

## Flush pressure transmitter

PL-010-REA12-A-DKG/US/ /



- 1 LED
- 2 Sealing DIN EN ISO 1179-2
- 3 groove for O-ring 16.4 x 1.0
- 4 area for metal sealing



### Product characteristics

|                              |                                                             |                 |              |
|------------------------------|-------------------------------------------------------------|-----------------|--------------|
| Number of inputs and outputs | Number of digital outputs: 1; Number of analogue outputs: 1 |                 |              |
| Measuring range              | -1...10 bar                                                 | -14.5...145 psi | -0.1...1 MPa |
| Process connection           | threaded connection G 1/2 external thread                   |                 |              |

### Application

|                          |                                                                                                                                                                 |          |        |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------|
| Special feature          | Gold-plated contacts                                                                                                                                            |          |        |
| Measuring element        | ceramic-capacitive pressure measuring cell                                                                                                                      |          |        |
| Temperature monitoring   | yes                                                                                                                                                             |          |        |
| Application              | flush mountable for industrial applications; for industrial applications                                                                                        |          |        |
| Media                    | viscous media and liquids with suspended particles; Liquids; other media on request                                                                             |          |        |
| Medium temperature [°C]  | -25...110; (flush mount zero-leak using metal-to-metal seal. for permissible temperatures of other sealing versions, see sealing materials under "Accessories") |          |        |
| Min. bursting pressure   | 175 bar                                                                                                                                                         | 2538 psi | 17 MPa |
| Pressure rating          | 70 bar                                                                                                                                                          | 1015 psi | 7 MPa  |
| Vacuum resistance [mbar] | -1000                                                                                                                                                           |          |        |
| Type of pressure         | relative pressure; vacuum                                                                                                                                       |          |        |
| No dead space            | yes                                                                                                                                                             |          |        |

### Electrical data

|                                 |                 |  |  |
|---------------------------------|-----------------|--|--|
| Operating voltage [V]           | 9.6...30 DC     |  |  |
| Min. insulation resistance [MΩ] | 100; (500 V DC) |  |  |
| Protection class                | III             |  |  |
| Reverse polarity protection     | yes             |  |  |
| Integrated watchdog             | yes             |  |  |



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|                                    |                                                             |                                                                                                    |                |
|------------------------------------|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------|
| 2-wire                             |                                                             |                                                                                                    |                |
| Current consumption                | [mA]                                                        | 3.5...21.5                                                                                         |                |
| Power-on delay time                | [s]                                                         | < 1                                                                                                |                |
| 3-wire                             |                                                             |                                                                                                    |                |
| Current consumption                | [mA]                                                        | < 30                                                                                               |                |
| Power-on delay time                | [s]                                                         | < 0.5                                                                                              |                |
| Inputs / outputs                   |                                                             |                                                                                                    |                |
| Number of inputs and outputs       | Number of digital outputs: 1; Number of analogue outputs: 1 |                                                                                                    |                |
| Outputs                            |                                                             |                                                                                                    |                |
| Total number of outputs            | 2                                                           |                                                                                                    |                |
| Output signal                      | analogue signal; IO-Link (configurable)                     |                                                                                                    |                |
| Number of digital outputs          | 1; (IO-Link)                                                |                                                                                                    |                |
| Number of analogue outputs         | 1                                                           |                                                                                                    |                |
| Analogue current output            | [mA]                                                        | 4...20; (scalable; 1:5)                                                                            |                |
| Max. load                          | [Ω]                                                         | (Ub - 9,6 V) / 21,5 mA; 670 Ω (Ub = 24 V)                                                          |                |
| Short-circuit proof                | yes                                                         |                                                                                                    |                |
| Overload protection                | yes                                                         |                                                                                                    |                |
| Measuring/setting range            |                                                             |                                                                                                    |                |
| Measuring range                    | -1...10 bar                                                 | -14.5...145 psi                                                                                    | -0.1...1 MPa   |
| Analogue start point               | -1...8 bar                                                  | -14.5...116 psi                                                                                    | -0.1...0.8 MPa |
| Analogue end point                 | 1...10 bar                                                  | 14.5...145 psi                                                                                     | 0.1...1 MPa    |
| In steps of                        | 0.002 bar                                                   | 0.2 psi                                                                                            | 0.0002 MPa     |
| Factory setting                    | ASP = 0.0 bar                                               | AEP = 10.0 bar                                                                                     |                |
|                                    | ASP = 0.0 psi                                               | AEP = 145.0 psi                                                                                    |                |
|                                    | ASP = 0.0 MPa                                               | AEP = 1.0 MPa                                                                                      |                |
| Temperature monitoring             |                                                             |                                                                                                    |                |
| Measuring range                    | -25...110 °C                                                |                                                                                                    | -13...230 °F   |
| Accuracy / deviations              |                                                             |                                                                                                    |                |
| Repeatability                      | [% of the span]                                             | < ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)                                     |                |
| Characteristics deviation          | [% of the span]                                             | < ± 0,5; (linearity incl. hysteresis and repeatability, limit value setting to DIN EN IEC 62828-1) |                |
| Linearity deviation                | [% of the span]                                             | < ± 0,15; (Turn down 1:1)                                                                          |                |
| Hysteresis deviation               | [% of the span]                                             | < ± 0,15; (Turn down 1:1)                                                                          |                |
| Long-term stability                | [% of the span]                                             | < ± 0,1; (Turn down 1:1; per year)                                                                 |                |
| Temperature coefficient zero point | [% of the span / 10 K]                                      | < ± 0,1 (-25...85 °C)<br>< ± 0,3 (85...110 °C)                                                     |                |
| Temperature coefficient span       | [% of the span / 10 K]                                      | < ± 0,1 (-25...85 °C)<br>< ± 0,3 (85...110 °C)                                                     |                |
| Temperature monitoring             |                                                             |                                                                                                    |                |
| Accuracy                           | [K]                                                         | ± 2.5 K + (0.045 x (ambient temperature - medium temperature))                                     |                |



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| Response times                      |                                                                                            |                                              |
|-------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------|
| Damping process value dAP           | [s]                                                                                        | 0...99.99                                    |
| Damping for the analogue output dAA | [s]                                                                                        | 0...99.99                                    |
| 2-wire                              |                                                                                            |                                              |
| Step response time analogue output  | [ms]                                                                                       | 12                                           |
| 3-wire                              |                                                                                            |                                              |
| Step response time analogue output  | [ms]                                                                                       | 3                                            |
| Temperature monitoring              |                                                                                            |                                              |
| Dynamic response T05 / T09          | [s]                                                                                        | < 10 / < 25; (DIN EN 60751 water; > 0,9 m/s) |
| Interfaces                          |                                                                                            |                                              |
| Communication interface             | IO-Link                                                                                    |                                              |
| Transmission type                   | COM2 (38,4 kBaud)                                                                          |                                              |
| IO-Link revision                    | 1.1                                                                                        |                                              |
| SDCI standard                       | IEC 61131-9                                                                                |                                              |
| Profiles                            | Smart Sensor ED2: Identification and Diagnosis (0x4000), Measurement Data Channel (0x800A) |                                              |
| SIO mode                            | no                                                                                         |                                              |
| Required master port type           | A; (when pin 2 not connected: B)                                                           |                                              |
| Min. process cycle time             | [ms]                                                                                       | 3.5                                          |
| IO-Link resolution pressure         | [bar]                                                                                      | 0.002                                        |
| IO-Link resolution temperature      | [K]                                                                                        | 0.2                                          |
| IO-Link process data (cyclical)     | function                                                                                   | bit length                                   |
|                                     | pressure                                                                                   | 16                                           |
|                                     | temperature                                                                                | 16                                           |
|                                     | device status                                                                              | 4                                            |
| IO-Link functions (acyclical)       | application specific tag; internal temperature                                             |                                              |
| Supported DeviceIDs                 | Type of operation                                                                          | DeviceID                                     |
|                                     | default                                                                                    | 1437                                         |
| Operating conditions                |                                                                                            |                                              |
| Ambient temperature                 | [°C]                                                                                       | -25...90                                     |
| Storage temperature                 | [°C]                                                                                       | -40...100                                    |
| Protection                          | IP 67; IP 68; IP 69                                                                        |                                              |
| Tests / approvals                   |                                                                                            |                                              |
| EMC                                 | DIN EN 61326-1                                                                             |                                              |
| Shock resistance                    | DIN EN 60068-2-27                                                                          | 50 g (11 ms)                                 |
| Vibration resistance                | DIN EN 60068-2-6                                                                           | 20 g (10...2000 Hz)                          |
| MTTF                                | [years]                                                                                    | 427                                          |
| UL approval                         | Enclosure type                                                                             | Type 1                                       |
|                                     | UL Approval no.                                                                            | J050                                         |
|                                     | File number UL                                                                             | E174189                                      |
| Mechanical data                     |                                                                                            |                                              |
| Weight                              | [g]                                                                                        | 85.3                                         |

# PL1504



## Flush pressure transmitter

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|                          |                                                                                                                                                                                                      |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Materials                | stainless steel (316L/1.4435); stainless steel (316L/1.4404); PA; PTFE; FKM                                                                                                                          |
| Materials (wetted parts) | stainless steel (316L/1.4435); Al <sub>2</sub> O <sub>3</sub> (ceramics); surface characteristics : Ra < 0,4 / Rz 4; PTFE; (FKM for sealing with seal DIN EN ISO 1179-2, see operating instructions) |
| Min. pressure cycles     | 100 million                                                                                                                                                                                          |
| Tightening torque [Nm]   | 25                                                                                                                                                                                                   |
| Process connection       | threaded connection G 1/2 external thread                                                                                                                                                            |

### Displays / operating elements

|         |                  |              |
|---------|------------------|--------------|
| Display | operating status | 2 LED, green |
|---------|------------------|--------------|

### Accessories

|                        |                                                           |
|------------------------|-----------------------------------------------------------|
| Items supplied         | Gasket: G1/2, FKM DIN EN ISO1179-2 (-15...110°C), E30492  |
| Accessories (optional) | Gasket: G1/2, FKM DIN EN ISO1179-2 (-15...110°C), E30492  |
|                        | Gasket: G1/2, EPDM DIN EN ISO1179-2 (-25...110°C), E30451 |
|                        | Gasket: G1/2, FFKM DIN EN ISO1179-2 (-5...110°C), E30513  |
|                        | O-ring: 16,4 x 1, FKM (-15...110°C), E30510               |
|                        | O-ring: 16,4 x 1, EPDM (-25...110°C), E30511              |
|                        | O-ring: 16,4 x 1, FFKM (-5...110°C), E30512               |

### Remarks

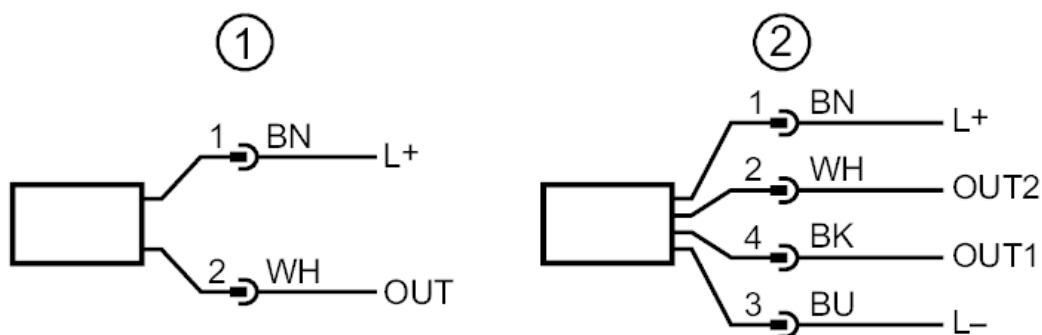
|               |        |
|---------------|--------|
| Pack quantity | 1 pcs. |
|---------------|--------|

### Electrical connection

Connector: 1 x M12; coding: A; Contacts: gold-plated



### Connection



- 1 connection for 2-wire operation ( analogue )  
 2 connection for 3-wire operation ( analogue / IO-Link )  
 OUT1: IO-Link  
 OUT2: analogue output