



PBS2-RB250SG1MSDNMA0Z

PBS plus

PRESSURE SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
PBS2-RB250SG1MSDNMA0Z	6077515

Other models and accessories → www.sick.com/PBS_plus

Detailed technical data

Features

Medium	Liquid, gaseous
Pressure type	Gauge pressure
Pressure unit	bar psi
Measuring range	0 bar ... 250 bar 0 psi ... 3,626 psi
Process temperature	-20 °C ... +85 °C
Maximum ohmic load R_A	4 mA ... 20 mA ($R_A \leq 0.5 \text{ k}\Omega$), 0 V ... 10 V, 3-wire ($R_A > 10 \text{ k}\Omega$)
Zero point adjustment	Max. + 3 % of span
Output signal	IO-Link/PNP/NPN + 4 mA ... 20 mA / 0 V ... 10 V
Rotatable housing	Display against housing with electrical connection: 330 ° Housing against process connection: 320 °
Display	14-Segment LED, red, 4-digit, character height 9 mm, can be rotated electronically by 180 ° Update: 1,000, 500, 200, 100 ms (adjustable)

Mechanics/electronics

Communication interface	IO-Link
Communication Interface detail	IO-Link V1.1
Process connection	G 1/4 A (ISO1179-2)
Wetted parts	Pressure connection: stainless steel 316L Pressure sensor: stainless steel 316L (for measurement ranges from 0 bar ... 10 bar rel stainless steel 13-8 PH)

¹⁾ NBR seal installed, FPM/FKM seal included.

²⁾ Enclosure rating IP per IEC 60529. The enclosure rating classes specified only apply when connected with female connectors that provide the corresponding enclosure rating.

³⁾ Available on request for process connections G 1/4 A according to DIN 3852-E, 1/4" NPT.

Internal transmission fluid	Silicone oil (only with pressure ranges < 0 bar ... 10 bar and ≤ 0 bar abs ... 25 bar abs)
Pressure port	0.6 mm pressure port
Housing material	Lower body: stainless steel 304, Plastic head: PC + ABS, Buttons: TPE-E, Display window: PC
Connection type	M12 round connector x 1, 4-pin
Supply voltage	15 V DC ... 35 V DC
Power consumption	45 mA (for configurations without analog output signal) 70 mA (for configurations with analog output signal)
Total current consumption	Max. 600 mA (including switching current)
Electrical safety	Protection class: III Overvoltage protection: 40 V DC Short-circuit protection: Q _A , Q ₁ , Q ₂ towards M Reverse polarity protection: L ⁺ to M
Isolation voltage	500 V DC
CE-conformity	EMC Directive: 2014/30 / EU (EN 61326-1:2013; EN 61326-2-3:2013)
Weight sensor	Approx. 220 g
Seal	NBR ¹⁾
Enclosure rating	IP67 ²⁾
Protection class III	✓
MTTF	104 years
Pressure peak dampening	Through integrated pressure port 0.6 mm or 0.3 mm for process connection G ¼ according to DIN 3852-E (0.3 mm at and above 10 bar) ³⁾

¹⁾ NBR seal installed, FPM/FKM seal included.

²⁾ Enclosure rating IP per IEC 60529. The enclosure rating classes specified only apply when connected with female connectors that provide the corresponding enclosure rating.

³⁾ Available on request for process connections G ¼ A according to DIN 3852-E, ¼" NPT.

Performance

Non-linearity	≤ ± 0.25 %, of span (Best Fit Straight Line, BFSL) according to IEC 61298-2
Accuracy	≤ ± 0.5 %, of the span (including non-linearity, hysteresis, zero point and full scale error (corresponds to error of measurement as per IEC 61298-2))
Setting accuracy of switching outputs	≤ ± 0.5 % of span
Response time	≤ 5 ms
Long-term drift/one-year stability	≤ ± 0.1 % of span to IEC 61298-2 ≤ 0.2 % of the span according to IEC 61298-2 for measuring range ≤ 0.6 bar or flush-mounted membrane (0 psi ... 10 psi)
Temperature coefficient in rated temperature range	Average TC of the zero point: ≤± 0.16% of the span / 10 K Average TC of the span ≤± 0.16% of the span / 10 K
Rated temperature range	0 °C ... +80 °C
Service life	Minimum 100 Mio. load cycles
Temperature error	≤ ± 1.0% of the range, typ., ≤ ± 2.5% of the range max.

Ambient data

Ambient temperature, operation	-20 °C ... +80 °C
Storage temperature	-20 °C ... +70 °C
Relative humidity	≤ 75 %
Shock load	50 g, 6 ms according to IEC 60068-2-27 (mechanical shock)
Vibration load	20 g, 10 Hz ... 2,000 Hz (IEC 60068-2-6, at resonance)

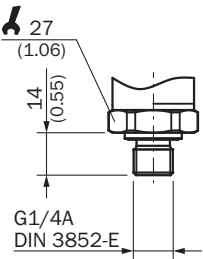
Classifications

ECLASS 5.0	27200620
ECLASS 5.1.4	27200620
ECLASS 6.0	27200620
ECLASS 6.2	27200620
ECLASS 7.0	27200620
ECLASS 8.0	27200620
ECLASS 8.1	27200620
ECLASS 9.0	27200620
ECLASS 10.0	27200620
ECLASS 11.0	27200620
ECLASS 12.0	27200620
ETIM 5.0	EC000243
ETIM 6.0	EC000243
ETIM 7.0	EC000243
ETIM 8.0	EC000243
UNSPSC 16.0901	41112409

Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
China-RoHS	✓
cULus certificate	✓
IO-Link	✓

Dimensional drawing G ¼ A DIN 3852-E



Dimensions in mm (inch)

Dimensional drawing



Dimensions in mm (inch)

Connection type

M12 x 1, 4-pin 2 switching outputs/
1 switching output + 1 analog output



$L^+ = 1$, $M = 3$, $Q_1 = 4$, $Q_2 = 2$
 $C/Q_1 = 4$, $Q_A = 2$

M12 x 1, 5-pin 2 switching outputs + 1 analog output



$L^+ = 1$, $M = 3$, $Q_1 = 4$, $Q_2 = 2$, $Q_A = 5$
 $C/Q_1 = 4$

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We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

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