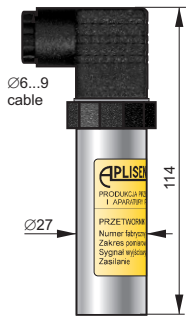


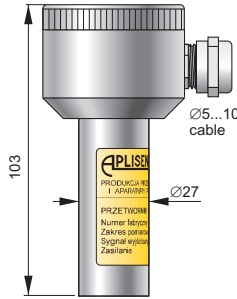
SMART DIFFERENTIAL PRESSURE TRANSMITTER PRE-28.SMART



- ✓ 4...20 mA output signal + HART protocol
- ✓ Intrinsic safety certificate (ATEX, IECEx)
- ✓ Static pressure limit up to 420 bar
- ✓ Accuracy 0,1%
- ✓ Gold plated diaphragms (Au)
- ✓ Wetted parts material Hastelloy C276
- ✓ Marine certificate DNV, BV



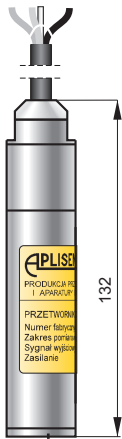
PD type
IP65



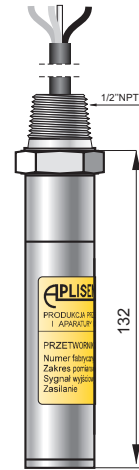
PZ type
PZ316 type
IP66



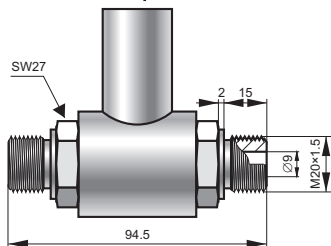
PM12 type
IP67



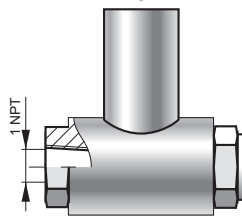
SG type
IP68



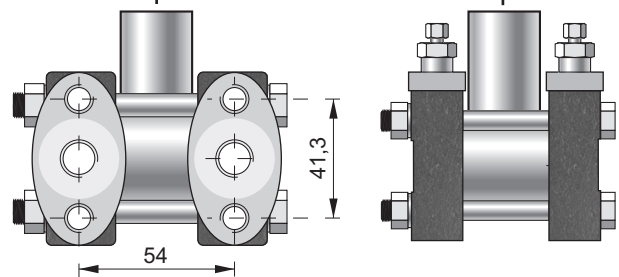
SGM type
IP68



P type process connection



PN type process connection



C and CR 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	exception: 70 bar for P type
2	0...16 bar (0...1,6 MPa)	1,6 bar (160 kPa)	10:1	C-type: 250 / 320 / 420 bar (250 bar for PED version) P-type 40 bar for
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	
9	-25...25 mbar (-2,5...2,5 kPa)	2 mbar (0,2 kPa)	25:1	C-type: 20 bar (10 bar for PED version)

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, 9 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.	
Response time	16..230ms (programmable)
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...28 VDC)
Output signal	4...20 mA, two wire transmission
Load resistance	$R[\Omega] \leq \frac{U_{sup}[V] - 7,5V}{0,0225A}$
Resistance required for communication	min. 240 Ω

Materials

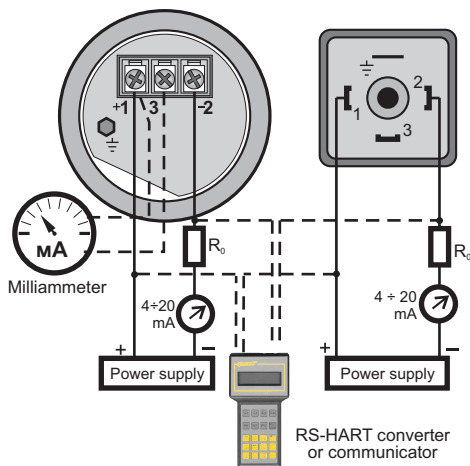
Wetted parts	type P, PN process connection: SS316L type P(H) process connection: SS316L or Hastelloy C276 type C process connection: SS316L
Diaphragms	SS316L, Hastelloy C 276, Au
Casing:	SS304 Optional: SS316

Operating conditions

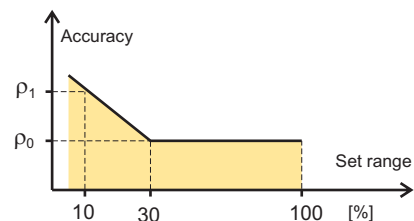
Operating temperature range (ambient temp.)	-25...85°C Exi a version -25...80°C
Medium temperature range	-25...120°C over 120°C – measurement with use an impulse line or diaphragm seals up to 100°C – PED version

CAUTION: the medium must not be allowed to freeze in the impulse line or close to the process connection of the transmitter

Electrical diagram



Accuracy depending on the set range



p_0 – error for nominal measuring range (0...100% FSO)
 p_1 – error for range 0...10% FSO
 $p_1 = 2 \times p_0$

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 more than one option more than one option is available	/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
	/Exia (IECEX).....	Ex ia I Ma IECEX Ex ia IIC T4/T5/T6 Ga/Gb Ex ia IIIC T105°C Da
	/MR.....	Marine certificate – DNV, BV
	/Tlen.....	For oxygen service (sensor filled with Fluorolube fluid), only M and G1/2 connection
	/320 bar.....	Static pressure 320 bar, only for C process connection
	/420 bar.....	Static pressure 420 bar, only for C process connection
Nominal measuring range *) non-standard ranges available on request	/0+70 bar.....	Range 0+70 bar (0+7000 kPa)
	/0+16 bar.....	0+16 bar (0+1600 kPa)
	/0+2,5 bar.....	0+2,5 bar (0+250 kPa)
	/0+1 bar.....	0+1 bar (0+100 kPa)
	/0+0,25 bar.....	0+0,25 bar (0+25 kPa)
	/-0,5+0,5 bar.....	-0,5+0,5 bar (50+50 kPa)
	/-0,1+0,1 bar.....	-0,1+0,1 bar (-10+10 kPa)
	/-5+70mabr.....	-5+70 mbar (0,5+7 kPa)
	/-25+25mbar.....	-25+25 mbar (-2,5+2,5 kPa)
Measuring set range	/...+... [required units]	Calibrated range in relation to 4mA and 20mA output
Casing, electrical connection	/PD.....	Housing IP65 with DIN43650 connector
	/PZ.....	304SS housing, IP66, packing gland M20x1,5
	/PZ316.....	316SS housing, IP66, packing gland M20x1,5
	/PM12.....	Housing IP67 with thread M12x1 and connector
	/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)
Process connections	/C.....	Thread 1/4NPT F on the cover flanges cover flanges material SS316. Allows mounting with a valve manifold. Process connection of cover flange: M10 (option /C(7/16) - 7/16"UNF acc. to IEC 61518)
	/CR.....	C-type process connection rotated 90°
	/P.....	Thread M20x1,5 (male)
	/PN.....	Thread 1/4"NPT (female)
	/code of diaphragm seal.....	Diaphragm seal (see chapter of diaphragm seals) mounted on Hi side of transmitter, Lo side 1/4NPT Female
Material of diaphragms (refers only to C, CR, P, PN process connection)	(without marking).....	Diaphragms material SS316L
	/H).....	Diaphragms material Hastelloy C276
	/Au).....	(/P and /PN – all wetted parts in Hastelloy C276 on request) Gold plated diaphragms
Gasket (refers only to C, CR process connection)	(without marking).....	FPM Viton
	/NBR.....	NBR (for oxygen service)
	/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. Stainless Steel
	/FI25.....	Mounting bracket for 2" pipe (to P process conn.), mat. Stainless Steel
	/RedSpaw P.....	Connector to weld impulse pipes dia. 12 and 14 mm, material 15HM(SO) or SS316(S). Only process connection P 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