

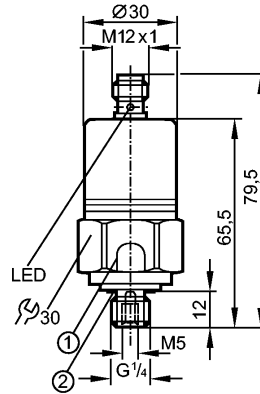


PP001E

PP-250-SBG14-QFPKG/US/ /V



Pressure sensors



1: Pressure relief mechanism
No mechanical force must be exerted on the pressure relief mechanism.
2: sealing FPM / DIN 3869-14



Product characteristics

| |
|--|
| Electronic pressure sensor |
| Quick disconnect |
| Adjustment of the switch point by teach function |
| E1 type approval |
| Process connection: G 1/4 A / M5 I |
| 2 outputs OUT1 = switching output OUT2 = switching output or diagnostic output |
| Measuring range: 0...250 bar / 0...3625 psi / 0...25 MPa |

Application

| | | | |
|-------------------------|---|-----------|--------|
| Application | Type of pressure: relative pressure Liquids and gases Use in gases at pressures > 25 bar only after contacting the manufacturer ifm | | |
| Pressure rating | 400 bar | 5800 psi | 40 MPa |
| Bursting pressure min. | 850 bar | 12300 psi | 85 MPa |
| Medium temperature [°C] | -25...90 | | |

Electrical data

| | | | |
|-----------------------------|---------------------------|--|--|
| Electrical design | DC PNP | | |
| Operating voltage [V] | 9.6...36 DC ¹⁾ | | |
| Current consumption [mA] | < 45 | | |
| Insulation resistance [MΩ] | > 100 (500 V DC) | | |
| Protection class | III | | |
| Reverse polarity protection | yes | | |

Outputs

| | | | |
|--------------------------|---|--|--|
| Output | 2 outputs OUT1 = switching output OUT2 = switching output or diagnostic output | | |
| Output function | 2 x normally open / closed programmable or 1 x normally open / closed programmable + 1 x normally closed (diagnostic function) | | |
| Current rating [mA] | 2 x 250 | | |
| Voltage drop [V] | < 2 | | |
| Short-circuit protection | yes (non-latching) | | |



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| | |
|--------------------------|-----|
| Overload protection | yes |
| Switching frequency [Hz] | 170 |

| Measuring / setting range | | | |
|---------------------------|--|---------------|----------------|
| Measuring range | 0...250 bar | 0...3625 psi | 0...25 MPa |
| Setting range | | | |
| Set point, SP | 2...250 bar | 40...3620 psi | 0.2...25.0 MPa |
| Reset point, rP | 1...249 bar | 20...3600 psi | 0.1...24.9 MPa |
| in steps of | 1 bar | 20 psi | 0.1 MPa |
| Factory setting | SP1 = 63 bar; rP1 = 58 bar SP2 = 188 bar; rP2 = 183 bar OUT1 = Hno; OUT2 = Hno | | |

| Accuracy / deviations | |
|--|--------------------------------|
| Accuracy / deviations (in % of the span) | |
| Switch point accuracy | < ± 0.5 |
| Characteristics deviation *) | < ± 0.25 (BFSL) / < ± 0.5 (LS) |
| Hysteresis | < ± 0.1 |
| Repeatability **) | < ± 0.1 |
| Long-term stability ***) | < ± 0.1 |
| Temperature coefficients (TEMPCO) in the temperature range 0...80° C (in % of the span per 10 K) | |
| Greatest TEMPCO of the zero point | 0.2 |
| Greatest TEMPCO of the span | 0.2 |

| Reaction times | |
|--|---|
| Power-on delay time [s] | 0.3 |
| Min. response time switching output [ms] | 3 |
| Damping for the switching output (dAP) [s] | 0.003 - 0.006 - 0.010 - 0.017 - 0.060 - 0.125 - 0.250 - 0.500 |

| Interfaces | |
|------------------------------|-------------------|
| IO-Link Device | |
| Transfer type | COM2 (38.4 kBaud) |
| IO-Link revision | 1.0 |
| IO-Link Device ID | 3 d / 00 00 03 h |
| Profiles | no profile |
| SIO mode | yes |
| Required master port class | A |
| Process data analogue | 1 |
| Process data binary | 2 |
| Min. process cycle time [ms] | 2.3 |

| Environment | |
|--------------------------|----------------------|
| Ambient temperature [°C] | -25...85 |
| Storage temperature [°C] | -40...100 |
| Protection | IP 68 ****) / IP 69K |

| Tests / approvals | | |
|-------------------|---------------------------|---|
| EMC | noise immunity | according to EN 61000-6-2 4 kV contact discharge / 15 kV air discharge |
| | EN 61000-4-2 ESD: | 20 V/m |
| | EN 61000-4-3 HF radiated: | |



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| | | |
|----------------------|--|--|
| | EN 61000-4-4 Burst: | 4 kV coupling clamp 0.5 kV supply / 1 kV signal for DC units |
| | EN 61000-4-5 Surge: | 10 V |
| | EN 61000-4-6 HF conducted: | according to the automotive directive 95/54/EC / 04/104EC / 05/83/EC |
| | noise immunity | |
| | Absorber chamber test to ISO 11452-2: | 80 V/m |
| | EN 50155: | class T3, C1, S1 |
| Shock resistance | DIN IEC 60068-2-27 / DIN IEC 60068-2-29: | 1000 g |
| | DIN EN 61373: | Category 3 |
| Vibration resistance | DIN IEC 68-2-6: | 20 g (10...2000 Hz) |
| | DIN EN 60068-2-64 | 14 g |
| | DIN EN 61373: | Category 2 |
| MTTF | [Years] | 310 |

Mechanical data

| | |
|--------------------------|--|
| Process connection | G ¼ A / M5 I |
| Materials (wetted parts) | stainless steel (303S22); ceramics; FPM (Viton) |
| Housing materials | stainless steel (304S15); FPM (Viton); EPDM/X (Santoprene); PA |
| Switching cycles min. | 100 million |
| Weight | [kg] 0.22 |

Displays / operating elements

| | |
|---------|--|
| Display | Power 2 x LED green Switching status 2 x LED yellow |
|---------|--|

Electrical connection

| | |
|------------|---------------|
| Connection | M12 connector |
|------------|---------------|

Wiring

-----OUT1/Teach/Data-----
data channel for bidirectional communication
in addition:
switching signal for pressure limit value or input for teach signal
-----OUT2-----
switching signal for pressure limit value or diagnostic signal

Remarks

| | |
|---------|---|
| Remarks | 1) supply voltage for communication mode: 18...32 V DC *) BFSL = Best Fit Straight Line / LS = Limit Value Setting **) with temperature fluctuations < 10 K ***) in % of the span per year ****) 7 days / 1 m water depth / 0.1 bar |
|---------|---|

| | |
|---------------|-----------|
| Pack quantity | [piece] 1 |
|---------------|-----------|