

# PRESSURE TRANSMITTER

## PCE-28.MODBUS

- ✓ Digital communication protocol Modbus RTU
- ✓ Intrinsic safety certificates (ATEX, IECEx)
- ✓ Explosion proof certificates (ATEX, IECEx)
- ✓ Accuracy 0.1%

**PM12 type**  
IP65



**PM12(IP67) type**  
IP67



**PKD type**  
IP67



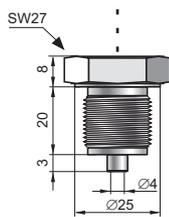
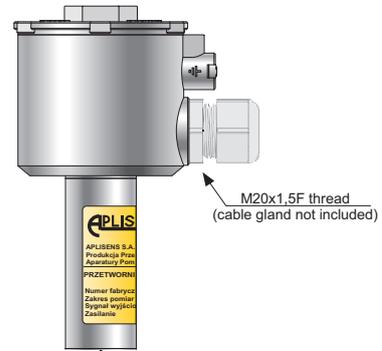
**SG type**  
IP68



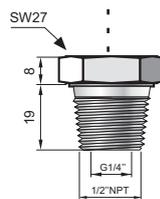
**SGM (1/2"NPTM)**  
IP68  
(IP66 for gauge pressure <80bar)



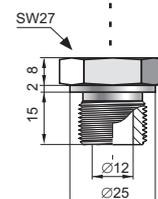
**PZ2**  
IP66



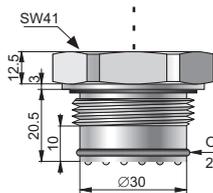
**G1/2 type**  
G1/2",  $\varnothing 4$  hole  
**M type**  
M20x1.5,  $\varnothing 4$  hole



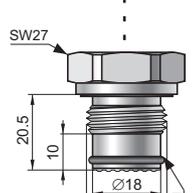
**1/2"NPT type**  
1/2"NPT male +  
internal thread G1/4"



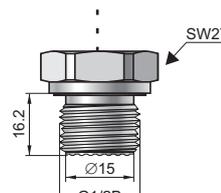
**GP type**  
G1/2",  $\varnothing 12$  hole  
**P type**  
M20x1.5,  $\varnothing 12$  hole



**CG1 type**  
G1" with flush  
diaphragm



**CG1/2 type**  
G1/2" with  
flush diaphragm  
for P ≤ 350bar



**CG1/2B type**  
G1/2" with  
flush diaphragm  
for P > 350bar

## Application

The transmitters PCE-28.Modbus have two operating modes, configuration mode and Modbus mode. The configuration mode is used for changing settings and detailed diagnostics of the transmitter. In this mode you can also activate a current loop compatible with a 4-20 mA current output.

## Installation

The transmitter is not heavy, so it can be installed on the installation without additional mounting bracket. When the pressure of steam or other hot media is measured, a siphon or impulse line should be used. The needle valve placed upstream the transmitter simplifies installation process and enables the zero point adjustment or the transmitter replacement. The transmitter's electrical connections should be performed with twisted cable. The place for the communicator should be assigned before the communicator installation.

## Measuring ranges

No.	Nominal measuring range (FSO)		Overpressure limit (without hysteresis)****	
1	0...1000 bar	(0...100 MPa)	1200 bar	(120 MPa)
2	0...600 bar	(0...60 MPa)	1000 bar	(100 MPa)
3	0...300 bar	(0...30 MPa)	450 bar	(45 MPa)
4	0...160 bar	(0...16 MPa)	450 bar	(45 MPa)
5	0...70 bar	(0...7 MPa)	140 bar	(14 MPa)
6	-1...70 bar	(-0,1...7 MPa)	140 bar	(14 MPa)
7	0...25 bar	(0...2,5 MPa)	50 bar	(5 MPa)
8	-1...25 bar	(-0,1...2,5 MPa)	50 bar	(5 MPa)
9	0...7 bar	(0...0,7 MPa)	14 bar	(1,4 MPa)
10	-1...7 bar	(-100...700 kPa)	14 bar	(1,4 MPa)
11	-1...1,5 bar	(-100...150 kPa)	4 bar	(400 kPa)
12	0...2 bar	(0...200 kPa)	4 bar	(400 kPa)
13	0...1 bar	(0...100 kPa)	2 bar	(200 kPa)
14	-0,5...0,5 bar	(-50...50 kPa)	2 bar	(200 kPa)
15	0...0,25 bar	(0...25 kPa)	1 bar	(100 kPa)
16	-100...100 mbar	(-10...10 kPa)	1 bar	(100 kPa)
17	-15...70 mbar	(-1,5...7 kPa)	0,5 bar	(50 kPa)
18	0...1,3 bar abs	(0...130 kPa abs)	2 bar	(200 kPa)
19	0...7 bar abs	(0...0,7 MPa abs)	14 bar	(1,4 MPa)
20	0...25 bar abs	(0...2,5 MPa abs)	50 bar	(5 MPa)
21	0...70 bar abs	(0...7 MPa abs)	140 bar	(14 MPa)
22	0...300 bar abs	(0...30 MPa abs)	450 bar	(45 MPa)

## Technical data

### Metrological parameters

<b>Accuracy</b>	≤ ±0,1% of calibrated range
<b>Long-term stability</b> (for the basic range)	≤ accuracy for 3 years
<b>Thermal error</b>	< ±0,08% (FSO) / 10°C (0,1% for ranges no. 16, 17) max. ±0,25% (FSO) in the whole compensation range (0,4% for ranges 16, 17)
<b>Thermal compensation range</b>	-25...80°C
<b>Additional electronic damping</b>	0...30 s
<b>Error due to supply voltage changes</b>	0.002% (FSO) / V

### Materials

<b>Wetted parts and diaphragms:</b>	316Lss
<b>Casing:</b>	304ss (optional: 316ss)

### Electrical parameters

<b>Power supply</b>	4...28 V DC Exia version: 4...10 V DC in 4...20mA mode (only non Exia version): 5...28 V DC
<b>Transmission range</b>	1200 m
<b>Output</b>	MODBUS RTU or 4...20 mA
<b>Address space</b>	1...247 devices address
<b>Transmission speed</b>	1200, 2400, 4800, 9600, 19200, 28800, 38400, 57600, 115200 bps
<b>Parity transmission</b>	no parity, odd, even
<b>Frame transmission</b>	10...11bits (1, 2 bit-stop)
<i>* more information about electrical parameters available in user's manual</i>	

## Ordering procedure

Model	Code	Description
PCE-28.Modbus		Smart pressure transmitter
Versions, certificates  more than one option is available	/Exia.....	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> </div> <div>                     II 1/2G Ex ia IIC T4/T5/T6 Ga/Gb                      IECEx Ex ia IIC T4/T5/T6 Ga/Gb                      II 1/2G Ex ia IIC T4/T5/T6 Ga/Gb   II 2D Ex ia IIIC T110°C Db                      I M1 Ex ia I Ma                      Ex ia IIC T4/T5/T6 Ga/Gb                      IECEx Ex ia IIIC T110°C Db                      Ex ia I Ma                 </div> <div style="margin-left: 10px; font-size: 2em;">}</div> <div style="margin-left: 5px;">for PM12, PKD el. connection</div> </div>
	/Exd.....	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> </div> <div>                     II 2G Ex db IIC T6/T5/T4 Gb                      II 2D Ex tb IIIC T85°C/T100°C/T120°C Db                      Ex db IIC T6/T5/T4 Gb                      IECEx Ex tb IIIC T85°C/T100°C/T120°C D                 </div> <div style="margin-left: 10px; font-size: 2em;">}</div> <div style="margin-left: 5px;">for SGM and PZ2 el. connection</div> </div>
	/MR.....	Marine certificate – DNV, BV
	/Tlen.....	For oxygen service (sensor filled with Fluorolube fluid), only G1/2" connection
Nominal measuring range	/0+1000 bar.....	Range 0+1000 bar (0+100 MPa)
	/0+600 bar.....	0+600 bar (0+60 MPa)
	/0+300 bar.....	0+300 bar (0+30 MPa)
	/0+160 bar.....	0+160 bar (0+16 MPa)
	/0+70 bar.....	0+70 bar (0+7 MPa)
	/-1+70 bar.....	-1+70 bar (-0,1+7 MPa)
	/0+25 bar.....	0+25 bar (0+2,5 MPa)
	/-1+25 bar.....	-1+25 bar (-0,1+2,5 MPa)
	/0+7 bar.....	0+7 bar (0+700 kPa)
	/-1+7 bar.....	-1+7 bar (-100+700 kPa)
	/-1+1,5 bar.....	-1+1,5 bar (-100+150 kPa)
	/0+2 bar.....	0+2 bar (0+200 kPa)
	/0+1 bar.....	0+1 bar (0+100 kPa)
	/-0,5+0,5 bar.....	-0,5+0,5 bar (-50+50k Pa)
	/0+0,25 bar.....	0+0,25 bar (0+25 kPa)
	/-100+100 mbar.....	-100+100 mbar (-10+10 kPa)
	/-15+70 mbar.....	-15+70 mbar (-1,5+7 kPa)
/0+1,3 bar ABS.....	0+1,3 bar ABS (0+130 kPa ABS)	
/0+7 bar ABS.....	0+7 bar ABS (0+700 kPa ABS)	
/0+25 bar ABS.....	0+25 ABS (0+2,5 MPa ABS)	
/0+70 bar ABS.....	0+70 bar ABS (0+7 MPa ABS)	
/0+300 bar ABS.....	0+300 bar ABS (0+30 MPa ABS)	
Electrical connection	/PM12.....	304SS housing, IP65 with thread M12x1 (without cable)
	/PM12 (IP67).....	304SS housing, IP67 with thread M12x1 and connector with cable (3 m in standard)
	/PKD.....	304SS housing, IP67, cable electrical connection (3 m in standard)
	/SG.....	316LSS housing, IP68, cable electrical connection (3 m in standard)
	/SGM.....	316LSS housing, IP68 or IP66, cable electrical connection (3 m in standard)
	/PZ2.....	304SS housing, IP66, electrical connection M20x1,5F (only for Exd version)
Process connections	/M.....	Thread M20x1,5 (male) with Ø4 hole, wetted parts SS316L
	/G1/2.....	Thread G1/2" (male) with Ø4 hole, wetted parts SS316L
	/P.....	Thread M20x1,5 (male) with Ø12 hole, wetted parts SS316L
	/GP.....	Thread G1/2" (male) with Ø12 hole, wetted parts SS316L
	/CG1".....	Thread G1" with flush diaphragm, wetted parts SS316L (Pressure limits: min. 0,1bar / max. 70bar)
	/CG1/2".....	Thread G1/2" with flush diaphragm, wetted parts SS316L (Pressure limits: min. 2,5bar / max. 350bar)
	/CG1/2"B.....	Thread G1/2" with flush diaphragm, wetted parts SS316L (Pressure limits: min. 350bar)
/1/2"NPTM.....	Thread 1/2"NPT Male, G1/4" Female, wetted parts SS316L (Pressure limits: 1/2"NPT Male max. 690bar, G1/4" Female max. 1000bar)	
Accessories	/MT.....	Stainless Steel Tag plate mounted on wire
Other specification	/.....	Description of required parameters