

The Art of Intelligent Simplicity

Inspired by the centuries old Tangram game, Siemens engineers took the principles of the ancient Tangram puzzle and employed them into future oriented products. A circuit breaker designed to give 1000's of practical combinations from a minimal number of parts.

Presenting the Siemens VL family of molded case circuit breakers. Minimum parts with maximum applications. A global family of breakers that meet or exceed all key worldwide standards. A flexible new line with many true advantages:

Global

A Global family of power distribution equipment that work reliably in most countries under various electrical standards.

Easy Planning

Siemens VL is site adaptable. As system needs change, uniform breaker sizes and modular components make these units extraordinarily easy to modify. Designers, contractors and users can save time and money on late changes.

Cost Saving

With modular designed breakers and only 2 groups of internal accessories for the entire family, inventory costs are reduced while affording more solutions in less space.

System Solutions

With a variety of protection options, Siemens VL breakers can communicate with the broader distribution system via common system protocols.



The intelligent simplicity of the Siemens VL circuit breakers, with its modularity, ease of use, global ratings, compact size, and flexibility make it one of the most versatile circuit breaker families available. The inherent value of these features improves the cost effectiveness of most distribution system designs and ultimately the users bottom line.

Simple Versatility

The modular and flexible design of Siemens VL circuit breakers allow for last minute adaptation, forgives changes in system design, and reduces inventory to give a very cost effective choice of configurations. Likewise, with “click-in-place” internal accessories, these breakers are modified faster, with less complexity and fewer parts than before. With electronic trip settings and an integral display for 60A breakers, plus thermal-magnetic trip units available through 1600A, the range of applications is unsurpassed. For mounting, there is an extensive variety of terminals, shields, bus connectors, variable angle connectors, plug-in bases with safety interlocks, and draw-out assemblies, which together set a new standard of adaptability.

Just two families of common internal accessories cover the complete range of VL breakers. The accessories are field installable and conveniently located in isolated pockets behind the front cover.

No special tools are required.

The intuitiveness and ease of use eliminate the need for special training and significantly reduce installation time.

Its compact size saves panel space, which can reduce the overall space, material requirements, and cost for the distribution equipment.

This global design with a common footprint for UL and IEC applications presents a standardized solution that, as part of a global family of power distribution equipment, can be used in most countries under the most common electrical standards.

Versions

The Siemens VL circuit breakers are available with Normal (N), High (H), and Very High (L) interrupting ratings. Protection options include 3 types of thermal-magnetic trip units, electronic trip units, and electronic trip units with a built-in LCD display. All of which are fully interchangeable, within rating requirements. The VL family also includes Motor Circuit Protectors, Motor Starter Applications, and Molded Case Switches.

Standards and Specifications

The Siemens VL circuit breakers are designed to meet or exceed the following standards:

- Underwriters Laboratories Inc., Standard UL489

- International Electrotechnical Commission, IEC 60947-2 xxxxxx
- CE mark EN 60947-2
- National Electrical Manufacturers Association, NEMA Standards AB-1
- Canadian Standards Association, CSA Standard C22.2
- NOM NMX-J-266-ANCE-2002

For additional standards consult Siemens.







Communications/System Solutions

In addition to circuit protection, the VL breakers are also about performing within the larger system of power distribution. The VL breakers can be integrated with a monitoring and protection system via Profibus or Modbus protocols. Tying VL breakers to other Siemens power distribution products has the immediate advantage of compatible technologies, cost-effective installations, and a wide range of tech support, in addition to monitoring and control capability.

Similarly, with features like “Out of the Box” Ground Fault Coordination, trip units with an integral display and laptop programmability, plus a host of field installable accessories, the VL breaker family can easily fit into your design schemes. We understand the value of a clean fit and this product family includes the components for good mechanical as well as electrical coordination with your system.

Technical Overview

Frame Summary and Ratings Table

Frame Family	GG	EG	DG	FG	JG
					
Continuous Ampere Range	15 to 125A	15 to 125A	30 to 150A	40 to 250A	70 to 400A
Number of Poles	1, 2, 3	1, 2, 3, 4	2,3 4	2,3 4	2,3 4
Maximum Voltage Rating	600Y/347V	600Y/347V	600V	600V	600V
Type of Protection					
Thermal-Magnetic	◆	◆	◆	◆	◆
Electronic	—	—	◆	◆	◆
Electronic with LCD	—	—	◆	◆	◆
Motor Circuit Protector	—	◆	◆	◆	◆
Molded Case Switch	—	◆	◆	◆	◆
100% Rated Breaker	—	—	—	—	◆
50°C Calibrated Breaker ^②	—	◆	◆	◆	◆
Interchangeable Trip Unit	—	—	◆	◆	◆
 W In.(mm) H D D2	1 (25) per pole 5.1 (130) 2.8 (73) 3.3 (84)	1 (25) per pole 5.5 (140) 3 (76) 3.5 (89)	4.1 (105) 2, 3-pole / 5.5 (139) 4-pole 7.3 (175) 3.4 (81) 4.2 (107)	5.5 (139) 7.2 (183) 11 (279) 4.2 (102) 5.4 (138)	
Type N – Normal Interrupting Rating ^① , RMS Symmetrical Amperes (kA)					
UL 240Vac	65	85	65	65	65
480Vac	25	35	35	35	35
600Vac	14 (600Y/347)	22 (600Y/347)	18	18	25
IEC (I _{cu} /I _{cs}) 240Vac	65/33	85/42	65/65	65/65	65/65
415Vac	25/13	40/30	40/40	40/40	45/45
—	—	—	—	—	—
690Vac	—	—	12/6	12/6	12/6
DC Voltages – Interrupting Rating (kA)					
250Vdc - 2p	14	35	30	30	30
500Vdc - 3p ^③	—	—	18	18	25
600Vdc - 3p	—	—	—	—	—
750Vdc - 4p ^②	—	—	—	—	—
Type H – High Interrupting Rating ^① , RMS Symmetrical Amperes (kA)					
UL 240Vac	—	100	100	100	100
480Vac	—	65	65	65	65
600Vac	—	25 (600Y/347)	20	20	25
IEC (I _{cu} /I _{cs}) 240Vac	—	100/50	100/75	100/75	100/75
415Vac	—	70/35	70/70	70/70	70/70
—	—	—	—	—	—
690Vac	—	—	12/6	12/6	15/8
DC Voltages – Interrupting Rating (kA)					
250Vdc - 2p	—	42	30	30	30
500Vdc - 3p ^③	—	—	18	18	35
600Vdc - 3p	—	—	—	—	—
750Vdc - 4p ^②	—	—	—	—	—
Type L – Very High Interrupting Rating ^① , RMS Symmetrical Amperes (kA)					
UL 240Vac	—	—	200	200	200
480Vac	—	—	100	100	100
600Vac	—	—	25	25	25
IEC (I _{cu} /I _{cs}) 240Vac	—	—	200/150	200/150	200/150
415Vac	—	—	100/75	100/75	100/75
—	—	—	—	—	—
690Vac	—	—	12/6	12/6	15/8
DC Voltages – Interrupting Rating (kA)					
250Vdc - 2p	—	—	30	30	30
500Vdc - 3p ^③	—	—	18	30	35
600Vdc - 3p	—	—	—	—	—
750Vdc - 4p ^②	—	—	—	—	—






① UL does not recognize AIC ratings for Molded Case Switches or Motor Circuit Protectors.

② Not UL.

③ 500Vdc nominal, 600Vdc max. for ungrounded DC UPS systems.

Technical Overview

Frame Summary and Ratings Table — Continued

Frame Family	LG	MG	NG	PG
				
Continuous Ampere Range	150 to 600A	200 to 800A	300 to 1200A	400 to 1600A
Number of Poles	2, 3	2,3 4	2,3 4	3 4
Maximum Voltage Rating	600V	600V	600V	600V
Type of Protection				
Thermal-Magnetic	◆	◆	◆	◆
Electronic	◆	◆	◆	◆
Electronic with LCD	◆	◆	◆	◆
Motor Circuit Protector	◆	◆	◆	—
Molded Case Switch	◆	◆	◆	◆
100% Rated	—	◆	◆	◆
50°C Calibrated Breaker ^②	◆	◆	◆	◆
Interchangeable Trip Unit	◆	◆	◆	◆
 W In.(mm)	5.5 (139)	7.5 (190) 10 (253)	9 (229) 2, 3-pole / 12 (305) 4-pole	16 (406)
H	11 (279)	16 (406)	16 (406)	16 (406)
D	4.2 (102)	4.7 (114)	6.2 (157)	6.2 (157)
D2	5.4 (138)	5.9 (151)	8.1 (207)	8.1 (207)
Type N – Normal Interrupting Rating ^① , RMS Symmetrical Amperes (kA)				
UL				
240Vac	65	65	65	65
480Vac	35	35	35	35
600Vac	25	25	25	25
IEC				
240Vac	65/65	65/65	65/65	65/65
415Vac	45/45	50/50	50/25	50/25
—	—	—	—	—
690Vac	12/6	20/10	20/10	20/10
DC Voltages – Interrupting Rating (kA)				
250Vdc - 2p	30	22	22	22
500Vdc - 3p ^③	25	35	35	35
600Vdc - 3p	—	—	—	—
750Vdc - 4p ^③	—	—	—	—
Type H – High Interrupting Rating ^① , RMS Symmetrical Amperes (kA)				
UL				
240Vac	100	100	100	100
480Vac	65	65	65	65
600Vac	25	35	35	35
IEC				
240Vac	100/75	100/75	100/75	100/50
415Vac	70/70	70/70	70/35	70/35
—	—	—	—	—
690Vac	15/8	30/15	30/15	30/15
DC Voltages – Interrupting Rating (kA)				
250Vdc - 2p	30	25	25	25
500Vdc - 3p ^③	35	50	50	50
600Vdc - 3p	—	—	—	—
750Vdc - 4p ^③	—	—	—	—
Type L – Very High Interrupting Rating ^① , RMS Symmetrical Amperes (kA)				
UL				
240Vac	200	200	200	200
480Vac	100	100	100	100
600Vac	25	50	65	65
IEC				
240Vac	200/150	200/150	200/150	200/150
415Vac	100/75	100/75	100/75	100/75
—	—	—	—	—
690Vac	15/8	35/17	35/17	35/17
DC Voltages – Interrupting Rating (kA)				
250Vdc - 2p	30	42	42	42
500Vdc - 3p ^③	35	65	65	65
600Vdc - 3p	—	—	—	—
750Vdc - 4p ^③	—	—	—	—

① UL does not recognize AIC ratings for Molded Case Switches or Motor Circuit Protectors.

② Not UL.

③ 500Vdc nominal, 600Vdc max. for ungrounded DC UPS systems.




Molded Case Circuit Breakers

VL Ratings Overview

This chart illustrates the range of continuous ampere settings that are available for each frame.

Amperage	15	20	25	30	40	50	60	70	80	90	100	110	125	150	200	250	300	400	600	800	1000	1200	1400	1600	Page						
Circuit Breaker Continuous Amps Setting Ranges	GG [Ⓣ]	Class N																										8-1			
	EG [Ⓣ]	Class N																											8-3		
	DG				Class N																							8-6			
	FG				Class N																								8-11		
	JG								Class N																						8-16
	LG														Class N													8-21			
	MG															Class N											8-26				
	NG																	Class N										8-31			
	PG																		Class N										8-36		

[Ⓣ] The GG and EG breaker frames are not part of the VL family of circuit breakers but they are included here for reference and to show how they complement the range of applications.

-  Class **N** - Normal Interrupting Rating
-  Class **H** - High Interrupting Rating
-  Class **L** - Very High Interrupting Rating

Trip Unit Overview

The interchangeability of the VL circuit breaker trip units allow for easy conversion from any of 3 types of protection. They are thermal-magnetic, electronic, or electronic with a built-in LCD display. The thermal-magnetic trip unit features an adjustable magnetic trip setting. The electronic trip units are microprocessor based true RMS sensing devices and are available with a variety of adjustable trip settings,

configurations, and information menus. With precise control over the circuit breaker functions and access to system status, diagnostics, and information, these trip units allow for unsurpassed flexibility in circuit coordination.

An example of coordination is the out of the box Ground Fault function on the Model 545 trip units. The pick-up and time delay settings are fixed for each

frame and do not overlap with the settings on the other frames. Therefore, when VL breakers are used together in a system the GF protection is automatically coordinated. The user also has the ability to program a custom coordination scheme with the high level of adjustability available on the Model 576 trip units.

Trip Unit Functions	VL Trip Units						
	Model 525	Model 545				Model 576	
	Thermal-Magnetic	Electronic LI	Electronic LIG	Electronic LSI	Electronic LSIG	Electronic with LCD LSI	Electronic with LCD LSIG
Continuous Current Setting (I_r)	Fixed	◆	◆	◆	◆	◆	◆
Long Time Delay (t_r)	□	◆	◆	Fixed	Fixed	◆	◆
Instantaneous Overcurrent Setting (I_i)	◆	◆	◆	Fixed	Fixed	◆	◆
Short Time Pick-up (I_{sd})	□	□	□	◆	◆	(ON/OFF)	(ON/OFF)
Short Time Delay (t_{sd})	□	□	□	◆	◆	◆	◆
Short Time I^2t Pick-up	□	□	□	◆	◆	◆	◆
Ground Fault Pick-up (I_g)	□	□	Fixed	□	Fixed	□	◆
Ground Fault Delay (t_g)	□	□	Fixed	□	Fixed	□	◆
Alarm & Status LEDs	□	●	●	●	●	□	□
Built-in Display (LCD)	□	□	□	□	□	●	●
Pre-Trip Alarm ^①	□	□	□	□	□	●	●
Last trip information ^①	□	□	□	□	□	●	●
Zone Selective ^①	□	□	□	□	□	●	●
Communications ^①	□	□	□	□	□	●	●

◆ – Adjustable setting.

● – This feature is included.

“fixed” – Non-Adjustable setting.

□ – Feature is not included.

① – Requires the trip unit to be connected to a PC (via a COMPRO or COMMODO communications module) for access or programming.

Continuous Amps Rating (I_r)

This setting is the continuous current that the breaker will carry without tripping. It can be set up to 100% of the trip unit's nominal rating (I_n).

Long Time Delay (t_r)

Sometimes referred to as the “overload” position, this function controls the breaker's “pause-in-tripping” time. It allows low level, temporary inrush currents such as those encountered when starting a motor to pass without tripping. The time delay begins when the current reaches $6 \times I_r$.

Instantaneous Pick-up (I_i)

This function sets the breaker to trip instantaneously during high fault conditions. On Model 545 trip units this setting is fixed on LSI and LSIG trip units

and adjustable on LI and LIG trip units. These features are fully adjustable on Model 576 trip units.

Short Time Pick-Up (I_{sd})

This function controls the level of fault current the breaker will carry for a short time without tripping, thus allowing downstream devices to clear short circuits ahead of up-stream protection. It may be defeated (turned-off) on Model 576 trip units.

Short Time Delay (t_{sd})

This controls the interval of time the breaker will remain closed against a fault (at the Short Time Pick-up current level) without tripping. The time delay may be set at fixed points or at short time intervals based on I^2t curves. This function is used with the Short Time Pick-up to achieve selectivity and better

system coordination.

Ground Fault Pick-Up (I_g)

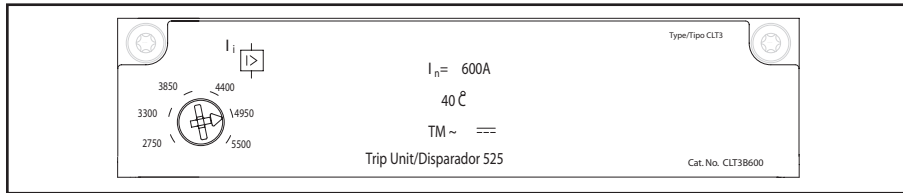
This setting controls the level of ground fault current that will cause the breaker to trip. Model 545 Electronic Trip Units act on the residual current to sense ground current. The Model 576 Electronic Trip Unit is programmable and allows the user to select either the residual current method or direct detection (via a separate current transformer) to detect ground current.

Ground Fault Time Delay (t_g)

This controls the interval of time the breaker will remain closed after a ground fault is detected (at the Ground Fault Pick-up current level) without tripping.

General Information

Thermal-Magnetic trip units, Model 525, combine the inverse time element design for low level overloads, and instantaneous magnetic action for short circuit protection. The standard unit has preset overload protection and an adjustable instantaneous trip setting, with 6 set points. Thermal-Magnetic trip units are available throughout the VL family, from 15 to 1600A.



Electronic Trip Units

Electronic trip units are available through the VL family, from 60A (which can be set as low as 30A) up through 1600A. They are also available in four trip configurations (LI, LIG, LSI, LSIG) and features can include a built-in LCD display.

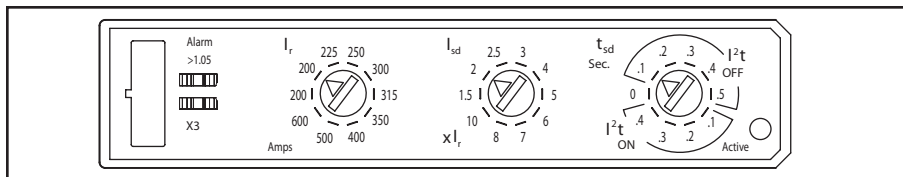
On the Model 545 Electronic Trip Unit a flashing LED confirms that the

microprocessor in operating and another indicates an overload condition. For ease-of-use and to insure proper coordination, the set points for the continuous current are shown on the face of these trip units in amps.

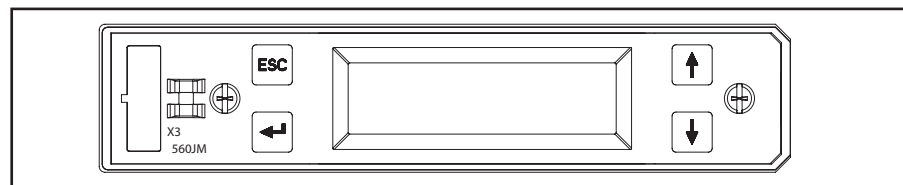
On the Model 576, the LCD version, the current in each phase is continuously shown on the display.

Unlike many displays, no secondary or auxiliary voltage is required as long as the breaker is energized and a minimal load current is present. These trip units can also indicate the "last trip" status (date, time, amps) when they're connected to a PC via one of our communications modules.

Typical Trip Unit Labeling and Adjustment Positions

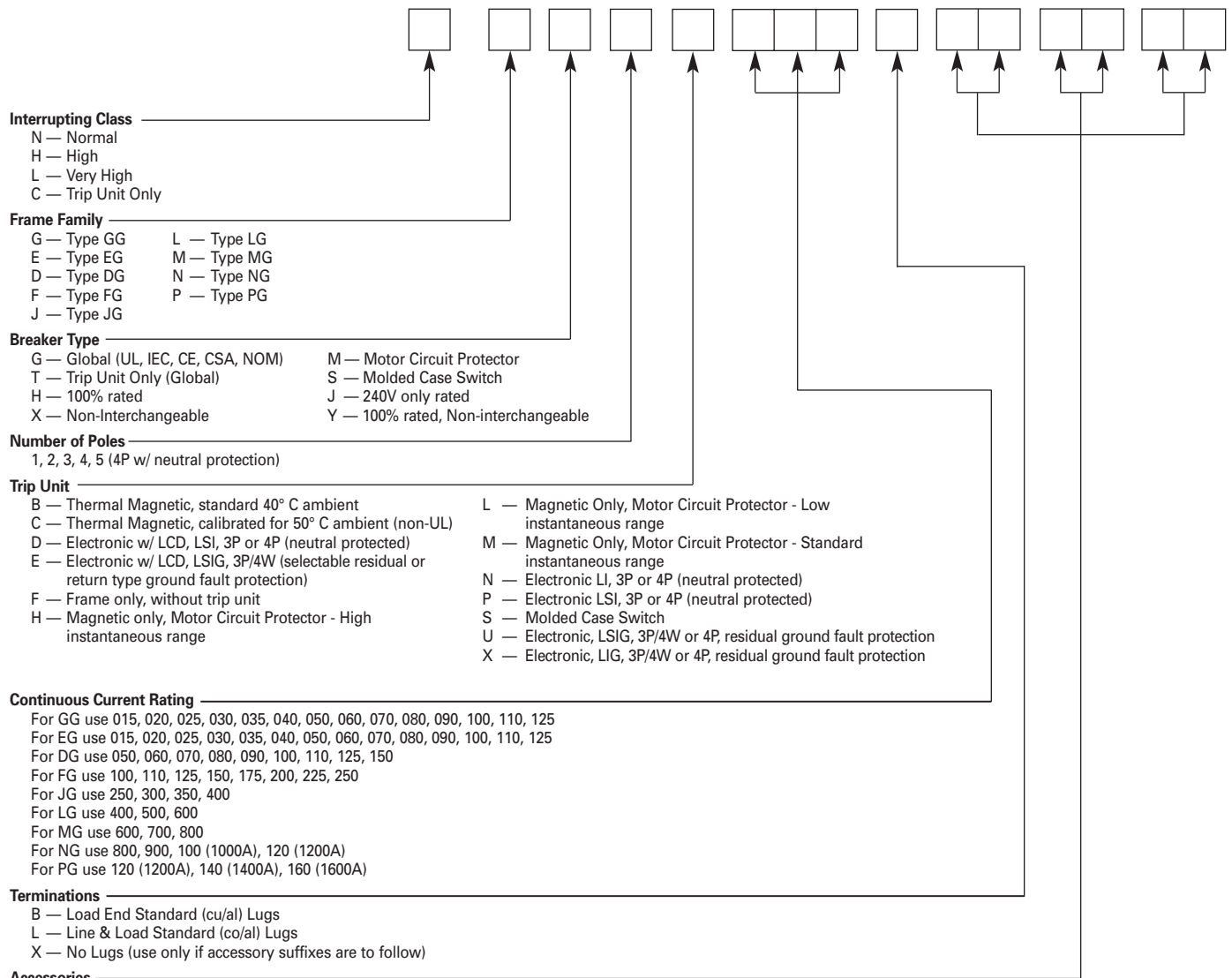


Model 545 Electronic Trip Unit with LSIG trip functions



Model 576 Electronic Trip Unit has an LCD display

Catalog Numbering System



LCD = Liquid Crystal Display
 LS = Long Delay & Short Delay trip functions
 LSI = Long Delay, Short Delay, & Instantaneous trip functions
 LSIG = Long Delay, Short Delay, Instantaneous, & Ground Fault trip functions
 GF = Ground Fault
 3P = 3-pole
 4W = 4 wire

Catalog Numbering System

If ordering factory-installed accessories or special modifications, you must order a 15-digit catalog number. See the examples below for a detailed explanation. The 15 digit number is achieved by placing X's in positions not being occupied by an accessory/modification.

Auxiliary Switch Example:

H F G 3 B 2 0 0 L A 2 X X X X

Standard 9-digit Aux. Switch Completes Cat #

Shunt Trip / UVR Example:

H F G 3 B 2 0 0 L X X U N X X

Standard 9-digit UVR Completes Cat #

Shunt Trip / Auxiliary Switch Example:

H F G 3 B 2 0 0 L A 2 R N X X

Standard 9-digit Aux. Switch Shunt Trip Completes Cat #

Factory Modification Example:

H F G 3 B 2 0 0 L X X X X Z 1

Standard 9-digit Completes Cat # Custom Mod.

These places could designate an enclosure or special modification. Siemens will define the factory modification suffixes.

Molded Case Circuit Breakers

SELECTION / APPLICATION

Reference Guide

Breaker Frame Family			GG	EG		DG			FG			JG			
	Continuous Amps		15–125A	15–125A		30–150A			40–250A			70–400A			
	Poles		1, 2, 3	1, 2, 3, 4		2, 3, 4			2, 3, 4			2, 3, 4			
	Max. Volts AC		600Y/347V	600Y/347V		600V			600V			600V			
Breaker Type			NGG	NEG	HEG	NDG	HDG	LDG	NFG	HFG	LFG	NJG	HJG	LJG	
Ratings	Interrupting Class		N	N	H	N	H	L	N	H	L	N	H	L	
	Interrupting Rating RMS	UL	240Vac	65	85	100	65	100	200	65	100	200	65	100	200
			480Vac	25	35	65	35	65	100	35	65	100	35	65	100
			600Vac	14 (600Y/347)	22	25	18	20	25	18	20	25	25	25	25
	Symmetrical Amperes AC 50/60Hz	I _{cs} /I _{cu}	220/240Vac	65/33	85/43	100/50	65/65	100/75	200/150	65/65	100/75	200/150	65/65	100/75	200/150
			380/415Vac	25/12.5	40/30	70/35	40/40	70/70	100/75	40/40	70/70	100/75	45/45	70/70	100/75
			690Vac	—	—	—	12/6	12/6	12/6	12/6	12/6	12/6	12/6	15/8	15/8
			DC	250Vdc (2-Pole)	14	35	42	30	30	30	30	30	30	30	30
	Interrupting Ratings (UL)	500Vdc (3-Pole)		—	—	—	18	18	18	18	18	30	25	35	35
		600Vdc (3-Pole)		—	—	—	#	#	#	#	#	#	#	#	#
750Vdc (4-Pole)		—	—	—	#	#	#	#	#	#	#	#	#		
Dimensions in Inches	1-Pole		5.1H x 1W x 2.8D	5.5H x 1W x 3D		—			—			—			
	2-Pole		5.1H x 2W x 2.8D	5.5H x 2W x 3D		6.9H x 4.1W x 3.4D			6.9H x 4.1W x 3.4D			11H x 5.5W x 4.2D			
	3-Pole		5.1H x 3W x 2.8D	5.5H x 3W x 3D		6.9H x 4.1W x 3.4D			6.9H x 4.1W x 3.4D			11H x 5.5W x 4.2D			
	4-Pole		—	5.5H x 4W x 3D		6.9H x 5.5W x 3.4D			6.9H x 5.5W x 3.4D			11H x 7.2W x 4.2D			
Trip Unit Information	Thermal-Magnetic		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
	Electronic		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
	Electronic with LCD		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
	Interchangeable Trip Unit		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
	Reverse Feed (w/Non-Interchangeable Trip)		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
	Communications Capability*		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
Specific Application Breakers	Molded Case Switch		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
	Motor Circuit Protector		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
	100% Rated		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
	50°C Calibrated ^A		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
Accessories & Modifications	Auxiliary Switch		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
	Alarm Switch		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
	Shunt Trip		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
	Undervoltage Release		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
	Mechanical Interlocks		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
	Electric Motor or Stored Energy Operator		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
	Rear Connecting Studs		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
	Plug-In Mounting Assy. w/Trip Interlock		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
	Draw-Out Assembly		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
	Handle Mechanism Options		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
Enclosures ^A	NEMA 1 – Indoor, Surface Mount		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
	NEMA 1 – Indoor, Flush Mount		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
	NEMA 3R – Outdoor, Rain Proof		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
	NEMA 4, 4X – Stainless Steel		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
	NEMA 7, 9 – Hazardous Locations		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
	NEMA 12 – Dust		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
	Terminal Shields		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
	Distribution Lugs		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
	Ground Sensor (Neutral Transformer)		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
Page			8-1	8-3		8-6			8-11			8-16			

© 500Vdc nominal, 600Vdc max. for ungrounded DC UPS systems.
 * - Communications available via a COM 10 module using Profibus protocol.
 # - Consult Siemens for these applications.
 GG and EG are not VL family breakers and do not share common VL accessories.
 A - Consult Siemens for availability.

Molded Case Circuit Breakers

SELECTION / APPLICATION

Reference Guide

Breaker Frame Family				LG			MG			NG			PG		
Continuous Amps				150–600A			200–800A			300–1200A			400–1600A		
Poles				2, 3			2, 3, 4			2, 3, 4			3, 4		
Max. Volts AC				600V			600V			600V			600V		
Breaker Type				NLG	HLG	LLG	NMG	HMG	LMG	NNG	HNG	LNG	NPG	HPG	LPG
Ratings	Interrupting Class			N	H	L	N	H	L	N	H	L	N	H	L
	Interrupting Rating RMS Symmetrical Amperes AC 50/60Hz	UL	240Vac	65	100	200	65	100	200	65	100	200	65	100	200
			480Vac	35	65	100	35	65	100	35	65	100	35	65	100
			600Vac	25	25	25	25	35	50	25	35	65	25	35	65
	DC Interrupting Ratings (UL)	I _{cs} /I _{cu}	220/240Vac	65/65	100/75	200/150	65/65	100/75	200/150	65/65	100/75	200/150	65/65	100/75	200/150
			380/415Vac	45/45	70/70	100/75	50/50	70/70	100/75	50/25	70/35	100/50	50/25	70/35	100/50
			690Vac	12/6	15/8	15/8	20/10	30/15	35/17	20/10	30/15	35/15	20/10	30/15	35/15
	DC Interrupting Ratings (UL)		250Vdc (2-Pole)	30	30	30	22	25	42	22	25	42	22	25	42
500Vdc (3-Pole)			25	35	35	35	50	65	35	50	65	35	50	65	
600Vdc (3-Pole)			#	#	#	#	#	#	#	#	#	#	#	#	
750Vdc (4-Pole)			#	#	#	#	#	#	#	#	#	#	#	#	
Dimensions in Inches	1-Pole			—			—			—			—		
	2-Pole			11H x 5.5W x 4.2D			16H x 7.5W x 4.7D			16H x 9W x 6.2D			—		
	3-Pole			11H x 5.5W x 4.2D			16H x 7.5W x 4.7D			16H x 9W x 6.2D			—		
	4-Pole			—			16H x 10W x 4.7D			16H x 12W x 6.2D			—		
Trip Unit Information	Thermal-Magnetic			◆			◆			◆			◆		
	Electronic			◆			◆			◆			◆		
	Electronic with LCD			◆			◆			◆			◆		
	Interchangeable Trip Unit			◆			◆			◆			◆		
	Reverse Feed (w/Non-Interchangeable Trip)			◆			◆			◆			◆		
	Communications Capability ^①			◆			◆			◆			◆		
Specific Application Breakers	Molded Case Switch			◆			◆			◆			◆		
	Motor Circuit Protector			◆			◆			◆			◆		
	100% Rated			◆			◆			◆			◆		
	50°C Calibrated ^A			◆			◆			◆			◆		
Accessories & Modifications	Auxiliary Switch			◆			◆			◆			◆		
	Alarm Switch			◆			◆			◆			◆		
	Shunt Trip			◆			◆			◆			◆		
	Undervoltage Release			◆			◆			◆			◆		
	Mechanical Interlocks			◆			◆			◆			◆		
	Electric Motor or Stored Energy Operator			◆			◆			◆			◆		
	Rear Connecting Studs			◆			◆			◆			◆		
	Plug-In Mounting Assy. w/Trip Interlock			◆			◆			◆			◆		
	Draw-Out Assembly			◆			◆			◆			◆		
	Handle Mechanism Options			◆			◆			◆			◆		
Enclosures ^A	NEMA 1 – Indoor, Surface Mount			◆			◆			◆			◆		
	NEMA 1 – Indoor, Flush Mount			◆			◆			◆			◆		
	NEMA 3R – Outdoor, Rain Proof			◆			◆			◆			◆		
	NEMA 4, 4X – Stainless Steel			◆			◆			◆			◆		
	NEMA 7, 9 – Hazardous Locations			◆			◆			◆			◆		
	NEMA 12 – Lint, Fine Dust, Oils, Coolant			◆			◆			◆			◆		
Terminal Shields	Terminal Shields			◆			◆			◆			◆		
	Distribution Lugs			◆			◆			◆			◆		
	Ground Sensor (Neutral Transformer)			◆			◆			◆			◆		
Page				8-21			8-26			8-31			8-36		

① Communications available via COMPRO or COMMOD modules using Profibus or Modbus protocol.

② 500Vdc nominal, 600Vdc max. for ungrounded DC UPS systems.

- Consult Siemens for these applications.

A - Consult Siemens for availability.

Molded Case Circuit Breakers

SELECTION

NGG 125A Frame

Type NGG (Cable In - Cable Out)

Continuous Ampere Rating @ 40°C	1-Pole		2-Pole		3-Pole	
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$
15	NGG1B015L ^{①②}		NGG2B015L ^②		NGG3B015L ^②	
20	NGG1B020L ^①		NGG2B020L ^②		NGG3B020L ^②	
25	NGG1B025L ^②		NGG2B025L ^②		NGG3B025L ^②	
30	NGG1B030L ^②		NGG2B030L ^②		NGG3B030L ^②	
35	NGG1B035L ^②		NGG2B035L ^②		NGG3B035L ^②	
40	NGG1B040L ^②		NGG2B040L ^②		NGG3B040L ^②	
50	NGG1B050L ^②		NGG2B050L ^②		NGG3B050L ^②	
60	NGG1B060L		NGG2B060L		NGG3B060L	
70	NGG1B070L		NGG2B070L		NGG3B070L	
80	NGG1B080L		NGG2B080L		NGG3B080L	
90	NGG1B090L		NGG2B090L		NGG3B090L	
100	NGG1B100L		NGG2B100L		NGG3B100L	
110	NGG1B110L		NGG2B110L		NGG3B110L	
125	NGG1B125L		NGG2B125L		NGG3B125L	

Line and load lugs are included as standard. If only load side lugs are needed, change "L" suffix to "B". HACR rated. Suitable for screws or DIN rail mounting.

Type NGB Panelboard Mounting

Continuous Ampere Rating @ 40°C	1-Pole		2-Pole		3-Pole	
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$
15	NGB1B015B ^{①②}		NGB2B015B ^②		NGB3B015B ^②	
20	NGB1B020B ^①		NGB2B020B ^②		NGB3B020B ^②	
25	NGBa1B025B ^②		NGB2B025B ^②		NGB3B025B ^②	
30	NGB1B030B ^②		NGB2B030B ^②		NGB3B030B ^②	
35	NGB1B035B ^②		NGB2B035B ^②		NGB3B035B ^②	
40	NGB1B040B ^②		NGB2B040B ^②		NGB3B040B ^②	
50	NGB1B050B ^②		NGB2B050B ^②		NGB3B050B ^②	
60	NGB1B060B		NGB2B060B		NGB3B060B	
70	NGB1B070B		NGB2B070B		NGB3B070B	
80	NGB1B080B		NGB2B080B		NGB3B080B	
90	NGB1B090B		NGB2B090B		NGB3B090B	
100	NGB1B100B		NGB2B100B		NGB3B100B	
110	NGG1B110B		NGB2B110B		NGB3B110B	
125	NGG1B125B		NGB2B125B		NGB3B125B	

Load lugs are included as standard.

Connectors for 60/75°C Wire

NGG			
Ampere Rating	Catalog Number	Wire Range	List Price \$
15-30A	1TC1Q1 (qty. 1)	#12-#10 AWG Cu	
	3TC1Q1 (qty. 3)	#12-#8 AWG Al	
35-125A	3TA1GG20 (qty. 3)	#8-#1/0 AWG Cu #8-#2/0 AWG Al	
15-125A	TNKG3 (qty. 3)	Nut Keeper plate w/ screw (for crimp terminals)	

Interrupting Ratings

Breaker Type	Number of Poles	UL 489 AIR						IEC 60947-2						
		RMS Symmetrical Amperes (KA)						Volts AC (50/60Hz)						
		Volts AC (50/60Hz)						Volts DC		220/240		380/415		Volts DC
NGG	1	65	—	25	18	—	—	125	250	I _{cu}	I _{cs}	I _{cu}	I _{cs}	250
	2, 3	—	65	—	—	25	18	—	14	25	12.5	25	12.5	10

① SWD rated.
② HID rated at 277VAC.



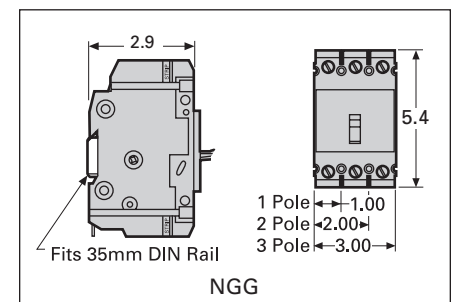
Ordering Information

Prices for 1-pole and 2-pole NGG breakers include the breaker complete with load side lugs only. For factory installed standard line and load lugs, change the breaker catalog number suffix "B" to an "L", and add the list price of the line side lugs to the list price of the complete breaker.

Prices for all NGG breakers include the breaker with standard line and load side lugs.

Prices for all NGB breakers include the breaker with standard load side lugs only.

All NGG and NGB breakers are suitable for reverse feed applications.



Dimensions, inches (mm)

Number of Poles	Width	Length	Depth	To Handle
1	1 (25)			
2	2 (50)	5.4 (138)	2.9 (73)	3.3 (84)
3	3 (75)			

Shipping Weights

Number of Poles	Number per Carton	Shipping Weight lbs. (kg)
1	1	.75 (0.34)
2	1	1.3 (0.59)
3	1	2.0 (0.91)

External Accessories pages 11-1 through 11-15

Molded Case Circuit Breakers

SELECTION

Internal Accessories for NGG and NGB 125A Frame

Shunt Trip

Control Voltage		CQD, CQD6, NGG Catalog Number	List Price \$
V AC	V DC		
120	—	CQDST120	
240	—	CQDST240▲	
277	—	CQDST277▲	
480	—	CQDST480▲	
600	—	CQDST600	
—	012	CQDST12	
—	024	CQDST24	
—	048	CQDST48	
—	125	CQDST125	

Auxiliary Switch

Maximum Voltage		Number of Contacts	CQD, CQD6, NGG Catalog Number	List Price \$
AC	DC			
240	125	1A-1B	CQDA1	
240	125	2A-2B	CQDA2	

Alarm Switch

Maximum Voltage		CQD, CQD6, NGG Catalog Number	List Price \$
AC	DC		
240	125	CQDBA	

Shunt Trip and Auxiliary Switch Combinations

Shunt Trip Voltage		CQD, CQD6, NGG Catalog Number	List Price \$
AC	DC		
120	—	CQDST120AAS▲	
240	—	CQDST240AAS▲	
277	—	CQDST277AAS▲	
480	—	CQDST480AAS▲	
600	—	CQDST600AAS▲	
—	12	CQDST12DAS▲	
—	24	CQDST24DAS▲	
—	48	CQDST48DAS▲	
—	125	CQDST125DAS▲	

Alarm and Auxiliary Switch Combinations

For Breaker	Catalog Number	List Price \$
CQD, CQD6, NGG	CQDA1BA▲	

Enclosures

NEMA Class	Catalog Number	List Price \$
1 (Flush)	GG0121FN	
1 (Surface)	GG0121SN	
3R	GG0123RN	
12	GG01212N	
Neutral		

Neutral included with enclosures in this group.
Enclosures are used with type NGG breakers.
Consult Siemens for availability.

▲ Built to order. Allow 6-8 weeks for delivery.

External Accessories pages 11-1 through 11-15

Molded Case Circuit Breakers

SELECTION

EG 125A Frame

Ordering Information

Prices for EG breakers include the complete breaker with standard line and load side lugs.

All EG breakers are suitable for reverse feed applications.

Mounting hardware is included.



Interrupting Ratings

Breaker Type	RMS Symmetrical Amperes (KA)									
	UL 489					IEC 60947-2				
	Volts AC (50/60 HZ)			Volts DC	Volts AC (50/60 HZ)					
	240	480	600Y/347	125/250	220/240		380/415		690	
				I_{CU}	I_{CS}	I_{CU}	I_{CS}	I_{CU}	I_{CS}	
NEG	85	35	22	35	85	43	40	30	4	3
HEG	100	65	25	42	100	50	70	35	6	3

EG 125A Frame 1-pole Thermal-Magnetic Circuit Breaker

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class	
	Catalog Number	List Price \$	Catalog Number	List Price \$
15	NEG1B015L		HEG1B015L	
20	NEG1B020L		HEG1B020L	
25	NEG1B025L		HEG1B025L	
30	NEG1B030L		HEG1B030L	
35	NEG1B035L		HEG1B035L	
40	NEG1B040L		HEG1B040L	
50	NEG1B050L		HEG1B050L	
60	NEG1B060L		HEG1B060L	
70	NEG1B070L		HEG1B070L	
80	NEG1B080L		HEG1B080L	
90	NEG1B090L		HEG1B090L	
100	NEG1B100L		HEG1B100L	
110	NEG1B110L		HEG1B110L	
125	NEG1B125L		HEG1B125L	

Dimensions, inches(mm)

Number of Poles	Width	Length	Depth	To Handle D1
1	1 (25.4)			
2	2 (50.8)	5.5 (140)	2.9 (75)	3.6 (90)
3	3 (76.2)			
4	4 (101.6)			

Approx. Shipping Weight, lbs.(kg)

Poles	Complete Breaker
1	1.4 (0.5)
2	2.4 (0.9)
3	3.7 (1.4)
4	4.8 (1.8)

EG 125A Frame 2-pole Thermal-Magnetic Circuit Breaker

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class	
	Catalog Number	List Price \$	Catalog Number	List Price \$
15	NEG2B015L		HEG2B015L	
20	NEG2B020L		HEG2B020L	
25	NEG2B025L		HEG2B025L	
30	NEG2B030L		HEG2B030L	
35	NEG2B035L		HEG2B035L	
40	NEG2B040L		HEG2B040L	
50	NEG2B050L		HEG2B050L	
60	NEG2B060L		HEG2B060L	
70	NEG2B070L		HEG2B070L	
80	NEG2B080L		HEG2B080L	
90	NEG2B090L		HEG2B090L	
100	NEG2B100L		HEG2B100L	
110	NEG2B110L		HEG2B110L	
125	NEG2B125L		HEG2B125L	

Connectors for 75°C Wire

Amp Rating	Wire Range	Catalog Number	List Price \$
15-125	#14-3/0 Cu	3TW1EG30 ^①	
	#14-1/0 Cu/Al	3TA1EG10	
	#6-3/0 Cu/Al	3TA1EG30	

These kits include 3 connectors.

① Standard connector included with each breaker.

External Accessories pages 11-1 through 11-15

Molded Case Circuit Breakers

SELECTION

EG 125A Frame

EG 125A Frame 3-pole Thermal-Magnetic Circuit Breaker

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class	
	Catalog Number	List Price \$	Catalog Number	List Price \$
15	NEG3B015L		HEG3B015L	
20	NEG3B020L		HEG3B020L	
25	NEG3B025L		HEG3B025L	
30	NEG3B030L		HEG3B030L	
35	NEG3B035L		HEG3B035L	
40	NEG3B040L		HEG3B040L	
50	NEG3B050L		HEG3B050L	
60	NEG3B060L		HEG3B060L	
70	NEG3B070L		HEG3B070L	
80	NEG3B080L		HEG3B080L	
90	NEG3B090L		HEG3B090L	
100	NEG3B100L		HEG3B100L	
110	NEG3B110L		HEG3B110L	
125	NEG3B125L		HEG3B125L	

EG 125A Frame 4-pole Thermal-Magnetic Circuit Breaker

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class	
	Catalog Number	List Price \$	Catalog Number	List Price \$
15	NEG4B015L		HEG4B015L	
20	NEG4B020L		HEG4B020L	
25	NEG4B025L		HEG4B025L	
30	NEG4B030L		HEG4B030L	
35	NEG4B035L		HEG4B035L	
40	NEG4B040L		HEG4B040L	
50	NEG4B050L		HEG4B050L	
60	NEG4B060L		HEG4B060L	
70	NEG4B070L		HEG4B070L	
80	NEG4B080L		HEG4B080L	
90	NEG4B090L		HEG4B090L	
100	NEG4B100L		HEG4B100L	
110	NEG4B110L		HEG4B110L	
125	NEG4B125L		HEG4B125L	

EG 125A Frame Molded Case Switch – (Magnetic Trip Only)

Continuous Ampere Rating	Catalog Number	List Price \$
3-Pole		
100	HES3S100L	
125	HES3S125L	
160	HES3S160L	
4-Pole		
125	HES4S125L	

EG 125A Frame 3-Pole Motor Circuit Protector

Continuous Ampere Rating	Catalog Number	List Price \$
3	HEM3M003L	
7	HEM3M007L	
15	HEM3M015L	
30	HEM3M030L	
50	HEM3M050L	
70	HEM3M070L	
100	HEM3M100L	
125	HEM3M125L	

External Accessories pages 11-1 through 11-15

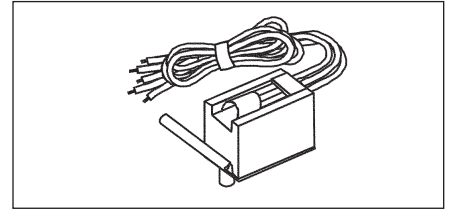
Molded Case Circuit Breakers

SELECTION

Internal Accessories for EG 125A Frame

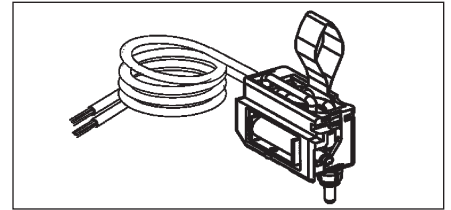
Auxiliary Switch and Alarm Switch Combination Kits

Description	Mounting Pocket ^①	Catalog Number	List Price \$	
Single Auxiliary Switch 1A-1B Contacts	Right Pocket Only	ASKE2		
Double Auxiliary Switch 2A-2B Contacts		ASKE3		
Single Alarm Switch 1A-1B Contacts		ASKE1		
Double Alarm Switch 1A-1B Contacts		ASKE5		
Combination Aux. & Alarm Switches 1A-1B Contacts each		ASKE6		



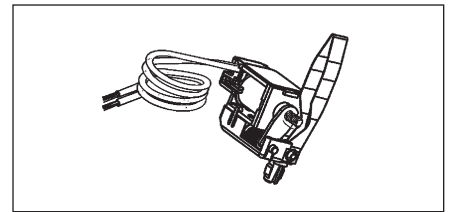
Shunt Trips

Description	Mounting Pocket	Catalog Number	List Price \$
24-60V AC or DC	Left or Neutral Pocket	STREM60D	
110-240V AC		STRER240	
380-600V AC		STREV600	



Undervoltage Release

Description	Mounting Pocket	Catalog Number	List Price \$
12V AC or DC	Left Pocket Only	UVREA12AD	
24V AC or DC		UVREB24AD	
48-60V AC		UVREM60	
110-127V AC		UVREN120	
208-240V AC		UVRER240	
380-500V AC		UVREU480	
525-600V AC		UVREV600	
48-60V DC		UVREC48D	
110-125V DC		UVRED125D	
220-250V DC		UVREE250D	



1A refers to a normally open contact (open when the breaker contacts are open).
1B refers to a normally closed contact (closed when the breaker contacts are open).

External Accessories pages 11-1 through 11-15

VL Circuit Breakers

SELECTION

DG 150A Frame, VL Series

Ordering Information

Complete Assembled Breaker

Prices for a complete factory assembled DG breaker include the frame, trip unit, and standard line and load connectors, all factory installed and shipped as a complete breaker. Assembled breakers are only available with standard connectors.

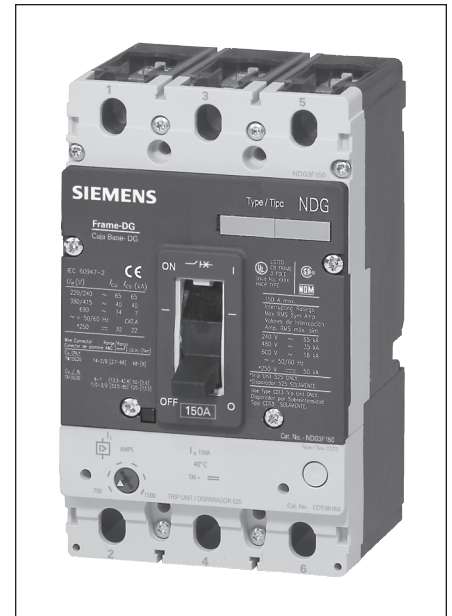
For any other configuration, order the frame, trip unit, and terminals as separate items.

For DC applications, use thermal magnetic trip unit only.

For reverse feed applications, select non-interchangeable trip breakers only.

For 50°C and special applications, refer to page 15-1.A

Mounting hardware is included with each frame or complete breaker.



Interrupting Ratings

Breaker Type	RMS Symmetrical Amperes (KA)										
	UL 489					IEC 60947-2					
	Volts AC (50/60 Hz)			Volts DC		Volts AC (50/60 Hz)					
	240	480	600	250	500	220/240		380/415		690	
					I_{CU}	I_{CS}	I_{CU}	I_{CS}	I_{CU}	I_{CS}	
NDG	65	35	18	30	18	65	65	40	40	12	6
H DG	100	65	20	30	18	100	75	70	70	12	6
LDG	200	100	25	30	18	200	150	100	75	12	6

Connectors for 75°C Wire

Construction	Ampere Rating	Wire Range	No. of cables per connector	Catalog Number ^②	List Price \$
Steel ^①	30-150	#8-1/0 Cu	1	3TW1DG20 ^②	
Aluminum ^①	30-150	#6-3/0 Al/Cu	1	3TA1DG30 ^②	
Copper ^②	30-150	#6-3/0 Cu	1	3TC1DG30 ^②	
Distribution Lugs					
	30-150	#14-#2 Cu (3pcs. Max)	3	3TA3DG02 ^②	
	30-150	#14-#4 Cu	6	3TA6DG04 ^②	
Compression Lugs					
	30-150	#14-2/0 kcmil Al/Cu	-	2CLD20 ^③	
	30-150	#14-2/0 kcmil Al/Cu	-	3CLD20 ^④	

① Standard connector supplied with complete breakers.

② Kit consists of 3 terminal connectors.

③ 2 Lugs for 2-pole breakers.

④ 3 Lugs for 3-pole breakers.

DG Thermal-Magnetic, Instantaneous Trip Adjustment Range

Trip Unit Continuous Amp Rating (I_n)	Instantaneous Overcurrent Setting (I_i)	
	Min.	Max.
50	450	700
60	450	700
70	450	700
80	450	800
90	500	1000
100	500	1000
110	550	1100
125	625	1250
150	800	1600

Note: Each breaker has 6 trip settings in this range.

Dimensions, inches (mm)

Number of Poles	Width	Length	Depth	To Handle D1
2, 3	4.1 (105)	6.9 (175)	3.4 (81)	4.2(107)
4	5.5 (139)			

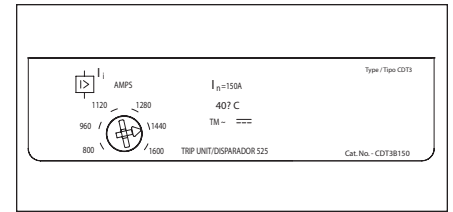
Approx. Shipping Weight, lbs. (kg)

Poles	Frame	Trip Unit		Complete Breaker
		Thermal-Mag.	Electronic	
2, 3	3.7 (1.7)	2.2 (1.0)	2.6 (1.2)	5.9 (2.7)
4	4.9 (2.2)	2.6 (1.2)	3.3 (1.5)	7.5 (3.4)

A - Consult with Siemens for availability.

External Accessories pages 11-1 through 11-15

DG 150A Thermal-Magnetic Trip Unit



Model 525 Trip Unit

DG 150A Frame 2-Pole with Thermal-Magnetic Trip Unit

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$		
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$				
	FRAME ONLY								TRIP UNIT ONLY	
	NDG2F150		HDG2F150		LDG2F150					
COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER										
50	NDG2B050L		HDG2B050L		LDG2B050L		CDT2B050			
60	NDG2B060L		HDG2B060L		LDG2B060L		CDT2B060			
70	NDG2B070L		HDG2B070L		LDG2B070L		CDT2B070			
80	NDG2B080L		HDG2B080L		LDG2B080L		CDT2B080			
90	NDG2B090L		HDG2B090L		LDG2B090L		CDT2B090			
100	NDG2B100L		HDG2B100L		LDG2B100L		CDT2B100			
110	NDG2B110L		HDG2B110L		LDG2B110L		CDT2B110			
125	NDG2B125L		HDG2B125L		LDG2B125L		CDT2B125			
150	NDG2B150L		HDG2B150L		LDG2B150L		CDT2B150			

DG 150A Frame 3-Pole with Thermal-Magnetic Trip Unit

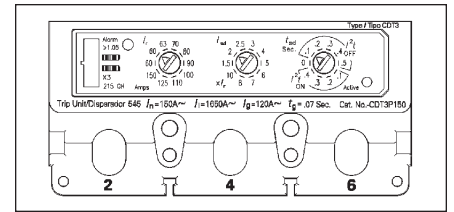
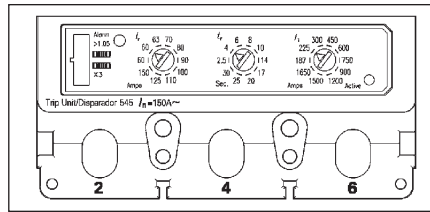
Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$		
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$				
	FRAME ONLY								TRIP UNIT ONLY	
	NDG3F150		HDG3F150		LDG3F150					
COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER										
50	NDG3B050L		HDG3B050L		LDG3B050L		CDT3B050			
60	NDG3B060L		HDG3B060L		LDG3B060L		CDT3B060			
70	NDG3B070L		HDG3B070L		LDG3B070L		CDT3B070			
80	NDG3B080L		HDG3B080L		LDG3B080L		CDT3B080			
90	NDG3B090L		HDG3B090L		LDG3B090L		CDT3B090			
100	NDG3B100L		HDG3B100L		LDG3B100L		CDT3B100			
110	NDG3B110L		HDG3B110L		LDG3B110L		CDT3B110			
125	NDG3B125L		HDG3B125L		LDG3B125L		CDT3B125			
150	NDG3B150L		HDG3B150L		LDG3B150L		CDT3B150			

DG 150A Frame 4-Pole with Thermal-Magnetic Trip Unit^A

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$		
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$				
	FRAME ONLY								TRIP UNIT ONLY	
	NDG4F150		HDG4F150		LDG4F150					
COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER										
50	NDG4B050L		HDG4B050L		LDG4B050L		CDT4B050			
60	NDG4B060L		HDG4B060L		LDG4B060L		CDT4B060			
70	NDG4B070L		HDG4B070L		LDG4B070L		CDT4B070			
80	NDG4B080L		HDG4B080L		LDG4B080L		CDT4B080			
90	NDG4B090L		HDG4B090L		LDG4B090L		CDT4B090			
100	NDG4B100L		HDG4B100L		LDG4B100L		CDT4B100			
110	NDG4B110L		HDG4B110L		LDG4B110L		CDT4B110			
125	NDG4B125L		HDG4B125L		LDG4B125L		CDT4B125			
150	NDG4B150L		HDG4B150L		LDG4B150L		CDT4B150			

A - Consult with Siemens for availability.

DG 150A Electronic 3-Knob Trip Unit



Model 545 Trip Units

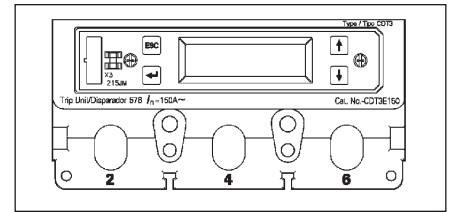
DG 150A Frame 3-Pole Electronic Trip Unit

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$		
	FRAME ONLY							
	NDG3F150		HDG3F150		LDG3F150		COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER	
	ELECTRONIC LI TRIP						TRIP UNIT ONLY	
60	NDG3N060L		HDG3N060L		LDG3N060L		CDT3N060	
100	NDG3N100L		HDG3N100L		LDG3N100L		CDT3N100	
150	NDG3N150L		HDG3N150L		LDG3N150L		CDT3N150	
	ELECTRONIC LSI TRIP							
60	NDG3P060L		HDG3P060L		LDG3P060L		CDT3P060	
100	NDG3P100L		HDG3P100L		LDG3P100L		CDT3P100	
150	NDG3P150L		HDG3P150L		LDG3P150L		CDT3P150	
	ELECTRONIC LSIG TRIP							
60	NDG3U060L		HDG3U060L		LDG3U060L		CDT3U060	
100	NDG3U100L		HDG3U100L		LDG3U100L		CDT3U100	
150	NDG3U150L		HDG3U150L		LDG3U150L		CDT3U150	
	ELECTRONIC LIG TRIP							
60	NDG3X060L		HDG3X060L		LDG3X060L		CDT3X060	
100	NDG3X100L		HDG3X100L		LDG3X100L		CDT3X100	
150	NDG3X150L		HDG3X150L		LDG3X150L		CDT3X150	

VL Circuit Breakers

SELECTION

DG 150A Electronic LCD Trip Unit



Model 576 Trip Unit

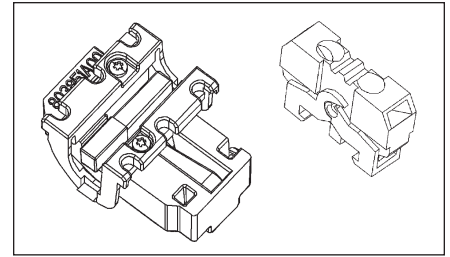
DG 150A Frame 3-Pole Electronic LCD Trip Unit

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$		
	FRAME ONLY							
	NDG3F150		HDG3F150		LDG3F150		COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER	
	LCD ELECTRONIC LSI TRIP						TRIP UNIT ONLY	
60	NDG3D060L		HDG3D060L		LDG3D060L		CDT3D060	
100	NDG3D100L		HDG3D100L		LDG3D100L		CDT3D100	
150	NDG3D150L		HDG3D150L		LDG3D150L		CDT3D150	
	LCD ELECTRONIC LSI TRIP						TRIP UNIT ONLY	
60	NDG3E060L		HDG3E060L		LDG3E060L		CDT3E060	
100	NDG3E100L		HDG3E100L		LDG3E100L		CDT3E100	
150	NDG3E150L		HDG3E150L		LDG3E150L		CDT3E150	

Internal Accessories for DG 150A and FG 250A Frames

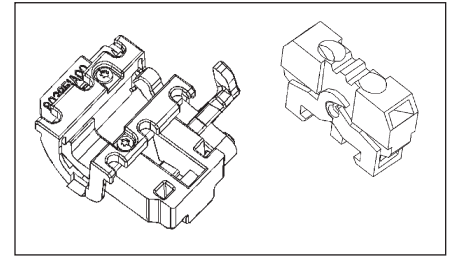
Auxiliary Switch and Alarm Switch Combination Kits

Description	Mounting Pocket ^①	Catalog Number	List Price \$
1 Alarm Switch 1A/B ^③ Bases AMBL2 & AMBL3	Left, Right ^②	ASKL1	
2 Aux. Switches 1A + 1B Bases AMBL1	Left, Right, Neutral	ASKL2	
2 Aux. + 1 Alarm Switch 1A + 1B, 1A/B ^③ Bases AMBL2 & AMBL3	Left, Right ^②	ASKL3	



Auxiliary/Alarm Switch Mounting Base Only

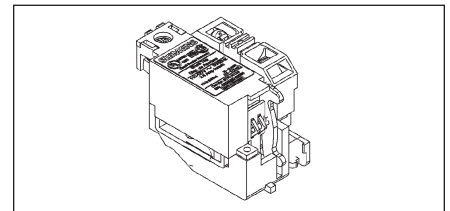
Description	Mounting Pocket	Catalog Number	List Price \$
Up to 3 Auxiliary Switches	Left, Right, Neutral	AMBL1	
2 Aux. + 1 Alarm Switch	Left Pocket Only	AMBL2	
2 Aux. + 1 Alarm Switch	Right Pocket Only	AMBL3	



Auxiliary/Alarm Switch Only

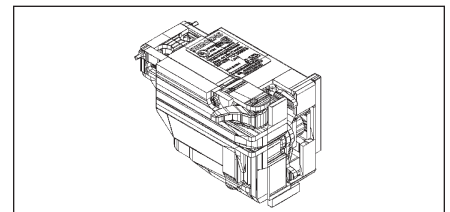
Common to DG - PG Frames

Description	Catalog Number	List Price \$
1 Normally Open Contact (1A)	ASWPA	
1 Normally Closed Contact (1B)	ASWPB	



Shunt Trips

Description	Mounting Pocket	Catalog Number	List Price \$
24 VDC	Right Pocket Only	STRLB24DC	
48-60 VDC		STRLC60DC	
110-127 VDC		STRLD125DC	
220-250 VDC		STRLE250DC	
48-60 VAC		STRLM60	
110-127 VAC		STRLN120	
208-277 VAC		STRLS277	
380-600 VAC		STRLV600	



Undervoltage Release

Description	Mounting Pocket	Catalog Number	List Price \$
12 VDC	Right Pocket Only	UVRLA12DC	
24 VDC		UVRLB24DC	
48 VDC		UVRLC48DC	
60 VDC		UVRLG60DC	
110-127 VDC		UVRLD125DC	
220-250 VDC		UVRLE250DC	
110-127 VAC		UVRLN120	
220-250 VAC		UVRLR240	
208 VAC		UVRLP208	
277 VAC		UVRLS277	
380-415 VAC		UVRLT415	
440-480 VAC		UVRLU480	
600 VAC		UVRLV600	



^① 'A' refers to a normally open contact (open when the breaker contacts are open).

^② 'B' refers to a normally closed contact (closed when the breaker contacts are open).

^③ Refer to the "Accessory Locations" chart for guidelines and limitations about which pockets may be used for accessory combinations.

^④ These kits include two bases, one for mounting switches in the left pocket and another for mounting in the right.

^⑤ Includes 1A and 1B contact for alarm purposes, only one of which may be installed at any time.

External Accessories pages 11-1 through 11-15

VL Circuit Breakers

SELECTION

FG 250A Frame, VL Series

Ordering Information

Complete Assembled Breaker

Prices for a complete factory assembled FG breaker include the frame, trip unit, and standard line and load connectors, all factory installed and shipped as a complete breaker. Assembled breakers are available only with standard connectors.

For any other configuration, order the frame, trip unit, and terminals as separate items.

For DC applications, use thermal magnetic trip unit only.

For reverse feed applications, select non-interchangeable trip breakers only.

For 50°C and special applications, refer to page 15-1.A

Mounting hardware is included with each frame or complete breaker.



Dimensions, inches (mm)

Number of Poles	Width	Length	Depth	To Handle D1
2, 3	4.1 (105)	6.9 (175)	3.4 (81)	4.2 (107)
4	5.5 (139)			

Shipping Weight, lbs. (kg)

Poles	Frame	Trip Unit		Complete Breaker
		Thermal-Mag.	Electronic	
2, 3	4.0 (1.8)	2.2 (1.0)	2.6 (1.2)	6.2 (2.8)
4	5.3 (2.4)	2.6 (1.2)	3.3 (1.5)	7.9 (3.6)

Enclosures^A

NEMA Class	Catalog Number	List Price \$
1 (Flush)	FG0251F	
1 (Surface)	FG0221S (225A max)	
1 (Surface)	FG0251S (250A)	
3R	FG0253R	
4 - 4X	FG0254S	
7-9	FG02579	
12	FG02512	
Neutral		

Interrupting Ratings

Breaker Type	RMS Symmetrical Amperes (KA)										
	UL 489					IEC 60947-2					
	Volts AC (50/60 Hz)			Volts DC		Volts AC (50/60 Hz)					
	240	480	600	250	500	220/240		380/415		690	
					I _{CU}	I _{CS}	I _{CU}	I _{CS}	I _{CU}	I _{CS}	
NFG	65	35	18	30	18	65	65	40	40	12	6
HFG	100	65	20	30	25	100	75	70	70	12	6
LFG	200	100	25	30	30	200	150	100	75	12	6

Connectors for 75°C Wire

Construction	Ampere Rating	Wire Range	No. of cables per connector	Catalog Number	List Price \$
Steel	50-250	#4-350 kcmil Cu	1	3TW1FG350 ^②	
Aluminum ^①	50-250	#4-350 kcmil Al/Cu	1	3TAW1FG350 ^②	
Copper ^①	50-250	#4-350 kcmil Cu	1	3TCW1FG350 ^②	
Distribution Lugs					
	50-250	#12-2/0 Cu	3	3TA3FG20 ^②	
	50-250	#14-#4 Cu	6	3TA6FG04 ^②	
Compression Lugs					
	50-250	#6-350 kcmil Al/Cu	-	2CLF350 ^③	
	50-250	#6-350 kcmil Al/Cu	-	3CLF350 ^④	

① Standard connector supplied with complete breakers.

② Kit consists of 3 terminal connectors.

③ 2 Lugs for 2-pole breakers.

④ 3 Lugs for 3-pole breakers.

FG Thermal-Magnetic, Instantaneous Trip Adjustment Range

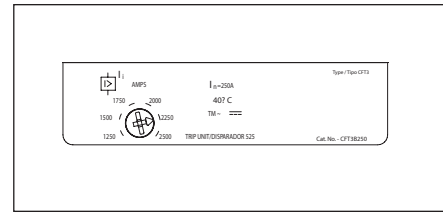
Trip Unit Continuous Amp Rating (I _n)	Instantaneous Overcurrent Setting (I _s)	
	Min.	Max.
100	625	1250
110	800	1600
125	800	1600
150	800	1600
175	1000	2000
200	1000	2000
225	1250	2500
250	1250	2500

Note: Each breaker has 6 trip settings in this range.

A - Consult with Siemens for availability.

External Accessories pages 11-1 through 11-15

FG 250A Thermal-Magnetic Trip Unit



Model 525 Trip Unit

FG 250A Frame 2-Pole with Thermal-Magnetic Trip Unit

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$		
	FRAME ONLY							
	NFG2F250		HFG2F250		LFG2F250		TRIP UNIT ONLY	
	COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER							
100	NFG2B100L		HFG2B100L		LFG2B100L		CFT2B100	
110	NFG2B110L		HFG2B110L		LFG2B110L		CFT2B110	
125	NFG2B125L		HFG2B125L		LFG2B125L		CFT2B125	
150	NFG2B150L		HFG2B150L		LFG2B150L		CFT2B150	
175	NFG2B175L		HFG2B175L		LFG2B175L		CFT2B175	
200	NFG2B200L		HFG2B200L		LFG2B200L		CFT2B200	
225	NFG2B225L		HFG2B225L		LFG2B225L		CFT2B225	
250	NFG2B250L		HFG2B250L		LFG2B250L		CFT2B250	

FG 250A Frame 3-Pole with Thermal-Magnetic Trip Unit

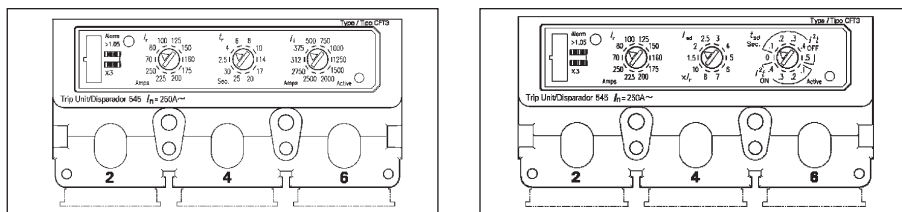
Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$		
	FRAME ONLY							
	NFG3F250		HFG3F250		LFG3F250		TRIP UNIT ONLY	
	COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER							
100	NFG3B100L		HFG3B100L		LFG3B100L		CFT3B100	
110	NFG3B110L		HFG3B110L		LFG3B110L		CFT3B110	
125	NFG3B125L		HFG3B125L		LFG3B125L		CFT3B125	
150	NFG3B150L		HFG3B150L		LFG3B150L		CFT3B150	
175	NFG3B175L		HFG3B175L		LFG3B175L		CFT3B175	
200	NFG3B200L		HFG3B200L		LFG3B200L		CFT3B200	
225	NFG3B225L		HFG3B225L		LFG3B225L		CFT3B225	
250	NFG3B250L		HFG3B250L		LFG3B250L		CFT3B250	

FG 250A Frame 4-Pole with Thermal-Magnetic Trip Unit^A

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$		
	FRAME ONLY							
	NFG4F250		HFG4F250		LFG4F250		TRIP UNIT ONLY	
	COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER							
100	NFG4B100L		HFG4B100L		LFG4B100L		CFT4B100	
110	NFG4B110L		HFG4B110L		LFG4B110L		CFT4B110	
125	NFG4B125L		HFG4B125L		LFG4B125L		CFT4B125	
150	NFG4B150L		HFG4B150L		LFG4B150L		CFT4B150	
175	NFG4B175L		HFG4B175L		LFG4B175L		CFT4B175	
200	NFG4B200L		HFG4B200L		LFG4B200L		CFT4B200	
225	NFG4B225L		HFG4B225L		LFG4B225L		CFT4B225	
250	NFG4B250L		HFG4B250L		LFG4B250L		CFT4B250	

A - Consult with Siemens for availability.

FG 250A Electronic 3-Knob Trip Unit



Model 545 Trip Units

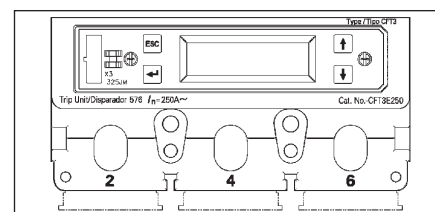
FG 250A Frame 3-Pole Electronic Trip Unit

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$		
	FRAME ONLY							
	NFG3F250		HFG3F250		LFG3F250			
	COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER							
	ELECTRONIC LI TRIP							
100	NFG3N100L		HFG3N100L		LFG3N100L		CFT3N100	
150	NFG3N150L		HFG3N150L		LFG3N150L		CFT3N150	
250	NFG3N250L		HFG3N250L		LFG3N250L		CFT3N250	
	ELECTRONIC LSI TRIP							
100	NFG3P100L		HFG3P100L		LFG3P100L		CFT3P100	
150	NFG3P150L		HFG3P150L		LFG3P150L		CFT3P150	
250	NFG3P250L		HFG3P250L		LFG3P250L		CFT3P250	
	ELECTRONIC LSIG TRIP							
100	NFG3U100L		HFG3U100L		LFG3U100L		CFT3U100	
150	NFG3U150L		HFG3U150L		LFG3U150L		CFT3U150	
250	NFG3U250L		HFG3U250L		LFG3U250L		CFT3U250	
	ELECTRONIC LIG TRIP							
100	NFG3X100L		HFG3X100L		LFG3X100L		CFT3X100	
150	NFG3X150L		HFG3X150L		LFG3X150L		CFT3X150	
250	NFG3X250L		HFG3X250L		LFG3X250L		CFT3X250	

VL Circuit Breakers

SELECTION

FG 250A Electronic LCD Trip Unit



Model 576 Trip Unit

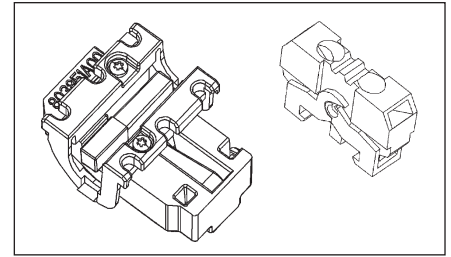
FG 250A Frame 3-Pole Electronic LCD Trip Unit

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$		
	FRAME ONLY							
	NFG3F250		HFG3F250		LFG3F250		COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER	
	LCD ELECTRONIC LSI TRIP						TRIP UNIT ONLY	
100	NFG3D100L		HFG3D100L		LFG3D100L		CFT3D100	
150	NFG3D150L		HFG3D150L		LFG3D150L		CFT3D150	
250	NFG3D250L		HFG3D250L		LFG3D250L		CFT3D250	
	LCD ELECTRONIC LSI TRIP						TRIP UNIT ONLY	
100	NFG3E100L		HFG3E100L		LFG3E100L		CFT3E100	
150	NFG3E150L		HFG3E150L		LFG3E150L		CFT3E150	
250	NFG3E250L		HFG3E250L		LFG3E250L		CFT3E250	

Internal Accessories for DG 150A and FG 250A Frames

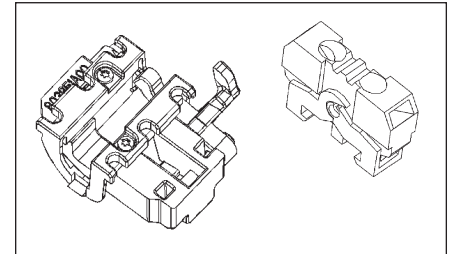
Auxiliary Switch and Alarm Switch Combination Kits

Description	Mounting Pocket ^①	Catalog Number	List Price \$
1 Alarm Switch 1A/B ^③ Bases AMBL2 & AMBL3	Left, Right ^②	ASKL1	
2 Aux. Switches 1A + 1B Bases AMBL1	Left, Right, Neutral	ASKL2	
2 Aux. + 1 Alarm Switches 1A + 1B, 1A/B ^③ Bases AMBL2 & AMBL3	Left, Right ^②	ASKL3	



Auxiliary/Alarm Switch Mounting Base Only

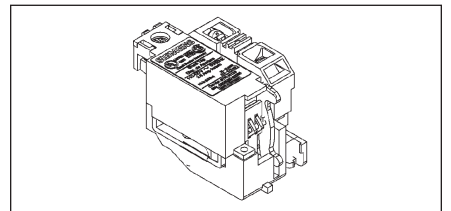
Description	Mounting Pocket	Catalog Number	List Price \$
Up to 3 Auxiliary Switches	Left, Right, Neutral	AMBL1	
2 Aux. + 1 Alarm Switch	Left Pocket Only	AMBL2	
2 Aux. + 1 Alarm Switch	Right Pocket Only	AMBL3	



Auxiliary/Alarm Switch Only

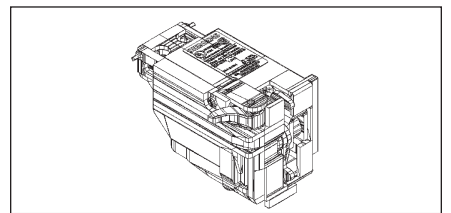
Common to DG - PG Frames

Description	Catalog Number	List Price \$
1 Normally Open Contact (1A)	ASWPA	
1 Normally Closed Contact (1B)	ASWPB	



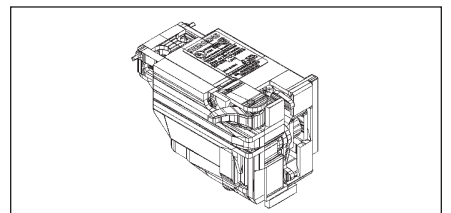
Shunt Trips

Description	Mounting Pocket	Catalog Number	List Price \$
24 VDC	Right Pocket Only	STRLB24DC	
48-60 VDC		STRLC60DC	
110-127 VDC		STRLD125DC	
220-250 VDC		STRLE250DC	
48-60 VAC		STRLM60	
110-127 VAC		STRLN120	
208-277 VAC		STRLS277	
380-600 VAC		STRLV600	



Undervoltage Release

Description	Mounting Pocket	Catalog Number	List Price \$
12 VDC	Right Pocket Only	UVRLA12DC	
24 VDC		UVRLB24DC	
48 VDC		UVRLC48DC	
60 VDC		UVRLG60DC	
110-127 VDC		UVRLD125DC	
220-250 VDC		UVRLE250	
110-127 VAC		UVRLN120	
220-250 VAC		UVRLR240	
208 VAC		UVRLP208	
277 VAC		UVRLS277	
380-415 VAC		UVRLT415	
440-480 VAC		UVRLU480	
600 VAC		UVRLV600	



'A' refers to a normally open contact (open when the breaker contacts are open).

'B' refers to a normally closed contact (closed when the breaker contacts are open).

① Refer to the "Accessory Locations" chart for guidelines and limitations about which pockets may be used for accessory combinations.

② These kits include two bases, one for mounting switches in the left pocket and another for mounting in the right.

③ Includes 1A and 1B contact for alarm purposes, only one of which may be installed at any time.

External Accessories pages 11-1 through 11-15

JG 400A Frame, VL Series

Ordering Information

Complete Assembled Breaker

Prices for a complete factory assembled JG breaker include the frame, trip unit, and standard line and load connectors, all factory installed and shipped as a complete breaker. Assembled breakers are available only with standard connectors.

For any other configuration, order the frame, trip unit, and terminals as separate items.

For DC applications, use thermal magnetic trip unit only.

For reverse feed applications, select non-interchangeable trip breakers only.

100% Rated: For 100% rated breakers (or frames) with an interchangeable trip unit, change the 3rd character of the catalog name to "H".

For 100% rated breakers with a non-interchangeable trip unit, change the 3rd character of the catalog number to "Y".

For 50°C and special applications, refer to page 15-1.A

Mounting hardware is included with each frame or complete breaker.



Dimensions, inches (mm)

Number of Poles	Width	Length	Depth	To Handle D1
2, 3	5.5 (139)	11 (279)	4.2 (102)	5.4 (138)
4	7.2 (183)			

Shipping Weight, lbs. (kg)

Poles	Frame	Trip Unit		Complete Breaker
		Thermal-Mag.	Electronic	
2, 3	31.3 (14.2)	4.0 (1.8)	4.0 (1.8)	35.3 (16.0)
4	40.2 (18.2)	5.0 (2.3)	5.0 (2.3)	45.2 (20.5)

Enclosures^A

NEMA Class	Catalog Number	List Price \$
1	JG0401S	
1 (Compact)	JG0401SC	
3R	JG0403R	
3R (Compact)	JG0403RC	
7-9	JG03579 (350A max)	
12	JG04012	
Neutral		

Interrupting Ratings

Breaker Type	RMS Symmetrical Amperes (KA)										
	UL 489 AIR (File E10848)					IEC 60947-2					
	Volts AC (50/60 Hz)			Volts DC		Volts AC (50/60 Hz)					
	240	480	600	250	500	220/240		380/415		690	
					I _{CU}	I _{CS}	I _{CU}	I _{CS}	I _{CU}	I _{CS}	
NJG	65	35	25	30	25	65	65	45	45	12	6
HJG	100	65	25	30	35	100	75	70	70	15	8
LJG	200	100	25	30	35	200	150	100	75	15	8

Connectors for 75°C Wire

Construction	Ampere Rating	Wire Range	No. of cables per connector	Catalog Number	List Price \$
Steel	70-400	1/0-600 kcmil Cu	1	3TW1JG600 ^②	
Aluminum ^①	70-400	3/0-250 kcmil Al/Cu	2	3TA2JG250 ^②	
Aluminum	70-400	250-750 kcmil Al	1	3TA1JG750 ^②	
Aluminum	70-400	310-600 kcmil Cu	1	3TA1JG750 ^②	
Copper	70-400	3/0-750 kcmil Cu	1	3TC1JG750 ^{②④}	
Copper	70-400	3/0-250 kcmil Cu	2	3TC2JG250 ^②	
Distribution Lugs					
	70-400	#14-4 Cu	12	3TA12JG04 ^②	
	70-400	#14-2/0 Cu	6	3TA6JG20 ^②	
Compression Lugs					
	70-400	250-600 kcmil Al/Cu	-	3CLJ600 ^③	
	70-400	#6-350 kcmil	-	3CLJ350	
	70-400	250-750 kcmil	-	3CLJ750	

① Standard construction supplied for each breaker.

② Kit consists of 3 terminal connectors.

③ 3 Lugs for 3 pole breakers.

④ For 100% rate applications, 90°C.

JG Thermal-Magnetic, Instantaneous Trip Adjustment Range

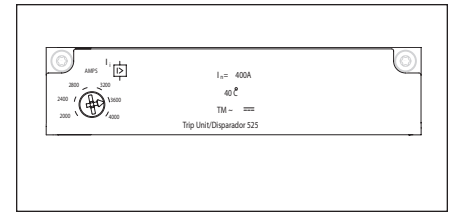
Trip Unit Continuous Amp Rating (I _n)	Instantaneous Overcurrent Setting (I _b)	
	Min.	Max.
250	1250	2500
300	1500	3000
350	1750	3500
400	2000	4000

Note: Each breaker has 6 trip settings in this range.

A - Consult with Siemens for availability.

External Accessories pages 11-1 through 11-15

JG 400A Thermal-Magnetic Trip



JG 400A Frame 2-Pole with Thermal-Magnetic Trip Unit

Model 525 Trip Unit

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$		
	FRAME ONLY							
	NJG2F400		HJG2F400		LJG2F400			
COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER								
250	NJG2B250L		HJG2B250L		LJG2B250L		CJT2B250	
300	NJG2B300L		HJG2B300L		LJG2B300L		CJT2B300	
350	NJG2B350L		HJG2B350L		LJG2B350L		CJT2B350	
400	NJG2B400L		HJG2B400L		LJG2B400L		CJT2B400	

JG 400A Frame 3-Pole with Thermal-Magnetic Trip Unit

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$		
	FRAME ONLY							
	NJG3F400		HJG3F400		LJG3F400			
COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER								
250	NJG3B250L		HJG3B250L		LJG3B250L		CJT3B250	
300	NJG3B300L		HJG3B300L		LJG3B300L		CJT3B300	
350	NJG3B350L		HJG3B350L		LJG3B350L		CJT3B350	
400	NJG3B400L		HJG3B400L		LJG3B400L		CJT3B400	

JG 400A Frame 4-Pole with Thermal-Magnetic Trip Unit^A

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$		
	FRAME ONLY							
	NJG4F400		HJG4F400		LJG4F400			
COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER								
250	NJG4B250L		HJG4B250L		LJG4B250L		CJT4B250	
300	NJG4B300L		HJG4B300L		LJG4B300L		CJT4B300	
350	NJG4B350L		HJG4B350L		LJG4B350L		CJT4B350	
400	NJG4B400L		HJG4B400L		LJG4B400L		CJT4B400	

JJ 400A Frame 240V max., 2-pole with Thermal-Magnetic Trip Unit

Continuous Ampere Rating	N-Interrupting Class	
	Catalog Number	List Price \$
	COMPLETE BREAKER	
250	NJJ2B250L	
300	NJJ2B300L	
350	NJJ2B350L	
400	NJJ2B400L	

JJ 400A Frame 240V max., 3-pole with Thermal-Magnetic Trip Unit

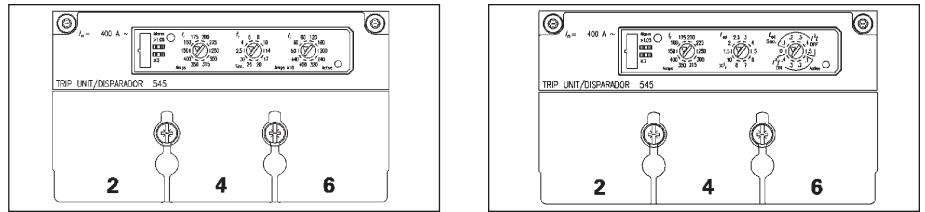
Continuous Ampere Rating	N-Interrupting Class	
	Catalog Number	List Price \$
	COMPLETE BREAKER	
250	NJJ3B250L	
300	NJJ3B300L	
350	NJJ3B350L	
400	NJJ3B400L	

A - Consult with Siemens for availability.

VL Circuit Breakers

SELECTION

JG 400A Electronic 3-Knob Trip Unit



Model 545 Trip Units

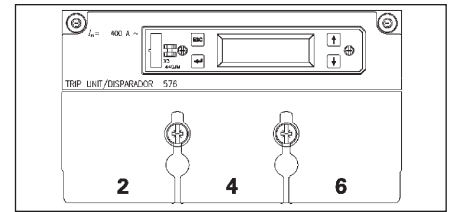
JG 400A Frame 3-Pole Electronic Trip Unit

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$		
	FRAME ONLY							
	NKG3F400		HKG3F400		LKG3F400			
	COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER							
ELECTRONIC LI TRIP								
250	NKG3N250L		HKG3N250L		LKG3N250L		CJT3N250	
400	NKG3N400L		HKG3N400L		LKG3N400L		CJT3N400	
ELECTRONIC LSI TRIP								
250	NKG3P250L		HKG3P250L		LKG3P250L		CJT3P250	
400	NKG3P400L		HKG3P400L		LKG3P400L		CJT3P400	
ELECTRONIC LSIG TRIP								
250	NKG3U250L		HKG3U250L		LKG3U250L		CJT3U250	
400	NKG3U400L		HKG3U400L		LKG3U400L		CJT3U400	
ELECTRONIC LIG TRIP								
250	NKG3X250L		HKG3X250L		LKG3X250L		CJT3X250	
400	NKG3X400L		HKG3X400L		LKG3X400L		CJT3X400	

VL Circuit Breakers

SELECTION

JG 400A Electronic LCD Trip Unit



Model 576 Trip Unit

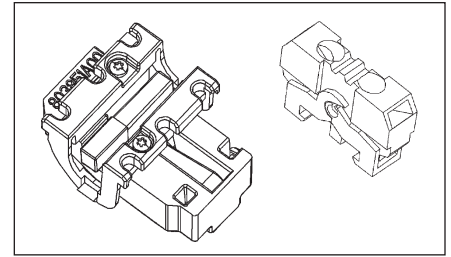
JG 400A Frame 3-Pole Electronic LCD Trip Unit

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$		
	FRAME ONLY							
	NJG3F250		HJG3F250		LJG3F250		COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER	
	LCD ELECTRONIC LSI TRIP						TRIP UNIT ONLY	
250	NJG3D250L		HJG3D250L		LJG3D250L		CJT3D250	
400	NJG3D400L		HJG3D400L		LJG3D400L		CJT3D400	
	LCD ELECTRONIC LSIG TRIP						TRIP UNIT ONLY	
250	NJG3E250L		HJG3E250L		LJG3E250L		CJT3E250	
400	NJG3E400L		HJG3E400L		LJG3E400L		CJT3E400	

Internal Accessories for JG 400A and LG 600A Frames

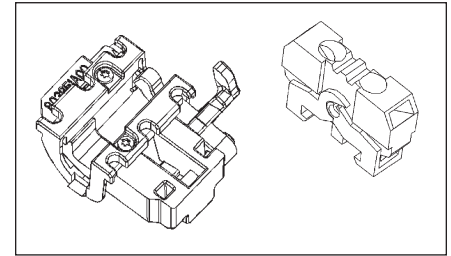
Auxiliary Switch and Alarm Switch Combination Kits

Description	Mounting Pocket ^①	Catalog Number	List Price \$
1 Alarm Switch 1A/B ^③ Bases AMBL2 & AMBL3	Left, Right ^②	ASKL1	
2 Aux. Switches 1A + 1B Bases AMBL1	Left, Right, Neutral	ASKL2	
2 Aux. + 1 Alarm Switches 1A + 1B, 1A/B ^③ Bases AMBL2 & AMBL3	Left, Right ^②	ASKL3	



Auxiliary/Alarm Switch Mounting Base Only

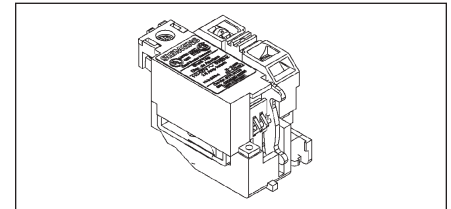
Description	Mounting Pocket	Catalog Number	List Price \$
Up to 3 Auxiliary Switches	Left, Right, Neutral	AMBL1	
2 Aux. + 1 Alarm Switch	Left Pocket Only	AMBL2	
2 Aux. + 1 Alarm Switch	Right Pocket Only	AMBL3	



Auxiliary/Alarm Switch Only

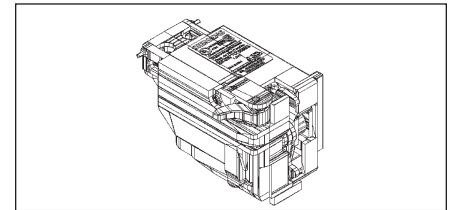
Common to DG - PG Frames

Description	Catalog Number	List Price \$
1 Normally Open Contact (1A)	ASWPA	
1 Normally Closed Contact (1B)	ASWPB	



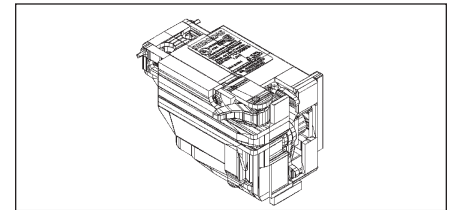
Shunt Trips

Description	Mounting Pocket	Catalog Number	List Price \$
24 VDC	Right Pocket Only	STRLB24DC	
48-60 VDC		STRLC60DC	
110-127 VDC		STRLD125DC	
220-250 VDC		STRLE250DC	
48-60 VAC		STRLM60	
110-127 VAC		STRLN120	
208-277 VAC		STRLS277	
380-600 VAC		STRLV600	



Undervoltage Release

Description	Mounting Pocket	Catalog Number	List Price \$
12 VDC	Right Pocket Only	UVRLA12DC	
24 VDC		UVRLB24DC	
48 VDC		UVRLC48DC	
60 VDC		UVRLG60DC	
110-127 VDC		UVRLD125DC	
220-250 VDC		UVRLE250DC	
110-127 VAC		UVRLN120	
220-250 VAC		UVRLR240	
208 VAC		UVRLP208	
277 VAC		UVRLS277	
380-415 VAC		UVRLT415	
440-480 VAC		UVRLU480	
600 VAC		UVRLV600	



'A' refers to a normally open contact (open when the breaker contacts are open).
 'B' refers to a normally closed contact (closed when the breaker contacts are open).
 ① Refer to the "Accessory Locations" chart for guidelines and limitations about which pockets may be used for accessory combinations.
 ② Includes 1A and 1B contact for alarm purposes, only one of which may be installed at any time.

External Accessories pages 11-1 through 11-15

LG 600A Frame, VL Series

Ordering Information

Complete Assembled Breaker

Prices for a complete factory assembled LG breaker include the frame, trip unit, and standard line and load lugs, all factory installed and shipped as a complete breaker. Assembled breakers are available only with standard connectors.

For any other configuration, order the frame, trip unit, and terminals as separate items.

For DC applications, use thermal magnetic trip unit only.

For reverse feed applications, select non-interchangeable trip breakers only.

For 50°C and special applications, refer to page 15-1.A

Mounting hardware is included with each frame or complete breaker.

A Toggle Handle Extension is included with each frame or complete breaker.



Interrupting Ratings

Breaker Type	RMS Symmetrical Amperes (KA)										
	UL 489					IEC 60947-2					
	Volts AC (50/60 Hz)			Volts DC		Volts AC (50/60 Hz)					
	240	480	600	250	500	220/240		380/415		690	
					I _{CU}	I _{CS}	I _{CU}	I _{CS}	I _{CU}	I _{CS}	
NLG	65	35	25	30	25	65	65	45	45	12	6
HLG	100	65	25	30	35	100	75	70	70	15	8
LLG	200	100	25	30	35	200	150	100	75	15	8

Dimensions, inches (mm)

Number of Poles	Width	Length	Depth	To Handle D1
2, 3	7.5 (190)	11 (279)	4.2 (102)	5.4 (138)
4	10 (253)			
Ext. Shield		13.6 (345.5)		

Connectors for 75°C Wire

Construction	Ampere Rating	Wire Range	No. of cables per connector	Catalog Number ^②	List Price \$
Aluminum ^①	150-600	#2/0-600 kcmil Al/Cu	2 (load side)	3TA2LG600LD	
Aluminum ^①	150-600	#2/0-600 kcmil Al/Cu	2 (line side)	3TA2LG600LN	
Copper ^①	150-600	#2/0-600 kcmil Cu	2 (load side)	3TC2LG600LD	
Copper ^①	150-600	#2/0-600 kcmil Cu	2 (line side)	3TC2LG600LN	
Compression Lugs					
	150-600	#6-350 kcmil Al/Cu	-	6CLL350 ^③	
	150-600	250-750 kcmil Al/Cu	-	3CLL750 ^④	
	150-600	250-600 kcmil Al/Cu	-	6CLL600 ^⑤	

① Standard construction supplied for each breaker.

② Kit consists of 3 terminal connectors.

③ Kit consists of 6 lugs for Line or Load end.

④ Kit consists of 3 lugs for Line or Load end.

LG Thermal-Magnetic, Instantaneous Trip Adjustment Range

Trip Unit Continuous Amp Rating (I _n)	Instantaneous Overcurrent Setting (I _t)	
	Min.	Max.
400	2000	4000
500	2500	5000
600	2750	5500

Note: Each breaker has 6 trip settings.

Shipping Weight, lbs. (kg)

Poles	Frame	Trip Unit		Complete Breaker
		Thermal-Mag.	Electronic	
2, 3	17.4 (7.9)	3.5 (1.6)	4.2 (1.9)	20.9 (9.5)
4	23.2 (10.5)	4.6 (2.1)	5.5 (2.5)	27.8 (12.6)

Enclosures^A

NEMA Class	Catalog Number	List Price \$
1	LG0601S	
3R	LG0603R	
4 - 4X	LG0604S	
7-9	LG06079	
12	LG06012	
Neutral		

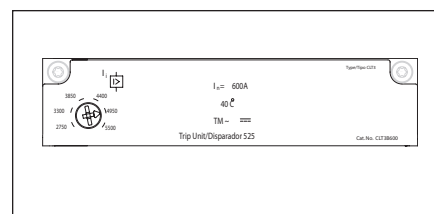
A - Consult with Siemens for availability.

External Accessories pages 11-1 through 11-15

VL Circuit Breakers

SELECTION

LG 600A Thermal-Magnetic Trip Unit



Model 525 Trip Unit

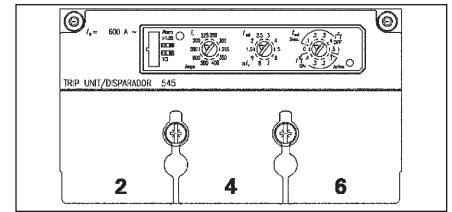
LG 600A Frame 2-Pole with Thermal-Magnetic Trip Unit

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$		
	FRAME ONLY							
	NLG2F600		HLG2F600		LLG2F600			
	COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER						TRIP UNIT ONLY	
400	NLG2B400L		HLG2B400L		LLG2B400L		CLT2B400	
500	NLG2B500L		HLG2B500L		LLG2B500L		CLT2B500	
600	NLG2B600L		HLG2B600L		LLG2B600L		CLT2B600	

LG 600A Frame 3-Pole with Thermal-Magnetic Trip Unit

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$		
	FRAME ONLY							
	NLG3F600		HLG3F600		LLG3F600			
	COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER						TRIP UNIT ONLY	
400	NLG3B400L		HLG3B400L		LLG3B400L		CLT3B400	
500	NLG3B500L		HLG3B500L		LLG3B500L		CLT3B500	
600	NLG3B600L		HLG3B600L		LLG3B600L		CLT3B600	

LG 600A Electronic 3-Knob Trip Unit



Model 545 Trip Unit

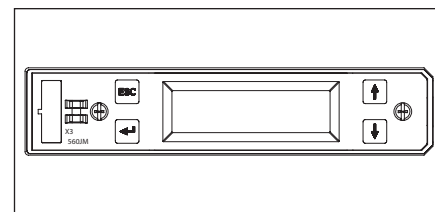
LG 600A Frame 3-Pole Electronic Trip Unit

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$		
	COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER							
	FRAME ONLY							
	NLG3F600		HLG3F600		LLG3F600			
	ELECTRONIC LI TRIP							
400	NLG3N400L		HLG3N400L		LLG3N400L		CLT3N400	
600	NLG3N600L		HLG3N600L		LLG3N600L		CLT3N600	
	ELECTRONIC LSI TRIP							
400	NLG3P400L		HLG3P400L		LLG3P400L		CLT3P400	
600	NLG3P600L		HLG3P600L		LLG3P600L		CLT3P600	
	ELECTRONIC LSIG TRIP							
400	NLG3U400L		HLG3U400L		LLG3U400L		CLT3U400	
600	NLG3U600L		HLG3U600L		LLG3U600L		CLT3U600	
	ELECTRONIC LIG TRIP							
400	NLG3X400L		HLG3X400L		LLG3X400L		CLT3X400	
600	NLG3X600L		HLG3X600L		LLG3X600L		CLT3X600	

VL Circuit Breakers

SELECTION

LG 600A Electronic LCD Trip Unit



Model 576 Trip Unit

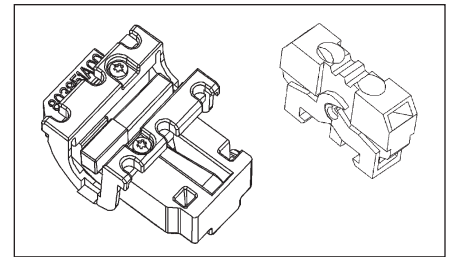
LG 600A Frame 3-Pole Electronic LCD Trip Unit

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$		
	FRAME ONLY							
	NLG3F600		HLG3F600		LLG3F600		COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER	
	LCD ELECTRONIC LSI TRIP						TRIP UNIT ONLY	
400	NLG3D400L		HLG3D400L		LLG3D400L		CLT3D400	
600	NLG3D600L		HLG3D600L		LLG3D600L		CLT3D600	
	LCD ELECTRONIC LSIG TRIP						TRIP UNIT ONLY	
400	NLG3E400L		HLG3E400L		LLG3E400L		CLT3E400	
600	NLG3E600L		HLG3E600L		LLG3E600L		CLT3E600	

Internal Accessories for JG 400A and LG 600A Frames

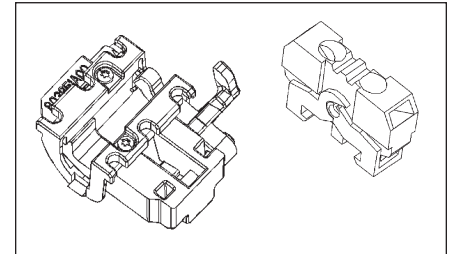
Auxiliary Switch and Alarm Switch Combination Kits

Description	Mounting Pocket ^①	Catalog Number	List Price \$
1 Alarm Switch 1A/B ^③ Bases AMBL2 & AMBL3	Left, Right ^②	ASKL1	
2 Aux. Switches 1A + 1B Bases AMBL1	Left, Right, Neutral	ASKL2	
2 Aux. + 1 Alarm Switches 1A + 1B, 1A/B ^③ Bases AMBL2 & AMBL3	Left, Right ^②	ASKL3	



Auxiliary/Alarm Switch Mounting Base Only

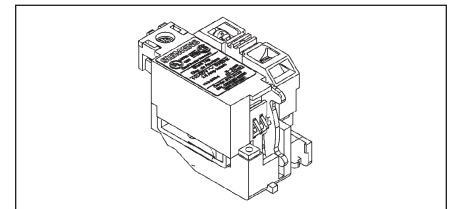
Description	Mounting Pocket	Catalog Number	List Price \$
Up to 3 Auxiliary Switches	Left, Right, Neutral	AMBL1	
2 Aux. + 1 Alarm Switch	Left Pocket Only	AMBL2	
2 Aux. + 1 Alarm Switch	Right Pocket Only	AMBL3	



Auxiliary/Alarm Switch Only

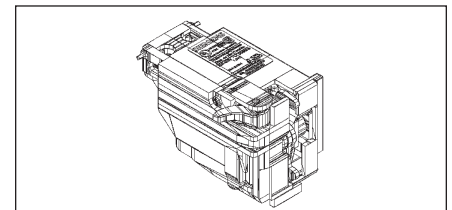
Common to EG - PG Frames

Description	Catalog Number	List Price \$
1 Normally Open Contact (1A)	ASWPA	
1 Normally Closed Contact (1B)	ASWPB	



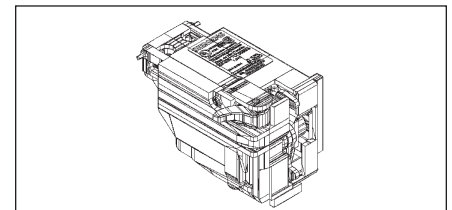
Shunt Trips

Description	Mounting Pocket	Catalog Number	List Price \$
24 VDC	Right Pocket Only	STRLB24DC	
48-60 VDC		STRLC60DC	
110-127 VDC		STRLD125DC	
220-250 VDC		STRLE250DC	
48-60 VAC		STRLM60	
110-127 VAC		STRLN120	
208-277 VAC		STRLS277	
380-600 VAC		STRLV600	



Undervoltage Release

Description	Mounting Pocket	Catalog Number	List Price \$
12 VDC	Right Pocket Only	UVRLA12DC	
24 VDC		UVRLB24DC	
48 VDC		UVRLC48DC	
60 VDC		UVRLG60DC	
110-127 VDC		UVRLD125DC	
220-250 VDC		UVRLE250DC	
110-127 VAC		UVRLN120	
220-250 VAC		UVRLR240	
208 VAC		UVRLP208	
277 VAC		UVRLS277	
380-415 VAC		UVRLT415	
440-480 VAC		UVRLU480	
600 VAC		UVRLV600	



'A' refers to a normally open contact (open when the breaker contacts are open).

'B' refers to a normally closed contact (closed when the breaker contacts are open).

① Refer to the "Accessory Locations" chart for guidelines and limitations about which pockets may be used for accessory combinations.

③ Includes 1A and 1B contact for alarm purposes, only one of which may be installed at any time.

External Accessories pages 11-1 through 11-15

MG 800A Frame, VL Series

Ordering Information

Complete Assembled Breaker

Prices for a complete factory assembled MG breaker include the frame, trip unit, and standard line and load lugs, all factory installed and shipped as a complete breaker. Assembled breakers are available only with standard connectors.

For any other configuration, order the frame, trip unit, and terminals as separate items.

For DC applications, use thermal magnetic trip unit only.

For reverse feed applications, select non-interchangeable trip breakers only.

100% Rated: For 100% rated breakers (or frames) with an interchangeable trip unit, change the 3rd character of the catalog name to "H".

For 100% rated breakers with a non-interchangeable trip unit, change the 3rd character of the catalog number to "Y".

For 50°C and special applications, refer to page 15-1.A

Mounting hardware is included with each frame or complete breaker.

A Toggle Handle Extension is included with each frame or complete breaker.



Dimensions, inches (mm)

Number of Poles	Width	Length	Depth	To Handle D1
2, 3	7.5 (190)	16 (406)	4.5 (114)	5.9 (151)
4	10 (253)			

Shipping Weight, lbs. (kg)

Poles	Frame	Trip Unit	Complete Breaker
2, 3	31.3 (14.2)	4.0 (1.8)	35.3 (16.0)
4	40.2 (18.2)	5.0 (2.3)	45.2 (20.5)

Enclosures^A

NEMA Class	Catalog Number	List Price \$
1	MG0801S	
3R	MG0803R	
Neutral		

Interrupting Ratings

Breaker Type	RMS Symmetrical Amperes (KA)										
	UL 489					IEC 60947-2					
	Volts AC (50/60 Hz)					Volts DC					
						Volts AC (50/60 Hz)					
	240	480	600	250	500	220/240		380/415		690	
					I _{CU}	I _{CS}	I _{CU}	I _{CS}	I _{CU}	I _{CS}	
NMG	65	35	25	22	35	65	65	50	50	20	10
HMG	100	65	35	25	50	100	75	70	70	30	15
LMG	200	100	50	42	65	200	150	100	75	35	17

Connectors for 75°C Wire

Construction	Ampere Rating	Wire Range	No. of cables per connector	Catalog Number	List Price \$
Aluminum ^③	200-800A	1/0-500 kcmil Al/Cu	3	3TA3MG500 ^②	
Aluminum	200-800A	500-750 kcmil Al/Cu	2	3TA2MG750 ^②	
Copper	200-800A	1/0-500 kcmil Cu	3	1TC3MG500 ^{③④}	
Aluminum	200-800A	#2-600 kcmil Al/Cu	3	3TA3MG600 ^{②④}	
Compression Lug Kit^①					
	200-800A	1/0-500 kcmil Cu	-	9CLM500 (future)	

① Total of 9 connectors (3 per phase Line or Load).

② Kit consists of 3 terminal connectors.

③ Standard connector supplied with complete breakers.

④ Includes extended terminal cover.

⑤ Consists of one terminal.

⑥ For 100% rated applications.

MG Thermal-Magnetic, Instantaneous Trip Adjustment Range

Trip Unit Continuous Amp Rating (I _n)	Instantaneous Overcurrent Setting (I _i)	
	Min.	Max.
600	3000	6000
700	3250	6500
800	3250	6500

Note: Each breaker has 6 trip settings.

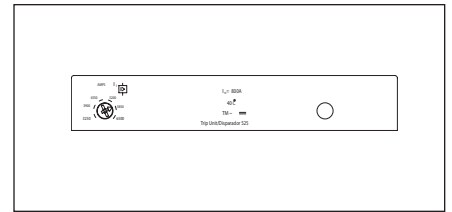
A - Consult with Siemens for availability.

External Accessories pages 11-1 through 11-15

VL Circuit Breakers

SELECTION

MG 800A Thermal-Magnetic Trip Unit



Model 525 Trip Unit

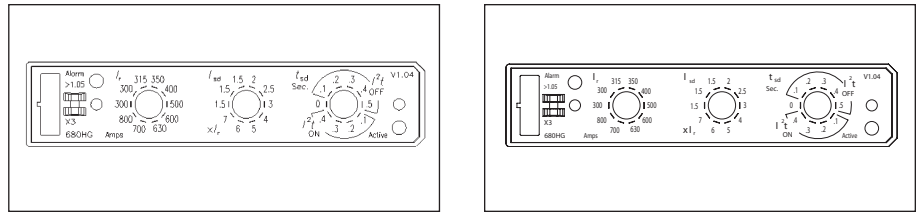
MG 800A Frame 2-Pole with Thermal-Magnetic Trip Unit

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$		
	FRAME ONLY							
	NMG2F800		HMG2F800		LMG2F800			
	COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER							
600	NMG2B600L		HMG2B600L		LMG2B600L		CMT2B600	
700	NMG2B700L		HMG2B700L		LMG2B700L		CMT2B700	
800	NMG2B800L		HMG2B800L		LMG2B800L		CMT2B800	

MG 800A Frame 3-Pole with Thermal-Magnetic Trip Unit

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$		
	FRAME ONLY							
	NMG3F800		HMG3F800		LMG3F800			
	COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER							
600	NMG3B600L		HMG3B600L		LMG3B600L		CMT3B600	
700	NMG3B700L		HMG3B700L		LMG3B700L		CMT3B700	
800	NMG3B800L		HMG3B800L		LMG3B800L		CMT3B800	

MG 800A Electronic 3-Knob Trip Unit



Model 545 Trip Units

MG 800A Frame 3-Pole Electronic Trip Unit

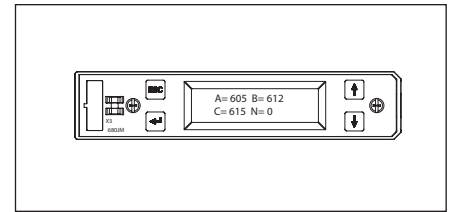
Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$		
	FRAME ONLY							
	NMG3F800		HMG3F800		LMG3F800		COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER	
	ELECTRONIC LI TRIP							
600	NMG3N600L		HMG3N600L		LMG3N600L		CMT3N600	
800	NMG3N800L		HMG3N800L		LMG3N800L		CMT3N800	
	ELECTRONIC LSI TRIP							
600	NMG3P600L		HMG3P600L		LMG3P600L		CMT3P600	
800	NMG3P800L		HMG3P800L		LMG3P800L		CMT3P800	
	ELECTRONIC LSIG TRIP							
600	NMG3U600L		HMG3U600L		LMG3U600L		CMT3U600	
800	NMG3U800L		HMG3U800L		LMG3U800L		CMT3U800	
	ELECTRONIC LIG TRIP							
600	NMG3X600L		HMG3X600L		LMG3X600L		CMT3X600	
800	NMG3X800L		HMG3X800L		LMG3X800L		CMT3X800	

MG 800A Frame 4-Pole Electronic Trip Unit^A

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$		
	FRAME ONLY							
	NMG4F800		HMG4F800		LMG4F800		COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER	
	ELECTRONIC LI TRIP							
600	NMG4N600L		HMG4N600L		LMG4N600L		CMT4N600	
800	NMG4N800L		HMG4N800L		LMG4N800L		CMT4N800	
	ELECTRONIC LSI TRIP							
600	NMG4P600L		HMG4P600L		LMG4P600L		CMT4P600	
800	NMG4P800L		HMG4P800L		LMG4P800L		CMT4P800	
	ELECTRONIC LSIG TRIP							
600	NMG4U600L		HMG4U600L		LMG4U600L		CMT4U600	
800	NMG4U800L		HMG4U800L		LMG4U800L		CMT4U800	
	ELECTRONIC LIG TRIP							
600	NMG4X600L		HMG4X600L		LMG4X600L		CMT4X600	
800	NMG4X800L		HMG4X800L		LMG4X800L		CMT4X800	

A - Consult with Siemens for availability.

MG 800A Electronic LCD Trip Unit



Model 576 Trip Unit

MG 800A Frame 3-Pole Electronic LCD Trip Unit

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$		
	FRAME ONLY							
NMG3F800		HMG3F800		LMG3F800				
COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER								
LCD ELECTRONIC LSI TRIP								
600	NMG3D600L		HMG3D600L		LMG3D600L		CMT3D600	
800	NMG3D800L		HMG3D800L		LMG3D800L		CMT3D800	
LCD ELECTRONIC LSIg TRIP								
600	NMG3E600L		HMG3E600L		LMG3E600L		CMT3E600	
800	NMG3E800L		HMG3E800L		LMG3E800L		CMT3E800	

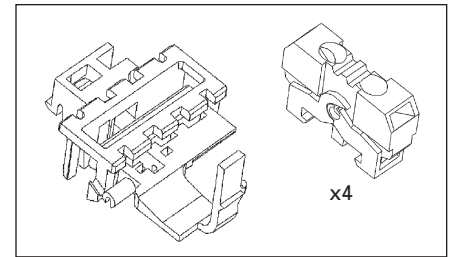
VL Circuit Breakers

SELECTION

Internal Accessories for MG 800A, NG 1200A, and PG 1600A Frames

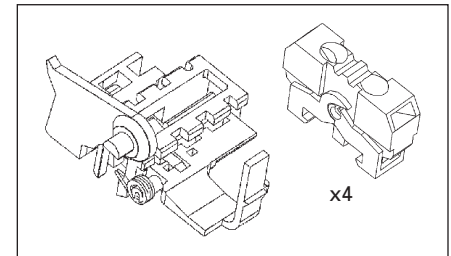
Auxiliary Switch and Alarm Switch Combination Kits

Description	Mounting Pocket ^①	Catalog Number	List Price \$
2 Aux. + 2 Alarm Switches 2A + 2B Bases AMBP2	Left Pocket Only	ASKP3	
4 Aux. Switches 2A + 2B Bases AMBP1	Left, Right, Neutral	ASKP4	



Auxiliary/Alarm Switch Mounting Base Only

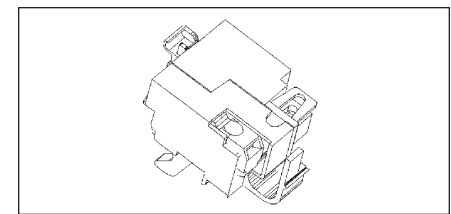
Description	Mounting Pocket	Catalog Number	List Price \$
Up to 4 Auxiliary Switches	Left, Right, Neutral	AMBP1	
2 Aux. + 2 Alarm Switches	Left Pocket Only	AMBP2	



Auxiliary/Alarm Switch Only

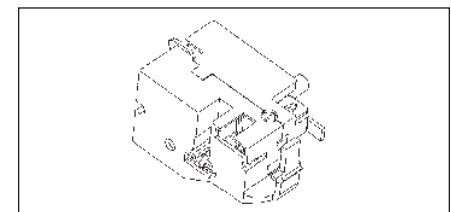
Common to EG - PG Frames

Description	Catalog Number	List Price \$
1 Normally Open Contact (1A)	ASWPA	
1 Normally Closed Contact (1B)	ASWPB	



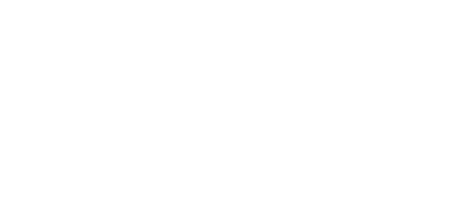
Shunt Trips

Description	Mounting Pocket	Catalog Number	List Price \$
24 VDC	Right Pocket Only	STRPB24DC	
48-60 VDC		STRPC60DC	
110-127 VDC		STRPD125DC	
220-250 VDC		STRPE250DC	
48-60 VAC		STRPM60	
110-127 VAC		STRPN120	
208-277 VAC		STRPS277	
380-600 VAC		STRPV600	



Undervoltage Release

Description	Mounting Pocket	Catalog Number	List Price \$
12 VDC	Right Pocket Only	UVRPA12DC	
24 VDC		UVRPB24DC	
48 VDC		UVRPC48DC	
60 VDC		UVRPG60DC	
110-127 VDC		UVRPD125DC	
220-250 VDC		UVRPE250DC	
110-127 VAC		UVRPN120	
220-250 VAC		UVRPR240	
208 VAC		UVRPP208	
277 VAC		UVRPS277	
380-415 VAC		UVRPT415	
440-480 VAC		UVRPU480	
600 VAC		UVRPV600	



^①'A' refers to a normally open contact (open when the breaker contacts are open).

^①'B' refers to a normally closed contact (closed when the breaker contacts are open).

^① Refer to the "Accessory Locations" chart for guidelines and limitations about which pockets may be used for accessory combinations.

NG 1200A Frame, VL Series

Ordering Information

Complete Assembled Breaker with Lugs

Prices for a complete factory assembled NG breaker include the frame, trip unit, and standard line and load lugs, all factory installed and shipped as a complete breaker. Assembled breakers are available only with standard connectors.

For any other configuration, order the frame, trip unit, and terminals as separate items.

For DC applications, use thermal magnetic trip unit only.

For reverse feed applications, select non-interchangeable trip breakers only.

100% Rated: For 100% rated breakers (or frames) with an interchangeable trip unit, change the 3rd character of the catalog name to "H".

For 100% rated breakers with a non-interchangeable trip unit, change the 3rd character of the catalog number to "Y".

For 50°C and special applications, refer to page 15-1.^A

Mounting hardware is included with each frame or complete breaker.

A Toggle Handle Extension is included with each frame or complete breaker.



Dimensions, inches (mm)

Number of Poles	W	L	D	To Handle D1
2, 3	9 (229)	16 (406)	6 (152)	8.1 (207)
4	12 (305)			

Shipping Weight, lbs. (kg)

Poles	Frame	Trip Unit	Complete Breaker
2, 3	46.3 (21.0)	8.8 (4.0)	55.1 (25.0)
4	60.6 (27.5)	13.2 (6.0)	73.8 (33.5)

Enclosures^A

Type	Catalog Number	List Price \$
1	NG1201S	
3R	NG1203R	
12	NG12012	
Neutral		

Interrupting Ratings

Breaker Type	RMS Symmetrical Amperes (KA)										
	UL 489					IEC 60947-2					
	Volts AC (50/60 Hz)			Volts DC		Volts AC (50/60 Hz)					
	240	480	600	250	500	220/240		380/415		690	
					I _{CU}	I _{CS}	I _{CU}	I _{CS}	I _{CU}	I _{CS}	
NNG	65	35	25	22	35	65	35	50	25	20	10
HNG	100	65	35	25	50	100	50	70	35	30	15
LNG	200	100	65	42	65	200	100	100	50	35	17

Connectors for 75°C Wire

Construction	Ampere Rating	Wire Range	No. of cables per connector	Catalog Number	List Price \$
Aluminum	300-1200A	1/0-500 kcmil Al/Cu	4	3TA4NG500 [Ⓞ]	
Aluminum	300-1200A	500-750 kcmil Al/Cu	3	3TA3NG750	
Copper	300-1200A	1/0-500 kcmil Cu	4	3TC4NG500	
Aluminum	300-1200A	1/0-500 kcmil Al/Cu [Ⓞ]	4	3TA4NG500H	
Compression Lug Kit[Ⓞ]					
	300-1200A	1/0-500 kcmil Al/Cu	-	12CLN500	

[Ⓞ] Total of 12 connectors (4 per phase Line or Load).

[Ⓞ] 90 °C for 100% rated breakers.

[Ⓞ] Standard connector provided with complete breakers.

NG Thermal-Magnetic, Instantaneous Trip Adjustment Range

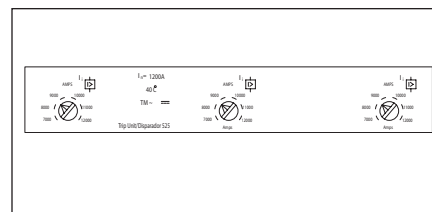
Trip Unit Continuous Amp Rating (I _n)	Instantaneous Overcurrent Setting (I _l)	
	Min.	Max.
800	4000	8000
900	5000	10000
1000	5000	10000
1200	7000	12000

Note: Each breaker has 6 trip settings.

A - Consult with Siemens for availability.

External Accessories pages 11-1 through 11-15

NG 1200A Thermal-Magnetic Trip Unit



Model 525 Trip Unit

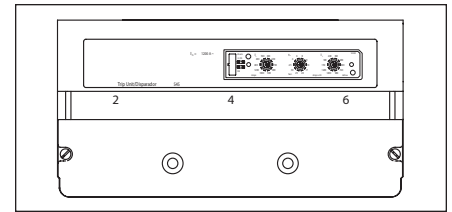
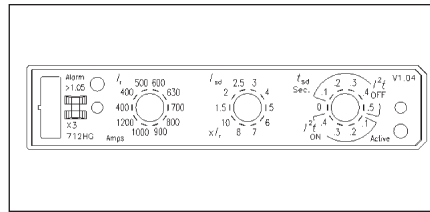
NG 1200A Frame 2-Pole with Thermal-Magnetic Trip Unit

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$		
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$				
	FRAME ONLY								TRIP UNIT ONLY	
	NNG2F120		HNG2F120		LNG2F120					
COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER										
800	NNG2B800L		HNG2B800L		LNG2B800L		CNT2B800			
900	NNG2B900L		HNG2B900L		LNG2B900L		CNT2B900			
1000	NNG2B100L		HNG2B100L		LNG2B100L		CNT2B100			
1200	NNG2B120L		HNG2B120L		LNG2B120L		CNT2B120			

NG 1200A Frame 3-Pole with Thermal-Magnetic Trip Unit

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$		
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$				
	FRAME ONLY								TRIP UNIT ONLY	
	NNG3F120		HNG3F120		LNG3F120					
COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER										
800	NNG3B800L		HNG3B800L		LNG3B800L		CNT3B800			
900	NNG3B900L		HNG3B900L		LNG3B900L		CNT3B900			
1000	NNG3B100L		HNG3B100L		LNG3B100L		CNT3B100			
1200	NNG3B120L		HNG3B120L		LNG3B120L		CNT3B120			

NG 1200A Electronic 3-Knob Trip



Model 545 Trip Units

NG 1200A Frame 3-Pole Electronic Trip Unit

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$		
	FRAME ONLY							
	NNG3F120		HNG3F120		LNG3F120		COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER	
	ELECTRONIC LI TRIP						TRIP UNIT ONLY	
800	NNG3N800L		HNG3N800L		LNG3N800L		CNT3N800	
1000	NNG3N100L		HNG3N100L		LNG3N100L		CNT3N100	
1200	NNG3N120L		HNG3N120L		LNG3N120L		CNT3N120	
	ELECTRONIC LSI TRIP						TRIP UNIT ONLY	
800	NNG3P800L		HNG3P800L		LNG3P800L		CNT3P800	
1000	NNG3P100L		HNG3P100L		LNG3P100L		CNT3P100	
1200	NNG3P120L		HNG3P120L		LNG3P120L		CNT3P120	
	ELECTRONIC LSIG TRIP						TRIP UNIT ONLY	
800	NNG3U800L		HNG3U800L		LNG3U800L		CNT3U800	
1000	NNG3U100L		HNG3U100L		LNG3U100L		CNT3U100	
1200	NNG3U120L		HNG3U120L		LNG3U120L		CNT3U120	
	ELECTRONIC LIG TRIP						TRIP UNIT ONLY	
800	NNG3X800L		HNG3X800L		LNG3X800L		CNT3X800	
1000	NNG3X100L		HNG3X100L		LNG3X100L		CNT3X100	
1200	NNG3X120L		HNG3X120L		LNG3X120L		CNT3X120	

NG 1200A Frame 4-Pole Electronic Trip Unit^A

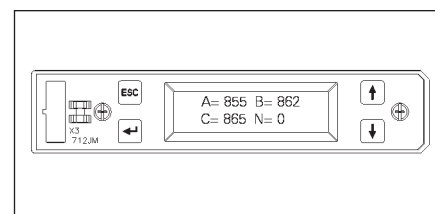
Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$		
	FRAME ONLY							
	NNG4F120		HNG4F120		LNG4F120		COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER	
	ELECTRONIC LI TRIP						TRIP UNIT ONLY	
800	NNG4N800L		HNG4N800L		LNG4N800L		CNT4N800	
1000	NNG4N100L		HNG4N100L		LNG4N100L		CNT4N100	
1200	NNG4N120L		HNG4N120L		LNG4N120L		CNT4N120	
	ELECTRONIC LSI TRIP						TRIP UNIT ONLY	
800	NNG4P800L		HNG4P800L		LNG4P800L		CNT4P800	
1000	NNG4P100L		HNG4P100L		LNG4P100L		CNT4P100	
1200	NNG4P120L		HNG4P120L		LNG4P120L		CNT4P120	
	ELECTRONIC LSIG TRIP						TRIP UNIT ONLY	
800	NNG4U800L		HNG4U800L		LNG4U800L		CNT4U800	
1000	NNG4U100L		HNG4U100L		LNG4U100L		CNT4U100	
1200	NNG4U120L		HNG4U120L		LNG4U120L		CNT4U120	
	ELECTRONIC LIG TRIP						TRIP UNIT ONLY	
800	NNG4X800L		HNG4X800L		LNG4X800L		CNT4X800	
1000	NNG4X100L		HNG4X100L		LNG4X100L		CNT4X100	
1200	NNG4X120L		HNG4X120L		LNG4X120L		CNT4X120	

A - Consult with Siemens for availability.

VL Circuit Breakers

SELECTION

NG 1200A Electronic LCD Trip



Model 576 Trip Unit

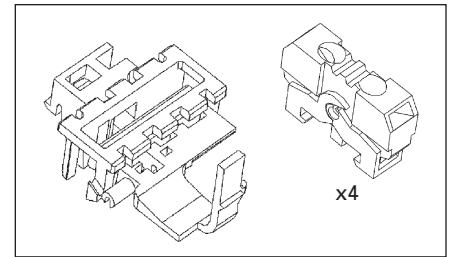
NG 1200A Frame 3-Pole Electronic LCD Trip Unit

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$		
	FRAME ONLY							
	NNG3F120		HNG3F120		LNG3F120		COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER	
	LCD ELECTRONIC LSI TRIP						TRIP UNIT ONLY	
800	NNG3D800L		HNG3D800L		LNG3D800L		CNT3D800	
1000	NNG3D100L		HNG3D100L		LNG3D100L		CNT3D100	
1200	NNG3D120L		HNG3D120L		LNG3D120L		CNT3D120	
	LCD ELECTRONIC LSIG 4-W TRIP						TRIP UNIT ONLY	
800	NNG3E800L		HNG3E800L		LNG3E800L		CNT3E800	
1000	NNG3E100L		HNG3E100L		LNG3E100L		CNT3E100	
1200	NNG3E120L		HNG3E120L		LNG3E120L		CNT3E120	

Internal Accessories for MG 800A, NG 1200A, and PG 1600A Frames

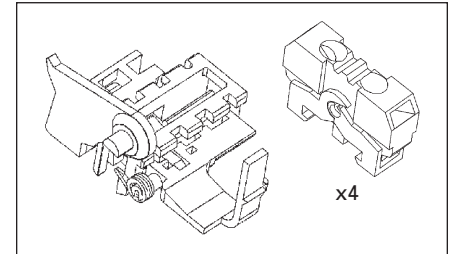
Auxiliary Switch and Alarm Switch Combination Kits

Description	Mounting Pocket ^①	Catalog Number	List Price \$
2 Aux. + 2 Alarm Switches 2A + 2B Base AMBP2	Left Pocket Only	ASKP3	
4 Aux. Switches 2A + 2B Base AMBP1	Left, Right, Neutral	ASKP4	



Auxiliary/Alarm Switch Mounting Base Only

Description	Mounting Pocket ^①	Catalog Number	List Price \$
Up to 4 Auxiliary Switches 2 Aux. + 2 Alarm Switches	Left, Right, Neutral Left Pocket Only	AMBP1 AMBP2	



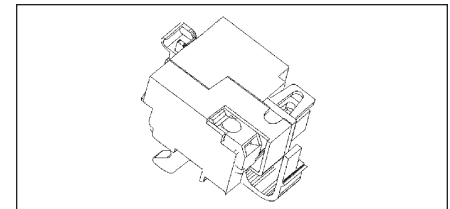
Auxiliary/Alarm Switch Only

Common to EG-PG Frames

Description	Catalog Number	List Price \$
1 Normally Open Contact (1A)	ASWPA	
1 Normally Closed Contact (1B)	ASWPB	

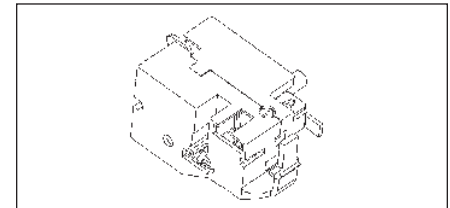
Shunt Trips

Description	Mounting Pocket	Catalog Number	List Price \$
24 VDC	Right Pocket Only	STRPB24DC	
48-60 VDC		STRPC60DC	
110-127 VDC		STRPD125DC	
220-250 VDC		STRPE250DC	
48-60 VAC		STRPM60	
110-127 VAC		STRPN120	
208-277 VAC		STRPS277	
380-600 VAC		STRPV600	



Undervoltage Release

Description	Mounting Pocket	Catalog Number	List Price \$
12 VDC	Right Pocket Only	UVRPA12DC	
24 VDC		UVRPB24DC	
48 VDC		UVRPC48DC	
60 VDC		UVRPG60DC	
110-127 VDC		UVRPD125DC	
220-250 VDC		UVRPE250DC	
110-127 VAC		UVRPN120	
220-250 VAC		UVRPR240	
208 VAC		UVRPP208	
277 VAC		UVRPS277	
380-415 VAC		UVRPT415	
440-480 VAC		UVRPU480	
600 VAC		UVRPV600	



'A' refers to a normally open contact (open when the breaker contacts are open).
 'B' refers to a normally closed contact (closed when the breaker contacts are open).
 ① Refer to the "Accessory Locations" chart for guidelines and limitations about which pockets may be used for accessory combinations.

PG 1600A Frame, VL Series

Ordering Information

Prices for a complete factory assembled PG breaker include the frame and trip unit only. The connectors must be ordered as separate items.

For any other configuration, order the frame, trip unit, and connectors as separate items.

Connectors require a Breaker Lug Mounting Assembly or Breaker Mounting Base and must be ordered as a separate item.

For DC applications, use Thermal magnetic trip unit only.

For reverse feed applications select non-interchangeable trip breakers only.

100% Rated: For 100% rated breakers (or frames) with an interchangeable trip unit, change the 3rd character of the catalog name to "H".

For 100% rated breakers with a non-interchangeable trip unit, change the 3rd character of the catalog number to "Y".

For 50°C and special applications, refer to page 15-1.A

Mounting hardware is included with each frame or complete breaker.

A Toggle Handle Extension is included with each frame or complete breaker.



Dimensions, inches (mm)

Number of Poles	W	L	D	To Handle D1
2, 3	9 (229)	16 (406)	6 (152)	8.1 (207)
4	12 (305)			

Shipping Weight, lbs. (kg)

Poles	Frame	Trip Unit	Complete Breaker
2, 3	60.2 (27.3)	8.8 (4.0)	69.0 (31.3)
4	76.7 (34.8)	13.2 (6.0)	89.9 (40.8)

Interrupting Ratings

Breaker Type	RMS Symmetrical Amperes (KA)										
	UL 489					IEC 60947-2					
	Volts AC (50/60 Hz)			Volts DC		Volts AC (50/60 Hz)					
	240	480	600	250	500	220/240		380/415		690	
					I _{CU}	I _{CS}	I _{CU}	I _{CS}	I _{CU}	I _{CS}	
NPG	65	35	25	22	35	65	35	50	25	20	10
HPG	100	65	35	25	50	100	50	70	35	30	15
LPG	200	100	65	42	65	200	100	100	50	35	17

Connectors for 75°C Wire

Construction	Ampere Rating	Wire Range	No. of cables per phase	Catalog Number	List Price \$
Aluminum	1200-1600A	1/0-750 kcmil Al/Cu	6	3TA6PG750 ^{①③}	
Copper	1200-1600A	1/0-750 kcmil Cu	6	3TC6PG750 (future) ^{①③}	
Aluminum	1200-1600A	300-600 kcmil	5	TA5P600 ^②	
Aluminum	1200-1600A	600-750 kcmil	4	TA4P750 ^②	
Aluminum	1200-1600A	300-600 kcmil	6	TA6R600 ^②	
Copper	1200-1600A	300-600 kcmil	5	TC5R600 ^{②⑤}	

① Requires Lug Mounting Assembly LMAP1600.

② Requires Breaker Mounting Base MBPG1600 Kit or MBPG1601.

③ Consists of 3 connectors.

④ Consists of 1 connector.

⑤ For 100% rated applications, 90°C.

PG Thermal-Magnetic, Instantaneous Trip Adjustment Range

Trip Unit Continuous Amp Rating (I _n)	Instantaneous Overcurrent Setting (I _i)	
	Min.	Max.
1200	7000	12000
1400	7000	12000
1600	7000	12000

Note: Each breaker has 6 trip settings in this range.

A - Consult with Siemens for availability.

External Accessories pages 11-1 through 11-15

VL Circuit Breakers

SELECTION

PG 1600A Thermal-Magnetic Trip Unit

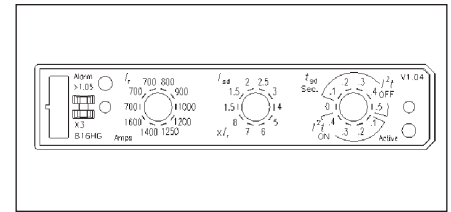


Model 525 Trip Unit

PG 1600A Frame 3-Pole with Thermal-Magnetic Trip Unit

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$		
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$				
	FRAME ONLY								TRIP UNIT ONLY	
	NPG3F160		HPG3F160		LPG3F160					
COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER										
1200	NPG3B120		HPG3B120		LPG3B120		CPT3B120			
1400	NPG3B140		HPG3B140		LPG3B140		CPT3B140			
1600	NPG3B160		HPG3B160		LPG3B160		CPT3B160			

PG 1600A Electronic 3-Knob Trip Unit



Model 546 Trip Unit

PG 1600A Frame 3-Pole Electronic Trip Unit

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$		
	FRAME ONLY							
	NPG3F160		HPG3F160		LPG3F160		COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER	
	ELECTRONIC LI TRIP						TRIP UNIT ONLY	
1200 1600	NPG3N120 NPG3N160		HPG3N120 HPG3N160		LPG3N120 LPG3N160		CPT3N120 CPT3N160	
	ELECTRONIC LSI TRIP						TRIP UNIT ONLY	
1200 1600	NPG3P120 NPG3P160		HPG3P120 HPG3P160		LPG3P120 LPG3P160		CPT3P120 CPT3P160	
	ELECTRONIC LSIG TRIP						TRIP UNIT ONLY	
1200 1600	NPG3U120 NPG3U160		HPG3U120 HPG3U160		LPG3U120 LPG3U160		CPT3U120 CPT3U160	
	ELECTRONIC LIG TRIP						TRIP UNIT ONLY	
1200 1600	NPG3X120 NPG3X160		HPG3X120 HPG3X160		LPG3X120 LPG3X160		CPT3X120 CPT3X160	

PG 1600A Frame 4-Pole Electronic Trip Unit^A

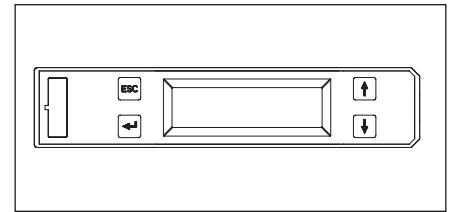
Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$		
	FRAME ONLY							
	NPG4F160		HPG4F160		LPG4F160		COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER	
	ELECTRONIC LI TRIP						TRIP UNIT ONLY	
1200 1600	NPG4N120 NPG4N160		HPG4N120 HPG4N160		LPG4N120 LPG4N160		CPT4N120 CPT4N160	
	ELECTRONIC LSI TRIP						TRIP UNIT ONLY	
1200 1600	NPG4P120 NPG4P160		HPG4P120 HPG4P160		LPG4P120 LPG4P160		CPT4P120 CPT4P160	
	ELECTRONIC LSIG TRIP						TRIP UNIT ONLY	
1200 1600	NPG4U120 NPG4U160		HPG4U120 HPG4U160		LPG4U120 LPG4U160		CPT4U120 CPT4U160	
	ELECTRONIC LIG TRIP						TRIP UNIT ONLY	
1200 1600	NPG4X120 NPG4X160		HPG4X120 HPG4X160		LPG4X120 LPG4X160		CPT4X120 CPT4X160	

A - Consult with Siemens for availability.

VL Circuit Breakers

SELECTION

PG 1600A Electronic LCD Trip Unit



Model 576 Trip Unit

PG 1600A Frame 3-Pole Electronic LCD Trip Unit

Continuous Ampere Rating	N-Interrupting Class		H-Interrupting Class		L-Interrupting Class		Catalog Number	List Price \$
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$		
	FRAME ONLY							
COMPLETE FACTORY ASSEMBLED CIRCUIT BREAKER								
LCD ELECTRONIC LSI TRIP								
1200	NPG3D120		HPG3D120		LPG3D120		CPT3D120	
1600	NPG3D160		HPG3D160		LPG3D160		CPT3D160	
LCD ELECTRONIC LSI TRIP								
1200	NPG3E120		HPG3E120		LPG3E120		CPT3E120	
1600	NPG3E160		HPG3E160		LPG3E160		CPT3E160	

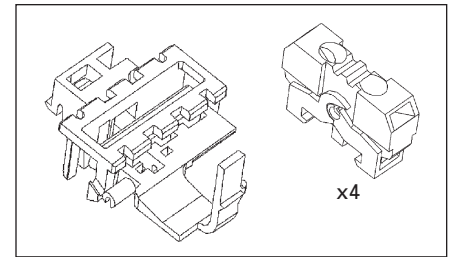
VL Circuit Breakers

SELECTION

Internal Accessories for MG 800A, NG 1200A, and PG 1600A Frames

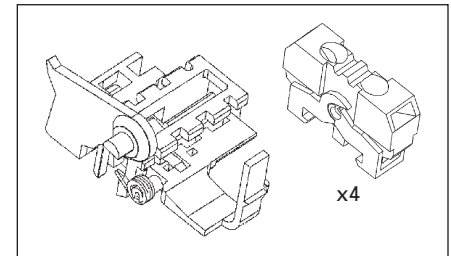
Auxiliary Switch and Alarm Switch Combination Kits

Description	Mounting Pocket ^①	Catalog Number	List Price \$
2 Aux. + 2 Alarm Switches 2A + 2B Base AMBP2	Left Pocket Only	ASKP3	
4 Aux. Switches 2A + 2B Base AMBP1	Left, Right, Neutral	ASKP4	



Auxiliary/Alarm Switch Mounting Base Only

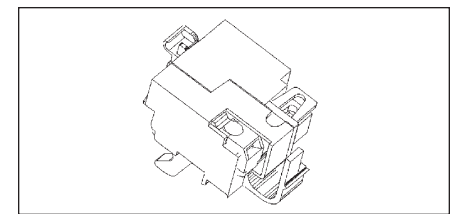
Description	Mounting Pocket ^①	Catalog Number	List Price \$
Up to 4 Auxiliary Switches 2 Aux. + 2 Alarm Switches	Left, Right, Neutral Left Pocket Only	AMBP1 AMBP2	



Auxiliary/Alarm Switch Only

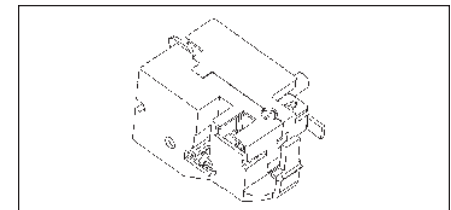
Common to EG-PG Frames

Description	Catalog Number	List Price \$
1 Normally Open Contact (1A)	ASWPA	
1 Normally Closed Contact (1B)	ASWPB	



Shunt Trips

Description	Mounting Pocket	Catalog Number	List Price \$
24 VDC	Right Pocket Only	STRPB24DC	
48-60 VDC		STRPC60DC	
110-127 VDC		STRPD125DC	
220-250 VDC		STRPE250DC	
48-60 VAC		STRPM60	
110-127 VAC		STRPN120	
208-277 VAC		STRPS277	
380-600 VAC		STRPV600	



Undervoltage Release

Description	Mounting Pocket	Catalog Number	List Price \$
12 VDC	Right Pocket Only	UVRPA12DC	
24 VDC		UVRPB24DC	
48 VDC		UVRPC48DC	
60 VDC		UVRPG60DC	
110-127 VDC		UVRPD125DC	
220-250 VDC		UVRPE250DC	
110-127 VAC		UVRPN120	
220-250 VAC		UVRPR240	
208 VAC		UVRPP208	
277 VAC		UVRPS277	
380-415 VAC		UVRPT415	
440-480 VAC		UVRPU480	
600 VAC		UVRPV600	



'A' refers to a normally open contact (open when the breaker contacts are open).

'B' refers to a normally closed contact (closed when the breaker contacts are open).

① Refer to the "Accessory Locations" chart for guidelines and limitations about which pockets may be used for accessory combinations.

External Accessories pages 11-1 through 11-15

Molded Case Switch

General

Typically a molded case switch is used when a compact load-break switch is needed for disconnect purposes. The VL line of molded case switches from Siemens is made of the same materials and components as the VL circuit breakers but do not provide overcurrent protection. Each molded

case switch has a fixed instantaneous self-protecting trip element which may open the switch under high fault conditions.

Application Note

Overcurrent protection must be provided by an appropriate overcurrent protective device located upstream

from the molded case switch. Also, the short-circuit current rating of the switch is limited to the interrupting rating of the upstream protective device or the ratings in the above table, **whichever is less.**

Ordering Information

Each type VL molded case switch accepts the same terminals and accessories as the equivalent VL circuit breakers.

All type VL molded case switches are suitable for reverse feed applications.

Mounting hardware and standard line and load terminals are included on ratings through 250A. For 400 – 1600A ratings, order the lugs separately.

All ratings are UL listed and CSA certified.

Molded Case Switch

Maximum Ampere Rating / Frame	Catalog Number	List Price \$	Catalog Number	List Price \$	Short-Circuit Current Rating*			Self Protective Instantaneous Override
					240V	480V	600V	
150A / DG 250A / FG	HDS2S150L HFS2S250L		HDS3S150L HFS3S250L		100k 100k	65k 65k	20k 35k	2,500A 3,500A
400A / JG 600A / LG	HJS2S400 HLS2S600		HJS3S400 HLS3S600		100k 100k	65k 65k	35k 35k	4,400A 5,500A
800A / MG 1200A / NG	HMS2S800 HNS2S120		HMS3S800 HNS3S120		100k 100k	65k 65k	35k 35k	6,500A 12,000A
1600A / PG	—		HPS3S160		100k	65k	35k	12,000A

Maximum Ampere Rating / Frame	Catalog Number	List Price \$	Short-Circuit Current Rating*			Self Protective Instantaneous Override
			240V	480V	600V	
250A / FG	LFS3S250L		200k	100k	25k	3,500A
400A / JG 600A / LG	LJS3S400 LLS3S600		200k 200k	100k 100k	42k 42k	4,400A 5,500A
800A / MG 1200A / NG	LMS3S800 LNS3S120		200k 200k	100k 100k	50k 65k	6,500A 12,000A
1600A / PG	LPS3S160		200k	100k	65k	12,000A

* The Short-Circuit Current Rating is the maximum available current of the circuit where the switch is used, when protected by an appropriate overcurrent protective device. Above 250A, terminals are not included and must be ordered separately. For terminal information and the variety of lugs available for VL breakers.

Motor Circuit Protectors

General

Protection of Motor Circuits

Molded case circuit breakers are used in motor circuits as a disconnecting means and for short-circuit protection. They should be used in conjunction with motor-running, over-current protection devices, and should permit the motor to start without nuisance tripping from motor-inrush current. The circuit breaker should have a continuous current rating of not less than 115% of the motor full-load current.

The recommended motor circuit protectors listed have continuous-current ratings of at least 115% of motor full-load currents. The trip setting positions are approximately 11 times motor full-load current. The suggested trip settings may need to be adjusted upward to no higher than 1300% of full-load current for non-design E type motors, and no greater than 1700% of full-load current for design E motors, to allow for motor startup due to in-rush current.

Breaker Mounted Immediately Ahead of Motor Starter

Siemens motor circuit protectors are recommended for use in combination motor starters to provide selective short-circuit protection for the motor branch circuit. The adjustable instantaneous trip feature of the Siemens motor circuit protector provides for a trip setting slightly above the peak motor in-rush current. With this setting, no delay is introduced in opening the circuit when a fault occurs. This circuit breaker has no time-delay trip element. Therefore it must be used in conjunction with, and immediately ahead of, the motor-running overcurrent protection device.

Important: The information below does not apply to all motor applications: it is recommended that the user refer to the National Electrical Code (NEC) for specific needs.

Table 1 (When Breaker is Mounted Immediately Ahead of Motor Starter)

3 Phase Induction Type Motors (Siemens motor circuit protectors for branch circuit use with alternating-current combination, full voltage motor starters)

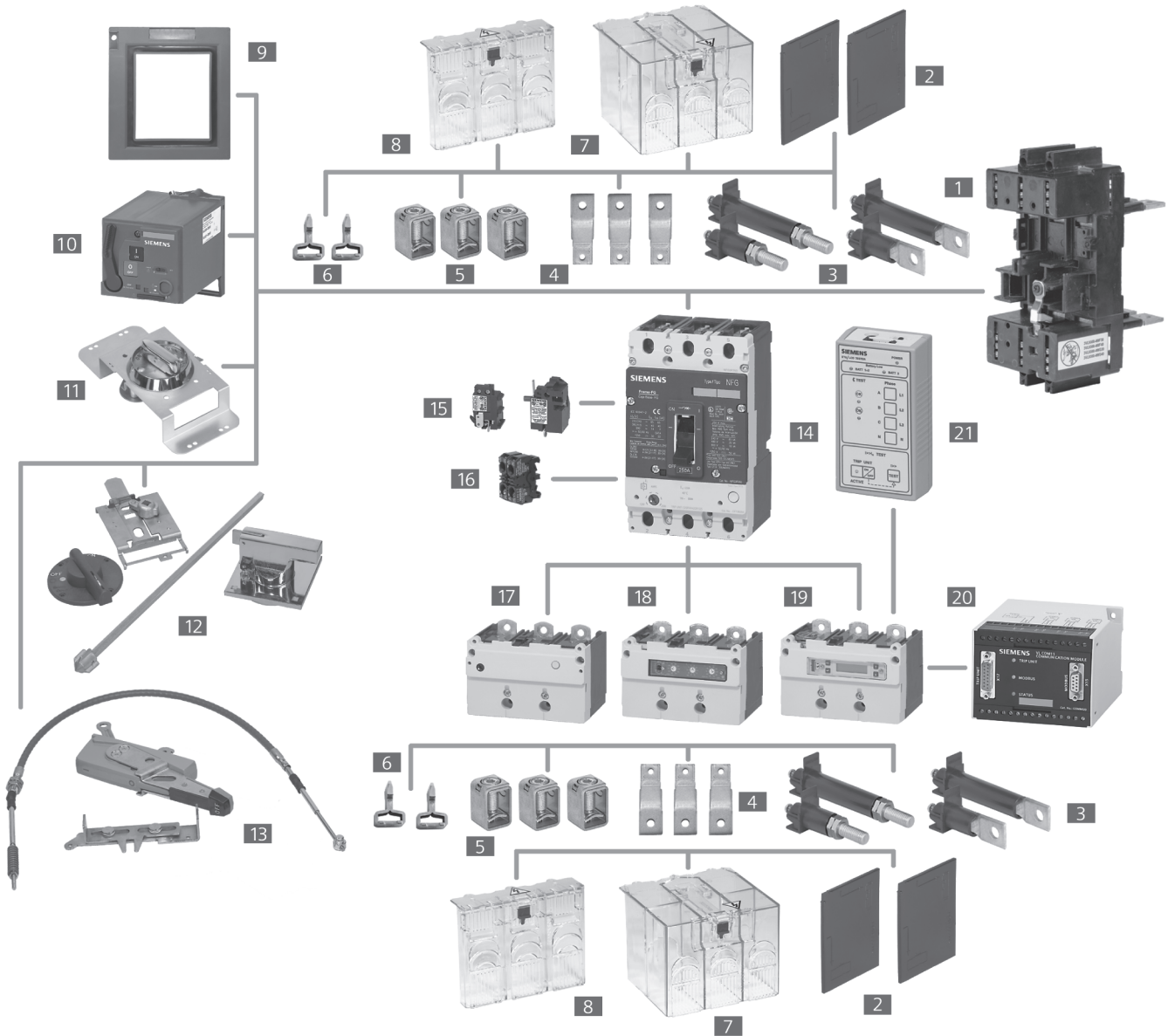
Motor Full Load Amperes	Trip Setting (A)	Catalog Number	List Price \$
34.62-50.00	450	HDM3L150L	
41.53-56.91	540		
48.46-70.00	630		
55.38-70.75	720		
62.30-90.00	810		
69.23-76.91	900		
57.69-83.00	750	HDM3M150L	
69.23-76.91	900		
80.77-116.66	1050		
92.30-133.00	1200		
103.85-150.00	1350		
115.00-136.00	1500		
96.15-113.60	1250	HDM3H150L	
115.00-136.00	1500		
134.52-194.00	1750		
154.00-176.00	2000		
173.00-250.00	2250		
192.00-227.00	2500		
46.15-54.50	600	HFM3L250L	
55.38-70.75	720		
64.62-93.00	840		
74.00-107.00	960		
83.00-120.00	1080		
92.00-133.00	1200		
76.92-90.90	1000	HFM3M250L	
92.00-133.00	1200		
108.00-115.00	1400		
123.00-178.00	1600		
138.50-200.00	1800		
154.00-176.00	2000		
134.62-144.00	1750	HFM3H250L	
162.00-177.00	2100		
188.46-272.00	2450		
215.00-238.00	2800		
242.00-350.00	3150		
269.00-284.00	3500		

Motor Full Load Amperes	Trip Setting (A)	Catalog Number	List Price \$
96.15-114.00	1250	HJM3L400	
115.00-136.00	1500		
134.62-166.00	1750		
154.00-176.00	2000		
173.00-250.00	2250		
192.00-227.00	2500		
154.00-176.00	2000	HJM3M400	
184.62-267.00	2400		
215.00-238.00	2800		
246.00-269.00	3200		
277.00-400.00	3600		
308.00-352.00	4000		
154.00-176.00	2000	HLM3L600	
184.62-267.00	2400		
215.00-238.00	2800		
246.00-269.00	3200		
277.00-400.00	3600		
308.00-326.00	4000		
211.54-306.00	2750	HLM3M600	
253.85-367.00	3300		
296.15-428.00	3850		
338.46-489.00	4400		
380.77-550.00	4950		
423.00-462.00	5500		
250.00-361.00	3250	HMM3M800	
292.00-330.00	3800		
334.62-483.00	4350		
385.00-440.00	5000		
442.00-447.00	5740		
500.00-722.00	6500		
385.00-440.00	5000	HNM3M120	
462.00-490.00	6000		
538.46-778.00	7000		
616.00-660.00	8000		
692.30-1000.00	9000		
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Operating Mechanisms

Modularity To Support All Your Application Needs Modules and More: VL Circuit Breakers with Optional Accessories



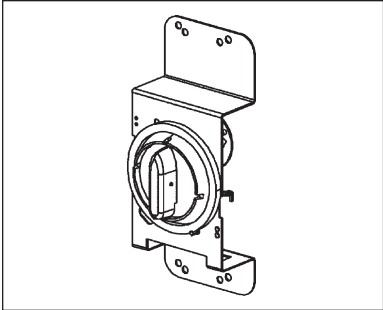
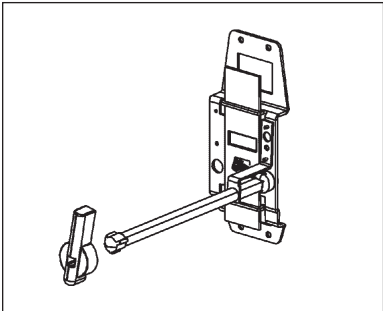
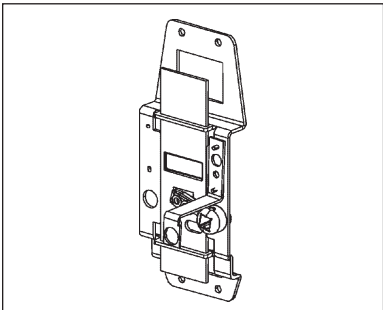
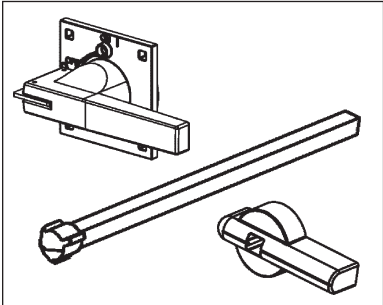
- 1 Base for Plug-In or Draw-Out
- 2 Interphase Barriers
- 3 Rear Terminals – Flat and Round
- 4 Bus Extensions
- 5 Terminal Connectors
- 6 Plug-In Terminal Blades
- 7 Extended Terminal Shield
- 8 Standard Terminal Shield

- 9 Cover Frame for Door Cutout
- 10 Stored Energy Operator
- 11 Rotary Handle Operator
- 12 Variable Depth Rotary Operator
- 13 Max Flex Operator
- 14 Circuit Breaker
- 15 Shunt Trip or Undervoltage Releases
- 16 Auxiliary/Alarm Switches

- 17 Thermal-Magnetic Trip Unit (525)
- 18 Electronic Trip Unit (545)
- 19 Elec. Trip Unit with LCD (576)
- 20 Communication Module with ZSI
- 21 Electronic Trip Unit Test Kit

External Accessories

Operating Mechanisms

	Description	For DG to FG Frame 150 to 250 A		For JG to LG Frame 400 A to 600 A	
		Catalog Number	List Price \$	Catalog Number	List Price \$
	Through Door Mounted Rotary Handle Operator Kit^A Fixed depth and the handle is mounted directly on the circuit breaker. Lockable knob (for up to 3 padlocks). NEMA 1, 12	RHFF		RHFL	
	Red Handle Version with red knob, yellow indicator plate NEMA 1, 12	RHFFEM		RHFLEM	
	Variable Depth Rotary Handle Operator Kit^A Variable depth, door mounted handle. Includes knob with masking frame, indicator plate, detachable door coupling, 12" shaft, and breaker mounted rotary operator. Lockable knob (for up to 3 padlocks). NEMA 1, 3R, 12	RHVF12		RHVL12	
	Auxiliary Switch Kits^A For Direct or Extended Rotary Handle Operators (RHF and RHV). Form C, Early Break type2 Aux. Switch Kit Includes 1 switch with 5' wire For Variable Depth For Fixed Depth	RHSFA1 RHSFA1F		RHSLA1 RHSLA1F	
	Includes 2 switches with 5' wire For Variable Depth For Fixed Depth	RHSFA2 RHSFA2F		RHSLA2 RHSLA2F	
	Variable Rotary Operator Mechanism^A Breaker mechanism only	RHVFBM		RHVLBM	
	Variable Depth Rotary Handle Only^A Standard version NEMA 1, 12 NEMA 3R NEMA 4X Red Handle version	RHVM12H RHVM3RH RHVM4XH RHVMEMH		RHVM12H RHVM3RH RHVM4XH RHVMEMH	
	Extension Shaft^A 2 inches (50.8mm) 3 inches (76.2mm) 12 inches (304.8 mm) 16 inches (406.4 mm) 24 inches (609.6mm) w/ support bracket	RHVMS02 — RHVMS12 RHVMS16 —	— — — —	RHVMS02 — RHVMS12 RHVMS16 —	— — — —
					

© Degree of protection is IP 40 with additional cover frame mounted on door cutout.

© During manual operation, Early Break auxiliary switch contacts open before the breaker opens.

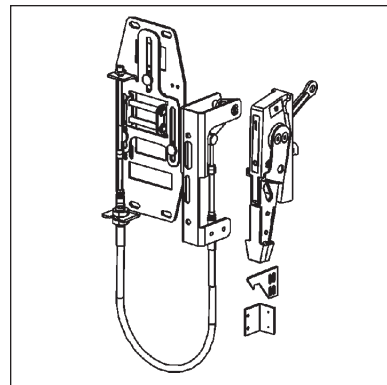
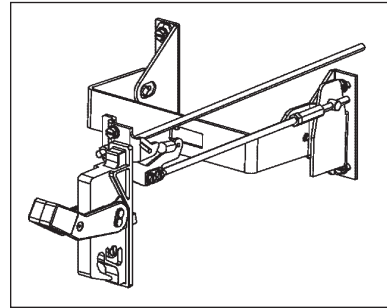
A - Consult with Siemens for availability.

Description	For MG Frame 800 A		For NG to PG Frame 1200 to 1600 A	
	Catalog Number	List Price \$	Catalog Number	List Price \$
Through Door Mounted Rotary Handle Operator Kit^A Fixed depth, breaker mounted. For direct fitting to the circuit breaker. Lockable with up to 3 padlocks. NEMA 1, 12	RHFM	—	—	—
Red Handle version with red knob, yellow indicator plate NEMA 1, 12	RHFMEM	—	—	—
Variable Depth Rotary Handle Operator Kit^A Variable depth, door mounted handle. Includes knob with masking frame, indicator plate, detachable door coupling, 12" shaft, and breaker mounted rotary operator. Lockable knob (for up to 3 padlocks). NEMA 1, 3R, 12	RHVM12	—	—	—
Auxiliary Switch Kits^A For Direct or Extended Rotary Handle Operators (RHF and RHV). Early Break type2 Aux. Switch Kit Includes 1 switch with 5' wire For Variable Depth For Fixed Depth	RHSMA1 RHSMA1F	—	RHSPA1 RHSPA1F	—
Includes 2 switches with 5' wire For Variable Depth For Fixed Depth	RHSMA2 RHSMA2F	—	RHSPA2 RHSPA2F	—
Variable Rotary Operator Mechanism^A Breaker mechanism only	RHVMBM	—	RHVPBM	—
Variable Depth Rotary Handle Only^A Standard version NEMA 1, 12 NEMA 3R NEMA 4X	RHVM12H RHVM3RH RHVM4XH RHVMEMH	—	RHVP3RH RHVP3RH RHVP4XH RHVPEMH	—
Red Handle version				
Extension Shaft^A 2 inches (50.8mm) 3 inches (76.2mm) 12 inches (304.8 mm) 16 inches (406.4 mm) 24 inches (609.6mm) w/ support bracket	RHVMS02 — RHVMS12 RHVMS16 RHVPS24	—	— RHVPS03 RHVPS12 — RHVPS24	—

A - Consult with Siemens for availability.

External Accessories

Operating Mechanisms



Description	For DG and FG Frame 150 to 250 A		For JG and LG Frame 400 to 600 A	
	Catalog Number	List Price \$	Catalog Number	List Price \$
Variable Depth Flange Mounted Operator Kit^A Adjustable from 8" to 16" Complete kit, includes handle and fixed depth operator. NEMA 1, 3R, 12 NEMA 4X IEC Black Handle NEMA 1, 3R, 12	FHVF3R FHVF4X FHVF3RB		FHVL3R FHVL4X FHVL3RB	
Max-Flex™, Variable Depth Flange Mounted Operator Kit^A Complete kit, includes handle, breaker operator, and cable. NEMA 1, 3R, 12 For DG and FG operators, the cable is 36", all others are 48"	MFKF3R		MFKL3R	
Handle Only, for Max-Flex™ Variable Depth^A NEMA 1, 3R, 12 Plastic NEMA 1, 3R, 12 Steel - epoxy coated NEMA 4, 4X Steel - chrome plated Solid color (all gray) Plastic ^① NEMA 1, 3R, 12 Solid color (black handle) Steel epoxy coated ^① NEMA 1, 3R, 12	MFHM3R MFHM3RS MFHM4X MFHM3RB MFHM3RSB		MFHM3R MFHM3RS MFHM4X MFHM3RB MFHM3RSB	
Breaker Operator Mechanism Only, for Max-Flex™^A	MFMF		MFML	
Cable Only, for Max-Flex™ Variable Depth^A 36" 48" 60" 72" 84" 96" 120" 144"	MFCFC036 MFCFC048 MFCFC060 MFCFC072 MFCFC084 MFCFC096 MFCFC120 MFCFC144		MFCM036 MFCM048 MFCM060 MFCM072 MFCM084 MFCM096 MFCM120 MFCM144	
Handle Auxiliary Switch^A Form C (1NO - 1NC), early break ^② 1 Aux. switch 2 Aux. switch	MFSFA1 MFSFA2		MFSLA1 MFSLA2	

① Max-Flex™ handles are available with solid gray or black handles instead of the customary "Red for On" flange handle. The black handle is preferred for IEC markets, where red handles have a specific meaning.

② During manual operation, Early Break aux. contacts open before the breaker opens.

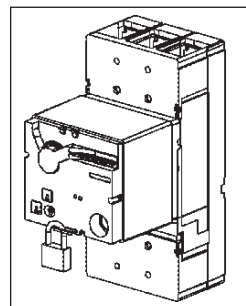
A - Consult with Siemens for availability.

Description	For MG Frame 800 A		For NG Frame 1200 A		For PG Frame 1600 A	
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$
Variable Depth Flange Mounted Operator Kit^A Adjustable from 8" to 16" Complete kit, includes handle and fixed depth operator. NEMA 1, 3R, 12 NEMA 4X IEC Black Handle NEMA 1, 3R, 12	— — —	— — —	— — —	— — —	— — —	— — —
Max-Flex™, Variable Depth Flange Mounted Operator Kit^A Complete kit, includes handle, breaker operator, and cable. NEMA 1, 3R, 12 For DG and FG operators, the cable is 36", all others are 48"	MFKM3R		MFKP3RS		MFKP3RS	
Handle Only, for Max-Flex™ Variable Depth^A NEMA 1, 3R, 12 Plastic NEMA 1, 3R, 12 Steel - epoxy coated NEMA 4, 4X Steel - chrome plated Solid color (all gray) Plastic ^① NEMA 1, 3R, 12 Solid color (black handle) Steel epoxy coated ^① NEMA 1, 3R, 12	MFHM3R MFHP3RS MFHM4X MFHM3RB MFHM3RSB		— MFHP3RS MFHP4X — MFHP3RSB	— — —	MFHP3RS MFHP4X — MFHP3RSB	— — —
Breaker Operator Mechanism Only, for Max-Flex™ A	MFMM		MFMP		MFMP	
Cable Only, for Max-Flex™ Variable Depth^A 36" 48" 60" 72" 84" 96" 120" 144"	— MFCM048 MFCM060 MFCM072 MFCM084 MFCM096 MFCM120 MFCM144	—	MFCP036 MFCP048 MFCP060 MFCP072 MFCP084 MFCP096 MFCP120 MFCP144		— MFCP048 MFCP060 MFCP072 MFCP084 MFCP096 MFCP120 MFCP144	—
Handle Auxiliary Switch^A Form C (1NO - 1NC), early break ^② 1 Aux. switch 2 Aux. switch	MFSPAS1 MFSPAS2		MFSPAS1 MFSPAS2		MFSPAS1 MFSPAS2	

A - Consult with Siemens for availability.

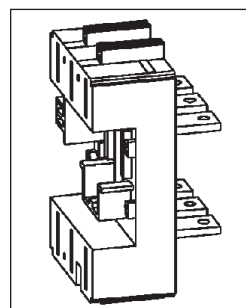
External Accessories

Operating Mechanisms

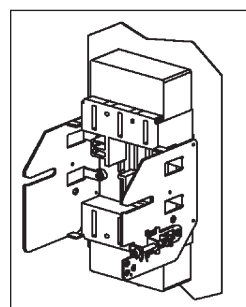
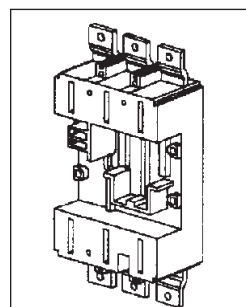


Description	For DG to FG Frame 150 to 250 A	
	Catalog Number	List Price \$
Stored Energy and Motor Operators Lockable with up to 3 padlocks.		
AC Voltage DC Voltage	Stored Energy Type	
— 24	SEAFB	
42-48 42-48	SEAFM	
60 60	SEAFY	
110-127 110-127	SEAFN	
220-250 220-250	SEAFR	
Cylinder Locks for Field Installation	CLKF	

Plug-In and Draw-Out Bases



Description	For DG Frame 150 A	For FG Frame 250 A	
	Catalog Number	List Price \$	Catalog Number
Plug-in Mounting Base Assembly Includes base, terminal blade kit, sec. terminal block assembly, base trip interlock, and mounting hardware.			
Rear Connected 3 pole	PCBDRC3		PCBFRC3
Front Connected 3 pole	PCBDFC3		PCBFFC3
Draw-out Assembly Includes base, position indicator switch, socket, base trip interlock, crank handle, connectors, and necessary shields.			
Rear Connected 3 pole	DCADRC3		DCAFRC3
Front Connected 3 pole (Draw-out assembly includes side plates and all hardware)	DCADFC3		DCAFFC3
Hex Wrench for racking draw-out assembly and position indicator	DCHP		DCHP
Position Indicator Switch Form "C" switch to indicate breaker engaged/dis-engaged position. ^①	DCIP		DCIP
Secondary Terminal Block Assy. Accessory connections for plug-in or draw-out breakers. Pre-wired plug and block with 8 terminal points. ^②	PCTF83		PCTF83
90° Connection Adapter Kit For rear connected 3-pole plug-in base	PCAF390		PCAF390
Plug-In Spare Breaker Kit Set of 6 terminal blades, 2 terminal shield, & 1 trip interlock	PCXD3		PCXF3
Draw-out Spare Breaker Kit Set of 6 terminal blades, & 1 trip interlock	DCXD3		DCXF3
Spare Breaker Trip Interlock	PCXFT		PCXFT



① Up to 2 position indicator switches may be mounted per plug-in or draw-out base.

② Up to 2 plugs per breaker (16 terminal points) may be mounted on DG, and FG breakers. Up to 3 plugs per breaker (24 terminal points) may be mounted on JG, LG, MG, NG, and PG breakers.

A - Consult Siemens for availability.

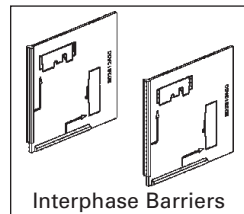
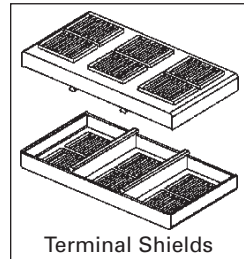
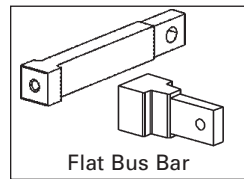
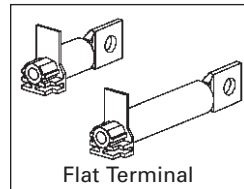
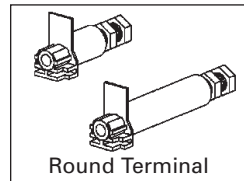
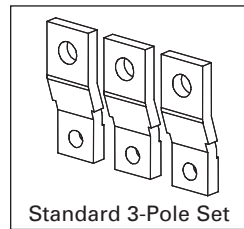
External Accessories

For JG to LG Frame 400 to 600 A		For MG Frame 800 A		For NG to PG Frame 1200 to 1600 A	
Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$
Stored Energy Type SEALB SEALM SEALY SEALN SEALR CLKP		Stored Energy Type SEAMB SEAMM SEAMY SEAMN SEAMR CLKP		Motor Operator Type MTRPB MTRPM MTRPY MTRPN MTRPR CLKP	

For JG Frame 400 A		For LG Frame 600 A		For MG Frame 800 A		For NG Frame 1200 A		For PG Frame 1600 A	
Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$
PCBJRC3		PCBLRC3		PCBMRC3		PCBNRC3		—	—
PCBJFC3		PCBLFC3		—	—	—	—	—	—
DCAJRC3		DCALRC3		DCAMRC3		DCAPRC3		DCAPRC3	
DCAJFC3		DCALFC3		DCAMFC3		DCAPFC3 ^A		DCAPFC3 ^A	
DCHP		DCHP		DCHP		DCHP		DCHP	
DCIP		DCIP		DCIP		DCIP		DCIP	
PCTL83		PCTL83		PCTM83		PCTP83		PCTP83	
—	—	—	—	—	—	—	—	—	—
PCXJ3		PCXL3		PCXM3		PCXN3		—	—
DCXJ3		DCXL3		DCXM3		DCXN3		DCXP3	
PCXLT		PCXLT		PCXMT		PCXPT		PCXPT	

External Accessories

Connections



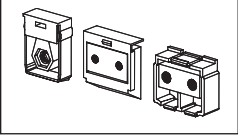
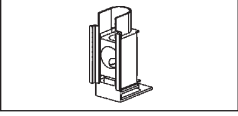
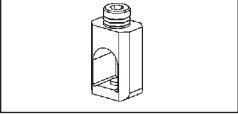
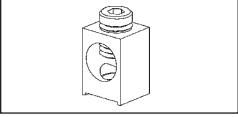
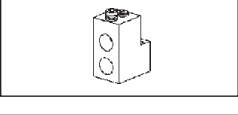
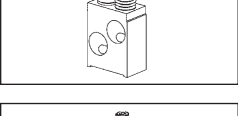
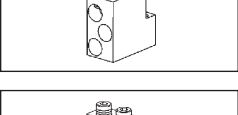
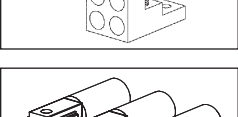
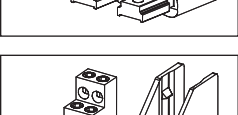

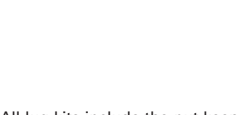
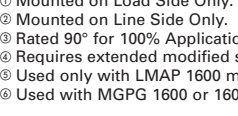
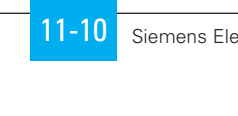
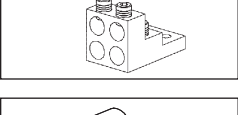
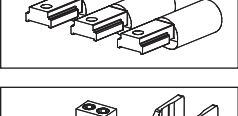
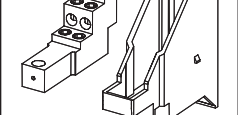

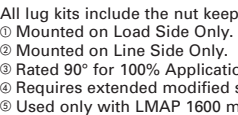

Description	For DG Frame 150 A		For FG Frame 250 A	
	Catalog Number	List Price \$	Catalog Number	List Price \$
Front Bus Bar Connections^① Includes nut keeper plates and shield. Standard (straight) 3-Pole Set Bus Bar Connection Strap Kit Includes 6 - Bus Bars, 6 Nut Keepers & Shields	FBCD3	—	FBCF3	—
Rear-Connecting Studs Short length round term. (1piece) Long length round term. (1piece) 3-Pole round term. kit, 2 short + 1 long Short length flat term. (1piece) Long length flat term. (1piece) 3-Pole flat term. kit, 2 short + 1 long Flat bus bar type (1 piece) 3-Pole set of flat bus bar	RTLDSR RTLDLR SRTDR3 RTLDSF RTLDLF SRTDF3 — —	— — — — — — —	RTLFSR RTLFLR SRTFR3 RTLFSF RTLFLF SRTFF3 — —	— — — — — — —
Terminal Shields^① Includes 1 terminal shield, for line or load. 3-Pole Standard Shield 3-Pole Extended Shield	TSSF3 TSLF3	— —	TSSF3 TSLF3	— —
Interphase Barriers^① Set of 2 barriers Also fits plug-in and draw-out bases.	IPBF	—	IPBF	—
Lug Mounting Assy.	—	—	—	—
Breaker Mounting Base Front connected Rear connected	— —	— —	— —	— —

© Not UL listed.
A - Consult Siemens for availability.

External Accessories

For JG Frame 400 A		For LG Frame 600 A		For MG Frame 800 A		For NG Frame 1200 A		For PG Frame 1600 A	
Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$
FBCJ3A —	—	FBCL3A —	—	FBCM3A — 100% rated applications	—	FBCP3A — SSBPH	—	FBCP3A SSBP	—
RTLJSR RTLJLR SRTJR3 RTLJSF RTLJLF SRTJF3 — —	— — — — — — —	— — — — — — RTLLSF SRTL3F3	— — — — — — — —	— — — — — — RTLMSF SRTMF3	— — — — — — — —	— — — — — — RTLNSF SRTNF3	— — — — — — — —	— — — — — — — —	— — — — — — — —
TSSL3 TSL3	—	TSSS3 TSL3	—	TSSM3 TSLM3	—	TSSP3 TSLP3	—	TSSP3 TSLP3	—
IPBM	—	IPBM	—	IPBM	—	IPBP	—	IPBP	—
—	—	—	—	—	—	—	—	LMAP1600	—
— —	— —	— —	— —	— —	— —	— —	— —	MBPG1600 MBPG1601	— —

Connections

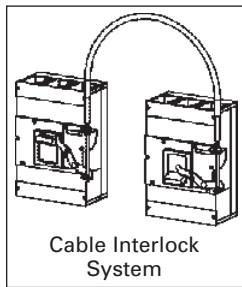
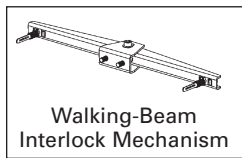
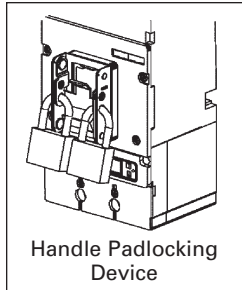
	Discription	For DG Frame 150 A		For FG Frame 250 A	
		Catalog Number	List Price \$	Catalog Number	List Price \$
	Nut Keeper Plates For ring/tongue terminal or bus bar connections. (For metric threads on other than the JG or LG frame, change "TNK" to "TMK") 1 Nut Keeper Plate Kit of 3	TNKD TNKD3		TNKF TNKF3	
	Mechanical Lugs <i>Steel Wrap Around Body (Cu Wire Only)</i> Cable Size; (cables per phase) Single Lug Kit of 3	#8-1/0; 1-hole TW1DG20 3TW1DG20		#4-350 kcmil; 1-hole TW1FG350 3TW1FG350	
	<i>Aluminum Body (Al or Cu Wire)</i> Cable Size; (cables per phase) Single Lug Kit of 2	#6-3/0; 1-hole TA1DG30 —	—	#4-350 kcmil; 1-hole TAW1FG350 —	—
	Kit of 3	3TA1DG30		3TAW1FG350	
	Cable Size; (cables per phase)	—	—	—	—
	Single Lug Kit of 2	—	—	—	—
	Kit of 3	—	—	—	—
	Cable Size; (cables per phase) Single Lug	—	—	—	—
	Kit of 3	—	—	—	—
	<i>Copper Body (Cu Wire Only)</i> Cable Size; (cables per phase) Single Lug Kit of 2	#6-3/0; 1-hole TC1DG30 —	—	#4-350 kcmil; 1-hole TCW1FG350 —	—
	Kit of 3	3TC1DG30		3TCW1FG350	
	Cable Size; (cables per phase) Single Lug	—	—	—	—
	Compression Lugs Cable Size; (cables per phase) Kit of 2 Kit of 3	#14-2/0; 1-cable 2CLD20 3CLD20		#6-350 kcmil; 1-cable 2CLF350 3CLF350	
	Cable Size; (cables per phase) Kit of 2	—	—	—	—
	Kit of 3	—	—	—	—
	Cable Size; (cables per phase) Kit of 3	—	—	—	—
	Distribution Lugs Cable Size; (cables per phase) Single Lug Kit of 3	#14-#2; 3-hole TA3DG02 3TA3DG02		#14-#1; 2-hole and #14-2/0; 1-hole TA3FG20 3TA3FG20	
	Cable Size; (cables per phase) Single Lug	#14-#4; 6-hole TA6DG04		#14-#4; 6-hole TA6FG04	
	Kit of 3	3TA6DG04		3TA6FG04	

- All lug kits include the nut keepers.
- Ⓞ Mounted on Load Side Only.
- Ⓛ Mounted on Line Side Only.
- Ⓡ Rated 90° for 100% Applications.
- Ⓢ Requires extended modified shield.
- Ⓣ Used only with LMAP 1600 mounting base.
- Ⓤ Used with MGPG 1600 or 1601 mounting base.

For JG Frame 400 A		For LG Frame 600 A		For MG Frame 800 A		For NG Frame 1200 A		For PG Frame 1600 A	
Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$
TMKJ TMKJ3		TNKL TNKL3		TNKM TNKM3		TNKP TNKP3		TNKP TNKP3	
1/0-600 kcmil; 1-hole TW1JG600 3TW1JG600	— — —	— — —	— — —	— — —	— — —	— — —	— — —	— — —	— — —
3/0-250 kcmil; 2-hole TA2JG250 — 3TA2JG250	— — —	#2-600 kcmil; 2-hole — 2TA2LG600LD ① 2TA2LG600LN ② 3TA2LG600LD ① 3TA2LG600LN ②	— — — —	1/0-500 kcmil; 3-hole TA3MG500 3TA3MG500	— — —	1/0-500 kcmil; 4-hole — 2TA4NG500 3TA4NG500 3TA4NG500H ③	— — — —	1/0-750 kcmil; 6-hole — — 3TA6PG750 ⑤	— — — —
AL: 250-750 kcmil CU: 3/0-600 kcmil; 1-hole TA1JG750 — 3TA1JG750 — — —	— — — — — —	AL: 250-750 kcmil CU: 3/0-600 kcmil; 1-hole TA1JG750 (400A max) — 3TA1JG750 (400A max) — — —	— — — —	500-750 kcmil; 2-hole TA2MG750 — 3TA2MG750 #2-600 kcmil; 3-hole — 3TA3MG600 ④	— — — — — —	500-750 kcmil; 3-hole — 2TA3NG750 3TA3NG750 500-750 kcmil; 2; 3-hole TA2MG750 TA3MG750 —	— — — — — —	600-750 kcmil; 4-hole TA4P750 ⑥ — — 300-600 kcmil; 5; 6-hole TA5P600 TA6R600 ⑦ —	— — — — — —
3/0-250 kcmil; 2-hole TC2JG250 — —	— — —	#2-600 kcmil; 2-hole — 2TC2LG600LD ① 2TC2LG600LN ② 3TC2LG600LD ① 3TC2LG600LN ②	— — — —	1/0-500 kcmil; 3-hole TC3MG500 — —	— — — —	1/0-500 kcmil; 4-hole — — 3TC4NG500 1/0-500 kcmil; 3-hole TC3MG500	— — — —	1/0-750 kcmil; 6-hole — — 3TC6PG750 (future) 300-600 kcmil; 5-hole TC5R600 ⑧	— — — — —
#6-350 kcmil; 1-cable — 3CLJ350 250-750 kcmil; 1-cable — 3CLJ750 250-600 kcmil; 1-cable 3CLJ600	— — — — —	#6-350 kcmil; 2-cable — 6CLL350 250 kcmil-750 kcmil; 1-cable — 3CLL750 250 kcmil-600 kcmil; 2-cable 6CLL600	— — — — —	1/0-500 kcmil; 3-cable — 9CLM500 (future) — —	— — — — —	1/0-500 kcmil; 4-cable — 12CLN500 — — — —	— — — — — —	#2-600 kcmil; 8-cable — 24CLP600 (future) — — — —	— — — — — —
#14-#4; 12-hole TA12JG04 3TA12JG04 #14-2/0; 6-hole TA6JG20 3TA6JG20	— — — — —	— — — — —	— — — — —	— — — — —	— — — — —	— — — — —	— — — — —	— — — — —	— — — — —

External Accessories

General



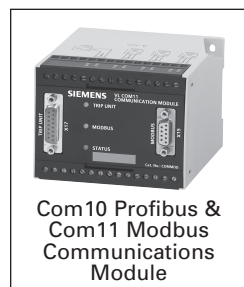
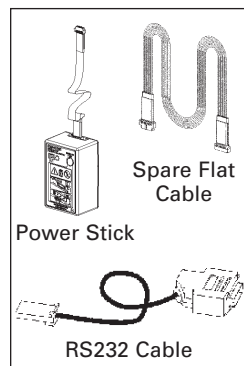
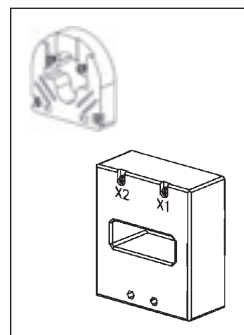
Description	For DG Frame 150 A		For FG Frame 250 A	
	Catalog Number	List Price \$	Catalog Number	List Price \$
Handle Padlocking Device To padlock breaker toggle in the "OFF" position. Accepts up to 3 padlocks with 5–8 mm shackles.	HPLF		HPLF	
Handle Blocking Device For holding the handle in the "ON" or "OFF" position. Not a lockout/tagout device.	HBDF		HBDF	
Walking-Beam Interlock Mechanism Provides mechanical interlocking between two adjacent circuit breakers. Fixed mounted breakers Plug-in or draw-out mounted breakers (Future) Note: Both breakers must be of the same frame size.	WBMFFM WBMFDP		WBMFFM WBMFDP	
Cable Interlock Mechanism Provides mechanical interlocking between 2 circuit-breakers. Includes operator mechanism for one circuit breaker only. Combination with the next larger or smaller frame size is possible.	CBTF		CBTF	
Interlock Cable Cable only, to connect 2 circuit breakers. Cable length 18 in. .46m (recommended up to 250A) Cable length 36 in. .91m (recommended from 600–800A) Cable length 54 in. 1.37m (recommended from 1200–1600A)	CBCF18 CBCM36 CBCP54		CBCF18 CBCM36 CBCP54	
Mounting Screw Kit Includes the necessary hardware to mount a circuit breaker to the user's prepared surface (SAE thread) Kit with 2 screws Kit with 4 screws	MSKF2 MSKF4		MSKF2 MSKF4	
Trip Adjustment Sealing Cover Includes a trip unit cover to prevent tampering or adjustment of trip settings. Seal not included. Electronic Trip Units Thermal-Magnetic Trip Units	TSCPET TSCFTM		TSCPET TSCFTM	

External Accessories

For JG Frame 400 A		For LG Frame 600 A		For MG Frame 800 A		For NG Frame 1200 A		For PG Frame 1600 A	
Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$
HPLL		HPLL		HPLM		HPLP		HPLP	
HBDL		HBDL		HBDM		HBDP		HBDP	
WBMLFM WBMLDP		WBMLFM WBMLDP		WBMMFM WBMMDP		WBMPFM WBMPDP		WBMPFM WBMPDP	
CBTL		CBTL		CBTM		CBTP		CBTP	
— CBCM36 CBCP54	—	— CBCM36 CBCP54	—	— CBCM36 CBCP54	—	— — CBCP54	— — —	— — CBCP54	— — —
— MSKL4	—	— MSKL4	—	— MSKM4	—	— MSKP4	— —	— MSKP4	— —
TSCPET TSCLTM		TSCPET TSCLTM		TSCPET TSCMTM		TSCPET —	— —	TSCPET —	— —

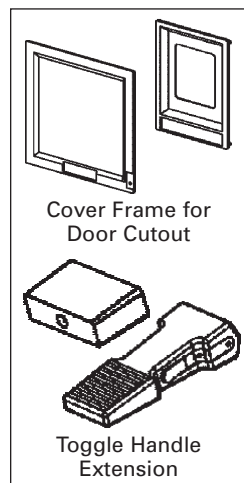
External Accessories

Ground Sensors & Electronic Accessories



Description	For DG Frame 150 A		For FG Frame 250 A	
	Catalog Number	List Price \$	Catalog Number	List Price \$
Neutral Current Transformer (Ground Sensor, N-pole)				
Neutral = 35/60A	NGSD060		—	—
Neutral = 100A	NGSF100		NGSF100	
Neutral = 150A	NGSF150		NGSF150	
Neutral = 250A	—	—	NGSJ250	
Neutral = 400A	—	—	—	—
Neutral = 600A	—	—	—	—
Neutral = 800A	—	—	—	—
Neutral = 1000/1200A	—	—	—	—
Neutral = 1600A	—	—	—	—
Communications & Electronics				
Power Stick - Hand held, battery operated power supply for LCD trip units. (Requires two -9V batteries) For programming and trip testing only.	EPSP18V	—	EPSP18V	—
Test Kit - Portable power supply for programming, trip test, and checking CT's plus a port for local communications of currents flow and trip settings. (Requires two 9V batteries)	ELTPHB	—	ELTPHB	—
Universal Power Supply - 120/240Vac adapter used in lieu of 9V batteries for Test Kit ELTPHB (includes necessary cables)	UPAPELTK	—	UPAPELTK	—
Power Supply with ZSI (for Model 576 trip units only. Includes necessary cables)	COMPS	—	COMPS	—
Com10 Profibus Communications Module with ZSI for LCD trip Model 576 only	COMPRO	—	COMPRO	—
Com11 Modbus Communications Module with ZSI for LCD Trip Model 576 only	COMMOD	—	COMMOD	—
Communications Adapter - Interface with a laptop or PC to test or program Model 545 & 576 trip units	CSAPELTU	—	CSAPELTU	—
Cable for COM10/11 and Model 576 external power supply.....5ft. (1.5m)	COMKIT1	—	COMKIT1	—
Extension cable for COMKIT1 & COMKIT2, adds 5 ft.	COMPEXT	—	COMPEXT	—
Spare flat cable for Test Kits or Communications Adapters	COMPCA	—	COMPCA	—
RS232 type cable for Test Kits or Communications Adapters	COMP232	—	COMP232	—

Door Cutouts & Extensions

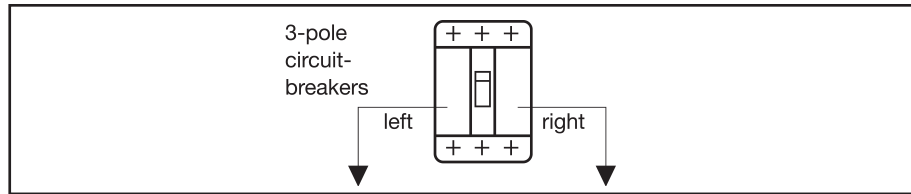


Cover Frame for Door Cutout For fixed or plug-in mounted circuit breakers. (IP30) 2-Pole & 3-Pole	BZLF3		BZLF3	
For breakers with rotary handle or stored energy operator. (IP40)	BZLFRHSE		BZLFRHSE	
Circuit-breaker draw-out mounted and toggle handle operated. Kit includes cover frame (bezel) and escutcheon as needed. (IP40) (not for use with rotary handle or stored energy operator)	BZLFBDC		BZLFBDC	
Toggle Handle Extension For spare or replacement. (One is included with each LG - PG frame.)	—	—	—	—

External Accessories

For JG Frame 400 A		For LG Frame 600 A		For MG Frame 800 A		For NG Frame 1200 A		For PG Frame 1600 A	
Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
NGSJ250	—	—	—	—	—	—	—	—	—
NGSL400	—	NGSL400	—	—	—	—	—	—	—
—	—	NGSM600	—	NGSM600	—	—	—	—	—
—	—	—	—	NGSN800	—	—	—	—	—
—	—	—	—	—	—	NGSN800	—	—	—
—	—	—	—	—	—	NGSP120	—	NGSP120	—
—	—	—	—	—	—	—	—	NGSP160	—
EPSP18V	—	EPSP18V	—	EPSP18V	—	EPSP18V	—	EPSP18V	—
ELTPHB	—	ELTPHB	—	ELTPHB	—	ELTPHB	—	ELTPHB	—
UPAPELTK	—	UPAPELTK	—	UPAPELTK	—	UPAPELTK	—	UPAPELTK	—
COMPS	—	COMPS	—	COMPS	—	COMPS	—	COMPS	—
COMPRO	—	COMPRO	—	COMPRO	—	COMPRO	—	COMPRO	—
COMMOD	—	COMMOD	—	COMMOD	—	COMMOD	—	COMMOD	—
CSAPELTU	—	CSAPELTU	—	CSAPELTU	—	CSAPELTU	—	CSAPELTU	—
COMKIT2	—	COMKIT2	—	COMKIT2	—	COMKIT1	—	COMKIT1	—
COMEXT	—	COMEXT	—	COMEXT	—	COMEXT	—	COMEXT	—
COMPCA	—	COMPCA	—	COMPCA	—	COMPCA	—	COMPCA	—
COMP232	—	COMP232	—	COMP232	—	COMP232	—	COMP232	—
BZLL3	—	BZLL3	—	BZLM3	—	BZLP3	—	BZLP3	—
BZLLRHSE	—	BZLLRHSE	—	BZLMRHSE	—	BZLPRHSE	—	BZLPRHSE	—
BZLLBDC	—	BZLLBDC	—	BZLMBDC	—	BZLPBDC	—	BZLPBDC	—
THEL	—	THEL	—	THEM	—	THEP	—	THEP	—

Accessory Locations



Locations of Internally Mounted Accessories

Frame Family	Left Pocket	Right Pocket
DG*, FG*, JG, LG 150 to 600A	Up to 3 Auxiliary Switches	Shunt Trip or UVR or up to 3 Auxiliary Switches or up to 2 Auxiliary Switches + 1 Alarm Switch
	Up to 2 Auxiliary Switches + 1 Alarm Switch	Shunt Trip or UVR or up to 3 Auxiliary Switches or up to 2 Auxiliary Switches + 1 Alarm Switch
MG, NG, PG 800 to 1600A	Up to 4 Auxiliary Switches	Shunt Trip or UVR or up to 4 Auxiliary Switches
	Up to 2 Auxiliary Switches + 2 Alarm Switches	Shunt Trip or UVR or up to 4 Auxiliary Switches

* Except DG and FG breakers with Electronic Trip Units. Due to the location of the Magnetic Latch, the Left Pocket is not available for accessories.

Accessory Information

- Aux. Switch is an Auxiliary Switch, 1A or 1B contact
- Alarm Switch has 1A or 1B contact
- UVR is an Undervoltage Release
- The standard location for factory mounted Auxiliary and Alarm Switches is the Left Pocket
- For 4-pole breakers, the 4th pole (located on the far left) can hold up to 3 Auxiliary Switches on DG, FG, JG, and up to 4 Auxiliary Switches on MG, NG, and PG breakers

Accessory Maximums

DG, FG, JG, LG Maximum Accessories:

- Maximum of six (6) switches total
- DG, FG Maximum of two (2) Alarm Switches, one each in the Left and Right Pockets. JG, LG Max. of 1 Alarm, Left only
- Maximum of three (3) switches combined in 4th Pole and Left Pockets

MG, NG, PG Maximum Accessories:

- Maximum of eight (8) switches total
- Maximum of two (2) Alarm Switches, Left Pocket only
- Maximum of four (4) switches combined in 4th Pole and Left Pockets

Suffix for factory mounted Switch Combinations

If the frame is:	And you need these functions:	Then add this suffix:	Device Catalog Number
DG, FG, JG or LG	1 Alarm Switch 1 NO Alarm 1 NC Alarm	A1	ASKL1
DG, FG, JG or LG	2 Aux. Switches 1 NO + 1 NC Aux. Contacts	A2	ASKL2
DG, FG, JG or LG	2 Aux. + 1 Alarm Switches 1NO + 1NC Aux. and 1NO Alarm 1NO + 1NC Aux. and 1NC Alarm 2NO Aux. and 1NC Alarm 2NC Aux. and 1NO Alarm	A3	ASKL3
MG, NG or PG	2 Aux. + 2 Alarm Switches 1NO + 1NC Aux. and 1NO + 1NC Alarm 2NO Aux. and 2NC Alarm 2NC Aux. and 2NO Alarm	A3	ASKP3
MG, NG or PG	4 Aux. Switches 2NO + 2NC Aux.	A4	ASKP4

Suffix for factory mounted Shunt Trips

If the frame is:	And you need these functions:	Then add this suffix:	Device Catalog Number
DG, FG, JG or LG	24V DC 48-60V DC 110-127V DC 220-250V DC 48-60V AC 110-127V AC 208-277V AC 380-600V AC	RB RC RD RE RM RN RS RV	STRLB24DC STRLC60DC STRLD125DC STRLE250DC STRLM60 STRLN120 STRLS277 STRLV600
MG, NG or PG	24V DC 48-60V DC 110-127V DC 220-250V DC 48-60V AC 110-127V AC 208-277V AC 380-600V AC	RB RC RD RE RM RN RS RV	STRPB24DC STRPC60DC STRPD125DC STRPE250DC STRPM60 STRPN120 STRPS277 STRPV600

Molded Case Circuit Breakers

SELECTION

Suffix for factory mounted Under Voltage Releases

If the frame is:	And you need these functions:	Then add this suffix:	Device Catalog Number
DG, FG, JG or LG	12V DC 24V DC 48V DC 60V DC 110-127V DC 220-250V DC 110-127V AC 220-250V AC 208V AC 277V AC 380-415V AC 440-480V AC 600V AC	UA UB UC UG UD UE UN UR UP US UT UU UV	UVRLA12DC UVRLB24DC UVRLC48DC UVRLG60DC UVRLD125DC UVRLE250DC UVRLN120 UVRLR240 UVRLP208 UVRLS277 UVRLT415 UVRLU480 UVRLV600
MG, NG or PG	12V DC 24V DC 48V DC 60V DC 110-127V DC 220-250V DC 110-127V AC 220-250V AC 208V AC 277V AC 380-415V AC 440-480V AC 600V AC	UA UB UC UG UD UE UN UR UP US UT UU UV	UVRPA12DC UVRPB24DC UVRPC48DC UVRPG60DC UVRPD125DC UVRPE250DC UVRPN120 UVRPR240 UVRPP208 UVRPS277 UVRPT415 UVRPU480 UVRPV600

Technical Data

		DG	FG	JG	LG	MG	NG	PG
Max rated continuous current		150	250	400	600	800	1200	1600
Rated operational voltage								
NEMA	V AC	600	600	600	600	600	600	600
IEC	V AC	690	690	690	690	690	690	690
Rated Impulse Withstand Voltage								
Main conducting paths	kV	8	8	8	8	8	8	8
Auxiliary circuits	kV	4	4	4	4	4	4	4
Ambient Temperature Range	°C	-25 to +75	-25 to +75	-25 to +75	-25 to +75	-25 to +75	-25 to +75	-25 to +75
High Ambient Derating (thermal-mag.)	50°C	93%	93%	93%	93%	95%	95%	95%
	60°C	86%	86%	86%	86%	86%	86%	80%
	70°C	80%	80%	80%	80%	80%	80%	74%
Operating Cycles		20,000	20,000	20,000	10,000	5,000	3,000	3,000
Max switching rate (per hour)		120	120	120	60	60	30	30
Power loss (at max. rated current)								
Thermal-magnetic	W	15 – 48	32 – 80	60 – 175	85 – 230	170 – 250	150 – 220	200 – 260
Electronic trip unit	W	40	60	90	160	250	210	260
IEC ^①								
Time constant t = 10 ms								
1 current path								
2 current paths in series								
3 current paths in series								
Up to 250V DC		—	—	—	—	—	—	—
440V DC								
600V DC								
NEMA								
Time constant t = 8 ms								
2 poles switching								
1 current path								
250V DC Max. ^②		30	30	30	30	42	42	42
3 poles switching								
2 current paths in series								
500V DC Max. ^②		18	25	35	35	65	65	65
Accessories								
Auxiliary/Alarm Switch								
Current rating (1 or 2 switches)		10	10	10	10	10	10	10
Current rating (3 or 4 same switch)	A	5	5	5	5	5	5	5
Shunt Trip								
Pick-up voltage	V	0.7 – 1.1	0.7 – 1.1	0.7 – 1.1	0.7 – 1.1	0.7 – 1.1	0.7 – 1.1	0.7 – 1.1
Power Consumption (short-time) at:								
48 – 60 V AC	VA	401 – 501	401 – 501	401 – 501	401 – 501	401 – 501	401 – 501	401 – 501
110 – 127 V AC	VA	424 – 489	424 – 489	424 – 489	424 – 489	424 – 489	424 – 489	424 – 489
208 – 277 V AC	VA	533 – 736	533 – 736	533 – 736	533 – 736	533 – 736	533 – 736	533 – 736
380 – 600 V AC	VA	408 – 645	408 – 645	408 – 645	408 – 645	408 – 645	408 – 645	408 – 645
24 V DC	W	594	594	594	594	594	594	594
48 – 60 V DC	W	740 – 925	740 – 925	740 – 925	740 – 925	740 – 925	740 – 925	740 – 925
110 – 127 V DC	W	559 – 648	559 – 648	559 – 648	559 – 648	559 – 648	559 – 648	559 – 648
220 – 250 V DC	W	722 – 820	722 – 820	722 – 820	722 – 820	722 – 820	722 – 820	722 – 820
Max. Operating time	ms	50	50	50	50	50	50	50

^① Consult Siemens for short circuit values.
^② Review individual frame and type values.

Technical Data

	DG	FG	JG	LG	MG	NG	PG	
Undervoltage Trip								
Drop voltage (percentage)	V	35% – 70%	35% – 70%	35% – 70%	35% – 70%	35% – 70%	35% – 70%	35% – 70%
Pick-up voltage (percentage)	V	70% – 85%	70% – 85%	70% – 85%	70% – 85%	70% – 85%	70% – 85%	70% – 85%
Power consumption (continuous) at:								
110 – 127 V AC VA	1	1	1	1	1.1	1.1	1.1	
220 – 250 V AC VA	2.1	2.1	2.1	2.1	2.1	2.1	2.1	
208 V AC VA	1.2	1.2	1.2	1.2	1.2	1.2	1.2	
277 V AC VA	1.4	1.4	1.4	1.4	1.4	1.4	1.4	
380 – 415 V AC VA	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
440 – 480 V AC VA	2.2	2.2	2.2	2.2	2.2	2.2	2.2	
500 – 525 V AC VA	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
600 V AC VA	2.8	2.8	2.8	2.8	2.8	2.8	2.8	
Max. opening time	ms	50	50	50	50	50	50	50
Motorized Operating Mechanism								
Motor with stored energy mechanism (synchronizable)		X	X	X	X	X	X	X
Motor Operator						X	X	
Max. switching rate (per hour)		120	120	120	60	60	30	30
Command duration	ms	20 – 50	20 – 50	20 – 50	20 – 50	20 – 50	—	—
Closing time	ms	<100	<100	<100	<100	<100	<5,000	<5,000
Charging time	s	<5	<5	<5	<5	<5	<5	<5
Break time	s	<5	<5	<5	<5	<5	<5	<5
Power consumption	VA/W	<500						
Inrush (A)								
Control Voltages								
		110 – 127 V AC						
		220 – 250 V AC						
		24 V DC						
		48 V DC						
		60 V DC						
Operating Range		85 – 110% of rated control voltage						

Unusual Operating Conditions

Note: The information provided on this and the next page is intended for reference and recommendation only. Because several variables can act on a circuit breaker's performance at the same time, the data below is based less on controlled testing, than on experience and engineering judgment. Contact Siemens for further information on special conditions and treatment.

High Ambient Temperatures

Because thermal-magnetic trip breakers are temperature sensitive and calibrated for a specific ambient of 40° C (104° F) (average enclosure temperature), a higher ambient will cause the breaker to trip at lower current than its nameplate rating, in other words, causing the breaker to "derate" (see Table 1). Similarly, the current carrying capacity of a circuit conductor is based upon a certain ambient temperature, a higher ambient will reduce its current carrying capacity, causing it to "derate." Thus, with a fluctuating temperature, a thermal-magnetic breaker will derate nearly parallel with its connected circuit conductors and maintain close circuit protection. If the application temperature exceeds 40° C (104° F) and is known, either a breaker specially calibrated for the higher ambient or one oversized according to Table 1 may be selected. In a case such as this, the circuit conductors should be oversized as well. Siemens Electronic Trip Unit Breakers are insensitive to temperature changes. However, they do include circuitry to protect the components from abnormally high temperatures.

Moisture — Corrosion

For atmospheres having high moisture content and / or where fungus growth is prevalent, a special preventive treatment may be required.

Where the air is heavily laden with corrosive elements, breakers made with special corrosion-resistant finishes may be required.

Altitude

Reduced air density at altitudes greater than 6600 ft. (2000 meters) affects the ability of a molded case circuit breaker to transfer heat and interrupt faults. Therefore, circuit breakers applied at these altitudes should have interrupting, insulation and continuous currents derated as indicated in Figure 1.

Table 1 — Temperature Derating Data for Thermal-Magnetic Breakers

Reference Ampere Rating at 40° C (104° F)	Ampere Rating at:				Siemens Breaker Frames
	25° C (77° F)	50° C (122° F)	60° C (140° F)		
15	17	13	11	BQ, BL, BQD, CQD, NGG, ED	DG
20	22	18	16		
25	28	23	21		
30	33	28	26		
35	39	30	25		
40	44	37	34		
50	55	46	42		
60	66	56	52		
70	77	65	60		
90	99	84	78		
100	110	94	87		
125	137	114	100		
150	165	136	120		
175	192	159	140		
200	220	182	160		
225	247	205	180		
250	275	235	220		
300	330	276	252		
350	385	325	301		
400	440	372	340		
500	550	468	435		
600	660	564	525		
700	770	658	613		
800	880	754	704		
900	990	828	749		
1000	1100	900	825		
1200	1320	1090	1000		
1400	1540	1304	1148		
1600	1760	1500	1320		
1800	1980	1690	1485		
2000	2200	1880	1650		
					FG
					JG
					LG
					MG
					NG
					PG

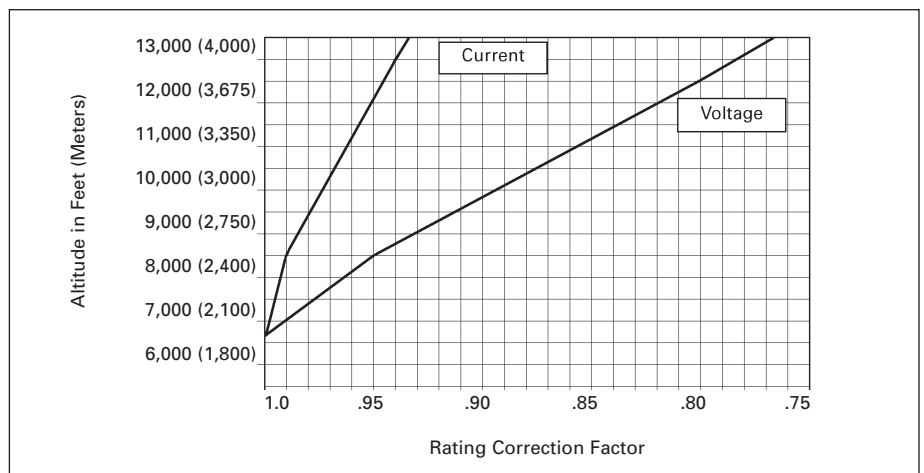


Figure 1 — Altitude Adjustment

Unusual Operating Conditions

400 Hz Systems^①

Siemens molded case circuit breakers can be applied for overcurrent protection on 400Hz systems, commonly used to power computer installations, aircraft, military and other specialty equipment. Below are basic guidelines.

Circuit Breaker Derating Required

This table lists the maximum continuous current carrying capacity for Siemens breakers at 400Hz. Due to the increased resistance of the copper sections resulting from the skin effect produced by eddy currents at these frequencies, circuit breakers in many cases require derating. The thermal derating on these devices is based upon 100%, three-phase application in open air in a maximum of 40°C (104°F) with 48 in. (1219 mm) of the specified cable or bus at the line and load side. Additional derating of not less than 20% will be required if the circuit breaker is to be utilized in an enclosure. Further derating may be required if the enclosure

ambient temperature exceeds 40°C (104°F).

Cable and Bus Sizing

The cable and bus sizes to be utilized at 400Hz are not based on standard National Electric Codes tables for 60Hz application. Larger cross sections are necessary at 400Hz. All bus bars specified are based upon mounting the bars in the vertical plane to allow maximum air flow. All bus bars are spaced at a minimum of 0.25 in. (6 mm) apart. Mounting of bus bars in the horizontal plane will necessitate additional drafting. Edgewise orientation of the bus may change the maximum ratings indicated. If additional information is required for other connections of cable or bus, contact Siemens for information.

Application Recommendations

It is recommended that temperatures be measured on the line and load terminals or T-connectors of the center pole. These

are usually the hottest terminals with a balanced load. A maximum temperature of 75°C (35°C over a maximum ambient of 40°C) would verify the particular application. Temperature profiles taken on these breakers can be correlated to ensure that the hottest points within the breaker are within the required temperature limits.

Factory Configuration

When required, molded case circuit breakers may be factory calibrated for 400Hz application. These breakers are specially labeled for 400Hz usage and their nameplate current rating will include the necessary derating factory. The highest "Maximum Continuous Amperes" rating at 400Hz, found in the table below approximates the highest specially calibrated 400Hz nameplate ampere rating available for a given frame size. Contact Siemens for ordering information on other breakers applied in 400Hz systems.

400Hz Breakers

Siemens Breaker Type	Maximum Continuous Ampere Rating At 40°C (104°F) ^②			75°C (167°F) Copper Cable per Pole	
	60HZ		Enclosed After Derating	No of Pieces	Wire Size
	Open Air	Open Air ^③			
NGG, EG	15	15	12	1	#14
	20	20	16	1	#12
	15	15	12	1	#14
	20	20	16	1	#12
	25	25	20	1	#10
	30	30	24	1	#10
	35	35	28	1	#10
	40	40	32	1	#8
	45	43	34	1	#8
	50	48	38	1	#8
	60	57	46	1	#6
	70	67	54	1	#4
	80	76	61	1	#4
	90	86	69	1	#3
	100	95	76	1	#3
110	105	84	1	#2	
125	119	95	1	#1	
DG	50	48	38	1	#8
	60	57	46	1	#6
	70	63	50	1	#4
	80	72	58	1	#4
	90	80	64	1	#3
	100	90	72	1	#3
	110	95	75	1	#2
	125	105	84	1	#1
FG	100	90	72	1	#3
	110	95	75	1	#2
	125	105	84	1	#1
	150	125	100	1	#1/0
	175	140	112	1	#2/0
	200	160	128	1	#3/0
	225	180	144	1	#4/0
	250	200	160	1	250 kcmil

Siemens Breaker Type	Maximum Continuous Ampere Rating At 40°C (104°F) ^②			75°C (167°F) Copper Cable per Pole	
	60HZ		Enclosed After Derating	No of Pieces	Wire Size
	Open Air	Open Air ^③			
JG	250	210	168	1	250 kcmil
	300	240	192	1	350 kcmil
	350	260	208	1	500 kcmil
	400	300	240	2	#2/0
JG 100% Rated	250	210	210	1	250 kcmil
	300	240	240	1	350 kcmil
	350	260	260	1	500 kcmil
LG	400	300	300	2	#3/0
	400	300	240	2	#3/0
	500	375	300	2	250 kcmil
MG	600	430	360	2	350 kcmil
	700	500	400	3	250 kcmil
	800	560	448	3	300 kcmil
MG 100% Rated	600	430	430	2	350 kcmil
	700	500	500	3	250 kcmil
	800	560	560	3	300 kcmil
NG	800	560	448	3	300 kcmil
	900	600	480	3	350 kcmil
	1000	650	520	3	400 kcmil
	1200	780	624	4	350 kcmil
NG 100% Rated	900	600	600	3	350 kcmil
	1000	650	650	3	400 kcmil
	1200	780	780	4	350 kcmil
PG	1200	780	624	4	400 kcmil
	1400	850	680	4	500 kcmil
	1600	960	768	5	500 kcmil
PG 100% Rated	1200	780	780	4	400 kcmil
	1400	850	850	4	500 kcmil
	1600	960	960	5	500 kcmil

① The information provided on this page is intended for reference and recommendation only. Because several variables can act on a circuit breaker's performance at the same time, the data above is based less on

controlled testing, than on experience and engineering judgment. Contact Siemens for further information on special conditions and treatment.

② Additional derating may be required if the ambient

temperature is greater than 40°C (104°F).

③ Calculated after derating to compensate for the heating of the copper conductor, caused by the skin effect generated by eddy currents produced at 400/415Hz.

Sentron Replacement Cross Reference Guide

Amps	Sentron Frame	VL Frame
125A	ED	NGG or NEG
	HED	HEG
	HHED	—
	CED	—
150A	ED	NDG
	HED	HDG
	HHED	LDG
	CED	—
250A	FD	NFG
	HFD	HFG
	HHFD	LFG
	CFD	—
400A	JD	NJG
	SJD	
	HJD	HJG
	SHJD	
	HHJD	LJG
	SCJD	—
CJD	—	
600A	LD	NLG
	SLD	
	HLD	HLG
	SHLD	
	HHLD	LLG
	SCLD	—
CLD	—	

*Refer to voltages and interrupt ratings for exact cross references.

Amps	Sentron Frame	VL Frame	
800A	LMD	NMG	
	MD		
	SMD		
	HLMD	HMG	
	HMD		
	SHMD		
1200A	SCMD	LMG	
	CMD6	NNG	
	ND		
	SND		
	1600A	HND	HNG
		SHND	
SCND		LNG	
CND			
1600A	PD	NPG	
	SPD		
	HPD	HPG	
	SHPD		
	CPD		LPG

Fractions to Decimals to Millimeters

Fractions	Decimals	Millimeters
1/64	0.015625	0.397
1/32	0.03125	0.794
3/64	0.046875	1.191
1/16	0.0625	1.588
5/64	0.078125	1.984
3/32	0.09375	2.381
7/64	0.109375	2.778
1/8	0.1250	3.175
9/64	0.140625	3.572
5/32	0.15625	3.969
11/64	0.171875	4.366
3/16	0.1875	4.763
13/64	0.203125	5.159
7/32	0.21875	5.556
15/64	0.234375	5.953
1/4	0.2500	6.350
17/64	0.265625	6.747
9/32	0.28125	7.144
19/64	0.296875	7.541
5/16	0.3125	7.938
21/64	0.328125	8.334
11/32	0.34375	8.731
23/64	0.359375	9.128
3/8	0.3750	9.525
25/64	0.390625	9.922
13/32	0.40625	10.319
27/64	0.421875	10.716
7/16	0.4375	11.113
29/64	0.453125	11.509
15/32	0.46875	11.906
31/64	0.484375	12.303
1/2	0.500	12.700
33/64	0.515625	13.097
17/32	0.53125	13.494
35/64	0.546875	13.891
9/16	0.5625	14.288
37/64	0.578125	14.684
19/32	0.59375	15.081
39/64	0.609375	15.478
5/8	0.6250	15.875
41/64	0.640625	16.272
21/32	0.65625	16.669
43/64	0.671875	17.066
11/16	0.6875	17.463
45/64	0.703125	17.859
23/32	0.71875	18.256
47/64	0.734375	18.653
3/4	0.7500	19.050
49/64	0.765625	19.447
25/32	0.78125	19.844
51/64	0.796875	20.241
13/16	0.8125	20.638
53/64	0.828125	21.034
27/32	0.84375	21.431
55/64	0.859375	21.828
7/8	0.8750	22.225
57/64	0.890625	22.622
29/32	0.90625	23.019
59/64	0.921875	23.416
15/16	0.9375	23.813
61/64	0.953125	24.209
31/32	0.96875	24.606
63/64	0.984375	25.003
1	1.000	25.400

Millimeters to Inches^①

Millimeters	Inches	Millimeters	Inches
0.1	0.0039	46	1.8110
0.2	0.0079	47	1.8504
0.3	0.0118	48	1.8898
0.4	0.0157	49	1.9291
0.5	0.0197	50	1.9685
0.6	0.0236	51	2.0079
0.7	0.0276	52	2.0472
0.8	0.0315	53	2.0866
0.9	0.0354	54	2.1260
		55	2.1654
1	0.0394	56	2.2047
2	0.0787	57	2.2441
3	0.1181	58	2.2835
4	0.1575	59	2.3228
5	0.1969	60	2.3622
6	0.2362	61	2.4016
7	0.2756	62	2.4409
8	0.3150	63	2.4803
9	0.3543	64	2.5197
10	0.3937	65	2.5591
11	0.4331	66	2.5984
12	0.4724	67	2.6378
13	0.5118	68	2.6772
14	0.5512	69	2.7165
15	0.5906	70	2.7559
16	0.6299	71	2.7953
17	0.6693	72	2.8346
18	0.7087	73	2.8740
19	0.7480	74	2.9134
20	0.7874	75	2.9528
21	0.8268	76	2.9921
22	0.8661	77	3.0315
23	0.9055	78	3.0709
24	0.9449	79	3.1102
25	0.9843	80	3.1496
26	1.0236	81	3.1890
27	1.0630	82	3.2283
28	1.1024	83	3.2677
29	1.1417	84	3.3071
30	1.1811	85	3.3465
31	1.2205	86	3.3858
32	1.2598	87	3.4252
33	1.2992	88	3.4646
34	1.3386	89	3.5039
35	1.3780	90	3.5433
36	1.4173	91	3.5827
37	1.4567	92	3.6220
38	1.4961	93	3.6614
39	1.5354	94	3.7008
40	1.5748	95	3.7402
41	1.6142	96	3.7795
42	1.6535	97	3.8189
43	1.6929	98	3.8583
44	1.7323	99	3.8976
45	1.7717	100	3.9370

① 0.001" = 0.0254 mm
1 mm = 0.03937"

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