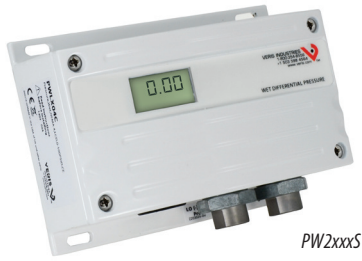


### NOTICE:

As a result of a temporary parts shortage, the 4-position slide switch used for range selection has been replaced with a 5-position slide switch in a limited period of production runs. See pages 3-4 for details.



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<br>X = No Display | N = NIST<br>X = None     | 03 = 0 to 50 psig<br>04 = 0 to 100 psig<br>05 = 0 to 250 psig | S = Standard<br>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

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



Specifications (cont.)

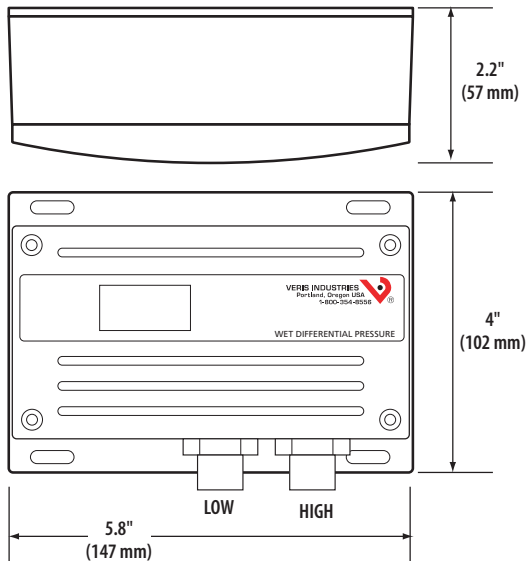
|                                  |                                                    |
|----------------------------------|----------------------------------------------------|
| <b>0 to 250 (0 to 17.24 bar)</b> | 25/50/125/250 psid (0 to 1.72/3.45/8.62/17.24 bar) |
|----------------------------------|----------------------------------------------------|

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

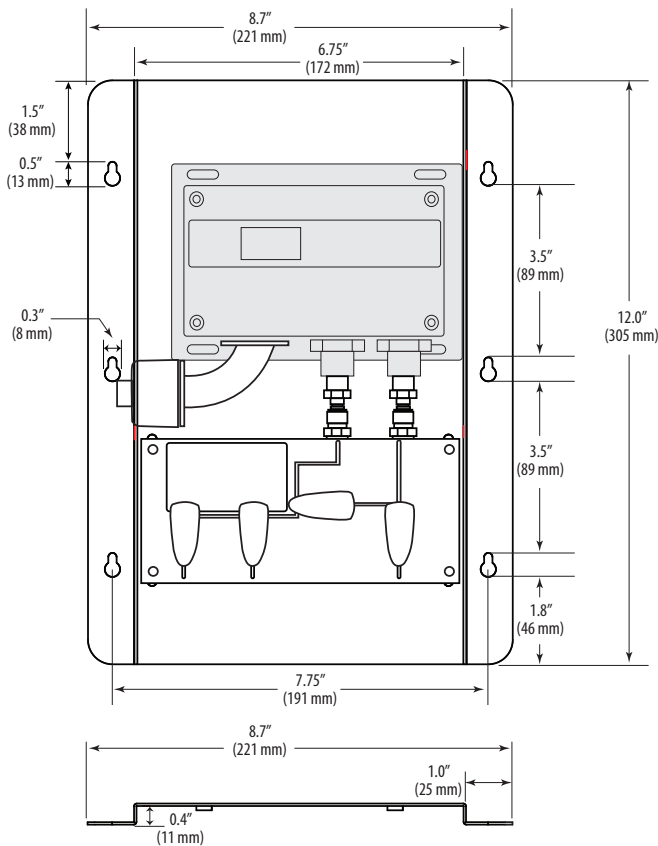
*\* Accuracy combines linearity, hysteresis, and repeatability.  
\*\* F.S. is defined as full span of selected range in bidirectional mode.*

Dimensions

PW2xxxS



PW2xxxBP



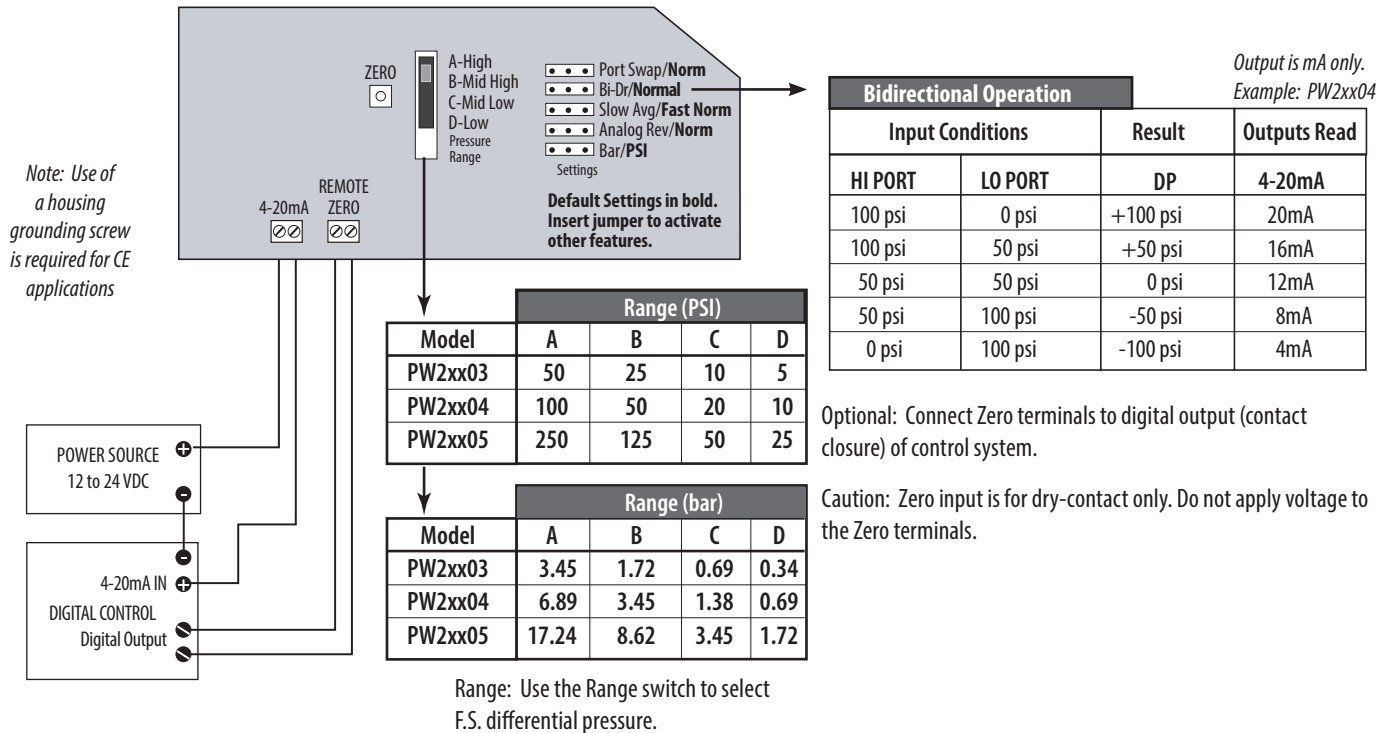
## Installation



### ATTENTION

OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES TO AVOID DAMAGE TO THE CIRCUITRY THAT IS NOT COVERED UNDER FACTORY WARRANTY.

1. Mount sensor on a duct or pipe, across the pump, filter, or other pressure differential.
2. Wire as shown below.
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/Norm         | Normal: 0 to F.S. pressure<br>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;<br>Reverse: Output is maximum when pressure differential is zero and decreases as pressure increases. |
| Bar/PSI            | Select output units.                                                                                                                                  |

### NOTICE:

As a result of a temporary parts shortage, the 4-position slide switch used for range selection has been replaced with a 5-position slide switch in a limited period of production runs. This will have a minor impact on how the range selection works on the affected models. The 5-position switch will be used in models produced between these dates:

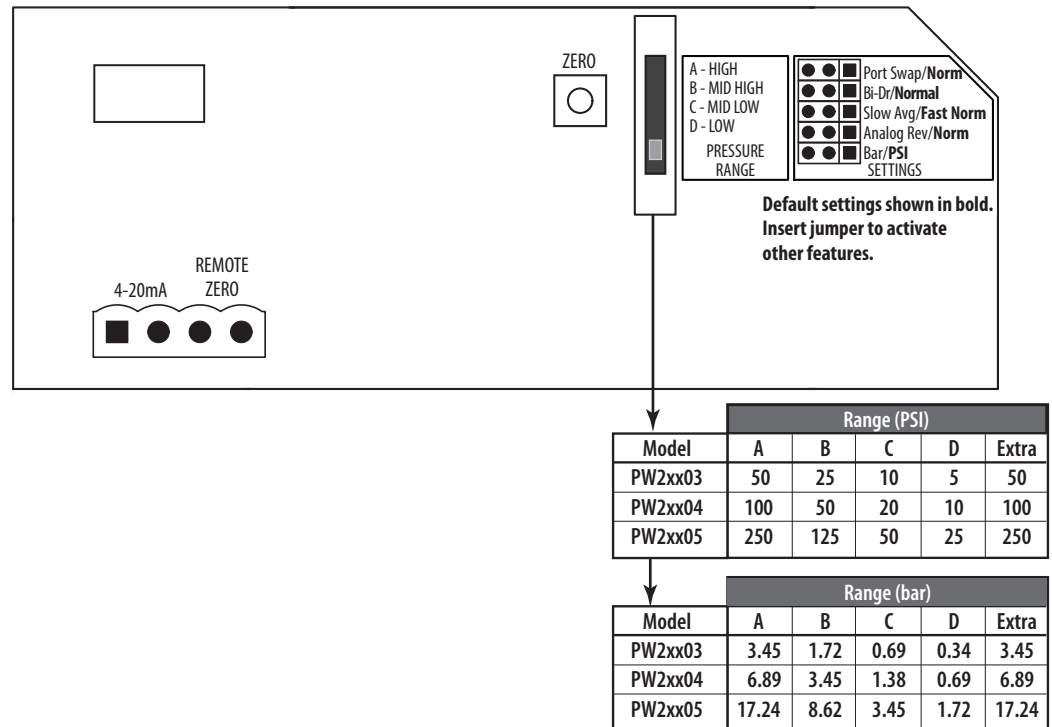
## Installation (cont.)

- Start Date: January 21, 2025 (Date Code: 2503)
- End Date: January 31, 2025 (Date Code: 2505)

For PW2 product models, the extra (fifth) position will align below the range “D” text printed on the product PCB. When this position is selected, the product will treat this the same as if range “A” is selected.

The presence of the 5-position switch can be determined one of two ways.

- Look at the date code printed on the product label. If the date code falls between the starting date and ending date listed above, inclusive of those values, then the product will have a 5-position range switch.
- Look at the range selection switch. The switch body will extend toward the center of the PCB past the silkscreen square around the “PRESSURE RANGE” text (see figure below).



## 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)

- Close C and D.
- Open B (null).
- Open D (bleed or purge).
- Slowly open A to bleed air from line.
- Close B, then fully open A.
- Slowly open C to bleed air from line.
- Close D, then fully open C.

Valve positions: All closed



Valve positions: Normal operation



Valve positions: All open



## Maintenance (PW2xxxBP only)

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