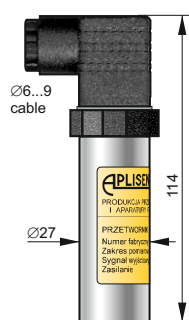


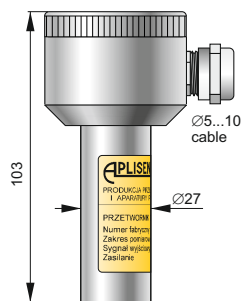
SMART DIFFERENTIAL PRESSURE TRANSMITTER PRE-28.SMART



- ✓ 4...20 mA output signal + HART protocol
- ✓ Intrinsic safety certificate (ATEX, IECEx)
- ✓ Explosion proof certificate (ATEX, IECEx)
- ✓ Static pressure limit up to 413 bar
- ✓ Accuracy 0,1%
- ✓ Wetted parts material 316L
- ✓ Marine certificate DNV, BV



PD type
IP65



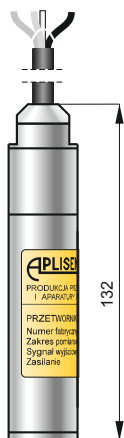
PZ type
PZ316 type
IP66



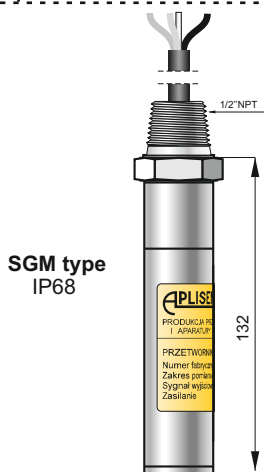
PM12 type
IP67



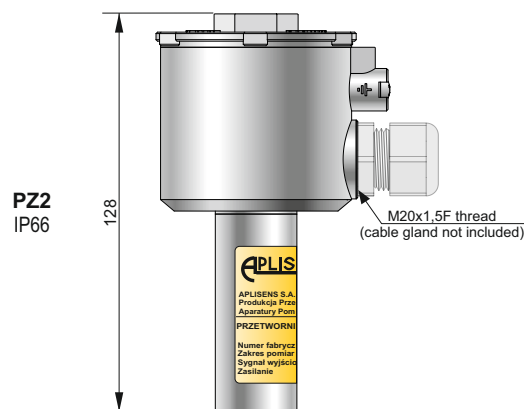
PM12S type
IP65



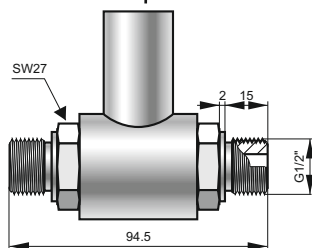
SG type
IP68



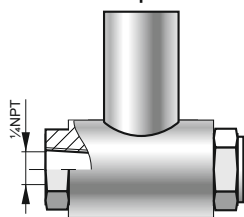
SGM type
IP68



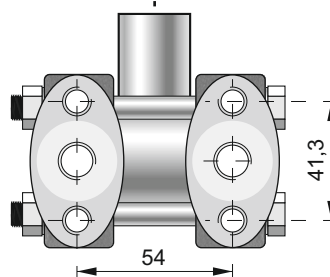
PZ2
IP66



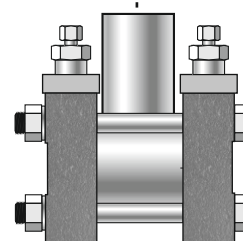
GP type process connection



PN type process connection



C type process
connection to mount
with a valve manifold



CH type process
connection to mount
with a valve manifold

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	$\leq \pm 0,1\%$ of calibrated range
Long-term stability (for the basic range)	$\leq$ accuracy for 3 years
Thermal error	$< \pm 0,08\%$ (FSO) / 10°C max. $\pm 0,3\%$ (FSO) in the whole compensation range
Thermal compensation range	$-25...80^\circ\text{C}$
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.
Additional electronic damping	0...30 s
Error due to supply voltage changes	0,002% (FSO) / V

Electrical parameters

Power supply	7,5...55 VDC (Ex ia 7,5...30 VDC)
Output signal	4...20 mA + HART
Load resistance	$R[\Omega] \leq \frac{U_{\text{sup}}[\text{V}] - 7,5\text{V}}{0,0225\text{A}}$
Resistance required for communication	min. 240 Ω

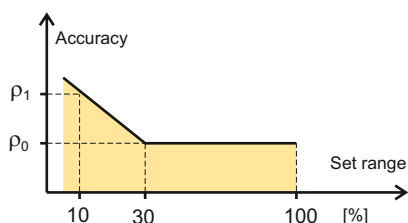
Materials

Wetted parts	SS316L
Diaphragms	SS316L, Au
Casing:	SS304 Optional: SS316

Operating conditions

Operating temperature range (ambient temp.)	$-25...85^\circ\text{C}$ Exia version $-25...80^\circ\text{C}$
Medium temperature range	$-25...120^\circ\text{C}$ over 120°C – measurement with use an impulse line or diaphragm seals up to 100°C – version for 413bar static pressure CAUTION: the medium must not be allowed to freeze in the impulse line or close to the process connection of the transmitter

Accuracy depending on the set range



ρ_0 – error for range 30...100% FSO
 ρ_1 – error for range 10% FSO
 $\rho_1 = 2 \times \rho_0$
 Numerical error values are given in the technical data under metrological parameters

Ordering procedure

Model	Code		Description
PRE-28.SMART			Smart differential pressure transmitter
Versions, certificates	/Exia.....	II 1/2G Ex ia IIC T4/T5/T6 Ga/Gb II 1D Ex ia IIIC T105°C Da I M1 Ex ia I Ma For PM12, PKD version: II 1/2G Ex ia IIC T4/T5/T6 Ga/Gb IECEX Ex ia IIC T4/T5/T6 Ga/Gb	
	/Exd.....	II 2G Ex db IIC T6/T5/T4 Gb II 2D Ex tb IIIC T85°C/T100°C/T120°C Db I M2 Ex db I Mb (only for PZ2 casing) Ex db IIC T6/T5/T4 Gb IECEX Ex tb IIIC T85°C/T100°C/T120°C Db Ex db I Mb (only for PZ2 casing)	
more than one option is available	/MR.....	Marine certificate – DNV, BV	
	/Tlen.....	For oxygen service (sensor filled with Fluorolube fluid)	
	/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	/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 kPa)	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)
Measuring set range /...+... [required units]		Calibrated range in relation to 4mA and 20mA output	
Casing, electrical connection	/PD.....	Housing IP65 with DIN EN 175301-803 connector	
	/PZ.....	304SS housing, IP66, packing gland M20x1,5	
	/PZ316.....	316SS housing, IP66, packing gland M20x1,5	
	/PM12.....	304SS housing, IP67 with thread M12x1 and connector with cable	
	/PM12S.....	304SS housing, IP67 with thread M12x1 and connector with cable, stainless steel version	
	/SG.....	316LSS housing, IP68, cable electrical connection (3 m of cable in standard)	
	/SGM.....	316LSS housing, IP68, cable electrical connection (3 m of cable in standard)	
	/FL (1/2"NPTM).....	316LSS housing, flying leads (2 m of flying leads in standard) (only for Exd version)	
Process connections	/PZ2.....	304SS housing, IP66, electrical connection M20x1,5F (only for Exd version)	
	/C.....	Thread 1/4NPT F on the cover flanges, cover flanges material SS316L, diaphragm 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	
	/C(316/Au).....	Thread 1/4NPT F on the cover flanges, cover flanges material SS316L, diaphragm material Au. Allows mounting with a valve manifold. Process connection of cover flange: M10 (option /C(7/16) - 7/16"UNF acc. to IEC 61518)	
	/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	
Gasket (refers only to C, CH process connection)	/code of diaphragm seal....	Diaphragm seal (see chapter of diaphragm seals) mounted on Hi side of transmitter, Lo side 1/4NPT Female	
	(without marking).....	FPM Viton	
	/NBR.....	NBR	
Accessories	/PTFE.....	PTFE (max. static pressure 250bar)	
	/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.	
Other specification	/Red d/P 1/2".....	Adapter for differential pressure transmitters with C type process connection, output thread 1/2NPT F. Material SS316L	
	/.....	Description of required parameters	