

Sanitary Pressure Transmitters 2-Wire Loop-Powered With LED Display Flush Mounted

Sanitary process solutions
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2-wire transmitter with
4-digit LED display



The new benchmark for pressure transmitters

Two-wire pressure transmitter with bright LED display

CSE introduces a new line of two-wire, loop-powered pressure transmitters that are easy-to-wire, retrofit existing pressure transmitters, and offer low power consumption.

Features include:

- 4-digit LED display with scaleable 4...20 mA analog output
- Stainless steel housings rated IP69K and tested to withstand high pressure cleanings
- Transmitters meet 3A, FDA and EHEDG requirements

The compact PI Series pressure transmitters incorporate the same sensing technology found in high accuracy pressure transmitters – at half the size and cost.

ACTUAL SIZE



CSE's PI Series pressure transmitter mounts directly in a pipe or tank using industry standard sanitary adapters and fittings.



Line pressure and filter monitoring

The PI transmitter monitors line pressure and can also monitor the flow upstream and downstream of a filter.



Pump protection

Mounted in the pump input line to guard against pump damage, the PI provides a numeric indication of pressure value.



Tank level

For tank level detection, the weight of the liquid creates pressure on the transmitter's diaphragm. As the level changes, the pressure output changes.



The 2-wire transmitter simplifies wiring and easily retrofits an existing pressure sensor.



Transmitters meet 3A and EHEDG requirements. Transmitter materials meet FDA regulation 21 CFR.



316 stainless steel units are rated IP69K and withstand CIP cycle temperatures and hosedown pressures



Resistant to shock, vibration and rapid temperature changes



4-digit integrated display provides continuous indication of pressure value. Pushbutton setup enables adjustment of scaleable analog output.

Integrated numeric display and pushbutton setup



CSE sanitary sensors connect to industry standard adapters and fittings such as Tri-clamp[®], Varivent[®], and I-Line[®].

Multiple sanitary mounting options

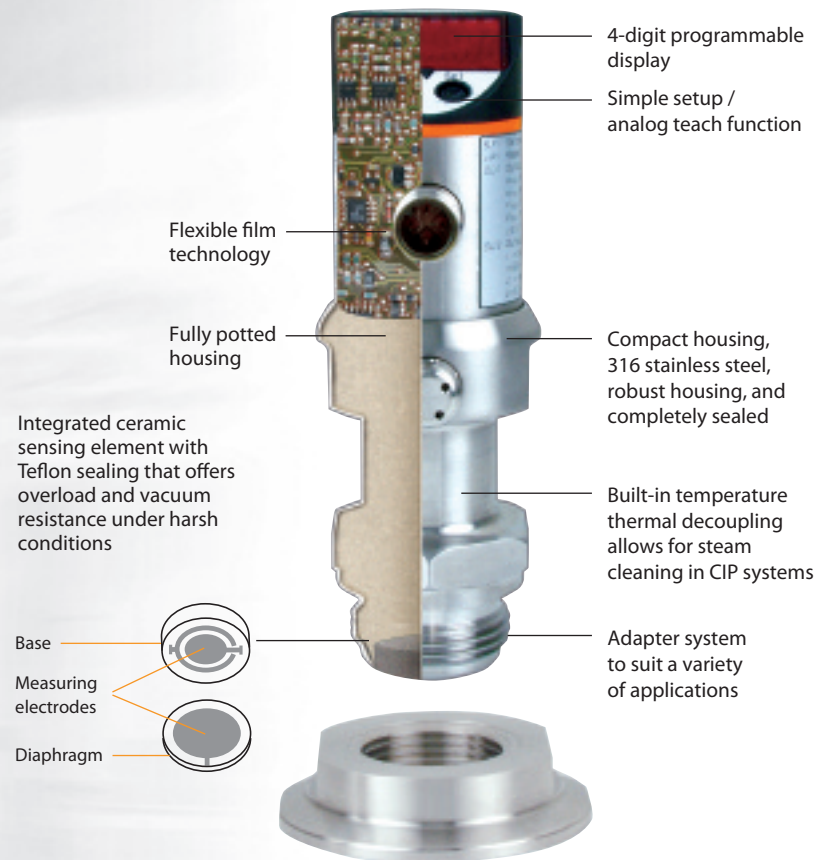
Transmitter sensing technology

Sensor technology eliminates the need for diaphragms

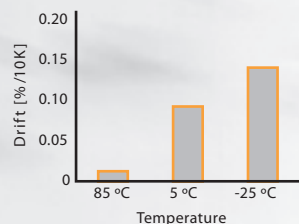
The transmitter's ceramic measuring cell is made of high purity aluminum oxide (Al_2O_3). The ceramic cell element resembles a plate capacitor with a reference electrode and measuring electrode placed 10 μm apart.

The capacitance is inversely proportional to the distance between the electrodes. If the distance changes by a small value because of an increase in pressure applied to the cell, the capacitance changes proportionately. The signal is then processed by a microprocessor.

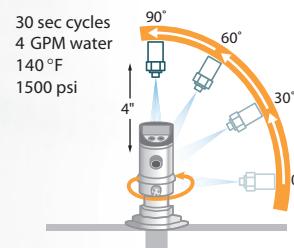
The sensor can be placed in direct contact with media, insuring reliable pressure detection in sanitary applications.



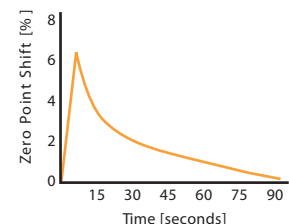
Designed and tested for sanitary applications



Temperature drift
Food and beverage processing applications expose transmitters to a wide temperature range. PI pressure transmitters are designed to experience minimal signal drift over a wide temperature range.



Zero-leak design
The IP69K standard test duplicates the plant floor pressure cleaning conditions. The transmitter is exposed to a 1500 psi spray of water at 176°F for 30 seconds. The test is performed at specified angles using a spray nozzle located 4" from the transmitter.



Temperature shock
(0° – 100° C)
The cyclical transition from product processing to CIP cleaning and back to product processing can cause extreme temperature shocks. The PI pressure transmitter is designed to quickly recover from these rapid temperature changes.

PI Series Pressure Transmitters



Pressure range	Permissible overload pressure	Burst pressure limit	Part No.
(-14.4)...362.7 psi	1450 psi	5070 psi	PI10-93
(-14.5)...145.0 psi	725 psi	2175 psi	PI10-94
(-14.50)...58.00 psi	435 psi	1450 psi	PI10-95
(-1.80)...36.27 psi	290 psi	725 psi	PI10-96
(-0.73)...14.50 psi	145 psi	436 psi	PI10-97
(-5.0)...100 inH ₂ O	4000 inH ₂ O	12,000 inH ₂ O	PI10-98
(-401)...401 inH ₂ O	4000 inH ₂ O	12,000 inH ₂ O	PI10-99

Sanitary Fittings*

Type	Description	Pressure Rating	Part No.
	1.5" tri-clamp fitting, 316 SS	230 psi (16 bar)	15U
	2" tri-clamp fitting, 316 SS	230 psi (16 bar)	2U
	3" tri-clamp fitting, 316 SS	145 psi (10 bar)	3U
	1.5" DIN fitting, 316 SS	360 psi (25 bar)	DIN40
	2.0" DIN fitting, 316 SS	360 psi (25 bar)	DIN50
	2.5" DIN fitting, 316 SS	360 psi (25 bar)	DIN65
	Varivent D 50 fitting, 316 SS	360 psi (25 bar)	V50
	Varivent D 68 fitting, 316 SS	360 psi (25 bar)	V68
	Weldable adapter, 316 SS	725 psi (50 bar)	WI
	1.5" I-Line fitting, 316 SS	360 psi (25 bar)	15I
	2" I-Line fitting, 316 SS	360 psi (25 bar)	2I

* Additional fittings may be available upon request. Call 800-927-8575.

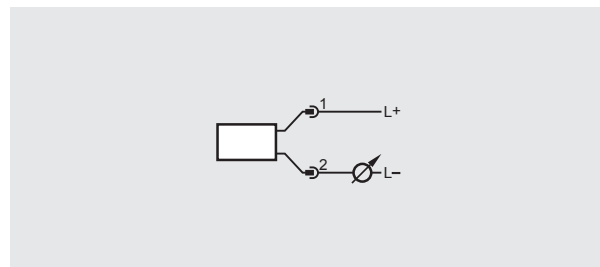
Cable assemblies and optional accessory

Type	Description	Part No.
	M12 Micro DC, 5 Meter, Shielded PVC Cable	C3R-L05
	M12 Micro DC, 10 Meter, Shielded PVC Cable	C3R-L10
	M12 Micro DC, 5 Meter, Shielded PVC Cable	C3-L05
	M12 Micro DC, 10 Meter, Shielded PVC Cable	C3-L10

Specifications

PI Series Pressure Transmitters		
Operating voltage	[V]	20...32 DC
Current consumption	[mA]	<50
Load analog output	[Ohm]	max. 300
4...20 mA		
Accuracy	[%]	<±0.2
Repeatability	[%]	<±0.1
Operating temperature		-13...176°F (-25...80°C)
Medium temperature		-13...257°F (293°F max. 1 hr) (-25...125°C (145°C max 1 hr))
Materials (wetted parts)		316 stainless steel, ceramic, (99.9 % Al ₂ O ₃), PTFE
Shock resistance		50 g (11 ms)
Vibration resistance		20 g (10...2000 Hz)
Min. pressure cycles		100 million

Wiring Diagram



Dimensions (mm)

