

PIEZORESISTIVE PRESSURE TRANSMITTERS

SERIES 27 W

FOR LEVEL- AND HIGH PRECISION PRESSURE MEASUREMENTS

These pressure transducers use the Series 10 OEM pressure sensor fully compensated and calibrated for operation at 10VDC.

The well proven core sensor is an integrated silicon strain gauge bridge, encapsulated within a stainless steel case with a welded, isolating diaphragm (for a more detailed description, see data sheet for the Series 10).

A G 1/4" male pressure port is welded as standard to give the very best in media compatibility and integrity - no "O"-rings or silicon are in contact with the media at all.

- Output: 4...20 mA, 0...10 V or 100 mV@10 VDC
- Pressure ranges: 200 mbar to 100 bar
- Absolute, vented gauge or sealed gauge references
- All 316 L stainless steel welded pressure cavity
- Diameter 19 mm

STANDARD PRESSURE RANGES (other ranges on request)

PR 27 W: Vented Gauge

Calibrated for positive pressure in the ranges:

0,2¹⁾ / 0,5 / 1 / 2 / 5 / 10 / 20 bar

Calibrated for negative pressure in the ranges:

-0,5 / -1 bar

PAA 27 W: Absolute

Calibrated relative to absolute Zero in the

ranges:

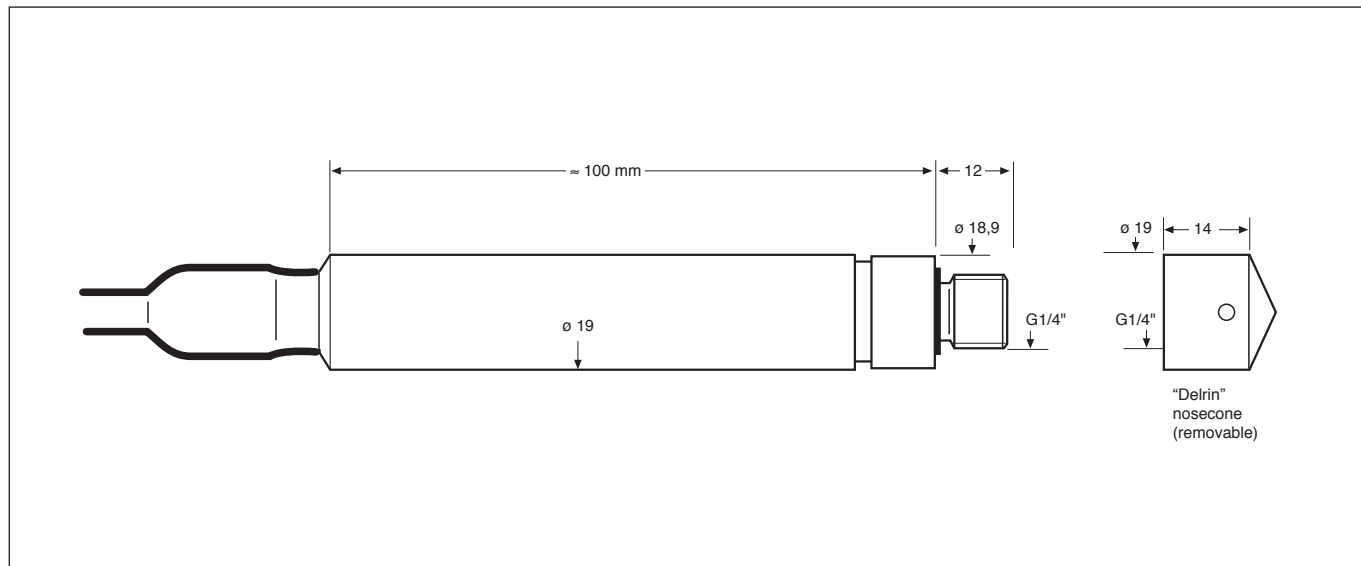
0,2¹⁾ / 0,5 / 1 / 2 / 10 / 20 bar abs.

PA 27 W: Sealed Gauge

Calibrated relative to ambient pressure in the ranges:

1 / 2 / 5 / 10 / 20 / 50 / 100 / 200 bar

¹⁾ in 100 mV-transducer version only



Subject to alterations

SPECIFICATIONS

	Transmitter			Transducer	
Signal Output	4...20 mA	0...20 mA	± 0...10 VDC		0...100 mV
Supply Voltage	8...28 VDC	13...28 VDC			8...28 VDC 10 VDC**
Current required	up to 20 mA	up to 25 mA	4 mA max.		4 mA max. 2 mA max.
Configuration	2-Wire	3-Wire			4-Wire
Electrical Connection: Cable 5 m, PE	OUT/GND: White (Gauge: Red)	GND: Green (Gauge: White)	-Vcc: White		
	+Vcc: Brown (Gauge: Black)	+OUT: White (Gauge: Red)	+OUT: Red		
		+Vcc: Brown (Gauge: Black)	+Vcc: Black		
			-OUT: Blue		
Load (Ω)	< (U-8 V) / 0,02 A	< (U-5 V) / 0,02 A	> 5 k		> 10 M
Linearity	± 0,2% typ. / ± 0,5% max.				
Total Error Band* +18...+22°C	± 0,3% typ. / ± 0,5% max.				
Total Error Band* 0...+50°C	± 0,6% typ. / ± 1,0% max.				
Total Error Band* -20...+80°C	± 2,5% typ. / ± 4,0% max.				
Stability	200 mbar / 500 mbar: ≥ 1 bar:		1 mbar typ. 0,1% FS typ.	2 mbar max. 0,2% FS max.	

* Total error band includes linearity, hysteresis, repeatability, zero and span offsets, temperature effects.

** Basic 100 mV transducers are calibrated at 10 VDC to produce 0...100 mV signal (nominal), and require a stable voltage supply.

They can be operated at 5 VDC to give 0...50 mV signal or 20 VDC to give 0...200 mV signal. The circuit is a compensated resistance bridge and is completely passive with no diodes or reactive components. Bridge resistance is 3,5 kΩ nominal. The 8...28 V supply transducer is fitted with an internal regulator. The G 1/4" pressure connection has an integral Viton® seal at the shoulder. Alternatively it may be sealed using a face seal on the flat nose of the pressure port.

Compensated Temperature Range	0...50 °C (on demand -10...80 °C)
Storage-/Operating Temperature	-45...100 °C
Pressure Port	G 1/4 male with removable "Delrin" nosecone
Materials in Contact with Media	Stainless steel AISI 316 L, Viton®
Volumetric Change	< 10 ⁻³ mm ³ / bar
Vibration	10 g (20...2000 Hz)
Endurance	> 10 ⁶ FS cycles at 25 °C
Weight	≈ 100 g
Electromagnetic Compatibility	CE marked: Fully tested to EN 50081-2 and EN 50082-2
Enclosure Protection	IP 68
Insulation	Greater than 100 MΩ @ 500 VDC

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