



Process sensors

Tried and tested product improved: PI pressure sensor now with multiple resolution



Pressure sensors



Pressure peak and overload resistant ceramic measuring cell

Flush design with PTFE seal providing long-term stability

Permanent 150 °C medium temperature

Factory certificate for free download

Very high resolution thanks to 32 bits and IO-Link



High resolution thanks to IO-Link and 32 bits

For years the ifm pressure sensors of the PI series have proven their worth in the food and beverage industry. But even what is successful can be improved. The resolution of the measuring range was increased to 20,000 steps by implementing IO-Link and 32 bits. This is an enormous benefit, especially for hydrostatic level measurement with head pressure. This is because the actual pressure detection only takes place in a fraction of the measuring range.

An interesting feature for maintenance and commissioning is the simulation function which allows the sensor to transmit measured signals or error states to the controller.

The sensor is permanently resistant to 150 °C medium temperature. This is measured and additionally transmitted via IO-Link (accuracy 2.5 K).



Factory setting measuring range [bar]	Measuring range relative pressure [bar]	Order no.	
		G1 Aseptoflex Vario	G1 sealing cone
0...100	-1...100	-	PI1602
0...25	-1...25	PI1703	PI1803
0...16	-1...16	PI1714	PI1814
0...10	-1...10	PI1704	PI1804
0...6	-1...6	PI1715	PI1815
0...4	-1...4	PI1705	PI1805
0...2.5	-0.124...2.5	PI1706	PI1806
0...1.6	-0.1...1.6	PI1717	PI1817
0...1	-0.05...1	PI1707	PI1807
-1...1	-1...1	PI1709	PI1809
0...0.4	-0.05...0.4	PI1718	PI1818
0...0.25	-0.0124...0.25	PI1708	PI1808
0...0.1	-0.005...0.1	PI1789	PI1889

Further advantages and customer benefits

Ceramic measuring cell

The sensor has a high-purity ceramic measuring cell. This offers high resistance and long-term stability, even with frequent pressure peaks or overload. In addition, the ceramic is resistant to abrasive media. Unlike conventional sensors with a metallic diaphragm, no oil is required as a diaphragm seal, which could enter the medium in the event of damage. This is why the ceramic measuring cell offers maximum safety, especially in applications in the food and beverage industry as well as in the pharmaceutical industry.

Front-flush and maintenance-free

The measuring cell, which is flush with the process, gives deposits no chance. Only food-grade and maintenance-free sensor materials come into contact with the medium: stainless steel (316L/1.4435), PTFE (Teflon) and ceramic (Al₂O₃).

Optimised ventilation

The vent has been turned by 90° to the side compared to the previous sensors of the PI series. This prevents moisture from resting on the Goretex membrane if the sensor is mounted with the display facing upwards or downwards. In addition, the vent cap has a drip edge.

IO-Link

IO-Link not only allows digital transmission of the measured value without loss. The parameter setting of the sensor and the provision of diagnostic data, such as excess temperature or process value outside the measuring range, are also carried out via IO-Link. Alternatively, the sensor can of course also be configured on site using the conventional method with three pushbuttons and a setting menu.

Further technical data		
Operating voltage	[V DC]	20...30
Step response time analogue output	[ms]	30 (2-wire) / 7 (3-wire)
Accuracy / deviation (in % of the span)		
Deviation of the characteristics (to DIN IEC EN 62828-1) incl. zero point and span error, non-linearity, hysteresis		< ± 0.2
Medium temperature	[°C]	-25...150
Materials (wetted parts)		ceramic 99.9 %, PTFE, stainless steel (316L/1.4435)
Communication interface		IO-Link 1.1 COM2 (38.4 kbaud)

Accessories

Type	Description	Order no.
	Filter cover	E30483
	Filter cover vent tube	E30467
	Welding adapter Ø 60 mm with O-ring	E30150
	Aseptoflex Vario adapter Clamp 1-1.5" adapter with O-ring	E33201

Accessories IO-Link

	IO-Link Bluetooth adapter	E30446
	IO-Link repeater	E30444

M12 connection cable

	5 m, grey, MPPE cable	EVF004
	10 m, grey, MPPE cable	EVF005