PS10-EX
EXPLOSION PROOF PRESSURE SWITCH

PS10-EX Stock No. 1350102

CUL, UL and CSFM Listed, FM Approved and NYMEA Accepted
Dimensions: 6"Dia. x 7"H (15,2cm Dia. x 17,8cm H)
Enclosure: Cast aluminum
Pressure Connection: 1/2" NPT male brass fitting
Conduit Entrance: 1/2" NPT female conduit opening
Factory Adjustment:
Both switches operate on: Pressure Increase at 6 ±1 PSI (.41 ±.07 BAR)
Pressure Decrease at 5 ±1 PSI (.35 ±.07 BAR)
Maximum Differential: 1 PSI (0,07 BAR)
Maximum System Pressure: 250 PSI (17,2 BAR)
Switch Contacts: Two Sets of SPDT (Form C)
15.0 Amps at 125/250 VAC
2.0 Amps at 30 VDC
Environmental Specifications:
For use in hazardous locations classified as:
Class I: Groups B, C, D, Div. 1
Class II: Groups E, F, G, Div. 1
Class III: Div. 1
NEMA 4 and 9 Rated Enclosure
Temperature range: -40°F to 140°F (-40°C to 60°C)
Service Use:

Automatic Sprinkler	NFPA-13
National Fire Alarm Code	NFPA-72

Installation and Test Procedure
The Potter PS10-EX Pressure Actuated Switch is designed for the detection of a waterflow condition in automatic fire sprinkler systems located in hazardous locations classified as shown above, of particular designs such as wet systems with alarm check valves or dry pipe systems. It may also be used to provide a low pressure supervisory signal. It can be adjusted to operate on pressure between 4 and 20 PSI (.28 and 1.4 BAR).

Mounting
Device should be mounted in upright position (threaded connection down). Requires NEMA Type 4 conduit hub for outdoor installations.

Testing
The operation of the pressure alarm 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).

Wet System
METHOD 1: When using PS10–EX and control unit with retard, connect the PS10–EX into alarm port piping on the input side of retard chamber and electrically connect PS10–EX to control unit that provides a retard to compensate for surges. Insure that no shut off valves are present between the alarm check valve and the PS10–EX.

METHOD 2: When using the PS10-EX for local bell application or with a control that does not provide a retard feature, the PS10-EX must be installed on the alarm outlet side of the retard chamber of the sprinkler system.

TESTING: Accomplished by opening the inspector's end-of-line test valve. Allow time to compensate for system or control retard.

⚠ CAUTION
Method 2 is not applicable for remote station service use.

Wet System With Excess Pressure
Connect the PS10-EX into alarm port piping extending from alarm check valve. Retard provisions are not required. Insure that no shut off valves are present between the alarm check valve and the PS10-EX.

Testing: Accomplished by opening the water by-pass test valve or the inspector's end-of-line test valve. When using end-of-line test, allow time for excess pressure to bleed off.

Dry System
Connect the PS10-EX into the piping that extends from the intermediate chamber of the dry sprinkler valve. Install on the outlet side of the in-line check valve of the piping. Insure that no shut off valves are present between the dry sprinkler valve and the PS10-EX.

Testing: Accomplished by opening the water by-pass test valve.

⚠ CAUTION
The above tests may also activate any other circuit closer or water motor gongs that are present on the system.

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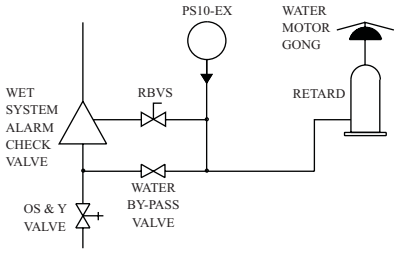
EXPLOSION PROOF PRESSURE SWITCH

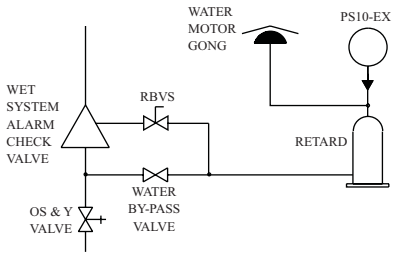
Ordering Information

Model	Description	Stock No.
PS10-EX	Pressure switch with two sets SPDT contacts	1350102
	Hex Key	5250073

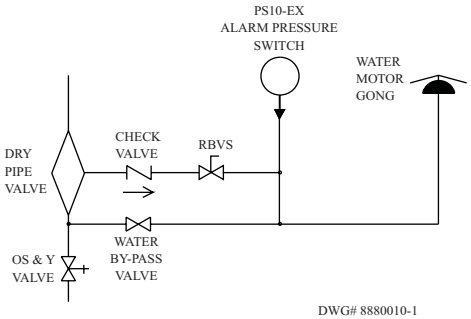
Typical Sprinkler Applications

WET SYSTEM - WITH OR WITHOUT EXCESS PRESSURE





DRY SYSTEM



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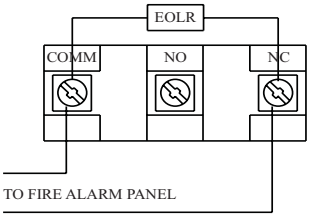
⚠ CAUTION

The closing of any shutoff valves between the alarm check valve and the PS10-EX will render the PS10-EX inoperative. To comply with NFPA-72 any such valve shall be electrically supervised with a supervisory switch such as Potter Model RBVS.

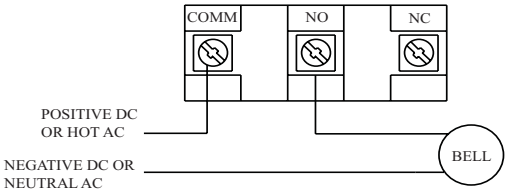
Typical Electrical Connections

FOR LOW PRESSURE SIGNAL

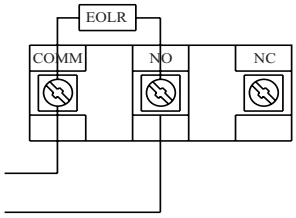
USED ON DRY OR PRE-ACTION SYSTEMS WITH LESS THAN 20 PSI ONLY



TO RING A LOCAL BELL FOR WATERFLOW



FOR WATERFLOW SIGNAL



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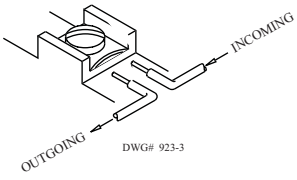
Switch Terminal Connections Clamping Plate Terminal



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⚠ CAUTION

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.

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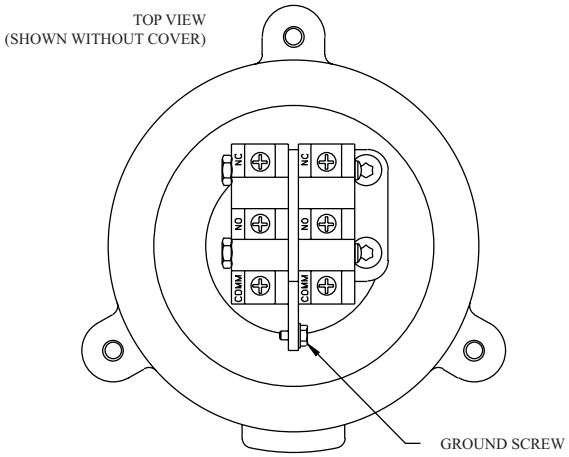


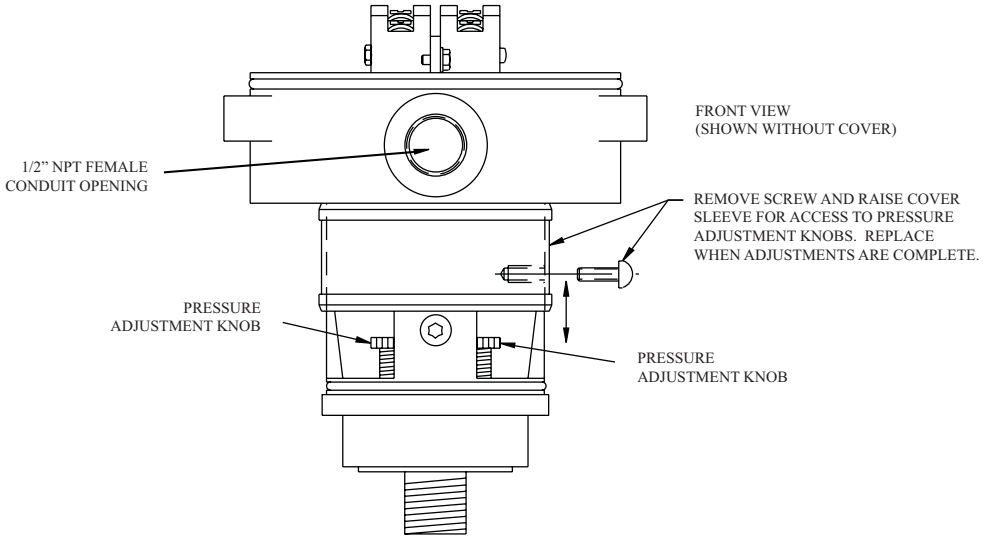
Note: To prevent leakage, apply teflon tape sealant to male threads only.

⚠ WARNING

Use of pipe joint cement may result in obstruction of aperture and loss of signal.

⚠ CAUTION

When this device is to be installed in an area that is classified as **"HAZARDOUS"**, the person responsible for safety in the area should be contacted to determine if the tools and operations required for the installation of the device and associated components are permitted in the area. To reduce the risk of ignition of hazardous atmospheres, disconnect supply circuits before opening cover. Keep cover tight while circuits are live. Cover screws must be torqued to 45-50 in. lbs (5.1-5.7 n-m).



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Engineer/Architect Specifications

Pressure type waterflow switches shall be a Model PS10-EX as manufactured by Potter Electric Signal Co. of St. Louis, Mo. and shall be installed on the sprinkler systems as shown on the drawings and/or specified herein.

Switches shall be provided with a 1/2" NPT male pressure connection to be connected into the alarm check valve of a "wet" sprinkler system or into the intermediate chamber of a "dry" pipe system and shall be actuated by any flow of water to or in excess of the discharge from one sprinkler head.

Switches shall have a maximum service pressure rating of 250 PSI (17.2 BAR) and shall be factory adjusted to operate on pressure increase at 6 ±1 PSI (.41 ±.07 BAR). There shall be two (2) SPDT contacts rated at 15.0 Amps at 125/250VAC and 2.0 Amps at 30VDC.

The switch housing shall be weather proof and oil resistant with a NEMA 4 rating. The cover shall incorporate tamper resistant screws.

The unit shall be listed by Underwriters Laboratories, Inc. and CSFM and approved by Factory Mutual. It shall be rated for use in hazardous locations classified as Class I, Groups B, C, D, Div. 1; Class II, Groups E, F, G, Div. 1; Class III, Div. 1.