



Spectra RMS™ SK Frame Molded-Case Circuit Breakers

Introduction

Spectra RMS™ circuit breakers provide overload and short-circuit protection to electrical equipment. Frame types SKH, SKL, and SKP are available with a selection of rating plugs to a maximum of 1200 A, depending on the maximum rating or the breaker frame chosen.

SK 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 and Mag-Break® breakers incorporate a unique adjustable instantaneous pickup, with tracking short time that picks up at approximately 60% of the instantaneous pickup. Overloads are cleared in a fraction of the time required by the normal long-time function in older-design long-time/instantaneous breakers.

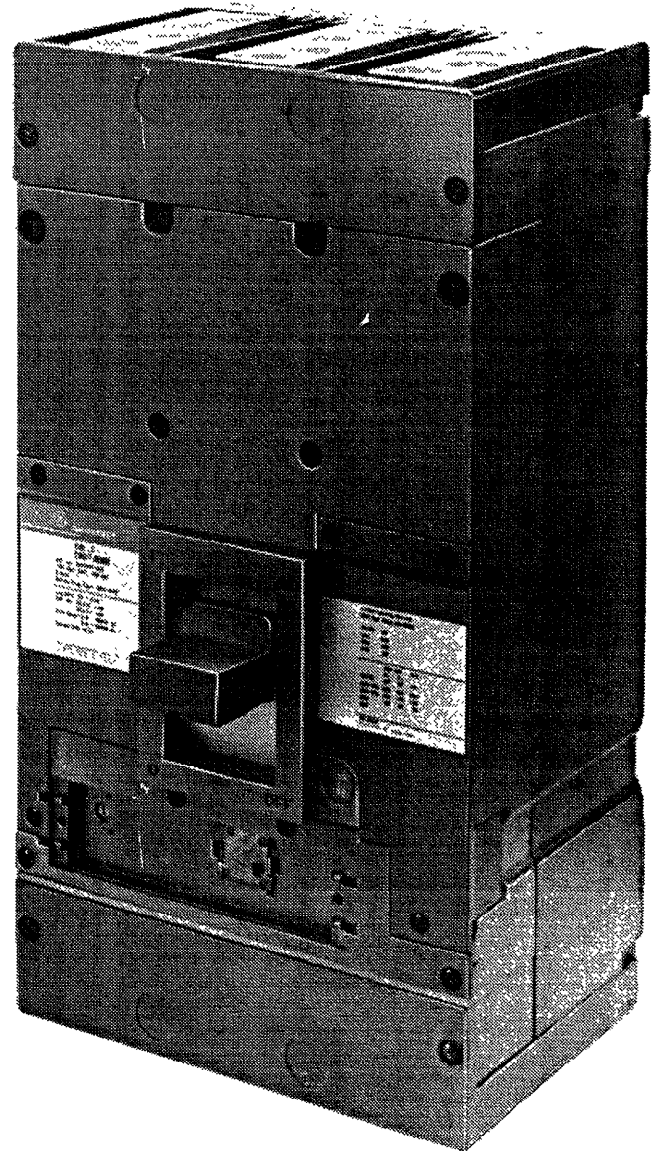
Molded-case switches are UL listed per UL1087 and incorporate a fixed, high-set instantaneous trip to allow higher withstand levels. For additional information, refer to GE publication GET-7002.

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

AVERTISSEMENT: 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.



SK 1200A 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 all 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. Incoming power cables or busbars may be connected to either the upper or lower terminals as dictated by the application.

Catalog Number	Sensor Rating, Amps	Plug Rating
SRPK800A300	800	300
SRPK800A400		400
SRPK800A500		500
SRPK800A600		600
SRPK800A700		700
SRPK800A800		800
SRPK1200A600	1200	600
SRPK1200A700		700
SRPK1200A800		800
SRPK1200A1000		1000
SRPK1200A1200		1200

Table 1. SK Frame rating plugs.

Internal Accessory Installation	Pocket Location and Exit Side ¹		Maximum Number of Accessories
	Left	Right	
Auxiliary Switches		✓	Bell Alarm, plus Aux. Switch, plus either a Shunt Trip or Undervoltage Release
Shunt Trip	✓		
Bell Alarm Switch	✓		
Undervoltage Release	✓		

¹ Leads may be routed under the breaker to the opposite side.

Table 2. Available accessories.

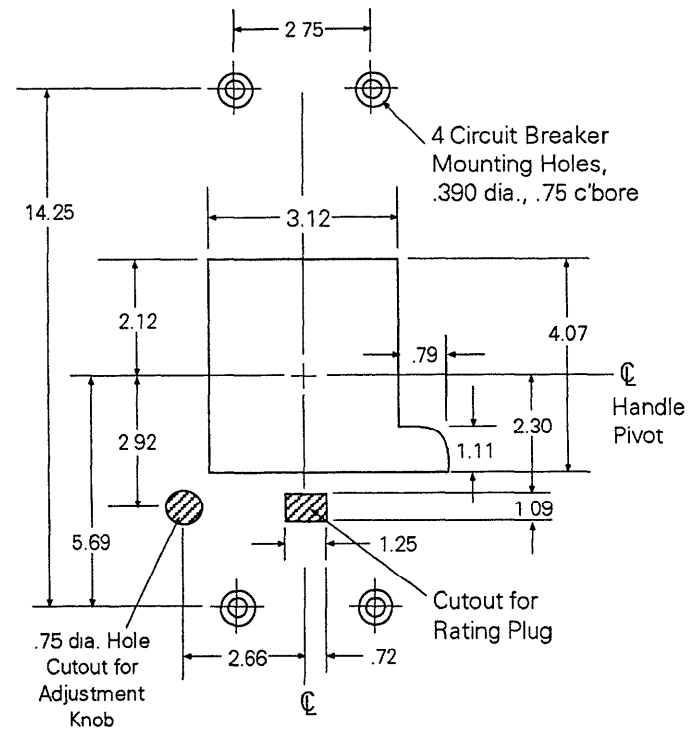


Figure 1. Mounting hole and escutcheon cutout pattern.

Catalog Number ³	Wire Range	Wire Type	Torque (in-lb)		Strip Length	Number of Wire Holes	Lug Material
			Wire-Lug	Lug-Strap			
TCAL81	3/0 - 500 kcmil	Copper or Aluminum	375	400	1-1/2	3	Aluminum
TCAL125	250 - 500 kcmil	Aluminum	375	400	1-1/2	4	Aluminum
	250 - 350 kcmil ²	Copper					
TCO81A	3/0 - 500 kcmil	Copper	375	400	1-1/2	3	Copper
TCO121	250 - 400 kcmil	Copper	375	400	1-1/2	4	Copper
TCAL124 ¹	350 - 750 kcmil	Copper or Aluminum	500	400	1-1/2	3	Aluminum

¹ UL listing pending.

² 500 kcmil is UL listed for voltage-drop use.

³ On breakers with date codes before Oct. 1993, use TCAL91, TCAL131, TCO9, or TCO131 on the load end only.

Table 3. Terminal lug catalog numbers and specifications.

Catalog Number	Application	Kit Description
SKMSK1	Mounting plate with tapped holes	Four 5/16-18 x 1-1/4 screws and lockwashers
SKMSK2	Mounting plate with clearance holes	Four 5/16-18 x 1-1/4 screws, nuts, and lockwashers

Table 4. Breaker mounting-screw kits.

Spectra RMS SK Frame breakers, types SKH, SKL, and SKP, with production date codes after J31=, use the same terminal lugs on both the line (upper) and load (lower) ends. These lugs are listed in Table 3. **All Spectra RMS SK Frame breakers with date codes before J31= require unique terminal lugs on their load ends. These lugs, suitable only for the load end, are catalog numbers TCAL91, TCAL 131, TCAL 134, TCO91, and TCO131.**

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 recommand  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 install  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.

NOTE: The SKP Frame (100kA, 480V) has a longer terminal cover for the upper (line) end. The top portion of this cover *must be installed* after cable or bus installation. *Do not substitute* the shorter lug cover.

Use the following steps for installing cables and terminal covers for SKP Frame breakers. Figure 2 illustrates the procedure.

1. Attach the bottom part of the lug cover with two M3.5 captive screws.
2. Attach the cables to the lugs, referring to Table 3 for the proper strip lengths and terminal torques. Ensure that the stripped end of each cable is fully seated in its lug. If busbar connections are used instead of lugs, torque them to 400 in-lbs.
3. Attach the large top lug cover with four M5 captive screws connecting to the breaker and two M4 captive screws to the lower lug cover.

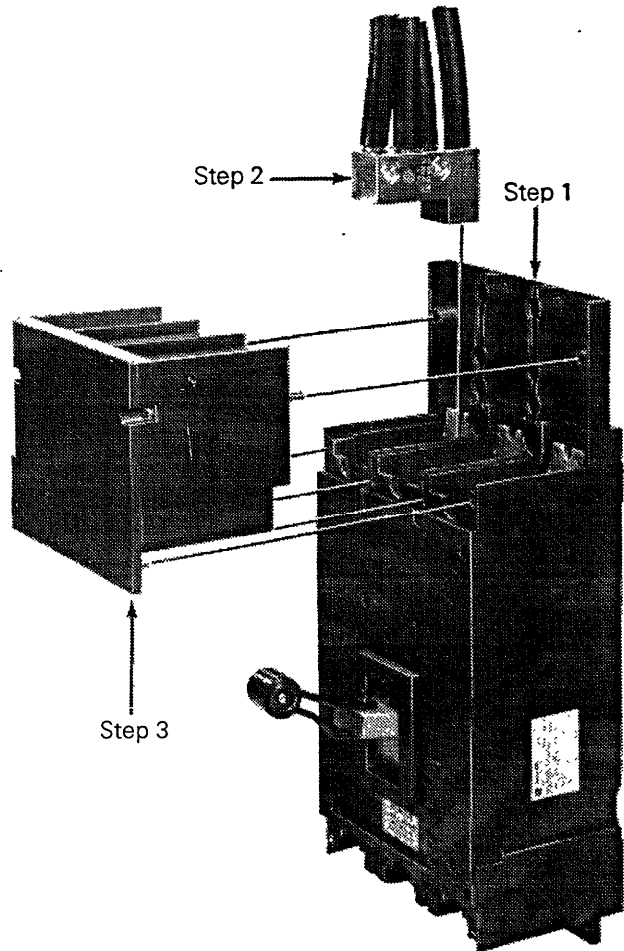


Figure 2. SKP Frame terminal-cover assembly for upper (line) end.

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	4.84	6.14	7.88	10.18

Table 5. Nominal instantaneous trip settings as multiples of rating plug values (tolerance $\pm 20\%$).

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 3. 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 folding handle extension is provided on all SK frames for ease of operation.

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

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.

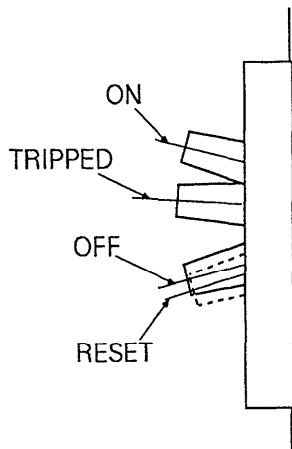


Figure 3. Handle positions for ON, TRIP, and OFF.

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 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 will void any and all warranties.

External Accessories

The following external accessories are available for Spectra RMS SK Frame breakers. Catalog numbers and other ordering information for internal and external accessories may be obtained from your authorized GE distributor. (Accessories identified with an asterisk [*] require removal of the handle extension.)

- Mounting kits
- Plug-in base, Bolt-on base
- Back-connected studs
- Padlock kits
- External handle operators*
- Motor operators*
- Mechanical interlock*

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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