

Accessories

Internal accessories

Spectra RMS™ internal accessories are common to all products in the Spectra RMS product family, including circuit breakers, Mag-Break motor circuit protectors and molded case switches. They are interchangeable between frame sizes, i.e., the 24 Vdc/24 Vac shunt trip – SAST3 – can be installed in any of the four basic frames from the type SE150 to the type SK1200. In addition, Spectra RMS internal accessories are designed to be installed in pockets accessible from the front of the circuit breaker.

No disassembly of the circuit breaker case is required.

These unique characteristics – interchangeability, commonality and installation without violation of case integrity – provide the user with the optimum combination of reliability, standardization and parts reduction. **All Spectra RMS accessories are UL Listed for field installation.**

The left-hand circuit breaker accessory pocket accepts an actuator, shunt trip or undervoltage release plus a bell alarm switch. The right-hand pocket is used for auxiliary switches. All accessories are supplied with 36-inch long, #18AWG 105°C 300V minimum insulated leads. Side and rear wire channels allow accessory leads to be led to the left, right or back of the breaker within the dimensions of the breaker envelope.

Shunt trip



The shunt trip is used to trip (open) the circuit breaker by remote control. Spectra RMS shunt trips are UL Listed for field installation, meeting UL requirements for operation at 55% of rated ac voltage and 75% of rated dc voltage for use on ground fault systems.

A momentary application of control power is recommended to activate the shunt trip coil. An integral pulsing circuit is used within the shunt trip's electronics to prevent the coil from being damaged from maintained control power. If maintained control power (latching relay) is used in lieu of momentary application of control power, use a bell alarm contact in series with the shunt trip's control power for the SE/SF breakers or an auxiliary switch in series with the shunt trip's control power for the SG/SK breakers. Failure to wire

the bell alarm or aux switch in series could result in a 1 to 2 second delayed response if the breaker is re-closed while the shunt trip is continuously energized.

Electrical data

Table 12.1 Shunt trip device electrical characteristics

| Catalog Number | Rated Nominal Voltage | | Current, mA | |
|----------------|-----------------------|-----|-------------|-------|
| | AC | DC | Inrush | Cont. |
| SAST1 | 120 | 125 | 500 | 6 |
| SAST2 | 240 | 250 | 400 | 5 |
| SAST5 | — | 12 | 1000 | 800 |
| SAST3 | 24 | 24 | 300 | 10 |
| SAST4 | 48 | 48 | 300 | 1 |

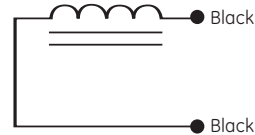


Fig. 12.1 Wiring diagram, shunt trip

Undervoltage release



The undervoltage release trips the circuit breaker when control voltage drops to less than 35% to 70% of its rated voltage. Optional time delay units from 100 to 1,000 milliseconds allow the user to minimize nuisance tripping. The time delay may be switched off to provide an instantaneous undervoltage trip. In the event an attempt is made to reclose the circuit breaker while the undervoltage condition is still present, the undervoltage release device will prevent breaker contact closure; i.e., it's a "kiss-free" design.

The "kiss-free" feature requires that if a breaker is in the OFF position and the toggle handle is being held in the off position, such as by a motor operated mechanism, and a trip command from a shunt trip or undervoltage release (UVR) causes the breaker mechanism to trip, the following steps must be completed to turn on the breaker:

1. restore control power to UVR if applicable
2. move toggle handle to ON position (breaker will not close)
3. move handle back to reset (OFF) position
4. move handle to ON to close