



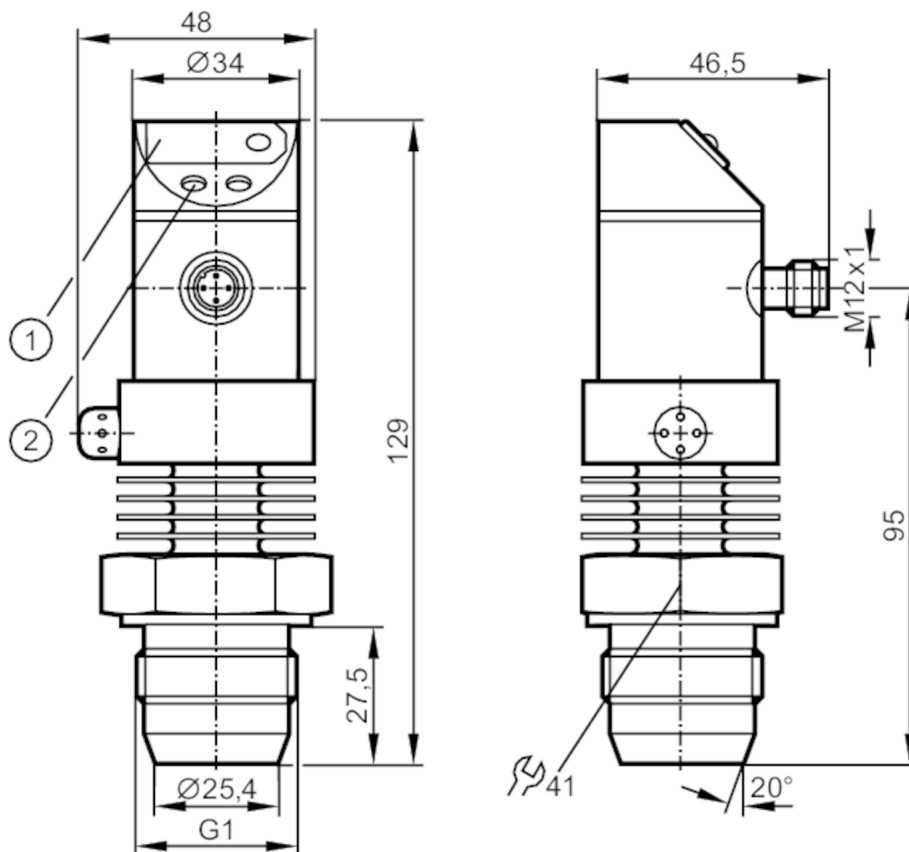
## Flush pressure sensor with display

PI-001BREA01-MFRKG/US/ /P

Article no longer available - archive entry

Alternative articles: PI1697

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



- 1 7-segment LED display
- 2 programming button



EHEDG Certified



### Product characteristics

|                              |                                                             |                 |              |
|------------------------------|-------------------------------------------------------------|-----------------|--------------|
| Number of inputs and outputs | Number of digital outputs: 2; Number of analogue outputs: 1 |                 |              |
| Measuring range              | -50...1000 mbar                                             | -0.7...14.5 psi | -5...100 kPa |
| Process connection           | threaded connection G 1 external thread                     |                 |              |

### Application

|                         |                                                                       |         |          |
|-------------------------|-----------------------------------------------------------------------|---------|----------|
| Special feature         | Gold-plated contacts                                                  |         |          |
| Application             | flush mountable for the food and beverage industry                    |         |          |
| Installation            | freely rotatable housing 350°                                         |         |          |
| Media                   | viscous media and liquids with suspended particles; liquids and gases |         |          |
| Medium temperature [°C] | -25...125; (145 max. 1h)                                              |         |          |
| Min. bursting pressure  | 30000 mbar                                                            | 450 psi | 3000 kPa |
| Pressure rating         | 10000 mbar                                                            | 145 psi | 1000 kPa |
| Type of pressure        | relative pressure                                                     |         |          |
| No dead space           | yes                                                                   |         |          |



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| Electrical data                                 |                 |                                                                                                                      |                 |
|-------------------------------------------------|-----------------|----------------------------------------------------------------------------------------------------------------------|-----------------|
| Operating voltage                               | [V]             | 20...30 DC                                                                                                           |                 |
| Current consumption                             | [mA]            | < 60                                                                                                                 |                 |
| Min. insulation resistance                      | [MΩ]            | 100; (500 V DC)                                                                                                      |                 |
| Protection class                                |                 | III                                                                                                                  |                 |
| Reverse polarity protection                     |                 | yes                                                                                                                  |                 |
| Power-on delay time                             | [s]             | 0.2                                                                                                                  |                 |
| Integrated watchdog                             |                 | yes                                                                                                                  |                 |
| 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; (configurable)                                                                    |                 |
| Electrical design                               |                 | PNP/NPN                                                                                                              |                 |
| Number of digital outputs                       |                 | 2                                                                                                                    |                 |
| Output function                                 |                 | normally open / normally closed; (parameterisable)                                                                   |                 |
| Max. voltage drop switching output DC           | [V]             | 2                                                                                                                    |                 |
| Permanent current rating of switching output DC | [mA]            | 250                                                                                                                  |                 |
| Switching frequency DC                          | [Hz]            | < 170                                                                                                                |                 |
| Number of analogue outputs                      |                 | 1                                                                                                                    |                 |
| Analogue current output                         | [mA]            | 4...20; (scalable 1:4)                                                                                               |                 |
| Max. load                                       | [Ω]             | (Ub - 10 V) / 20 mA                                                                                                  |                 |
| Analogue voltage output                         | [V]             | 0...10; (scalable 1:4)                                                                                               |                 |
| Min. load resistance                            | [Ω]             | 2000                                                                                                                 |                 |
| Short-circuit protection                        |                 | yes                                                                                                                  |                 |
| Type of short-circuit protection                |                 | pulsed                                                                                                               |                 |
| Overload protection                             |                 | yes                                                                                                                  |                 |
| Measuring/setting range                         |                 |                                                                                                                      |                 |
| Measuring range                                 | -50...1000 mbar | -0.7...14.5 psi                                                                                                      | -5...100 kPa    |
| Set point SP                                    | -45...999 mbar  | -0.7...14.5 psi                                                                                                      | -4.5...99.9 kPa |
| Reset point rP                                  | -50...994 mbar  | -0.7...14.4 psi                                                                                                      | -5...99.4 kPa   |
| Analogue start point                            | -50...749 mbar  | -0.7...10.9 psi                                                                                                      | -5...74.9 kPa   |
| Analogue end point                              | 200...999 mbar  | 2.9...14.5 psi                                                                                                       | 20...99.9 kPa   |
| In steps of                                     | 1 mbar          | 0.1 psi                                                                                                              | 0.1 kPa         |
| Accuracy / deviations                           |                 |                                                                                                                      |                 |
| Repeatability                                   | [% of the span] | < ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)                                                       |                 |
| Characteristics deviation                       | [% of the span] | < ± 0,6; (Turn down 1:1 , linearity, incl. hysteresis and repeatability , limit value setting to DIN EN IEC 62828-1) |                 |
| Linearity deviation                             | [% of the span] | < ± 0,5; (Turn down 1:1)                                                                                             |                 |
| Hysteresis deviation                            | [% of the span] | < ± 0,1; (Turn down 1:1)                                                                                             |                 |
| Long-term stability                             |                 | < ± 0,1; (Turn down 1:1; per year)                                                                                   |                 |



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|                                              |                                                                                                                                                                                                                 |                       |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| [% of the span]                              |                                                                                                                                                                                                                 |                       |
| Temperature coefficient zero point           |                                                                                                                                                                                                                 | < ± 0,1; (0...80 °C)  |
| [% of the span / 10 K]                       |                                                                                                                                                                                                                 |                       |
| Temperature coefficient span                 |                                                                                                                                                                                                                 | < ± 0,2; (0...80 °C)  |
| [% of the span / 10 K]                       |                                                                                                                                                                                                                 |                       |
| Response times                               |                                                                                                                                                                                                                 |                       |
| Response time                                | [ms]                                                                                                                                                                                                            | < 3                   |
| Damping process value dAP                    | [s]                                                                                                                                                                                                             | 0...4                 |
| Damping for the analogue output dAA in steps | [s]                                                                                                                                                                                                             | 0 - 0,1 - 0,5 - 2     |
| Max. response time analogue output           | [ms]                                                                                                                                                                                                            | 3                     |
| Software / programming                       |                                                                                                                                                                                                                 |                       |
| Parameter setting options                    | hysteresis / window; normally open / normally closed; switching logic; current/voltage output; Damping; adaptation of displayed values; display can be rotated and switched off; Display unit; zero point; span |                       |
| Operating conditions                         |                                                                                                                                                                                                                 |                       |
| Ambient temperature                          | [°C]                                                                                                                                                                                                            | -25...80              |
| Storage temperature                          | [°C]                                                                                                                                                                                                            | -40...100             |
| Protection                                   |                                                                                                                                                                                                                 | IP 67                 |
| 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 61000-4-6 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)   |
| Mechanical data                              |                                                                                                                                                                                                                 |                       |
| Materials                                    | stainless steel (316L/1.4404); PBT; PC; PEI; EPDM/X; FKM                                                                                                                                                        |                       |
| Materials (wetted parts)                     | stainless steel (316L/1.4404); ceramics (99.9 % Al2O3); PTFE                                                                                                                                                    |                       |
| Min. pressure cycles                         | 100 million                                                                                                                                                                                                     |                       |
| Process connection                           | threaded connection G 1 external thread                                                                                                                                                                         |                       |
| Displays / operating elements                |                                                                                                                                                                                                                 |                       |
| Display                                      | switching status                                                                                                                                                                                                | 2 x LED, red          |
|                                              | function display                                                                                                                                                                                                | 7-segment LED display |
|                                              | measured values                                                                                                                                                                                                 | 7-segment LED display |
| Display unit                                 | mbar; psi; kPa                                                                                                                                                                                                  |                       |
| Remarks                                      |                                                                                                                                                                                                                 |                       |
| Remarks                                      | The 3-A qualification is only valid if adapters with 3-A qualification are used for installation.                                                                                                               |                       |
| Pack quantity                                | 1 pcs.                                                                                                                                                                                                          |                       |



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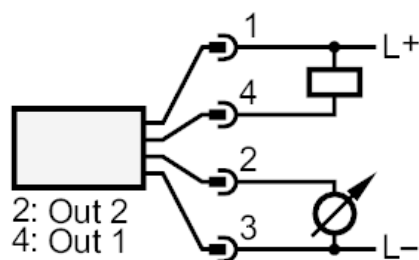
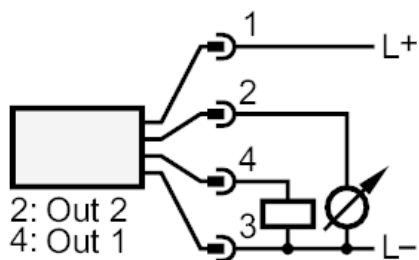
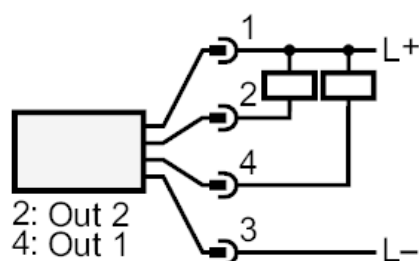
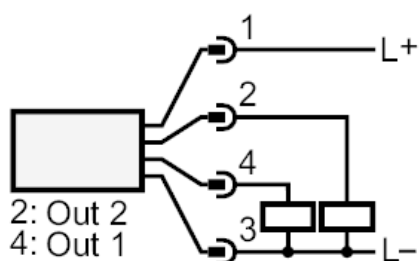
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### Electrical connection

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



### Connection



OUT1  
OUT2

switching output  
switching output  
analogue output