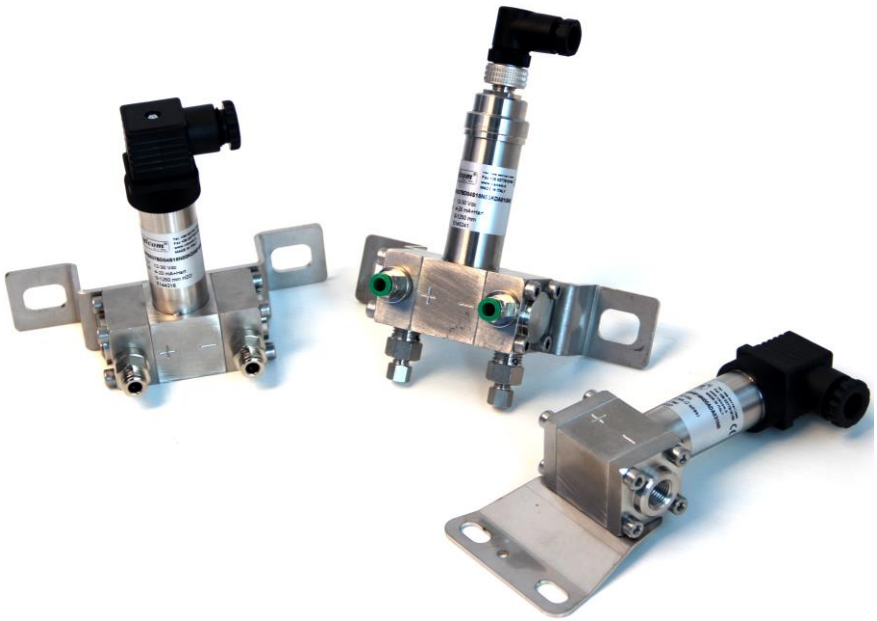
27D SERIES



27D series includes transmitters for differential pressures and level measurement.
All 27D series versions have analogue electronics, small sizes (typical housing Ø 27 mm) and fixed ranges (when possible to adjust zero and span, this can be done within ± 10 %).

The transmitters are, as standard, installed on and supported by the process pipe or flanged on mating flange. For remote sensor version and when remote seal and capillary are supplied, a stainless steel bracket for wall mounting or for stand pipe 2" is also supplied.

APPLICATION FIELDS

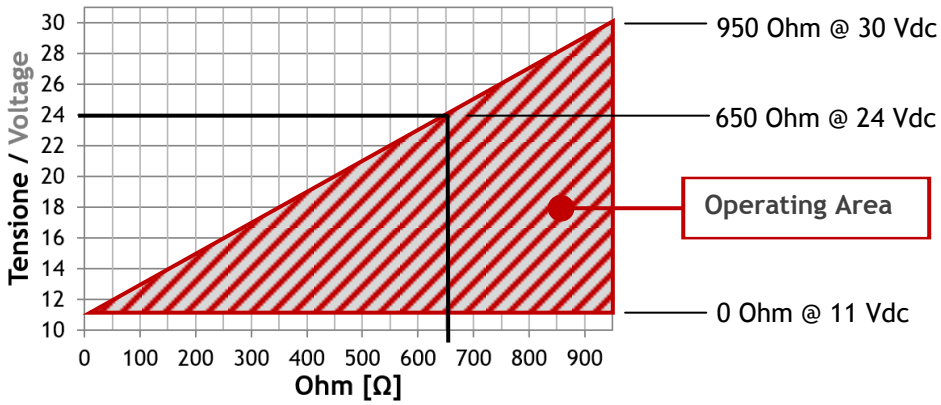
27D Series transmitters are used in industrial applications to measure absolute, relative and differential pressures and levels and also for flow rate.

Fluids are liquids, gases and vapors and instrument's body has been projected to sustain static pressures up to 75 bar.
Our technical office is at your disposal for special applications.

TECHNICAL FEATURES

Electrical parameters

Supply:	2 wires: 12 ÷ 30 Vdc 3 wires: 16 ÷ 26 Vdc
Output signal:	2 wires: 4 ÷ 20 mA 3 wires: 0 ÷ 10 Vdc (min 30 mVdc) 0 ÷ 5 Vdc (min 30 mVdc)
Current consumption:	2 wires: 4 ÷ 20 mA 3 wires: < 5mA @10 KΩ carico \ load
Load resistance:	2 wires: $R_\Omega = (U_{supply} - 12\ V) / 0.02\ A$ 3 wires: $R_\Omega \geq 10$ KΩ
Max load:	As per chart



Measurement performance

Total accuracy (*):	< ± 0.25 % FS
Zero offset:	< ± 1 % FS
Temperature zero drift:	< ± 0.025 % FS / °C (-10 ÷ 60°C)
Span thermal drift:	< ± 0.02 % FS / °C
Long term stability:	< ± 0.3 % FS / year
Response time:	5 ms

Notes

(*) Including hysteresis, non-linearity and non-repeatability (IEC 60770) Accuracy and drifts are given for instruments with integral sensor and diaphragm; they may vary according to sensor type and diameter, thickness and material of the diaphragm. Zero and Span factory setting < ± 0.6 % FS for not standard versions. Calibrations below 0.1 bar are to be considered not standard. Calibration available with different measuring units.

ENVIRONMENTAL FEATURES

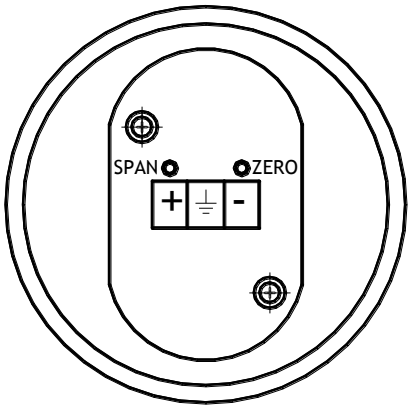
Environmental Conditions	
Ambient temperature:	-40 ÷ +85°C ATEX T6, T85°C: -40°C ≤ Tamb ≤ 55°C ATEX T5, T100°C: -40°C ≤ Tamb ≤ 70°C
Process temperature:	-40 ÷ +85°C Capillary: -40 ÷ 280°C
Storage temperature:	-40 ÷ +90°C
Ingress protection degree:	Ø 27 and Ø 50 Housing: IP65 Ø 35 Housing: IP67
Vibration Test:	in accordance with IEC 60068-2-6
Shock Test:	In accordance with MIL-STD-202F Method 213B
Relative Humidity:	< 98% RH not condensing

APPROVALS

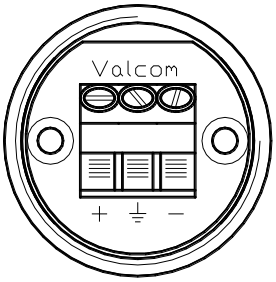
Type approvals		
Directive 2014/34/EU (ATEX)	 II 1G Ex ia IIC T6, T5 Ga and II 1D Ex ia IIIC T85°C, T100°C Da or  II 1G Ex ia IIC T6, T5 Ga	
Directive 2014/68/EU (PED)	Up to Category II, for fluids in Group 1	
Directive 2014/30/EU (EMC)	Adequate level of electromagnetic compatibility	
Functional Safety	SIL2 SFF = 75.00 %	PFH [Hours^{-1}] = $9.8059 \cdot 10^{-8}$ DC = λ_{DD} / (λ_{DD} + λ_{DU}) = 82.5 %
Marine type approval	In compliance with applicable requirements of DNV GL type approval system	

ELECTRICAL WIRING

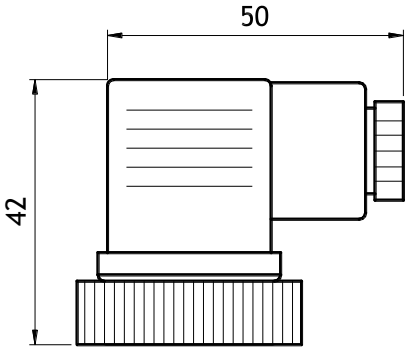
Transmitters are protected against reverse polarity. The recommended wiring cable is a twisted and screened signal cable, with wires of minimum section area of 0.2 mm^2 (AWG24) and shielding > 80 %.



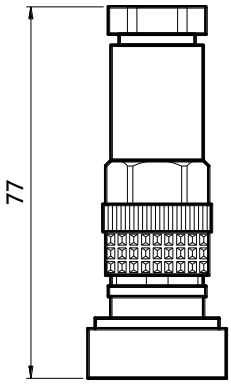
Code 10
For Ø50 and 55 housing IP65/IP67



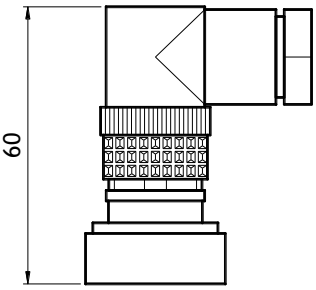
Code 10
For Ø35 housing IP67



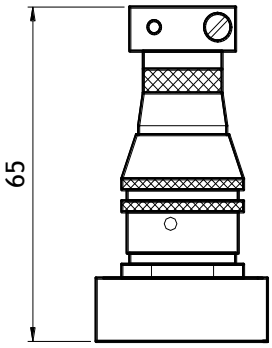
Code 04
DIN 175301 PG9/PG13 3+1 poles IP65



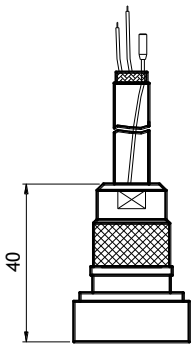
Code 01
Plug connector M12 IP67
straight



Code 02
Plug connector M12 IP67
90° angle

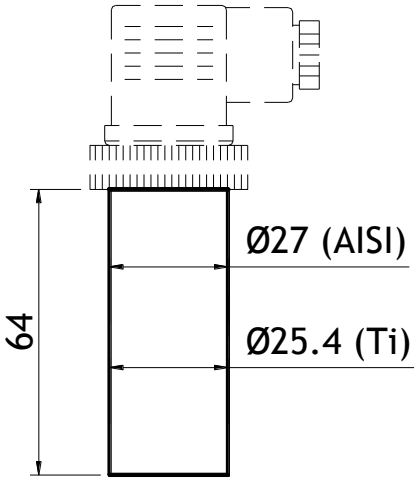


Code 08
MIL connector



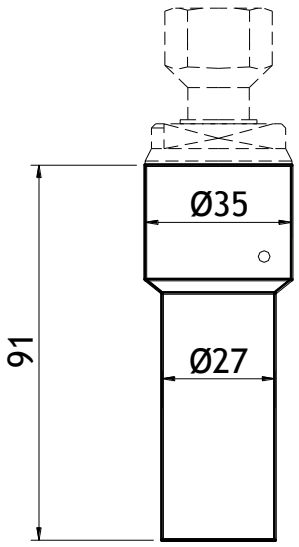
Code 16
AISI 316 Cable gland for
output standard sealing IP67

HOUSING MATERIAL AND TYPE

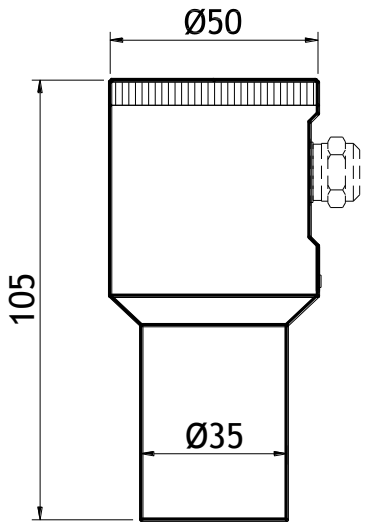


Code A04 - AISI 316
- **Material:** AISI 316 (Ø 27)
- **Zone:** II 1G
  Protection Degree: IP65

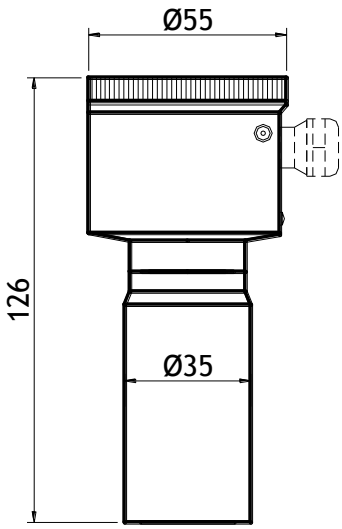
Code T04 – Titanium
- **Material:** Titanium (Ø 25,4)
- **Zone:** II 2G
  Protection Degree: IP65



Code A05 - AISI 316
- **Material:** AISI 316 \ AISI 316 (Ø 35)
- **Zone:** II 1GD
- **Protection Degree:** IP67



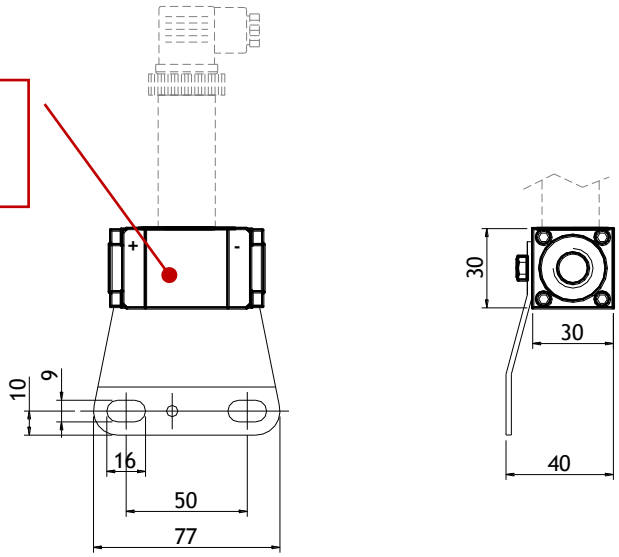
- **Code** A06 - AISI 316
- **Material:** AISI 316 (Ø 50)
- **Zone:** II 1GD
- **Protection Degree:** IP65



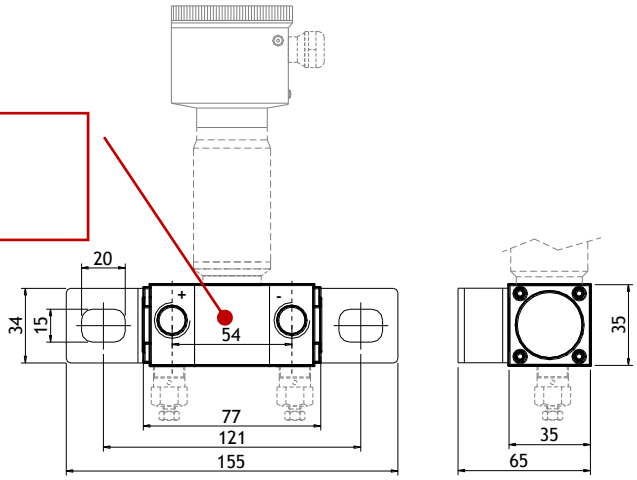
- **Code** A07 - AISI 316
- **Material:** AISI 316 \ AISI 316 (Ø 55)
- **Zone:** II 1GD
  Protection Degree: IP67

DIFFERENTIAL CELLS

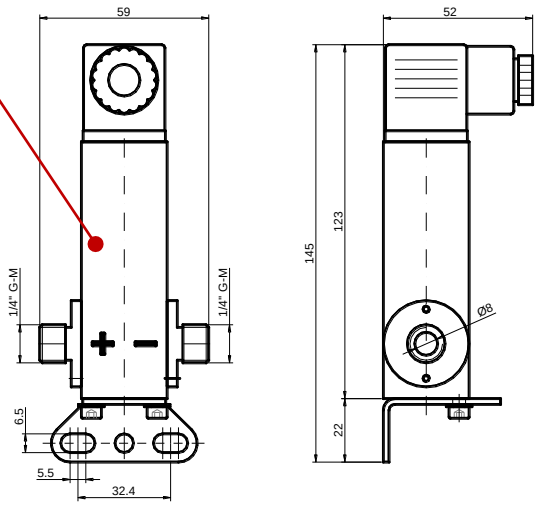
Code S18 - ¼'' NPT-F S19 - ¼'' G-F



Code S16 - ¼'' NPT-F S17 - ¼'' G-F



Code S99 - ¼'' G-M



ORDERING CODE

27D Electronic differential pressure transmitter

01 Type of measure

D	Differential pressure

02 Sensor type

PI	Piezoresistive Integral

03 Measuring range

H01	0.35 bar	Piezo	Overpressure: 0.7 bar
H02	1 bar	Piezo	Overpressure: 2 bar
H03	3.5 bar	Piezo	Overpressure: 7 bar
H04	10 bar	Piezo	Overpressure: 20 bar
H05	20 bar	Piezo	Overpressure: 40 bar
ZZZ	Special		

NOTES

1) Negative or compound ranges are possible

04 Filling oil

8	Siliconic Oil
Z	Special

05 Operating temperature

B	-40 ÷ 85°C
Z	Special

06 Housing material and type

A04	AISI 316 Ø 27 mm
A05	AISI 316 Ø 35 mm
A06	AISI 316 Ø 50 mm
D02	Aluminum anodized
Z99	Special

07 Process connection

S16	Screwed 1/4" NPT-F x 2 -Axes distance 54 mm
S17	Screwed 1/4" G-F x 2 -Axes distance 54 mm
S18	Screwed 1/4" NPT-F x 2 in line on body square 30
S19	Screwed 1/4" G-F x 2 in line on body square 30
Z99	Special

08 Extension length

N00	No extension

09 Sensor material (diaphragm)

A	AISI 316
Z	Special

10 Process gasket material

D	FKM Viton
Z	Special

11 Wetted parts material

B	AISI 316L
R	Brass
Z	Special

ORDERING CODE

12	Electrical connection
	01 Plug connector M12 IP67 straight
	02 Plug connector M12 IP67 90° angle
	04 Connector DIN 175301 PG9/PG13 3+1 poles IP65
	08 MIL connector
	09 RSF Lumberg Connector 4 poles
	19 AISI 316 Cable gland PG9 IP67 for cable ø 5 ÷ 7 mm
	20 AISI 316 Cable gland PG13 IP67 for cable ø 8 ÷ 12 mm
	36 Nipple AISI 316 1 / 2" G - F
	37 Nipple AISI 316 1 / 2" NPT - F
	39 Nipple AISI 316 M20 x 1.5 F
	99 Special

13	Electrical output
	1 Current output 4÷20 mA 2 wires
	6 Voltage output 0÷5 V 3 wires (std 0,25% FS)
	7 Voltage output 0÷10 V 3 wires (std 0,25% FS)

14	Ex type approval
	A1 Ⓔx II 1G Ex ia IIC T6, T5 Ga and Ⓔx II 1D Ex ia IIIC T85°C, T100°C Da
	A2 Ⓔx II 1G Ex ia IIC T6, T5 Ga
	N0 No Ex certification

15	Options
	02 Marine type approval
	22 PED Certificate
	21 SIL Certificate
	10 5 points calibration report
	01 Test and material report according to EN 10204
	12 Degreasing
	NN No options

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ACCESSORIES

Cod. M5
Three ways and five valves manifold

Mod. WFM
Wedge flowmeter

Cod. S4
Wall mounting bracket

Cod. D20
Universal local display

Mod. T7V
Digital field indicator

and MORE

- Degreasing for Oxygen service
- Smart HART output version, series T72