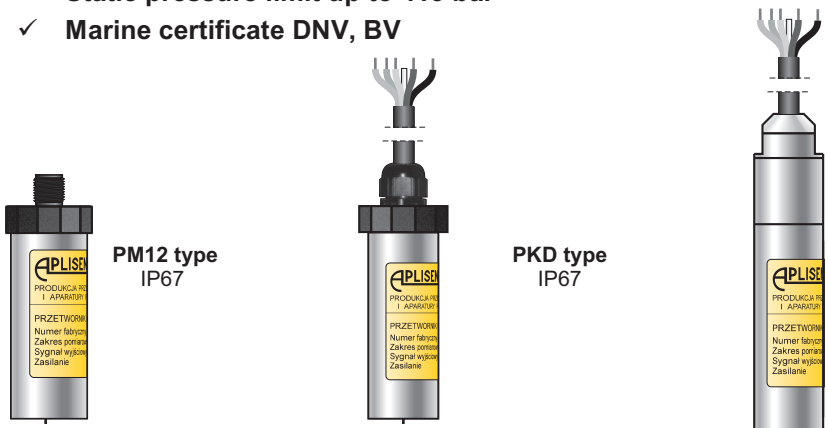
DIFFERENTIAL PRESSURE TRANSMITTER PRE-28.MODBUS

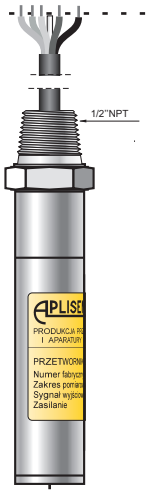
- ✓ **Digital communication protocol Modbus RTU**
- ✓ **Intrinsic safety certificates (ATEX, IECEx)**
- ✓ **Explosion proof certificates (ATEX, IECEx)**
- ✓ **Accuracy 0.1%**
- ✓ **Static pressure limit up to 413 bar**
- ✓ **Marine certificate DNV, BV**



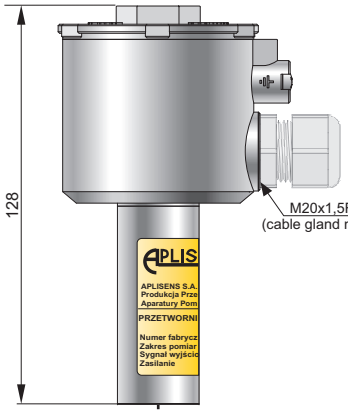
PM12 type
IP67

PKD type
IP67

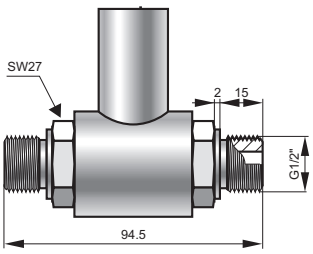
SG type
IP68



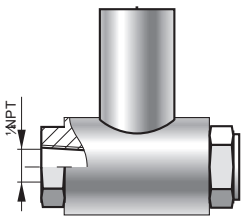
SGM (1/2"NPTM)
cable connection
IP68
(IP66 for gauge pressure <80bar)



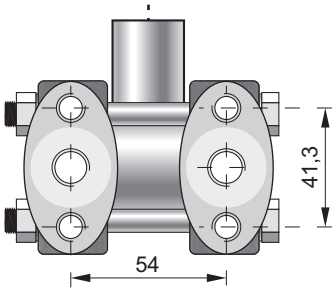
PZ2
IP66



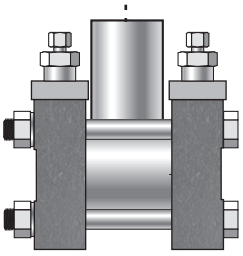
GP type process connection



PN type process connection



C type process connection to mount with a valve manifold



CH type process connection to mount with a valve manifold

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

Accuracy ≤ ±0,1% of calibrated range

Long-term stability (for the basic range) ≤ accuracy for 3 years

Thermal error < ±0,08% (FSO) / 10°C
max. ±0,3% (FSO) in the whole compensation range

Thermal compensation range -25...80°C

Zero shift error for static pressure
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
Zeroing the transmitter in conditions of static pressure can eliminate this error.

Error due to supply voltage changes 0.002% (FSO) / V

Materials

Wetted parts and diaphragms: 316Lss
Casing: 304ss (optional: 316ss)

Electrical parameters

Power supply 4…28 V DC
Exia version: 4…10 V DC
in 4…20mA mode (only non Exia version): 5..28 V DC

Transmission range 1200 m

Output MODBUS RTU or 4…20 mA

Address space 1…247 devices address

Transmission speed 1200, 2400, 4800, 9600, 19200, 28800, 38400, 57600, 115200 bps

Parity transmission no parity, odd, even

Frame transmission 10…11bits (1, 2 bit-stop)

** more information about electrical parameters available in user's manual*

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Ordering procedure

Model	Code	Description
PRE-28.Modbus		Smart differential pressure transmitter
Versions, certificates	/Exia	Ex II 1/2G Ex ia IIC T4/T5/T6 Ga/Gb IECEx Ex ia IIC T4/T5/T6 Ga/Gb — for PM12, PKD el. connection
	/Exd	Ex II 1/2G Ex ia IIC T4/T5/T6 Ga/Gb II 1D Ex ia IIIC T110°C Da I M1 Ex ia I Ma IECEx Ex ia IIC T4/T5/T6 Ga/Gb Ex ia IIIC T105°C Da Ex ia I Ma — for SG el. connection Ex II 2G Ex db IIC T6/T5/T4 Gb II 2D Ex tb IIIC T85°C/T100°C/T120°C Db IECEx Ex db IIC T6/T5/T4 Gb Ex tb IIIC T85°C/T100°C/T120°C D — for SGM and PZ2 el. connection
	/MR	Marine certificate – DNV, BV (not available in ALW and ALM version)
	/TIen	For oxygen service (sensor filled with Fluorolube fluid)
more than one option is available	/320 bar	Static pressure 320 bar, only for C process connection
	/413 bar	Static pressure 413 bar, only for C process connection
	/NACE	NACE MR-01-75 certificate (process connections: C)

Nominal measuring range	Range	Min. set range
/0÷70 bar	0÷70 bar (0÷7000 kPa)	7 bar (700 kPa)
/0÷16 bar	0÷16 bar (0÷1600 kPa)	1,6 bar (160 kPa)
/0÷2,5 bar	0÷2,5 bar (0÷250 kP)	0,2 bar (20 kPa)
/0÷1 bar	0÷1 bar (0÷100 kPa)	50 mbar (5 kPa)
/0÷0,25 bar	0÷0,25 bar (0÷25 kPa)	10 mbar (1 kPa)
/-0,5÷0,5 bar	-0,5÷0,5 bar (50÷50 kPa)	0,1 bar (10 kPa)
/-0,1÷0,1 bar	-0,1÷0,1 bar (-10÷10 kPa)	10 mbar (1 kPa)
/-5÷70 mbar	-5÷70 mbar (0,5÷7 kPa)	4 mbar (0,4 kPa)

*) non-standard ranges available on request

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. zinced 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. zinced 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