

MODEL PS40A PRESSURE SWITCH FOR MONITORING HIGH AND/OR LOW PRESSURE VARIATIONS



PS40-1A Single Switch - Stock No. 1340401

PS40-2A Double Switch - Stock No. 1340402
UL and CSFM Listed, FM and LPC Approved,
NYMEA Accepted, CE Marked

Dimensions: 4 3/4" (12,1cm)W x 2 1/4" (5,7cm)D x 4 3/8" (11,1cm)H

Enclosure: Cover - Die-cast with textured red powdercoat finish.
Base - Plated Steel

Pressure Connection: 1/2" NPT Male

The PS40A is designed as a pressure type supervisory switch. The NFPA 72, National Fire Alarm Code, requires that a low pressure signal is sent at 10 psi below normal air pressure and 10 psi above normal pressure on dry pipe valves. Therefore, the PS40-2A switches are factory set for a pressure decrease at 30 psi and a pressure increase at 50 psi with a normal air pressure of 40 psi. The switches are adjustable at any point between 10 and 175 psi.

The PS40-1A is intended for applications that are looking for a specific pressure, either increase or decrease. These applications would include monitoring city water pressure or monitoring a water tank pressure.

INSTALLATION AND TEST PROCEDURES

Mounting: The device should be mounted in the upright position (threaded connection down). Only teflon tape should be applied to the male threads. Using pipe joint cement or pipe thread compound (pipe dope) could obstruct the device and cause it to not work properly.

In outdoor applications, a NEMA type 4 conduit hub should be installed.

Factory Adjustment:

PS40-1A: Operates on decrease at 30 PSI (2,1 BAR)
PS40-2A: Operates on increase at 50 PSI (3,5 BAR), and on decrease at 30 PSI (2,1 BAR)

Pressure Range: 10 - 175 PSI (0,7 - 12,1 BAR)

Maximum Differential: Approx. 2 lbs. at 20 PSI (0,14@1,4 BAR)
5 lbs. at 175 PSI (0,35@12,1 BAR)

Maximum System Pressure: 250 PSI (17,2 BAR)

Switch Contacts: SPDT (Form C)

15.0 Amps at 125/250VAC, 2.5 Amps at 30VDC
One set in PS40-1A, Two sets in PS40-2A

Environmental Specifications:

Indoor or outdoor use
NEMA 4/IP55 Rated Enclosure - when used with proper conduit fittings
Temperature range: -40°F to 140°F (-40°C to 60°C)
(Not for use in hazardous locations)

Service Use:

Automatic Sprinkler	NFPA-13
One or two family dwelling	NFPA-13D
Residential occupancy up to four stories	NFPA-13R
National Fire Alarm Code	NFPA-72

Tamper: Cover incorporates tamper resistant fasteners that require a special key for removal. One key is supplied with each device. For optional cover tamper switch kit, order Stock No. 0090134.

If the pressure needs to be adjusted from the factory settings, adjust the system pressure to the desired trip point. Use a ohm meter on the appropriate contacts (COM and NC for pressure decrease and COM and NO for pressure increase). Adjust the knurled knob until the meter indicates continuity. At that point the switch is set for that particular pressure. When the adjustments are complete, raise and lower the system pressure to ensure the switch is properly set.

On dry systems, connect the PS40A in the air supply line on the system side of any shutoff and check valves.

Provisions for testing the unit without affecting the entire system can be accomplished with the installation of a Potter Bleeder Valve (Model BVL) in the line to the PS40A.

Testing: The operation of the pressure supervisory 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).

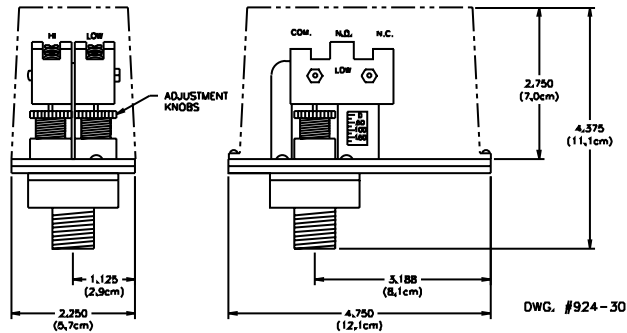
CAUTION: Testing the PS40A may activate other system connected devices.

DIMENSIONS

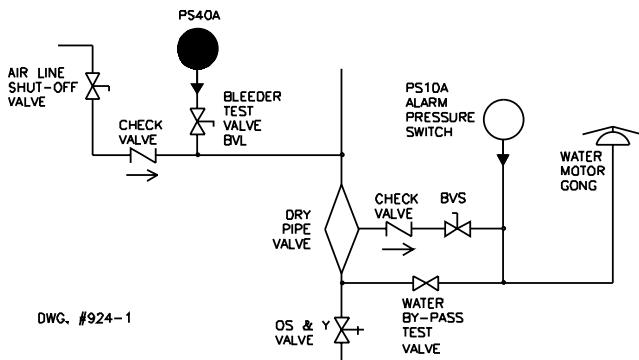
NOTE:
TO PREVENT LEAKAGE, APPLY TEFLON TAPE SEALANT TO MALE THREADS ONLY.

WARNING:
USE OF PIPE JOINT CEMENT MAY RESULT IN OBSTRUCTION OF APERTURE AND LOSS OF SIGNAL.

FIELD ADJUSTMENTS: The operating point of the switch (or switches on the PS40-2A) can be adjusted to any point between 10 and 175 PSI (0,7 and 12,1 BAR) by turning the adjustment knob(s) clockwise to raise the actuation point, and counter-clockwise to lower the actuation point. In the case of the PS40-2A, the two switches operate completely independently of one another, and each switch can be adjusted to actuate at any point the system requires. Final adjustment should be made with a pressure gauge.

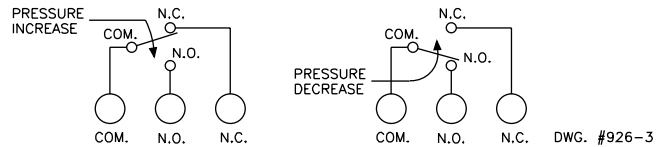


Typical Sprinkler Application - Dry System



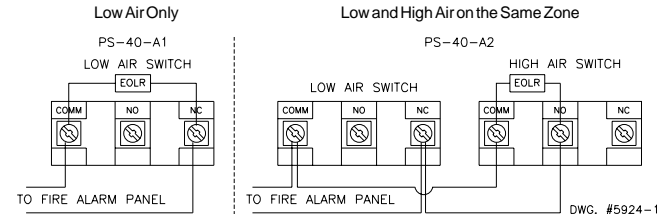
DWG. #924-1

Pressure Switch Terminations



DWG. #926-3

Typical Electrical Connections



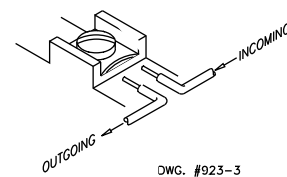
DWG. #5924-1

NOTE: High switch changes with pressure increase. Low switch changes with pressure decrease.

Ordering Information

Model	Description	Stk. No.
PS40-1A	Pressure switch with one set SPDT contacts	1340401
PS40-2A	Pressure switch with two sets SPDT contacts	1340402
BVL	Bleeder Valve	1000018
	Hex Key	5250062
	Cover Tamper Switch	0090134
BVS	1/2" Ball Valve with tamper switch	1010150

Switch Terminal Connections Clamping Plate Terminal



DWG. #923-3

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.

Engineer/Architect Specifications

Air pressure supervisory switch shall be a Model PS40A 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 as specified herein.

Switches shall be provided with a 1/2" NPT male pressure connection to be connected into the air supply line on the system side of any shut-off valve. A Model BVL bleeder valve as supplied by Potter Electric Signal Co. of St. Louis, Mo. or equivalent shall be connected in line with the PS40A to provide a means of testing the operation of the supervisory switch. (See DWG. #924-1)

The switch unit shall contain SPDT (Form C) switch(es). One switch shall operate at a pressure decrease of 10 PSI (0,7 BAR) from normal. If two switches are provided, the second switch shall operate at a pressure increase of 10 PSI (0,7 BAR) from normal. Switch contacts shall be rated at 15.0 Amps at 125/250VAC and 2.5 Amps at 30VDC. The units shall have a maximum pressure rating of 250 PSI (17,2 BAR) and shall be adjustable from 10 to 175 PSI (0,7 to 12,1 BAR).

The switch housing shall be weatherproof and oil resistant. The cover shall incorporate tamper resistant screws.

The unit shall be UL and CSFM Listed, FM and LPC Approved, and NYMEA Accepted.