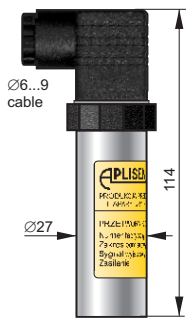


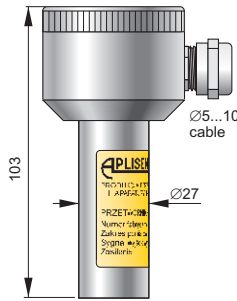
SMART DIFFERENTIAL PRESSURE TRANSMITTER PRE-28.SMART



- ✓ 4...20 mA output signal + HART protocol
- ✓ Intrinsic safety certificate (ATEX, IECEx)
- ✓ Static pressure limit up to 413 bar
- ✓ Accuracy 0,1%
- ✓ Gold plated diaphragms (Au)
- ✓ Wetted parts material 316L/Hastelloy C276
- ✓ Marine certificate DNV, BV



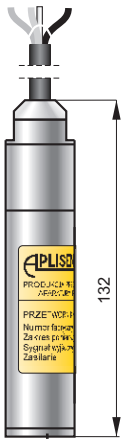
PD type
IP65



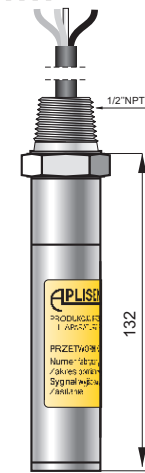
PZ type
PZ316 type
IP66



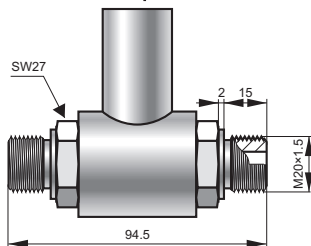
PM12 type
IP67



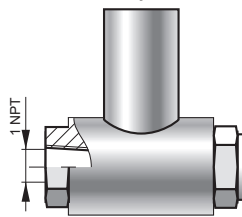
SG type
IP68



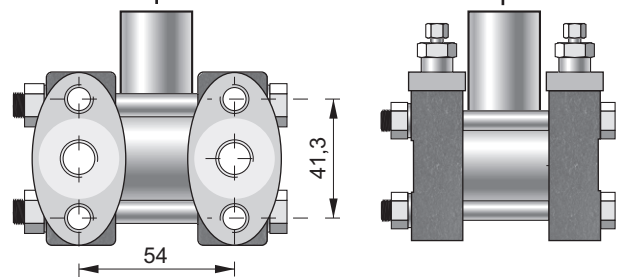
SGM type
IP68



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 / 413 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 | $\leq \pm 0,1\%$ 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°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 |

Materials

| | |
|---------------------|-----------------------------|
| Wetted parts | SS316L, Hastelloy C276 |
| Diaphragms | SS316L, Hastelloy C 276, Au |
| Casing: | SS304 Optional: SS316 |

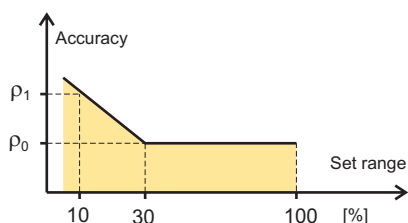
Operating conditions

| | |
|--|--|
| Operating temperature range (ambient temp.) | -25...85°C Exia 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 – 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 |

Electrical parameters

| | |
|--|--|
| Power supply | 7,5...55 VDC (Ex ia 7,5...28 VDC) |
| Output signal | 4...20 mA + HART |
| Load resistance | $R[\Omega] \leq \frac{U_{sup}[V] - 7,5V}{0,0225A}$ |
| Resistance required for communication | min. 240 Ω |

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 more than one option is available | /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>IECEX 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: Ex II 1/2G Ex ia IIC T4/T5/T6 Ga/Gb IECEX Ex ia IIC T4/T5/T6 Ga/Gb</p> <p>For ALW, ALM version: Ex II 1/2G Ex ia IIC T4 Ga/Gb II 1D Ex ia IIIC T105°C Da IECEX Ex ia IIC T4 Ga/Gb Ex ia IIIC T105°C Da</p> </div> </div> |
| | /Exia (IECEX)..... | |
| | /MR..... | |
| | /Tlen..... | |
| | /320 bar..... | |
| /413 bar..... | <p>Marine certificate – DNV, BV (not available in ALW and ALM version)</p> <p>For oxygen service (sensor filled with Fluorolube fluid)</p> <p>Static pressure 320 bar, only for C process connection</p> <p>Static pressure 413 bar, only for C process connection</p> | |
| Nominal measuring range *) non-standard ranges available on request | | Range |
| | /0+70 bar..... | 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+70mbar..... | -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 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 (3 m in standard) |
| | /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) |
| | /ALW *..... | Aluminum housing, local display, IP65, DIN43650 connector |
| Process connections | /ALM *..... | Aluminum housing, local display, IP65, DIN43650 connector |
| | /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) |
| Material of diaphragms (refers only to C, CR, P, PN 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)..... | Diaphragms material SS316L |
| | /H)..... | Diaphragms material Hastelloy C276 |
| Gasket (refers only to C, CR process connection) | (all wetted parts in Hastelloy C276 on request) | Gold plated diaphragms |
| | /Au)..... | |
| | (without marking)..... | FPM Viton |
| Accessories | /NBR..... | NBR |
| | /PTFE..... | PTFE |
| | /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 |
| | /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. Stainless Steel |
| | /F125..... | Mounting bracket for 1" 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 |

* - pushbuttons allows to change display settings only