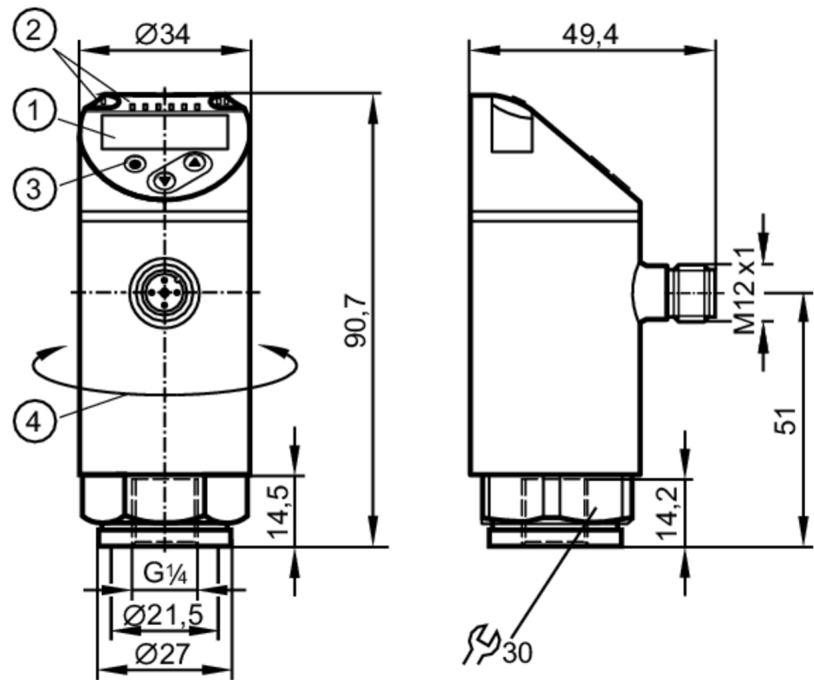




Pressure sensor with display

PN-0-1BRER14-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°



Product characteristics

Number of inputs and outputs	Number of digital outputs: 1; Number of analogue outputs: 1				
Measuring range	-1...0 bar	-1000...0 mbar	-14.5...0 psi	-29.5...0 inHg	-100...0 kPa
Process connection	threaded connection G 1/4 internal thread M6 I				

Application

Special feature	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	50000 mbar	725 psi	1450 inHg	5000 kPa
Pressure rating	20000 mbar	290 psi	590 inHg	2000 kPa
Vacuum resistance [mbar]	-1000			
Type of pressure	relative pressure; vacuum			

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



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Integrated watchdog	yes				
Inputs / outputs					
Number of inputs and outputs	Number of digital outputs: 1; Number of analogue outputs: 1				
Outputs					
Total number of outputs	2				
Output signal	switching signal; analogue signal; IO-Link; (configurable)				
Electrical design	PNP				
Number of digital outputs	1				
Output function	normally open / normally closed; (parameterisable)				
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 analogue outputs	1				
Analogue current output [mA]	4...20				
Max. load [Ω]	500				
Analogue voltage output [V]	0...10				
Min. load resistance [Ω]	2000				
Short-circuit protection	yes				
Type of short-circuit protection	pulsed				
Overload protection	yes				
Measuring/setting range					
Measuring range	-1...0 bar	-1000...0 mbar	-14.5...0 psi	-29.5...0 inHg	-100...0 kPa
Factory setting / CMPT = 2					
Set point SP	-990...0 mbar	-14.4...0 psi	-29.3...0 inHg	-99...0 kPa	
Reset point rP	-995...-5 mbar	-14.45...-0.05 psi	-29.4...-0.1 inHg	-99.5...-0.5 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	-992...0 mbar	-14.38...0 psi	-29.3...0 inHg	-99.2...0 kPa	
Reset point rP	-997...-5 mbar	-14.45...-0.07 psi	-29.4...-0.1 inHg	-99.7...-0.5 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 [% of the span]	< ± 0,5				
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K)				
Characteristics deviation [% of the span]	< ± 0,25 (BFSL) / < ± 0,5 (LS); (BFSL = Best Fit Straight Line; LS = limit value setting)				
Hysteresis deviation [% of the span]	< ± 0,25				
Long-term stability	< ± 0,05; (per 6 months)				



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	[% of the span]	
Temperature coefficient zero point		$< \pm 0,2; (-0...80\text{ °C})$
	[% of the span / 10 K]	
Temperature coefficient span		$< \pm 0,2; (-0...80\text{ °C})$
	[% of the span / 10 K]	

Response times

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

Software / programming

Parameter setting options	hysteresis / window; normally open / normally 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 type	A						
Process data analogue	1						
Process data binary	1						
Supported DeviceIDs	<table> <tr> <th>Type of operation</th><th>DeviceID</th></tr> <tr> <td>Factory setting / CMPT = 2</td><td>434</td></tr> <tr> <td>Status_B High Resolution / CMPT = 3</td><td>619</td></tr> </table>	Type of operation	DeviceID	Factory setting / CMPT = 2	434	Status_B High Resolution / CMPT = 3	619
Type of operation	DeviceID						
Factory setting / CMPT = 2	434						
Status_B High Resolution / CMPT = 3	619						
Note	For further information please see the IODD PDF file under "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]	0.001	
IO-Link process data (cyclical)	function	bit length
	pressure	14
	binary switching information	1
IO-Link functions (acyclical)	application specific tag	

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]	0.0005



Pressure sensor with display

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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 no.	J004
Pressure Equipment Directive	Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	

Mechanical data

Weight	[g]	234.5
Housing		cylindrical
Dimensions	[mm]	Ø 34 / L = 90.7
Materials		stainless steel (316L/1.4404); PBT+PC-GF30; PBT-GF20; PC
Materials (wetted parts)		stainless steel (316L/1.4404); 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 internal thread M6 I
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.
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Electrical connection

Connector: 1 x M12; coding: A; Contacts: gold-plated

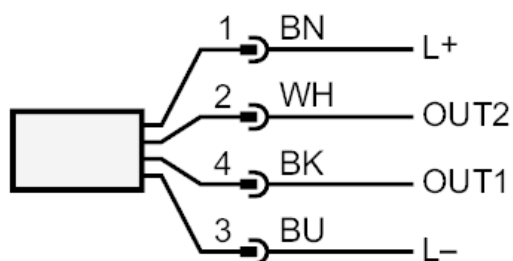




Pressure sensor with display

PN-0-1BRER14-MFRKG/US/ /V

Connection



OUT1	switching output
	IO-Link
OUT2	analogue output
	Core colours :
BK =	black
BN =	brown
BU =	blue
WH =	white