

## 150 A Externally Operated Tap Changer Switch

800-58

### GENERAL

The RTE® 150 A externally operated tap changer switch eliminates many of the hazards associated with manual internal tap changing of distribution transformers because line crews need not be exposed to high voltage conductors and hot transformer fluids. Tap changer switches eliminate the need to dismount pole type transformers for voltage adjustment and exposure of the transformer tank interior to contamination. They are designed for use in distribution transformers filled with transformer oil, R-Temp® fluid or an approved equivalent.

Tap changers are available with five or seven switch positions, and for sidewall- or cover-mount applications. The switch body, rotor and shaft are made of a high strength glass-filled polyester material. The operating shaft is sealed against leakage by two high temperature resistant Viton® O-rings. The tapered gasket seal controls compression and prevents overtightening.

The switch is keyed to the tank wall to prevent switch body movement during switching. Switch positions are easily changed by pulling out the spring-loaded handle turning it to the desired position, and allowing the pointer to drop into the slotted index plate. The padlockable operating handle provides greater leverage, can be operated by hand and has a lock screw. The easy to read raised white letters on the black index plate clearly identify switch position.

All copper, low resistance, pinch-type contacts provide self-wiping connections. For ease of connection, bolt tabs, bolt tabs with 1/4-20 stud, 16-14 AWG, 12-10 AWG, 8 AWG or 6 AWG crimp terminals are available. Switches with crimp terminals have additional inboard tapped holes for making separate ring tongue terminal connections without changing switch contacts. All terminals have hex recesses to hold 7/16 inch hex bolt heads of standard 1/4 inch hardware for fast, easy connections.



**Figure 1.**  
Single-Phase, 150 A Externally Operated Tap Changer Switch.



**Figure 2.**  
Three-Phase, 150 A Externally Operated Tap Changer Switch.

### INSTALLATION

No special tools are required. The switch body is installed through a keyed 1.33 inch (34 mm) hole in the tank wall and sealed by an inside gasket. An outer sealing nut is tightened to a torque of 80 to 120 in.-lb. Refer to Service Information Section S800-58-1 for details.

**TABLE 1**  
Voltage Ratings and Characteristics

| Description                 | kV      |
|-----------------------------|---------|
| Standard Voltage Class      | 35 Max. |
| ac 60 Hz 1 Minute Withstand | 50      |
| BIL and Full Wave Crest     | 150     |

Voltage ratings and characteristics are in accordance with ANSI Standard C57.12. (Phase-to-Phase or Phase-to-Ground).

**TABLE 2**  
Current Ratings and Characteristics

| Description | Amperes   |
|-------------|-----------|
| Continuous  | 150 A rms |

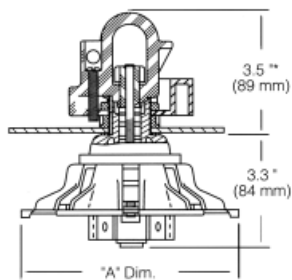


Figure 3.  
One-Phase Switch.

\* Varies with Front Plate thickness.



Figure 4.  
Mounting Hole.

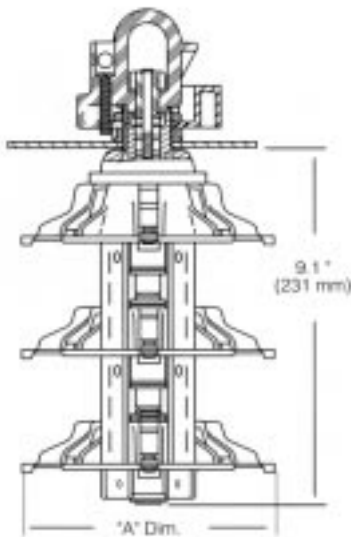


Figure 5.  
Three-Phase Switch.



Figure 6.  
Five Position Indicator.



Figure 7.  
Contact Configuration.

NOTE: Dimensions given are for reference only.

TABLE 3  
Contact Dimensions in./(mm)

| Contact Type              | A            |
|---------------------------|--------------|
| Tabs for 1/4" Bolts       | 5.6<br>(141) |
| 16-14 AWG Terminals       | 6.7<br>(169) |
| 12-10 AWG Terminals       | 6.7<br>(169) |
| 8 AWG Terminals           | 6.7<br>(169) |
| 6 AWG Terminals           | 6.9<br>(175) |
| Bolt Tab with 1/4-20 Stud | 5.6<br>(141) |

## ORDERING INFORMATION

To order an RTE 150 A tap changer switch, specify catalog numbers for one switch and one handle hardware kit.

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TABLE 4  
Tap Changer Switches

| Contact Type                                 | Catalog Number |             |              |              |
|----------------------------------------------|----------------|-------------|--------------|--------------|
|                                              | Single-Phase   |             | Three-Phase  |              |
| Sidewall Mounted                             | 5 Position     | 7 Position  | 5 Position   | 7 Position   |
| Bolt Tab                                     | 2237470C01M    | 2237470C51M | 2237471C01 M | 2237471C51 M |
| 16- 14 AWG Terminals                         | 2237470C02M    | 2237470C52M | 2237471C02M  | 2237471C52M  |
| 12- 10 AWG Terminals                         | 2237470C03M    | 2237470C53M | 2237471C03M  | 2237471C53M  |
| 8 AWG Terminals                              | 2237470C04M    | 2237470C54M | 2237471C04M  | 2237471C54M  |
| 6 AWG Terminals                              | 2237470C05M    | 2237470C55M | 2237471C05M  | 2237471C55M  |
| Bolt Tab with 1/4-20 Stud                    | 2237470C16M    | 2237470C66M | 2237471C16M  | 2237471C66M  |
| Special, 6 deck TC                           | —              | —           | 2237529C01 M | 2237529C51M  |
| Special, 6 deck TC-Bolt Tab with 1/2-20 Stud | —              | —           | 2237529C16M  | 2237529C66M  |
| Cover Mounted                                |                |             |              |              |
| Bolt Tab Terminals                           | 2237472C01M    | 2237472C51M | 2237473C01M  | 2237473C51M  |
| 16-14 AWG Terminals                          | 2237472C02M    | 2237472C52M | 2237473C02M  | 2237473C52M  |
| 12-10 AWG Terminals                          | 2237472C03M    | 2237472C53M | 2237473C03M  | 2237473C53M  |
| 8 AWG Terminals                              | 2237472C04M    | 2237472C54M | 2237473C04M  | 2237473C54M  |
| 6 AWG Terminals                              | 2237472C05M    | 2237472C55M | 2237473C05M  | 2237473C55M  |
| Bolt Tab with 1/4-20 Stud                    | 2237470C16M    | 2237470C66M | 2237471C16M  | 2237471C66M  |
| Hardware Kits                                |                |             |              |              |
| Hotstick Handle                              | 2237947A12     | 223794A13   | 2237947A10   | 2237947A11   |
| "T" Handle                                   | 2237947A68     | 2237947A69  | 2237947A66   | 2237947A67   |

NOTE: Lettered index plate is standard. Numbered index plate is available. Contact your Cooper Power Systems representative for more information.

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