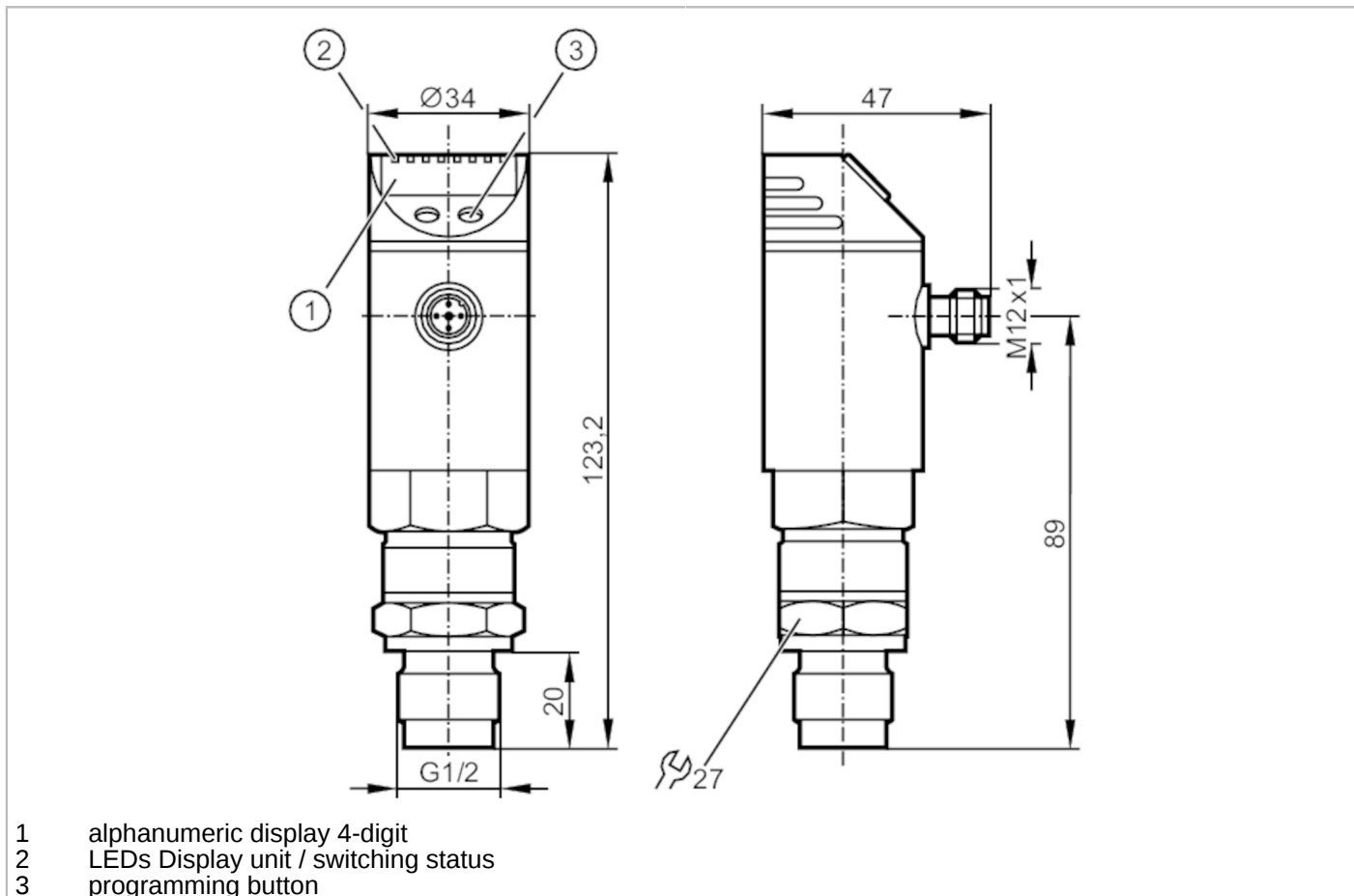


PY2033



Pressure sensor with display

PN-025-RDR12-MFRKG/US/ IV



Product characteristics

| | | | |
|--------------------|---|-------------------|----------------|
| Output signal | switching signal; analogue signal; (configurable) | | |
| Measuring range | -1...25 bar | -14.5...362.5 psi | -0.1...2.5 MPa |
| Process connection | threaded connection G 1/2 external thread | | |

Application

| | | | |
|-------------------------|----------------------|----------|--------|
| Special feature | Gold-plated contacts | | |
| Media | liquids and gases | | |
| Medium temperature [°C] | -25...80 | | |
| Pressure rating | 100 bar | 1450 psi | 10 MPa |
| Min. bursting pressure | 200 bar | 2900 psi | 20 MPa |
| Type of pressure | relative pressure | | |
| No dead space | yes | | |



Pressure sensor with display

PN-025-RDR12-MFRKG/US/ IV

| Electrical data | |
|---------------------------------|---|
| Operating voltage [V] | 18...32 DC; (according to EN 50178 SELV/PELV) |
| Current consumption [mA] | < 35 |
| Min. insulation resistance [MΩ] | 100; (500 V DC) |
| Protection class | III |
| Reverse polarity protection | yes |
| Power-on delay time [s] | 0.3 |
| Integrated watchdog | yes |

| Inputs / outputs | |
|------------------------------|---|
| Number of inputs and outputs | Number of digital outputs: 2; 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 | 2 |
| 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] | < 500 |
| Number of analogue outputs | 1 |
| Analogue current output [mA] | 4...20; (scalable 1:4) |
| Max. load [Ω] | (U _b - 10 V) / 20 mA |
| Analogue voltage output [V] | 0...10; (scalable 1:4) |
| Min. load resistance [Ω] | 2000 |
| 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 | -0.1...2.5 MPa |
| Set point SP | -0.8...25 bar | -11.5...362.5 psi | -0.08...2.5 MPa |
| Reset point rP | -0.9...24.9 bar | -13...361 psi | -0.09...2.49 MPa |
| Analogue start point | -1...18.75 bar | -14.5...272 psi | -0.1...1.88 MPa |
| Analogue end point | 5.25...25 bar | 76...362.5 psi | 0.53...2.5 MPa |
| In steps of | 0.05 bar | 0.5 psi | 0.01 MPa |
| Factory setting | | SP1 = 6.25 bar | rP1 = 5.75 bar |
| | | SP2 = 18.75 bar | rP2 = 18.25 bar |
| | | ASP = 0.00 bar | AEP = 25.00 bar |

| Accuracy / deviations | |
|---------------------------------------|---|
| Switch point accuracy [% of the span] | < ± 0,4; (Turn down 1:1) |
| Repeatability [% of the span] | < ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1) |
| Characteristics deviation | < ± 0,3 (BFSL) / < ± 0,6 (LS); (Turn down 1:1; BFSL = Best Fit Straight Line; LS = limit value setting) |

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| | | |
|------------------------------------|------------------------|------------------------------------|
| | [% of the span] | |
| Linearity deviation | [% of the span] | < ± 0,5; (Turn down 1:1) |
| Hysteresis deviation | [% of the span] | < ± 0,1; (Turn down 1:1) |
| Long-term stability | [% of the span] | < ± 0,1; (Turn down 1:1; per year) |
| Temperature coefficient zero point | [% of the span / 10 K] | < ± 0,25; (0...80 °C) |
| Temperature coefficient span | [% of the span / 10 K] | < ± 0,25; (0...80 °C) |

Response times

| | | |
|--------------------------------------|------|----------|
| Response time | [ms] | < 1.5 |
| Damping for the switching output dAP | [s] | 0.01...4 |
| Damping for the analogue output dAA | [s] | 0.01...4 |
| Max. response time analogue output | [ms] | 3 |

Software / programming

| | |
|---------------------------|---|
| Parameter setting options | hysteresis / window; normally open / normally closed; switching logic; current/voltage output; Damping; adaptation of displayed values; display can be rotated and switched off; Display unit; zero point; span |
|---------------------------|---|

Operating conditions

| | | |
|-----------------------------|------|------------------------------|
| Ambient temperature | [°C] | -25...80 |
| Note on ambient temperature | | Medium temperature: ≤ 160 °C |
| Ambient temperature | [°C] | -25...65 |
| Note on ambient temperature | | Medium temperature: ≤ 200 °C |
| Storage temperature | [°C] | -40...100 |
| Protection | | IP 65 |

Tests / approvals

| | | |
|----------------------|-------------------|---------------------|
| EMC | DIN EN 61000-6-2 | |
| | DIN EN 61000-6-3 | |
| Shock resistance | DIN EN 60068-2-27 | 50 g (11 ms) |
| Vibration resistance | DIN EN 60068-2-6 | 20 g (10...2000 Hz) |
| MTTF | [years] | 167.14 |

Mechanical data

| | | |
|----------------------------------|-----|---|
| Weight | [g] | 404.5 |
| Materials | | stainless steel (1.4301 / 304); stainless steel (1.4435 / 316L); PC; PBT; PEI; PTFE |
| Materials (wetted parts) | | stainless steel (1.4435 / 316L) |
| Min. pressure cycles | | 10 million |
| Process connection | | threaded connection G 1/2 external thread |
| Fill fluid for pressure transfer | | NEOBEE (food grade, FDA compliant) |

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| Displays / operating elements | | |
|-------------------------------|------------------|-------------------------------|
| Display | Display unit | 3 x LED, green |
| | switching status | 2 x LED, yellow |
| | function display | alphanumeric display, 4-digit |
| | measured values | alphanumeric display, 4-digit |

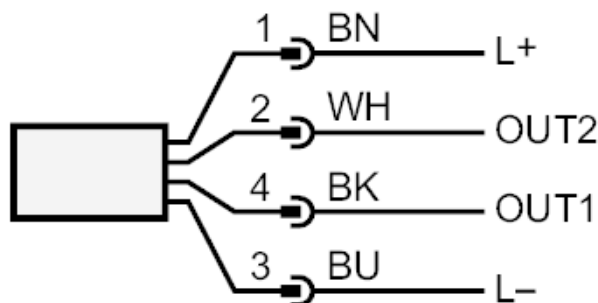
| Remarks | |
|---------------|--------|
| Pack quantity | 1 pcs. |

Electrical connection

Connector: 1 x M12; Contacts: gold-plated



Connection



OUT1 switching output

OUT2 switching output

analogue output

Core colours :

BK = black

BN = brown

BU = blue

WH = white