

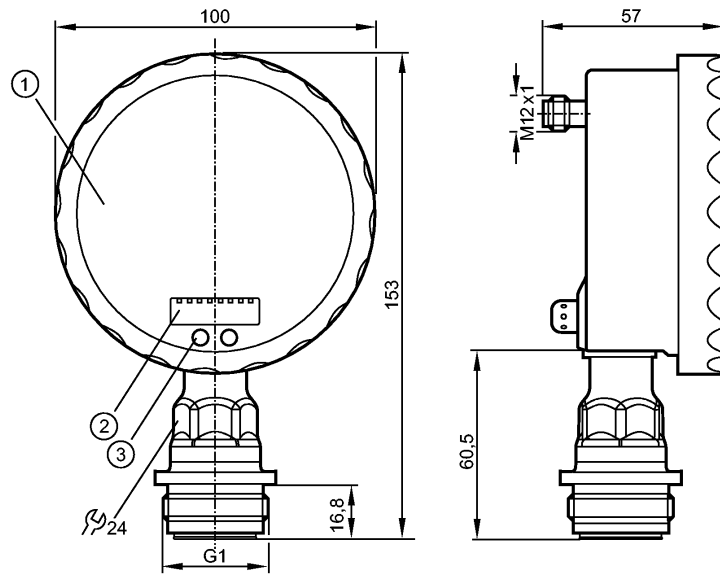


# PG2794

PG-010-REA01-MFRKG/US/ /P



Pressure sensors



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

EC 1935/2004 EHEDG Certified

**FDA Reg31**

### Product characteristics

|   |
|---|
| Electronic pressure sensor with analog display              |
| Quick disconnect  |
| Suitable for all standard CIP and SIP processes             |
| Analog display 0...350° rotatable                           |
| Resolution 0.25%  |
| Pointer not visible when unit disconnected                  |
| no dead space   |
| Process connection: G 1 A / Aseptoflex Vario                |
| 2 Output<br>OUT1 = Switching output<br>OUT2 = Analog output |
| analog display, 4-digit alphanumeric display                |
| Measuring range: -1.00...10.00 bar / -14.5...145.0 psi      |

### Application

|                         |  |          |
|-------------------------|--|----------|
| Application             | Type of pressure: relative pressure<br>Hygienic systems, viscous media and liquids with suspended particles<br>Liquids and gases |          |
| Pressure rating         | 50 bar   | 725 psi  |
| Bursting pressure min.  | 150 bar  | 2175 psi |
| Medium temperature [°C] | -25...125 (145 max. 1h)  |          |

### Electrical data

|                          |             |
|--------------------------|-------------|
| Electrical design        | DC PNP/NPN  |
| Operating voltage [V]    | 18...32 DC  |
| Current consumption [mA] | < 70 (24 V) |



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|                             |      |                  |
|-----------------------------|------|------------------|
| Insulation resistance       | [MΩ] | > 100 (500 V DC) |
| Protection class            |      | III              |
| Reverse polarity protection |      | yes              |

## Outputs

|                          |      |   |
|--------------------------|------|---|
| Output                   |      | 2 Output<br>OUT1 = Switching output<br>OUT2 = Analog 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 |      | yes (non-latching)  |
| Overload protection      |      | yes   |
| Switching frequency      | [Hz] | 50  |
| Analog output            |      | I: 4...20 mA (Ineg: 20...4 mA)  |
| Max. load                | [Ω]  | I / Ineg: max. (Ub - 10 V) x 50   |

## Measuring / setting range

|                         |                   |                   |
|-------------------------|-------------------|-------------------|
| Measuring range         | -1.00...10.00 bar | -14.5...145.0 psi |
| Setting range           |                   |                   |
| Set point, SP           | -0.98...16.00 bar | -14.2...232.0 psi |
| Reset point, rP         | -1.00...15.98 bar | -14.5...231.8 psi |
| Analog start point, ASP | -1.00...13.50 bar | -14.5...195.7 psi |
| Analog end point, AEP   | 1.50...16.00 bar  | 21.8...232.0 psi  |
| in steps of             | 0.01 bar          | 0.1 psi           |

## Accuracy / deviations

|  |  |          |
|--|--|----------|
| Accuracy / deviations<br>(in % of the span) Turn down 1:1  |  |          |
| Switch point accuracy  |  | < ± 0.2  |
| Characteristics deviation *)   |  | < ± 0.2  |
| Linearity  |  | < ± 0.15 |
| Hysteresis   |  | < ± 0.15 |
| 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  |  | < ± 0.05 |
| Greatest TEMPCO of the span  |  | < ± 0.15 |

## Reaction times

|  |      |           |
|--|------|-----------|
| Power-on delay time                    | [s]  | 6         |
| Min. response time switching output    | [ms] | 10        |
| Damping for the switching output (dAP) | [s]  | 0.01...30 |
| Damping for the analog output (dAA)    | [s]  | 0.01...30 |
| Step response time analogue output     | [ms] | 25        |
| Integrated watchdog                    |      | yes       |

## Environment



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|                     |      |                |
|---------------------|------|----------------|
| 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]                    | 100                 |

| Mechanical data          |  |
|--------------------------|--|
| Process connection       | G 1 A / Aseptoflex Vario   |
| Materials (wetted parts) | ceramics (99.9 % Al <sub>2</sub> O <sub>3</sub> ); PTFE; stainless steel 316L / 1.4435; surface characteristics: Ra < 0.4 / Rz 4 |
| 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] 0.553   |

| Displays / operating elements |  |
|-------------------------------|--|
| Display                       | Display unit 2 x LED green<br>Switching status LED yellow<br>Switch points LED ring<br>Function display 4-digit alphanumeric display<br>Measured values analog display, 4-digit alphanumeric display |
| Extended display range (max.) | 16 bar   232 psi   |

| Electrical connection |                                     |
|-----------------------|-------------------------------------|
| Connection            | M12 connector; gold-plated contacts |

**Wiring**

The wiring diagrams show two configurations for connecting the sensor's four terminals (1, 2, 3, 4) to a power source (L+), ground (L-), and a common ground symbol (⊘).  
 Diagram 1: Terminal 1 is connected to L+, terminal 2 to L-, terminal 3 to ⊘, and terminal 4 to L-.  
 Diagram 2: Terminal 1 is connected to L+, terminal 2 to ⊘, terminal 3 to L-, and terminal 4 to L-.  
 The circular terminal layout diagram shows terminals 1, 2, 3, and 4 arranged in a circle.

| Remarks       |   |
|---------------|---|
| Remarks       | *) linearity, incl. hysteresis and repeatability;<br>(limit value setting to DIN 16086)<br>characteristics deviation in the extended display range: 1.5 % of the span<br>switch point accuracy in the extended display range: 1.5 % of the span<br>**) with temperature fluctuations < 10 K<br>***) in % of the span per year |
| Pack quantity | [piece] 1   |