

Pressure Transmitter PTP for Industrial Applications

CERTIFICATIONS



DESCRIPTION

PTP pressure transmitters are used in wide range of applications by fulfilling specific needs of different industries, e.g. production, development and laboratories. Easy installation, set-up and operation are features of this high-reliable and cost effective product.

The measuring ranges cover from 50 mbar up to 2500 bar. The wetted parts (pressure port and measuring element) consist of stainless steel and can be used under harsh environmental conditions. The pressure port and measuring cell are welded together enabling the sensor to withstand shock and vibration.

PTP pressure transmitter offer a variety of pressure & electrical connections and are an optimal solution to different applications.

The PTP pressure transmitter complies with electromagnetic compatibility requirements (EMC) as per EN 61326.



MEASURING RANGES / OPTIONS

Gauge pressure:

- Negative: -1...0 bar to -0.05...0 bar
- Positive: 0...0.05 bar to 0...2500 bar
- Absolute pressure: 0...1 bar to 0...50 bar

FEATURES

- Measuring ranges from 0,05 bar to 2500 bar
- Calibration of all pressure ranges below the maximum pressure feasible
- Corrosion resistant, stainless steel design
- Robust against shock and vibration
- Dynamic and static measurements feasible
- CE, RoHS confirm

APPLICATIONS

- Machinery
- Semiconductor
- Heavy Industry
- Laboratories

SPECIFICATIONS

Model	PTP			Options
Pressure Type	Negative or Positive Gauge Pressure		Absolute Pressure	Compound Ranges
Pressure Range	-1...0 bar to -0.05...0 bar 0...0.05 bar to 0...2500 bar		0...50 bar	(-1...0 bar to -1...+100 bar)
Overpressure Limit	x 2 (\leq 1000 bar)		x 1.5 ($>$ 1000 bar)	
Burst Pressure	x 3 (\leq 1000 bar)		x 1.6 ($>$ 1000 bar)	
Accuracy¹	$\leq \pm 0.5\%$ FS (with Non-Linearity 0.25 % according to IEC 61298-2) $\leq \pm 0.6\%$ FS (with Non-Linearity 0.25 % and Signal Output 0...5 V) $\leq \pm 1.0\%$ FS (with Non-Linearity 0.5 % according to IEC 61298-2)			
Zero Offset	$\leq \pm 0.15\%$ Typ., $\leq 0.4\%$ Max. of FS (with Non-Linearity 0.25 %) $\leq \pm 0.5\%$ Typ., $\leq 0.8\%$ Max. of FS (with Non-Linearity 0.5 %)			
Signal Noise	$\leq 0.3\%$ of FS			
Response Time	≤ 1 ms			
Measuring Rate	1000 Hz			
Output Signal 2-wire: 4...20 mA 3-wire: 0...10 V 3-wire %o: 0.5...4.5 V	Power Supply 7...30 VDC 14...30 VDC 5 \pm 0.5 V	Maximum Load RA RA \leq (U _b - 7 V) / 0.02A RA $>$ 10 kOhm RA $>$ 4.5 kOhm	Other Signals on Request	
Sensor Element	\leq 1000 bar Piezoresistive $>$ 1000 bar Strain Gauge			
Long-term Stability	0.3 % FS / year at Reference Conditions according to IEC 61298-2			
Case	Stainless Steel 304			
Pressure Connection	G1/2"A G1/2"B	G1/4"A G1/4"B	NPT1/2" NPT1/4"	Other Pressure Connections Feasible
Wetted Parts	Stainless Steel 316L			
Electrical Connection / IP Rating	DIN EN 175301-803-A & -C: IP65 M12x1 (4-Pin): IP67, Cable Outlet: IP67 / 68 (molded)			Other Electrical Connections Feasible
Electrical Protection	Short-Circuit Protection			Reverse Polarity
Insulation Voltage	500 VDC			
Thermal Error	≤ 0.1 % typ., ≤ 0.25 max. FS / 10K in Compensated Range -20 ...80 °C			
Permissible Temperatures	Storage -40...100 °C	Medium -40...125 °C	Environment -40...85 °C	
Conformity Pressure Equipment Directive EMC Directive Shock Resistance Vibration Resistance	CE, RoHS 97/23/EC 2004/108/EEC, EN 61326 Emission (Group 1, Class B) 500g according to IEC 60068-2-27 10g according to IEC 60068-2-6			
Weight	approx. 0.20kg			

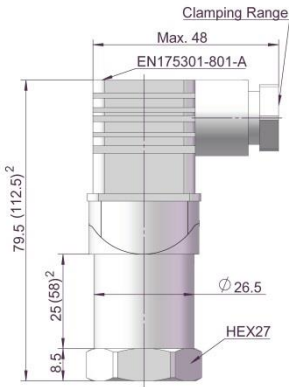
¹Including Non-Linearity, Hysteresis, Zero Point and Full Scale Error
(Corresponds to Error of Measurement per IEC 61298-2)

FS = Full Scale

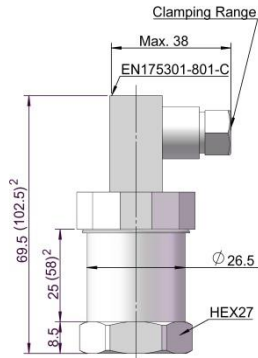
DIMENSIONS (mm)

CASE

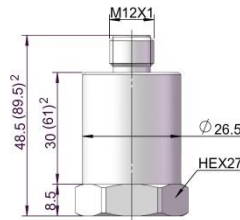
Connector according to DIN EN-175301-803-A



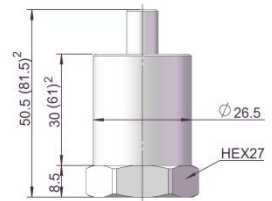
Connector according to DIN EN-175301-803-C



Circular Plug-In Connector M12x1 4-Pin

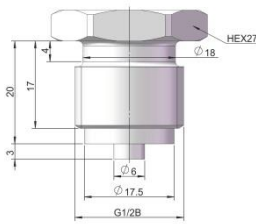


Cable Outlet With Free Ends

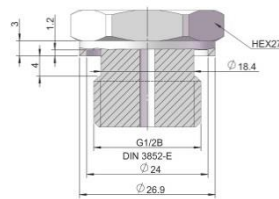


PRESSURE CONNECTIONS

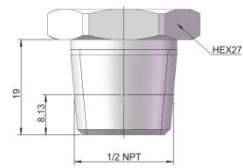
G1/2 B



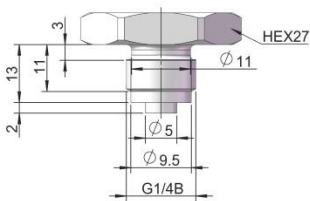
G1/2 DIN 3852-E



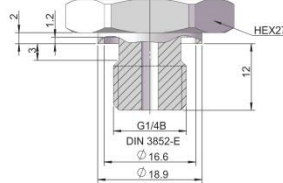
NPT 1/2



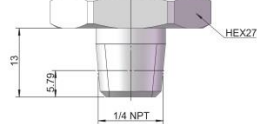
G1/4 B



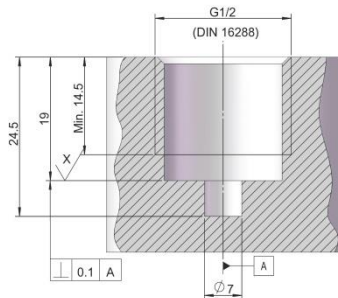
G1/4 DIN 3852-E



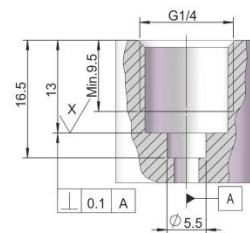
NPT 1/4



G1/2 DIN 16288
Screw In Aperture



G1/4 DIN 16288
Screw In Aperture



²Adjusted Design for Pressure Range > 1000 bar

ELECTRICAL CONNECTION

	2-wire	3-wire
Circular Connector M12x1 4-Pin		
DIN EN 175301-803 Form A Plug with Junction Box		
DIN EN 175301-803 Form C Plug with Junction Box		
Cable Outlet with Free Ends		

Modifications reserved

ORDERING CODE

PTP-A-BBBB-C-DD-EEE-FF-GGG

A	Pressure	
	1	Absolute
	2	Relative

BBBB	Pressure Range (bar)							
	0500	0.05	6001	6.0	6003	600	Z102	-1...+10
	1000	0.10	1002	10	1004	1,000	Z602	-1...+60
	1600	0.16	1602	16	1604	1,600	Y500	-0.05...+0.05
	2500	0.25	2502	25	2504	2,500	Y101	-0.1...+0.1
	6000	0.60	4002	40	Z101	-1...+1	Y501	-0.5...+0.5
	1001	1.0	6002	60	Z161	-1...+1.6	Others on request	
	1601	1.6	1003	100	Z251	-1...+2.5		
	2501	2.5	1603	160	Z401	-1...+4.0		
	4001	4.0	2503	250	Z601	-1...+6.0		

C	Output Signal	
	1	4...20 mA
	2	0...10 V
	3	0.5...4.5 V
	Others on request	

DD	Accuracy (% FS)	
	02	0.25
	05	0.5
	06	0.6
	10	1.0

EEE	Pressure Connection			
	G2A	G1/2A	G2B	G1/2B
	G4A	G1/4A	G4B	G1/4B
	NP2	NPT1/2	NP4	NPT1/4
	Others on request			

FF	Electrical Connection	
	DA	DIN EN 175301-803-A
	DC	DIN EN 175301-803-C
	M1	M12x1, 4-pin
	C1	Cable version IP 67
	C2	Cable version IP 69
	Others on request	

GGG	Customized	
	111	Standard version
	XXX	Customer specific