# Pressure transmitters for general industries. series EDN.305

CE

**all st. steel housing of wetted parts with Declaration of Conformity, CE**

## General features

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

## Application area

- Hydraulic and pneumatic control systems
- Pump and compressors
- Control equipments and air conditioning system
- pressure checking system

## General specification

**Pressure transmitter series EDN.305**

**Pressure ranges**
-1…0 bar to 0…1000 bar

**Accuracy**
better than 0.5% FS
including non-lenearity, hysteresis, zero point and
full scale error according to IEC 61298-2

**Non-linearity / BFSL**
less than ± 0.25% FS

**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
0.5…4.5V, 3-wire system

**Power supply**

| | |
|---|---|
| Ref. power: | DC 24V |
| Available power: | DC 12…30V |

**Response time**
≤ 5ms

**Isolation**
> 100MΩ at 100 VDC

**Materials**

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

**Temperature range**

| | |
|---|---|
| Compensated temperature range: | 0…70℃ |
| Operating: | -20…80℃ |
| | -40…+125 ℃ / option |
| Ambient: | -20…85℃ |
| Storage: | -20…100℃ |

**Thermal error**

| | |
|---|---|
| Zero thermal error: | ±0.75%FS @ 25℃, typical |
| Span thermal error: | ±0.75%FS @ 25℃, typical |

**Electrical connection & protection**

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

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

**Weight**
Approx. 140g

**Option**
High temperature adapter
up to 200℃ / up to 300℃

DAHO

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## *Technical specifications*

### Input pressure range

Norminal pressure:
-1…0 bar up to 0…1000 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<br>0.5…4.5V / 24V | Vs=12…30 VDC |

### Performance

[1]Accuracy: ≤ ±0.5%FSO @ 25℃

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

Permissible load / $R_L$

Current: 2-wire, $R_L$ max=[(Vs-Vs min)/0.02A]Ω
Voltage: 3-wire, $R_L$ min=10kΩ

Influence effects:

| | |
|---|---|
| Supply: | 0.05%FSO/10V |
| Longterm stability: | ≤±0.5%FS / year |
| Response time: | <5ms |

### Thermal effects (Offset and Span) / Permissible temperatures

| | |
|---|---|
| FS thermal error: | ±0.75%FS @ 25℃, typical |
| Zero thermal error: | ±0.75%FS @ 25℃, typical |
| Operating temperature: | -20…80℃ |
| | -40…+125 ℃ / option |
| Compensated tempearture: | 0…70℃ |

### 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.305 · [ ] · [ ] · [ ] · 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** | |
|---|---|
| P | mPm plug |
| D | DIN 43650 A |
| 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 |
| R23 | 0…1 |
| R26 | 0…1.6 |
| 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 |

**Option code**

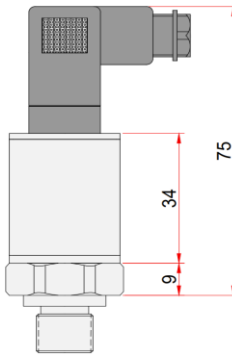
| Code | Description |
|---|---|
| T4 | Operating temperature -40…+125 ℃ |
| RS | Restrictor screw in socket hole |
| NO | "USE NO OIL" for Oxygen application |
| PCA | Adapter |
| CD2 | Cooling device up to 200℃ |
| CD3 | Cooling device up to 300℃ |
| TP | St. steel tag plate, 60 x 20 x 0.5t |
| DMCC | Manufacture calibration certificate |
| KC | KOLAS Ilac-MRA calibration certificate |

**How to order**

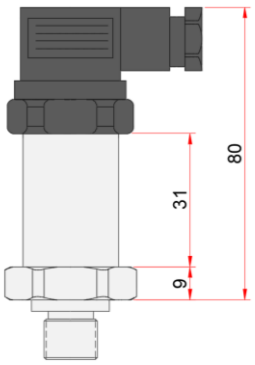
EDN.305.O1.D.G4.BR35

EDN.305, 4…20mA, DIN 43650 A, G 1/4", 0…16 bar

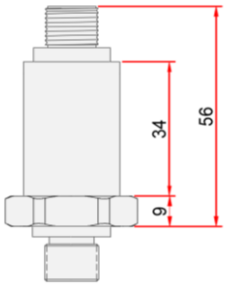
## Outline drawing



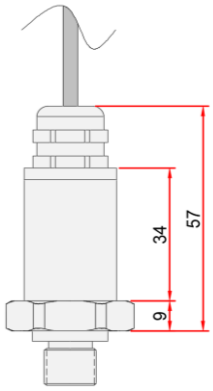

**mPm plug type**
**/ IP65**



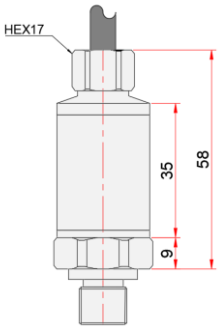

**DIN 43650A type**
**/ IP65**




**M12 plug type**
**/ IP65**

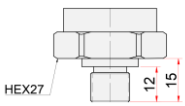



**Cable gland type**
**/ IP67**

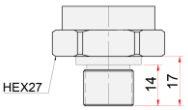



**underwater plug**
**/ IP68**

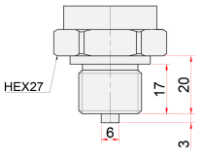
## Process connection



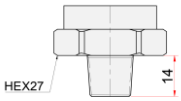

**G1/4" A**
**DIN EN ISO 1179-2**



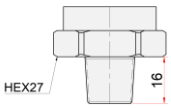

**G3/8" A**
**DIN EN ISO 1179-2**



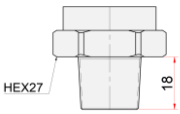

**G1/2" B**
**EN 837-1**




**R1/4"**
**ISO 7**



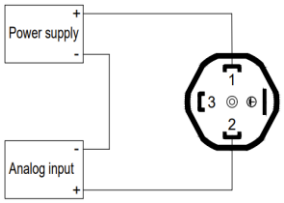

**R3/8"**
**ISO 7**



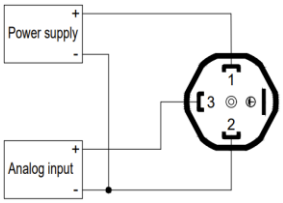

**R1/2"**
**ISO 7**

## Pin assignment

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




*2-wire / current, 4…20mA*



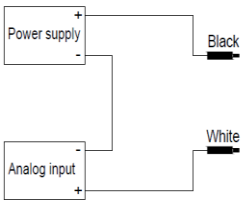

*3-wire / voltage, 0…10V, 0…5V, 1…5V*

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

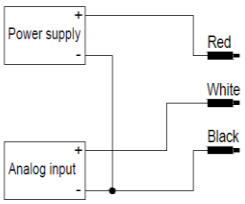
***M12 x 1, 5-pin / male***


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

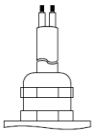
***Flying leads with 2m cable***




*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 |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