

PBS-RB100SGESS0AMA0Z







# Pressure sensors Pressure switch

Model Name > PBS-RB100SGESS0AMA0Z

Part No. > 6041772



#### At a glance

- Gauge measurement ranges from 0 ... 1 bar up to 0 ... 600 bar
- No moving parts: No mechanical wear, fatigue-proof, maintenance-free
- · Stainless steel membrane
- Various programmable switching functions
- Digital outputs PNP or NPN, Analog output signal 4 ... 20 mA or 0 ... 10 V
- · Min/max pressure memory
- Password protection
- Selection of different pressure units for the display
- · IO-Link optional

#### Your benefits

- Quick and easy setup and operation due to three large pushbuttons and clear display
- Perfect display readability and optimal cable routing due to rotatable housing
- · No compromises: Individual solutions through a variety of configurations
- Universal application due to fully welded, highly durable stainless steel membrane
- Saves space and costs: no adapters required due to broad range of standard process connections
- Highly reliable due to application of proven technologies and high-quality materials, water resistance according to IP 65 and IP 67 as well as excellent overpressure safety
- Ultimate system availability: IO-Link enables fast, reliable parameter setting when changing over products



Illustration may differ



### **Features**

Pressure type: Gauge pressure

Measuring range: 0 bar ... 100 bar

Process temperature: -20 °C ... +85 °C

Display: 14-segment-LED, blue, 4-digits, height 9 mm, electronically turnable by

180°, Update: 1,000, 500, 200, 100 ms (adjustable), Accuracy: ≤ 1 % of

span ± 1 digit

Output signal: 2 x PNP

Rotatable housing: Display against housing with electrical connection: 330 °, Housing against

process connection: 320 °

Gauge pressure: 0 bar ... 1 bar up to bar ... 600 bar
Absolute pressure: 0 bar ... 1 bar up to 0 bar ... 25 bar
Compound pressure: -1 bar ... 0 bar up to -1 bar ... +24 bar

Zero point adjustment: Max. + 3 % of span

Medium: Liquid and gaseous media

**Performance** 

Accuracy: ≤ ± 1 % of span, (Including non-linearity, hysteresis, zero point and full

scale error (corresponds to error of measurement according to IEC 61298-

2))

Non-linearity: ≤ ± 0.5 % (of span (Best Fit Straight Line, BFSL) according to IEC 61298-

2)

Setting accuracy of switching outputs:  $\leq \pm 0.5 \%$  of span

Response time: 3 ms

Long-term drift/one-year stability: ≤ 0.2 % of span according to IEC 61298-2

Temperature coefficient in rated temperature range: Mean TC of span ≤ 0.2 % of span / 10 K, Mean TC of zero: ≤ 0.2% of span

/10 K

Rated temperature range: 0 °C ... +80 °C

Service life: Minimum 100 Mio. life cycles

Mechanics/electronics

Process connection: G ½ B according to EN 837

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)

Seal: Without seal Pressure port: Standard

Housing material: Display window: PC, Plastic head: PC + ABS, Buttons: TPE-E, Lower

body: stainless steel 304

Enclosure rating: IP 67

Electrical connection: Round connector M12 x 1, 4-pin, IP 67

Power consumption: 45 mA (for configurations without analog output signal), 70 mA (for

configurations with analog output signal)

Electrical safety: Short-circuit protection: QA, Q1, Q2 towards M, Protection class: III,

Overvoltage protection: 40 V DC, Reverse polarity protection: L+ towards

M

Protection class III: ✓

Weight sensor: Ca. 200 g

Internal transmission fluid: Silicone oil (only with pressure ranges < 0 bar ... 10 bar and ≤ 0 bar abs ...

25 bar abs)

Total current consumption: Max. 350 mA/570 mA (incl. switching current)

Isolation voltage: 500 V DC

CE-conformity: Pressure equipment directive: This instrument is a pressure accessory as

defined by the directive 97/23/EC, EMC directive: 2004/108/EC, EN

61326-2-3

**Ambient data** 

Storage temperature:  $-20 \,^{\circ}\text{C} \dots +80 \,^{\circ}\text{C}$ Ambient temperature:  $-20 \,^{\circ}\text{C} \dots +80 \,^{\circ}\text{C}$ 

Shock load: 50 g according to IEC 60068-2-27 (mechanical shock)

Vibration load: 10 g according to IEC 60068-2-6 (vibration under resonance)

Relative humidity: ≤ 90 %

M12 x 1, 4-pin

2 switching outputs/ 1 switching output + 1 analog output



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



L\* = 1, M = 3,  $Q_1$  = 4,  $Q_2$  = 2,  $Q_\lambda$  = 5 |4| C/Q1: With IO-Link: Communication/ switching output 1 |5| Q2: Switching output 2

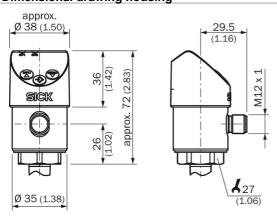
|1| L+: Positive supply connection

|2| M: Negative supply connection

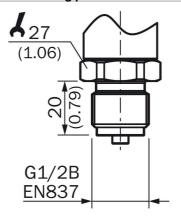
|3| Q1: Switching output 1

|6| QA: Analog output

# **Dimensional drawing housing**



# **Dimensional drawing process connection**



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