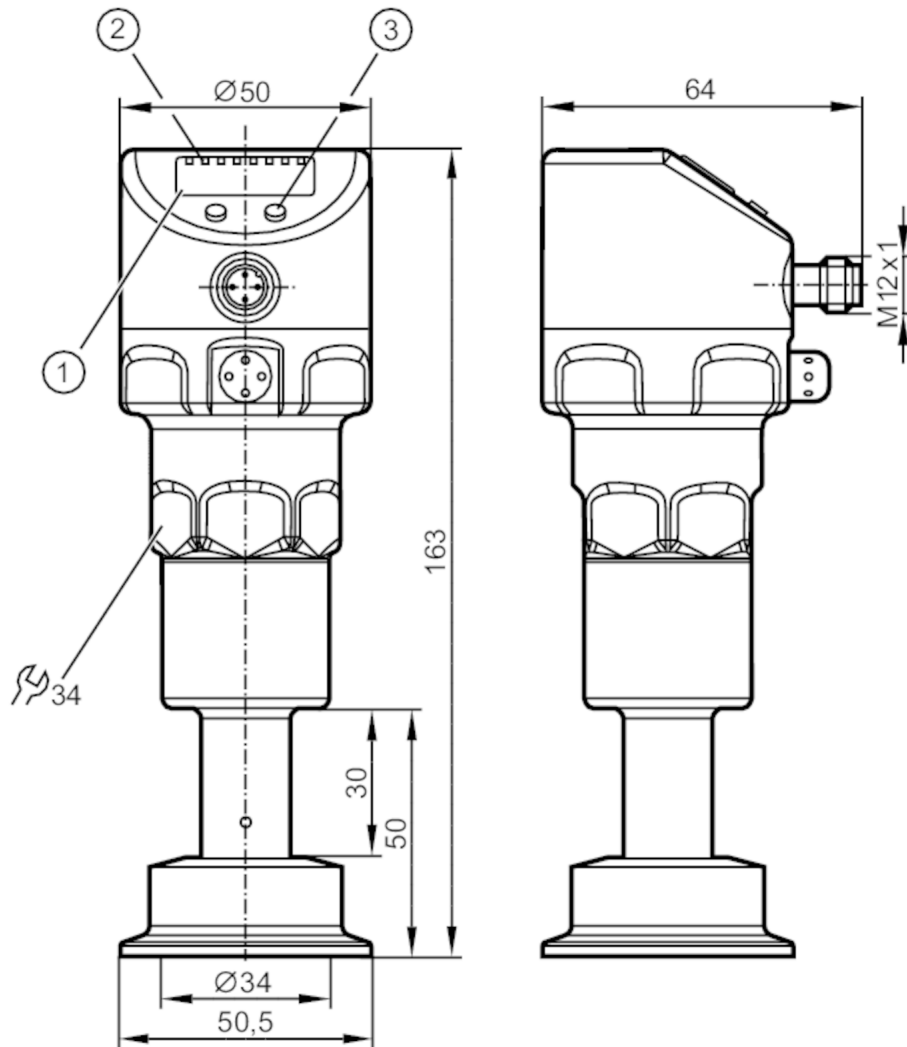


PI2203



Flush pressure sensor with display

PI-025-REZ01-MFRKG/US/    /P



- 1    alphanumeric display 4-digit
- 2    status LEDs
- 3    programming button



| Product characteristics         |                                                                       |                   |                |
|---------------------------------|-----------------------------------------------------------------------|-------------------|----------------|
| Number of inputs and outputs    | Number of digital outputs: 2; Number of analogue outputs: 1           |                   |                |
| Measuring range                 | -1...25 bar                                                           | -14.4...362.7 psi | -0.1...2.5 MPa |
| Process connection              | Clamp DN40 (1,5") DIN 32676 (ISO 2852)                                |                   |                |
| Application                     |                                                                       |                   |                |
| Special feature                 | Gold-plated contacts                                                  |                   |                |
| Application                     | flush mountable for the food and beverage industry                    |                   |                |
| Media                           | viscous media and liquids with suspended particles; liquids and gases |                   |                |
| Medium temperature [°C]         | -20...200; (-20...90 < 0 bar)                                         |                   |                |
| Min. bursting pressure          | 150 bar                                                               | 2175 psi          | 15 MPa         |
| Pressure rating                 | 80 bar                                                                | 1160 psi          | 8 MPa          |
| Type of pressure                | relative pressure; vacuum                                             |                   |                |
| Electrical data                 |                                                                       |                   |                |
| Min. insulation resistance [MΩ] | 100; (500 V DC)                                                       |                   |                |



## Flush pressure sensor with display

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|                                                 |                                                             |                                |                  |
|-------------------------------------------------|-------------------------------------------------------------|--------------------------------|------------------|
| Protection class                                | III                                                         |                                |                  |
| Reverse polarity protection                     | yes                                                         |                                |                  |
| Integrated watchdog                             | yes                                                         |                                |                  |
| 2-wire                                          |                                                             |                                |                  |
| Operating voltage                               | [V]                                                         | 20...32 DC                     |                  |
| Current consumption                             | [mA]                                                        | 3.6...21                       |                  |
| Power-on delay time                             | [s]                                                         | 1                              |                  |
| 3-wire                                          |                                                             |                                |                  |
| Operating voltage                               | [V]                                                         | 18...32 DC                     |                  |
| Current consumption                             | [mA]                                                        | < 45                           |                  |
| Power-on delay time                             | [s]                                                         | 0.5                            |                  |
| Inputs / outputs                                |                                                             |                                |                  |
| Number of inputs and outputs                    | Number of digital outputs: 2; Number of analogue outputs: 1 |                                |                  |
| Outputs                                         |                                                             |                                |                  |
| Total number of outputs                         | 2                                                           |                                |                  |
| Output signal                                   | switching signal; analogue signal; IO-Link; (configurable)  |                                |                  |
| Electrical design                               | PNP/NPN                                                     |                                |                  |
| Number of digital outputs                       | 2                                                           |                                |                  |
| Output function                                 | normally open / normally closed; (parameterisable)          |                                |                  |
| Number of analogue outputs                      | 1                                                           |                                |                  |
| Analogue current output                         | [mA]                                                        | 4...20, invertible; (scalable) |                  |
| Short-circuit protection                        | yes                                                         |                                |                  |
| Type of short-circuit protection                | pulsed                                                      |                                |                  |
| Overload protection                             | yes                                                         |                                |                  |
| 2-wire                                          |                                                             |                                |                  |
| Max. load                                       | [Ω]                                                         | 300                            |                  |
| 3-wire                                          |                                                             |                                |                  |
| Max. voltage drop switching output DC           | [V]                                                         | 2                              |                  |
| Permanent current rating of switching output DC | [mA]                                                        | 250                            |                  |
| Switching frequency DC                          | [Hz]                                                        | 125                            |                  |
| Max. load                                       | [Ω]                                                         | (Ub - 10 V) / 20 mA            |                  |
| Measuring/setting range                         |                                                             |                                |                  |
| Measuring range                                 | -1...25 bar                                                 | -14.4...362.7 psi              | -0.1...2.5 MPa   |
| Set point SP                                    | -0.96...25 bar                                              | -13.8...362.7 psi              | -0.096...2.5 MPa |
| Reset point rP                                  | -1...24.96 bar                                              | -14.4...362.1 psi              | -0.1...2.496 MPa |
| Analogue start point                            | -1...18.74 bar                                              | -14.4...271.8 psi              | -0.1...1.874 MPa |
| Analogue end point                              | 5.24...25 bar                                               | 76.2...362.7 psi               | 0.524...2.5 MPa  |
| In steps of                                     | 0.02 bar                                                    | 0.3 psi                        | 0.002 MPa        |
| Factory setting                                 |                                                             | SP1 = 6.24 bar                 | rP1 = 5.74 bar   |
|                                                 |                                                             | SP2 = 18.74 bar                | rP2 = 18.24 bar  |
|                                                 |                                                             | ASP = 0.00 bar                 | AEP = 25.00 bar  |



## Flush pressure sensor with display

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| Accuracy / deviations                                        |                                                                                                                      |          |
|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------|
| Switch point accuracy<br>[% of the span]                     | < ± 0,2; (Turn down 1:1)                                                                                             |          |
| Repeatability<br>[% of the span]                             | < ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)                                                       |          |
| Characteristics deviation<br>[% of the span]                 | < ± 0,2; (Turn down 1:1 , linearity, incl. hysteresis and repeatability , limit value setting to DIN EN IEC 62828-1) |          |
| Linearity deviation<br>[% of the span]                       | < ± 0,15; (Turn down 1:1)                                                                                            |          |
| Hysteresis deviation<br>[% of the span]                      | < ± 0,15; (Turn down 1:1)                                                                                            |          |
| Long-term stability<br>[% of the span]                       | < ± 0,1; (Turn down 1:1; per year)                                                                                   |          |
| Temperature coefficient zero point<br>[% of the span / 10 K] | < ± 0,2; (0...200 °C)                                                                                                |          |
| Temperature coefficient span<br>[% of the span / 10 K]       | < ± 0,15; (0...200 °C)                                                                                               |          |
| Response times                                               |                                                                                                                      |          |
| Damping process value dAP [s]                                | 0...30                                                                                                               |          |
| Damping for the analogue output dAA [s]                      | 0.01...99.99                                                                                                         |          |
| 2-wire                                                       |                                                                                                                      |          |
| Step response time analogue output [ms]                      | 45                                                                                                                   |          |
| 3-wire                                                       |                                                                                                                      |          |
| Min. response time of switching output (dAP) [ms]            | 3                                                                                                                    |          |
| Step response time analogue output [ms]                      | 7                                                                                                                    |          |
| Interfaces                                                   |                                                                                                                      |          |
| Communication interface                                      | IO-Link                                                                                                              |          |
| Transmission type                                            | COM2 (38,4 kBaud)                                                                                                    |          |
| IO-Link revision                                             | 1.0                                                                                                                  |          |
| SDCI standard                                                | IO-Link Communication Specification, Version 1.0, January 2009, Ordner No: 10.002                                    |          |
| SIO mode                                                     | yes                                                                                                                  |          |
| Required master port type                                    | A                                                                                                                    |          |
| Process data analogue                                        | 1                                                                                                                    |          |
| Process data binary                                          | 2                                                                                                                    |          |
| Min. process cycle time [ms]                                 | 2.3                                                                                                                  |          |
| Supported DeviceIDs                                          | Type of operation                                                                                                    | DeviceID |
|                                                              | default                                                                                                              | 156      |
| Operating conditions                                         |                                                                                                                      |          |
| Ambient temperature [°C]                                     | -25...80                                                                                                             |          |
| Note on ambient temperature                                  | Medium temperature: ≤ 160 °C                                                                                         |          |
| Ambient temperature [°C]                                     | -25...65                                                                                                             |          |
| Note on ambient temperature                                  | Medium temperature: ≤ 200 °C                                                                                         |          |



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|                                                   |                  |                                                                             |
|---------------------------------------------------|------------------|-----------------------------------------------------------------------------|
| Storage temperature                               | [°C]             | -25...100                                                                   |
| Protection                                        |                  | IP 67; IP 68; IP 69K                                                        |
| <b>Tests / approvals</b>                          |                  |                                                                             |
| EMC                                               |                  | DIN EN 61000-6-2                                                            |
|                                                   |                  | DIN EN 61000-6-3                                                            |
| 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]          | 142                                                                         |
| Note on approval                                  |                  | Including free 6-point calibration certificate.                             |
| <b>Mechanical data</b>                            |                  |                                                                             |
| Weight                                            | [g]              | 1066.3                                                                      |
| Housing                                           |                  | cylindrical                                                                 |
| Dimensions                                        | [mm]             | Ø 50 / L = 163                                                              |
| Materials                                         |                  | stainless steel (316L/1.4404); stainless steel (316L/1.4435); PBT; PEI; PFA |
| Materials (wetted parts)                          |                  | stainless steel (316L/1.4435)                                               |
| Min. pressure cycles                              |                  | 10 million                                                                  |
| Process connection                                |                  | Clamp DN40 (1,5") DIN 32676 (ISO 2852)                                      |
| Surface characteristics Ra/Rz of the wetted parts |                  | Ra < 0.38 µm                                                                |
| Fill fluid for pressure transmission              |                  | NEOBEE (food grade, FDA compliant)                                          |
| Diaphragm diameter                                | [mm]             | 34                                                                          |
| <b>Displays / operating elements</b>              |                  |                                                                             |
| Display                                           | Display unit     | LED, green                                                                  |
|                                                   | switching status | LED, yellow                                                                 |
|                                                   | function display | alphanumeric display, 4-digit                                               |
|                                                   | measured values  | alphanumeric display, 4-digit                                               |
| Display unit                                      |                  | bar; psi; MPa; % of the span                                                |
| <b>Remarks</b>                                    |                  |                                                                             |
| Pack quantity                                     |                  | 1 pcs.                                                                      |

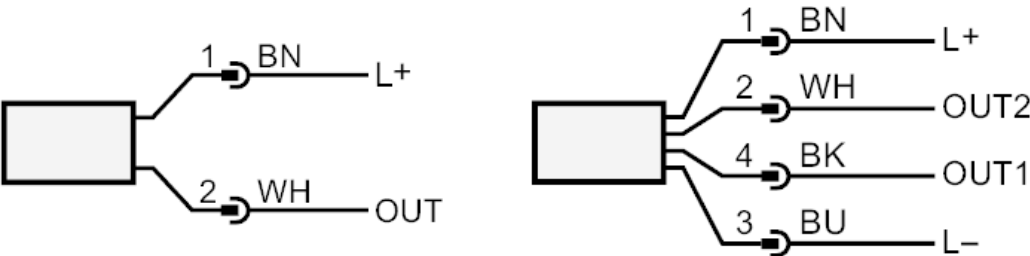


Flush pressure sensor with display

PI-025-REZ01-MFRKG/US/ /P

Electrical connection

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



|      |                                                       |
|------|-------------------------------------------------------|
| OUT  | connection for 2-wire operation :<br>analogue output  |
| OUT1 | connection for 3-wire operation :<br>switching output |
| OUT2 | IO-Link<br>switching output<br>analogue output        |
|      | colours to DIN EN 60947-5-2                           |
|      | Core colours :                                        |
| BK = | black                                                 |
| BN = | brown                                                 |
| BU = | blue                                                  |
| WH = | white                                                 |