

SIEMENS



Features and benefits

VL circuit breakers

Answers for infrastructure and cities.



A solutions oriented circuit protection family

A few simple components provide endless possibilities. You take the concept of modularity and apply it to a new breed of breakers. Suddenly you have countless possibilities with steadfast reliability.

Cost saving

Module by module, VL circuit breakers address the critical issue: Your costs for operational processes, space and energy. The advantages range from simple retrofitting right up to compact construction, benefiting all those who work with VL circuit breakers; whether planner, wholesaler, switchboard manufacturer or plant operator.

Easy planning

A few modular components open up the possibility of thousands of different combinations for all energy distribution applications. Saving costs, contributing to flexible planning and offering simple integration within overlapping system solutions by communication. Never before have circuit breakers been so versatile and so simple.

Global

No matter what the electrical standard, no matter where on earth, VL circuit breakers are optimally designed for most applications. The uniform design for global applications provides a standard solution — a solution you can trust anywhere.

System solutions

Siemens, a name that stands for innovation, now brings a new set of advancements to circuit protection. With the ability to communicate over common protocols, the VL integrates with the broader system giving you the advantage of system monitoring capabilities along with cost effective installations. Build to today's needs, and as your plant capacity or markets expand, VL is the consistent solution.

Fast service

VL circuit breakers get by with just a few standard parts, making it easier to get devices and components. That means that you find what you are looking for quicker at your dealer or you can reduce your own inventory costs.

Time savings

If time is money, Siemens VL will save you a lot. One example is the quick installation by simple connection of the main line. Another is the simple maintenance. Internal accessories are accessible without special tools and, as far as the life expectancy is concerned, VL circuit breakers are designed to exceed market standards.



Backed by Siemens innovation and technology

Siemens VL Circuit Breakers are designed on the principal of contact magnetic repulsion. This allows the current limiting effect of the breakers to help protect the system components from the thermal and dynamic magnetic effects of short circuit currents in the event of an electrical fault. VL Circuit Breakers feature N-Class (35kA), H-Class (65kA) and L-Class (100kA) interrupting ratings. They also feature both thermal magnetic and electronic trip units across the entire product line, assuring compatibility for virtually any application. All of the VL Trip Units are UL listed for field installation and measure true RMS current. This type of measurement ensures the most accurate means of measuring currents in today's harmonic filled electrical distribution systems. VL Trip Units are available for the following applications:

- Line Protection – overload and short-circuit curves are matched to protect cables, wiring and non-motorized loads.
- Motor Circuit Protection – equipped with adjustable instantaneous short circuit protection, trip characteristics are designed for optimum protection and isolation in combination starter applications (consisting of a motor circuit protector, contactor, and overload relay).

- Non-automatic Circuit Breaker (MCS) – can be used as supply, main or non-automatic switches without overload protection. They are fitted with fixed instantaneous settings.

Siemens VL trip unit technology

N/H/L class, model 525, thermal magnetic trip units:

- Ideal for line protection
- Fixed overload protection
- Adjustable short-circuit protection

N/H/L class, model 545, electronic trip units:

- Flashing green LED indicates proper operation
- Yellow LED for overload status
- Integrated self-test function
- Operates without the need for auxiliary voltage
- Plug-in socket for field testing device

N/H/L class, model 576, electronic LCD trip units:




- Integral LCD display
- User-friendly, menu-driven setting of protection parameters directly in absolute ampere values
- Integrated self-test function
- Operates without the need for auxiliary voltage when the breaker is under load

- Plug-in socket for field testing device
- Thermal memory function, selectable on/off
- Fully adjustable LSI and LSIG settings for flexible coordination
- Connects to communication modules

Tool Set:

- Electronic catalog
- Manuals and instruction sheets
- Automated breaker cross-reference
- PC-based time current curve software program
- Internet links with easy to use navigation
- Multi-formatted breaker drawings (CAD or PDF)
- Product specifications in customizable formats for easy submittals
- Circuit breaker information guide (technical data)
- Product video
- PowerPoint presentations

Breaker frame family

		DG	FG			JG					
											
Continuous Amps I_N		50 - 150 A			100 - 250 A			250 - 400 A			
Current Rating I_r		30 – 150 A			40 – 250 A			70 – 400 A			
Poles		2, 3			2, 3			2, 3			
Max. Volts AC		600 V			600 V			600 V			
Breaker Type		NDG	HDG	LDG	NFG	HFG	LFG	NJG	HJG	LJG	
Interrupting Class		N	H	L	N	H	L	N	H	L	
Interrupting Rating (kA) RMS	UL	240Vac	65	100	200	65	100	200	65	100	200
		480Vac	35	65	100	35	65	100	35	65	100
		600Vac ⁶⁾	18	18	18	18	18	18	25	25	25
Symmetrical Amperes AC 50/60Hz	IEC	220/240Vac (I_{cu}/I_{cs})	65/65	100/75	200/150	65/65	100/75	200/150	65/65	100/75	200/150
		380/415 (I_{cu}/I_{cs})	40/40	70/70	100/75	40/40	70/70	100/75	45/45	70/70	100/75
		690Vac (I_{cu}/I_{cs})	12/6	12/6	12/6	12/6	12/6	12/6	12/6	15/8	15/8
DC Interrupting Ratings (UL)	250Vdc (2-pole)		30	30	30	30	30	30	30	30	
	500Vdc (3-pole)		18	18	18	18	25	30	25	35	35
	600Vdc (3-pole) ¹⁾		—	42	—	—	42	—	—	65	—
Dimensions in Inches	2-pole		6.9 H x 4.1 W x 3.4 D			6.9 H x 4.1 W x 3.4 D			11 H x 5.5 W x 4.2 D		
	3-pole		6.9 H x 4.1 W x 3.4 D			6.9 H x 4.1 W x 3.4 D			11 H x 5.5 W x 4.2 D		
Trip unit information		Thermal-magnetic Electronic Electronic with LCD Interchangeable trip unit Communications capability ³⁾			Thermal-magnetic Electronic Electronic with LCD Interchangeable trip unit Communications capability ³⁾			Thermal-magnetic Electronic Electronic with LCD Interchangeable trip unit Communications capability ³⁾			
Specific application breakers		Molded case switch Motor circuit protector 100% rated			Molded case switch Motor circuit protector			Molded case switch Motor circuit protector 100% rated			
Accessories and modifications		Auxiliary switch Alarm switch Shunt trip Undervoltage release Mechanical interlock Electric motor operator Rear connecting studs Plug-in mounting assembly with trip interlock Draw-out assembly Handle mechanisms Fungus proof ⁵⁾			Auxiliary switch Alarm switch Shunt trip Undervoltage release Mechanical interlock Electric motor operator Rear connecting studs Plug-in mounting assembly with trip interlock Draw-out assembly Handle mechanisms Fungus proof ⁵⁾			Auxiliary switch Alarm switch Shunt trip Undervoltage release Mechanical interlock Electric motor operator Rear connecting studs Plug-in mounting assembly with trip interlock Draw-out assembly Handle mechanisms Fungus proof ⁵⁾			
Terminal shields		•			•			•			
Distribution lugs		•			•			•			
Ground sensor (neutral transformers)		•			•			•			

1) Special version – see catalog.

2) Add 2.6" to height with extended shield.

3) Communications available via communications module.

4) 400/500 Amp only.

5) VL circuit breakers are inherently fungus resistant.

6) DG and FG 600Y/347V

LG			MG			NG			PG		
											
400 - 600 A			600 - 800 A			800 - 1200 A			1200 - 1600 A		
150 - 600 A			200 - 800 A			300 - 1200 A			400 - 1600 A		
2, 3			2, 3			2, 3			3		
600 V			600 V			600 V			600 V		
NLG	HLG	LLG	NMG	HMG	LMG	NNG	HNG	LNG	NPG	HPG	LPG
N	H	L	N	H	L	N	H	L	N	H	L
65	100	200	65	100	200	65	100	200	65	100	200
35	65	100	35	65	100	35	65	100	35	65	100
25	25	25	25	35	50	25	35	65	25	35	65
65/65	100/75	200/150	65/65	100/75	200/150	65/35	100/50	200/100	65/35	100/50	200/100
45/45	70/70	100/75	50/50	70/70	100/75	50/25	70/35	100/50	50/25	70/35	35/17
12/6	15/8	15/8	20/10	30/15	35/17	20/10	30/15	35/17	20/10	30/15	35/17
30	30	30	22	25	42	22	25	42	22	25	42
25	35	35	35	50	65	35	50	65	35	50	65
—	65	—	—	65	—	—	65	—	—	65	—
11 H x 5.5 W x 4.2 D ²⁾			16 H x 7.5 W x 4.7 D			16 H x 9 W x 6.2 D			—		
11 H x 5.5 W x 4.2 D ²⁾			16 H x 7.5 W x 4.7 D			16 H x 9 W x 6.2 D			16 H x 9 W x 6.2 D		
Thermal-magnetic Electronic Electronic with LCD Communications capability ³⁾			Thermal-magnetic Electronic Electronic with LCD Interchangeable trip unit Communications capability ³⁾			Thermal-magnetic Electronic Electronic with LCD Interchangeable trip unit Communications capability ³⁾			Thermal-magnetic Electronic Electronic with LCD Interchangeable trip unit Communications capability ³⁾		
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•			•			•			•		
•			•			•			•		

Competitive advantages to reduce your installed cost

The compact size saves real estate and its associated costs.



The modularity and flexibility reduce inventory, allow for last minute changes, support quick ship opportunities, and promote the most cost effective configuration.



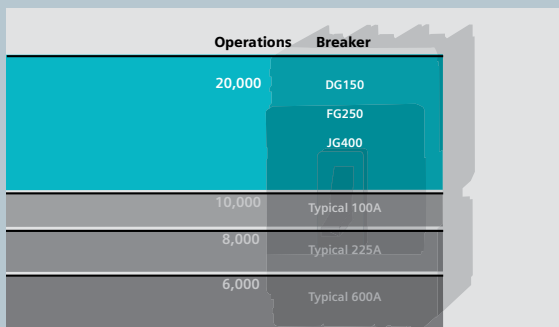
Global ratings, accessories, and distribution allow you to efficiently serve virtually every market using breakers with just one design and footprint.



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



For higher reliability, most VL components have twice the endurance specified by UL. Automated bar code tracking, testing, and calibration of every breaker saves money on confirmation tests and field service.



Modularity to support all your application needs

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) Electronic trip unit with LCD (576)
- 20) Communication module with ZSI
- 21) Electronic trip unit test kit

Siemens Industry, Inc.
5400 Triangle Parkway
Norcross, GA 30092

1-800-241-4453
info.us@siemens.com

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