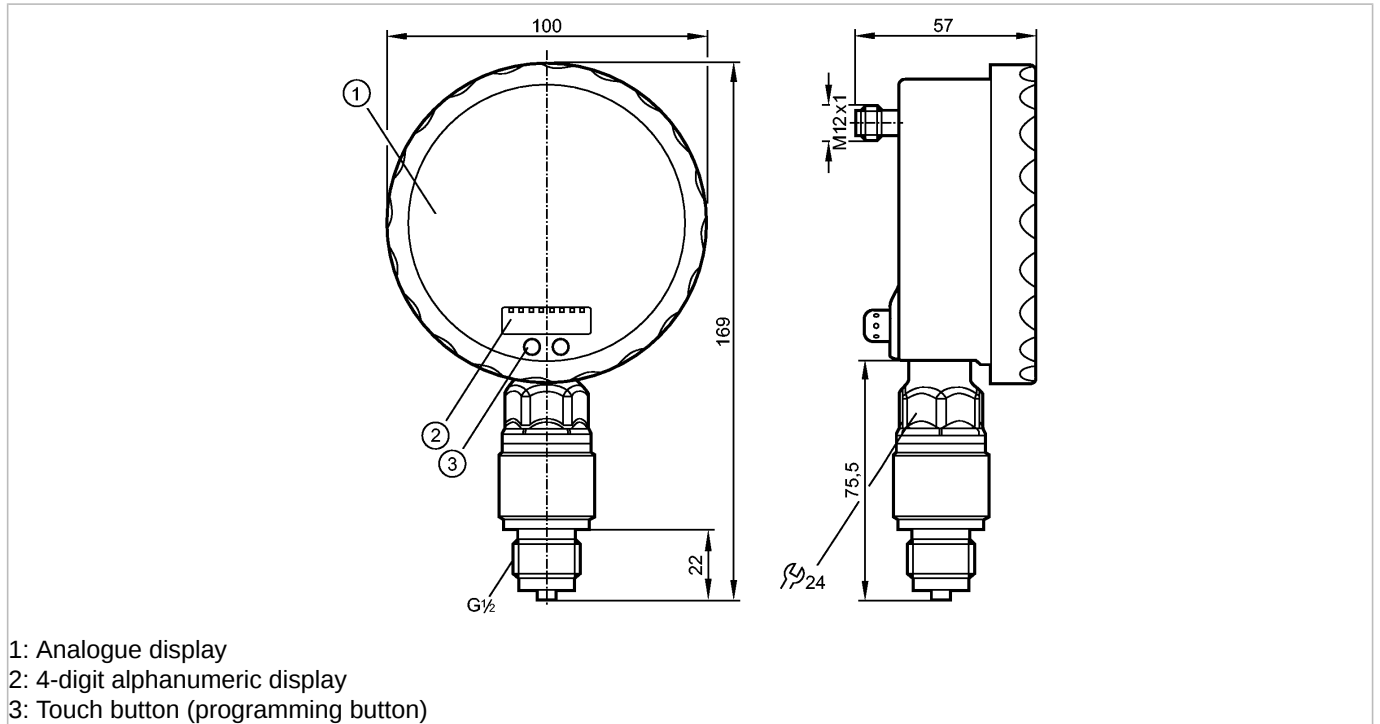


**PG2409**

PG-1-1-REB12-MFRKG/US/ /P

Pressure sensors



- 1: Analogue display
- 2: 4-digit alphanumeric display
- 3: Touch button (programming button)



Made in Germany

**Product characteristics**

Electronic pressure sensor with analogue display

Connector

Process connection: G 1/2

Analogue display 0...350° rotatable

Resolution 0.25%

Pointer not visible when unit disconnected

2 outputs

OUT1 = switching output

OUT2 = analogue output

analogue display, 4-digit alphanumeric display

Measuring range: -1...1 bar / -14.52...14.52 psi

**Application**

|                         |  |         |
|-------------------------|--|---------|
| Application             | Type of pressure: relative pressure<br>Liquids and gases |         |
| Pressure rating         | 10 bar   | 145 psi |
| Bursting pressure min.  | 30 bar   | 435 psi |
| Medium temperature [°C] | -25...80   |         |

**Electrical data**

|                             |                  |
|-----------------------------|------------------|
| Electrical design           | DC PNP/NPN       |
| Operating voltage [V]       | 18...32 DC       |
| Current consumption [mA]    | < 70 (24 V)      |
| Insulation resistance [MΩ]  | > 100 (500 V DC) |
| Protection class            | III              |
| Reverse polarity protection | yes              |

**Outputs**

**PG2409**

PG-1-1-REB12-MFRKG/US/ /P

**Pressure sensors**

|                          |   |  |
|--------------------------|---|--|
| Output                   | 2 outputs<br>OUT1 = switching output<br>OUT2 = analogue output                        |  |
| Output function          | 1 x normally open / closed programmable + 1 x analogue (4...20 / 20...4 mA, scalable) |  |
| Current rating [mA]      | 250   |  |
| Voltage drop [V]         | < 2   |  |
| Short-circuit protection | pulsed  |  |
| Overload protection      | yes   |  |
| Switching frequency [Hz] | 75  |  |
| Analogue output          | I: 4...20 mA (Ineg: 20...4 mA)  |  |
| Max. load [Ω]            | I / Ineg: max. (U <sub>b</sub> - 10 V) x 50   |  |

**Measuring / setting range**

|                           |                    |                    |
|---------------------------|--------------------|--------------------|
| Measuring range           | -1...1 bar         | -14.52...14.52 psi |
| Setting range             |                    |                    |
| Set point, SP             | -0.992...1.600 bar | -14.40...23.22 psi |
| Reset point, rP           | -1.000...1.592 bar | -14.52...23.10 psi |
| Analogue start point, ASP | -1.000...1.100 bar | -14.52...15.96 psi |
| Analogue end point, AEP   | -0.500...1.600 bar | -7.26...23.22 psi  |
| in steps of               | 0.004 bar          | 0.06 psi           |

**Accuracy / deviations**

|  |                                |  |
|--|--------------------------------|--|
| Accuracy / deviations<br>(in % of the span) Turn down 1:1  |                                |  |
| Switch point accuracy  | < ± 0.5                        |  |
| Characteristics deviation *)   | < ± 0.25 (BFSL) / < ± 0.5 (LS) |  |
| Hysteresis   | < ± 0.25                       |  |
| Repeatability **)  | < ± 0.1                        |  |
| Long-term stability ***)   | < ± 0.1                        |  |
| Temperature coefficients (TEMPCO) in the temperature range 0...70° C (in % of the span per 10 K) |                                |  |
| Greatest TEMPCO of the zero point  | < ± 0.2                        |  |
| Greatest TEMPCO of the span  | < ± 0.2                        |  |

**Reaction times**

|  |           |  |
|--|-----------|--|
| Power-on delay time [s]                    | 6         |  |
| Min. response time switching output [ms]   | 9         |  |
| Damping for the switching output (dAP) [s] | 0.01...30 |  |
| Damping for the analogue output (dAA) [s]  | 0.01...30 |  |
| Step response time analogue output [ms]    | 28        |  |
| Integrated watchdog                        | yes       |  |

**Environment**

|                          |                |  |
|--------------------------|----------------|--|
| 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            |

**PG2409**

PG-1-1-REB12-MFRKG/US/ /P

**Pressure sensors**

|                      |                            |                     |
|----------------------|----------------------------|---------------------|
|                      | 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                 |

**Mechanical data**

|                          |  |  |
|--------------------------|--|--|
| Process connection       | G ½  |  |
| Materials (wetted parts) | ceramics (Al <sub>2</sub> O <sub>3</sub> ); FPM; stainless steel 316L / 1.4404                   |  |
| Housing materials        | stainless steel 316L / 1.4404; PA; FPM (Viton); PTFE; viewing glass: laminated safety glass 4 mm |  |
| Switching cycles min.    | 100 million  |  |
| Weight [kg]              | 0.597  |  |

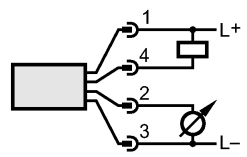
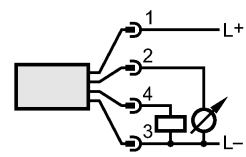
**Displays / operating elements**

|                               |                  |  |
|-------------------------------|------------------|--|
| Display                       | Display unit     | 2 x LED green                                  |
|                               | Switching status | LED yellow                                     |
|                               | Switch points    | LED ring                                       |
|                               | Function display | 4-digit alphanumeric display                   |
|                               | Measured values  | analogue display, 4-digit alphanumeric display |
| Extended display range (max.) | 1.6 bar          | 23.22 psi                                      |

**Electrical connection**

|            |                                     |  |
|------------|-------------------------------------|--|
| Connection | M12 connector; Gold-plated contacts |  |
|------------|-------------------------------------|--|

**Wiring**



**Remarks**

|         |   |
|---------|---|
| Remarks | <p>*) BFSL = Best Fit Straight Line<br/>                 switch point accuracy in the extended display range: 1.5 % of the span<br/>                 **) with temperature fluctuations &lt; 10 K<br/>                 ***) in% of the span / 6 months</p> |
|---------|---|

|                       |   |
|-----------------------|---|
| Pack quantity [piece] | 1 |
|-----------------------|---|