

PBS-RB025SG1SSFMMA0Z PBS



PRESSURE SWITCH

PBS-RB025SG1SSFMMA0Z | PBS

PRESSURE SWITCH



Ordering information

Туре	Part no.
PBS-RB025SG1SSFMMA0Z	6051520

Other models and accessories -> www.sick.com/PBS

Illustration may differ



Detailed technical data

Features

Medium	Liquid, gaseous
Pressure type	Gauge pressure
Pressure unit	bar
Measuring range	0 bar 25 bar
Process temperature	-20 °C +85 °C
Maximum ohmic load R _A	4 mA 20 mA ($R_A \le 0.5$ kOhm) 0 V 10 V, 3-wire ($R_A > 10$ kOhm)
Zero point adjustment	Max. + 3 % of span
Output signal	IO-Link/PNP + NPN
Rotatable housing	Display against housing with electrical connection: 330 $^{\circ}$ Housing against process connection: 320 $^{\circ}$
Display	14-segment-LED, blue, 4-digits, height 9 mm, electronically turnable by 180° Accuracy: ≤ 1 % of span ± 1 digit Update: 1,000, 500, 200, 100 ms (adjustable)

Mechanics/electronics

Process connection	G ¼ A according to DIN 3852-E
Wetted parts	Pressure connection: stainless steel 316L Pressure sensor: stainless steel 316L (for measurement ranges from 0 bar 10 bar rel stain- less steel 13-8 PH)
Internal transmission fluid	Silicone oil (only with pressure ranges < 0 bar 10 bar and \leq 0 bar abs 25 bar abs)
Pressure port	3.5 mm Standard
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

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Peer consumption45 mA (for configurations with an along output signal)Total current consumptionMax.350 mA / 370 mA (incl. switching current)Electrical safetyProtectrical class IIII Overation class IIII Detectrical spectration. 40 V DC Short circuit protection: 204 V DC Short circuit protection:		
Electrical safety Protection class: III Overvotage protection: Q, Q, Q, Q, towards M Reverse pointy protection: L' to M Isolation voltage 500 V DC Ge-conformity Pressure equipment directive: This instrument is a pressure accessory as defined by the directive: 2004/108/ED, EN 613262.2 3 Weight sonsor Aprox. Dog Sal Aprox. Dog Enclosure rating PF07 Protection class III 49 vars Protection class III 41 vars Norting 24 0.5 %, of span (Best Fit Straight Line, BFSL) according to IEC 61298-2 Norting 24 0.5 %, of span (Best Fit Straight Line, BFSL) according to IEC 61298-2 Respone time 3 us Satting accuracy of switching outputs 54 0.5 % of span (Best Fit Straight Line, BFSL) according to IEC 61298-2 Respone time 3 us Constraint of the span 50.2 % of span / 10 K Respone time coefficient in rated temport 40.2 % of span / 10 K Respone time coefficient in rated temport So 10 vars / 10 K Sorting coerding to IEC 60085-227 (mechanical shock) 100 vars / 10 K Sorting coerding to IEC 60085-227 (mechanical shock) 10 gaccording to IEC 60085-227 (mechanical shock) Voltationo	Power consumption	
Overvolage protection: 40 V DC Neverse polarity protection: 20, 0, 0, stowards M Neverse polarity protection: 1' to MIsolation votage500 V DCGE-conformity500 V DCGE-conformityApprox. 200 gWeight sensorApprox. 200 gSaalFMAProtection class IIIFMAProtection class III4/9 VarsaPortection class III6/7Accuracy4/9 AgrasPortection class III6/2 AgrasSetting accuracy of switching output4/2 AgrasResponse Turing2/2 Agras <t< th=""><th>Total current consumption</th><th>Max. 350 mA / 570 mA (incl. switching current)</th></t<>	Total current consumption	Max. 350 mA / 570 mA (incl. switching current)
CC-onformilyPressure equipment directive: This instrument is a pressure accessory as defined by the directive: 2004/108/EC, EN 613262-3Weight sensorAprox. 200 gSealFRM/FPMEnclosure ratingFPG7Protection class IIIJMTF349 yearsPerformances ± 0.5 % of span (Best Fit Straight Line, BFSL) according to IEC 61288.2Accuracys ± 1.5 % of the spanSetting accuracy of switching outputss ± 0.5 % of spanResponse time3 msLongterm diffyone-year stabilitys 0.2% of the span according to IEC 61298.2Response time3 msLongterm diffyone-year stabilitys 0.2% of the span according to IEC 61298.1Rated temperature rangec ° c + 80 ° CStories transments 20 ° c + 80 ° CStories transments c ° c + 80 ° CStories transmentc ° c + 8	Electrical safety	Overvoltage protection: 40 V DC Short-circuit protection: Q_A , Q_1 , Q_2 towards M
Weight sensorKWE P7/23/EC. EMC directive: 2004/108/EC. EM 61326-23Weight sensorApprox 200 gSealFKM/FPMEnclosure ratingIP67Protection class III/Protection class IIISealProtection class IIISealSealSealResponse Time class IIISealResponse Time class IIISeal <t< th=""><th>Isolation voltage</th><th>500 V DC</th></t<>	Isolation voltage	500 V DC
SealFM/FPMEnclosure ratingIPG7Protection class IIIPG7Protection class IIIPG7Photection class IIIPG7	CE-conformity	
Enclosure ratingP67Protection class III✓MTTF39 yersPerformancePartonianteAccuracyAccuracy of switching output3 class of span (seas Fit Straight Line, BFSL) according to EC 61298-2Accuracy of switching outputAccuracy of switching output0.25 of the span according to EC 61298-2Angeter difficient in rated temper0.26 of the span according to EC 61298-2Render difficient in rated temper0.26 of the span according to EC 61298-2Rate temperature coefficient in rated temper0.26 of the span according to EC 61298-2Rate temperature ange0.26 of class of c	Weight sensor	Approx. 200 g
Protection class III / MTTF 349yars Performance \$1.05%, of span (Best Fit Straight Line, BFSL) according to IEC 61298.2 Accuracy \$4.10 of the span Accuracy \$4.05 % of span (Best Fit Straight Line, BFSL) according to IEC 61298.2 Accuracy \$4.05 % of span Accuracy \$4.05 % of span Accuracy \$4.05 % of span Accuracy \$4.05 % of span (De IEC 61298.2 Accuracy \$0.2 % of the span according to IEC 61298.2 Temperature coefficient in rated temperature for ange \$0.2 % of span / 10 K Ment Co for span / 10 K Wann Cof Span / 10 K Ment Cof Span / 10 K Wann Cof Span / 10 K Martine temperature range \$0.2 % of span / 10 K Ment Cof Span / 10 K Wann Cof Span / 10 K Storage temperature range \$0.2 % of span / 10 K Motion temperature range \$0.2 % of span / 10 K Storage temperature range \$0.2 % of span / 10 K Ablent temperature range \$0.2 % of span / 10 K Storage temperature range \$0.2 % of span / 10 K Storage temperature range \$0.2 % of span / 10 K <	Seal	FKM/FPM
ATTF349 yearsPerformance\$ ± 0.5 %, of span (Best Fit Straight Line, BFSL) according to IEC 61298-2Accuracy\$ ± 1.% of the spanAccuracy of switching outputs\$ ± 0.5 % of spanBesponse time\$ ± 0.5 % of spanResponse time\$ ± 0.5 % of spanIong-term drift/one-year stability\$ 0.2 % of the span according to IEC 61298-2Temperature coefficient in rated temperature range0 * 0 + 80 * CReted temperature range0 * 0 + 80 * CArbient temperature range0 * 0 + 80 * CStroige temperature- 20 * C + 80 * CReted temperature- 0 * C + 80 * CReted temperature- 20 * C + 80 * CReted temperature- 0 * C + 80 * CStorage temperature- 0 * 0 * + 80 * CReted temperature- 20 * C + 80 * CReted temperature- 20 * C + 80 * CReted temperature- 20 * C + 80 * CReter temperature<	Enclosure rating	IP67
Performance Performance Performance Non-linearity \$10.5%, of span (Best Fit Straight Line, BFSL) according to IEC 61298-2 Accuracy \$10.5%, of span Accuracy \$10.5\%, of span	Protection class III	✓
Non-linearity <td< th=""><th>MTTF</th><th>349 years</th></td<>	MTTF	349 years
Acuracys1% of the spanSetting accuracy of switching outputs50.5% of span 50.5% of span 10.5% of span 10.	Performance	
Setting accuracy of switching outputs\$ 40.5% of spanResponse time3 msLong-term drift/one-year stability50.2% of the span according to IEC 61298-2Ture rangeMean TC of zero point: \$ 0.2% of span / 10 KRated temperature range0 °C +80 °CService life0 °C +80 °CAmbient data-20 °C +80 °CAmbient temperature-20 °C +80 °CStorage temperature-20 °C .	Non-linearity	\leq ± 0.5 %, of span (Best Fit Straight Line, BFSL) according to IEC 61298-2
Response time3 msLong-term drift/one-year stability5.0.2 % of the span according to IEC 61298-2Temperature coefficient in rated temperabMean TC of zero point: 5.0.2% of span / 10 KRated temperature range0 °C +80 °CService lifeMinimum 100 Mio. load cyclesAmbient data-20 °C +80 °CAmbient temperature-20 °C +80 °CStorage temperature-20	Accuracy	$\leq \pm 1\%$ of the span
Longterm diffy/one-year stabilitya.0.2 % of the span according to IEC 61298-2Temperature coefficient in rated temperatureWean TC of zero point: \$0.2% of span / 10 KRated temperature range0 °C+80 °CStroke lifeMinimu 100 Mio. load cyclesAmbient data-20 °C+80 °CAmbient temperature-20 °C+80 °CStorage temperature-20 °C+80 °CStorage temperature0 °0 °CStorage temperature-20 °C+80 °CRelative humidity0 20 °C+80 °CStorage temperature-20 °C+80 °CStorage temperature-20 °C+80 °CRelative humidity0 90 %Storage temperature-20 °C+80 °CClassifications-20 °C+80 °CClassificat	Setting accuracy of switching outputs	≤ ± 0.5 % of span
Temperature coefficient in rated temperaMean TC of zero point: \$ 0.2% of span / 10 K Mean TC of span s 0.2% of span / 10 KRated temperature range0 °C +80 °CService lifeMinimu 100 Mio. load cyclesAmbient data-20 °C +80 °CAmbient temperature-20 °C +80 °CStorage temperature-20 °C +80 °CRelative humidityS 00 %Storage temperature-20 °C +80 °CRelative humidity-20 °C +80 °CStorage temperature-20 °C +80 °CStorage temperature-20 °C +80 °CRelative humidity-20 °C +80 °CStorage temperature-20 °C +80 °CClassifications-20 °C +80 °CeCless 5.0-20 °C +80 °CeCless 6.2-20 °C 20 °CeCless 6.2-20 °C 20 °CeCless 7.0-20 °C 20 °CeCless 8.1-20 °C 20 °CeCless 9.0-20 °C 20 °CeCless 9.0-20 °C 20 °CeCless 9.0-20 °C 20 °CeCless 1.0-20 °C 20 °CeCless 1.0<	Response time	3 ms
ture rangeMean TC of span ≤ 0.2 % of span / 10 KRated temperature range0 °C+80 °CService lifeMinium 100 Mio. load cyclesAmbient data-20 °C+80 °CAmbient temperature-20 °C+80 °CStorage temperature-20 °C+80 °CRelative humidity50 g according to IEC 60068-2-27 (mechanical shock)Vibration load10 g according to IEC 60068-2-27 (mechanical shock)Classifications2700620ecless 5.07200620ecless 6.027200620ecless 6.027200620ecless 6.127200620ecless 7.027200620ecless 8.027200620ecless 8.127200620ecless 9.027200620ecless 9.0	Long-term drift/one-year stability	≤ 0.2 % of the span according to IEC 61298-2
Service lifeMinimum 100 Mio. load cyclesAmbient dataAmbient temperature-20 °C+80 °CStorage temperature-20 °C+80 °CRelative humidity50 %Shock load50 gaccording to IEC 60068-2-27 (mechanical shock)Vibration load50 gaccording to IEC 60068-2-6 (vibration under resonance)Classifications2720620ecless 5.02720620ecless 6.02720620ecless 6.22720620ecless 6.22720620ecless 8.02720620ecless 8.12720620ecless 9.02720620ecless 9.02720620<		
Ambient data -20 °C +80 °C Ambient temperature -20 °C +80 °C Storage temperature -20 °C +80 °C Relative humidity >90 % Shock load 0 g according to IEC 60068-2-27 (mechanical shock) Vibration load 10 g according to IEC 60068-2-6 (vibration under resonance) Classifications 27200620 (mechanical shock) ecless 5.0 27200620 ecless 6.0 27200620 ecless 6.2 27200620 ecless 6.1 27200620 ecless 6.1 27200620 ecless 6.1 27200620 ecless 6.2 27200620 ecless 6.1 <t< th=""><th>Rated temperature range</th><th>0 °C +80 °C</th></t<>	Rated temperature range	0 °C +80 °C
Ambient temperature-20 °C +80 °CStorage temperature-20 °C +80 °CRelative humidity>20 °C +80 °CRelative humidity>90 %Shock load50 g according to IEC 60068-2-27 (mechanical shock)Vibration load10 g according to IEC 60068-2-27 (mechanical shock)Classifications20 °C +80 °Cecless 5.027 200620ecless 5.1.427 200620ecless 6.227 200620ecless 6.227 200620ecless 7.027 200620ecless 8.027 200620ecless 8.127 200620ecless 8.127 200620ecless 9.027 200620 <t< th=""><th>Service life</th><th>Minimum 100 Mio. load cycles</th></t<>	Service life	Minimum 100 Mio. load cycles
Storage temperature -20 °C +80 °C Relative humidity >90 % Shock load 50 gaccording to IEC 60068-2:27 (mechanical shock) Vibration load 10 gaccording to IEC 60068-2:6 (vibration under resonance) Classifications 27200620 ecless 5.0 27200620 ecless 6.0 27200620 ecless 6.14 27200620 ecless 6.2 27200620 ecless 6.2 27200620 ecless 7.0 27200620 ecless 8.1 27200620 ecless 9.0 27200620 ecless 9.0 27200620 ecless 9.0 27200620	Ambient data	
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Vibration load 10 g according to IEC 60068-2-6 (vibration under resonance) Classifications 27200620 eCl@ss 5.0 27200620 eCl@ss 5.1.4 27200620 eCl@ss 6.0 27200620 eCl@ss 6.2 27200620 eCl@ss 6.2 27200620 eCl@ss 7.0 27200620 eCl@ss 8.0 27200620 eCl@ss 8.1 27200620 eCl@ss 8.1 27200620 eCl@ss 9.0 27200620	Relative humidity	≤ 90 %
classifications ecless 5.0 2720620 ecless 5.1.4 2720620 ecless 6.0 2720620 ecless 6.2 2720620 ecless 7.0 2720620 ecless 8.0 2720620 ecless 8.1 2720620 ecless 9.0 2720620	Shock load	50 g according to IEC 60068-2-27 (mechanical shock)
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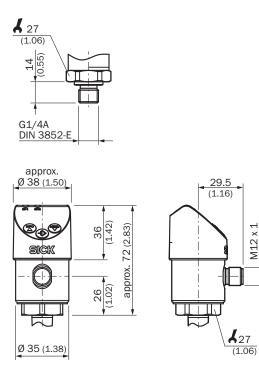
PBS-RB025SG1SSFMMA0Z | PBS

PRESSURE SWITCH

ETIM 5.0	EC000243
ETIM 6.0	EC000243
ETIM 7.0	EC000243
ETIM 8.0	EC000243
UNSPSC 16.0901	41112409

Dimensional drawing (Dimensions in mm (inch))

G 1/4 A DIN 3852-E



Connection type

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, $Q_{1} = 4$, $Q_{2} = 2$, $Q_{A} = 5$ $C/Q_{1} = 4$

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Recommended accessories

Other models and accessories -> www.sick.com/PBS

	Brief description	Туре	Part no.
Mounting brac	ckets and plates		
Fai	Mounting bracket for simple and stable wall mounting of pressure sensors with 27 mm hexagon, Aluminum	BEF-FL-ALUPBS-HLDR	5322501

Recommended services

Additional services -> www.sick.com/PBS

	Туре	Part no.
Function Block Factory		
• Description: The Function Block Factory supports common programmable logic controllers (PLCs) from various manufacturers, such as Siemens, Beckhoff, Rockwell Automation and B&R. More information on the FBF can be found https://fbf.cloud.sick.com tar-get="_blank">https://fbf.cloud.sick.com tar-get="_blank">https://fbf.cloud.sick.com tar-get="_blank">https://fbf.cloud.sick.com tar-get="_blank"	Function Block Factory	On request

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

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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