

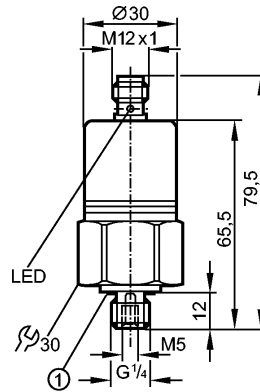


PP002E

PP-100-SBG14-QFPKG/US/ I



Pressure sensors



1: 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...100 bar / 0...1450 psi / 0...10 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	300 bar	4350 psi	30 MPa
Bursting pressure min.	650 bar	9400 psi	65 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)		
Overload protection	yes		



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Pressure sensors

Switching frequency [Hz]	170
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Measuring / setting range

Measuring range	0...100 bar	0...1450 psi	0...10 MPa
Setting range			
Set point, SP	1.0...100.0 bar	20...1450 psi	0.10...10.00 MPa
Reset point, rP	0.5...99.5 bar	10...1440 psi	0.05...9.95 MPa
in steps of	0.5 bar	10 psi	0.05 MPa
Factory setting	SP1 = 25.0 bar; rP1 = 23.0 bar SP2 = 75.0 bar; rP2 = 73.0 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	4 d / 00 00 04 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:	4 kV coupling clamp
	EN 61000-4-4 Burst:	



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	EN 61000-4-5 Surge: EN 61000-4-6 HF conducted: noise immunity Absorber chamber test to ISO 11452-2: EN 50155:	0.5 kV supply / 1 kV signal for DC units 10 V according to the automotive directive 95/54/EC / 04/104EC / 05/83/EC 80 V/m class T3, C1, S1
Shock resistance	DIN IEC 60068-2-27 / DIN IEC 60068-2-29: DIN EN 61373:	1000 g Category 3
Vibration resistance	DIN IEC 68-2-6: DIN EN 60068-2-64 DIN EN 61373:	20 g (10...2000 Hz) 14 g 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]	0.23

Displays / operating elements

Display	Power 2 x LED green Switching status 2 x LED yellow
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Electrical connection

Connection	M12 connector
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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 referring to UL: "limited voltage" with overcurrent protection in accordance with UL508 *) 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
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Pack quantity [piece]	1
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