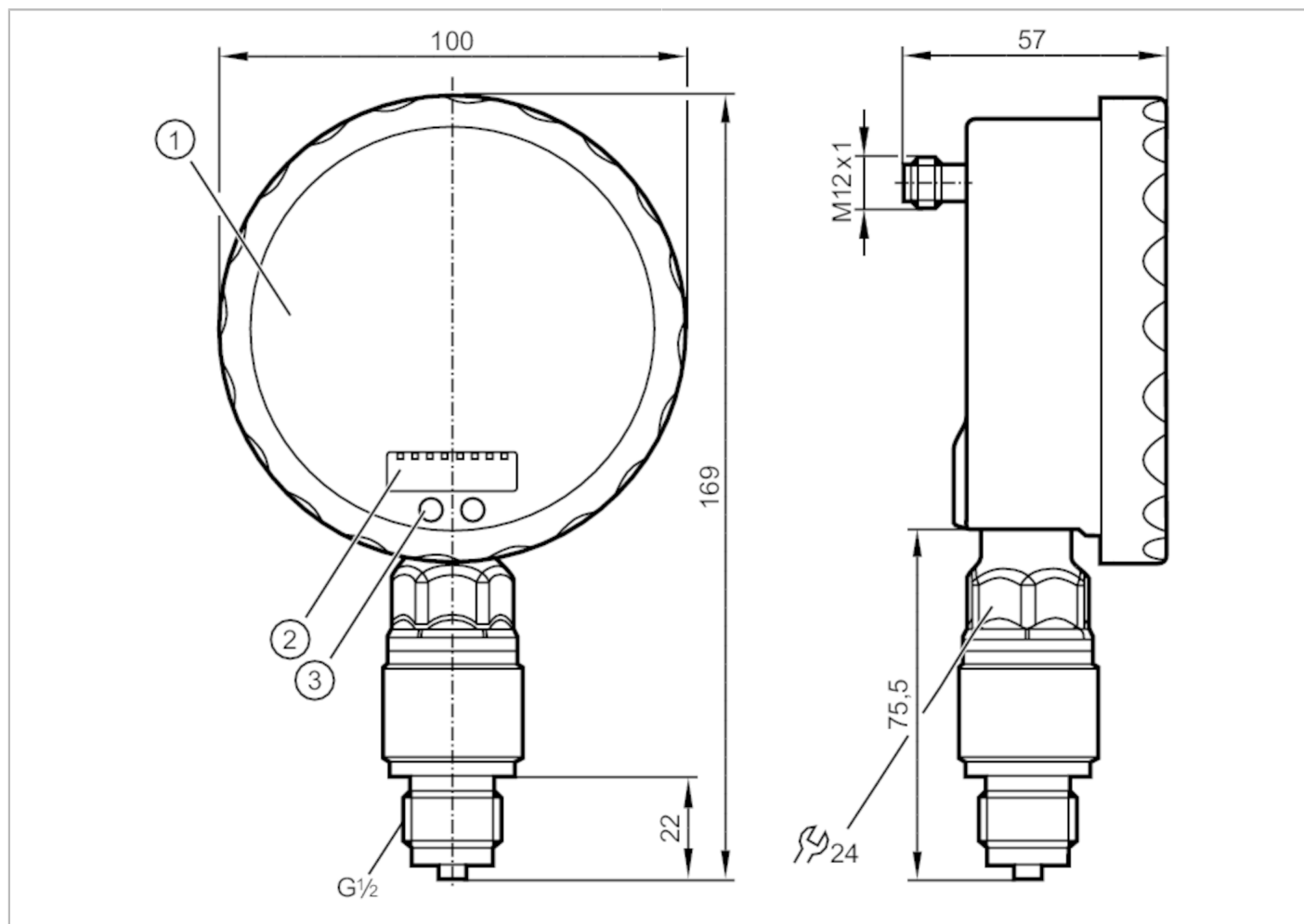


# PG2451



## Pressure sensor with analogue display

PG-250-REB12-MFRKG/US/ /P



| Application                     |                                                    |           |
|---------------------------------|----------------------------------------------------|-----------|
| Application                     | for industrial applications                        |           |
| Media                           | liquids and gases                                  |           |
| Conditionally suitable for      | use in gases at pressures > 25 bar only on request |           |
| Medium temperature [°C]         | -25...80                                           |           |
| Pressure rating                 | 600 bar                                            | 8700 psi  |
| Min. bursting pressure          | 1000 bar                                           | 14500 psi |
| Type of pressure                | relative pressure                                  |           |
| Electrical data                 |                                                    |           |
| Operating voltage [V]           | 18...32 DC                                         |           |
| 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                                                |           |



## Pressure sensor with analogue display

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| 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...250 bar                                                                    | 0...3625 psi   |
| Set point SP                                              | 1...400 bar                                                                    | 15...5800 psi  |
| Reset point rP                                            | 0...399 bar                                                                    | 0...5785 psi   |
| Analogue start point                                      | 0...350 bar                                                                    | 0...5075 psi   |
| Analogue end point                                        | 50...400 bar                                                                   | 725...5800 psi |
| In steps of                                               | 0.5 bar                                                                        | 5 psi          |
| 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)                                                           |                |
| Temperature coefficient span [% of the span / 10 K]       | < ± 0,3; (0...70 °C)                                                           |                |

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## Pressure sensor with analogue display

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| Response times                            |                                                                                            |                                                                                  |
|-------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Response time                             | [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                                                                               |
| 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]                                                                                    | 100                                                                              |
| Mechanical data                           |                                                                                            |                                                                                  |
| Weight                                    | [g]                                                                                        | 609                                                                              |
| Materials                                 | stainless steel (1.4404 / 316L); PA; FKM; PTFE; viewing glass: laminated safety glass 4 mm |                                                                                  |
| Materials (wetted parts)                  | Al2O3 (ceramics); FKM; stainless steel (1.4404 / 316L)                                     |                                                                                  |
| Min. pressure cycles                      | 100 million                                                                                |                                                                                  |
| Process connection                        | threaded connection G 1/2 external thread                                                  |                                                                                  |
| Restrictor element integrated             | yes                                                                                        |                                                                                  |
| Displays / operating elements             |                                                                                            |                                                                                  |
| Display                                   | Display unit                                                                               | 2 x LED, green                                                                   |
|                                           | switching status                                                                           | LED, yellow                                                                      |
|                                           | switch points                                                                              | LED ring                                                                         |
|                                           | function display                                                                           | alphanumeric display, 4-digit                                                    |
|                                           | measured values                                                                            | analogue display, 0...350° rotatable, pointer not visible when unit disconnected |
|                                           | measured values                                                                            | alphanumeric display, 4-digit                                                    |
| With scale                                | yes                                                                                        |                                                                                  |
| Extended display range (max.)             | 400 bar                                                                                    | 5800 psi                                                                         |
| Remarks                                   |                                                                                            |                                                                                  |
| Remarks                                   | switch point accuracy in the extended display range: 1.5 % of the span                     |                                                                                  |
| Pack quantity                             | 1 pcs.                                                                                     |                                                                                  |
| Electrical connection                     |                                                                                            |                                                                                  |
| Connector: 1 x M12; Contacts: gold-plated |                                                                                            |                                                                                  |

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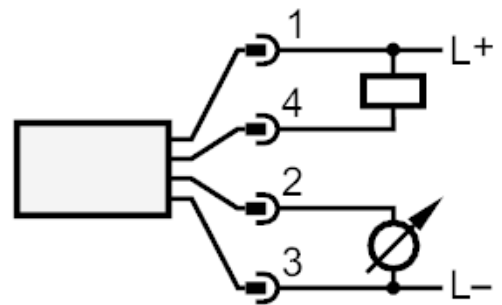
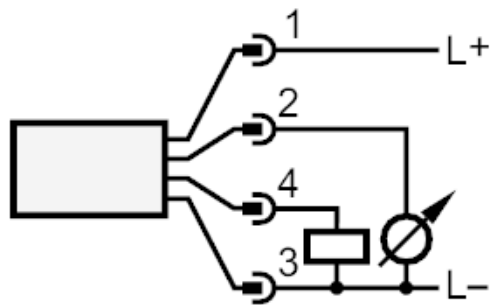


## Pressure sensor with analogue display

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### Connection



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