Remote conduit mounted sensors

Wet-wet Differential Pressure

Conduit adapter design
0 to 10~500 PSID
Revolutionary design eliminates plumbing
LCD display (PSID or kPa jumper selectable)
Dual 0-5/10VDC and 4-20mA outputs

Designed and Assembled In the U.S.A

DESCRIPTION

The PW Conduit Wet-Wet series remote sensors are installed directly into the pipe and electrical connection is made between the PWC remote sensors and PW transmitter via 4-conductor shielded cable run through conduit. This dramatically reduces labor cost by eliminating plumbing/piping to a traditional transducer. Startup time is reduced since purging air out of the lines is not necessary. Traditional plumbed bypass assemblies are no longer required. Choose between the PW10 and PW20 model based on your anticipated PSID range.

APPLICATIONS

- Ideal for monitoring pumps and load differential pressures in HVAC systems and processes where local indication is needed.
- Process control systems
- Flow measurement of various gases or liquids

FEATURES

Conduit ports on transmitter and elements

- Run conduit and 4-conductor shielded cable from transmitter to elements to wire in the field
- Eliminates costly plumbing and by-pass manifolds

Versatile Universal Transmitter

- Three selectable PSID ranges per sensing element
- Low and standard PSID range transmitter models
- 500 PSIG is ideal for high rise applications
- User friendly LCD displays in PSID or kPa

Jumper selectable features for easy installation

- Absolute mode outputs absolute value of difference
- Port swap corrects plumbing errors
- Fast/slow to select desired response time
- Uni/bi directional
- Test mode—forces full-scale output
- Over range icon flashes if differential pressure is over-range, alerting technician to move range switch to next higher dp setting and rescale panel
- Switch selectable outputs: 2-wire 4-20mA, 3-wire 0-5V or 0-10V

High Reliability

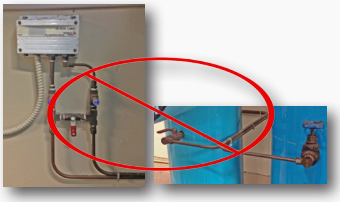
- Standard built-in snubbers protect sensing elements from water hammer damage
- MEMS sensor technology

Save time and money - pull wires, not pipe!

- Run 4-conductor shielded cable in conduit from PW transmitter to PWC elements

Don't waste time and money on plumbing like this ever again!

- Revolutionary design eliminates costly field plumbing. Simply run wires to sensors instead of costly copper tubing! Also eliminates the need for expensive bypass assemblies.



ORDERING

Ordering sensors: *Order elements based on expected maximum PSIG. Order quantity of (2) PWCxxx sensors of same pressure range per (1) PW transmitter. Conduit, conduit connectors and 4-conductor shielded cable not provided.*
Need further explanation: *Turn to page 41*

range

UNIVERSAL TRANSMITTER: PW

Transmitter Ranges

10 = Low PSID selectable ranges
20 = Standard PSID selectable ranges

element number

REMOTE SENSORS: PWC

Element Number

Element Number	Element Range	PW10 Selectable Ranges	PW20 Selectable Ranges
100	100 PSIG	10/20/40 PSID	50/75/100 PSID
250	250 PSIG	25/50/100 PSID	75/150/250 PSID
500	500 PSIG	50/100/150 PSID	100/250/500 PSID

PRESSURE SENSOR SERVICE VALVE: PWBV

Optional service valve PWBV for live sensor swap. Order 1 PWBV service valve for each PWCxxx element.

SPECIFICATIONS

Power Supply	Voltage output mode 0-5V	12-30VDC/24VAC(1), 20mA max.
	Voltage output mode 0-10V	15-30VDC/24VAC required for 10V full scale output
	Current (4-20 mA) output mode	12-30VDC, 20mA max.
Output type	Switch selectable	3-wire 0-5/10VDC and 2-wire 4-20mA
Presssure Ranges	Model PWC100	100 PSIG (Select 10/20/40 or 50/75/100 PSID based on PW Model)
	Model PWC250	250 PSIG (Select 25/50/100 or 75/150/250 PSID based on PW Model)
	Model PWC500	500 PSIG (Select 50/100/150 or 100/250/500 PSID based on PW Model)
Operating Temperature	Transmitter	32 to 140F (0-60°C)
Media compatibility	Type	Water; other 17-4 SS compatible media
	Temperature	32 to 250°F (0-125°C)
Zero Adjustment	Automatic	Push-button, terminal block switch input, Push button for 5-seconds to re-zero. Hold for 10-seconds to restore factory settings
Transmitter Performance (2)	PW10 Accuracy	Range: All PSIG Elements — A: ±4% FS — B/C: ±2% FS
	PW20 Accuracy	Range: All PSIG Elements — A: ±2% FS — B/C: ±1% FS
Sensor Type		Micro-machined silicon strain gauge
Sensor Performance	Accuracy	< ±0.5% BFSL
	Zero Offset	< ±2%
	Span Tolerance	< ±2%
	Stability (1 Year)	±0.25%FS, typ
	Overange Protection	2X Rated Pressure
	Burst Pressure	5X or 20,000 psi (whichever is less)
	Pressure Cycles	> 100 Million
	Compensated Range	0 to 55°C (30 to 130°F)
	Temperature Compensation	Zero, <±1.5% of FS Span, <±1.5% of FS
	Shock	100G, 11 msec, 1/2 sine
	Vibration	10G peak, 20 to 2000 Hz.
	EMI/RFI Protection	Yes
Enclosure, PW20 Transmitter	Construction	Powdered coated steel
	Sealing	IP65 (when installed with water-tight fittings)
Enclosure, PWC (xxx) Sensor	Construction	Stainless Steel 17-4, 1/4" MNPT, 1/2" Conduit Fitting
	Sealing	IP65 (when installed with water tight fittings)
Enclosure, PWBV Service Valve	Construction	Chrome-plated brass, 1/4" NPT Female x Male

(1) One side of transformer secondary is connected to signal common. Dedicated transformer is recommended.
(2) FS is defined as the full scale of the selected range in bi-directional mode.

First time ordering our PW conduit series? Let us help step by step!

What do I need?

PW Conduit Wet-Wet Series

PWC Sensing Elements
Order (2) PWC sensing elements for every (1) PW transmitter. Each PWC element has a 1/2" conduit adapter on top.

PW Transmitter
The configuration of the unit including powering the device, output, jumpers and PSID range selection is done inside of the PW transmitter.

On/Off Service Valve
Optional service valve (PWBV) for live sensor swap. Order 1 PWBV service valve for each PWC element.

ORDERING SENSING ELEMENTS

Step 1

Element connection type
This guide is for units that will require the installer to provide conduit and 4-conductor shielded cable. (If prefabricated cables are desired, please see page 36 of the catalog)

Step 2

Element pressure (PSIG) range
Each sensing element has a maximum PSIG rating. Ensure that your system will not exceed this rating to avoid clipping any readings before the device calculates the differential pressure.

element number

REMOTE SENSORS: PWC ☐

Element Number

100 = 100 PSIG
250 = 250 PSIG
500 = 500 PSIG

Step 3

How many PWC sensing elements do I need?
It takes a pair (2) of PWC elements with the same PSIG rating per (1) PW transmitter.

ORDERING TRANSMITTER

Step 5

Transmitter range
After selecting the proper pair of PWC elements, select the PW10 or PW20 transmitter based on the PSID selectable range scale that best fits your application. (Use the table below to cross reference the PSID ranges associated with each PWC element)

range

UNIVERSAL TRANSMITTER: PW ☐

Transmitter Ranges

10 = Low PSID selectable ranges
20 = Standard PSID selectable ranges

Transmitter PSID selectable ranges

Element Number	Element Range	PW10 Selectable Ranges	PW20 Selectable Ranges
100	100 PSIG	10/20/40 PSID	50/75/100 PSID
250	250 PSIG	25/50/100 PSID	75/150/250 PSID
500	500 PSIG	50/100/150 PSID	100/250/500 PSID

OPTIONAL SERVICE VALVES

Step 4

Do you need optional on/off service valves?
Optional service valves (PWBV) are recommended for live sensor swap and also protecting the sensing elements from debris if the system needs to be flushed.

Order (2) PWBV service valves for each (1) PW transmitter.

FURTHER ASSISTANCE

Still have questions?

Don't hesitate to call us at
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