



MODEL SERIES 6TCB SF₆ Gas Density Switch Bulb Design

- Temperature range -40F to 140F
- Up to four SPDT contacts
- Bulb design temperature sensor



GENERAL DESCRIPTION

- Designed to measure SF₆ gas density in all high-voltage circuit breaker applications
- PVC housing with aluminum components
- Bulb design senses temperature change, indicating loss of gas
- Low-maintenance
- Accommodates a wide temperature range
- Phosphor bronze or S/S bellows

SPECIFICATIONS

Switching

2, 3, or 4 S.P.D.T. snap acting switches

Electrical Connection

Screw terminals standard

Pre-wired with 18" leads available

Switch Contact Ratings

15A; 125, 480 VAC / 6A res.; 28 VDC std.

Setpoint Adjustment

Factory set per customer specifications

Temperature Range

-40°F to 140°F Ambient Standard

0°F to 180°F Available

Accuracy (Standard)

± 1.5 PSI at 70°F

± 3 PSI at temperature extremes 140°F to -40°F

Higher accuracy devices are available

Deadband (Switch Differential)

Fixed; 1-6 PSI Typical (per Cust. requirements)

Pressure Sensing Element

Phosphor Bronze or Stainless Steel Bellows - 100% leak inspected with Helium mass spectrometry to 9×10^{-9} cc/sec.

Pressure Adjustment Range

Phosphor Bronze Bellows: 5-100 PSI; 150 PSI max.

Stainless Stl. Bellows: 5-100 PSI; 300 PSI max.

150-500 PSI; 1000 PSI max.

Pressure Port

¼ NPTF or 7/16-20 SAE are standard; Other port options are available.

Enclosure

Unenclosed design

Base material 6063-T6 extruded aluminum

Cover material rigid PVC

Weight

Approximately 3 lbs (1.4 kg).

SOLON MANUFACTURING COMPANY

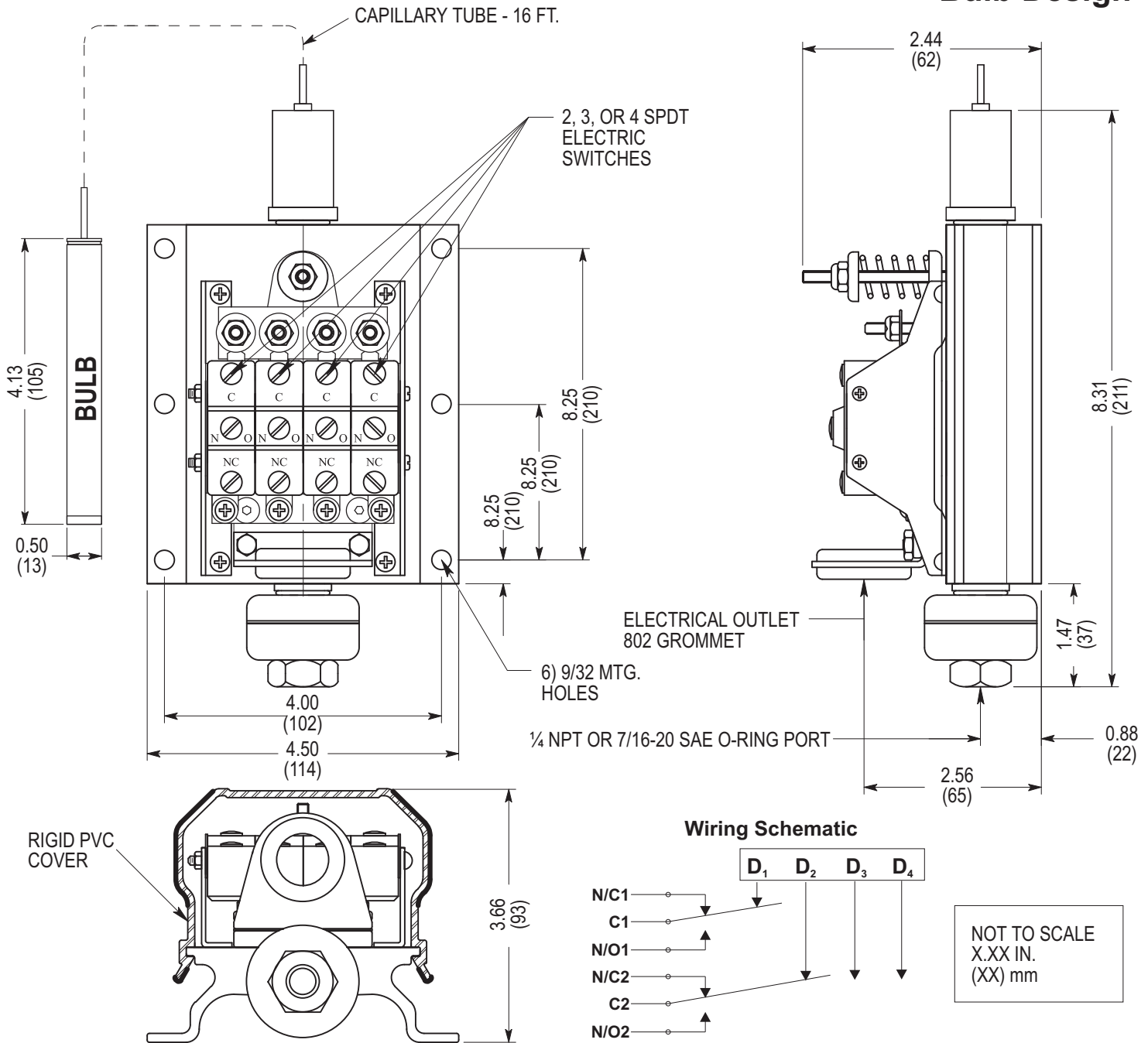
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SWITCH DIMENSIONS

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SPECIFYING A SWITCH

1. Specify the set points for each switch. Set points should be given at room temperature (68F) and at either of the temperature extremes.
2. Designate the pressure port fitting.
3. Choose the type of electrical connection;
 - * Screw terminals or,
 - * Prewired - Color coded 18 GA. MTW, 18" Lg.
4. Describe other requirements such as special testing, labeling, tagging, packaging, etc.
5. Once a switch is specified and an order is placed, Solon Mfg. Co. will assign a "slant number" (6TC/XXX) to the switch. This ensures that the fit, form, and function of the device will not change.

INSTALLATION NOTES

- Orientation** - The 6TC will operate satisfactorily in any position.
- Location** - The bulb should be installed where it will follow the temperature for the SF₆ gas (out of direct sunlight). The location of the switch housing does not affect performance.
- Capillary Tube** - The minimum bend radius for the capillary tube is 1/2 inch.
- Wiring** - No. 6 screw terminals are standard. Switches may be wired to 'normally open' or 'normally closed' terminals of the switch contacts. Always connect the positive to the common terminal. Care should be taken so that wires do not contact the mechanism or spring.
- Piping** - Always use a wrench to hold the pressure port while the fitting is tightened (do not over-tighten). Thread sealant should always be used on NPT threads.
- Checking calibration** - First, obtain a pressure vs. temp. curve. Second, accurately record the temperature of the bulb. Third, lower pressure slowly and record set points. Make certain that there is a load (8V or 150 mA min) on the switch. Finally, compare settings to the graph. **DO NOT ADJUST SETTINGS IN THE FIELD.**

