Pressure Transmitter PTF for Viscous / Particle Media

CERTIFICATIONS

CE RoHS COMPLIANT

DESCRIPTION

The pressure transmitter PTF with flush diaphragm has been specially designed for measuring of viscous, paste-like, particle-laden, crystallizing, adhesive media, which would clog the pressure channel of hydraulic applications with high static and dynamic pressure. The transmitter has an excellent long-term stability, also under fast changing pressure as well as positive and negative pressure peaks.

The measuring ranges cover from 0.1 bar up to 350 bar. The wetted parts (pressure port and diaphragm) 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.
PTF pressure transmitters offer a variety of pressure and electrical connections, and therefore these are an optimal solution to different applications.

Cooling elements for high temperature applications and additional various elastomer seals are available.

The PTF pressure transmitter complies with electro-magnetic compatibility requirements (EMC) as per EN 61326.

MEASURING RANGES / OPTIONS

Gauge pressure:

- Positive: 0...0.1 bar to 0...350 bar
- Compound: -1...0 bar to -1...24 bar

Absolute pressure: 0...1 bar to 0...16 bar

FEATURES

- Measuring ranges from 0.1 bar to 350 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
- Simple installation
- CE, RoHS confirm

APPLICATIONS

- Food and Beverage Industry
- Filling and Packing Industry
- Hydraulics and Pneumatics
- Level Measurement
- Dosing Industry
- General Industrial Applications

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SPECIFICATIONS

Model	PTF		Options
Pressure Type	Positive gauge	Compound gauge	Absolute
Pressure Range G ½ G 1	 0…2.5 bar to 0…350 bar 0…0.1 bar to 0…25 bar	 -1…0 bar to -1…24 bar	 0….1 bar to 0…16 bar
Overpressure Limit	X 2		
Burst Pressure	X 3		
Accuracy[1]	≤ ± 0.5% of FS ≤ ± 0.25% of FS (Only for measuring range >0.25bar)		
Non-Linearity	≤ ± 0.2% of FS BFSL (per IEC 61298-2)		
Non-Repeatability	≤ ± 0.1% of FS (per IEC 61298-2)		
Setting 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 Feasible
Sensor Element	Piezoresistive		
Long-term Stability	0.2 % of FS / year at Reference Conditions according to IEC 61298-2		
Case	Stainless Steel 304		
Pressure Connection	G ½ Flush Welded Diaphragm	G 1 Flush Welded Diaphragm	Other Pressure Connections Feasible
Wetted Parts	Stainless Steel 304/316L, FKM/NBR		
Electrical Connection / IP Rating	DIN EN 175301-803A: IP 65 M12x1 (4-Pin): IP 67 Field housing: IP 67	Cable Outlet: IP67 / IP 68 Bayonet (6-pin): IP 67	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 in Compensated Range -0 ….80 °C	≤ 0.25bar: ≤ 0.4% of FS / 10K > 0.25bar: ≤ 0.2% of FS / 10K		

FS = Full Scale

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

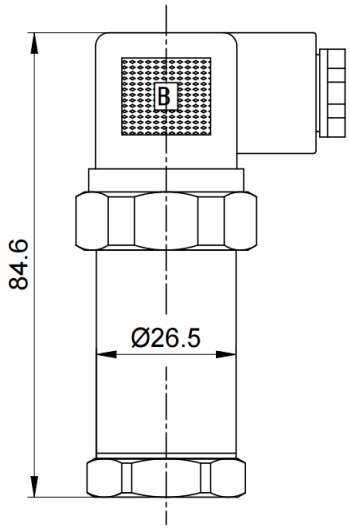
SPECIFICATIONS

Model	PTF		Options
Permissible Temperatures	Storage -40....100 °C	Medium -40....125 °C -40....250 °C (Cooling El.)	Environment -20....80 °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) 1000g according to IEC 60068-2-27 20g according to IEC 60068-2-6		
Weight	without Cooling El.: approx. 0.20 kg	with Cooling El.: approx.. 0.30kg	

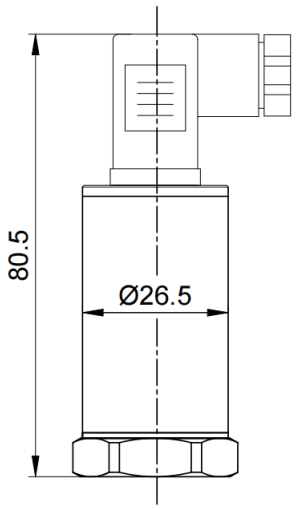
DIMENSIONS (mm)

CASE

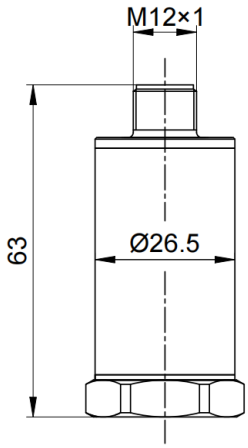
Angular Connector
DIN EN-175301-803-A



Angular Connector
DIN EN-175301-803-C



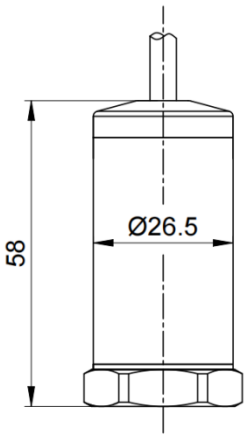
Circular Plug-In Connector M12x1
4-Pin



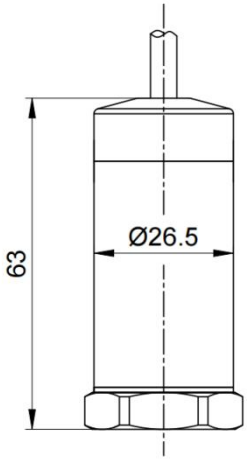
DIMENSIONS (mm)

CASE

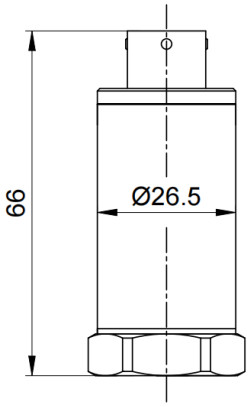
Cable Outlet With Free Ends
IP67



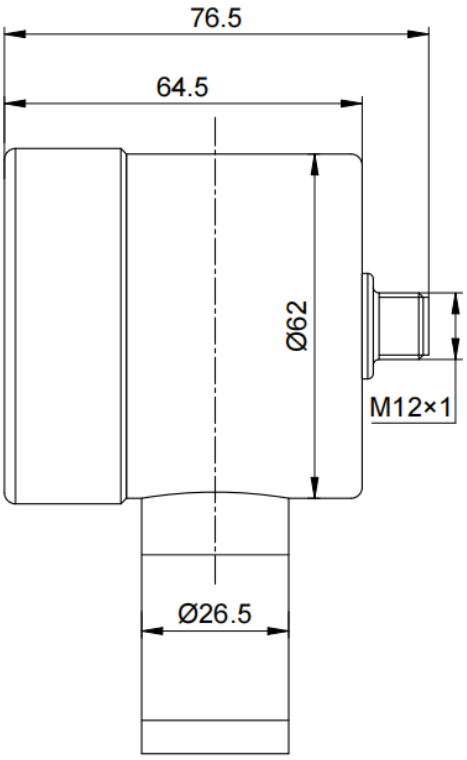
IP68

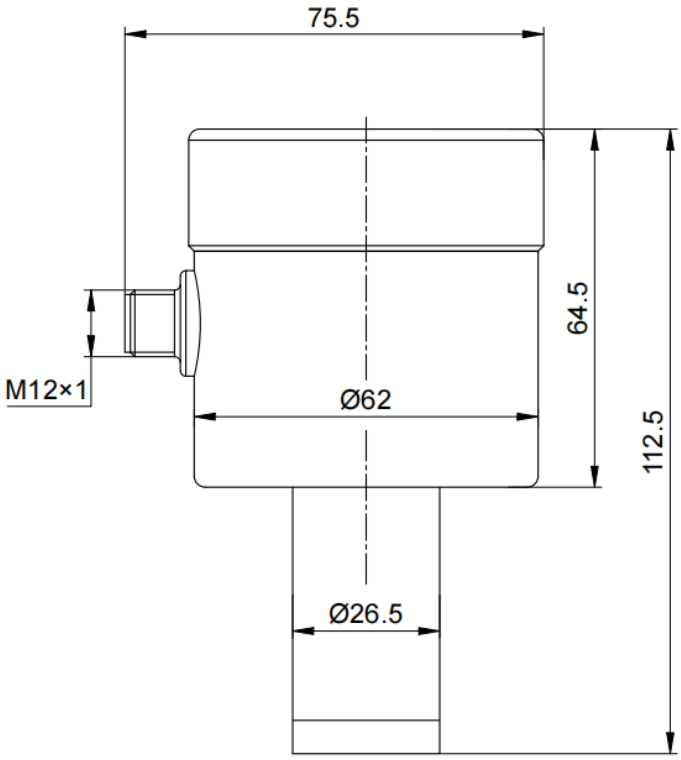


Bayonet Connector
6-Pin



Field Housing

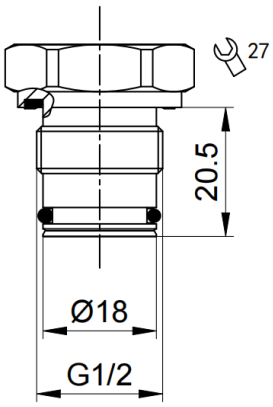




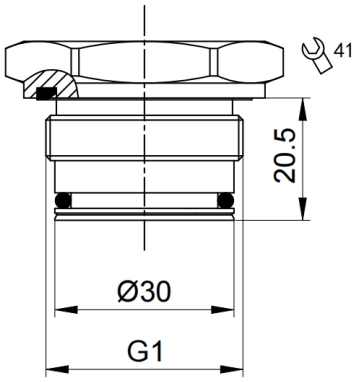
DIMENSIONS (mm)

PRESSURE CONNECTIONS

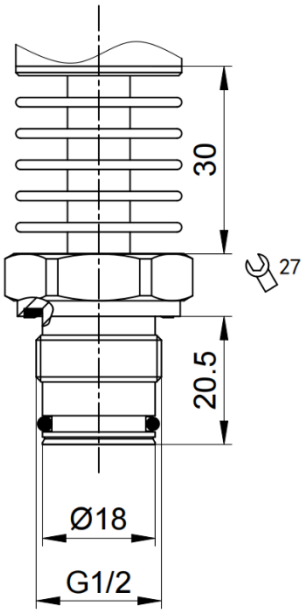
G1/2 Flush Welded Diaphragm
0....2.5 bar to 0....350 bar
Without Cooling Element



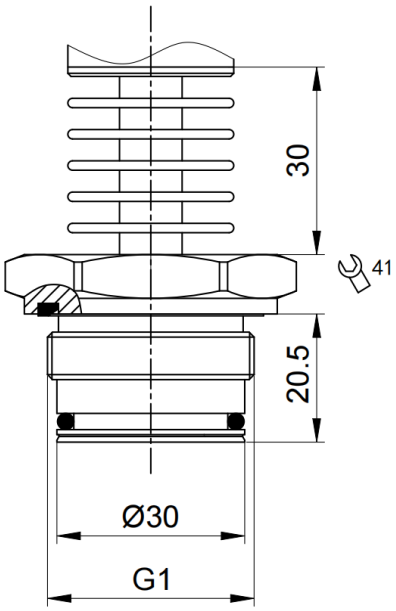
G 1 Flush Welded Diaphragm
0....0.1 bar to 0....25 bar
Without Cooling Element



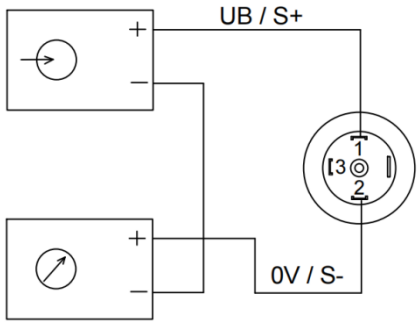
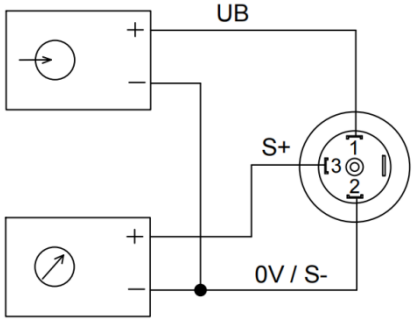
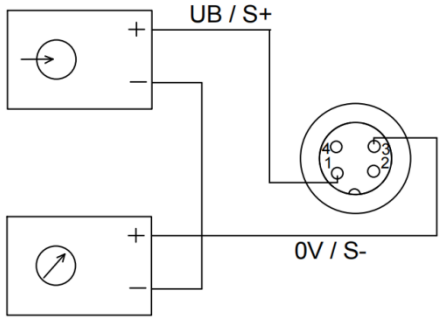
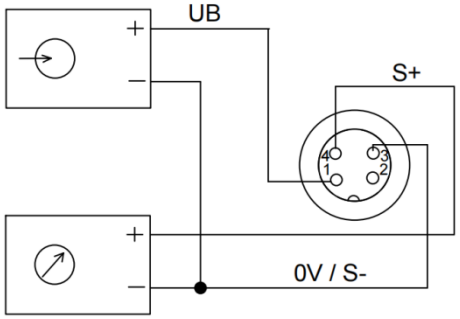
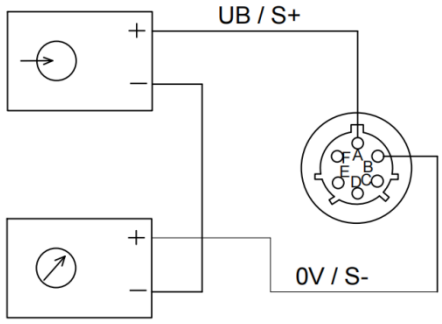
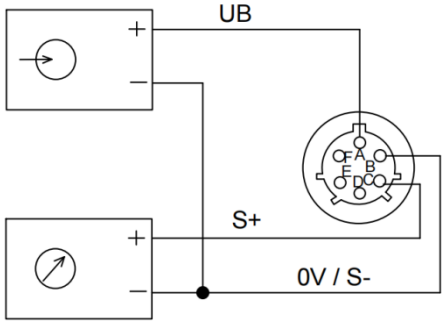
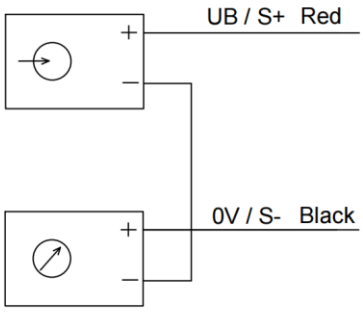
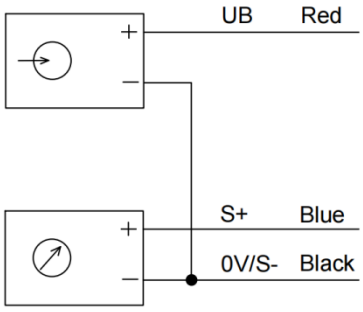
With Cooling Element



With Cooling Element



ELECTRICAL CONNECTION

	2-wire	3-wire
DIN PLUG EN 175301 803-A & C With Junction Box		
Circular Connector M12x1 - 4-Pin		
Bayonet Connector 6-Pin		
Cable Outlet With Free Ends IP67 / IP68		

ORDERING CODE PTF

PTF-**A-BBBB-C-DD-EEE-FF-GGG**

A	Pressure	
	1	Absolute
	2	Relative

BBBB	Pressure Range (bar)							
	1000	0.10	1002	10	Z101	-1...+1	Y250	-0.25...+0.25
	1600	0.16	1602	16	Z161	-1...+1.6	Y500	-0.5...+0.5
	2500	0.25	2502	25	Z251	-1...+2.5	Others on request	
	6000	0.60	4002	40	Z401	-1...+4.0		
	1001	1.0	6002	60	Z601	-1...+6.0		
	1601	1.6	1003	100	Z102	-1...+10		
	2501	2.5	1603	160	Z162	-1...+16		
	4001	4.0	2503	250	Z242	-1...+24		
	6001	6.0	3503	350	Y100	-0.1...+0.1		

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
	Others on request	

EEE	Pressure Connection	
	G2D	G1/2 flush welded diaphragm (2.5 bar...350 bar)
	G1D	G1 flush welded diaphragm (0.1 bar...25 bar)
	G2C	G1/2 flush welded diaphragm with cooling element (2.5 bar...350 bar)
	G1C	G1 flush welded diaphragm with cooling element (0.1 bar...25 bar)
	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
	B6	Bayonet 6-pin
	FH	Field housing
	Others on request	

GGG	Customized	
	111	Standard version
	222	Adjustment screw
	XXX	Customer specific

Modifications reserved