

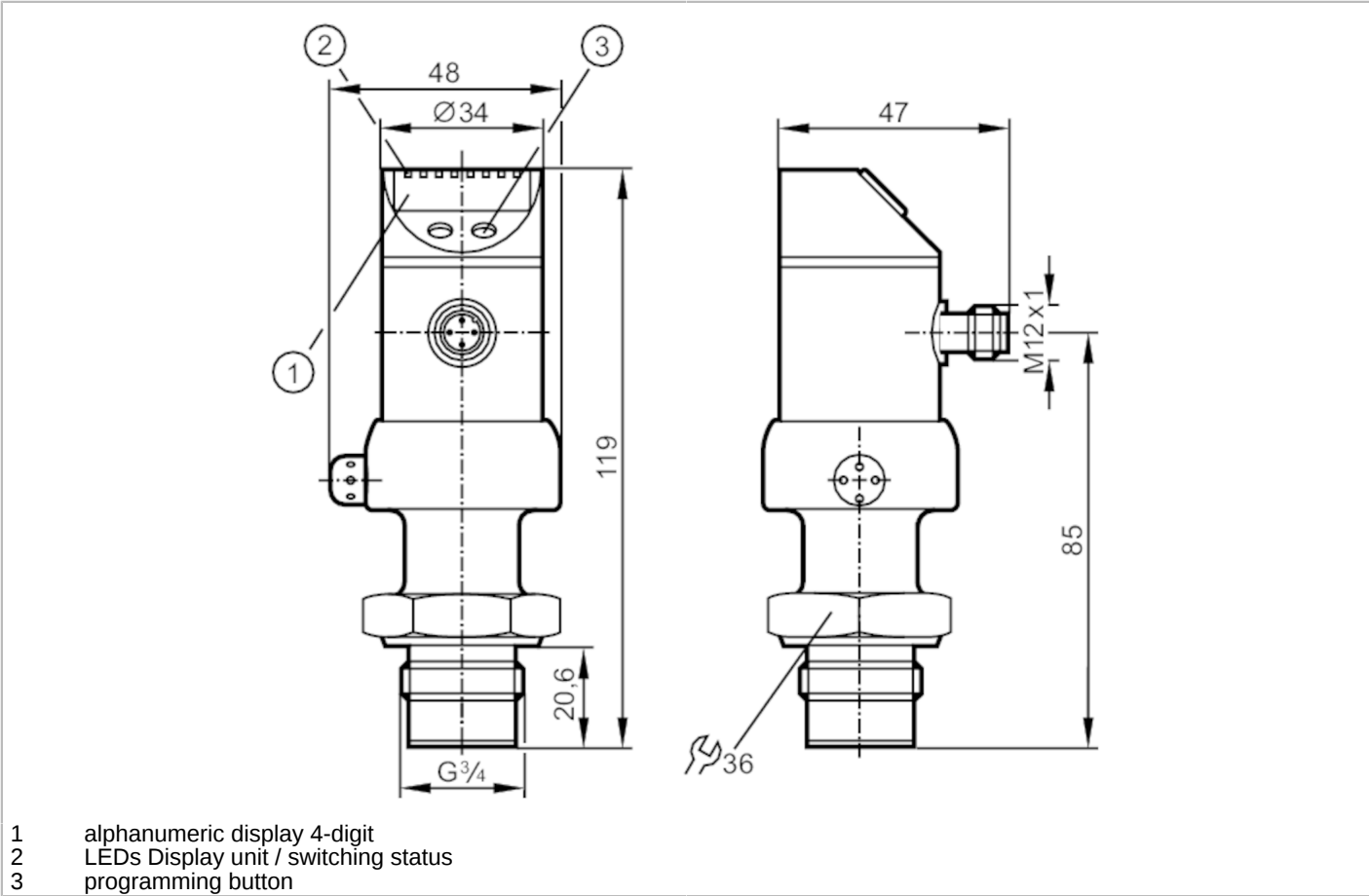


Flush pressure sensor with display

PI-004-REB34-MFRKG/US/ IP

phase-out article  
Discontinuation date: 03/31/2024

Alternative articles: PM1505 + E30482 or PI1705  
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: 1; Number of analogue outputs: 1           |                |                |
| Measuring range              | -1...4 bar                                                            | -14.5...58 psi | -100...400 kPa |
| Process connection           | threaded connection G 3/4 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       | 100 bar                                                               | 1450 psi       | 10000 kPa      |
| Pressure rating              | 30 bar                                                                | 435 psi        | 3000 kPa       |
| Type of pressure             | relative pressure; vacuum                                             |                |                |
| No dead space                | yes                                                                   |                |                |



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| Electrical data                                 |                 |                                                                                                                      |                 |
|-------------------------------------------------|-----------------|----------------------------------------------------------------------------------------------------------------------|-----------------|
| Operating voltage                               | [V]             | 18...32 DC                                                                                                           |                 |
| Current consumption                             | [mA]            | < 50                                                                                                                 |                 |
| Min. insulation resistance                      | [MΩ]            | 100; (500 V DC)                                                                                                      |                 |
| Protection class                                |                 | III                                                                                                                  |                 |
| Reverse polarity protection                     |                 | yes                                                                                                                  |                 |
| Power-on delay time                             | [s]             | 0.5                                                                                                                  |                 |
| Integrated watchdog                             |                 | yes                                                                                                                  |                 |
| 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                                   |                 | switching signal; analogue signal; (configurable)                                                                    |                 |
| Electrical design                               |                 | PNP/NPN                                                                                                              |                 |
| Number of digital outputs                       |                 | 1                                                                                                                    |                 |
| 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]            | 6                                                                                                                    |                 |
| Number of analogue outputs                      |                 | 1                                                                                                                    |                 |
| Analogue current output                         | [mA]            | 4...20, invertible; (scalable 1:4)                                                                                   |                 |
| Max. load                                       | [Ω]             | (Ub - 10 V) / 20 mA                                                                                                  |                 |
| Analogue voltage output                         | [V]             | 0...10, invertible; (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                                 | -1...4 bar      | -14.5...58 psi                                                                                                       | -100...400 kPa  |
| Set point SP                                    | -0.99...4 bar   | -14.35...58 psi                                                                                                      | -99...400 kPa   |
| Reset point rP                                  | -1...3.99 bar   | -14.5...57.85 psi                                                                                                    | -100...399 kPa  |
| Analogue start point                            | -1...3 bar      | -14.5...43.5 psi                                                                                                     | -100...300 kPa  |
| Analogue end point                              | 0...4 bar       | 0...58 psi                                                                                                           | 0...400 kPa     |
| In steps of                                     | 0.005 bar       | 0.05 psi                                                                                                             | 0.5 kPa         |
| Factory setting                                 |                 | SP1 = 1.000 bar                                                                                                      | rP1 = 0.920 bar |
|                                                 |                 | ASP = 0.000 bar                                                                                                      | AEP = 4.000 bar |
| Accuracy / deviations                           |                 |                                                                                                                      |                 |
| Switch point accuracy                           | [% of the span] | < ± 0,2; (Turn down 1:1)                                                                                             |                 |
| Repeatability                                   |                 | < ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)                                                       |                 |
| Characteristics deviation                       | [% 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                             |                 | < ± 0,15; (Turn down 1:1)                                                                                            |                 |



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|                                    |                        |                                         |
|------------------------------------|------------------------|-----------------------------------------|
|                                    | [% of the span]        |                                         |
| Hysteresis deviation               |                        | $< \pm 0,15$ ; (Turn down 1:1)          |
|                                    | [% of the span]        |                                         |
| Long-term stability                |                        | $< \pm 0,1$ ; (Turn down 1:1; per year) |
|                                    | [% of the span]        |                                         |
| Temperature coefficient zero point |                        | $< \pm 0,05$ ; (0...70 °C)              |
|                                    | [% of the span / 10 K] |                                         |
| Temperature coefficient span       |                        | $< \pm 0,15$ ; (0...70 °C)              |
|                                    | [% of the span / 10 K] |                                         |

## Response times

|                                     |      |           |
|-------------------------------------|------|-----------|
| Response time                       | [ms] | $< 100$   |
| Damping process value dAP           | [s]  | 0.1...100 |
| Damping for the analogue output dAA | [s]  | 0.1...100 |
| Step response time analogue output  | [ms] | 25        |

## 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; 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]                   | 163                 |

## Mechanical data

|                          |     |                                                                                                                                  |
|--------------------------|-----|----------------------------------------------------------------------------------------------------------------------------------|
| Weight                   | [g] | 384                                                                                                                              |
| Materials                |     | stainless steel (316L/1.4404); PC; PBT; PEI; FKM; PTFE                                                                           |
| Materials (wetted parts) |     | ceramics (99.9 % Al <sub>2</sub> O <sub>3</sub> ); stainless steel (316L/1.4435); surface characteristics: Ra < 0,4 / Rz 4; PTFE |
| Min. pressure cycles     |     | 100 million                                                                                                                      |
| Process connection       |     | threaded connection G 3/4 external thread                                                                                        |

## Displays / operating elements

|              |                  |                               |
|--------------|------------------|-------------------------------|
| Display      | Display unit     | 4 x LED, green                |
|              | switching status | LED, yellow                   |
|              | function display | alphanumeric display, 4-digit |
|              | measured values  | alphanumeric display, 4-digit |
| Display unit |                  | bar; psi; kPa; % of the span  |

PI2995



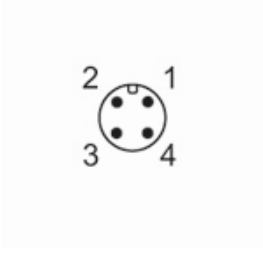
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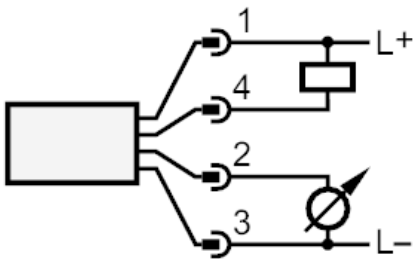
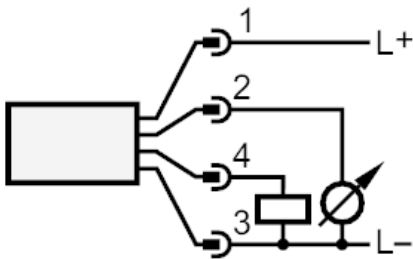
| Remarks       |                   |
|---------------|-------------------|
| Notes         | phase-out article |
| Pack quantity | 1 pcs.            |

Electrical connection

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



Connection



|      |                  |
|------|------------------|
| OUT1 | switching output |
| OUT2 | analogue output  |