

# POWER EQUIPMENT

## SCO

### Series Circuit Cutout



#### Compliance with Standards

FAA: AC 150/5340-30 (Current Edition)

#### Uses

A series cutout (SCO) isolates the series circuit from the constant current regulator (CCR) during maintenance or testing operations. It allows periodic insulation resistance measurement of the series circuit to ground without disconnecting the series cable. ADB Safegate's SCO is patented under U.S. patent number 5952737.

#### Features

- Speeds up routine maintenance operations – no need to disconnect any cable
- Three positions —“operation”, “maintenance” and “test”—can be used by rotating the plug-in cover 90° in either direction
- “Normal” and “maintenance” positions can be locked with a key for enhanced safety
- Reliable operation, even in moist environments, due to its unique body shape and the improved separators that increase the arcing distances
- Prevents arcing thus ensuring the long life of the contacts. The built-in microswitch energizes the regulator after the contacts are engaged (or de-energizes the regulator before the contacts are totally opened).
- Provision for grounding of the series circuit cable shield (if used)
- High mechanical resistance – the special epoxy resin is more shock-resistant than porcelain
- Integral handle provides positive grip to assist extraction and insertion efforts
- 20 A current carrying capacity, 5 kV working voltage
- Compatible with all types of L-828/L-829 CCRs and L-847 circuit selectors
- Heavy brass terminals for easy and reliable connection of series cables
- Dependable insulation under all conditions due to the use of flame retardant epoxy resin
- Permits undisturbed operation of the remote control circuits during maintenance or repair of field circuits

- Body fastening holes reinforced with metal inserts
- The SCO has a red color-saturated epoxy resin finish. The finish is red in the Americas market and white elsewhere
- Unique Key Option: Standard units come keyed alike. For units with unique keys, use part number 1475.92.030-1.

#### Packaging

Net weight 6 lb (2.7 kg)  
Packing specifications Variable with quantity

#### Performance

Withstands: Permanent 5 kV circuit voltage and currents up to 20 A  
Ambient temperature: -67 °F to +131 °F (-55 °C to +55 °C)  
Microswitch rated: 2 A, 440 VAC

#### Construction

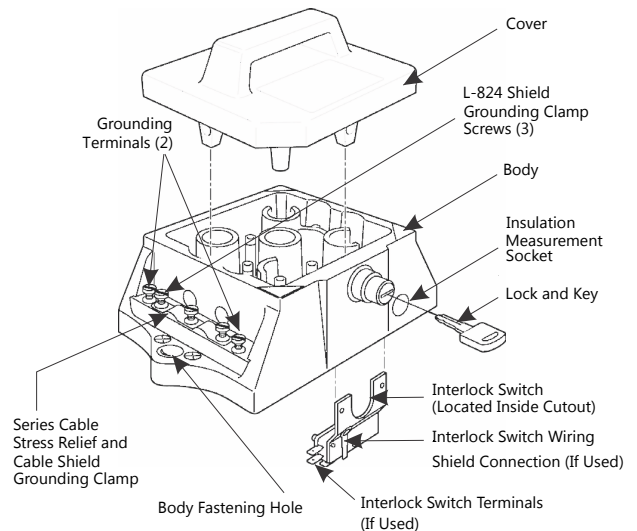


Fig.1 SCO Exploded View

#### Ordering Code

1475.92.030

Note: For unique key option, use part number 1475.92.030-1

# POWER EQUIPMENT

## SCO

### SCO Grounding Cover Ordering Code

Gray SCO Grounding Cover  
Black SCO Grounding Cover

63A1090/1  
63A1090/2

### SCO Grounding Cover

A technique used during series circuit maintenance and troubleshooting procedures is to connect one of the constant current regulator output terminals to earth ground. SCO Grounding Covers are available to allow this to be quickly and easily accomplished. Two different Grounding Covers are used. Substituting the gray-colored SCO top cover (in the "Operation" position) grounds one side of the CCR output. Substituting the black-colored SCO top cover grounds the other side of the CCR output.

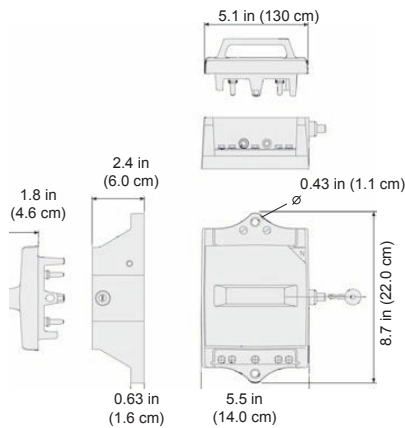


Fig. 2 Outline Dimensions

### Installation

The SCO is installed in the vault, for example, on the output side of the regulator and wired between the series loop on one side and the constant current regulator output terminals on the other side. The CCR and load sides of the cutout are clearly marked and must not be reversed (Fig. 5).

In case L-847 circuit selectors are used, the cutouts may be used on either side (input or output) of the selectors, but most often on the output side (one cutout for each series circuit).

**Note:** Grounding terminal (Fig. 1, Item 8) must be grounded for safe operation. Grounding clamp (Fig. 1, Item 7) must not be present for unshielded L-824 applications.

**Note:** Not to be used in combination with circuit selector CCRs. May lead to ground currents.

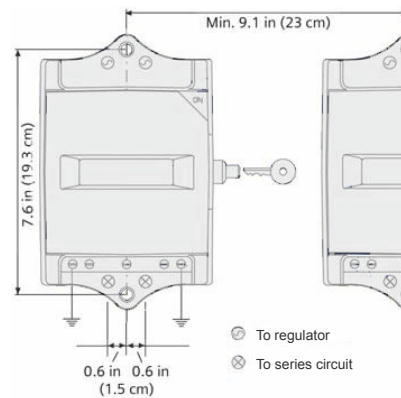


Fig. 3 Installation Diagram

**Working Diagrams**

Three positions are provided (see Fig. 4 & 5):

- “Operation” position – the regulator is connected to the series circuit and the microswitch is activated.
- “Maintenance” position – the regulator and the series circuit are both shorted and grounded and the microswitch is not activated.
- “Test and measure” position – the regulator is shorted and grounded; the series circuit is shorted and connected to the measurement socket; and the microswitch is activated. In this position, the insulation resistance of the series circuit can be measured. The regulator operation can be tested under short-circuited output conditions.

An activated microswitch means that the normally open contact is closed and that the normally closed contact is open. For interlocking with the CCR, only the normally open contact is used. When the cover is removed, the microswitch is not activated.

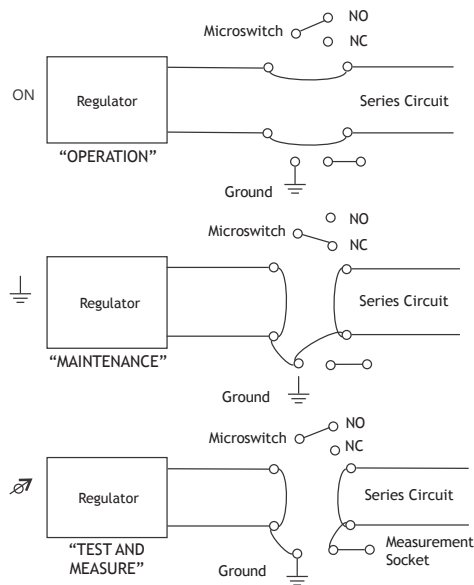


Fig. 4

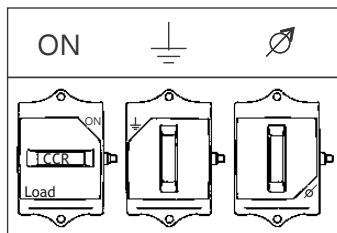


Fig. 5