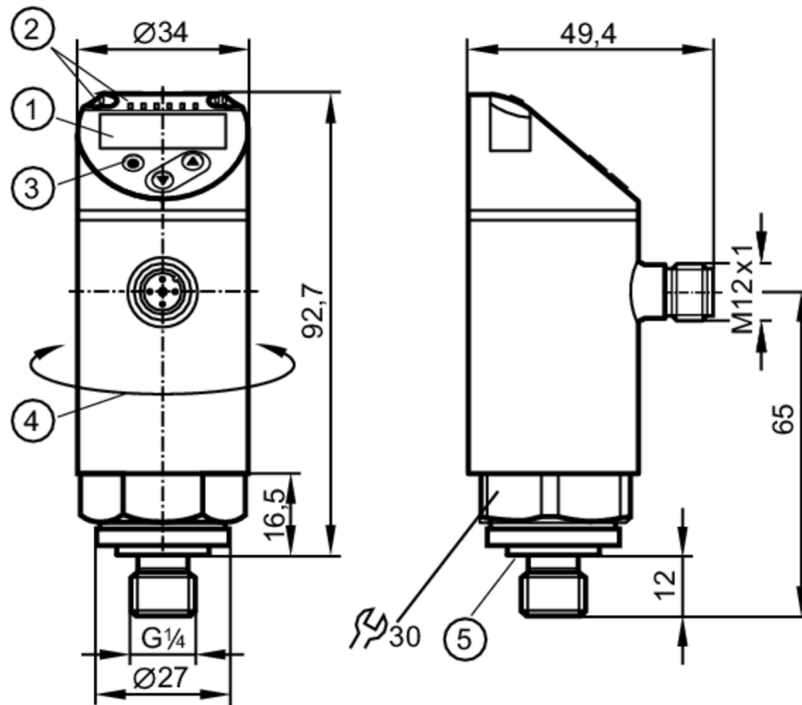


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Pressure sensor with display

PN-001BREG14-MFRKG/US/ IV



- 1 alphanumeric display 4-digit red/green
- 2 LEDs Display unit / Switching status
- 3 Programming button
- 4 upper part of the housing can be rotated 345°
- 5 sealing



Product characteristics

Number of inputs and outputs	Number of digital outputs: 1; Number of analog outputs: 1				
Measuring range	0...1 bar	0...1000 mbar	0...14.5 psi	0...29.5 inHg	0...100 kPa
Process connection	threaded connection G 1/4 external thread (DIN EN ISO 1179-2); Internal thread:M5				

Application

System	gold-plated contacts			
Measuring element	ceramic-capacitive pressure measuring cell			
Application	for industrial applications			
Media	liquids and gases			
Medium temperature [°C]	-25...80			
Min. bursting pressure	30000 mbar	450 psi	880 inHg	3000 kPa
Pressure rating	10000 mbar	145 psi	290 inHg	1000 kPa
Vacuum resistance [mbar]	-1000			
Type of pressure	relative pressure			

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Electrical data						
Operating voltage	[V]	18...30 DC; (to SELV/PELV)				
Current consumption	[mA]	< 35				
Min. insulation resistance	[MΩ]	100; (500 V DC)				
Protection class		III				
Reverse polarity protection		yes				
Power-on delay time	[s]	0.3				
Integrated watchdog		yes				
Inputs / outputs						
Number of inputs and outputs		Number of digital outputs: 1; Number of analog outputs: 1				
Outputs						
Total number of outputs		2				
Output signal		switching signal; analog signal; IO-Link; (configurable)				
Electrical design		PNP				
Number of digital outputs		1				
Output function		normally open / closed; (configurable)				
Max. voltage drop switching output DC	[V]	2.5				
Permanent current rating of switching output DC	[mA]	150; (200 (...60 °C) 250 (...40 °C))				
Switching frequency DC	[Hz]	< 170				
Number of analog outputs		1				
Analog current output	[mA]	4...20				
Max. load	[Ω]	500				
Analog voltage output	[V]	0...10				
Min. load resistance	[Ω]	2000				
Short-circuit protection		yes				
Type of short-circuit protection		yes (non-latching)				
Overload protection		yes				
Measuring/setting range						
Measuring range		0...1 bar	0...1000 mbar	0...14.5 psi	0...29.5 inHg	0...100 kPa
Factory setting / CMPT = 2						
Set point SP		10...1000 mbar	0.1...14.5 psi	0.2...29.5 inHg	1...100 kPa	
Reset point rP		5...995 mbar	0.05...14.5 psi	0.1...29.4 inHg	0.5...99.5 kPa	
Min. difference between SP and rP		5 mbar	0.1 psi	0.2 inHg	0.5 kPa	
In steps of		5 mbar	0.05 psi	0.1 inHg	0.5 kPa	
Status_B High Resolution / CMPT = 3						
Set point SP		8...1000 mbar	0.12...14.5 psi	0.2...29.5 inHg	0.8...100 kPa	
Reset point rP		3...995 mbar	0.05...14.43 psi	0.1...29.4 inHg	0.3...99.5 kPa	
Min. difference between SP and rP		5 mbar	0.08 psi	0.2 inHg	0.5 kPa	
In steps of		1 mbar	0.01 psi	0.1 inHg	0.1 kPa	
Accuracy / deviations						
Switch point accuracy		< ± 0,5				

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	[% of the span]	
Repeatability	[% of the span]	$< \pm 0,1$; (with temperature fluctuations < 10 K)
Characteristics deviation	[% of the span]	$< \pm 0,25$ (BFSL) / $< \pm 0,5$ (LS); (BFSL = Best Fit Straight Line; LS = limit value setting)
Hysteresis deviation	[% of the span]	$< \pm 0,25$
Long-term stability	[% of the span]	$< \pm 0,05$; (per 6 months)
Temperature coefficient zero point	[% of the span / 10 K]	$< \pm 0,2$; (-0...80 °C)
Temperature coefficient span	[% of the span / 10 K]	$< \pm 0,2$; (-0...80 °C)

Reaction times

Response time	[ms]	< 3
Delay time programmable dS, dr	[s]	0...50
Damping process value dAP	[s]	0...4
Damping for the analog output dAA	[s]	0...4
Max. response time analog output	[ms]	3

Software / programming

Parameter setting options	hysteresis / window; normally open / closed; switch-on/ switch-off delay; Damping; Display unit; current/voltage output
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Interfaces

Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9	
SIO mode	yes	
Required master port class	A	
Process data analog	1	
Process data binary	1	
Supported DeviceIDs	Type of operation	DeviceID
	Factory setting / CMPT = 2	433
	Status_B High Resolution / CMPT = 3	618
Note	For further information please see the IODD PDF file at "Downloads"	

Factory setting / CMPT = 2

Profiles	Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis	
Min. process cycle time	[ms]	2.3
IO-Link resolution pressure	[mbar]	1
IO-Link resolution pressure	[MPa]	0.0001
IO-Link process data (cyclical)	Function	bit length
	pressure	14
	binary switching information	1
IO-Link functions (acyclical)	application specific tag	

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Status_B High Resolution / CMPT = 3		
Profiles	Smart Sensor ED2: Digital Measuring Sensor (0x000A), Identification and Diagnosis (0x4000)	
Min. process cycle time [ms]	3	
IO-Link resolution pressure [mbar]	0.5	
IO-Link resolution pressure [MPa]	0.00005	
IO-Link process data (cyclical)	Function	bit length
	pressure	16
	device status	4
	binary switching information	1
IO-Link functions (acyclical)	application specific tag	
Operating conditions		
Ambient temperature [°C]	-25...80	
Storage temperature [°C]	-40...100	
Protection	IP 65; IP 67	
Tests / approvals		
EMC	DIN EN 61000-6-2	
	DIN EN 61000-6-3	
Shock resistance	DIN EN 60068-2-27	50 g (11 ms)
Vibration resistance	DIN EN 60068-2-6	20 g (10...2000 Hz)
MTTF [years]	226	
UL approval	UL approval number	J004
Pressure equipment directive	sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	
Mechanical data		
Weight [g]	260	
Material	stainless steel (1.4404 / 316L); PBT+PC-GF30; PBT-GF20; PC	
Materials (wetted parts)	stainless steel (1.4404 / 316L); Al2O3 (ceramics); FKM	
Min. pressure cycles	100 million	
Tightening torque [Nm]	25...35; (recommended tightening torque; Depends on lubrication, seal and pressure rating)	
Process connection	threaded connection G 1/4 external thread (DIN EN ISO 1179-2); Internal thread:M5	
Process connection sealing	FKM (DIN EN ISO 1179-2)	
Restrictor element integrated	no (can be retrofitted)	
Displays / operating elements		
Display	Display unit	4 x LED, green (mbar, psi, kPa, inHg)
	Switching status	1 x LED, yellow
	Measured values	alphanumeric display, red/green 4-digit
Remarks		
Pack quantity	1 pcs.	
Electrical connection		
Connector: 1 x M12; coding: A; Contacts: gold-plated		

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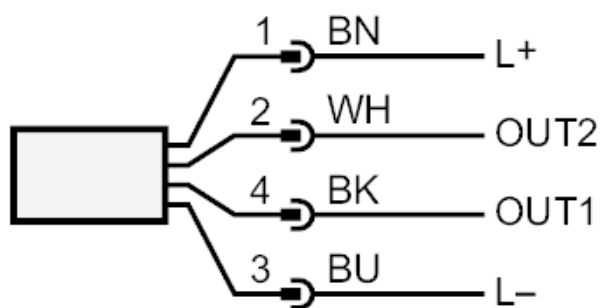


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Connection



OUT1 Switching output
 IO-Link

OUT2 analog output
 Core colors :

BK = black
BN = brown
BU = blue
WH = white