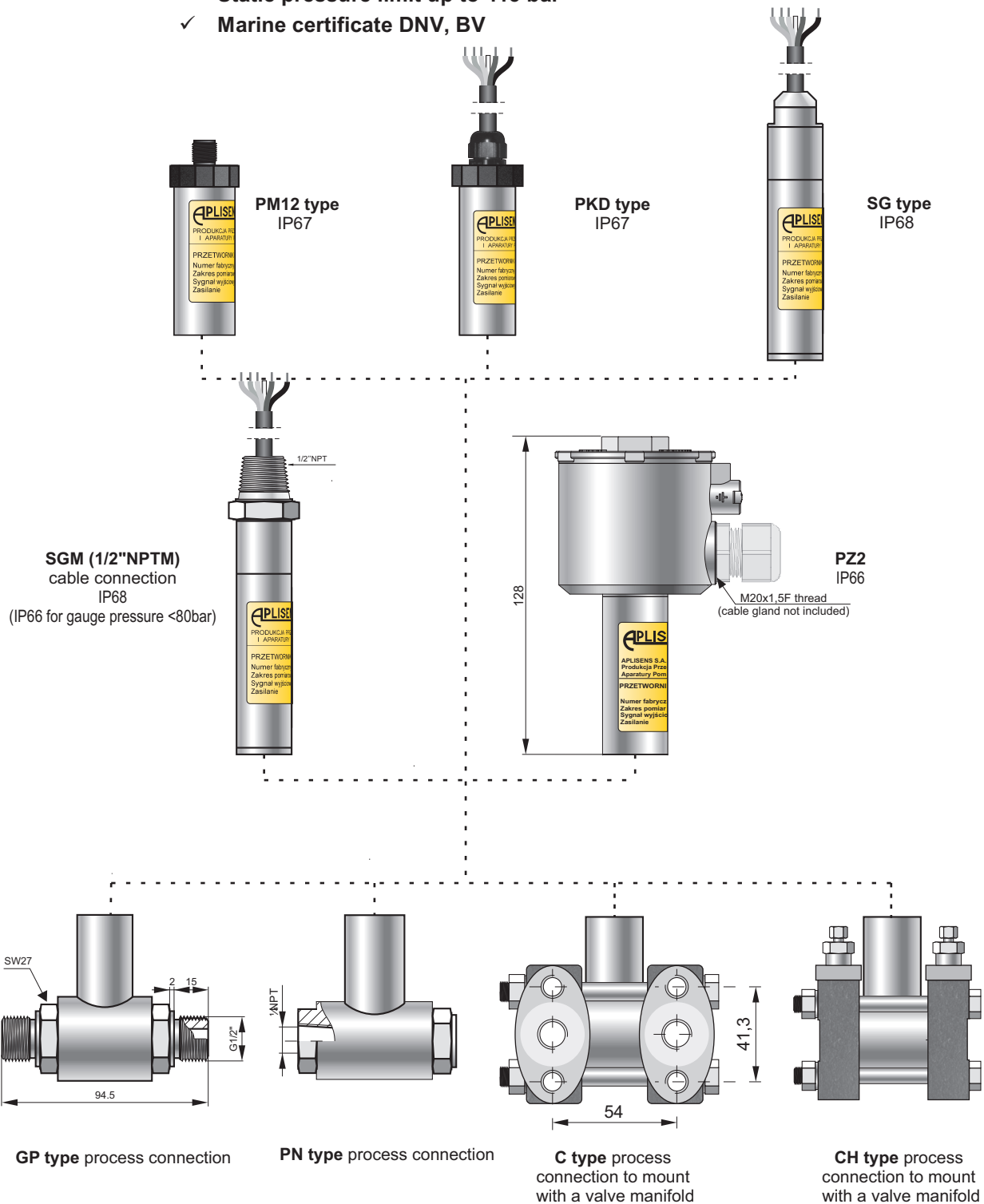


# DIFFERENTIAL PRESSURE TRANSMITTER PRE-28.MODBUS

- ✓ Digital communication protocol Modbus RTU
- ✓ Intrinsic safety certificates (ATEX, IECEx)
- ✓ Explosion proof certificates (ATEX, IECEx)
- ✓ Accuracy 0.1%
- ✓ Static pressure limit up to 413 bar
- ✓ Marine certificate DNV, BV



## Application

The transmitters PRE-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.

## Measuring ranges

No.	Nominal measuring range (FSO)	Minimum set range	Rangeability	Overpressure limit/ static pressure limit
1	0...70 bar (0...7 MPa)	7 bar (700 kPa)	10:1	C-type: 250 / 320 / 413 bar GP-type 40 bar (for range no. 1: 70bar)
2	0...16 bar (0...1,6 MPa)	1,6 bar (160 kPa)	10:1	
3	0...2,5 bar (0...250 kPa)	0,2 bar (20 kPa)	12,5:1	
4	0...1 bar (0...100 kPa)	50 mbar (5k Pa)	20:1	
5	0...0,25 bar (0...25 kPa)	10 mbar (1k Pa)	25:1	
6	-0,5...0,5 bar (-50...50 kPa)	0,1 bar (10 kPa)	10:1	
7	-100...100 mbar (-10...10 kPa)	10 mbar (1 kPa)	20:1	
8	-5...70 mbar (-0,5...7 kPa)	4 mbar (0,4 kPa)	18:1	

## Technical data

### Metrological parameters

<b>Accuracy</b>	$\leq \pm 0,1\%$ of calibrated range
<b>Long-term stability</b> (for the basic range)	$\leq$ accuracy for 3 years
<b>Thermal error</b>	$< \pm 0,08\%$ (FSO) / $10^\circ\text{C}$ max. $\pm 0,3\%$ (FSO) in the whole compensation range
<b>Thermal compensation range</b>	$-25...80^\circ\text{C}$
<b>Zero shift error for static pressure</b>	0,01% (FSO) / 10 bar for ranges no. 3, 4, 5, 6, 7 0,03% (FSO) / 10 bar for range no. 8 0,06% (FSO) / 10 bar for ranges no. 1, 2 <small>Zeroing the transmitter in conditions of static pressure can eliminate this error.</small>
<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																											
PRE-28.Modbus		Smart differential pressure transmitter																											
Versions, certificates	/Exia.....	<p> II 1/2G Ex ia IIC T4/T5/T6 Ga/Gb</p> <p><b>IECEX</b> Ex ia IIC T4/T5/T6 Ga/Gb</p> <p>II 1/2G Ex ia IIC T4/T5/T6 Ga/Gb</p> <p> II 1D Ex ia IIIC T110°C Da</p> <p>I M1 Ex ia I Ma</p> <p>Ex ia IIC T4/T5/T6 Ga/Gb</p> <p><b>IECEX</b> Ex ia IIIC T105°C Da</p> <p>Ex ia I Ma</p>																											
	/Exd.....	<p> II 2G Ex db IIC T6/T5/T4 Gb</p> <p>II 2D Ex tb IIIC T85°C/T100°C/T120°C Db</p> <p>Ex db IIC T6/T5/T4 Gb</p> <p><b>IECEX</b> Ex tb IIIC T85°C/T100°C/T120°C D</p>																											
	/MR.....	Marine certificate – DNV, BV (not available in ALW and ALM version)																											
	/Tlen.....	For oxygen service (sensor filled with Fluorolube fluid)																											
	/320 bar.....	Static pressure 320 bar, only for C process connection																											
more than one option is available	/413 bar.....	Static pressure 413 bar, only for C process connection																											
	/NACE.....	NACE MR-01-75 certificate (process connections: C)																											
Nominal measuring range	/0+70 bar.....	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;"></th> <th style="width: 33%; text-align: center;">Range</th> <th style="width: 33%; text-align: center;">Min. set range</th> </tr> </thead> <tbody> <tr> <td></td> <td style="text-align: center;">0+70 bar (0+7000 kPa)</td> <td style="text-align: center;">7 bar (700 kPa)</td> </tr> <tr> <td></td> <td style="text-align: center;">0+16 bar (0+1600 kPa)</td> <td style="text-align: center;">1,6 bar (160 kPa)</td> </tr> <tr> <td></td> <td style="text-align: center;">0+2,5 bar (0+250 kPa)</td> <td style="text-align: center;">0,2 bar (20 kPa)</td> </tr> <tr> <td></td> <td style="text-align: center;">0+1 bar (0+100 kPa)</td> <td style="text-align: center;">50 mbar (5 kPa)</td> </tr> <tr> <td></td> <td style="text-align: center;">0+0,25 bar (0+25 kPa)</td> <td style="text-align: center;">10 mbar (1 kPa)</td> </tr> <tr> <td></td> <td style="text-align: center;">-0,5+0,5 bar (50+50 kPa)</td> <td style="text-align: center;">0,1 bar (10 kPa)</td> </tr> <tr> <td></td> <td style="text-align: center;">-0,1+0,1 bar (-10+10 kPa)</td> <td style="text-align: center;">10 mbar (1 kPa)</td> </tr> <tr> <td></td> <td style="text-align: center;">-5+70 mbar (0,5+7 kPa)</td> <td style="text-align: center;">4 mbar (0,4 kPa)</td> </tr> </tbody> </table>		Range	Min. set range		0+70 bar (0+7000 kPa)	7 bar (700 kPa)		0+16 bar (0+1600 kPa)	1,6 bar (160 kPa)		0+2,5 bar (0+250 kPa)	0,2 bar (20 kPa)		0+1 bar (0+100 kPa)	50 mbar (5 kPa)		0+0,25 bar (0+25 kPa)	10 mbar (1 kPa)		-0,5+0,5 bar (50+50 kPa)	0,1 bar (10 kPa)		-0,1+0,1 bar (-10+10 kPa)	10 mbar (1 kPa)		-5+70 mbar (0,5+7 kPa)	4 mbar (0,4 kPa)
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*) non-standard ranges available on request	/0+16 bar.....																												
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Casing, electrical connection	/PM12.....	304SS housing, IP67 with thread M12x1 (without cable)																											
	/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 (only for Exd version)																											
Process connections	/C.....	Thread 1/4NPT F on the cover flanges cover flanges material SS316L. Allows mounting with a valve manifold. Process connection of cover flange: M10 (option /C(7/16) - 7/16"UNF acc. to IEC 61518), wetted parts material: SS316L																											
	/CH.....	C-type process connection rotated 90°																											
	/GP.....	Thread G1/2" (male), wetted parts material: SS316L																											
	/PN.....	Thread 1/4"NPT (female), wetted parts material: SS316L																											
	/code of diaphragm seal....	Diaphragm seal (see chapter of diaphragm seals) mounted on Hi side of transmitter, Lo side 1/4NPT Female																											
Gasket (refers only to C, CH process connection)	(without marking).....	FPM Viton																											
	/NBR.....	NBR																											
	/PTFE.....	PTFE																											
Accessories	/C-2".....	Mounting bracket for 2" pipe (to C process conn.), mat. zincd steel																											
	/C-2"(SS).....	Mounting bracket for 2" pipe (to C process conn.), mat. ss304																											
	/C-2"(SS316).....	Mounting bracket for 2" pipe (to C process conn.), mat. ss316																											
	/C-2"B.....	Mounting bracket for 2" pipe (to C(7/16) process conn.), mat. zincd steel																											
	/C-2"B(SS).....	Mounting bracket for 2" pipe (to C(7/16) process conn.), mat. ss304																											
	/C-2"B(SS316).....	Mounting bracket for 2" pipe (to C(7/16) process conn.), mat. ss316																											
	/FI25.....	Mounting bracket for 1" pipe (to P process conn.), mat. Stainless Steel																											
/RedSpaw GP.....	Connector to weld impulse pipes dia. 12 and 14 mm, material 15HM(SO) or SS316(S). Only process connection GP type																												
/RedSpaw C.....	Connector to weld impulse pipes dia. 12 and 14 mm, material 15HM. Only process connection C type.																												
/Red d/P 1/2".....	Adapter for differential pressure transmitters with C type process connection, output thread 1/2NPT F. Material SS316L																												
Other specification	/.....	Description of required parameters																											