

SERIES 86A



86A series are electronic transmitters with 4 ÷ 20 mA output.

These transmitters allow the measurement of pressure, and level in industrial, marine and off-shore.

Sensors are always calibrated individually together with their own seal.

All versions allow zero and span adjustments by suitable trimmers located inside the housing.

The transmitters are intended for direct mounting on pipe or tank.

For remote sensor version and when remote seal and capillary are supplied, a bracket for wall or for 2" stand pipe mounting is also supplied.

APPLICATION FIELDS

- Pressure, level and vacuum measurement;
- Installation on industrial and marine applications.



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TECHNICAL FEATURES

Electrical parameters

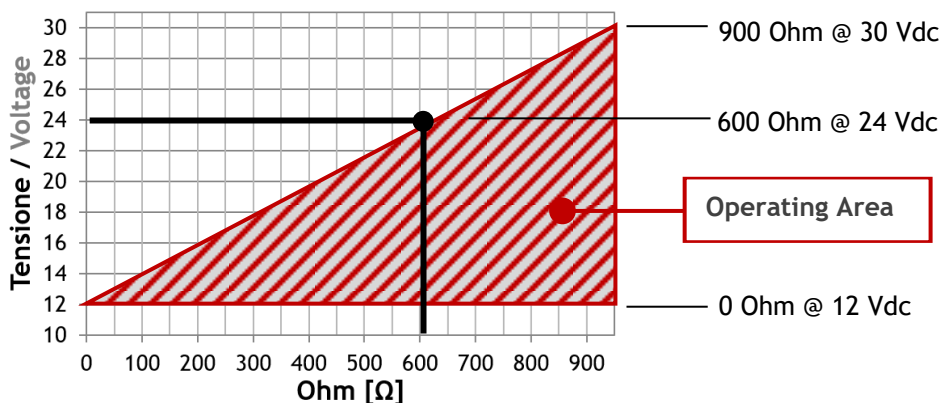
Supply: 2 wires: 12 ÷ 30 Vdc

Output signal: 2 wires: 4 ÷ 20 mA (Max 25 mA)

Current consumption: 2 wires: 4 ÷ 20 mA

Load resistance: 2 wires: $R_{\Omega} = (U_{supply} - 12 \text{ V}) / 0.02 \text{ A}$

Max load: As per chart



Measurement performance

Total accuracy (*): < ± 0.25 % FS

Temperature zero drift: < ± 0.025 % FS / °C (-10 ÷ 60 °C)

Span thermal drift: Piezo: < ± 0.02 % FS / °C
Ceramic: < ± 0.01 % FS / °C

Long term stability: Piezo: < ± 0.15 % FS / year
Ceramic: < ± 0.12 % FS / year

Response time (63% FS): Piezo: 5 ms
Ceramic: 10 ms

Allowable de-range: 75%FS, 50%FS, 25%FS

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 < ± 0.3 % FS (Max ± 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

Temperature class:	-40 ÷ +85 °C
Process temperature:	-40 ÷ +85 °C Finned body: -40 ÷ 130 °C Capillary: -40 ÷ 280 °C
Storage temperature:	-40 ÷ +90 °C
Ingress protection degree:	AISI 316 Housing: IP67 Aluminum Housing: IP66
Relative Humidity:	< 98% RH not condensing

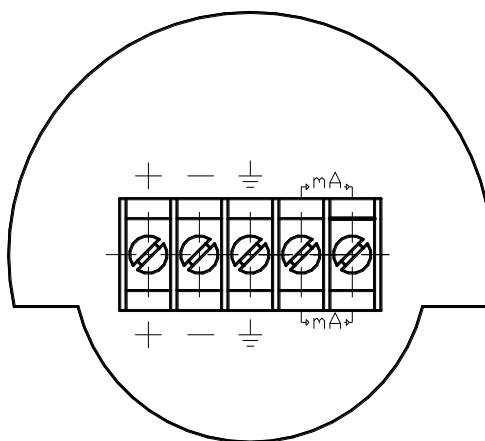
APPROVALS

Type approvals

Directive 2014/30/EU (EMC) Adequate level of electromagnetic compatibility

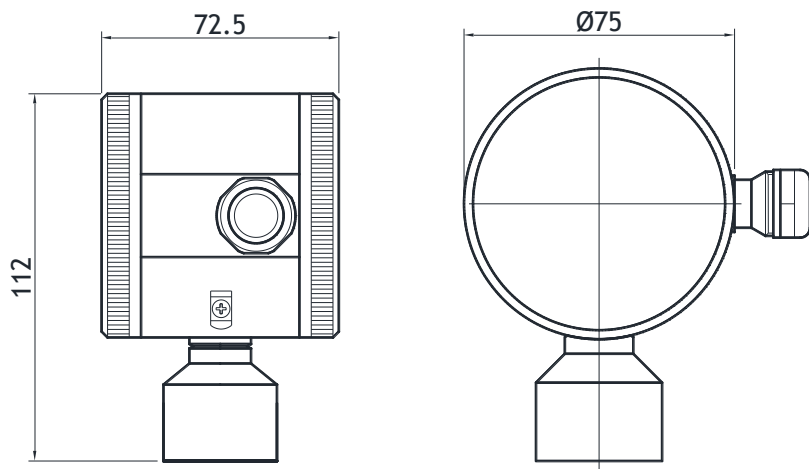
ELECTRICAL WIRING

Transmitters are protected against reverse polarity.



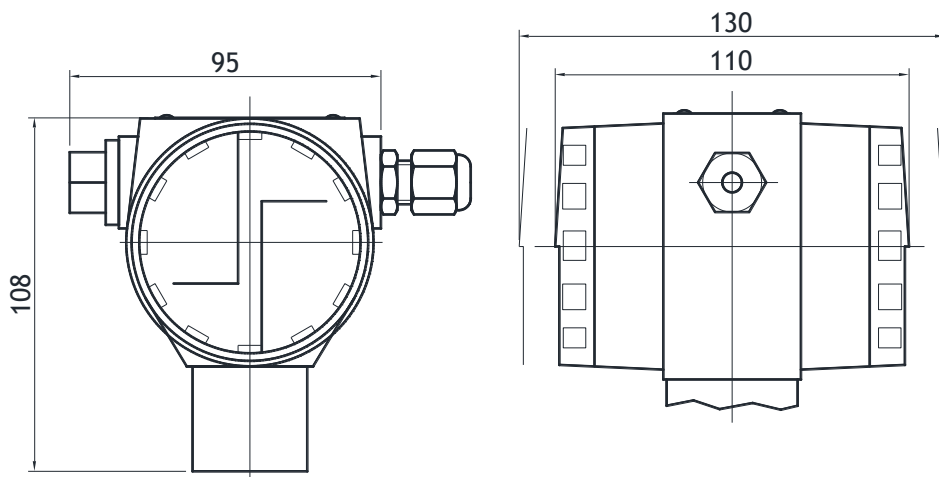
Terminal Board

HOUSING MATERIAL AND TYPE



- Material: AISI 316
- Protection Degree: IP67

A16 - Fixed head
 A17 - Rotating head
 A20 - With Gore reference IP65 (*)
 A21 - With Gore reference rotating head IP65 (*)

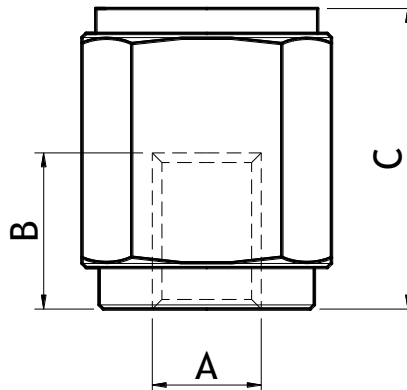
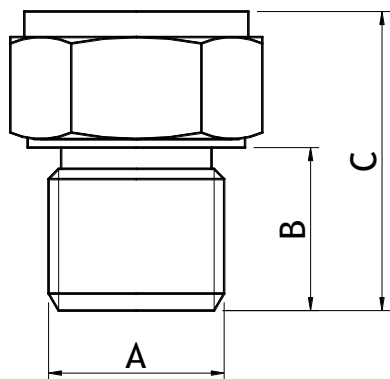


- Material: Aluminum
- Protection Degree: IP66

D04 - Aluminum housing
 D10 - With Gore reference IP65 (*)
 (*): Atmospheric reference for ranges < 10 bar

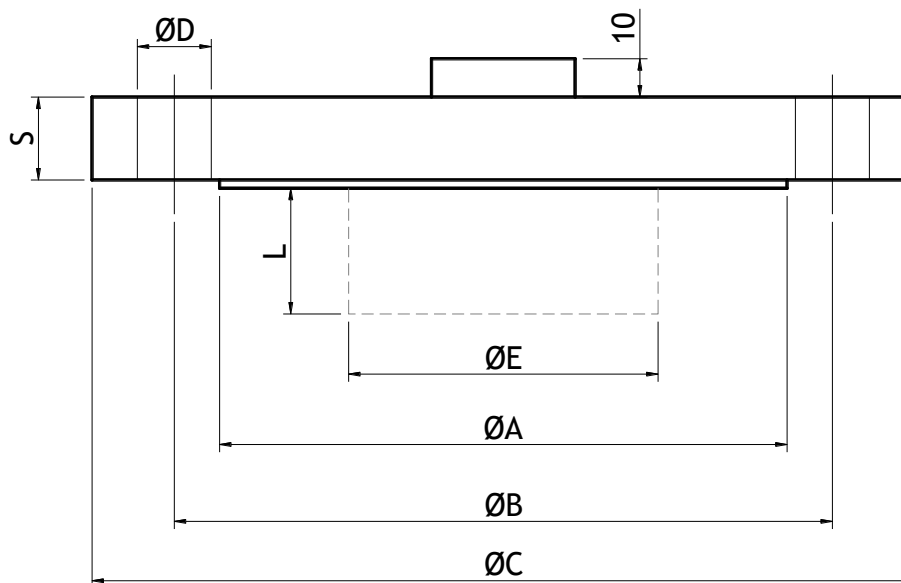
PROCESS CONNECTIONS

Standard screws



Code	A	B [mm]	C [mm]	Ex. Ch.
S06	1/4" G-M	14	38	27
S07	1/4" G-F	14	35	27
S08	1/4" NPT-M	14	39	27
S09	1/4" NPT-F	14	35	27
S22	3/8" G-M	16	41	27
S25	1/2" G/BSP/PF-M in PVDF	20	52	32
S26	1/2" G-M	18	45	27
S28	1/2" G-F	20	41	27
S30	1/2" NPT-M	20	45	27
S31	1/2" NPT-F	20	43	27
S39	1/2" G-M Flush diaphragm Ø18.5	16	32	27
S51	3/4" G-M	20	48	32
S54	3/4" NPT-M	20	54	32
S56	1" G-M Flush diaphragm	20	33.5	41
S58	1" G-M	20	32	41
S81	2" G-M	25	44	41

Standard flanges



Code	DN	PN	ØA [mm]	ØB [mm]	ØC [mm]	ØD [mm]	S [mm]
F21	15	10/16	45	65	95	14	14
F22	15	25/40	45	65	95	14	16
F23	20	10/40	58	75	105	14	18
F24	25	10/16	68	85	115	14	16
F26	25	25/40	68	85	115	14	18
F29	40	10/16	88	110	150	18	16
F32	40	25/40	88	110	150	18	18
F33	50	10/16	102	125	165	18	18
F35	50	25/40	102	125	165	18	20
F36	50	10/25	102	125	165	18	20
F41	65	10/40	122	145	185	18	22
F42	80	6	128	150	190	18	16
F43	80	10	138	160	200	18	20
F44	80	10/16	138	160	200	18	20
F49	80	25/40	138	160	200	18	24
F71	1"	ANSI 150	51	79.5	108	16	14.5
F73	1" 1/2	ANSI 150	73	98.5	127	16	17.5
F75	2"	ANSI 150	92	120.5	152	19	19
F79	3"	ANSI 150	127	152.5	191	19	24
F83	3"	ANSI 300	127	168.3	210	22	28.6

ORDERING CODE

86A Electronic pressure and level Transmitter

01 Type of measure

- A Absolute Pressure
- B Barometric Pressure
- C Relative Pressure

02 Sensor type

- CI Ceramic Integral
- CR Ceramic Remote
- PI Piezoresistive Integral
- PR Piezoresistive Remote

03 Measuring range

- | | | | |
|-----|-----------|---------|-------------------------|
| M01 | 0,35 bar | Piezo | Overpressure: 0.7 bar |
| M02 | 1 bar | Piezo | Overpressure: 2 bar |
| M03 | 2 bar | Piezo | Overpressure: 4 bar |
| M04 | 3.5 bar | Piezo | Overpressure: 7 bar |
| M05 | 10 bar | Piezo | Overpressure: 20 bar |
| M06 | 35 bar | Piezo | Overpressure: 70 bar |
| M07 | 100 bar | Piezo | Overpressure: 150 bar |
| M08 | 350 bar | Piezo | Overpressure: 700 bar |
| M09 | 1000 bar | Piezo | Overpressure:: 1500 bar |
| C01 | 1 bar | Ceramic | Overpressure: 2 bar |
| C02 | 2 bar | Ceramic | Overpressure: 4 bar |
| C03 | 5 bar | Ceramic | Overpressure: 10 bar |
| C04 | 10 bar | Ceramic | Overpressure: 15 bar |
| C05 | 20 bar | Ceramic | Overpressure: 35 bar |
| C06 | 50 bar | Ceramic | Overpressure: 100 bar |
| C07 | 100 bar | Ceramic | Overpressure: 200 bar |
| C08 | 400 bar | Ceramic | Overpressure: 650 bar |
| N01 | 0.35 bar | Piezo | Overpressure: 0.7 bar |
| N02 | 1 bar | Piezo | Overpressure: 2 bar |
| N03 | 3.5 bar | Piezo | Overpressure: 7 bar |
| N04 | 10 bar | Piezo | Overpressure: 20 bar |
| N05 | 35 bar | Piezo | Overpressure: 70 bar |
| P51 | 0.01bar | Piezo | No overpressure |
| P52 | 0.055 bar | Piezo | No overpressure |
| P53 | 0.206 bar | Piezo | No overpressure |
| ZZZ | Special | | |

NOTES

1) Negative or compound ranges are possible

04 Filling oil

- 8 Siliconic Oil -40/+200° C
- N No filling
- Z Special

05 Process temperature limits

- B -40 ÷ 85° C Standard
- D -40 ÷ 120° C Finned body for piezoresistive sensor
- F -40 ÷ 130° C Finned body for ceramic sensor
- H -40 ÷ 280° C Capillary

06 Housing material and type

- A16 AISI 316 Fixed head
- A17 AISI 316 Rotating head
- A20 AISI 316 With Gore reference
- A21 AISI 316 With Gore reference rotating head
- D04 Aluminum housing
- D10 Aluminum housing with Gore reference

07 Process connection

- ... See section "Process connections"
- Z99 Special

08 Extension length

- L01 Diaphragm extension < 50 mm
- L02 Diaphragm extension < 100 mm
- N00 No extension

09 Sensor material (diaphragm)

- A AISI 316
- E Ceramic
- K Hastelloy C
- Q Titanium
- Z Special

10 Process gasket material

- C EPDM
- D FKM Viton
- G PTFE
- T All welded

11 Wetted parts material

- A AISI 316
- L Titanium
- N Hastelloy C
- V PTFE coating

12 Electrical connection

- 19 AISI 316 Cable Gland PG9 IP67 cable \varnothing 5 ÷ 7 mm
- 20 AISI 316 Cable Gland PG13 IP67 for cable \varnothing 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
- 81 Screwed M20 x 1.5

13 Electrical output

- 1 Current output 4÷20 mA 2 wires

14 Ex type approval

- N0 No Ex certification

15 Options and accessories

- 10 Calibration report on 5 points
- 01 Test and material report according to EN 10204
- 12 Degreasing
- R4 Finned pipe HTx4 (T<150°C)
- R5 Finned pipe HTx11 (T<280°C)
- R7 Cooling syphon Sch Std in AISI 316 Tmax=235°C
- NN No options

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ACCESSORIES



Cod. R7/R8
Cooling Syphon



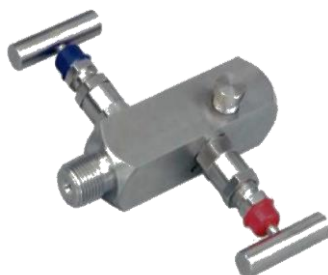
Cod. S3
Pulsation dampener



Cod. OV
Overpressure protection



Cod. N0/N1/N2
Welding nipple



Cod. M2
2 ways and 1 or 2 valves manifold



Cod. R4/R5
Finned pipe with 4 or 11 fins

and MORE

- Wall mounting bracket
- SS 316 capillary L=...m
- Armoured capillary

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