



# Nuclear Qualified Pressure Switch with Terminal Block

## General Instructions

These instructions provide information for installation, process connection, electrical connection and calibration of Nuclear Qualified Pressure Switch with Terminal Block.

**NOTE: If you suspect that a product is defective, contact the factory or the SOR® Representative in your area for a return authorization number (RMA). This product should only be installed by trained and competent personnel.**



## Installation

The vent connection must be plugged or vented to dry atmosphere as required by application requirements. Test Data Sheet SOR form #716 is supplied for each serial number and provides switch performance data in the vented and plugged condition. Standard installation orientation is to mount the unit in the vertical (pressure port down) configuration.



**Failure to mount the housing on a flat mounting surface may result in torsional forces on the housing that could cause false trips or render the pressure switch inoperative.**

## Process Connection

Securely connect process line to pressure port using two wrenches: one to hold hex flats on pressure port, the other to tighten process pipe or tube fitting.

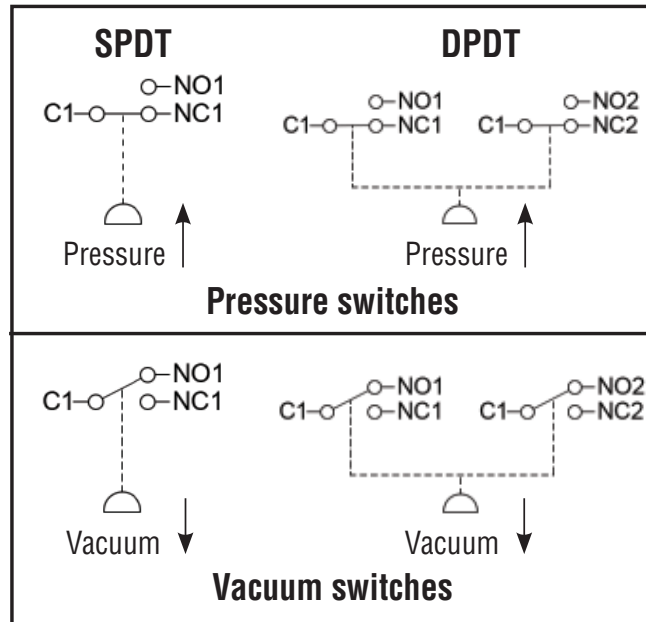


**Be certain the process connection is tightened and positioned so bending and torsional forces imposed on pressure switch are minimal. Use care not to loosen pressure port from body or body from housing.**

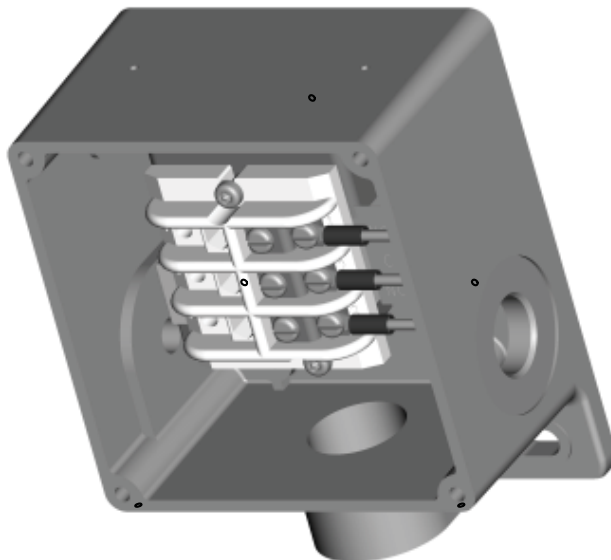
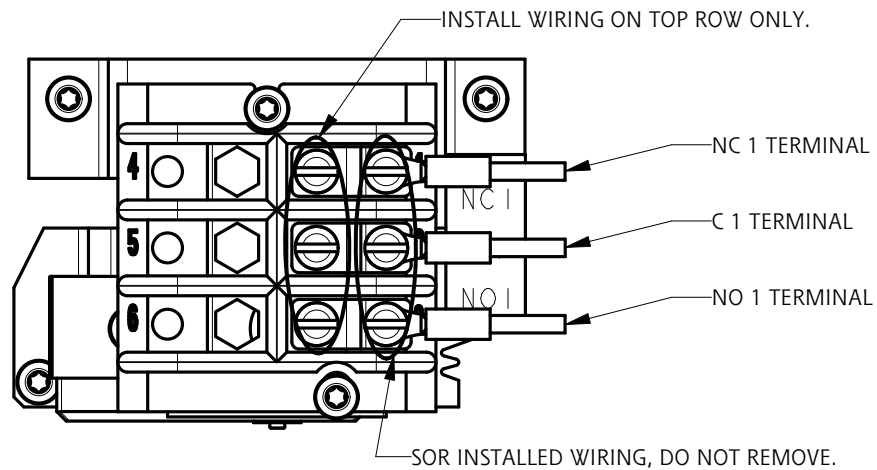
*Design and specifications are subject to change without notice.  
For latest revision, go to [sorinc.com](http://sorinc.com)*

## Electrical Connection

- Conduit should be installed without applying strain to the housing.
- Screw terminal block is provided with marked insulation as denoted below.
- Ensure the use of insulated terminal connectors when installing field wiring.
- Tighten screw terminals to 10 in-lbs. (1.1 N-m).



Drawing 9013747



## Site Storage

Store switch in a dry area in the original shipping package. Shelf life is 10 years for a maximum ambient temperature of 80°F, based on aging data in SOR Test Report 9058-102.

## Calibration

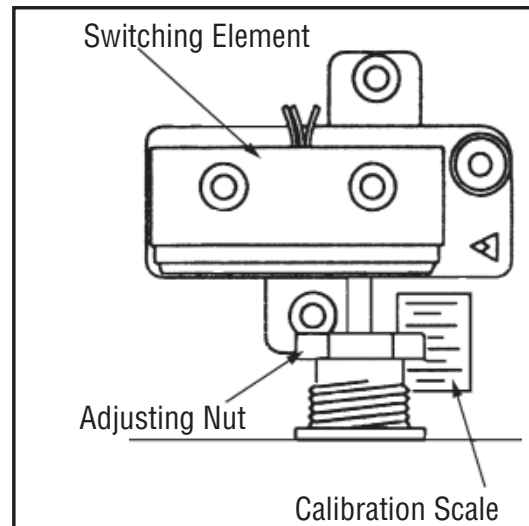
To check the set point of a switch, monitor either the common (C1) and normally open (NO1) or the common (C1) and normally closed (NC1) contacts for change of state. Connect the process connection to a regulated hydraulic or pneumatic pressure source. Monitor with an accurate pressure measuring standard. Slowly increase or decrease the pressure to accurately capture the precise moment that the switch changes state. To assure the most accurate and repeatable results, the switch must be tested in an identical manner each time the calibration is checked.

### Increasing Set Points

If the normal operating pressure is below the set point, then the pressure should be increased from 0 PSI up to the increasing set point and then back down to the reset point. Repeat this cycle as necessary.

### Decreasing Set Points

If the normal operating pressure is above the set point, then the calibration should be checked by first pressurizing to the normal operating pressure, then reducing the pressure to the decreasing set point, and then increasing the pressure to the reset point. Repeat this cycle as necessary.



To adjust pressure at which switch will operate, remove cover and tighten the hex head adjusting nut with a 3/4" wrench to increase pressure; loosen to reduce pressure. Sighting across the top of the 3/4-inch hex adjusting nut to the scale gives approximate set point pressure.

After calibration is complete, reinstall the cover with new gaskets or o-rings as required by the Maintenance instructions.



***The Switching element has been positioned with a dial indicator to a tolerance of  $\pm.002$  inches. Do not move this switching element! Its position has nothing to do with the set point adjustment. Any movement can either render the switch inoperative or cause the switching element to be damaged with overpressure.***

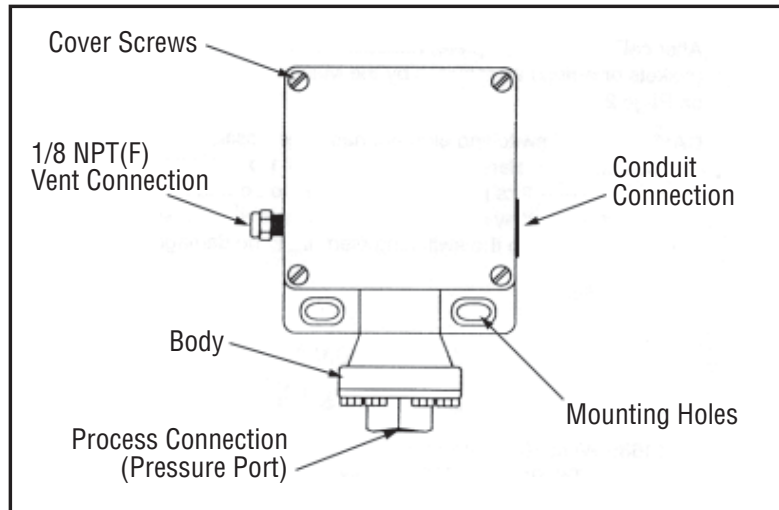
## RT Housing

### Mounting Hardware

Fasteners per SOR Test Report 9058-102 consist of two 1/4-20, Grade 5 screws (not supplied). Torque screws to 70 to 85 in-lbs. (7.9-9.6 N-m)

### Maintenance

Replace cover gasket whenever cover is removed or minimum of once every 5 years, whichever comes first.



To replace cover gasket:

Remove the four cover screws. Remove old gasket. Place new gasket between housing and cover (or cover insulation). Line up holes in cover, gasket and housing. Insert the 4 screws and torque each to 7 to 10 in-lbs. (0.8-1.1 N-m).

For units shipped prior to 2019, order one of the following:

- Std. cover gasket, SOR P/N 8923-181, if no replacement kit was requested after issuance of notice of deviation (NRC Event #53856).
- Windowed cover gasket, SOR P/N 8923-903, if replacement kit was requested

For units shipped in 2019 or after, order SOR P/N 8923-181 as the replacement gasket.

