

## Features

- Two switch model
- Independent switch adjustment, no tools needed
- Two 1/2" conduit/cable entrances
- Separate isolated wiring chambers
- Non-corrosive pressure connection
- Non-Conductive Enclosure



## NOTICE

This document contains important information on the installation and operation of PS100 pressure switches. Please read all instructions carefully before beginning installation. A copy of this document is required by NFPA 72 to be maintained on site.



## Installation

The Potter PS100 Pressure Actuated Switches are designed primarily to detect a decrease from normal system pressure in automatic fire sprinkler systems. A typical application is for an alarm initiating device that is used on a wet system with excess pressure. The PS100-2 has two SPDT switches factory set to operate on a pressure drop at 90 psi (6,2 bar). See section heading **Adjustments and Testing** if other than factory set point is required.

1. Connect the PS100 to the system side of any shutoff or check valve
2. Apply Teflon tape to the threaded male connection on the device. (Do not use pipe dope)
3. Device should be mounted in the upright position. (Threaded connection down)
4. Tighten the device using a wrench on the flats on the device.

## Wiring Instructions

1. Remove the tamper resistant screw with the special key provided.
2. Carefully place a screwdriver on the edge of the knockout and sharply apply a force sufficient to dislodge the knockout plug. See Fig 9.
3. Run wires through an approved conduit connector and affix the connector to the device. NEMA 4 rated conduit and fittings are required for outdoor use.
4. Connect the wires to the appropriate terminal connections for the service intended. See Figures 2,4,5 and 6. See Fig. 7 for two switch one conduit wiring.

## Technical Specifications

|                           |   |
|---------------------------|---|
| Conduit Entrances         | Two knockouts for 1/2" conduit provided. Individual switch compartments and ground screw suitable for dissimilar voltages   |
| Contact Ratings           | Two SPDT (Form C)<br>10.1 Amps at 125/250VAC, 2.0 Amps at 30VDC   |
| Cover Tamper              | Cover incorporates tamper resistant fastener that requires a special key for removal. One key is supplied with each device. |
| Differential              | Typical 2 lbs. at 25 psi (.14 at 1,7 bar)<br>8 lbs at 175 psi (.55 at 12,1 bar)   |
| Dimensions                | 3.78"(9,6cm)Wx3.20"(8,1cm)Dx4.22"(10,7cm)H  |
| Enclosure                 | Cover: Weather/UV/Flame Resistant High Impact Composite<br>Base: Die Cast<br>All parts have corrosion resistant finishes    |
| Environmental Limitations | -40° F to 140°F (-40°C to 60°C)<br>NEMA 4/IP66 Rated Enclosure indoor or outdoor when used with NEMA 4 conduit fittings     |
| Factory Adjustment        | 90 psi (6,2 bar)  |
| Maximum System Pressure   | 300 psi (20,68 bar)   |
| Pressure Connection       | Nylon 1/2" NPT male   |
| Pressure Range            | 25-175 psi (1,7 - 12,1 bar)   |
| Service Use               | NFPA 13, 13D, 13R, 72   |

\*Specifications subject to change without notice.

### Adjustment and Testing

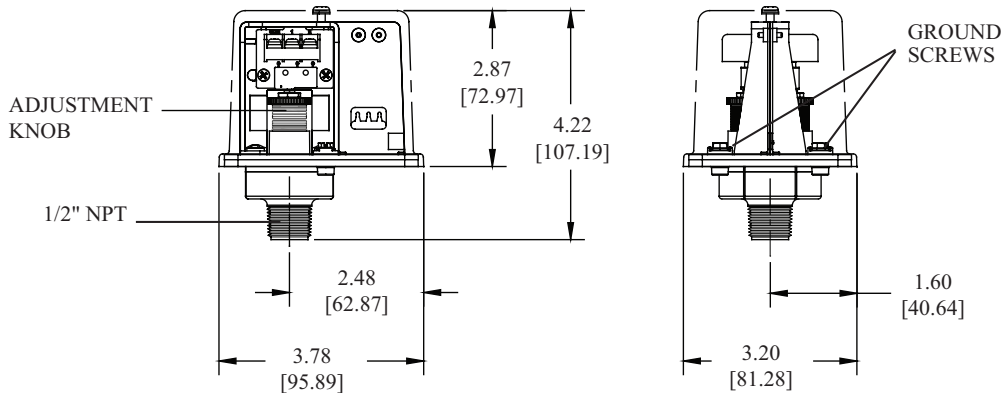
The operation of the waterflow pressure switch should be tested upon completion of installation and periodically thereafter in accordance with the applicable NFPA codes and standards and/or the authority having jurisdiction (manufacturer recommends quarterly or more frequently).

**NOTE:** Testing the PS100 may activate other system connected devices. The use of a Potter BVL (see product bulletin 8900067 for details) is recommended to facilitate setting and testing of the PS100 pressure switch. When a BVL (bleeder valve) is used, the pressure to the switch can be isolated and bled from the exhaust port on the BVL without effecting the supervisory pressure of the entire system. See Fig. 3

The operation point of the PS100 Pressure Switch can be adjusted to any point between 25 and 175 psi (1,7 - 12,1 bar) by turning the adjustment knob(s) clockwise to raise the actuation point and counter clockwise to lower the actuation point. Both switches operate independent of each other. Each switch may be independently adjusted to actuate at any point across the switch adjustment range. Initial adjustment can be made with a visual reference from the top of the adjustment knob across to the printed scale on the switch bracket. Final adjustments should be verified with a pressure gauge.

### Dimensions

Fig 1

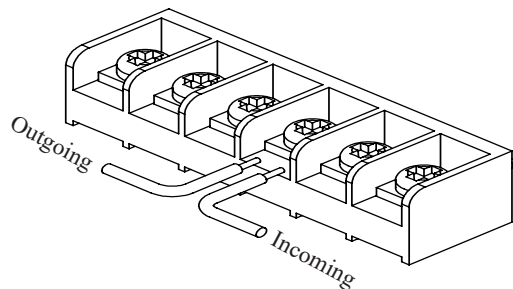


NOTE: To prevent leakage, apply Teflon tape sealant to male threads only.

DWG# 930-1

### Switch Clamping Plate Terminal

Fig 2

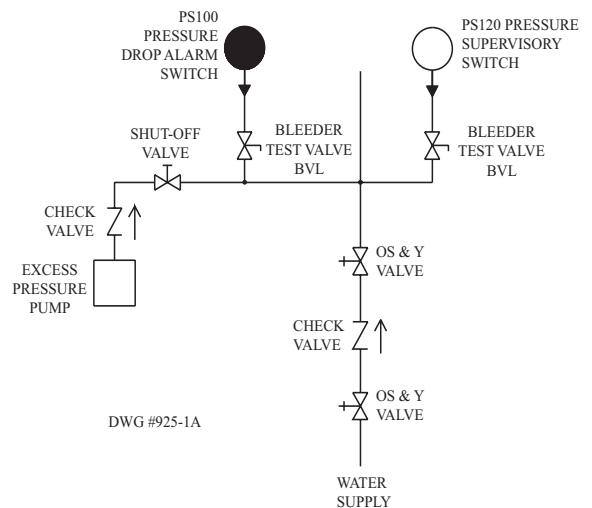


### WARNING

An uninsulated section of a single conductor should not be looped around the terminal and serve as two separate connections. The wire must be severed, thereby providing supervision of the connection in the event that the wire becomes dislodged from under the terminal.

### Typical Sprinkler Applications

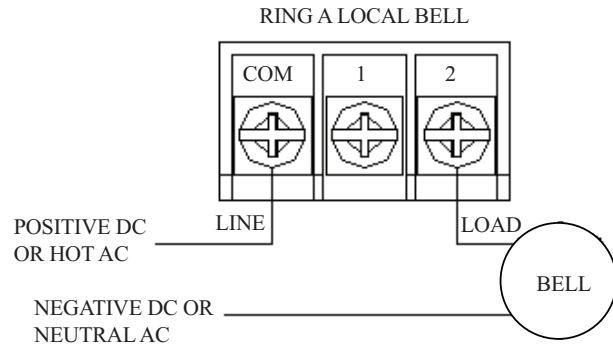
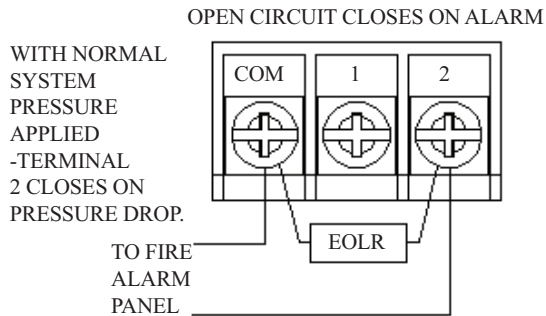
Fig 3



DWG #925-1A

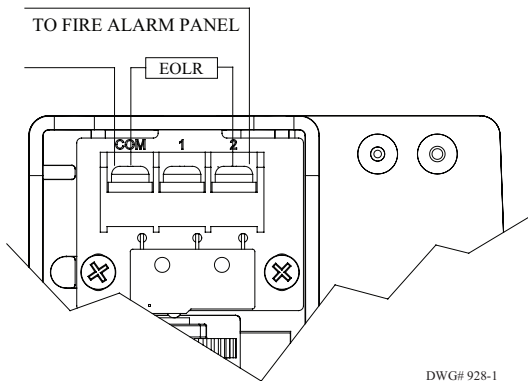
**Typical Connections**

Fig 4

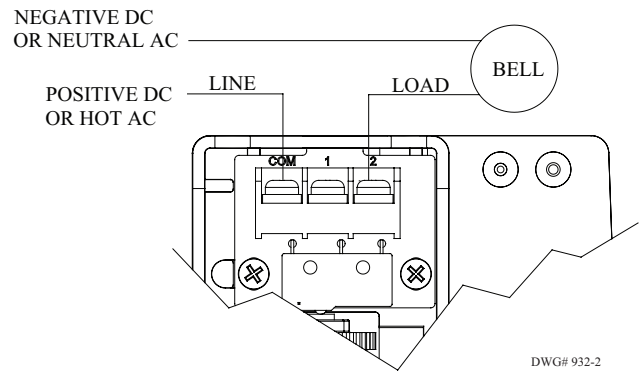


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**Waterflow Signal Connection**  
Fig 5



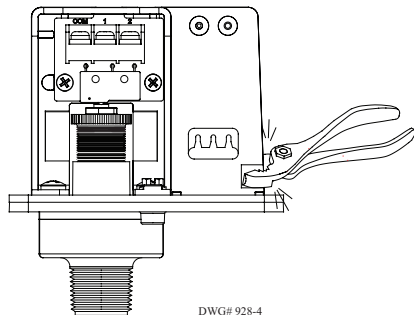
**Local Bell For Waterflow Connection**  
Fig 6



**One Conduit Wiring**

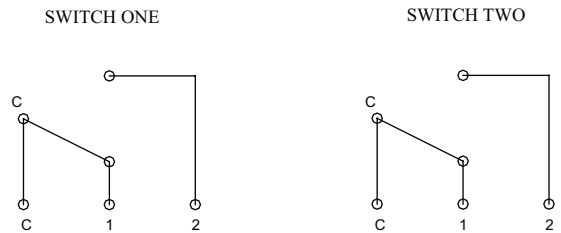
Fig 7

Break out thin section of divider to provide path for wires when wiring both switches from one conduit entrance.



**Changing Pressure** (with normal system pressure)

Fig 8

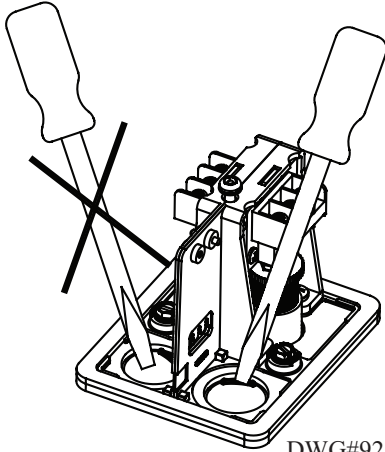


DWG# 932-3

1. Closed under normal system pressure.
2. Open under normal system pressure, closes on pressure drop. Use as waterflow detector.

## Removing Knockouts

Fig 9



## Engineer/Architect Specifications Pressure Type Waterflow Switch

Pressure type waterflow switches; shall be a Model PS100-2 as manufactured by Potter Electric Signal Company, St. Louis, MO., and shall be installed on the fire sprinkler system as shown and or specified herein.

Switches shall be provided with a 1/2" NPT male pressure connection to be connected to the excess pressure supply line on the system side of any shut-off or check valve. A Model BVL bleeder valve as supplied by Potter Electric Signal Company of St. Louis, MO., or equivalent shall be connected in line with the PS100-2 to facilitate testing of the PS100-2.

Pressure type waterflow switches shall have a maximum service pressure rating of 300 psi (20,68 bar) and shall be factory adjusted to operate on a pressure decrease of 10 psi (14,5 bar).

Pressure switch shall have two Form C contacts, switch contact rating at 10.1 Amps at 125/250 VAC. 2.0 Amps at 30 VDC.

Pressure type waterflow switches shall have two conduit entrances, one for each individual switch compartment to facilitate the use of dissimilar voltages for each individual switch.

The cover of the pressure type waterflow switch shall be Weather/UV/Flame Resistant High Impact Composite with rain lip and shall attach with one tamper resistant screw. The pressure type waterflow switch shall be suitable for indoor or outdoor service with a NEMA-4/IP66 rating.

The pressure type waterflow switch shall be UL, ULC, and CSFM listed, FM and LPC approved and NYMEA accepted.

### WARNING

- Installation must be performed by qualified personnel and in accordance with all national and local codes and ordinances.
- Shock hazard. Disconnect power source before servicing. Serious injury or death could result.
- Read all instructions carefully and understand them before starting installation. Save instructions for future use. Failure to read and understand instructions could result in improper operation of device resulting in serious injury or death.
- Risk of explosion. Not for use in hazardous locations. Serious injury or death could result.

### CAUTION

- Do not tighten by grasping the switch enclosure. Use wrenching flats on the bushing only. Failure to install properly could damage the switch and cause improper operation resulting in damage to equipment and property.
- To seal threads, apply Teflon tape to male threads only. Using joint compounds or cement can obstruct the pressure port inlet and result in improper device operation and damage to equipment.
- Do not over tighten the device, standard piping practices apply.

## Ordering Information

| Model                   | Description                            | Part Number |
|-------------------------|--|-------------|
| PS100-2                 | Pressure switch with two SPDT contacts | 1341005     |
| Hex Key                 |  | 5250062     |
| Cover Tamper Switch Kit |  | 0090200     |
| BVL                     | Bleeder Valve                          | 1000018     |

### Tamper

Cover incorporates tamper resistant fastener that requires a special key for removal. One key is supplied with each device. For optional cover tamper switch kit, order Stock No. 0090200. See bulletin #5401200 PSCTSK.

### NOTICE

Pressure switches have a normal service life of 10-15 years. However, the service life may be significantly reduced by local environmental conditions.