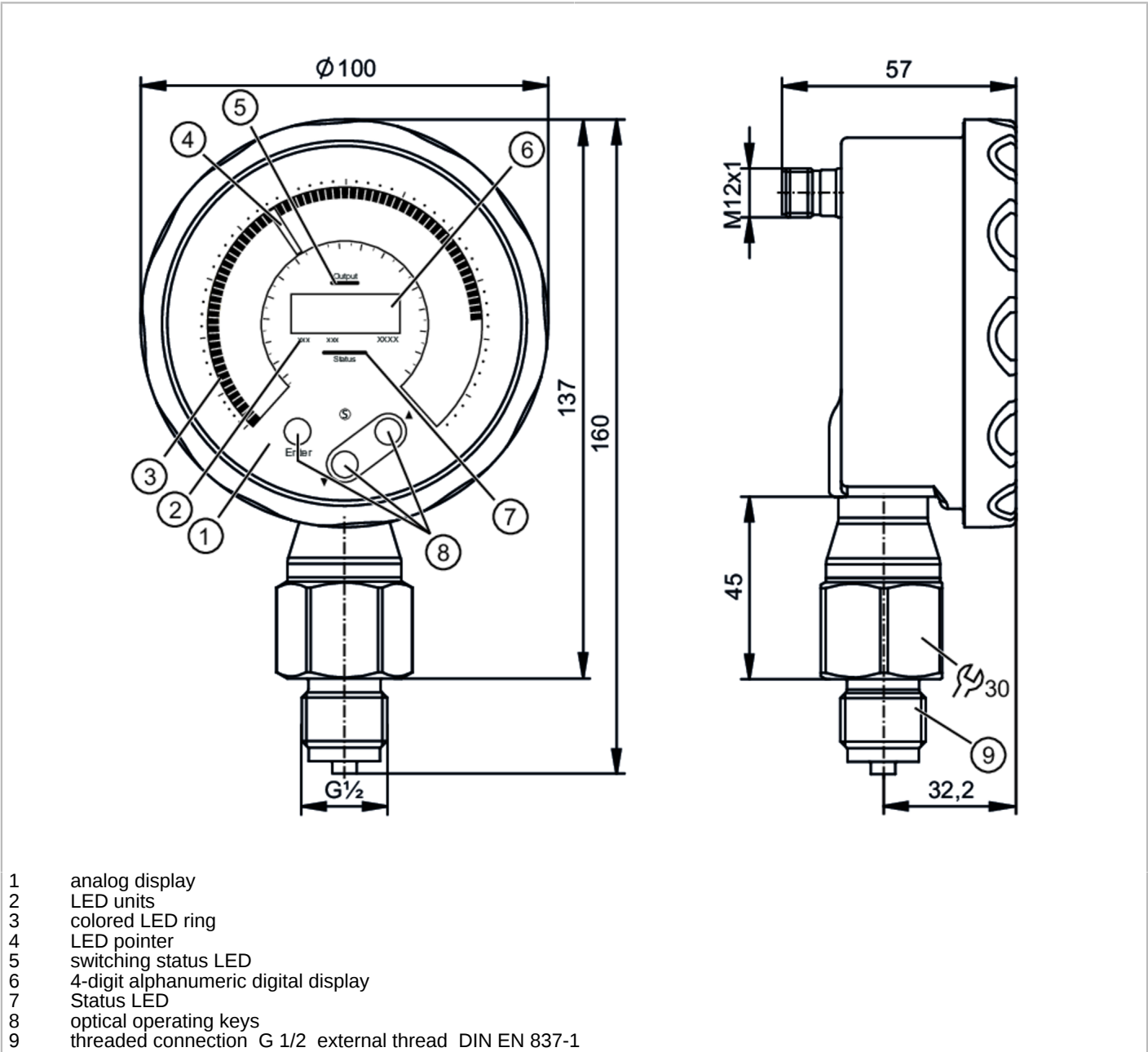


PG1402



Pressure sensor with analog display

PG-100-REB12-MFRKG/US/ /P



Product characteristics

|                              |                                                           |              |
|------------------------------|-----------------------------------------------------------|--------------|
| Number of inputs and outputs | Number of digital outputs: 1; Number of analog outputs: 1 |              |
| Measuring range              | 0...100 bar                                               | 0...1450 psi |
| Process connection           | threaded connection G 1/2 external thread DIN EN 837-1    |              |

Application

|                         |                                             |          |
|-------------------------|---------------------------------------------|----------|
| System                  | gold-plated contacts                        |          |
| Application             | for industrial applications                 |          |
| Media                   | liquids and gases                           |          |
| Medium temperature [°C] | -25...80; (higher temperature upon request) |          |
| Min. burst pressure     | 650 bar                                     | 9427 psi |
| Pressure rating         | 200 bar                                     | 2900 psi |

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|                                                 |                                                           |                                |
|-------------------------------------------------|-----------------------------------------------------------|--------------------------------|
| Vacuum resistance                               | -1000 mbar                                                | 14.5 psi                       |
| Type of pressure                                | relative pressure; vacuum                                 |                                |
| Electrical data                                 |                                                           |                                |
| Operating voltage                               | [V]                                                       | 18...30 DC                     |
| Current consumption                             | [mA]                                                      | 25...260                       |
| Min. insulation resistance                      | [MΩ]                                                      | 100; (500 V DC)                |
| Protection class                                |                                                           | III                            |
| Reverse polarity protection                     |                                                           | yes                            |
| Power-on delay time                             | [s]                                                       | < 0.5                          |
| Integrated watchdog                             |                                                           | yes                            |
| Inputs / outputs                                |                                                           |                                |
| Number of inputs and outputs                    | Number of digital outputs: 1; Number of analog outputs: 1 |                                |
| Outputs                                         |                                                           |                                |
| Total number of outputs                         | 2                                                         |                                |
| Output signal                                   | switching signal; analog signal; IO-Link                  |                                |
| Electrical design                               | PNP/NPN                                                   |                                |
| Number of digital outputs                       | 1                                                         |                                |
| Output function                                 | normally open / closed; (configurable)                    |                                |
| Max. voltage drop switching output DC           | [V]                                                       | 2                              |
| Permanent current rating of switching output DC | [mA]                                                      | 100                            |
| Switching frequency DC                          | [Hz]                                                      | 125                            |
| Number of analog outputs                        | 1                                                         |                                |
| Analog current output                           | [mA]                                                      | 4...20, invertible; (scalable) |
| Max. load                                       | [Ω]                                                       | 500                            |
| Short-circuit protection                        | yes                                                       |                                |
| Type of short-circuit protection                | yes (non-latching)                                        |                                |
| Overload protection                             | yes                                                       |                                |
| Measuring/setting range                         |                                                           |                                |
| Measuring range                                 | 0...100 bar                                               | 0...1450 psi                   |
| Set point SP                                    | 0...100 bar                                               | 0...1450 psi                   |
| Analog start point                              | 0...80 bar                                                | 0...1160 psi                   |
| Analog end point                                | 20...100 bar                                              | 290...1450 psi                 |
| In steps of                                     | 0.1 bar                                                   | 2 psi                          |
| Measuring range (bar)                           |                                                           |                                |
| Factory setting                                 | SP1 = 25 bar                                              |                                |
|                                                 | SP2 = 23 bar                                              |                                |
|                                                 | ASP = 0.00 bar                                            | AEP = 100.00 bar               |
|                                                 | dAP = 0.06 s                                              | dAA = 0.06 s                   |
| Measuring range (psi)                           |                                                           |                                |
| Factory setting                                 | SP1 = 363 psi                                             |                                |
|                                                 | SP2 = 334 psi                                             |                                |
|                                                 | ASP = 0.00 psi                                            | AEP = 1450 psi                 |
|                                                 | dAP = 0.06 s                                              | dAA = 0.06 s                   |



## Pressure sensor with analog display

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| Accuracy / deviations                                        |                                                                                                         |                                                              |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| Switch point accuracy<br>[% of the span]                     | < ± 0,5; (DIN EN IEC 62828-1; Turn down 1:1)                                                            |                                                              |
| Repeatability<br>[% of the span]                             | < ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)                                          |                                                              |
| Characteristics deviation<br>[% of the span]                 | < ± 0,5; (DIN IEC EN 62828-1 incl. zero point and span error, non-linearity, hysteresis; Turn down 1:1) |                                                              |
| Zero-point stabilization<br>[% of the span]                  | IO-Link, analog output                                                                                  | 0,2; (see operating instructions zero-point behavior)        |
|                                                              | Display, Switching output                                                                               | 0,1                                                          |
| Hysteresis deviation<br>[% of the span]                      | < ± 0,15; (Turn down 1:1 -25...80°C)                                                                    |                                                              |
| Long-term stability<br>[% of the span]                       | < ± 0,1; (Turn down 1:1; per year)                                                                      |                                                              |
| Temperature coefficient zero point<br>[% of the span / 10 K] | < ± 0,25; (0...70 °C)                                                                                   |                                                              |
| Temperature coefficient span<br>[% of the span / 10 K]       | < ± 0,25; (0...70 °C)                                                                                   |                                                              |
| Reaction times                                               |                                                                                                         |                                                              |
| Min. response time of switching output (dAP)<br>[ms]         | 3                                                                                                       |                                                              |
| Damping process value dAP<br>[s]                             | 0...99.99                                                                                               |                                                              |
| Damping for the analog output dAA<br>[s]                     | 0...99.99                                                                                               |                                                              |
| Step response time analog output<br>[ms]                     | 7                                                                                                       |                                                              |
| Interfaces                                                   |                                                                                                         |                                                              |
| Communication interface                                      | IO-Link                                                                                                 |                                                              |
| Transmission type                                            | COM3 (230,4 kBaud)                                                                                      |                                                              |
| IO-Link revision                                             | 1.1                                                                                                     |                                                              |
| SDCI standard                                                | IEC 61131-9                                                                                             |                                                              |
| Profiles                                                     | Smart Sensor - SSP 4.2.1                                                                                | Measuring and Switching Sensor, high resolution, 1 channel   |
|                                                              | BLOB                                                                                                    | Binary Large Object transfer                                 |
|                                                              | Common - I&D                                                                                            | Identification and Diagnosis                                 |
|                                                              | Extension                                                                                               | Sensor Control Wide                                          |
|                                                              | Extension                                                                                               | Quantity detection, switches when value exceeds the setpoint |
|                                                              | Function                                                                                                | Locator                                                      |
|                                                              | Function                                                                                                | ProductURI                                                   |
|                                                              |                                                                                                         |                                                              |
| SIO mode                                                     | yes                                                                                                     |                                                              |
| Required master port class                                   | A                                                                                                       |                                                              |
| Min. process cycle time<br>[ms]                              | 1.3                                                                                                     |                                                              |
| IO-Link resolution pressure<br>[bar]                         | 0.005                                                                                                   |                                                              |
| IO-Link process data (cyclical)                              | Function                                                                                                | bit length                                                   |
|                                                              | pressure                                                                                                | 32                                                           |
|                                                              | device status                                                                                           | 4                                                            |
|                                                              | binary switching information pressure                                                                   | 2                                                            |

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|                               |                                                                                                                          |                 |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------|
| IO-Link functions (acyclical) | application specific tag; internal temperature; operating hours counter; switching cycles counter; Pressure peak counter |                 |
| Supported DeviceIDs           | <b>Type of operation</b>                                                                                                 | <b>DeviceID</b> |
|                               | default                                                                                                                  | 1871            |

| Operating conditions |                                 |           |
|----------------------|---------------------------------|-----------|
| Ambient temperature  | [°C]                            | -25...70  |
| Storage temperature  | [°C]                            | -40...100 |
| Protection           | IP 67; IP 69; (to DIN EN 60529) |           |

| Tests / approvals          |                    |                     |
|----------------------------|--------------------|---------------------|
| EMC                        | DIN EN 61326-1     |                     |
| Shock resistance           | DIN EN 60068-2-27  | 50 g (11 ms)        |
| Vibration resistance       | DIN EN 60068-2-6   | 10 g (10...2000 Hz) |
| MTTF                       | [years]            | 115                 |
| Embedded software included |                    | yes                 |
| UL approval                | UL approval number | J062                |
|                            | File number UL     | E174189             |

| Mechanical data               |                                                                                                                              |                |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------|----------------|
| Weight                        | [g]                                                                                                                          | 687.6          |
| Housing                       | manometer housing                                                                                                            |                |
| Dimensions                    | [mm]                                                                                                                         | 160 x 100 x 57 |
| Material                      | Housing: stainless steel (1.4404 / 316L); M12 connector: PPSU; sealing: FKM; viewing glass: laminated safety glass 4 mm      |                |
| Materials (wetted parts)      | measuring cell: Al <sub>2</sub> O <sub>3</sub> (ceramics); Process connection: stainless steel (1.4404 / 316L); sealing: FKM |                |
| Min. pressure cycles          | 100 million                                                                                                                  |                |
| Process connection            | threaded connection G 1/2 external thread DIN EN 837-1                                                                       |                |
| Restrictor element integrated | no (can be retrofitted)                                                                                                      |                |

| Displays / operating elements |                  |                                     |
|-------------------------------|------------------|-------------------------------------|
| Display                       | Pointer          | LED, white ; 72 steps               |
|                               | LED bar graph    | multi-color ; 72 steps              |
|                               | Measured values  | alphanumeric display, white 4-digit |
|                               | Switching status | LED, yellow                         |
|                               | device status    | LED, red/green                      |
|                               | Display unit     | LED, white                          |
|                               | Display          | display rotation: 320°              |
| Display unit                  | bar; psi         |                                     |
| Operating elements            | 3                | optical operating keys              |

| Remarks       |        |
|---------------|--------|
| Pack quantity | 1 pcs. |

### Electrical connection

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



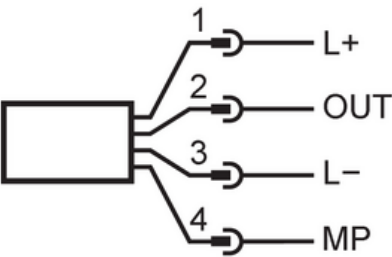
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Connection



|   |     |                     |
|---|-----|---------------------|
| 1 | L+  |                     |
| 2 | OUT | AO                  |
| 3 | L-  |                     |
| 4 | MP  | DO (NO/NC), IO-Link |