



Spectra RMS™ SG Frame Molded-Case Circuit Breakers

Introduction

Spectra RMS™ circuit breakers provide overload and short-circuit protection to electrical equipment. Frame types SGD, SGH, SGL, and SGP are available with a selection of rating plugs to a maximum of 600 A, depending on the maximum rating of the breaker frame chosen.

SG frame circuit breakers are listed per Underwriters Laboratories standard UL489 and Canadian Standards Association standard CSA22.2 No. 5 and meet the requirements of the International Electrotechnical Commission standard IEC947-2. Mag-Break® breakers meet these same standards and are UL-recognized.

Spectra RMS molded-case circuit breakers and Mag-Break® motor circuit protectors incorporate a unique short-time response, in addition to the instantaneous response. Overloads are cleared in a fraction of the time required by the normal long-time function in older-design long-time/instantaneous breakers.

Molded-case switches are UL listed per UL1087 and incorporate a fixed, high-set instantaneous trip to allow higher withstand levels. For additional information, refer to GE publication GET-7002.

WARNING: Danger of electrical shock or injury. Turn OFF the power ahead of equipment before installing this device or removing any other device.

AVERTISSEMENTT: Danger d'électrocution. Couper l'alimentation avant d'installer cet appareil ou avant de retirer un autre appareil.

CAUTION: This product is NOT suitable for use in equipment not specifically designed to accept it. Contact equipment manufacturer for possible equipment modifications.

ATTENTION: Cet appareil ne doit pas être employé dans un équipement non spécialement adapté à cet effet. Contactez le constructeur concernant les possibles modifications à apporter à l'équipement.



SG 600A Frame

Installation

1. Unpack the circuit breaker or switch and inspect it for any shipping damage. Ensure that the breaker has the proper ampere, voltage, and interruption ratings for the application.
2. Following the instructions supplied with the rating plug, install the plug into the main breaker body. Available rating plugs, with their catalog numbers, are listed in Table 1.
3. Install any accessories, listed in Table 2, and terminal lugs, listed in Table 3, following the installation instructions supplied with each. Check all accessories for proper installation, wire routing, and operation.
4. Drill and tap all mounting holes and make any necessary front-panel escutcheon cutouts, as shown in Figure 1.
5. Mount the breaker with the mounting hardware described in Table 4.

All Spectra RMS™ circuit breakers are suitable for reverse feed and have no line or load markings.

Catalog Number	Sensor Rating, Amps	Plug Rating
SRPG400A125	400	125
SRPG400A150		150
SRPG400A175		175
SRPG400A200		200
SRPG400A225		225
SRPG400A250		250
SRPG400A300		300
SRPG400A350		350
SRPG400A400		400
SRPG600A250	600	250
SRPG600A300		300
SRPG600A350		350
SRPG600A400		400
SRPG600A450		450
SRPG600A500		500
SRPG600A600		600

Table 1. SG Frame rating plugs.

Internal Accessory Installation	Lead Exit		Maximum Number of Accessories
	Left	Right	
Auxiliary Switches		√	Bell Alarm, plus
Shunt Trip	√		Aux. Switch, plus
Bell Alarm Switch	√		either a
Undervoltage Release	√		Shunt Trip or Undervoltage Release

Table 2. Available accessories.

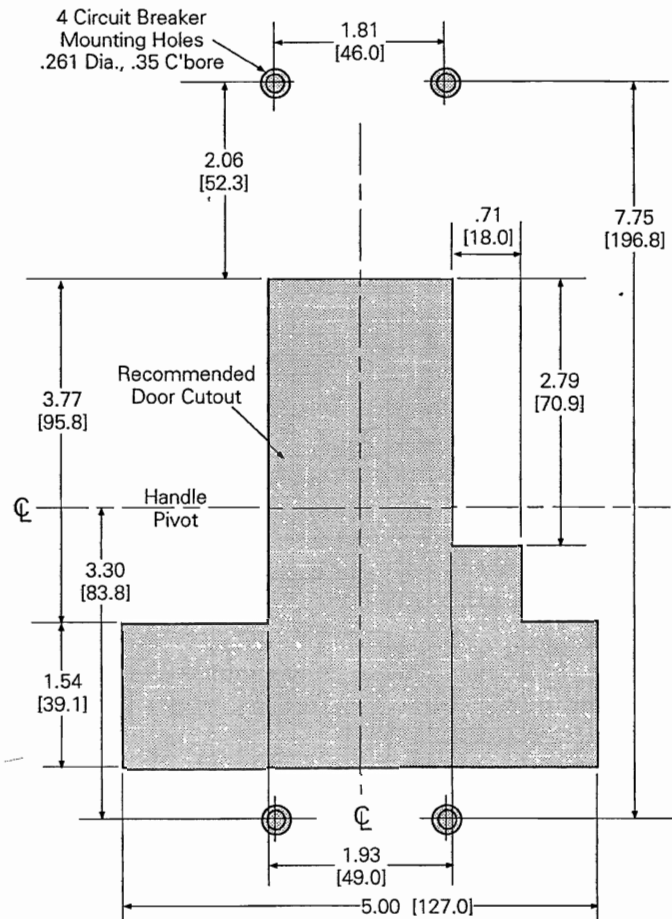


Figure 1. Mounting hole and escutcheon cutout pattern.

Catalog Number	Wire Range	Wire Type	Location*	Torque (in-lb)		Strip Length	Lug Material
				Wire-Lug	Lug-Strap		
TCLK265	Bottom Hole: 2/0-600 MCM Cu/Al	Copper or Aluminum	2 Pole (2 Lugs)	#8-#3:	200 in-lb	Top: 7/8	Tin-Plated Aluminum
TCLK365			3 Pole (3 Lugs)	275 in-lb			
TCOK265	Top Hole: #8-400 MCM Cu	Copper	2 Pole (2 Lugs)	#2-		Bottom: 15/8	Copper
TCOK365			3 Pole (3 Lugs)	600 MCM: 375 in-lb			

* Lug kits contain either two or three lugs plus a lug cover. Lugs have two holes.

Table 3. Terminal lug catalog numbers and specifications.

Catalog Number	Application	Kit Description
343L162G16	Mounting plate with tapped holes	Four #12-24 x 3 ³ / ₄ screws and lockwashers
343L162G21	Mounting plate with clearance holes	Four #12-24 x 4 ¹ / ₄ screws, nuts, and lockwashers

Table 4. Breaker mounting-screw kits.

NOTE: When using aluminum wire, apply a joint compound as recommended by the wire manufacturer.

NOTE: Dans les cas d'emploi de cable aluminium, utilisez le lubrifiant recommandé par le fabricant.

WARNING: It is important that the terminal covers are installed correctly to ensure proper circuit breaker operation.

AVERTISSEMENT: Il es important de verifier que tout couvercle ou cache de protection est correctement installé afin d'assurer le bon fonctionnement de l'appareil.

Check that all terminals are torqued to the proper values. Reinstall the terminal covers, ensuring that *all* screws in each cover are secure. In particular, the line end (nearest the ON side of the handle) must be equipped with either a bus or lug cover, as illustrated in Figures 2 and 3, to maintain electrical clearances. The lug cover is provided in catalog number SG1LCK, the bus cover in SG1BCK.

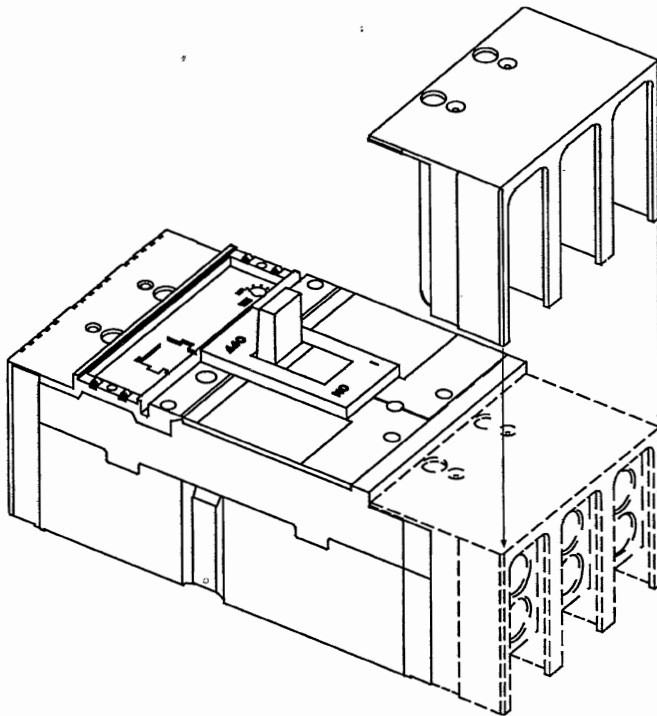


Figure 2. Lug cover installed on the line end of the breaker.

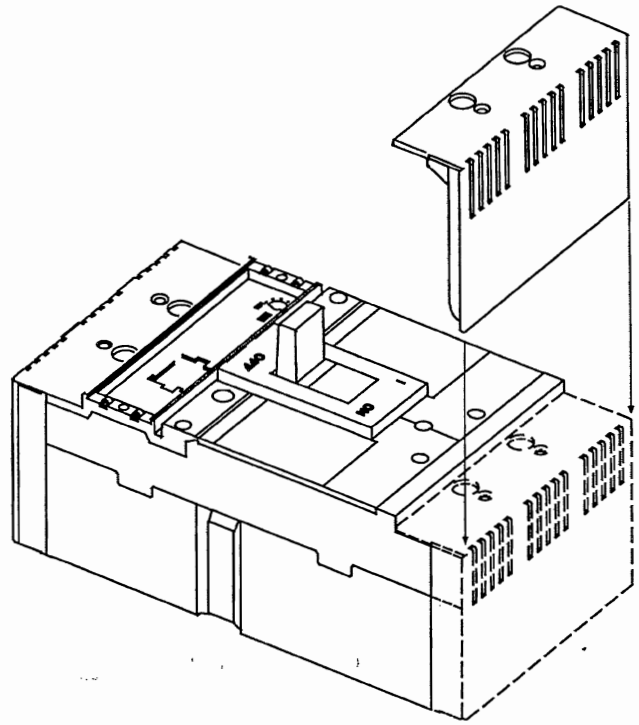


Figure 3. Bus cover installed on the line end of the breaker.

Adjustment

Instantaneous trip points are set with the red rotary switch. Each set point provides a different instantaneous trip value, which is a multiple of the installed rating plug. The multipliers for each switch position are given in Table 5. In addition, rating plugs are marked with all of the nominal values.

Switch Setting	Low	•	•	•	•	High
Multiplier	3.04	3.85	4.85	6.00	7.84	10.12

Table 5. Nominal instantaneous trip settings as multiples of rating plug values.

Operation

The circuit breaker position is indicated by ON/OFF markings, universal I/O symbols, and an indicator window that shows red for ON, yellow for TRIP, and green for OFF. The corresponding three handle positions are illustrated in Figure 4. To close the breaker from the OFF position, move the handle to the ON position. To close the breaker from the TRIP position, first move the handle to the OFF (reset) position, then back to the ON position.

A Push-To-Trip button is provided for convenience in testing the mechanical operation of the breaker.

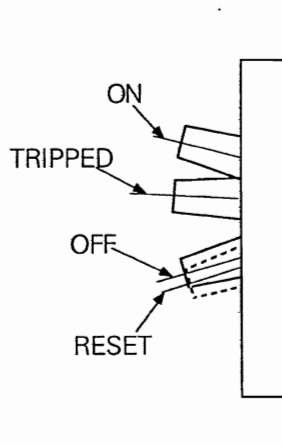


Figure 4. Handle positions for ON, TRIP, and OFF.

CAUTION: Automatic tripping of the circuit breaker, Mag-Break® motor circuit protector, or molded-case switch may indicate a system problem. Identify and correct any problem before turning the device on again.

ATTENTION: Le déclenchement automatique de disjoncteur, Mag-Break®, ou interrupteur peut indiquer un problème de circuit. Identifiez et corrigez le problème avant de refermer l'appareil.

Maintenance

Generally no maintenance is required, but it is recommended that the following operations be performed annually:

WARNING: Danger of electrical shock or injury. Turn off power ahead of equipment before attempting to service.

AVERTISSEMENT: Danger d'électrocution. Couper l'alimentation avant d'affectuer toute action d'entretien.

1. Turn off the power to the equipment being serviced.
2. Clean the surfaces of the breaker and surrounding area of any dirt, soot, or other debris.
3. Inspect the breaker for any signs of damage.
4. Operate the Push-To-Trip button and toggle the handle several time to exercise the mechanism and test the mechanical operation of the breaker.
5. If any sign of damage is found or if the mechanism has a sluggish or sticky operation, replace the circuit breaker.

The circuit breaker is sealed and contains no user-serviceable parts. Opening the breaker voids any and all warranties.

External Accessories

The following external accessories are available for Spectra RMS™ SG Frame breakers. Catalog numbers and other ordering information for internal and external accessories may be obtained from your authorized GE distributor.

- Mounting kits
- Plug-in base
- Back-connected studs
- Padlock kits
- External handle operators
- Motor operators
- Mechanical interlock
- Bus termination cover kit

These instructions do not cover all details or variations in equipment nor do they provide for every possible contingency that may be met in connection with installation, operation, or maintenance. Should further information be desired or should particular problems arise that are not covered sufficiently for the purchaser's purposes, the matter should be referred to the GE Company.



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