INSTALLATION AND MAINTENANCE INSTRUCTIONS

EPS10EXP Explosion Proof Alarm Pressure Switch

3825 Ohio Avenue, St. Charles, Illinois 60174
1-800-SENSOR2, FAX: 630-377-6495
www.systemsensor.com

Specifications

Contact Ratings:	10 A, 1/2 HP @ 125/250 VAC 2.5 A @ 6/12/24 VDC
Operating Temperature Range:	–40° F to +160°F
Maximum Service Pressure:	250 PSI
Maximum Adjustment Range:	4 – 20 PSI
Enclosure Rating:	NEMA Type 4 — Indoor or/Outdoor Use
Hazardous Atmospheres Classification:	Class I, Groups B, C, D, Div. 1 Class II, Groups E, F, G, Div. 1 Class III, Div. 1
Approximate Differential:	3 PSI throughout range

Important

Please Read Carefully and Save

This instruction manual contains important information about the installation and operation of alarm pressure switches. Purchasers who install switches for use by others must leave this manual or a copy of it with the user.

Read all instructions carefully before installation, following only those instructions that apply to the model you are installing.

Before installing any alarm device, be thoroughly familiar with:

NFPA 72: *Installation, Maintenance, and Use of Protective Signaling Systems*
NFPA 13: *Installation of Sprinkler Systems*

Other applicable NFPA standards, local codes, and the requirements of the authority having jurisdiction.

Failure to follow these directions may result in failure of the device to report an alarm condition. System Sensor is not responsible for devices that have been improperly installed, tested, or maintained.

Operation

As pressure changes, a diaphragm actuates 2 snap action switches. The pressure switch actuation is determined by adjustment settings.

⚠WARNING

To prevent ignition of hazardous atmospheres, disconnect circuits before removing cover. Keep cover closed while circuits are live. Conduit runs must have sealing fittings connected within 18" of the enclosure.

Installation

1. Back out cover tamper set screw and remove cover (Fig. 1).
2. Mounting the Switch
   The device is designed to be mounted in the upright or horizontal position; side mounting is also acceptable.

Figure 1. Pressure switch basic dimensions:

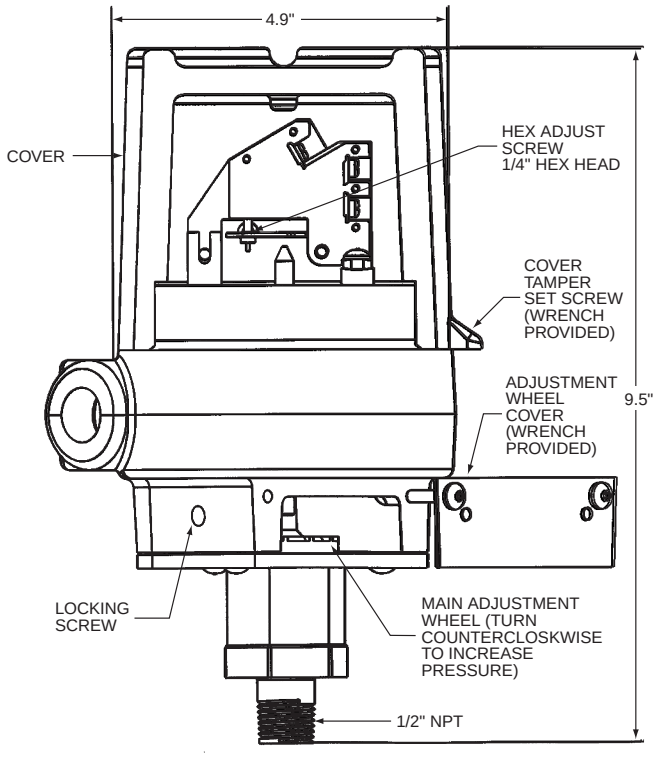
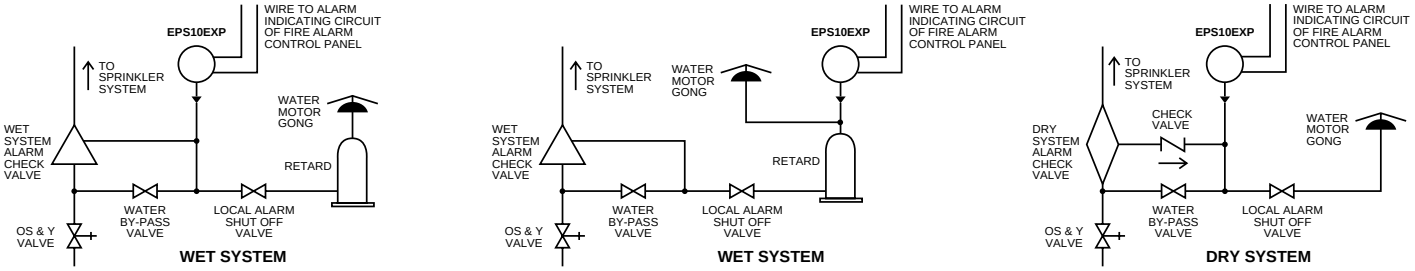


Figure 2. Typical piping diagram for EPS10EXP



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Locate it where vibration, shock, and mechanical loading are minimal. Refer to piping diagram (Figure 2 on page 2).

a. Mount the device directly to the line via the 1/2" NPT pressure connection. The use of teflon pipe sealant tape is recommended. Be sure the fitting is tight enough to prevent leaks.
b. Apply tightening torque to the brass hex portion of device.

⚠CAUTION

High voltage. Electrocution hazard. Do not handle live AC wiring or work on a device to which AC power is applied. Doing so may result in severe injury or death.

3. Wire the device in accordance with the National Electrical Code. Two 1/2" NPT conduit entry holes have been provided in the mounting base to accept explosion proof conduit fittings. If necessary, remove conduit entry plug with 3/8" square wrench.
4. Connect wiring to terminals (see Figure 3 and Table 1).

Adjustments To Factory Settings

Table 1. Electrical connections (referenced at factory settings):

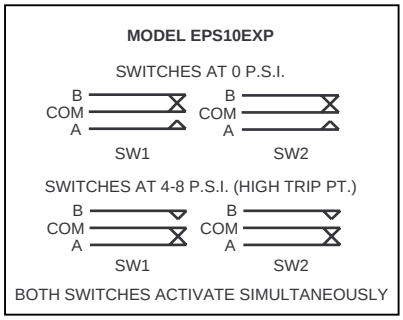
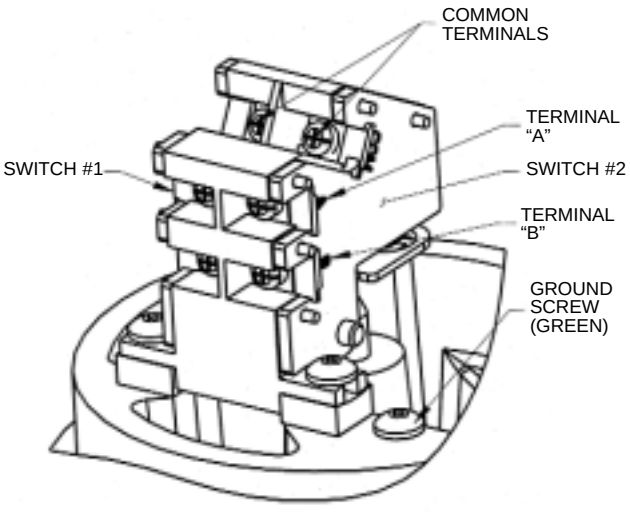
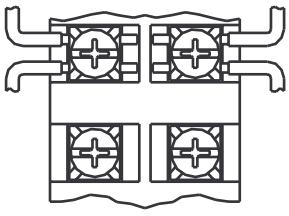


Figure 3. Switch terminals:





BREAK WIRE AS SHOWN FOR SUPERVISION OF CONNECTION. DO NOT ALLOW STRIPPED WIRE LEADS TO EXTEND BEYOND SWITCH HOUSING. DO NOT LOOP WIRES.

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The EPS10EXP device is pre-adjusted at the factory to alarm at 4–8 PSI on rising pressure (see Table 2). Pressure switch settings may be adjusted in the field to obtain a different pressure alarm response from 4 PSI to 20 PSI. The switch has an override feature on the adjustment mechanism to prevent exceeding the 20 PSI max. setting of the switch. This override feature carries with it a tolerance band that may limit the upper adjustment to 16–20 PSI. Care must be used when setting the switch to ensure that the lower limit of 4 PSI is not exceeded. This will allow the switch to reset within the 3 PSI differential stated.

1. Install pressure switch as stated in "INSTALLATION" portion of instruction manual. Attach pressure test source to system.
2. Remove adjustment wheel cover and back off locking screw (see Figure 1) to allow main adjustment wheel to rotate freely.
3. Test trip point by slowly introducing pressure from the pressure test source. When trip point is found, reduce pressure to zero. Rotate main adjustment wheel (counterclockwise to increase pressure) and retest until switch trip point is at the desired pressure setting (4–20 PSI range). Each tine on the wheel represents an approximate trip point change of 0.2 PSI. One full rotation changes the trip point setting by approximately 2.5 PSI. A reset differential of approximately 3 PSI is typical throughout the entire adjustment range of switch.
4. Retest the set point several times to ensure accuracy of setting.
5. Re-seat locking screw.
6. Re-install adjustment wheel cover.

Table 2.

MODEL	FACTORY SETTINGS (PSI)	
	Rise	Approx. Reset
EPS10EXP	4—8	3 PSI Diff.

NOTE: The sensor assembly is not field replaceable. Do not attempt to disassemble these parts. If you have any questions, consult System Sensor. System Sensor recommends careful consideration of the following factors when specifying and installing Alarm Pressure Switches. Always refer to the Installation and Maintenance Instruction for specific recommendations on individual devices before installing the unit.

- Electrical ratings stated in literature and on nameplates should not be exceeded.
- Overload on switch can cause failure on the first cycle. Always wire devices according to national and local electrical codes.
- Install units away from shock and vibration. Proper electrical fittings should be used to prevent moisture from entering the enclosure via the conduit.
- Test all devices for proper operation after initial installation. Perform preventive maintenance and periodic testing as required by the applicable NFPA standards but not less than bi-monthly.
- Install a back-up control for all critical applications where control failure could endanger life or property. A backup control to serve as a high or low limit control is especially recommended for applications where a runaway condition could result.
- Do not mount unit where ambient temperatures will exceed published limits.
- Avoid impact or mechanical loading.

Please refer to insert for the Limitations of Fire Alarm Systems

Three-Year Limited Warranty

System Sensor warrants its enclosed pressure switch to be free from defects in materials and workmanship under normal use and service for a period of three years from date of manufacture. System Sensor makes no other express warranty for this pressure switch. No agent, representative, dealer, or employee of the Company has the authority to increase or alter the obligations or limitations of this Warranty. The Company's obligation of this Warranty shall be limited to the repair or replacement of any part of the pressure switch which is found to be defective in materials or workmanship under normal use and service during the three year period commencing with the date of manufacture. After phoning System Sensor's toll free number 800-SENSOR2 (736-7672) for a Return Authorization number, send defective units postage prepaid to: System Sensor, Return Department, RA #_____, 3825 Ohio Avenue, St. Charles, IL 60174. Please include a note describing the malfunction and suspected cause of failure. The Company shall not be obligated to repair or replace units which are found to be defective because of damage, unreasonable use, modifications, or alterations occurring after the date of manufacture. In no case shall the Company be liable for any consequential or incidental damages for breach of this or any other Warranty, expressed or implied whatsoever, even if the loss or damage is caused by the Company's negligence or fault. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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