



Spectra RMS™ Molded Case Circuit Breaker Accessories

Auxiliary and Bell Alarm Switches

GENERAL

These instructions describe the steps necessary for field installation of Spectra RMS™ circuit breaker accessories in Spectra RMS™ circuit breaker frame sizes SE, SF, SG, and SK. Tools

required for installation are a #2 Phillips head screwdriver and pliers.

AUXILIARY SWITCHES (RED, WHITE, BROWN/WHITE WIRES)

Auxiliary Switches provide remote indication of whether the circuit breaker main contacts are opened or closed via open or closed SPDT switch elements.

Accessory Switch Cat. No.	No. of Switch Elements	Switch Rating
SAUXPAB1 SAUXPAB2	1 AB 2 AB	5A @ 240 Vac/ 0.5A @ 125 Vdc
SAUXGAB1 SAUXGAB2	1 AB 2 AB	GOLD PLATED CONTACTS 0.5A @ 30V
SAUXGPAB2	2 AB	SEE NOTE 1

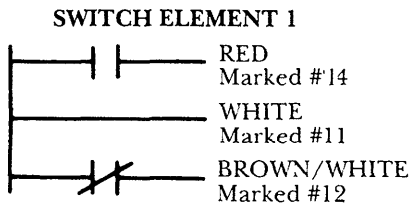
NOTE 1:

Switch Element 1: 5A @ 240 Vac/.5A @ 125 Vdc
Switch Element 2: Gold Plated Contacts .5A @ 30V

BELL ALARM SWITCH (YELLOW, BROWN, PURPLE WIRES)

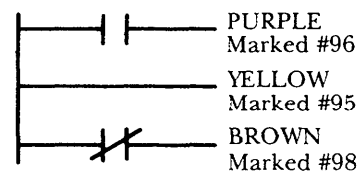
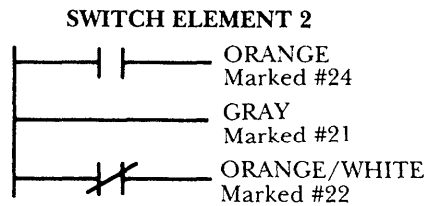
The Bell Alarm Switch provides remote indication of whether the circuit breaker has been tripped via open or closed SPDT switch elements, but remains unchanged during on/off circuit breaker operation.

Bell Alarm Switch Cat. No.	No. of Switch Elements	Switch Rating
SABAP1	1 AB	5A @ 240 Vac/ 0.5A @ 125 Vdc
SABAG1	1 AB	GOLD PLATED CONTACTS 0.5A @ 30V



AUXILIARY SWITCH

(shown with breaker contacts open)



BELL ALARM SWITCH

(shown with breaker in tripped position)

WARNING: Danger of electrical shock or injury. Turn **OFF** power ahead of the device before accessory installation. Do Not remove circuit protective devices until the power is turned **OFF**.

INSTRUCTIONS FOR INSTALLING A BELL ALARM SE, SF, SG, AND SK FRAMES

STEP 1.

Trip the circuit breaker by activating the red trip button on the front of the breaker, or move the circuit breaker handle to the OFF position. (See Figure 1.)

STEP 2. ORIENTATION

If possible, orient the circuit breaker in a vertical position, with the labels right side up. (See Figure 1.) If the circuit breaker is not installed in a vertical position, visualize it in that position and continue following these instructions.

STEP 3.

Loosen but do not completely remove the single captive screw at the top of the left side of the circuit breaker accessory cover. (See Figures 1 and 2, see Figure 5 for SK frame.) The accessory cover (Figure 2) can now be rotated in a downward direction (upward on the SK frame size), thereby exposing the accessory cavity built into the left side of the circuit breaker cover.

NOTE: There will be an overcurrent module, a shunt trip accessory module, or an undervoltage accessory module installed in this cavity. (See Figure 2. Refer to Figure 5 for SK frame.)

STEP 4. REMOVING A DEVICE ALREADY INSTALLED IN THE LEFT POLE

Begin by removing the Phillips head accessory mounting screw located in the recessed area in the lower right-hand corner of the accessory. (See Figure 2 for SE, SF, SG frames, Figure 6 for SK frame.)

Next, observe whether or not there are wires exiting from the left side of the circuit breaker.

IF THERE ARE NO WIRES EXITING FROM THE LEFT SIDE OF THE BREAKER, there is an overcurrent module installed. Use pliers to take hold of the removal tab (See Figure 2) and, with a gentle rocking motion, pull upward with pliers on the module removal tab until the accessory is released.

IF THERE ARE WIRES EXITING FROM THE LEFT SIDE OF THE CIRCUIT BREAKER, a shunt trip or undervoltage accessory is installed. Remove the accessory module by pushing upward and inward on the two wire leads while simultaneously pulling upward on the module removal tab. Use a gentle rocking motion until the accessory module is released. It is not necessary to completely remove the module and wires. A distance of about 6" is all that is necessary to accommodate the bell alarm installation. **NOTE:** It may be necessary to disconnect the existing shunt trip or undervoltage accessory lead wires to allow enough slack to remove the module.

STEP 5. INSTALLING THE BELL ALARM SE, SF, SG FRAMES

Orient the accessory with the lead wires at the top facing away and the switch in a vertical position. (See Figure 3.) Feed the accessory wires through the vertical slot in the breaker cover so that the leads will exit the left side of the breaker. Note the color of the wires (purple, brown and yellow) and their position in the slot. (See Figure 3.)

IMPORTANT The lead wires must be oriented in the manner shown and not crossed or twisted in relation to the bell alarm.

If the wires are allowed to cross each other, the accessory module may not seat properly in the cavity.

STEP 5. (K FRAME)

Remove overcurrent module and push bell alarm onto the two horizontal mounting pins located on the right side of the module. Align units above the respective cover pocket. Lower them into the pocket while pushing down the three leads into the farthest right hand slot adjacent to the accessory pocket. See Figure 6. Run leads outside the cover through channel provided. Be sure there is no slack in the three leads between bell alarm unit and wall slot. This could cause resistance for seating overcurrent module and alarm. Refer to Step 7 next.

STEP 6.

With the lead wires started in the vertical slot, push the bell alarm onto the two horizontal mounting pins located on the right side of the module (See Figure 3). Insert the module by gently pushing down on the top of the module while simultaneously pulling gently on the wires as they exit the breaker. Firmly seat the module with a final rocking motion, and apply thumb pressure (approx 10 lbs.) directly down onto bell alarm to seat.

STEP 7.

Secure the module to the circuit breaker cover by tightening the accessory mounting screw previously shown in Figure 2. **Caution:** Torque on screw not to exceed 9 inch-lb.

STEP 8.

Rotate the circuit breaker accessory cover closed and check to see that the cover lies flat. (If there is a bulge, the accessory is not seated properly. Refer to Step 5 of these instructions.) If cover sits flat continue to Step 9.

STEP 9.

Tighten the accessory cover screw, using no more than 7 inch-lb. of torque.

STEP 10.

Locate the circuit breaker accessory label on the left side of the circuit breaker, adjacent to the wire trough. (See Figure 3.) Complete installation by performing an operational check per the wiring schematics on the front page.

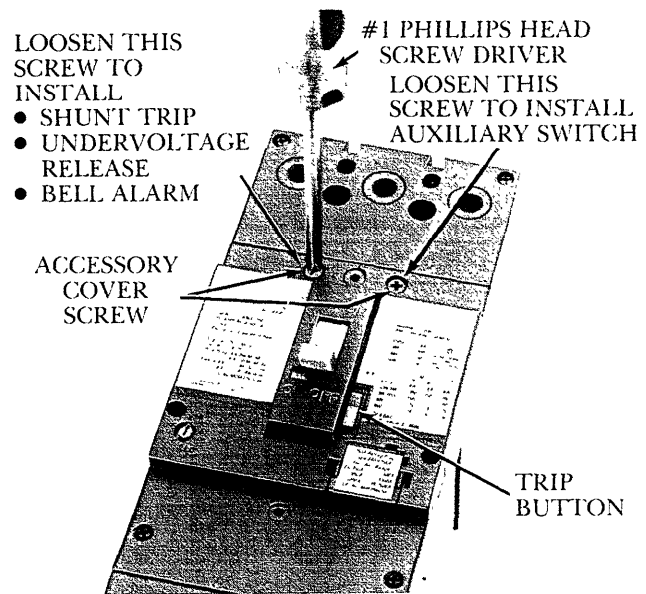


Figure 1. Typical SE, SF & SG Frames

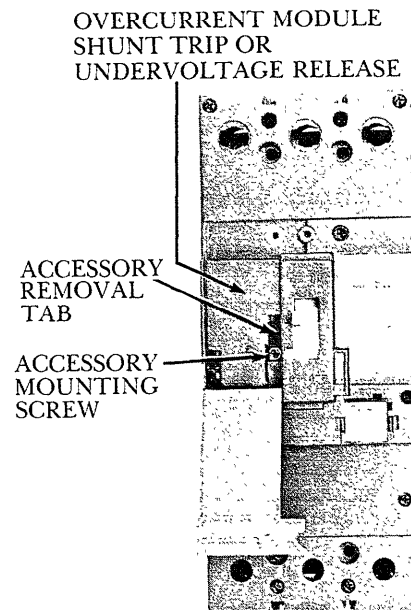


Figure 2. Typical SE, SF & SG Frames

INSTRUCTIONS FOR INSTALLING AN AUXILIARY SWITCH INTO SE, SF & SG FRAME SIZES

STEP 1.

Trip the circuit breaker by activating the red trip button on the front of the breaker or move the circuit breaker handle to the OFF position. (See Figure 1.)

STEP 2. ORIENTATION

If possible, orient the circuit breaker in a vertical position, with the labels right side up. (See Figure 1.) If the circuit breaker is not installed in a vertical position, visualize it in that position and continue following these instructions.

STEP 3.

Loosen but do not completely remove the single captive screw at the top of the right side of the circuit breaker accessory cover. (See Figure 1.) The accessory cover (Figure 4) can now be rotated in a downward direction (upward on the SK frame size), thereby exposing the accessory cavity built into the right side of the circuit breaker cover.

STEP 4. INSTALLING THE AUX. SWITCH

Orient the accessory with the lead wires to the right and the module mounting screw to the lower right. (See Figure 4.)

Catalog Nos. SAUXPAB1 and SAUXGAB1 contain one micro-switch with three lead wires exiting the module. Catalog Nos. SAUXPAB2, SAUXGAB2 and SAUXGPAB2 contain two microswitches with six lead wires exiting the module.

Feed the accessory module lead wires through the large vertical slot, located on the right side of the accessory pocket, adjacent to the outside wall of the circuit breaker cover. (See Figure 4 for E, F and G Frame Circuit Breakers.

IMPORTANT The accessory lead wires must be oriented in a parallel, side by side manner as they exit the accessory module and must be fed into the large vertical slot of the breaker cover in the same way. (See Figure 4.)

If the wires are allowed to cross each other they will not fit properly in the slot, and the accessory cannot be properly seated. If a seating problem is encountered, remove the accessory and start again.

STEP 5.

With the lead wires started in the vertical slot, gently push down on the top of the module while simultaneously pulling gently on the lead wires as they exit the breaker. Take care that the crank assembly arm, a metal lever protruding from the bottom of the accessory module, is located in the slot, located in the center floor of the accessory module cavity.

With the lead wires started in the vertical slot, gently push down on the top of the accessory while simultaneously pulling gently on the lead wires as they exit the breaker.

Firmly seat the accessory with a final rocking motion.

STEP 6.

Fasten the accessory to the circuit breaker cover by tightening the accessory mounting screw snugly. Apply 9 inch-lb. of torque, maximum. (See Figure 4.)

STEP 7.

Rotate the breaker accessory cover upward (downward on the SG frame) and check to see that the cover lies flat over the accessory module without bulging. If a bulge exists (.040 gap or larger between the breaker cover and the accessory cover), the accessory is NOT seated properly. (Refer to Step 4.) Tighten the accessory cover screw snugly (7 inch-lb. torque). (See Figure 1.) Locate the accessory breaker label on the right side of

the circuit breaker, adjacent to the wire trough (See Figure 4.) Complete installation by performing an operational check per the wiring schematics on the front page.

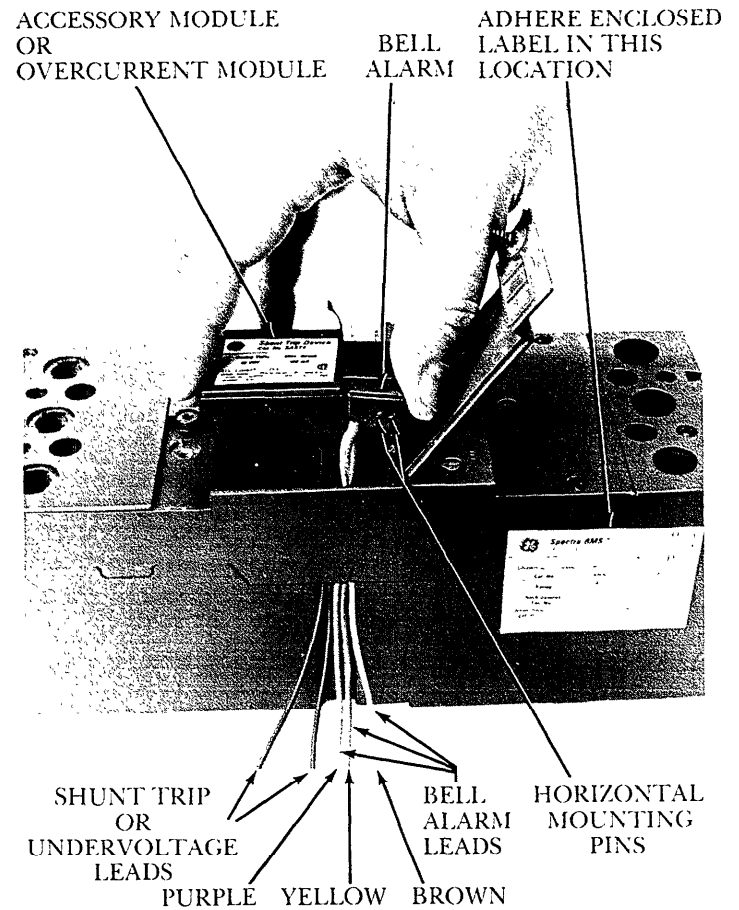


Figure 3

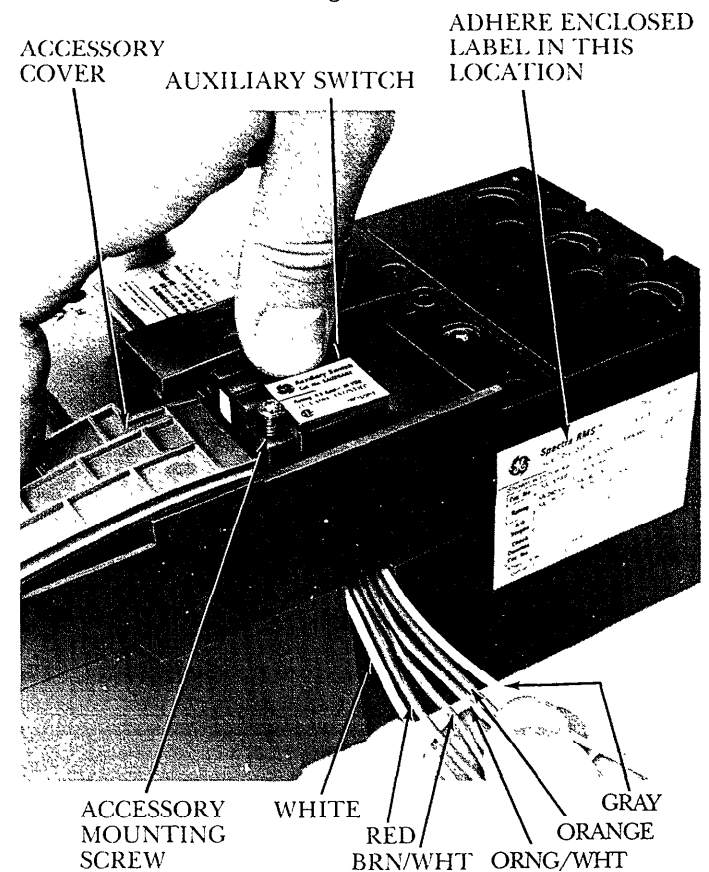


Figure 4. Typical SE, SF & SG Frames

INSTRUCTIONS FOR INSTALLING AN AUXILIARY SWITCH INTO SK FRAME SIZE

STEP 1.

Trip the circuit breaker by activating the red trip button on the front of the breaker or move the circuit breaker handle to the OFF position. (See Figure 5.)

STEP 2.

Loosen but Do Not completely remove the single captive screw indicated in Figure 5. Rotate the accessory cover to open thereby exposing the accessory cavity built into the cover.

STEP 3.

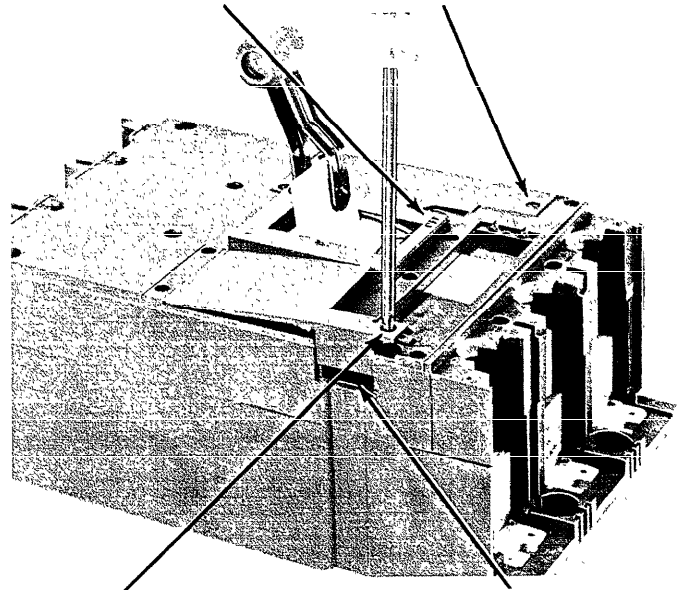
Preform exiting lead wires to conform to the accessory cavity where the wires exit. Align auxiliary switch module with the pocket. Make sure finger protruding from the module is in line with the rectangular hole in the pocket floor. Firmly seat the accessory with final rocking motion and tighten the mounting screw. Torque to 9 inch-lb. maximum.

Catalog Nos. SAUXPAB1 and SAUXGAB1 contain one micro-switch with three lead wires exiting the module. Catalog Nos. SAUXPAB2, SAUXGAB2 and SAUXGPAB2 contain two microswitches with six lead wires exiting the module.

STEP 4.

Rotate the breaker accessory cover closed and check to see that the cover lies flat over the accessory module without bulging. Tighten the accessory cover screw snugly (7 inch-lb. torque). (See Figure 5.) Locate the accessory breaker label on the right side of the circuit breaker, adjacent to the wire trough. (See Figure 7.) Complete installation by performing an operational check per the wiring schematics on the front page.

TRIP BUTTON LOOSEN THIS SCREW TO INSTALL AUXILIARY SWITCH

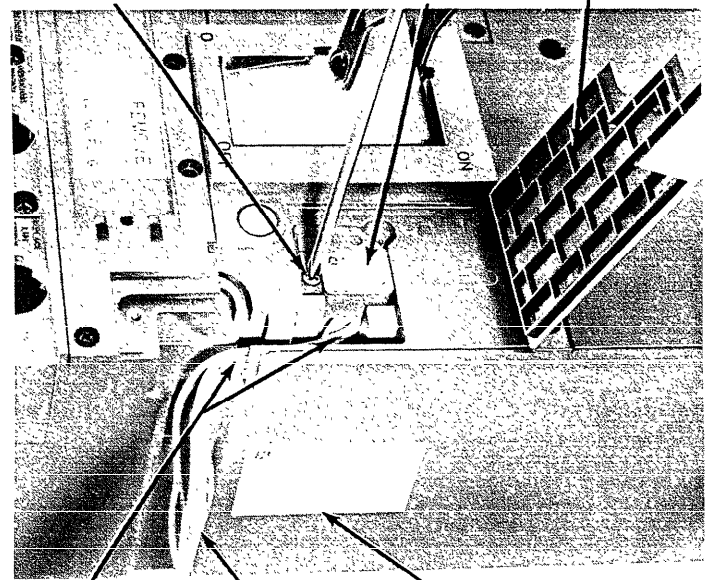


ACCESSORY COVER SCREW, Loosen this screw to install:
 • SHUNT TRIP • BELL ALARM
 • UNDERVOLTAGE RELEASE

ACCESSORY LEAD EXIT THROUGH (TYP. 2 SIDES)

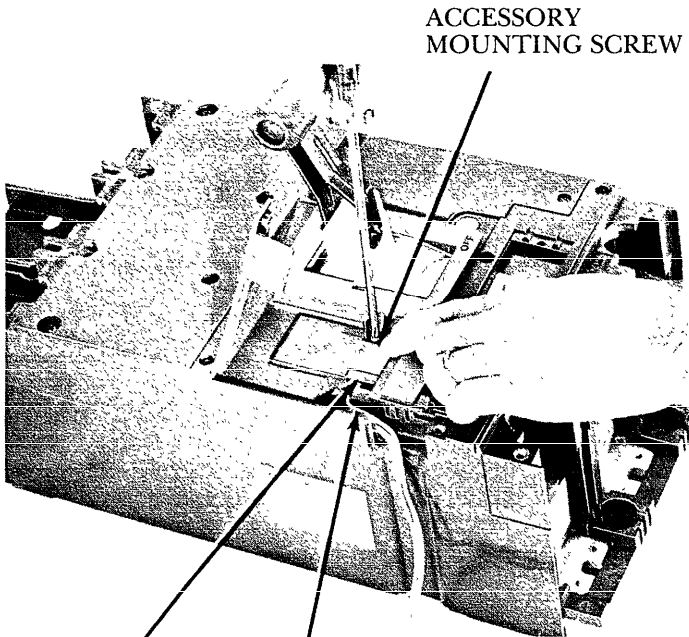
Figure 5. SK Frame

AUXILIARY SWITCH MOUNTING SCREW AUXILIARY SWITCH HINGED ACCESSORY COVER



PREFORM WIRE LEADS AS SHOWN HERE WIRE ORIENTATION NOT NECESSARY LOCATE LABEL HERE

Figure 7. SK Frame



BELL ALARM ALL 3 WIRES LOCATE INTO RIGHT HAND GROOVE

Figure 6. SK Frame

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



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