

Pressure transmitter with precision series EDN.301



St. steel housing & wetted part
with Declaration of Conformity, CE

General features

- Silicon Pressure Transmitters for industrial applications
- Pressure range from -1...1 bar to 0...1000 bar
- Wiring with DIN43650A L-connector or various connectors
- Ingress protection IP65
- Housing parts of stainless steel

Application area

- Institute and high precision application
- Hydraulic and pneumatic control systems
- Cooling equipment and air conditioning system
- Pressure calibration, pressure checking
- Liquid pressure system and switch

General specification

Pressure ranges

From -1...0 bar, 0...2 bar to 0...1000 bar
Min. span range: ≥ 1.0 bar

Accuracy

Higher than 1 bar: $\leq \pm 0.1\%$ F.S
Span range less 1 bar: $\leq \pm 0.2\%$ F.S
Included Linearity+Hysteresis+Repeatability

Overpressure

1.3 X pressure range

Output type

4...20mA, 2-wire system
0...10V, 3-wire system
0...5V, 3-wire system
1...5V, 3-wire system

Power supply

Ref. power: DC 24V
Available power: DC 12...30V

Response time ≤ 5 ms

Isolation $> 100M\Omega$ at 100 VDC

Materials

Wetted parts : St. steel 316L
Sensor sealing : FKM
Body : st. steel 304



Pressure transmitter series EDN.301

Temperature range

Compensated temperature range: 0...70°C
Operating: -20...80°C
-40...+125 °C / option
Ambient: -20...85°C
Storage: -20...100°C

Thermal error

Zero thermal error: $\pm 0.75\%$ FS @ 25°C, typical
Span thermal error: $\pm 0.75\%$ FS @ 25°C, typical

Electrical connection & protection

| | |
|----------------------|------|
| DIN43650 A | IP65 |
| M12 Plug | IP65 |
| mPm plug | IP65 |
| 2m flying cable type | IP65 |

Pressure connection

DIN 3852-E with sealing by DIN 3869 ring seals
G 1/4", G 3/8", G 1/2"
R 1/4", R 3/8", R 1/2"
NPT1/4", NPT1/2"

Weight Approx. 140g

Option

High temperature adapter
up to 200°C



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Technical specifications

Input pressure range

Normal pressure:

from 0...1 bar to 0...1000 bar
min. pressure range 0...1 bar

Permissible static pressure:

1.3 x pressure range, max.1100 bar

Output signal / Supply

Current:

2-wire 4...20mA Vs=12...30 VDC

Voltage:

3-wire 0...10V, 0...5V, 1...5V Vs=12...30 VDC

Performance

¹Accuracy: $\leq \pm 0.1\%$ FSO @ 25°C

¹ accuracy according to IEC 60770 - limit point adjustment including non-linearity, hysteresis as well as repeatability

Permissible load / R_L

Current: 2-wire, $R_L \text{ max} = [(V_s - V_s \text{ min}) / 0.02A] \Omega$

Voltage: 3-wire, $R_L \text{ min} = 10k\Omega$

Influence effects:

Supply: 0.05%FSO/10V

Longterm stability: $\leq \pm 0.5\%$ FS / year

Response time: <5ms

Thermal effects (Offset and Span)

/ Permissible temperatures

FS thermal error: $\pm 0.75\%$ FS @ 25°C, typical

Zero thermal error: $\pm 0.75\%$ FS @ 25°C, typical

Operating temperature: -20...80°C

-40...+125 °C / option

Compensated temperature: 0...70°C

Electrical protection

Electromagnetic compatibility:

Emission and immunity according to

EN 61326-2-3:20B CCISPR II Group 1, Class A

EN IEC 61000-3-2:2019

Insulation: the transmitter is grounded via the process connection

Mechanical stability

Vibration: No change at 10 g RMS (20...2000) Hz

Shock: 0.1 g (1m/s) Max.

Materials

Pressure port: stainless steel 316L

Housing / body: stainless steel 304

Sensor diaphragm: stainless steel 316L

Wetted parts: stainless steel 316L

Miscellaneous

Current consumption

Signal output current max. 25mA

Current

4...20mA, 2-wire system

Signal output voltage max. 7mA

Voltage:

0...10V, 3-wire system

0...5V, 3-wire system

1...5V, 3-wire system

0.5...4.5V / 24V, 3-wire system

Ingress protection: IP65

EMC Test report for CE conformance

■ EN 61326-2-3:2013 / Class A

■ EN 61326-2-3: 2013 / IEC 61326-1:2012

Ordering information

Model code

EDN.301 · [] · [] · [] · B [] · []

Output signal

| | |
|----|---------------------------------|
| O1 | 4...20mA / 2-wire system |
| O2 | 0...10V / 3-wire system |
| O3 | 0...5V / 3-wire system |
| O4 | 1...5V / 3-wire system |
| O6 | 0.5...4.5V / 24V, 3-wire system |

Electrical connection

| | |
|---|-------------|
| D | DIN 43650 A |
| P | mPm plug |
| M | M12 plug |
| C | 2m cable |

Process connection

| | |
|----|--------------------|
| G2 | G 1/2" (PF 1/2") |
| G3 | G 3/8" (PF 3/8") |
| G4 | G 1/4" (PF 1/4") |
| R2 | R 1/2" (BSPT 1/2") |
| R3 | R 3/8" (BSPT 3/8") |
| R4 | R 1/4" (BSPT 1/4") |

Pressure range code, unit bar

| Code | Range |
|------|-------------------|
| R19 | -1...0 |
| R28 | 0...2.5 |
| R30 | 0...4 |
| R32 | 0...6 |
| R33 | 0...10 |
| R35 | 0...16 |
| R37 | 0...25 |
| R39 | 0...40 |
| R41 | 0...60 |
| R43 | 0...100 |
| R45 | 0...160 |
| R47 | 0...250 |
| R50 | 0...400 |
| R53 | 0...600 |
| R55 | 0...1000 |
| RYY | Others on request |

Note: the pressure ranges less than 1 bar should be applied for model EDN.315

Option code

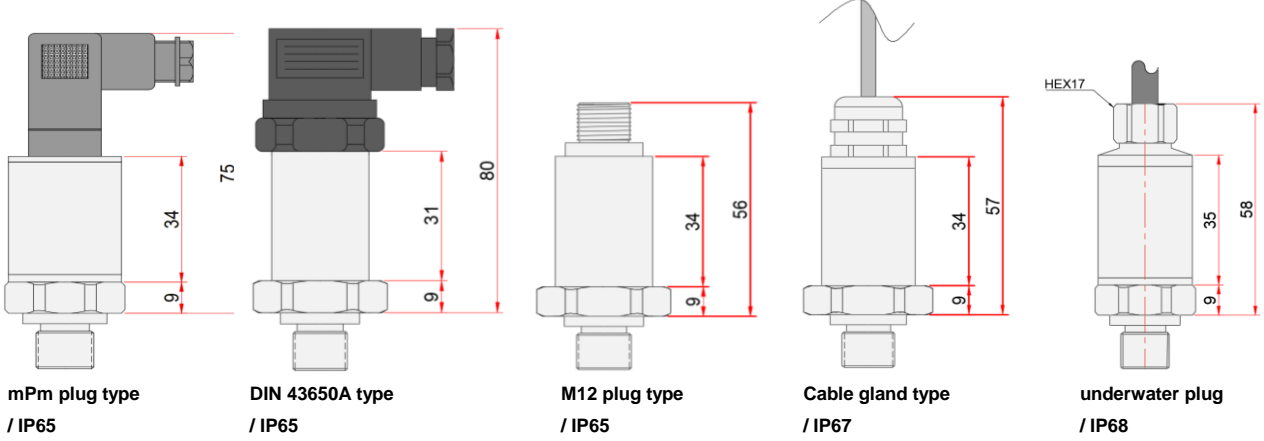
| Code | Description |
|------|--|
| T4 | Operating temperature -40...+125 °C |
| RS | Restrictor screw in socket hole |
| NO | "USE NO OIL" for Oxygen application |
| PCA | Adapter |
| CD2 | Cooling device up to 200 °C |
| TP | St. steel tag plate, 60 x 20 x 0.5t |
| DMCC | Manufacture calibration certificate |
| KC | KOLAS Ilac-MRA calibration certificate |
| CC | Certificate of conformance / origin |

How to order

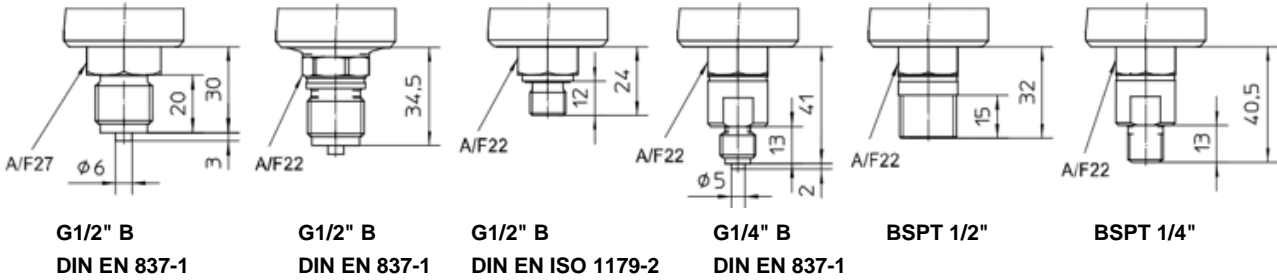
EDN.301.O1DG4BR35

EDN.301, 0.15%, 4...20mA, DIN 43650 A, G 1/4", 0...16 bar

Outline drawing

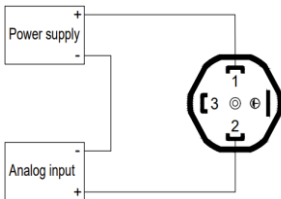


Process connection

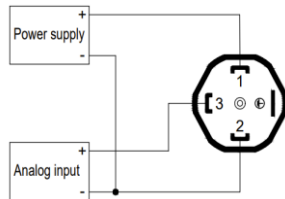


Pin assignment

DIN 43650A connector according to DIN EN 175301-803A



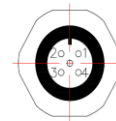
2-wire / current, 4...20mA



3-wire / voltage, 0...10V, 0...5V, 1...5V

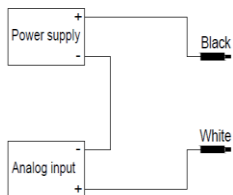
| Pin No. | 2-Wire | 3-Wire |
|---------|------------|-------------|
| 1 | +Vcc | +Vcc |
| 2 | Output(mA) | GND |
| 3 | | Output(VDC) |

M12 x 1, 5-pin / male

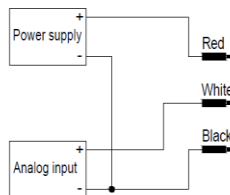


| Pin No. | 2-Wire | 3-Wire |
|---------|------------|-------------|
| 1 | +Vcc | +Vcc |
| 2 | Output(mA) | GND |
| 3 | | Output(VDC) |
| 4 | | |

Flying leads with 2m cable



2-wire / current, 4...20mA



3-wire / voltage, 0...10V, 0...5V, 1...5V

| | 2-Wire | 3-Wire |
|-------|------------|-------------|
| White | Output(mA) | Output(VDC) |
| Red | | +Vcc |
| Black | +Vcc | GND |