Pressure Transmitter PTP for Industrial Applications

CERTIFICATIONS

CE RoHS COMPLIANT

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 1000 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 transmitters offer a variety of pressure & electrical connections and are an optimal solution to different applications.

The PTP pressure transmitters comply with electromagnetic compatibility requirements (EMC) as per EN 61326.

MEASURING RANGES / OPTIONS

Gauge pressure:

- Positive: 0...0.05 bar to 0...1000 bar
- Compound: -1...0 bar to -1...60 bar

Absolute: 0...1 bar to 0...50 bar

FEATURES

- Measuring ranges from 0.05 bar to 1000 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

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SPECIFICATIONS

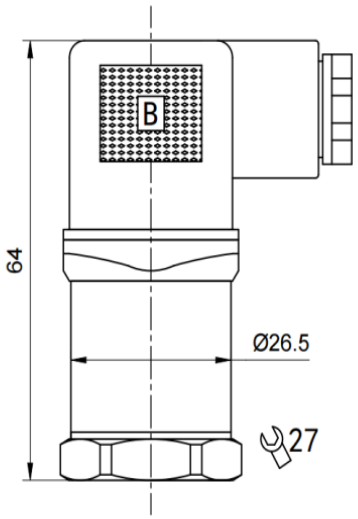
Model	PTP		Options
Pressure Type	Positive Gauge	Compound Gauge	Absolute
Pressure Range	0...0.05 bar to 0...1000 bar	-1...0 bar to -1...59 bar	0...1 bar to 0....50 bar
Overpressure Limit	X 2 (≤ 700 bar)	X 1.5 (> 700 bar)	
Burst Pressure	X 3		
Accuracy[1]	≤ ± 0.5% of FS (with Non-Linearity 0.25 %) ≤ ± 0.25% of FS (with Non-Linearity 0.125 %) (Optional)		
Response Time	≤ 5 ms		
Measuring Rate	200 Hz		
Output Signal 2-wire (A): 4...20 mA 3-wire (A): 0...20 mA 3-wire (V): 0...10 VDC 0...5 VDC 1...5 VDC 0.5...4.5 VDC	Power Supply 7...36 VDC 6....36 VDC 14...30VDC 10....30 VDC 10....30 VDC 4.5...5.5 VDC	Maximum Load R_A $R_A \leq (Ub - 10\ V) / 0.02\ A$ $R_A \leq (Ub - 3\ V) / 0.02\ A$ R_A > max. Output Signal / 1 mA $R_A > 4.5\ k\Omega$	Other Signals on Request
Sensor Element	Piezoresistive: ≤ 200 bar	Thin Film: >200 bar	(> 50 bar optional)
Long-term Stability	0.1 % of FS / year at Reference Conditions according to IEC 61298-2		
Case	Stainless Steel 304		
Pressure Connection	G ½ A G ¼ A NPT ½ G ½ B G ¼ B NPT ¼		Other Pressure Connections Feasible
Wetted Parts	Piezoresistive: Stainless Steel 304/316L FKM/NBR	Thin Film: Stainless Steel17-4PH	
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 (S+ vs. 0V)	Overvoltage (max. DC 36V)	Reverse Polarity (Ub vs. 0V)
Insulation Voltage	500 VDC		1000 VDC (optional)
Thermal Error on Compensated Range	≤ 0.1 % typ. of FS, ≤ 0.25 max. of FS / 10 K in Compensated Range -20 ....80 °C		
Thermal Error on Zero	≤ 0.5 % of FS / 10 K		
Permissible Temperatures	Storage -40....100 °C	Medium -40....125 °C	Environment -40....85 °C
MTTF	> 100 years		
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	Piezoresistive: approx. 0.20kg	Thin Film: approx. 0.25kg	

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

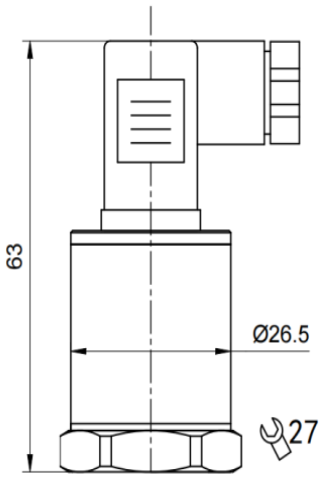
DIMENSIONS (mm)

CASE

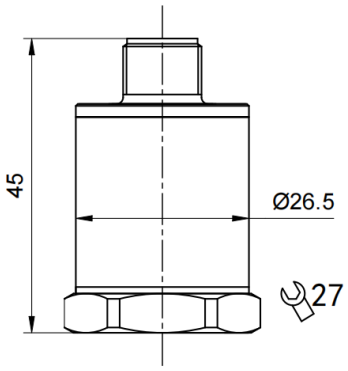
Connector according to
DIN EN-175301-803-A



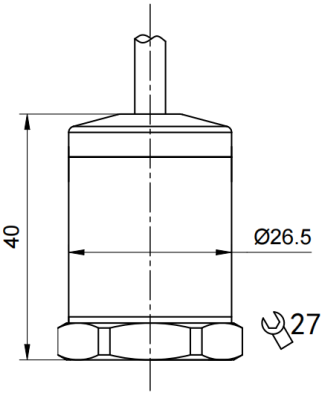
Connector according to
DIN EN-175301-803-C



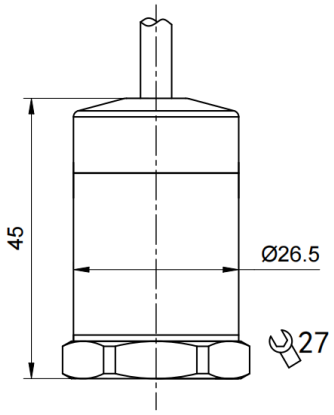
Circular Plug-In Connector
M12x1 4-Pin



Cable Outlet
IP 67



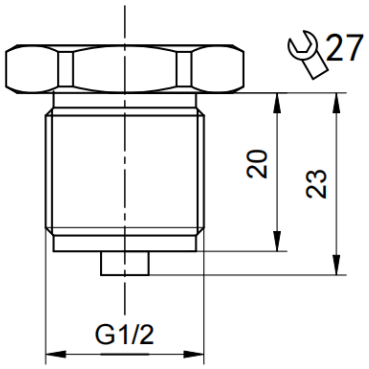
With Free Ends
IP 68



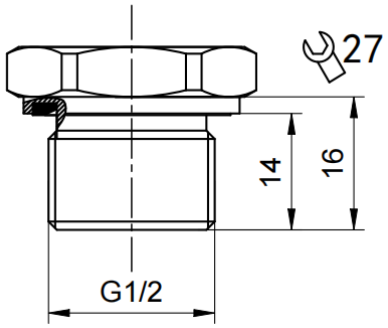
DIMENSIONS (mm)

PRESSURE CONNECTIONS

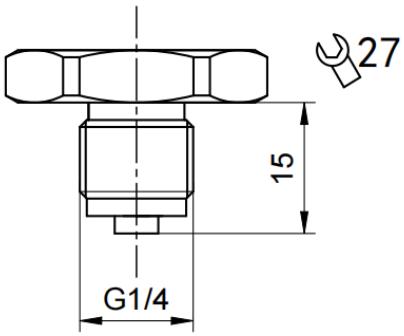
G ½ B
G ½ EN 837 (max. 1000 bar)



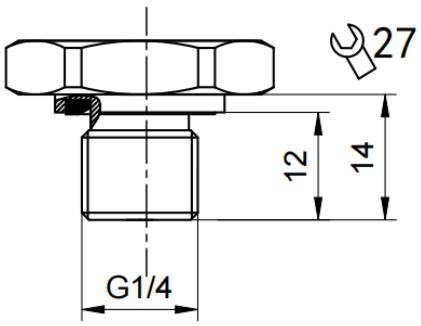
G ½ A
G ½ DIN 3852 (max. 600 bar)



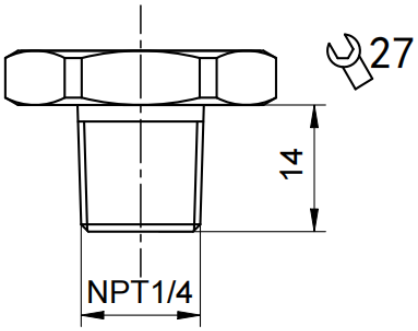
G ¼ B
G ¼ EN 837 (max. 1000 bar)



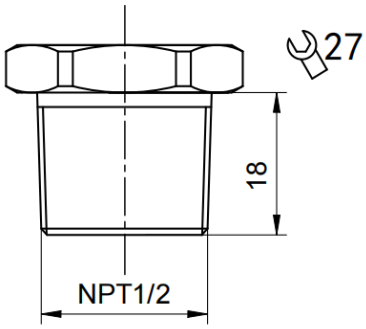
G ¼ A
G ¼ DIN 3852
(NBR: max 600 bar / FKM: max. 1000bar)



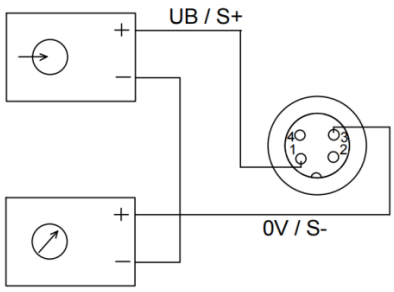
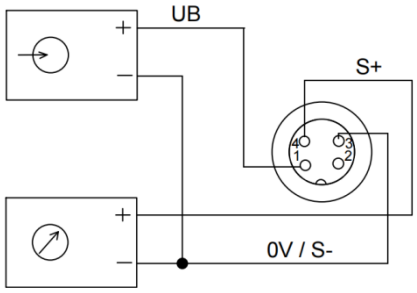
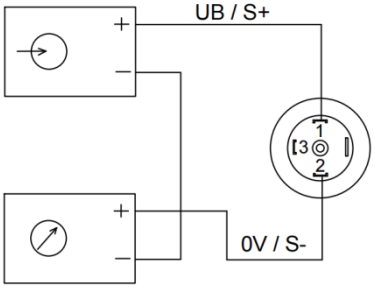
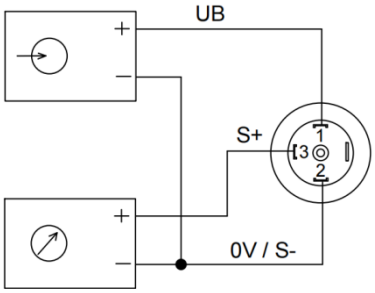
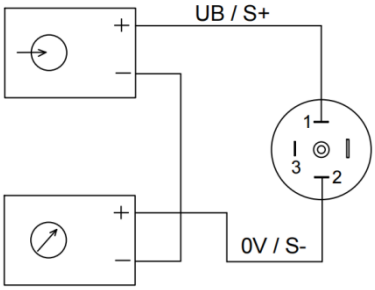
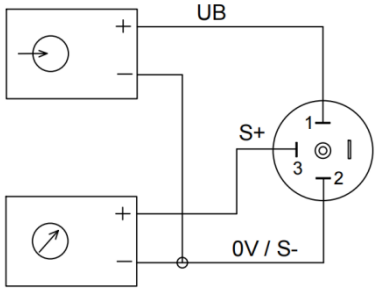
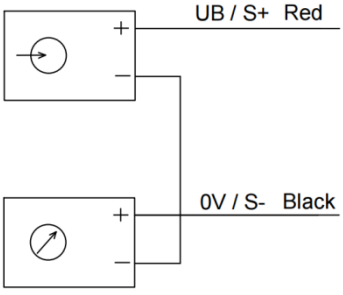
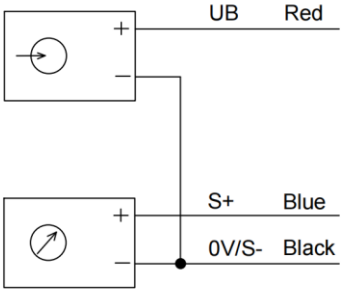
NPT ¼ (max. 1000 bar)



NPT ½ (max. 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 IP67 / IP 68		

ORDERING CODE PTP

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	Z252	-1...+25
	1000	0.10	1002	10	1004	1,000	Z602	-1...+60
	1600	0.16	1602	16	Z101	-1...+1	Y500	-0.05...+0.05
	2500	0.25	2502	25	Z161	-1...+1.6	Y101	-0.1...+0.1
	6000	0.60	4002	40	Z251	-1...+2.5	Y501	-0.5...+0.5
	1001	1.0	6002	60	Z401	-1...+4.0	Others on request	
	1601	1.6	1003	100	Z601	-1...+6.0		
	2501	2.5	1603	160	Z102	-1...+10		
	4001	4.0	2503	250	Z162	-1...+16		

C	Output Signal	
	1	4...20 mA, 2-wire (8-36 VDC)
	2	0...10 V, 3-wire (12-36 VDC)
	3	0.5...4.5 V, 3-wire (8-36 VDC)
	4	0.5...4.5 V, 3-wire (5 VDC)
	5	0...5 V, 3-wire (8-36 VDC)
	6	1...5 V, 3-wire (8-36 VDC)
	Others on request	

DD	Accuracy (% FS)	
	02	0.25
	05	0.5
	10	1.0
	Others on request	

EEE	Pressure Connection			
	G2A	G1/2A	G2B	G1/2B
	G4A	G1/4A	G4B	G1/4B
	NP2	NPT1/2	NP4	NPT1/4
	PT2	R1/2	PT4	R1/4
	G2O	G1/2 DIN 3852 open port		
	G4F	G1/4 Female		
	M16	M16x1.5 Female		
	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 68
	Others on request	

GGG	Customized	
	111	Standard version
	XXX	Customer specific

Modifications reserved