SpaceLogic Sensors
Pressure - Wet Differential Analog
EPW Series

Product Description

The EPW Series wet pressure transducers incorporate microprocessor profiled sensors for exceptional accuracy and reliability. Easy to use and designed to provide exceptional installation time savings, the EPW Series is ideal for measuring pressure across pumps, filters, heat exchangers, compressors, and other non-corrosive wet media applications.

The DIP switch-selectable port swap feature eliminates costly replumbing when the high and low ports are improperly plumbed, allowing the DIP switch position to be changed from normal to swap.

The EPW2 Series 2-wire, 4 to 20 mA wet pressure transducers incorporate microprocessor profiled sensors for exceptional accuracy and reliability. Easy to use and designed to provide exceptional installation savings, the EPW2 Series is ideal for measuring pressure across pumps, filters, heat exchangers, compressors and other non-corrosive wet media applications.

Features

- Output switch for normal (4 to 20 mA) or reverse (20 to 4 mA) operation provides application flexibility
- Switch-selectable pressure ranges means fewer models to order and stock
- Rugged, die-cast enclosure provides NEMA 4 sealing
- Switch-controlled electronic surge dampening
- Pushbutton and remote zero adjustment. Maintain accuracy and reduce callbacks with automatic zero calibration.

Available Products

Part Number	Description
EPW103	Differential Pressure Transducer - Wet Media 0-50 psig 0-5VDC/0-10VDC/4-20mA
EPW103-LCD	Differential Pressure Transducer - Wet Media 0-50 psig 0-5VDC/0-10VDC/4-20mA with LCD
EPW104	Differential Pressure Transducer - Wet Media 0-100 psig 0-5VDC/0-10VDC/4-20mA
EPW104-LCD	Differential Pressure Transducer - Wet Media 0-100 psig 0-5VDC/0-10VDC/4-20mA with LCD
EPW105	Differential Pressure Transducer - Wet Media 0-250 psig 0-5VDC/0-10VDC/4-20mA
EPW105-LCD	Differential Pressure Transducer - Wet Media 0-250 psig 0-5VDC/0-10VDC/4-20mA with LCD
EPW2103	Differential Pressure Transducer - Wet Media 0-50 psig 4-20mA
EPW2103-LCD	Differential Pressure Transducer - Wet Media 0-50 psig 4-20mA with LCD
EPW2104	Differential Pressure Transducer - Wet Media 0-100 psig 4-20mA
EPW2104-LCD	Differential Pressure Transducer - Wet Media 0-100 psig 4-20mA with LCD
EPW2105	Differential Pressure Transducer - Wet Media 0-250 psig 4-20mA
EPW2105-LCD	Differential Pressure Transducer - Wet Media 0-250 psig 4-20mA with LCD

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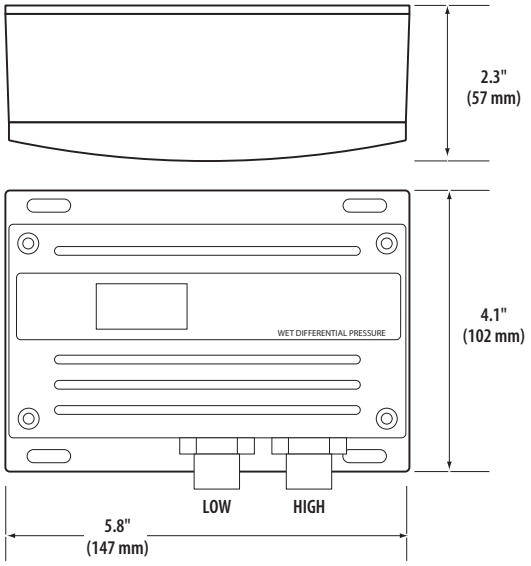
Specifications

Media Compatibility	17-4 PH stainless steel
Power Consumption	
EPW	DC: 125mA max., AC: 280mA max.
EPW2	29mA max.
Input Power	
EPW	Class 2; 15 to 30 Vdc, 24 Vac nom. 50/60 Hz*
EPW2	12-24 Vdc
Output	
EPW	3-wire transmitter; user selectable 4-20mA/0-5V/0-10V
EPW2	2-wire transmitter; 4-20mA; polarity insensitive (clipped and capped)
Pressure Ranges (Switch Selectable)	
103	0-50psig (5/10/25/50psid) / 0-3.45 barg (0.34/0.69/1.72bard)
104	0-100psig (10/20/50/100psid) / 0-6.89barg (0.69/1.38/3.45bard)
105	0-250psig (25/50/125/250psid) / 0-17.24barg (1.72/3.45/8.62bard)
Proof Pressure	2x max F.S. range**
Burst Pressure	5x max F.S. range**
Accuracy @ 25°C***	EPW: Ranges A and B: ±1% F.S. typical**; Range C: ±1.5% F.S. typical**; Range D: ±2% F.S. typical** EPW2: Ranges A, B and C: ±1% F.S. typical**; Range D: ±2% F.S. typical**
Surge Dampening	Electronic, selectable (1-second or 5-second averaging)
Temperature Compensated Range	0° to 50°C (32° to 122°F); TC Zero<±1.5% of product F.S.** per sensor; TS Span<±1.5% of product F.S.** per sensor
Sensor Operating Range	-20° to 85°C (-4° to 185°F)
Long Term Stability	±0.25% per year (all models)
Zero Adjust	Pushbutton autozero; digital input (2-position terminal block)
Zero Offset (Bidirectional and Port Swap modes only)	0.5%
Operating Environment	-10 to 50 °C (14 to 122 °F); 10 to 90% RH non-condensing
Fittings	1/8" NPT female, stainless 17-4 PH
Physical	White powder-coated aluminum, NEMA 4, IP65

Note: To conform to EMC standards, use shielded cabling.
*VFD systems and system wiring generate fields that can disrupt electrical devices Ensure that these fields are minimized and are not affecting the sensor or sensor wiring.
**F.S. is defined as full span of selected range in bi-directional mode.
***Accuracy combines linearity, hysteresis, and repeatability.

Dimensions



NOTICE

- This product is a Class 2 device.
- 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.

No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

Installation

1. Affix the backplate to a mounting surface (wall, duct, sheet metal, etc.).
2. Plumb the ports to "HI" and "LO" sides of the pressure differential. Wrap the fitting with 2-3 turns of Teflon tape, hand tighten, then use a wrench to make two more turns.
3. Wire the sensor. See the appropriate Wiring diagram (EPW or EPW2) for details.
4. Configure the switches as desired. See the Configuration section for details.

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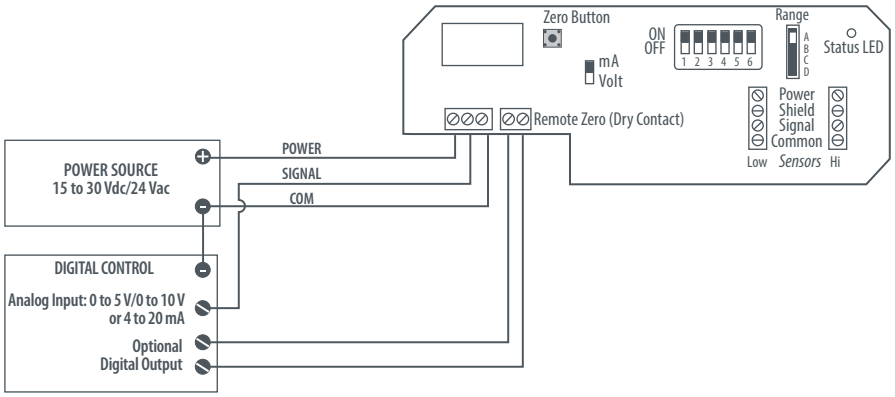
Wiring

Disconnect power from the power source before beginning the installation.

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

EPW



	Range			
Model	A	B	C	D
-03	50	25	10	5
-04	100	50	20	10
-05	250	125	50	25

DIP Switches		
Num	Function	Off/On[1]
1	Damping	Fast/Slow
2	Test	Operate/Test
3	Mode	Normal/Bidirec.
4	Analog	Normal/Reverse
5	Port	Normal/Swap
6	Voltage Out[2]	0 to 10 V/0 to 5 V

1. "Off" position is the default setting for all DIP switches.
2. Ignored in mA mode.

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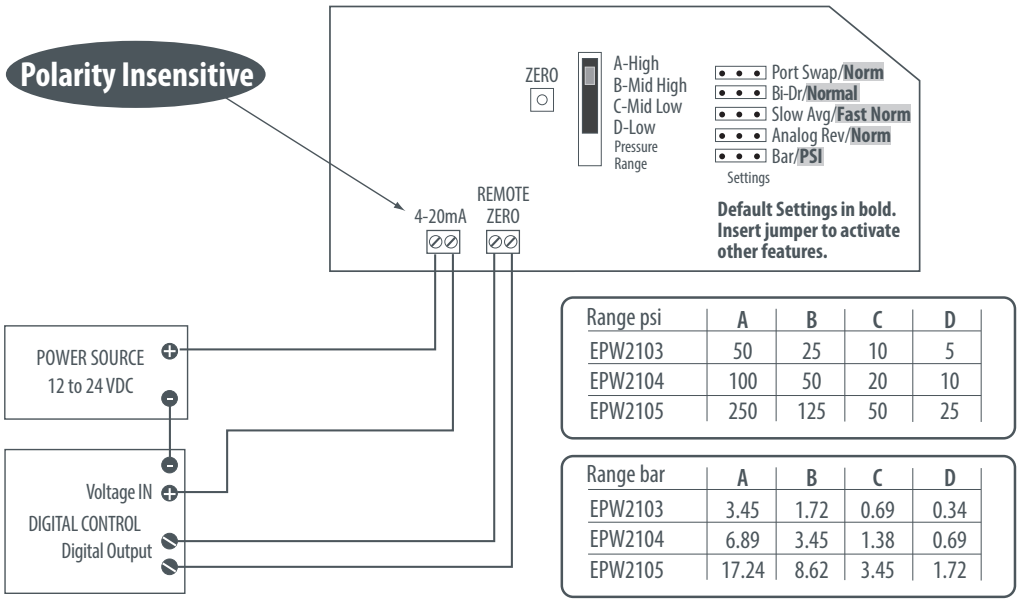
EPW2



Range psi	A	B	C	D
EPW2103	50	25	10	5
EPW2104	100	50	20	10
EPW2105	250	125	50	25

Range bar	A	B	C	D
EPW2103	3.45	1.72	0.69	0.34
EPW2104	6.89	3.45	1.38	0.69
EPW2105	17.24	8.62	3.45	1.72

Configuration

Port Swap	This setting is used to remedy situations when the “HI” & “LO” ports to the pressure transducer are incorrectly plumbed. Use jumper “Port Swap” to reverse polarity of pressure ports. This jumper makes the “HI” port “LO” and the “LO” port “HI”.
Bidirectional or Normal	Normal mode range is from zero to full scale differential pressure. Bi-directional mode changes range from minus full scale to plus full scale differential pressure. Output will be at one half when the differential pressure is zero (see table below).
Fast or Slow	Slow mode provides 5-second averaging for surge dampening; fast mode provides 1-second averaging.
Analog Reverse or Normal	Normal mode output increases as pressure increases. Reverse mode output is maximum when pressure differential is zero and decreases as pressure increases.
Range	Use range switch to select full-scale differential pressure. Select psi or bar by positioning jumper.
Test Mode (EPW only)	Overrides output to full-scale (20 mA, 5 V, 10 V)

Bi-Directional Operation

Input Conditions (psi)		Result	Outputs Read
Hi Port	Lo Port	DP	4-20mA
100	0	+100	20
100	50	+50	16
50	50	0	12
50	100	-50	8
0	100	-100	4

LED Indicators (EPW Only)

Green ON (solid)	Normal
Green (blinking)	Low > High - Use port swap jumper or bi-directional mode.
Red ON (solid)	Differential pressure is too high. Select a higher range on the device.
Red (blinking)	Gauge pressure has exceeded sensor; F.S. Reduce line pressure or replace with a higher range device.
Alternating Red/ Green Flash	Sensor input is below sensor range. Verify that the sensor is connected correctly.

Zero

Press and hold the “ZERO” push-button for 2 seconds or provide contact closure on auxiliary “REMOTE ZERO” terminal to automatically reset output to ZERO pressure. To protect the unit from accidental ZERO, this feature is enabled only when detected pressure is within 5% of factory calibration.

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