



Sub-Mini-Hermet Pressure Switches

General Instructions

These instructions cover mounting, process connection, electrical connection and calibration of SOR's Sub-Mini-Hermet Explosion Proof Pressure Switches.

The switching element is hermetically sealed in an explosion proof capsule that is SAA Approved Ex s IIC T6 for Class I, Zone 1, and UL Listed and CSA Certified for hazardous locations Class I, Groups A, B, C & D; Class II, Groups E, F & G; Divisions 1 & 2.

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 pressure switch may be line mounted to either rigid process piping or electrical conduit. The body of the pressure switch should be clamped to a suitable member on applications when rigid process piping or electrical conduit is not available.

Safety Integrity Level (SIL) Installation Requirements

The SOR pressure switches have been evaluated as Type-A safety related hardware. To meet the necessary installation requirements for the SIL system, the following information must be utilized:

- Proof Test Interval shall be one year.
- Units may only be installed for use in Low Demand Mode.
- Products have a HFT (Hardware Fault Tolerance) of 0, and were evaluated in a 1001 (one out of one) configuration.

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Process Connection

Use two wrenches when connecting process pipe: a 1-1/8-inch open-end wrench to hold the hex port while connecting the process pipe; the other wrench to tighten the process pipe or tube fitting.



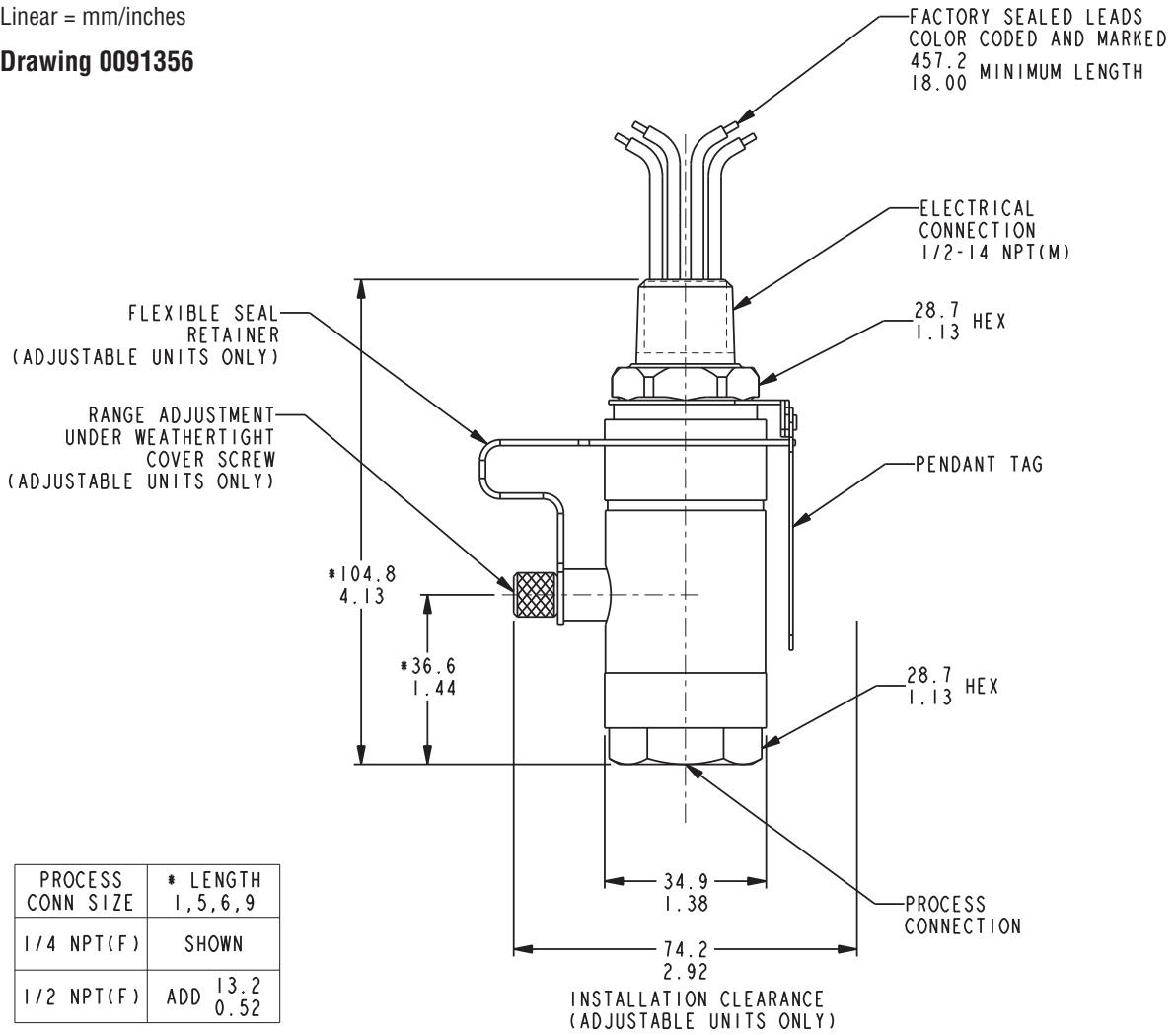
When rigid process piping is used, it is important that no bending or torsional forces be imposed on the pressure Switch.

*Design and specifications are subject to change without notice.
For latest revision, go to www.sorinc.com*

Dimensions

Linear = mm/inches

Drawing 0091356



PROCESS CONN SIZE	* LENGTH 1, 5, 6, 9
1/4 NPT(F)	SHOWN
1/2 NPT(F)	ADD 13.2 0.52

*Dimensions are for reference only.
Contact the factory for certified drawings
for a particular model number.*

Electrical Connection

Ensure that wiring conforms to all applicable local and national electrical codes and install unit(s) according to relevant national and local safety codes.

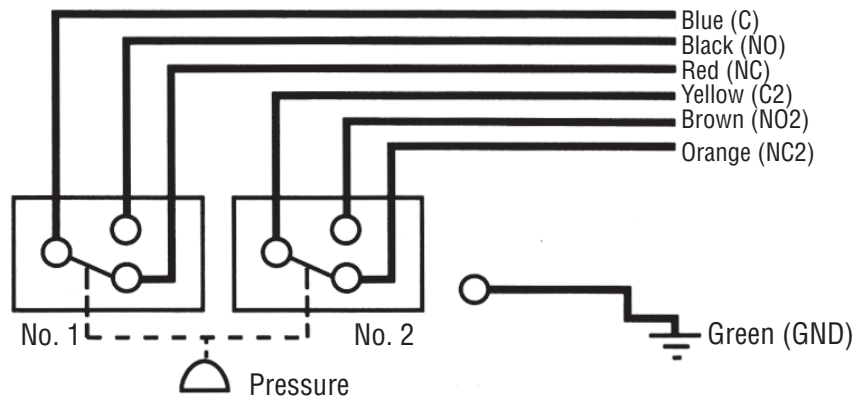
Use a 1-1/8", open-end wrench to hold the hex on the electrical connection while conduit or conduit fitting is being tightened.

The electrical switch element capsule assembly contains UL Listed and CSA Certified factory-sealed leads. A conduit seal is not required to preserve explosion-proof integrity. Electrical leads are marked NC (Normally Closed), NO (Normally Open) and C (Common). Electrical switching elements are snap-action and are either SPDT or DPDT (2-SPDT) set to actuate simultaneously.

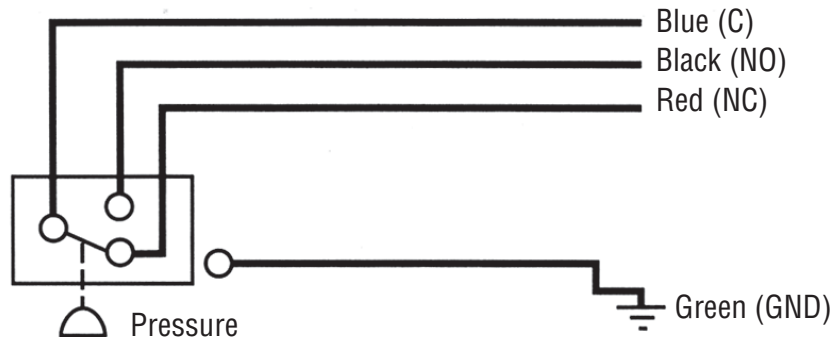


Do not use a pipe wrench or strap wrench on the round body nor an open-end wrench on the hex pressure port while tightening the conduit connection, because the hermetically sealed switching element capsule has been precisely positioned and locked during manufacture. Excessive force could overcome the lock and cause movement which will adversely affect operation or render the pressure switch inoperative. Should movement occur, factory calibration must be performed in order to restore normal operation.

DPDT (2-SPDT)



SPDT



Calibration (Adjustable Models ONLY)

Field adjustable models have a set point adjustment under the removable weathertight cap.

It is not necessary to disconnect the electrical power, since the electrical switching element is inside the hermetically sealed, explosion-proof capsule, thereby maintaining explosion proof integrity.

- 1 Remove knurled weathertight cap.
- 2 Use 3/32" hex (Allen type) wrench to turn adjusting screw to achieve desired set point. Turn adjusting screw clockwise (in) to increase set point; turn adjusting screw counterclockwise (out) to decrease set point.



If adjusting screw is turned counterclockwise too far, it can cause the guide disc to slide down. The unit will then be inoperable.

Use an external pressure measuring device to accurately calibrate set points.

- 3 After the set point has been calibrated, replace the weathertight sealing cap tightly to ensure the weathertight integrity of the device.



SOR discourages field modifications, change-out of wetted parts or repair. It is recommended that products be returned to SOR for inspection and necessary repair work. Contact the factory or the SOR representative in your area for a Returned Goods Authorization number. Any field work should be performed by qualified instrument technician with formal SOR procedures.



Units in hazardous locations-prior to removal from service, make sure that the work area is declassified. Failure to do so could result in severe personal injury or substantial property damage.



Printed in USA

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