Industrial Circuit Breakers

Spectra™ RMS

- Circuit Breakers
  Determine the required breaker frame, IC rating, and load requirements. Select frame, trip unit (rating plug), and lug, if required, product numbers from the tables on pages 6-172 to 6-180. For Spectra™ breakers with microEntelliGuard™ Trip Units refer to pages 6-181 through 6-188. Select field-mounted internal accessory product numbers, if required, on pages 6-194 and 6-195. Select field-mounted external accessory product numbers, if required, on pages 6-209 through 6-221 and pages 6-189 to 6-193 for Spectra™ breakers with microEntelliGuard™ Trip Units. Order as separate items.
- Mag-Break Motor Circuit Protectors
  Determine the required frame and ampere requirements. Select frame, trip unit (rating plug), and lug, if required, product numbers from the table on pages 6-207 through 6-208. Select accessories as noted above for circuit breakers. The same accessories are used with both circuit breakers and motor circuit protectors. Order as separate items.
- Molded Case Switches
  Determine the required frame and ampere requirements. Select frame and lug, if required, product numbers from the table on page 6-206. Rating plugs are not used. Select accessories as noted above for circuit breakers. Internal accessories do not require dummy trips. The same accessories are used with both circuit breakers and molded case switches. Order as separate items.

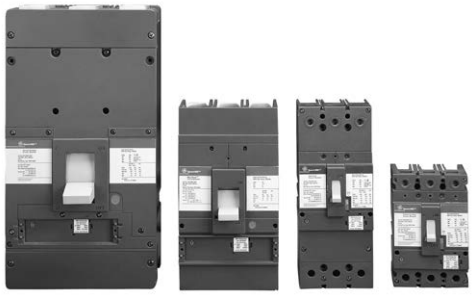
Unless otherwise noted, all circuit breakers are UL listed in File E– 11592. Molded case switches are UL listed in File E–57546. Field-Installable Internal Accessories are UL listed in File E–57253. Distribution Cable Accessories for microEntelliGuard™ Trip Units are UL listed in File E–57253.

Accessories

Order accessories from the appropriate table:

- Thermal Magnetic Circuit Breakers, Magnetic Circuit Breakers, and Molded Case Switches[1]—pages 6-69 to 6-73 and 6-45 to 6-46.
- Spectra™ RMS Breakers—pages 6-194 to 6-195 and 6-209 to 6-221.
- Spectra™ RMS Breakers with microEntelliGuard™ Trip Units— pages 6-189 to 6-193.

[1]Installation of accessories in molded case switches requires dummy trip; see page 6-73 for information. Dummy trip not required for Tri-Break™ or Q-Line molded case switches.



Spectra Circuit Breakers
and Molded Case Switches

Molded Case Circuit Breaker and Switch Terminal Configuration Code

Order standard Cu/Al lugs by using suffix codes presented. Order lugs separately if special lugs are required. For optional lugs, see pages 6-218 and 6-219.

Breaker/Switch Type	Suffix				
	Blank	**WL**	**XL**	**X2**	**LL**
TQD/TJD	Load Lugs Only	Line and Load Lugs	–	Line Lugs Only	No Lugs
Molded Case Breakers, Thermal Magnetic	Load Lugs Only	Line and Load Lugs	–	Load Lugs Only	No Lugs
Molded Case Switch	Line and Load Lugs	–	No Lugs	Line Lugs Only	Load Lugs Only
Spectra RMS™ Breakers	No Lugs			Order Lugs Separately	

Molded Case Circuit Breakers

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.

ABB'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 electrification.us.abb.com/ArcWatch (Publication DET-760) or contact your local sales representative.



Spectra™ SG600 and SK1200 Breakers
with microEntelliGuard™ Trip Units

Spectra™ RMS

SE150 Frame
15-150A Circuit Breakers
Electronic Trip
Suitable for Reverse Feed
UL/cUL File E-11592

[1]Adjustable Instantaneous with Tracking Short Time (Long Time established via Interchangeable Rating Plugs).
Note: This information is provided for interpreting product numbers (it should not be used to build product numbers).

Product Number Structure

S	E	D	A	2	4	A	T	0030

Family
S = Spectra™

Frame Rating (Amperes)
E = 150

Interruption Rating (480V)
D = 18 kA
H = 25 kA
L = 65 kA
P = 100 kA

Continuous Load Rating
A = Standard

Poles
2 = 2 poles
3 = 3-poles

Voltage Rating
4 = 480V
6 = 600V

Trip Unit
A = RMS1

Trip Function
T = LSI[1]

Sensor (Max Amps)
0030
0060
0100
0150

SED, SEH, SEL, SEP[2]; 2-Pole, 150A, 480 Vac Max., (IEC 947-2: 160A, 415 Vac Max.)

Rating Plug				Frame					Terminal Lugs for Front Connection (Cu/Al)	
				UL 489 IC @ 480 Vac						
Ampere Rating	Adjustable Instantaneous Trip Range Amps		Product Number	Current Sensor	18kA	25kA	65kA	100kA	Product Number	Wire Range
	Low	High			Product Number	Product Number	Product Number	Product Number		
15	43	182	SRPE30A15	30	SEDA24AT0030[3]	SEHA24AT0030[3]	SELA24AT0030[3]	SEPA24AT0030[3]	TCAL18	12-3/0 Cu 12-3/0 Al
20	58	254	SRPE30A20							
25	73	332	SRPE30A25							
30	87	415	SRPE30A30							
35	104	453	SRPE60A35	60	SEDA24AT0060[3]	SEHA24AT0060[3]	SELA24AT0060[3]	SEPA24AT0060[3]		
40	118	501	SRPE60A40							
45	134	583	SRPE60A45							
50	148	637	SRPE60A50							
60	178	777	SRPE60A60							
70	206	863	SRPE100A70	100	SEDA24AT0100	SEHA24AT0100	SELA24AT0100	SEPA24AT0100		
80	236	999	SRPE100A80							
90	267	1138	SRPE100A90							
100	297	1280	SRPE100A100							
110	328	1426	SRPE150A110	150	SEDA24AT0150	SEHA24AT0150	SELA24AT0150	SEPA24AT0150		
125	374	1640	SRPE150A125							
150	450	1991	SRPE150A150							

SED, SEH, SEL, SEP[2]; 3-Pole, UL/cUL: 150A, 600 Vac Max., (IEC 947-2: 160A, 690 Vac Max.)

Rating Plug				Frame					Terminal Lugs for Front Connection (Cu/Al)	
				UL 489 IC @ 480 Vac						
Ampere Rating	Adjustable Instantaneous Trip Range Amps		Product Number	Current Sensor	18kA	25kA	65kA	100kA	Product Number	Wire Range
	Low	High			Product Number	Product Number	Product Number	Product Number		
15	43	182	SRPE30A15	30	SEDA36AT0030[3]	SEHA36AT0030[3]	SELA36AT0030[3]	SEPA36AT0030[3]	TCAL18	12-3/0 Cu 12-3/0 Al
20	58	254	SRPE30A20							
25	73	332	SRPE30A25							
30	87	415	SRPE30A30							
35	104	453	SRPE60A35	60	SEDA36AT0060[3]	SEHA36AT0060[3]	SELA36AT0060[3]	SEPA36AT0030[3]		
40	118	501	SRPE60A40							
45	134	583	SRPE60A45							
50	148	637	SRPE60A50							
60	178	777	SRPE60A60							
70	206	863	SRPE100A70	100	SEDA36AT0100	SEHA36AT0100	SELA36AT0100	SEPA36AT0100		
80	236	999	SRPE100A80							
90	267	1138	SRPE100A90							
100	297	1280	SRPE100A100							
110	328	1426	SRPE150A110	150	SEDA36AT0150	SEHA36AT0150	SELA36AT0150	SEPA36AT0150		
125	374	1640	SRPE150A125							
150	450	1991	SRPE150A150							

[2]SEL, SEP UL current limiting.
[3]When used with 15-50A Rating Plug, UL listed for HID (high intensity discharge).

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