

Features

Spectra™ RMS Molded Case Circuit Breakers

SE150, SF250, SG600, and SK1200 circuit breaker frames have a digital, solid-state, rms sensing trip system with field installable, front-mounted rating plugs to establish or change the breaker ampere rating. Adjustable instantaneous with tracking short-time is standard on all frames including SE150. The trip system uses digital sampling to determine the rms value of sinusoidal and nonsinusoidal currents.

microEntelliGuard™ Trip Units

Spectra™ SG600 and SK1200 breakers are now available with *microEntelliGuard™* trip units - the newest and most advanced trip unit available in the Spectra™ line of molded case circuit breakers. Based on the EntelliGuard™ TU trip unit platform, the *microEntelliGuard™* trip unit has the same HMI interface and incorporates the advanced features and protective functions for improved system protection, coordination, selectivity, performance, and diagnostic capabilities. New features offered with the *microEntelliGuard™* trip unit include enhanced time-current curve shaping capability, ground fault alarm, direct Modbus communications, reduced energy let-through setting, zone selective interlock, neutral protection, waveform capture, and programmable output contacts. The *microEntelliGuard™* trip unit utilizes the same power management accessories offered for the Spectra™ MicroVersaTrip™ with the addition of a new advanced junction box and interconnect cables. The breakers have the same footprint and interrupt ratings as their SG/SK counterparts and are backwards compatible with existing equipment and installations. The *microEntelliGuard™* trip unit uses the same universal rating plugs and test kit offered for the EntelliGuard TU™ trip unit.

Spectra™ molded cases circuit breakers with *microEntelliGuard™* trip units can be part of an ArcWatch™ solution.

GE's ArcWatch™ system solution involves a combination of intelligent trip units and current limiting molded case circuit breakers to create a no compromise solution; safety and reliability together. Advances in zone selective interlocking (ZSI) and waveform recognition algorithms allow entire systems to be designed so that full selectivity and 100% instantaneous protection at calculated arcing current is possible. For most industrial systems, the GE ArcWatch™ solution will result in incident energy under 8 cal/cm² at 18".

Enabling ArcWatch™ means the proper coordination analysis techniques have been used to determine the necessary circuit breaker protection features and settings that allow full coordination in the given system. The circuit breaker must be set to match the results of the completed study.

For more information, check out www.geindustrial.com/ArcWatch (Publication DET-760) or contact your local sales representative.



**Spectra™ SG600 and SK1200 Breakers
with *microEntelliGuard™* Trip Units**

Molded Case Circuit Breakers Industrial Circuit Breakers

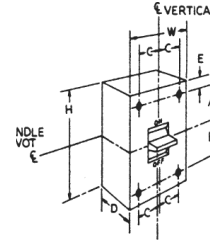
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Quick Reference Guide

15-1200A Circuit Breakers

Electronic Trip

Ratings do not apply to molded case switches. The interruption ratings and voltages shown in the table are maximum ratings. A circuit breaker of the type given in the left-hand column may be applied at the given circuit voltage in any electrical distribution system where the available fault current at the load terminals of the breaker does not exceed the value in the table. That circuit breaker type may also be applied at intermediate values of circuit voltage provided the available fault current at the load terminals of the breaker does not exceed the value in the table for the higher value of voltage.



SE 150

Spectra™ RMS Circuit Breakers UL/CSA Ratings

Solid-State with Interchangeable Trip Unit (Rating Plug)

Circuit Breaker Type	Ampere Rating	No. Poles	Maximum Vac	UL Listed Interrupting Rating—kA			Dimensions Inches (mm)							Approx. Ship Wt./Std. Pack
				240 Vac	480 Vac	600 Vac	H	W	D	A	B	C	E	
SE150 Current Limiting (UL File No. E-11592; CSA LR 40350)¹														
SED ^{2,3}	15-150	2	480	18	18	—	6.31 (160)	4.12 (105)	3.38 (86)	2.41 (61)	2.47 (63)	.69 (18)	.72 (18)	5.65 lb/1
		3	600			14								
SEH ²	15-150	2	480	65	25	—								
		3	600			18								
SEL	15-150	2	480	100	65	—								
		3	600			25								
SEP	15-150	2	480	200	100	—								
		3	600			25								
SF-250 Current Limiting (UL File No. E-11592; CSA LR 40350)¹														
SFH ²	70-250	2	480	65	35	—	10.12 (257)	4.12 (105)	3.81 (97)	3.87 (98)	3.87 (98)	.69 (18)	1.19 (30)	9.15 lb/1
		3	600			22								
SFL	70-250	2	480	100	65	—								
		3	600			25								
SFP	70-250	2	480	200	100	—								
		3	600			25								
SG600 Current Limiting (UL File No. E-11592; CSA LR 40350)^{1,4}														
SGH1 ^{2,5}	6-150	3	600	65	35	25	10.09 ⁶ (256)	5.50 (140)	3.81 (97)	4.45 (113)	3.30 (84)	.91 (23)	1.18 ⁶ (30)	15.85 lb/1
SGD ²	125-400	2	240	65	—	—								
		3	600	65	35	25								
SGH4 ²	125-400	2	600	65	35	25								
		3	600	65	35	25								
SGH6 ²	250-600	2	600	65	35	25								
		3	600	65	35	25								
SGL1 ⁵	60-150	3	600	100	65	65								
		3	600	200	100	65								
SGP1 ⁵	60-150	2	600	100	65	65								
		3	600	100	65	65								
SGL4	125-400	2	600	100	65	65								
		3	600	100	65	65								
SGP4	125-400	2	600	200	100	65								
		3	600	200	100	65								
SGL6	250-600	2	600	100	65	65								
		3	600	100	65	65								
SGP6	250-600	2	600	200	100	65								
		3	600	200	100	65								
SK1200 (UL File No. E-11592; CSA LR 40350)^{1,4}														
SKH8	300-800	2	600	65	50	25	15.50 ⁷ (394)	8.25 (210)	5.50 (140)	8.56 (217)	5.69 (145)	1.38 (35)	.62 ⁷ (16)	47.6 lb/1
		3	600	100	65	42								
SKL8	300-800	2	600	100	65	42								
		3	600	200	100	65								
SKP8	300-800	2	600	200	100	65								
		3	600	200	100	65								
SKH12	600-1200	2	600	65	50	25								
		3	600	65	50	25								
SKL12	600-1200	2	600	100	65	42								
		3	600	100	65	42								
SKP12	600-1200	2	600	200	100	65								
		3	600	200	100	65								
SKS8	800-1200	3	480	200	100	—								
		3	480	100	65	—								
SKT8	800-1200	3	480	100	65	—								
		3	480	200	100	—								
SKS12	800-1200	3	480	200	100	—								
		3	480	100	65	—								
SKT12	800-1200	3	480	200	100	—								
		3	480	100	65	—								

¹UL listed as HACR (heating, air conditioning and refrigeration).

²Not current-limiting circuit breaker.

³UL listed as HID (high intensity discharge).

⁴Includes microEntelliGuard™ Trip Units.

⁵microEntelliGuard™, MicroVersaTrip™ Plus and MicroVersaTrip™ PM Trip Units only.

⁶Add 1.76 inches (45 mm) to each end with lugs and lug cover installed.

⁷Add 4.00 inches (101 mm) to upper end for SKP (100 kAIC-480V) lug cover.



Molded Case Circuit Breakers

Industrial Circuit Breakers

Quick Reference Guide

15-1200A Circuit Breakers

Electronic Trip

Ratings do not apply to molded case switches

IEC/JIS Ratings

Solid-State with Interchangeable Trip Unit (Rating Plug)														
Circuit Breaker Type	Ampere Rating	No. Poles	IEC 947-2 Interruption Capacity – kA								Japanese Industry Standard Interruption Capacity kA			
			220-240 Vac		380-415 Vac		500 Vac		690 Vac		Vac			
			I _{cu}	I _{cs}	I _{cu}	I _{cs}	I _{cu}	I _{cs}	I _{cu}	I _{cs}	220-240	380-415	500	690
SE150 Current Limiting, 15-32A														
SED	15-32	2	18	9	10	5	—	—	—	—	18	10	—	—
		3					4	4	—	—			4	—
SEH	15-32	2	65	33	15	10	—	—	—	—	65	15	—	—
		3					6	6	—	—			6	—
SEL	15-32	2	100	50	20	15	—	—	—	—	100	20	—	—
		3					8	8	3	3			8	3
SEP	15-32	2	200	100	20	20	—	—	—	—	200	20	—	—
		3					10	10	5	5			10	5
SE150 Current Limiting, 40-160A														
SED	40-160	2	18	9	14	7	—	—	—	—	18	14	—	—
		3					14	7	—	—			14	—
SEH	40-160	2	65	33	35	17	—	—	—	—	65	25	—	—
		3					25	12	—	—			18	—
SEL	40-160	2	100	50	65	33	—	—	—	—	100	65	—	—
		3					40	20	5	5			25	5
SEP	40-160	2	200	100	100	50	—	—	—	—	200	100	—	—
		3					50	25	10	5			65	10
SF250 Current Limiting														
SFH	70-250	2	65	33	35	17	—	—	—	—	65	25	—	—
		3					25	12	—	—			18	—
SFL	70-250	2	100	50	65	33	—	—	—	—	100	65	—	—
		3					40	20	14	7			25	14
SFP	70-250	2	200	100	100	50	—	—	—	—	200	100	—	—
		3					65	33	18	9			65	18
SG600 Current Limiting														
SGH1 ¹	60-150	3	65	33	25	13	18	9	—	—	65	25	18	—
SGL1 ¹			100	50	65	33	35	18	14	7	100	65	35	22
SGP1 ¹			200	100	100	50	50	25	18	9	200	100	65	35
SGH4	125-400	2	65	33	25	13	—	—	—	—	65	25	—	—
		3					18	9	—	—			18	—
SGL4	125-400	2	100	50	65	33	—	—	—	—	100	65	—	—
		3					35	18	14	7			35	22
SGP4	125-400	2	200	100	100	50	—	—	—	—	200	100	—	—
		3					50	25	18	9			65	35
SGH6	250-600	2	65	33	25	13	—	—	—	—	65	25	—	—
		3					18	9	—	—			18	—
SGL6	250-600	2	100	50	65	33	—	—	—	—	100	65	—	—
		3					35	18	14	7			35	22
SGP6	250-600	2	200	100	100	50	—	—	—	—	200	100	—	—
		3					50	25	18	9			65	35
SK1200														
SKH8	300-800	2	65	16	50	13	25	13	—	—	65	50	25	—
		3												
SKL8	300-800	2	100	25	65	16	42	21	14	14	100	65	42	14
		3												
SKP8	300-800	2	140	35	85	25	50	25	18	18	140	85	50	18
		3												
SKH12	600-1250	2	65	16	50	13	25	13	—	—	65	50	25	—
		3												
SKL12	600-1250	2	100	25	65	21	42	16	14	14	100	65	42	14
		3												
SKP12	600-1250	2	140	35	70	25	50	25	18	18	140	85	50	18
		3												

¹ microEntelliGuard™, MicroVersaTrip™ Plus, and MicroVersaTrip™ PM Trip Units only.



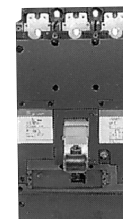
SE



SF



SG



SK



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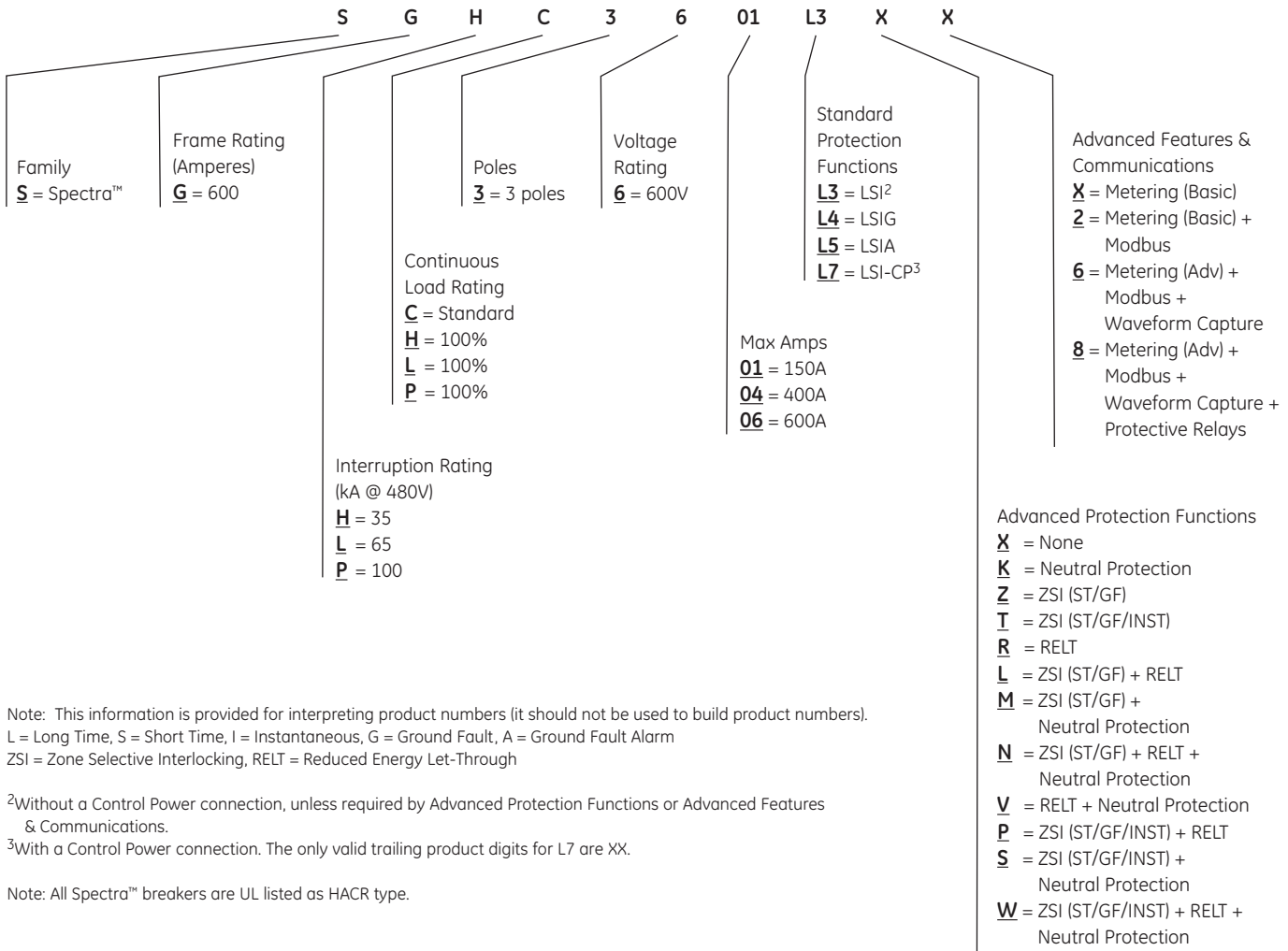
60-600A Circuit Breakers

Electronic Trip

Spectra™ RMS

SG600 with *microEntelliGuard™* Trip Units¹

Product Number Structure



Note: This information is provided for interpreting product numbers (it should not be used to build product numbers).

L = Long Time, S = Short Time, I = Instantaneous, G = Ground Fault, A = Ground Fault Alarm
ZSI = Zone Selective Interlocking, RELT = Reduced Energy Let-Through

²Without a Control Power connection, unless required by Advanced Protection Functions or Advanced Features & Communications.

³With a Control Power connection. The only valid trailing product digits for L7 are XX.

Note: All Spectra™ breakers are UL listed as HACR type.

microEntelliGuard™ Rating Plug Selection

Rating Plug Product Numbers	Trip Amps	SG (Max Amps)		
		150	400	600
GTP0060U0101	60	x		
GTP0080U0101	80	x		
GTP0100U0103	100	x		
GTP0125U0103	125	x		
GTP0150U0104	150	x	x	
GTP0200U0204	200		x	
GTP0225U0306	225		x	x
GTP0250U0407	250		x	x
GTP0300U0408	300		x	x
GTP0350U0408	350		x	x
GTP0400U0410	400		x	x
GTP0450U0612	450			x
GTP0500U0613	500			x
GTP0600U0616	600			x

Range of available rating plugs for each frame indicated by x.

Terminal Lugs for Front Connection (Cu/Al)

Sensor	Product Number	Wire Range
150 to 600	3 Pole Lug Kit TCLK365 ⁴	(2) 2/0 - 500 Cu/Al or (1) 8 - 600 Cu or (1) 6 - 600 Al

¹May require 24 Vdc control power and voltage sensing signals. Refer to pages 6-62 to 6-68.

⁴Order one kit for either line or load end: two kits required for both.

Note: Reference BuyLog page 6-104 for alternate lug options.



Molded Case Circuit Breakers Industrial Circuit Breakers

60-600A Circuit Breakers

Electronic Trip

Spectra™ RMS

SG600 with *microEntelliGuard™* Trip Units¹

microEntelliGuard™, Standard UL Rated

SG600 Line, Suitable for Reverse Feed, UL File E-11592, CSA LR 40350

SGL, SGP UL Current Limiting; 3-Pole, UL/CSA: 600Vac Max., IEC 947-2: 630A, 690 Vac Max

Max Amps	Standard Protection Function	35kA Product Number Prefix	65kA Product Number Prefix	100kA Product Number Prefix	Product Number Suffix (two digits)
150	LSI	SGHC3601L3 __	SGLC3601L3 __	SGPC3601L3 __	Product Number is not complete. Select one value from each suffix tables below.
	LSIG ²	SGHC3601L4 __	SGLC3601L4 __	SGPC3601L4 __	
	LSIA ²	SGHC3601L5 __	SGLC3601L5 __	SGPC3601L5 __	
	LSI-CP ³	SGHC3601L7XX	SGLC3601L7XX	SGPC3601L7XX	
400	LSI	SGHC3604L3 __	SGLC3604L3 __	SGPC3604L3 __	
	LSIG ²	SGHC3604L4 __	SGLC3604L4 __	SGPC3604L4 __	
	LSIA ²	SGHC3604L5 __	SGLC3604L5 __	SGPC3604L5 __	
	LSI-CP ³	SGHC3604L7XX	SGLC3604L7XX	SGPC3604L7XX	
600	LSI	SGHC3606L3 __	SGLC3606L3 __	SGPC3606L3 __	
	LSIG ²	SGHC3606L4 __	SGLC3606L4 __	SGPC3606L4 __	
	LSIA ²	SGHC3606L5 __	SGLC3606L5 __	SGPC3606L5 __	
	LSI-CP ³	SGHC3606L7XX	SGLC3606L7XX	SGPC3606L7XX	

microEntelliGuard™, 100% UL Rated

SG600 Line, Suitable for Reverse Feed, UL File E-11592, CSA LR 40350

SGL, SGP UL Current Limiting; 3-Pole, UL/CSA: 600Vac Max., IEC 947-2: 630A, 690 Vac Max

Max Amps	Standard Protection Function	35kA Product Number Prefix	65kA Product Number Prefix	100kA Product Number Prefix	Product Number Suffix (two digits)
150	LSI	SGHH3601L3 __	SGLL3601L3 __	SGPP3601L3 __	Product Number is not complete. Select one value from each suffix tables below.
	LSIG ²	SGHH3601L4 __	SGLL3601L4 __	SGPP3601L4 __	
	LSIA ²	SGHH3601L5 __	SGLL3601L5 __	SGPP3601L5 __	
	LSI-CP ³	SGHH3601L7XX	SGLL3601L7XX	SGPP3601L7XX	
400	LSI	SGHH3604L3 __	SGLL3604L3 __	SGPP3604L3 __	
	LSIG ²	SGHH3604L4 __	SGLL3604L4 __	SGPP3604L4 __	
	LSIA ²	SGHH3604L5 __	SGLL3604L5 __	SGPP3604L5 __	
	LSI-CP ³	SGHH3604L7XX	SGLL3604L7XX	SGPP3604L7XX	
600	LSI	SGHH3606L3 __	SGLL3606L3 __	SGPP3606L3 __	
	LSIG ²	SGHH3606L4 __	SGLL3606L4 __	SGPP3606L4 __	
	LSIA ²	SGHH3606L5 __	SGLL3606L5 __	SGPP3606L5 __	
	LSI-CP ³	SGHH3606L7XX	SGLL3606L7XX	SGPP3606L7XX	

Product Suffix 1

Advanced Protection Functions

X = None
K = Neutral Protection
Z = ZSI (ST/GF)
T = ZSI (ST/GF/INST)
R = RELT
L = ZSI (ST/GF) + RELT
M = ZSI (ST/GF) + Neutral Protection
N = ZSI (ST/GF) + RELT + Neutral Protection
V = RELT + Neutral Protection
P = ZSI (ST/GF/INST) + RELT
S = ZSI (ST/GF/INST) + Neutral Protection
W = ZSI (ST/GF/INST) + RELT + Neutral Protection

Product Suffix 2

Advanced Features and Communications

X = Metering (Basic)
2 = Metering (Basic) + Modbus
6 = Metering (Adv) + Modbus + Waveform Capture
8 = Metering (Adv) + Modbus + Waveform Capture + Relays

¹May require 24 Vdc control power and voltage sensing signals. Refer to pages 6-62 to 6-68.

²For grounded neutral systems (1 phase/3-wire or 3 phase/4-wire) a neutral current sensor is required. Refer to page 6-66.

³For +24 Vdc Control Power Accessories refer to pages 6-62 to 6-66.

Notes: All Spectra™ breakers are UL listed as HACR type.

Neutral Protection requires a neutral current sensor. Refer to page 6-66.

ZSI (Zone Selective Interlock) requires TIM1 ZSI module and 24 Vdc control power (refer to pages 6-62 to 6-66 for accessories).

RELT (Reduced Energy Let-Through), Modbus, Ground Fault Alarm and Waveform Capture options require 24 Vdc control power (refer to pages 6-62 to 6-66 for accessories).

