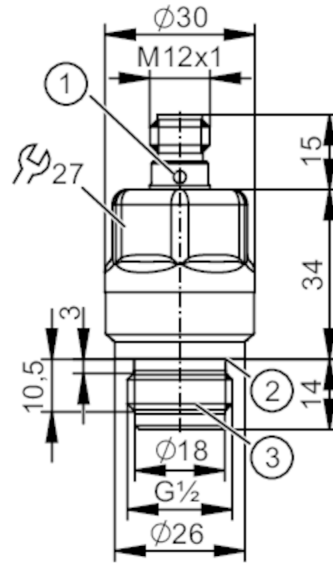


# PL1303



## Flush pressure transmitter

PL-025-REG12-A-DKG/US/ I



- 1 LED
- 2 Gasket DIN EN ISO 1179-2
- 3 threaded pin based on DIN EN ISO 1179-2



### Product characteristics

|                              |                                                           |                   |                |
|------------------------------|-----------------------------------------------------------|-------------------|----------------|
| Number of inputs and outputs | Number of digital outputs: 1; Number of analog outputs: 1 |                   |                |
| Measuring range              | -1...25 bar                                               | -14.5...362.6 psi | -0.1...2.5 MPa |
| Process connection           | threaded connection G 1/2 external thread - 14 mm         |                   |                |

### Application

|                          |                                                                                                           |          |        |
|--------------------------|-----------------------------------------------------------------------------------------------------------|----------|--------|
| Special feature          | gold-plated contacts                                                                                      |          |        |
| Measuring element        | ceramic-capacitive pressure measuring cell                                                                |          |        |
| Temperature monitoring   | yes                                                                                                       |          |        |
| Application              | Industrial flush pressure transmitters, analog   PL; for industrial applications                          |          |        |
| Media                    | viscous media and liquids with suspended particles; Liquids; other media on request                       |          |        |
| Medium temperature [°C]  | -15...110; (max. -25...110°C; for permissible temperatures of other sealing materials, see "Accessories") |          |        |
| Min. burst pressure      | 280 bar                                                                                                   | 3600 psi | 28 MPa |
| Pressure rating          | 130 bar                                                                                                   | 1885 psi | 13 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             |

### 2-wire

|                          |            |
|--------------------------|------------|
| Current consumption [mA] | 3.5...21.5 |
|--------------------------|------------|



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|                                    |                                                           |                                                                                                    |                |
|------------------------------------|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------|
| 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 analog outputs: 1 |                                                                                                    |                |
| Outputs                            |                                                           |                                                                                                    |                |
| Total number of outputs            | 2                                                         |                                                                                                    |                |
| Output signal                      | analog signal; IO-Link                                    |                                                                                                    |                |
| Number of digital outputs          | 1; (IO-Link)                                              |                                                                                                    |                |
| Number of analog outputs           | 1                                                         |                                                                                                    |                |
| Analog current output              | [mA]                                                      | 4...20; (scalable; 1:10)                                                                           |                |
| 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...25 bar                                               | -14.5...362.6 psi                                                                                  | -0.1...2.5 MPa |
| Analog start point                 | -1...20 bar                                               | -14.5...290.1 psi                                                                                  | -0.1...2 MPa   |
| Analog end point                   | 4...25 bar                                                | 58...362.6 psi                                                                                     | 0.4...2.5 MPa  |
| In steps of                        | 0.005 bar                                                 | 0.5 psi                                                                                            | 0.0005 MPa     |
| Factory setting                    | ASP = 0.0 bar                                             | AEP = 25.0 bar                                                                                     |                |
|                                    | ASP = 0.0 MPa                                             | AEP = 2.5 MPA                                                                                      |                |
|                                    | ASP = 0.0 psi                                             | AEP = 362.6 psi                                                                                    |                |
| 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)                                                                          |                |
| Zero-point stabilization           | [% of the span]                                           | 0,15; (IO-Link; analog output; (see operating instructions zero-point behavior))                   |                |
| 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))                                     |                |



## Flush pressure transmitter

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| Reaction times                                 |                                                |                                             |
|------------------------------------------------|------------------------------------------------|---------------------------------------------|
| Damping process value dAP                      | [s]                                            | 0...99.99                                   |
| Damping for the analog output dAA              | [s]                                            | 0...99.99                                   |
| 2-wire                                         |                                                |                                             |
| Step response time analog output               | [ms]                                           | 12                                          |
| 3-wire                                         |                                                |                                             |
| Step response time analog output               | [ms]                                           | 3                                           |
| Temperature monitoring                         |                                                |                                             |
| Dynamic response T05 / T09                     | [s]                                            | < 10 / <45; (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                                       | Common - I&D                                   | Identification and Diagnosis                |
|                                                | Function                                       | Measurement data, standard resolution       |
| SIO mode                                       | no                                             |                                             |
| Required master port class                     | A; (when pin 2 not connected: B)               |                                             |
| Min. process cycle time                        | [ms]                                           | 3.5                                         |
| IO-Link resolution pressure                    | [bar]                                          | 0.005                                       |
| 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                                        | 1438                                        |
| 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]                                        | 407                                         |
| Embedded software included                     | yes                                            |                                             |
| UL approval                                    | UL approval number                             | J051                                        |
|                                                | File number UL                                 | E174189                                     |
| Embedded software developed in accordance with | ISO 13849-1 : 2015 (clause 4.6.2)              |                                             |

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| Mechanical data          |      |                                                                                                                                                                                     |
|--------------------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Weight                   | [g]  | 139.4                                                                                                                                                                               |
| Housing                  |      | tubular                                                                                                                                                                             |
| Dimensions               | [mm] | Ø 30 / L = 63                                                                                                                                                                       |
| Material                 |      | stainless steel (1.4435 / 316L); stainless steel (1.4404 / 316L); PA; PTFE; FKM                                                                                                     |
| Materials (wetted parts) |      | stainless steel (1.4435 / 316L); Al2O3 (ceramics) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; 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 - 14 mm                                                                                                                                   |

| 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, EPDM DIN EN ISO1179-2 (-25...110°C), E30451 |
|                        |  | Gasket: G1/2, FFKM DIN EN ISO1179-2 (-5...110°C), E30513  |

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

| Electrical connection                                   |  |
|---------------------------------------------------------|--|
| Connector: 1 x M12; coding: A; Contacts: 4, gold-plated |  |
|                                                         |  |

| Connection |  |
|------------|--|
|            |  |

| 2-wire                                  |      |         |  |
|-----------------------------------------|------|---------|--|
| 1                                       | L+   |         |  |
| 2                                       | OUT  | AO      |  |
| 3-wire                                  |      |         |  |
| 1                                       | L+   |         |  |
| 2                                       | OUT  | AO      |  |
| 3                                       | L-   |         |  |
| 4                                       | DATA | IO-Link |  |
| AO: analog output; DATA: data interface |      |         |  |