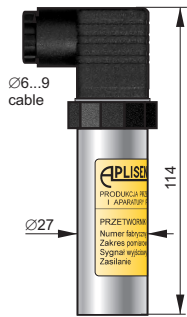


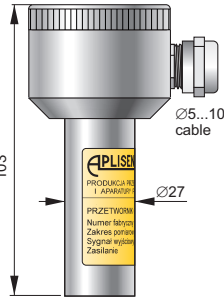
# SMART DIFFERENTIAL PRESSURE TRANSMITTER PRE-28.SMART



- ✓ 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



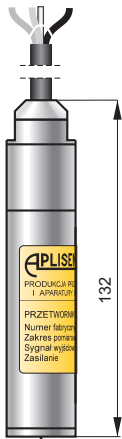
**PZ type**  
**PZ316 type**  
IP66



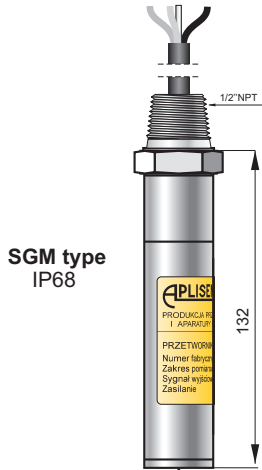
**PM12 type**  
IP67



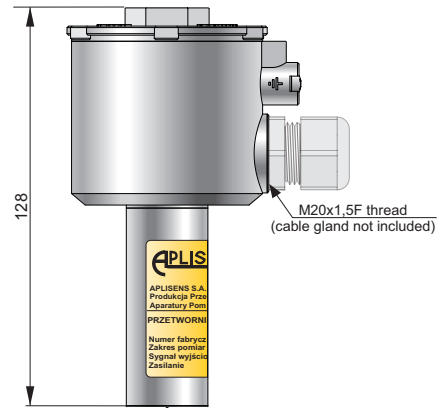
**PM12S type**  
IP65



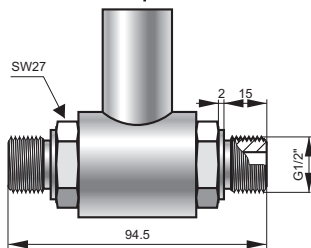
**SG type**  
IP68



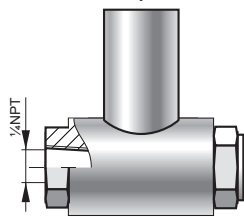
**SGM type**  
IP68



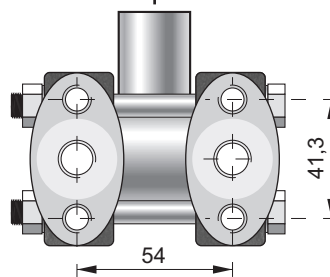
**PZ2**  
IP66



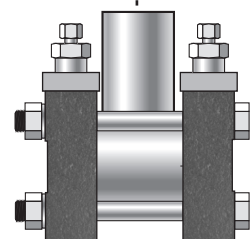
**GP type** process connection



**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

<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°C max. $\pm 0,3\%$ (FSO) in the whole compensation range
<b>Thermal compensation range</b>	-25...80°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 Zeroing the transmitter in conditions of static pressure can eliminate this error.
<b>Additional electronic damping</b>	0...30 s
<b>Error due to supply voltage changes</b>	0,002% (FSO) / V

#### Electrical parameters

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

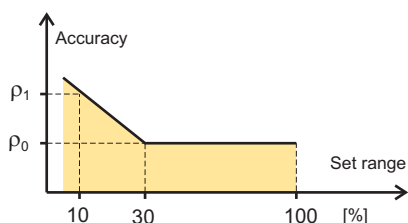
#### Materials

<b>Wetted parts</b>	SS316L
<b>Diaphragms</b>	SS316L, Au
<b>Casing:</b>	SS304 Optional: SS316

#### Operating conditions

<b>Operating temperature range (ambient temp.)</b>	-25...85°C Exia version -25...80°C
<b>Medium temperature range</b>	-25...120°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



$\rho_0$  – error for range 30...100% FSO  
 $\rho_1$  – 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.....	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>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</p> <p><b>IECEX</b> Ex ia IIC T4/T5/T6 Ga/Gb Ex ia IIIC T105°C Da Ex ia I Ma</p> </div> <div style="width: 45%;"> <p>For PM12, PKD version: II 1/2G Ex ia IIC T4/T5/T6 Ga/Gb <b>IECEX</b> Ex ia IIC T4/T5/T6 Ga/Gb</p> </div> </div>
	/Exd.....	<p>II 2G Ex db IIC T6/T5/T4 Gb (only SGM or FL casing) II 2D Ex tb IIIC T85°C/T100°C/T120°C Db (only SGM or FL casing) I M2 Ex db I Mb (only for PZ2 casing) Ex db IIC T6/T5/T4 Gb (only SGM or FL casing) Ex tb IIIC T85°C/T100°C/T120°C D (only SGM or FL casing) Ex db I Mb (only for PZ2 casing)</p> <p><b>IECEX</b></p>
more than one option is available	/MR.....	Marine certificate – DNV, BV
	/Tlen.....	For oxygen service (sensor filled with Fluorolube fluid)
Nominal measuring range	/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)
	/0+70 bar.....	Range 0+70 bar (0+7000 kPa)
	/0+16 bar.....	Min. set range 7 bar (700 kPa)
*) non-standard ranges available on request	/0+2,5 bar.....	0+16 bar (0+1600 kPa)
	/0+1 bar.....	0+2,5 bar (0+250 kPa)
	/0+0,25 bar.....	0+1 bar (0+100 kPa)
	/-0,5+0,5 bar.....	0+0,25 bar (0+25 kPa)
	/-0,1+0,1 bar.....	-0,5+0,5 bar (50+50 kPa)
/-5+70 mbar.....	-0,1+0,1 bar (-10+10 kPa)	
		-5+70 mbar (0,5+7 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)
Process connections	/FL (1/2"NPTM).....	316LSS housing, flying leads (2 m of flying leads in standard) (only for Exd version)
	/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°
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