

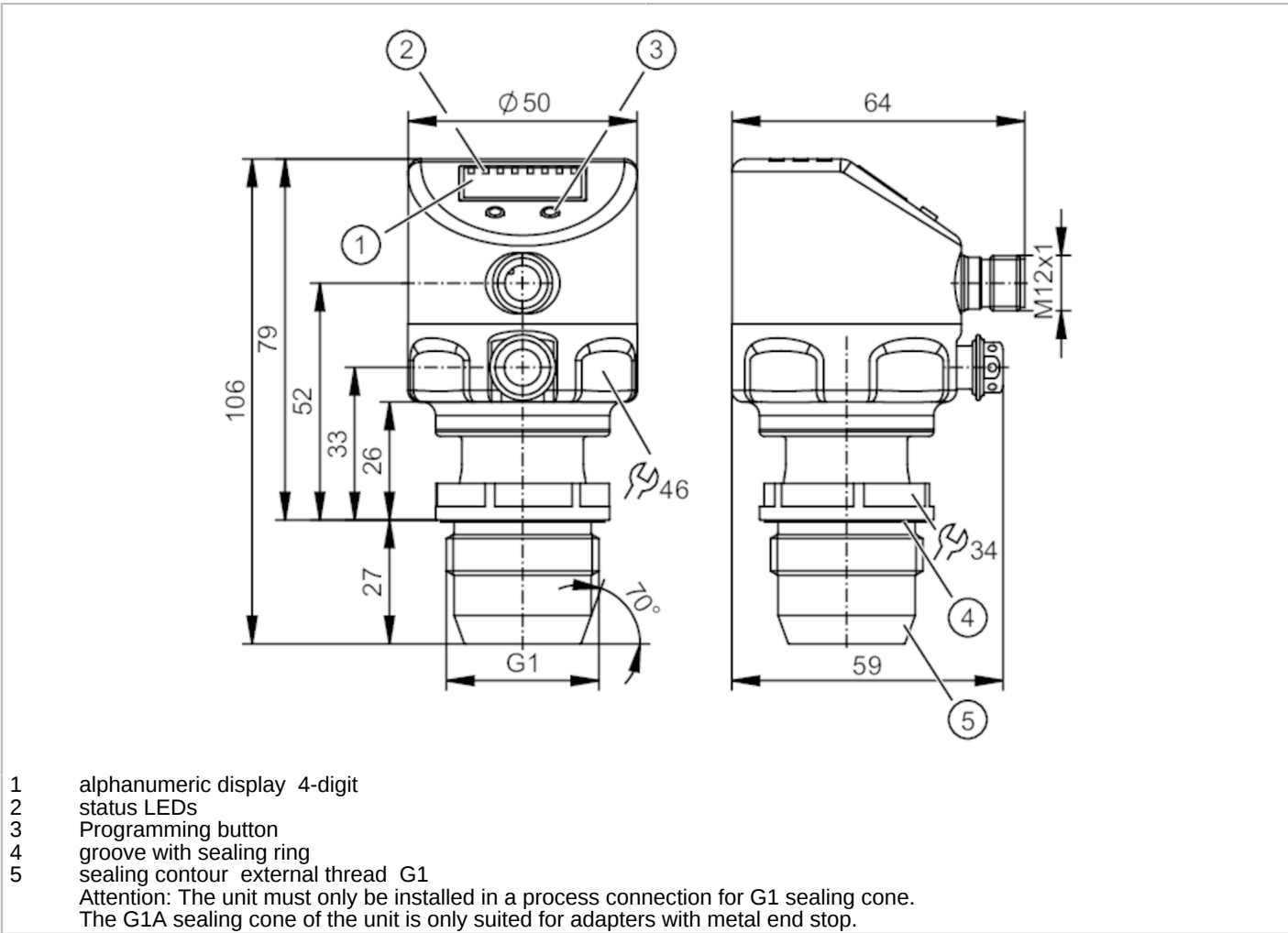


Flush pressure sensor with display

PI-1,6-REA01-MFRKG/US/ /P

Alternative articles: PI1817

When selecting an alternative article and accessories please note that technical data may differ!



| Product characteristics      |                                                                                                                                                                                                                                          |                  |                  |               |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------|---------------|
| Number of inputs and outputs | Number of digital outputs: 2; Number of analog outputs: 1                                                                                                                                                                                |                  |                  |               |
| Measuring range              | -0.1...1.6 bar                                                                                                                                                                                                                           | -100...1600 mbar | -1.46...23.2 psi | -10...160 kPa |
| Process connection           | threaded connection G 1 external thread sealing cone - 27 mm; Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop. |                  |                  |               |
| 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]      | -25...125; (145 max. 1h)                                                                                                                                                                                                                 |                  |                  |               |
| Min. burst pressure          | 40000 mbar                                                                                                                                                                                                                               | 580 psi          | 4000 kPa         |               |
| Pressure rating              | 15000 mbar                                                                                                                                                                                                                               | 215 psi          | 1500 kPa         |               |
| Vacuum resistance            | -1000 mbar                                                                                                                                                                                                                               |                  | -0.1 MPa         |               |
| Type of pressure             | relative pressure                                                                                                                                                                                                                        |                  |                  |               |



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|                                                 |       |                                                           |                   |                  |               |
|-------------------------------------------------|-------|-----------------------------------------------------------|-------------------|------------------|---------------|
| No dead space                                   |       | yes                                                       |                   |                  |               |
| MAWP (for applications according to CRN)        | [bar] | 15                                                        |                   |                  |               |
| Electrical data                                 |       |                                                           |                   |                  |               |
| Min. insulation resistance                      | [MΩ]  | 100; (500 V DC)                                           |                   |                  |               |
| 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 analog outputs: 1 |                   |                  |               |
| Outputs                                         |       |                                                           |                   |                  |               |
| Total number of outputs                         |       | 2                                                         |                   |                  |               |
| Output signal                                   |       | switching signal; analog signal; IO-Link; (configurable)  |                   |                  |               |
| Electrical design                               |       | PNP/NPN                                                   |                   |                  |               |
| Number of digital outputs                       |       | 2                                                         |                   |                  |               |
| Output function                                 |       | normally open / closed; (configurable)                    |                   |                  |               |
| Number of analog outputs                        |       | 1                                                         |                   |                  |               |
| Analog current output                           | [mA]  | 4...20, invertible; (scalable)                            |                   |                  |               |
| Short-circuit protection                        |       | yes                                                       |                   |                  |               |
| Type of short-circuit protection                |       | yes (non-latching)                                        |                   |                  |               |
| 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                                 |       | -0.1...1.6 bar                                            | -100...1600 mbar  | -1.46...23.2 psi | -10...160 kPa |
| Set point SP                                    |       | -96...1600 mbar                                           | -1.4...23.2 psi   | -9.6...160 kPa   |               |
| Reset point rP                                  |       | -100...1598 mbar                                          | -1.44...23.16 psi | -10...159.8 kPa  |               |
| Analog start point                              |       | -100...1200 mbar                                          | -1.46...17.42 psi | -10...120 kPa    |               |
| Analog end point                                |       | 300...1600 mbar                                           | 4.34...23.2 psi   | 30...160 kPa     |               |



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|                 |        |               |                 |
|-----------------|--------|---------------|-----------------|
| In steps of     | 2 mbar | 0.02 psi      | 0.2 kPa         |
| Factory setting |        | SP1 = 0.4 bar | rP1 = 0.368 bar |
|                 |        | SP2 = 1.2 bar | rP2 = 1.168 bar |
|                 |        | ASP = 0.0 bar | AEP = 1.6 bar   |
|                 |        | dAP = 0.06 s  | dAA = 0.03 s    |

## Accuracy / deviations

|                                                              |                                                                                                                    |
|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Switch point accuracy<br>[% of the span]                     | < ± 0,2; (Turn down 1:1)                                                                                           |
| Repeatability [% 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] | < ± 0,05; (0...70 °C)                                                                                              |
| Temperature coefficient span<br>[% of the span / 10 K]       | < ± 0,15; (0...70 °C)                                                                                              |

## Reaction times

|                                       |              |
|---------------------------------------|--------------|
| Damping process value dAP [s]         | 0...30       |
| Damping for the analog output dAA [s] | 0.01...99.99 |

## 2-wire

|                                       |    |
|---------------------------------------|----|
| Step response time analog output [ms] | 45 |
|---------------------------------------|----|

## 3-wire

|                                                   |   |
|---------------------------------------------------|---|
| Min. response time of switching output (dAP) [ms] | 3 |
| Step response time analog output [ms]             | 7 |

## Interfaces

|                              |                      |                         |
|------------------------------|----------------------|-------------------------|
| Communication interface      | IO-Link              |                         |
| Transmission type            | COM2 (38,4 kBaud)    |                         |
| IO-Link revision             | 1.0                  |                         |
| Profiles                     | Smart Sensor - SSP 0 | Generic Profiled Sensor |
|                              | Function             | Device identification   |
|                              | Function             | Process data variable   |
|                              | Function             | Device diagnosis        |
| SIO mode                     | yes                  |                         |
| Required master port class   | A                    |                         |
| Process data analog          | 1                    |                         |
| Process data binary          | 2                    |                         |
| Min. process cycle time [ms] | 5                    |                         |

# PI2817



## Flush pressure sensor with display

PI-1,6-REA01-MFRKG/US/ IP

|                     |                   |          |
|---------------------|-------------------|----------|
| Supported DeviceIDs | Type of operation | DeviceID |
|                     | default           | 727      |

| Operating conditions |      |                      |
|----------------------|------|----------------------|
| Ambient temperature  | [°C] | -25...80             |
| Storage temperature  | [°C] | -40...100            |
| Protection           |      | IP 67; IP 68; IP 69K |

| Tests / approvals    |                           |                     |
|----------------------|---------------------------|---------------------|
| EMC                  | EN 61000-4-2 ESD          | 4 kV CD / 8 kV AD   |
|                      | EN 61000-4-3 HF radiated  | 10 V/m              |
|                      | EN 61000-4-4 Burst        | 2 kV                |
|                      | EN 61000-4-5 Surge        | 0,5/1 kV            |
|                      | EN 61000-4-6 HF conducted | 10 V                |
| Shock resistance     | DIN IEC 68-2-27           | 50 g (11 ms)        |
| Vibration resistance | DIN IEC 68-2-6            | 20 g (10...2000 Hz) |
| MTTF                 | [years]                   | 154                 |

| Mechanical data          |      |                                                                                                                                                                                                                                          |
|--------------------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Weight                   | [g]  | 380.5                                                                                                                                                                                                                                    |
| Housing                  |      | tubular                                                                                                                                                                                                                                  |
| Dimensions               | [mm] | Ø 50 / L = 106                                                                                                                                                                                                                           |
| Material                 |      | stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA                                                                                                                                                                                |
| Materials (wetted parts) |      | ceramics (99.9 % Al <sub>2</sub> O <sub>3</sub> ); stainless steel (1.4435 / 316L)<br>surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE                                                                                             |
| Min. pressure cycles     |      | 100 million                                                                                                                                                                                                                              |
| Process connection       |      | threaded connection G 1 external thread sealing cone - 27 mm; Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop. |

| Displays / operating elements |                  |                                                        |
|-------------------------------|------------------|--------------------------------------------------------|
| Display                       | Display unit     | LED, green                                             |
|                               | Switching status | LED, yellow                                            |
|                               | Function display | alphanumeric display, 4-digit                          |
|                               | Measured values  | alphanumeric display, 4-digit                          |
| Display unit                  |                  | mbar; kPa; psi; inH <sub>2</sub> O; mWS; % of the span |

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

| Electrical connection |  |  |
|-----------------------|--|--|
|-----------------------|--|--|

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





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### Connection



- 1 connection for 2-wire operation
- 2 connection for 3-wire operation :
- OUT1 Switching output
- OUT2 Switching output
- analog output
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)