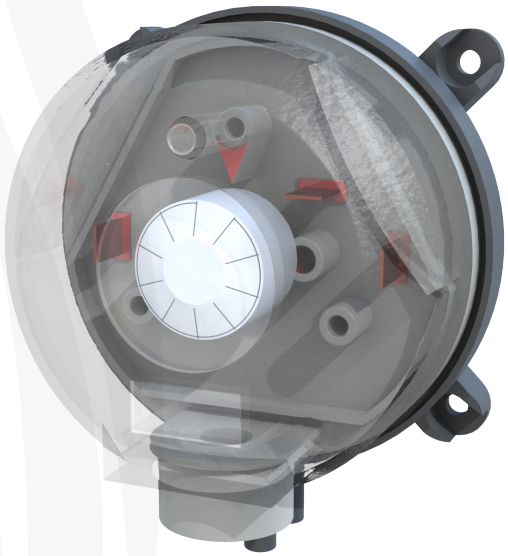
ENERVEX
OPS OVER PRESSURE SWITCH

3903002 08.17 **Installation & Operating Manual**



READ AND SAVE THESE INSTRUCTIONS!

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Symbol Legend

The following terms are used throughout this manual to bring attention to the presence of potential hazards, or to important information concerning the product.

DANGER: Indicates an imminent hazardous situation which, if not avoided, will result in death, serious injury or substantial property damage.

WARNING: Indicates an imminent hazardous situation which, if not avoided, may result in personal injury or property damage.

How to use this manual

This installation manual does not contain any system design documentation. System design documentation is available from any authorized ENERVEX representative. Accessories, fans, and variable frequency drives are not covered by this manual. Please refer to these component's individual manuals.

TO REDUCE THE RISK OF FIRE, ELECTRICAL SHOCK OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:

1. Use this unit in the manner intended by the manufacturer. If you have questions, contact the manufacturer at the address or telephone number listed on the front of the manual.
2. Before servicing or cleaning the unit, switch off at service panel and lock service panel to prevent power from being switched on accidentally.
3. Installation work and electrical wiring must be done by a qualified person(s) in accordance with applicable codes and standards.
4. Follow the appliance manufacturer's guidelines and safety standards such as those published by the National Fire Protection Association (NFPA), and the American Society for Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), and the local code authorities.
5. This unit must be grounded.

1. PRODUCT INFORMATION

1.1 FUNCTION

The OPS, Over-Pressure Switch, is an adjustable differential pressure switch. It is used in conjunction with the ENERVEX MODSTM, Modulating Over-Draft Damper System for over-pressure protection. If excessive pressure builds up between the boiler outlet and the system damper, the switch will shut down the heating appliance, while the EBC 31 control unit drives the damper completely open to relieve the pressure. The differential pressure acts via diaphragm against the force of setting spring on the microswitch. The pressure switch operates without any auxiliary power.

The OPS monitors differential pressure in firing and venitlation systems. The switch is suitable for air, flue and exhaust gases and can be mounted in the horizontal or vertical position.

The switch housing and the internal switch are made of polycarbonate. The diaphragm is made of NBR (silicone), while the switching contact is made in fine silver.

- CE Approved

1.2 COMPONENTS

The PDS shipment contains:

- 1 OPS Over- Pressure Switch
- Duct Kit consisting of stack probe with mounting flange and 6 ft. silicone tubing. If other components are shipped, they will appear as separate items on the shipping packing list.

1.3 WARRANTY

2-Year Factory Warranty. Complete warranty conditions are available from ENERVEX, Inc.

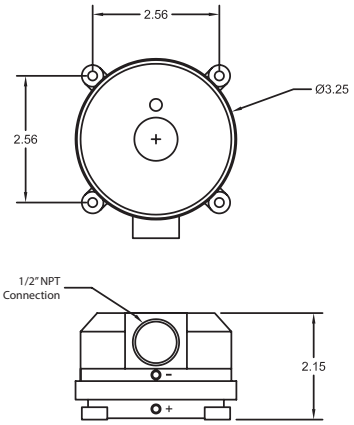
2. SPECIFICATIONS AND DIMENSIONS

2.1 DIMENSIONS AND CAPACITIES

Specifications

Maximum Load	250 VAC, 1.0 Amp
Range of Operation*	.08 to .80"W.C. (20 to 200 Pa)
Temperature Limits	-4°F to +185°F (-20 to +85°C)
Max. Pressure	1.4 PSI (100 mbar)
Conduit Connection	1/4" Solderless Quick Connect Terminals
Pressure Connections	Two plastic tubes, OD 1/4" (6.0mm)
Weight	0.4lb (0.2 kg)
Housing	NEMA 3 (IP 54)

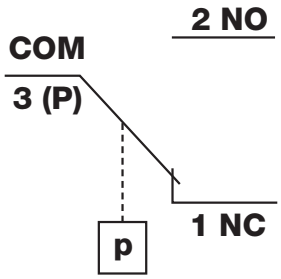
*Deduct 0.08 inW.C. (20 Pa) from the pressure setting if switch is mounted horizontally.



OPS Switching Function

As pressure rises:
1 NC opens, 2 NO closes

As pressure falls:
1 NC closes, 2 NO opens



3. MECHANICAL INSTALLATION

3.1 INSTALLATION OF OVER-PRESSURE SWITCH (OPS)

The OPS may be installed in the vertical or horizontal position.

If mounted horizontally, the set-point knob must face upwards as shown in Fig. 1.

NOTE: If mounted horizontally, deduct 0.80 inW.C. (20 Pa) from the setpoint for offset adjustment. Do not use this mounting arrangement if the setpoint is at the bottom range of the pressure switch.

If mounted in the vertical position, the pressure ports must be pointing down as shown in Fig. 1.

Secure the switch by using the mounting holes shown in Fig. 1. Use only two holes located diagonally from each other. Do not over-tighten the mounting screws.

After installation connect the tubing to the stack probe and the port marked “P1” and “+”.

IMPORTANT! REMOVE THE PROTECTIVE CAP ON THE PORT MARKED “P2” AND “-”. THE SWITCH WILL NOT WORK PROPERLY UNLESS IT HAS BEEN REMOVED.

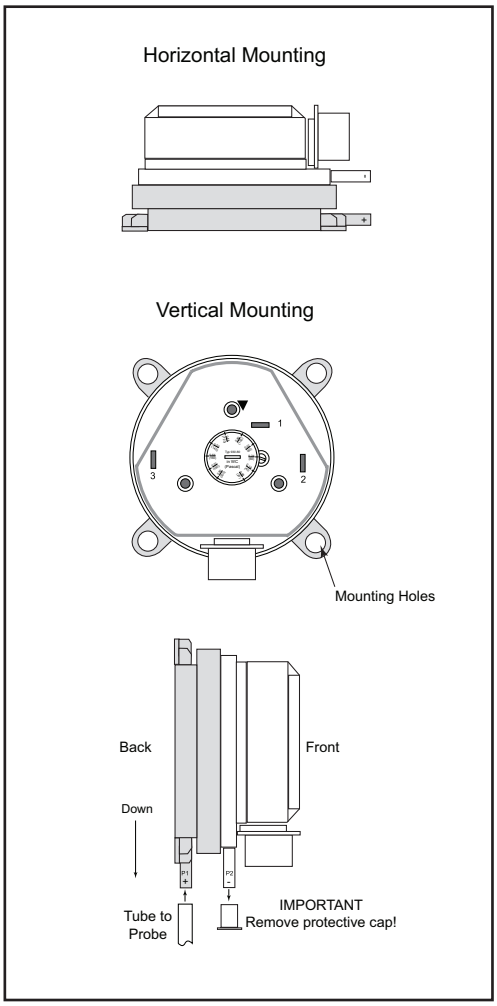


Fig 1

3.2 INSTALLATION OF STACK PROBE FOR OPS

Install the stack probe for the OPS in the stack between the boiler outlet and the damper. The probe must be located so the distance “A” is at least 3 vent diameters downstream damper. The probe placement should also observe distances from elbows and tees as shown in Fig. 2. The tip of the probe MUST be flush with the inner stack wall to get a proper pressure reading.

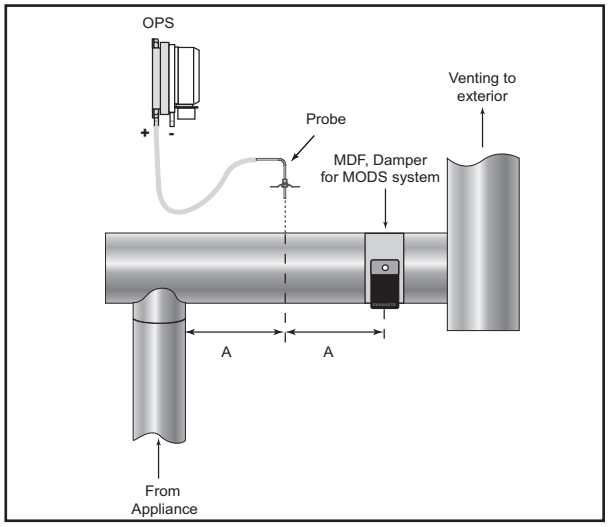


Fig 2

4. ELECTRICAL INSTALLATION

4.1 WIRING THE OPS

The OPS must be wired in a Normally Closed (NC) position when used with a MODS™ system.

Observe the electrical rating of the switch as shown on page 4.

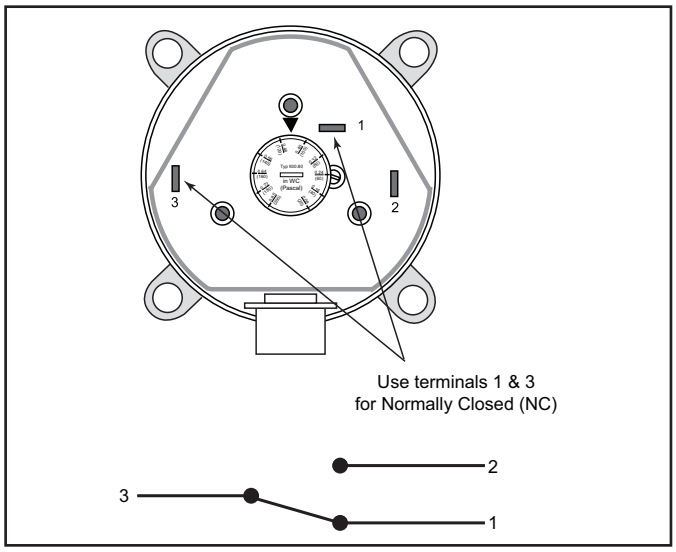


Fig 3

5. STARTUP AND CONFIGURATION

5.1 ADJUSTING THE PRESSURE SETTING

The pressure setting can be adjusted using the dial. Adjust set-point above normal start-up and transition pressures to avoid nuisance trips.

NOTE: On applications where a positive pressure is being maintained, a delay timer should be installed to avoid nuisance trips.

CAUTION

DO NOT MAKE ANY ADJUSTMENTS TO THE CALIBRATION SCREW LOCATED NEXT TO THE DIAL.

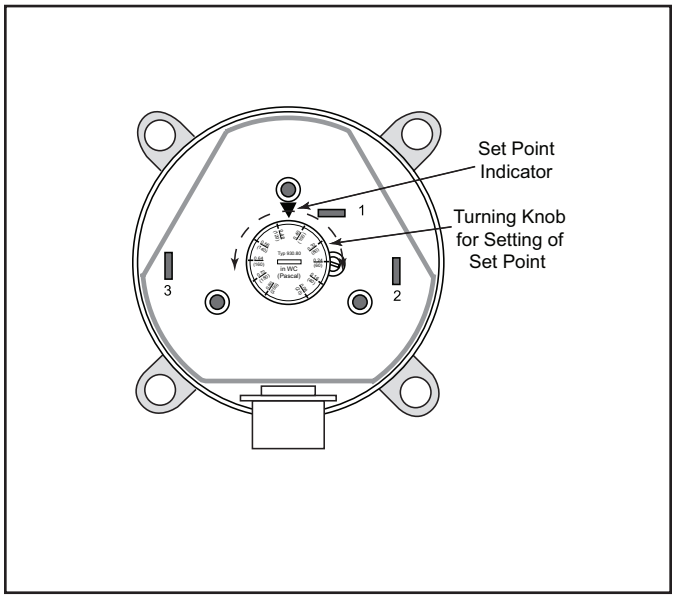


Fig 4

Notes

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