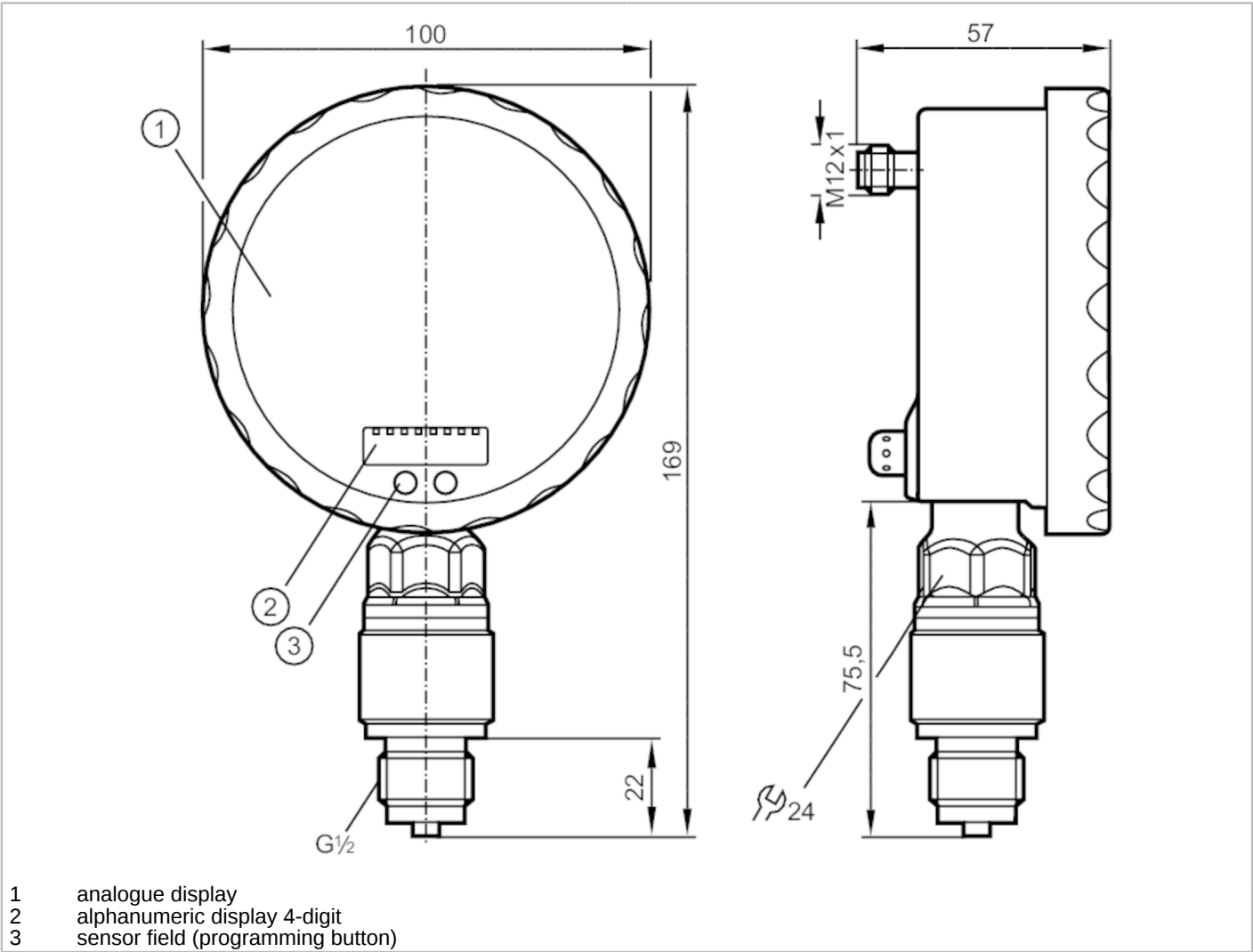


# PG2453



## Pressure sensor with analogue display

PG-025-REB12-MFRKG/US/ /P



| Product characteristics         |                                                             |                   |
|---------------------------------|-------------------------------------------------------------|-------------------|
| Number of inputs and outputs    | Number of digital outputs: 1; Number of analogue outputs: 1 |                   |
| Measuring range                 | -1...25 bar                                                 | -14.5...362.5 psi |
| 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          | 350 bar                                                     | 5070 psi          |
| Pressure rating                 | 100 bar                                                     | 1450 psi          |
| Type of pressure                | relative pressure; vacuum                                   |                   |
| Electrical data                 |                                                             |                   |
| Operating voltage [V]           | 18...32 DC                                                  |                   |
| Current consumption [mA]        | < 70; (24 V)                                                |                   |
| Min. insulation resistance [MΩ] | 100; (500 V DC)                                             |                   |



## Pressure sensor with analogue display

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|                                                      |                                                                                |                   |
|------------------------------------------------------|--------------------------------------------------------------------------------|-------------------|
| 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                                      | -1...25 bar                                                                    | -14.5...362.5 psi |
| Set point SP                                         | -0.9...40 bar                                                                  | -13...580 psi     |
| Reset point rP                                       | -1...39.9 bar                                                                  | -14.5...578.5 psi |
| Analogue start point                                 | -1...33.75 bar                                                                 | -14.5...489.5 psi |
| Analogue end point                                   | 5.25...40 bar                                                                  | 76...580 psi      |
| In steps of                                          | 0.05 bar                                                                       | 0.5 psi           |
| Accuracy / deviations                                |                                                                                |                   |
| Switch point accuracy [X21]                          | < ± 0,5; (Turn down 1:1)                                                       |                   |
| Repeatability [X21]                                  | < ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)                 |                   |
| Characteristics deviation [X21]                      | < ± 0,25 (BFSL) / < ± 0,5 (LS); (Turn down 1:1; BFSL = Best Fit Straight Line) |                   |
| Hysteresis deviation [X21]                           | < ± 0,25; (Turn down 1:1)                                                      |                   |
| Long-term stability [X21]                            | < ± 0,1; (Turn down 1:1; per 6 months)                                         |                   |
| Temperature coefficient zero point [X22]             | < ± 0,2; (0...70 °C)                                                           |                   |
| Temperature coefficient span [X22]                   | < ± 0,2; (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                                                                      |                   |



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|                                         |    |
|-----------------------------------------|----|
| 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 [ANN]                   | 103                                                                                   |                     |
| Pressure Equipment Directive | Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request |                     |

### Mechanical data

|                               |                                                                                          |
|-------------------------------|------------------------------------------------------------------------------------------|
| Weight [g]                    | 563.9                                                                                    |
| 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.) | 40 bar           | 580 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; coding: A; Contacts: gold-plated



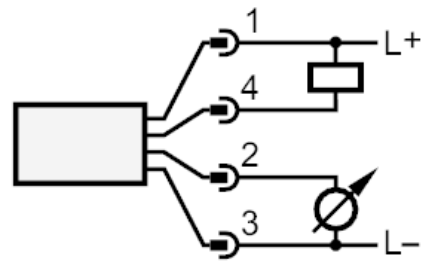
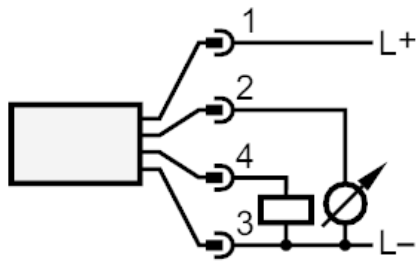
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### Connection



OUT1  
OUT2

switching output  
analogue output