

**Pressure transmitter  
for rail-way application  
series EDN.338**

**All st. steel for wetted parts & housing  
with Declaration of Conformity, CE**

**General features**

- Piezoresistive silicon pressure transmitter for rail-way market
- Pressure range from 0...10 bar to 0...40 bar
- Wiring with M12 x 1 circular connectors
- Ingress protection IP65
- All stainless steel for wetted parts and housing

**Application area**

- Rail-way brake system
- Compressed air supply
- Comprehensive control device

**General specification**

**Pressure ranges**

0...10 bar to 0...40 bar

**Accuracy**

± 0.25% FS / BFS (Best Fit Straight Line)  
± 0.5% FS  
included Linearity+Hysteresis+Repeatability

**Overpressure**

1.5 X pressure range

**Output type**

Current (2-wire) : 4...20mA  
Voltage (3-wire) : 0...10V  
0...5V  
1...5V

**Power supply**

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

**Response time**

≤ 5ms

**Isolation**

> 100MΩ at 100 VDC



Pressure transmitter series EDN.338

**Materials**

Wetted parts : St. steel 316L  
Sensor sealing : No O-ring  
Body : St. steel 304

**Electrical connection**

DIN43650 A, M12 Plug, Cable type

**Pressure connection**

G 1/4" (DIN 3852-E with sealing by DIN 3869 ring seals)  
7/16-20 UNF male, female

**Temperature range**

Operating : -20...80 °C  
Compensated : 0...70 °C

**Thermal error**

Zero thermal error : ±0.75%FS @ 35 °C (typ.)  
Span thermal error : ±0.75%FS @ 35 °C (typ.)

**Protection**

IP65

**Weight**

Approx. 140g

**Option**

High temperature adapter, Cooling device  
up to 200 °C / up to 300 °C



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## Technical data

| Input pressure range                                                                                             |                                                       |                            |                |                                                                                                    |
|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------------|----------------|----------------------------------------------------------------------------------------------------|
| Norminal pressure                                                                                                | [bar]                                                 | 0...10 bar to 0...40 bar   |                |                                                                                                    |
| Permissible static pressure                                                                                      | 1.5 x pressure range,                                 |                            |                |                                                                                                    |
| Output signal / Supply                                                                                           |                                                       |                            |                |                                                                                                    |
| Standard                                                                                                         | 2-wire                                                | 4...20mA                   | Vs=12...30 VDC |                                                                                                    |
|                                                                                                                  | 3-wire                                                | 0...10V, 0...5V, 1...5V    |                | Vs=12...30 VDC                                                                                     |
| Performance                                                                                                      |                                                       |                            |                |                                                                                                    |
| Accuracy                                                                                                         | ≤ ±0.5%FSO @ 25℃                                      |                            |                |                                                                                                    |
| Permissible load                                                                                                 | Current 2-wire                                        | R max=[(Vs-Vs min)/0.02A]Ω |                |                                                                                                    |
|                                                                                                                  | Voltage 3-wire                                        | R min=10kΩ                 |                |                                                                                                    |
| Influence effects                                                                                                | Supply                                                | 0.05%FSO/10V               |                |                                                                                                    |
| Longterm stability                                                                                               | ≤ ±0.5%FS / year                                      |                            |                |                                                                                                    |
| Response time                                                                                                    | <5ms                                                  |                            |                |                                                                                                    |
| <sup>1</sup> accuracy according to IEC 60770 - limit point adjustment (non-linearity, hysteresis, repeatability) |                                                       |                            |                |                                                                                                    |
| Thermal effects (Offset and Span) / Permissible temperatures                                                     |                                                       |                            |                |                                                                                                    |
| FS thermal error                                                                                                 | ±0.75%FS @ 35℃                                        |                            |                |                                                                                                    |
| Zero thermal error                                                                                               | ±0.75%FS @ 35℃                                        |                            |                |                                                                                                    |
| Operating temperature                                                                                            | -20...80℃                                             |                            |                |                                                                                                    |
| Compensated tempearture                                                                                          | 0...70℃                                               |                            |                |                                                                                                    |
| Electrical protection                                                                                            |                                                       |                            |                |                                                                                                    |
| Electromagnetic compatibility                                                                                    | Emission and immunity according to EN 61326, EN 55011 |                            |                |                                                                                                    |
| Isolation                                                                                                        | 100 MΩ at 100 VDC                                     |                            |                |                                                                                                    |
| 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                                                                                                          | Stainless steel 304                                   |                            |                |                                                                                                    |
| Diaphragm                                                                                                        | Stainless steel 316L                                  |                            |                |                                                                                                    |
| Media wetted parts                                                                                               | Stainless steel 316L                                  |                            |                |                                                                                                    |
| Miscellaneous                                                                                                    |                                                       |                            |                |                                                                                                    |
| Current consumption                                                                                              | Signal output current                                 | max. 25mA                  |                |                                                                                                    |
|                                                                                                                  | Signal output voltage                                 | max. 7mA                   |                |                                                                                                    |
| Weight                                                                                                           | approx. 145g                                          |                            |                |                                                                                                    |
| Ingress protection                                                                                               | IP65                                                  |                            |                |                                                                                                    |
| Pin configuration                                                                                                |                                                       |                            |                |                                                                                                    |
| Pin                                                                                                              | 1                                                     | 2                          | 3              | 4                                                                                                  |
| 2-wire                                                                                                           | +Vcc                                                  | OUT                        | NC             | Shielded GND  |
| 3-wire                                                                                                           | +Vcc                                                  | GND                        | +OUT           | Shielded GND  |

## Ordering Information

Model code

EDN.338

•

B

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### 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   |

### Option

Refer to option table

### Pressure range

Refer to pressure range table

### Electrical connection

D : DIN 43650 A  
M : M12 plug  
C : 2m cable

### Process connection

|              |                          |
|--------------|--------------------------|
| G2 : PF 1/2" | N2 : NPT 1/2"            |
| G3 : PF 3/8" | N3 : NPT 3/8"            |
| G4 : PF 1/4" | N4 : NPT 1/4"            |
| R2 : PT 1/2" | U1 : UNF 7/16"-20 male   |
| R3 : PT 3/8" | U2 : UNF 7/16"-20 female |
| R4 : PT 1/4" | U4 : UNF 9/16"-18 female |
|              | H2 : M16 x 1.5 female    |

### Pressure range code, unit bar

| Code | Range      |
|------|------------|
| R33  | 0...10 bar |
| R35  | 0...16 bar |
| R37  | 0...25 bar |
| R39  | 0...40 bar |
| RYY  | Others     |

### Option code

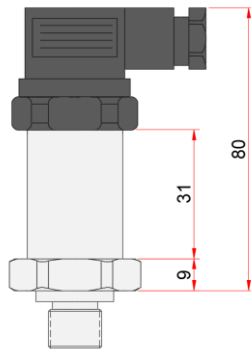
| Code | Description                         | Code | Description                            |
|------|-------------------------------------|------|----------------------------------------|
| CD2  | Cooling device up to 200 °C         | DMCC | Manufacture calibration certificate    |
| CD3  | Cooling device up to 300 °C         | KC   | KOLAS Ilac-MRA calibration certificate |
| TP   | St. stell tag plate, 60 x 20 x 0.5t |      |                                        |

### How to Order

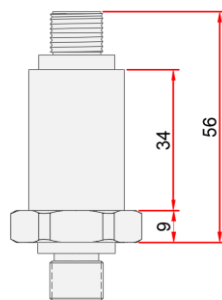
EDN.338.O1MG4R35

EDN.338, Silicon sensor,  $\pm 0.5\%$ FS, 4...20mA, M12 plug, G 1/4", 0...16 bar

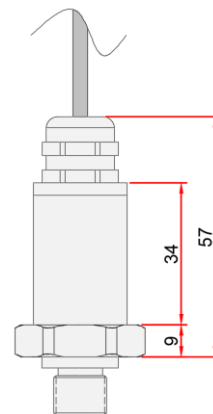
## Outline drawing



DIN 43650 A Type

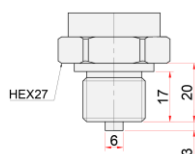


M12 Plug Type

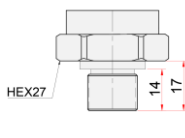


Cable gland Type

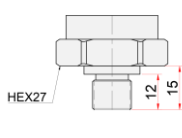
## Process connection



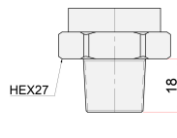
G1/2" B  
EN 837-1



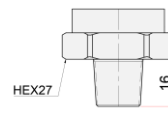
G3/8" A  
DIN EN ISO 1179-2



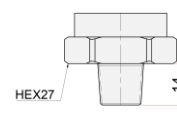
G1/4" A  
DIN EN ISO 1179-2



R1/2"  
ISO 7



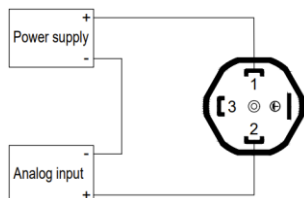
R3/8"  
ISO 7



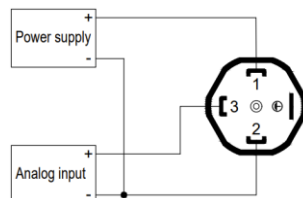
R1/4"  
ISO 7

## Pin assignment

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



2-wire / current



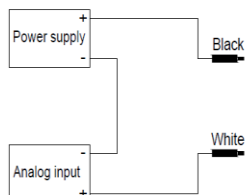
3-wire / voltage

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

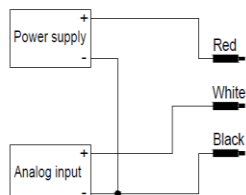


| Pin No. | 2-Wire     | 3-Wire      |
|---------|------------|-------------|
| 1       | +Vcc       | +Vcc        |
| 2       | Output(mA) | GND         |
| 3       |            | Output(VDC) |
| 4       |            |             |

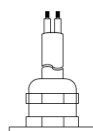
Flying leads with 2m cable



2-wire / current



3-wire / voltage



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

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