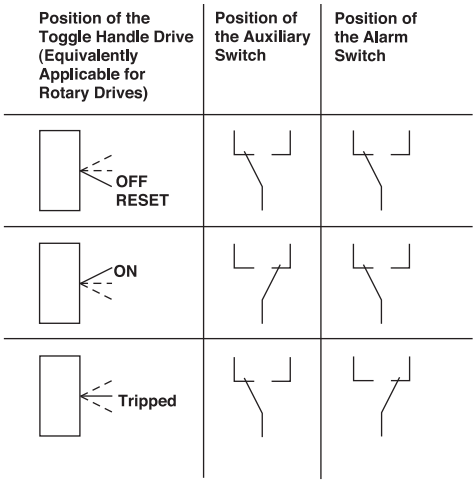
2

Internal Accessory Configurations



□/U</ = 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

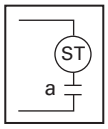
Description	Pole Location	Frame EG, JG and LG	NG	RG ①
—	Left	—	**AA115LPK**	—
	Right	**AUXALRMEPK** ④	**AA115RPK**	—

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 ①	NG	RG ②
48–60 Vac	Left	**SNT4860CPK**	**SNT5LP05K**	—
	Right	—	—	**SNT6P05K**
110–240 Vac	Left	**SNT120CPK**	**SNT5LP11K**	—
	Right	—	—	**SNT6P11K**
380–600 Vac	Left	**SNT480CPK** ③	—	—
	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 ②
—	Left	—	**LST5LPK**	—
	Right	—	—	**LST6RPK**

Undervoltage Release Mechanism

Description	Pole Location	Frame EG, JG and LG ①	NG	RG ②
110–127 Vac	Left	**UVR120APK**	**UVH5LP08K**	—
	Right	—	—	**UVH6RP08K**
208–240 Vac	Left	**UVR240APK**	**UVH5LP11K**	—
	Right	—	—	**UVH6RP11K**
24 Vdc	Left	**UVR024DPK**	**UVH5LP21K** ④	—
	Right	—	—	**UVH6RP21K** ④
24 Vac	Left	**UVR024APK**	**UVH5LP21K** ④	—
	Right	—	—	**UVH6RP21K** ④
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_n)	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_n)	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 G Motor Operators

Contents

Description	*Page*
EG-Frame (15–125 Amperes)	**V4-T2-15**
JG-Frame (63–250 Amperes)	**V4-T2-29**
LG-Frame (250–630 Amperes)	**V4-T2-47**
NG-Frame (320–1200 Amperes)	**V4-T2-65**
RG-Frame (800–2500 Amperes)	**V4-T2-74**
Motor Circuit Protectors (MCP)	**V4-T2-85**
Motor Protector Circuit Breakers (MPCB)	**V4-T2-89**
30 mA Ground Fault (Earth Leakage) Module	**V4-T2-92**
Current Limiting Circuit Breaker Module	**V4-T2-96**
High Instantaneous Circuit Breaker for Selective Coordination	**V4-T2-101**
Special Features and Accessories	**V4-T2-104**
Motor Operators	
Features, Benefits and Functions	**V4-T2-113**
Standards and Certifications	**V4-T2-113**
Product Selection	**V4-T2-113**
Plug-In Blocks	**V4-T2-114**
Drawout Cassette	**V4-T2-115**

Motor Operators

Product Description

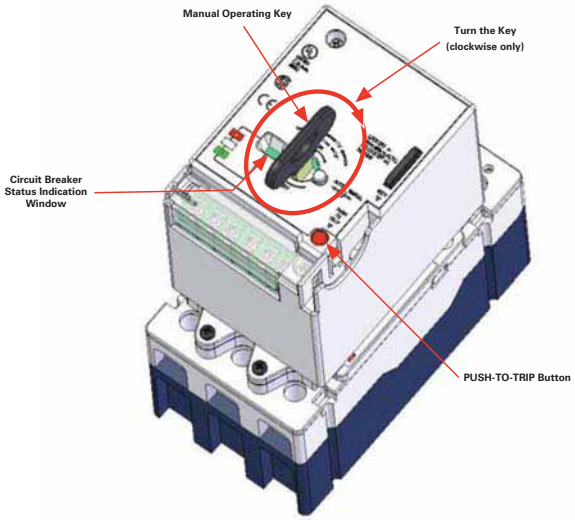
Eaton's motor operator mechanism enables local and remote ON, OFF and reset switching of a circuit breaker. The motor operator is mounted on the circuit breaker cover within the dimensions of the circuit breaker.

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.

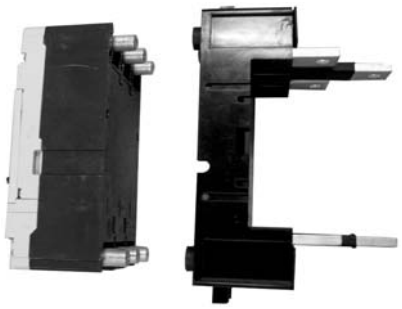
Listed

Product Selection

Motor Operators

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

LG Breaker with Plug-In Block



Contents

Description	Page
EG-Frame (15–125 Amperes)	V4-T2-15
JG-Frame (63–250 Amperes)	V4-T2-29
LG-Frame (250–630 Amperes)	V4-T2-47
NG-Frame (320–1200 Amperes)	V4-T2-65
RG-Frame (800–2500 Amperes)	V4-T2-74
Motor Circuit Protectors (MCP)	V4-T2-85
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30 mA Ground Fault (Earth Leakage) Module	V4-T2-92
Current Limiting Circuit Breaker Module	V4-T2-96
High Instantaneous Circuit Breaker for Selective Coordination	V4-T2-101
Special Features and Accessories	V4-T2-104
Motor Operators	V4-T2-112
Plug-In Blocks Drawout Cassette	V4-T2-115

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
EG-, JG- and LG-Frame Plug-In Blocks		
EG	3	**PAD3E**
EG	4	**PAD4E**
JG	3	**PAD3J**
JG	4	**PAD4J**
LG	3	**PAD3L**
LG	4	**PAD4L**
Trip-On Drawout Interlock Kit ①		
EG	3, 4	**PIILEG**
JG	3, 4	**PIILJG**
LG	3, 4	**PIILLG**
Terminal Shields IP30		
EG	3	**EFTS3K**
EG	4	**EFTS4K**
JG	3	**FJTS3K**
JG	4	**FJTS4K**
LG	3	**LTS3K**
LG	4	**LTS4K**
Position Switch		
EG	3, 4	**PADILE**
JG	3, 4	**PADILJ**
LG	3, 4	**PADILL**

Note

① Included with plug-in block. Trips the breaker when breaker is removed from plug-in block.

Drawout Cassettes

Contents

Description	*Page*
EG-Frame (15–125 Amperes)	**V4-T2-15**
JG-Frame (63–250 Amperes)	**V4-T2-29**
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Motor Operators	**V4-T2-112**
Plug-In Blocks	**V4-T2-114**
Drawout Cassette	

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

Product Selection

JG Drawout Cassette

LG Drawout Cassette

JG, LG and NG Drawout Cassettes

Breaker Frame	Number of Poles	Catalog Number
JG	3	**JG3DOM**
	4	**JG4DOM**
LG	3	**LG3DOM**
	4	**LG4DOM**
NG	3	**NG3DOM**
	4	**NG4DOM**

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