

Product Identification and Overview

BAPI's Fixed Range Pressure Sensor (FRP) is an economical solution for any cost-conscious application. The FRP features one factory-set pressure range and one factory-set output range. A single button is used to auto-zero the unit.

A colored LED indicates the pressure status:

- Red – over pressure
- Green – top half of span
- Amber – center of span
- Blue – bottom half of span
- Purple – under pressure

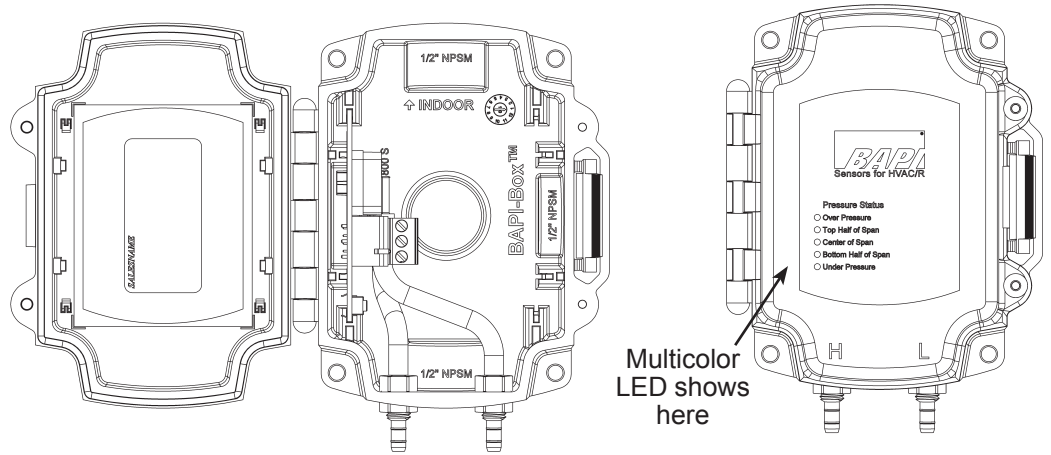


Fig. 1: Fixed Range Pressure (FRP) Sensor, Enclosure Open and Closed.

Mounting

Attach the unit to its mounting surface with four #10 screws through the holes in the mounting feet. The preferred mounting orientation is with the pressure ports facing down.

Notes:

1. Remove Blue Dust Shields from pressure ports before use. Push tubing onto the port nipple. Avoid kinks and holes in the tubing or accuracy will be affected.
2. Mount unit with the pressure fittings on the bottom to prevent condensation from entering the sensor.
3. BAPI recommends using #10 screws that require 5/32" pilot holes
4. Do not mount to a vibrating Surface
5. BAPI's Clean-Cut Tools are designed to cut out the plastic plugs in the 1/2" NPSM threaded ports of the BAPI-Box enclosure. See the Accessories section of BAPI's website or product catalog.

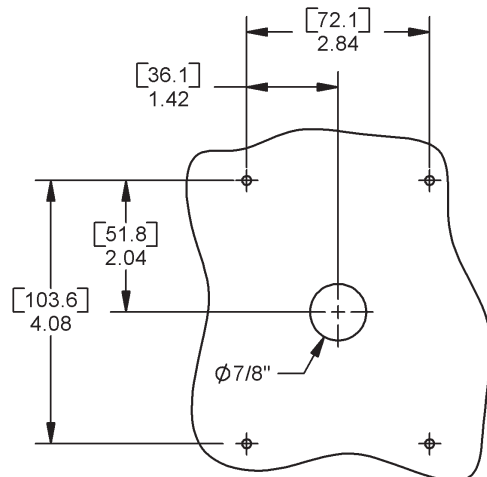


Fig 2: Mounting Hole Pattern

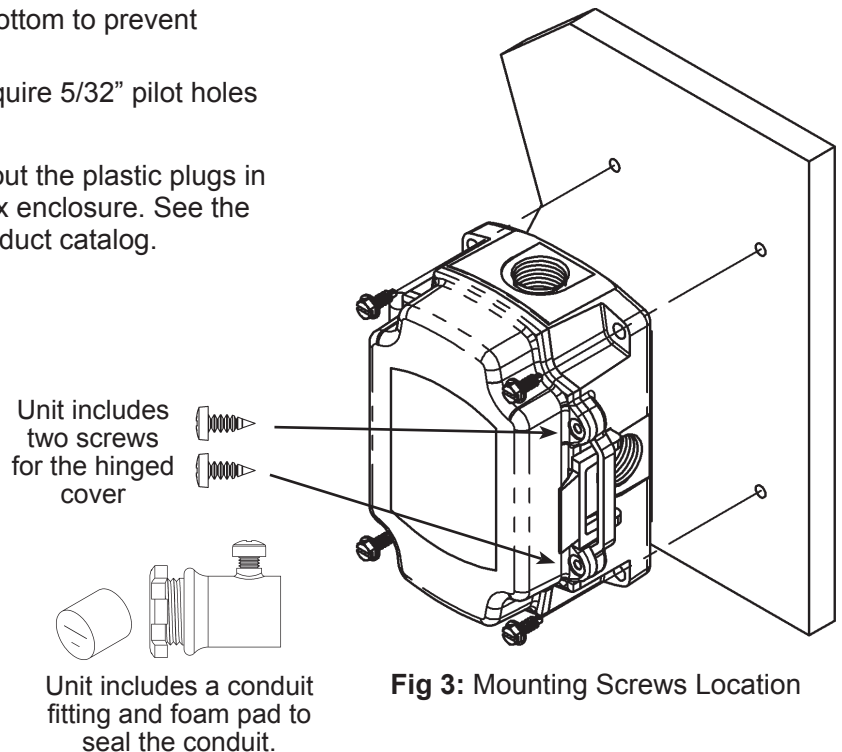


Fig 3: Mounting Screws Location

Specifications subject to change without notice.

Wiring Termination

BAPI recommends wiring the product with power disconnected. Proper supply voltage, polarity and wiring connections are important to a successful installation. Not observing these recommendations may damage the product and void the warranty.

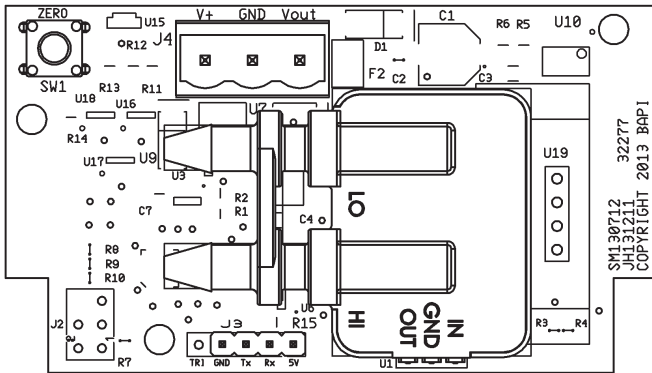


Fig 4: Circuit Board (Wiring plug removed for clarity)

Terminal	Function
V+	Power, referenced to GND For All Outputs: 18 to 32 VAC @ 0.4 VA Max 0 to 5 VDC Outputs: 9 to 32 VDC @ 10 mA Max (9 to 24VDC recommended) 0 to 10 VDC Outputs: 13 to 32 VDC @ 10mA Max (13 to 24VDC recommended)
GND	To Controller Ground [GND or Common]
Vout	Voltage Output, Pressure Signal, referenced to GND

NOTE: The connectors use a rising block screw terminal to hold the wires. It is possible for the block to be in a partially up position allowing the wire to be inserted under the block. Be sure that the connector screws are turned fully counterclockwise before inserting the wire. Lightly tug on each wire after tightening to verify proper termination.

Auto Zero & LED Indicator

Auto Zero Procedure

To auto-zero the FRP, remove the tubing from the enclosure's pressure ports (to remove the normal pressure source). Make sure that the pressure ports are sheltered from any drafts, including the technician's breath. Ideally the two ports should be connected together with a short piece of tubing. Press SW1, labeled ZERO, located in the upper left corner of Fig 4. The LED will blink while auto-zero is being performed. When the LED stops blinking, auto-zero has completed. Reattach the pressure source to the enclosure's pressure ports.

LED Indicator

The LED is on whenever power is applied. The color of the LED varies according to the following list:
Red = Over pressure, Green = Top half of span, Amber = Center of span, Blue = Bottom half of span, Purple = Under pressure.

Diagnostics

Possible Problem

LED does not light
Output not tracking pressure properly

Possible Solutions

Check power connections for proper power
Remove pressure from ports and perform auto-zero procedure

Specifications

Power: See above

Accuracy at 72°F

±1% for pressures ≤ 0.25" WC (62.5 Pa)
±0.5% for pressures > 0.25" WC (62.5 Pa)

Temperature Error

0.01% FS/°F (0.02% FS/°C)
(±5.0 in WC [1,250 Pa] @ 14 to 140°F [-10 to 60°C])

0.04% FS/°F (0.07% FS/°C)
(±1.0 in WC [250 Pa] @ 14 to 140°F [-10 to 60°C])

Stability: ±0.15% F.S. per year

Storage Temperature: -40°F to 203°F (-40°C to 95°C)

Environmental Oper. Range: 14 to 140°F (-10 to 60°C)

Humidity: 0 to 95% RH, non-condensing

Wiring: 3 wires (AC or DC powered, Voltage out)

Overpressure: Proof 27.68 in W.C (1 PSI),
Burst 41.52 in W.C. (1.5 PSI)

Port Connection: 1 High Pressure & 1 Low Pressure for push-on 1/4-inch tubing (1/8" to 3/16" I.D.)

Enclosure Material: UV-resistant Polycarbonate, UL94, V-0

Enclosure Rating: IP66, NEMA 4

Mounting: Four external tabs with holes for #10 screws

Pressure and Output Ranges: Specified at time of order

Display: 5-color LED

Setup Button: Auto-Zero button inside case

Agency: CE, RoHS

Ranges: Imperial or metric units, specified at time of order

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