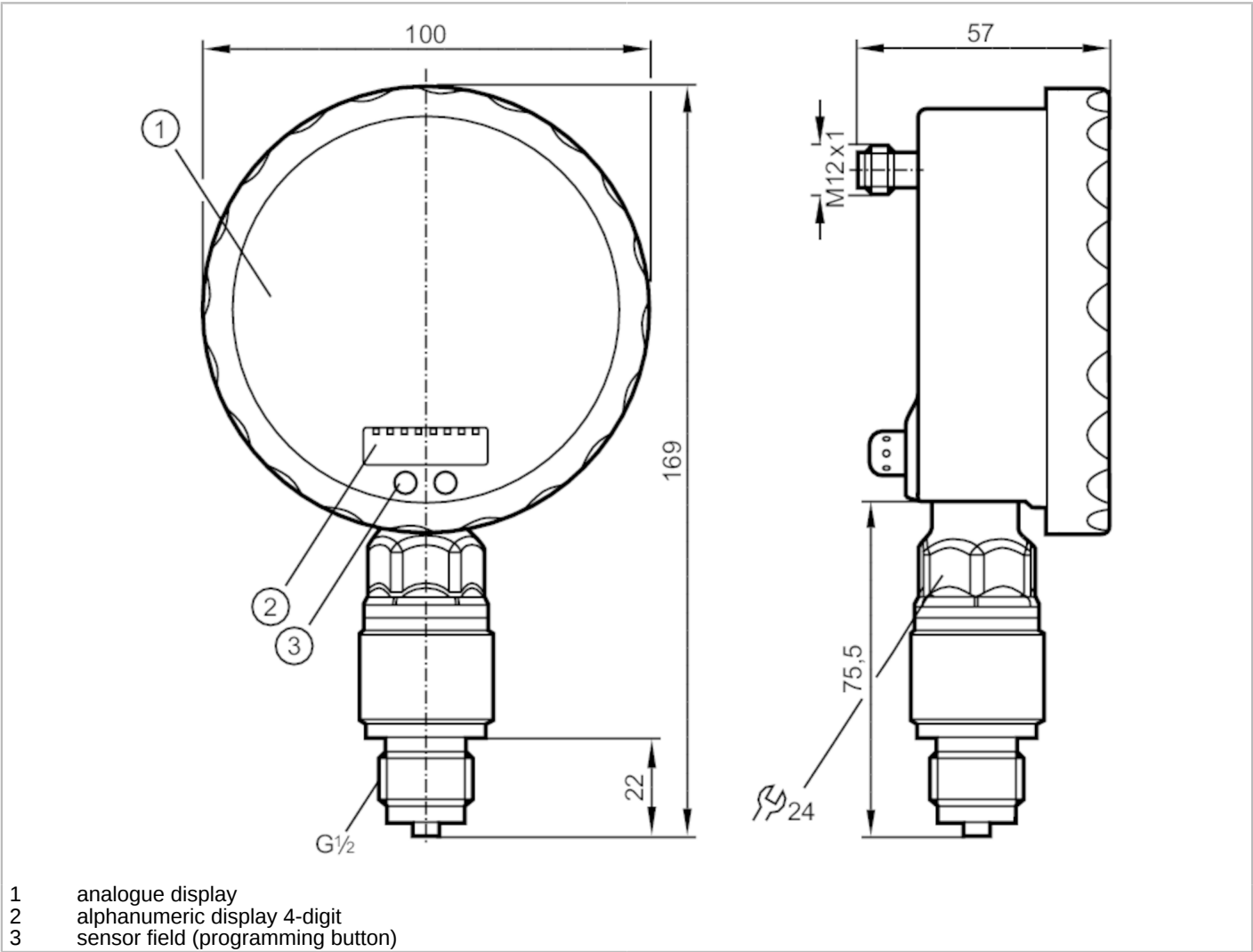


PG2489



Pressure sensor with analogue display

PG-,10BREB12-MFRKG/US/ /P



| Product characteristics      |  |                                                             |                                   |
|------------------------------|--|-------------------------------------------------------------|-----------------------------------|
| Number of inputs and outputs |  | Number of digital outputs: 1; Number of analogue outputs: 1 |                                   |
| Measuring range              |  | -0.005...0.1 bar                                            | -5...100 mbar<br>-2...40.16 inH2O |
| Process connection           |  | threaded connection G 1/2 external thread                   |                                   |
| Application                  |  |                                                             |                                   |
| Special feature              |  | Gold-plated contacts                                        |                                   |
| Application                  |  | for industrial applications                                 |                                   |
| Media                        |  | liquids and gases                                           |                                   |
| Medium temperature [°C]      |  | -25...80                                                    |                                   |
| Min. bursting pressure       |  | 30000 mbar                                                  | 12044 inH2O                       |
| Min. bursting pressure [MPa] |  | 3                                                           |                                   |
| Pressure rating              |  | 4000 mbar                                                   | 1606 inH2O                        |
| Pressure rating [MPa]        |  | 0.4                                                         |                                   |
| Type of pressure             |  | relative pressure                                           |                                   |
| Electrical data              |  |                                                             |                                   |
| Operating voltage [V]        |  | 18...32 DC                                                  |                                   |



## Pressure sensor with analogue display

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|                             |      |                 |
|-----------------------------|------|-----------------|
| Current consumption         | [mA] | < 70; (24 V)    |
| Min. insulation resistance  | [MΩ] | 100; (500 V DC) |
| Protection class            |      | III             |
| Reverse polarity protection |      | yes             |
| Power-on delay time         | [s]  | 6               |
| 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] | 75                                                 |
| Number of analogue outputs                      |      | 1                                                  |
| Analogue current output                         | [mA] | 4...20, invertible; (scalable)                     |
| Max. load                                       | [Ω]  | (Ub - 10 V) / 20 mA                                |
| Short-circuit protection                        |      | yes                                                |
| Type of short-circuit protection                |      | pulsed                                             |
| Overload protection                             |      | yes                                                |

## Measuring/setting range

|                      |                  |                     |                  |
|----------------------|------------------|---------------------|------------------|
| Measuring range      | -0.005...0.1 bar | -5...100 mbar       | -2...40.16 inH2O |
| Set point SP         | -4.6...160 mbar  | -1.84...64.24 inH2O |                  |
| Reset point rP       | -5...159.6 mbar  | -2...64.08 inH2O    |                  |
| Analogue start point | -5...135 mbar    | -2...54.24 inH2O    |                  |
| Analogue end point   | 20...160 mbar    | 8...64.24 inH2O     |                  |
| In steps of          | 0.2 mbar         | 0.08 inH2O          |                  |

## Accuracy / deviations

|                                    |                        |                                                                                |
|------------------------------------|------------------------|--------------------------------------------------------------------------------|
| Switch point accuracy              | [% of the span]        | < ± 0,6; (Turn down 1:1)                                                       |
| Repeatability                      | [% of the span]        | < ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)                 |
| Characteristics deviation          | [% of the span]        | < ± 0,35 (BFSL) / < ± 0,6 (LS); (Turn down 1:1; BFSL = Best Fit Straight Line) |
| Hysteresis deviation               | [% of the span]        | < ± 0,5; (Turn down 1:1)                                                       |
| Long-term stability                | [% of the span]        | < ± 0,1; (Turn down 1:1; per 6 months)                                         |
| Temperature coefficient zero point | [% of the span / 10 K] | < ± 0,3; (0...70 °C)                                                           |



## Pressure sensor with analogue display

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|                                                        |                                                                                          |                                                                                  |
|--------------------------------------------------------|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Temperature coefficient span<br>[% of the span / 10 K] | < ± 0,3; (0...70 °C)                                                                     |                                                                                  |
| Response times                                         |                                                                                          |                                                                                  |
| Response time [ms]                                     | < 9                                                                                      |                                                                                  |
| Damping process value dAP [s]                          | 0.01...30                                                                                |                                                                                  |
| Damping for the analogue output dAA [s]                | 0.01...30                                                                                |                                                                                  |
| Step response time analogue output [ms]                | 28                                                                                       |                                                                                  |
| Operating conditions                                   |                                                                                          |                                                                                  |
| Ambient temperature [°C]                               | -20...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]                                           | 103                                                                                      |                                                                                  |
| Pressure Equipment Directive                           | Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request    |                                                                                  |
| Mechanical data                                        |                                                                                          |                                                                                  |
| Weight [g]                                             | 564.8                                                                                    |                                                                                  |
| Dimensions [mm]                                        | 169 x 100 x 57                                                                           |                                                                                  |
| Materials                                              | stainless steel (316L/1.4404); PA; FKM; PTFE; viewing glass: laminated safety glass 4 mm |                                                                                  |
| Materials (wetted parts)                               | Al2O3 (ceramics); FKM; stainless steel (316L/1.4404)                                     |                                                                                  |
| Min. pressure cycles                                   | 100 million                                                                              |                                                                                  |
| Process connection                                     | threaded connection G 1/2 external thread                                                |                                                                                  |
| Restrictor element integrated                          | no (can be retrofitted)                                                                  |                                                                                  |
| Displays / operating elements                          |                                                                                          |                                                                                  |
| Display                                                | Display unit                                                                             | 2 x LED, green                                                                   |
|                                                        | switching status                                                                         | LED, yellow                                                                      |
|                                                        | switch points                                                                            | LED ring, red                                                                    |
|                                                        | function display                                                                         | alphanumeric display, red 4-digit                                                |
|                                                        | measured values                                                                          | analogue display, 0...350° rotatable, pointer not visible when unit disconnected |
|                                                        | measured values                                                                          | alphanumeric display, red 4-digit                                                |
| With scale                                             | yes                                                                                      |                                                                                  |
| Extended display range (max.)                          | 160 mbar                                                                                 | 64.24 inH2O                                                                      |
| Remarks                                                |                                                                                          |                                                                                  |
| Remarks                                                | switch point accuracy in the extended display range: 1.5 % of the span                   |                                                                                  |
| Pack quantity                                          | 1 pcs.                                                                                   |                                                                                  |

# PG2489



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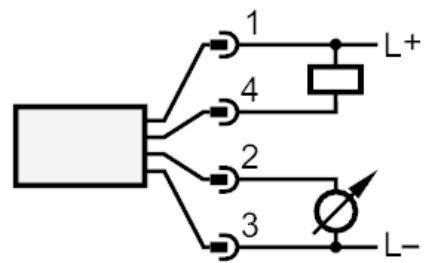
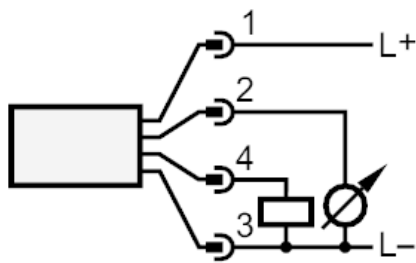
PG-,10BREB12-MFRKG/US/ /P

### Electrical connection

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



### Connection



OUT1  
OUT2

switching output  
analogue output