



PW2xxxS



PW2xxxBP

PW2 Series

Wet Media Differential Pressure Transducer

Product Overview

The PW2 Series sensor is designed to accept high differential pressure. Install the sensor on a duct or pipe across a pump, filter, heat exchanger, compressor, or other non-corrosive wet media. The dual sensor design eliminates the need for a bypass valve, and the bi-directional capability reduces installation errors. A pushbutton allows easy zero adjustment.

Product Identification

| | Local Display | NIST | Operational Range* | Options |
|-----|-----------------------------------|--------------------------|---|---|
| PW2 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | L = LCD Display X = No Display | N = NIST X = None | 03 = 0 to 50 psig 04 = 0 to 100 psig 05 = 0 to 250 psig | S = Standard BP = With mounted bypass assembly |

*** IMPORTANT!**

Select operational range according to maximum gauge pressure, NOT differential pressure.

Example: High gauge pressure=90 psig, select 100 psig model (04).



NOTICE

- This product is not intended for life or safety applications.
- Do not install this product in hazardous or classified locations.
- Read and understand the instructions before installing this product.
- Turn off all power supplying equipment before working on it.
- The installer is responsible for conformance to all applicable codes.

If this product is used in a manner not specified by the manufacturer, the protection provided by the product may be impaired. No responsibility is assumed by the manufacturer for any consequences arising out of the use of this material.

Specifications

| | |
|--------------------------------------|--|
| Media Compatibility | 17-4 PH stainless steel |
| Input Power | Class 2; 12 to 24 Vdc, loop powered (polarity insensitive) |
| Output | 2-wire transmitter; 4 to 20 mA (clipped and capped) |
| Proof Pressure | 2x max. F.S. range |
| Burst Pressure | 5x max. F.S. range |
| Accuracy at 25 °C* | Ranges A, B, C: $\pm 1\%$ F.S.** Range D: $\pm 2\%$ F.S.** |
| Surge Damping | Electronic; 5-second averaging |
| Temperature Compensated Range | 0 to 50 °C (32 to 122 °F); TC Zero <1.5% of product F.S. per sensor TC Span <1.5% of product F.S. per sensor |
| Sensor Operating Range | -20 to 85 °C (-4 to 185 °F) |
| Long Term Stability | $\pm 0.25\%$ per year |
| Zero Adjust | Pushbutton auto-zero |
| Operating Environment | -10 to 55 °C (14 to 131 °F); 10 to 90% RH non-condensing |
| Fittings | 1/8" NPT female thread, stainless steel 17-4 PH |
| Physical | White powder-coated aluminum |
| PRESSURE RANGES | |
| 0 to 50 psi (0 to 3.45 bar) | 5/10/25/50 psid (0 to 0.34/0.69/1.72/3.45 bar) |
| 0 to 100 psi (0 to 6.89 bar) | 10/20/50/100 psid (0 to 0.69/1.38/3.45/6.89 bar) |
| 0 to 250 (0 to 17.24 bar) | 25/50/125/250 psid (0 to 1.72/3.45/8.62/17.24 bar) |

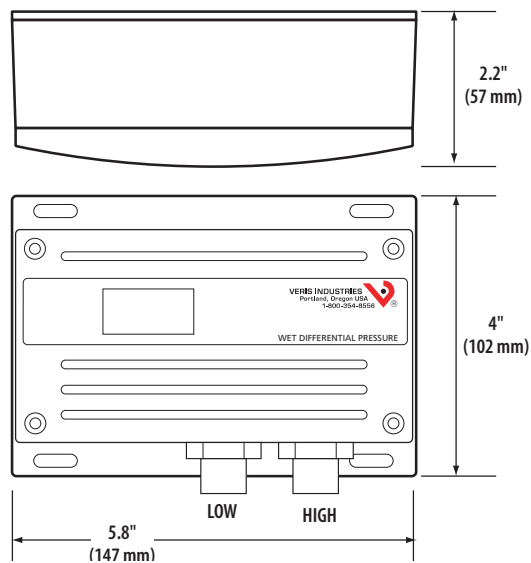
Note: To conform to EMC standards, use shielded cabling. Technical information is available from the factory on request.

* Accuracy combines linearity, hysteresis, and repeatability.

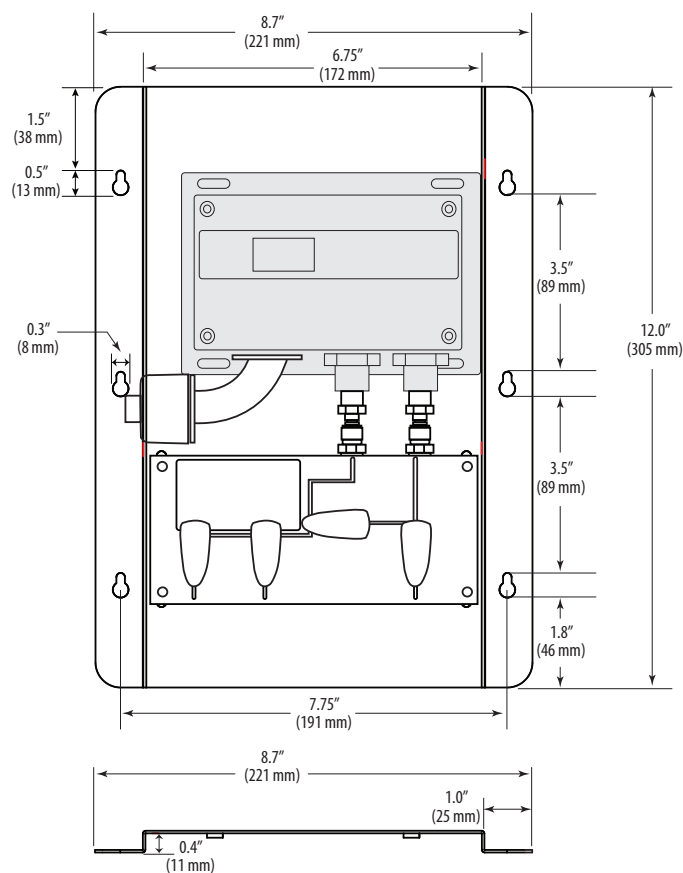
** F.S. is defined as full span of selected range in bidirectional mode.

Dimensions

PW2xxxS



PW2xxxBP

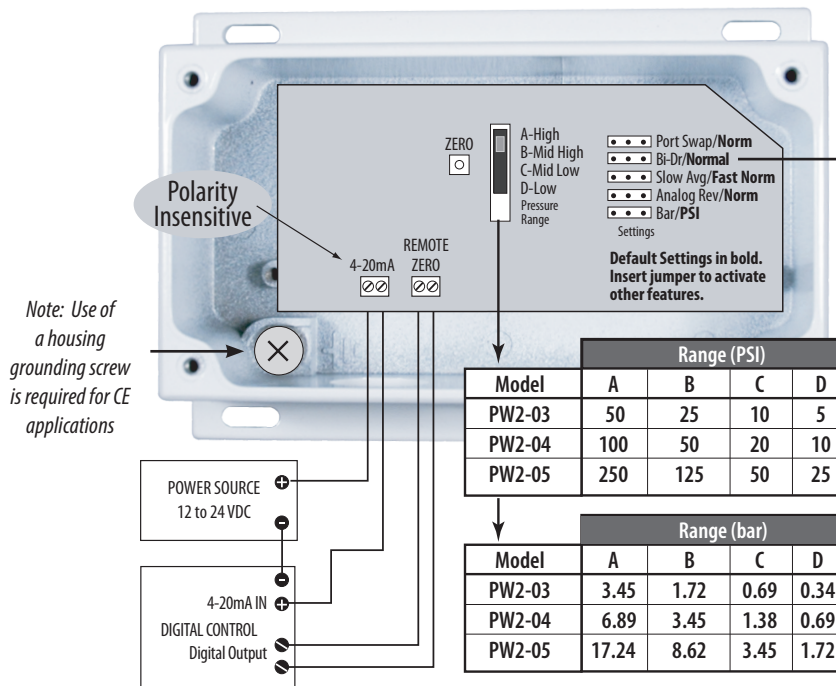


Installation



Observe precautions for handling static sensitive devices to avoid damage to the circuitry that is not covered under the factory warranty.

1. Mount sensor on a duct or pipe, across the pump, filter, or other pressure differential.
2. Wire as shown below.



Range: Use the Range switch to select F.S. differential pressure.

Bidirectional Operation

Output is mA only.
Example: PW2-04

| Input Conditions | | Result | Outputs Read |
|------------------|---------|----------|--------------|
| HI PORT | LO PORT | DP | 4-20mA |
| 100 psi | 0 psi | +100 psi | 20mA |
| 100 psi | 50 psi | +50 psi | 16mA |
| 50 psi | 50 psi | 0 psi | 12mA |
| 50 psi | 100 psi | -50 psi | 8mA |
| 0 psi | 100 psi | -100 psi | 4mA |

Optional: Connect Zero terminals to digital output (contact closure) of control system.

Caution: Zero input is for dry-contact only. Do not apply voltage to the Zero terminals.

3. Configure the jumpers as described below.

| Jumper | Notes |
|--------------------|---|
| Port Swap/Norm | Reverses polarity of the pressure ports (i.e. makes the LO port operate as the HI port and vice versa); used when the sensor is incorrectly plumbed. |
| Bi-Dr/Normal | Normal: 0 to F.S. pressure Bidirectional: -F.S. pressure to +F.S. pressure; output reads 1/2 when pressure is zero. |
| Slow Avg/Fast Norm | Slow mode provides 5-second averaging for surge damping. |
| Analog Rev/Norm | Normal: Output increases as pressure increases; Reverse: Output is maximum when pressure differential is zero and decreases as pressure increases. |
| Bar/PSI | Select output units. |

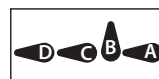
Operation

Auto-Zero: Press and hold the Zero button for two seconds or provide contact closure on the auxiliary 'Remote Zero' terminal to reset the output to zero pressure. To protect the device from accidental zeroing, this feature is only enabled when the detected pressure is within 5% of factory calibration.

Commissioning (PW2xxxBP only)

1. Close C and D.
2. Open B (null).
3. Open D (bleed or purge).
4. Slowly open A to bleed air from line.
5. Close B, then fully open A.
6. Slowly open C to bleed air from line.
7. Close D, then fully open C.

Valve positions: All closed



Valve positions: All open



Valve positions: Normal operation



Maintenance (PW2xxxBP only)

1. Bleed or purge: see Commissioning step.
2. Equalize pressure: open B.
3. Isolate sensors: close A and C.