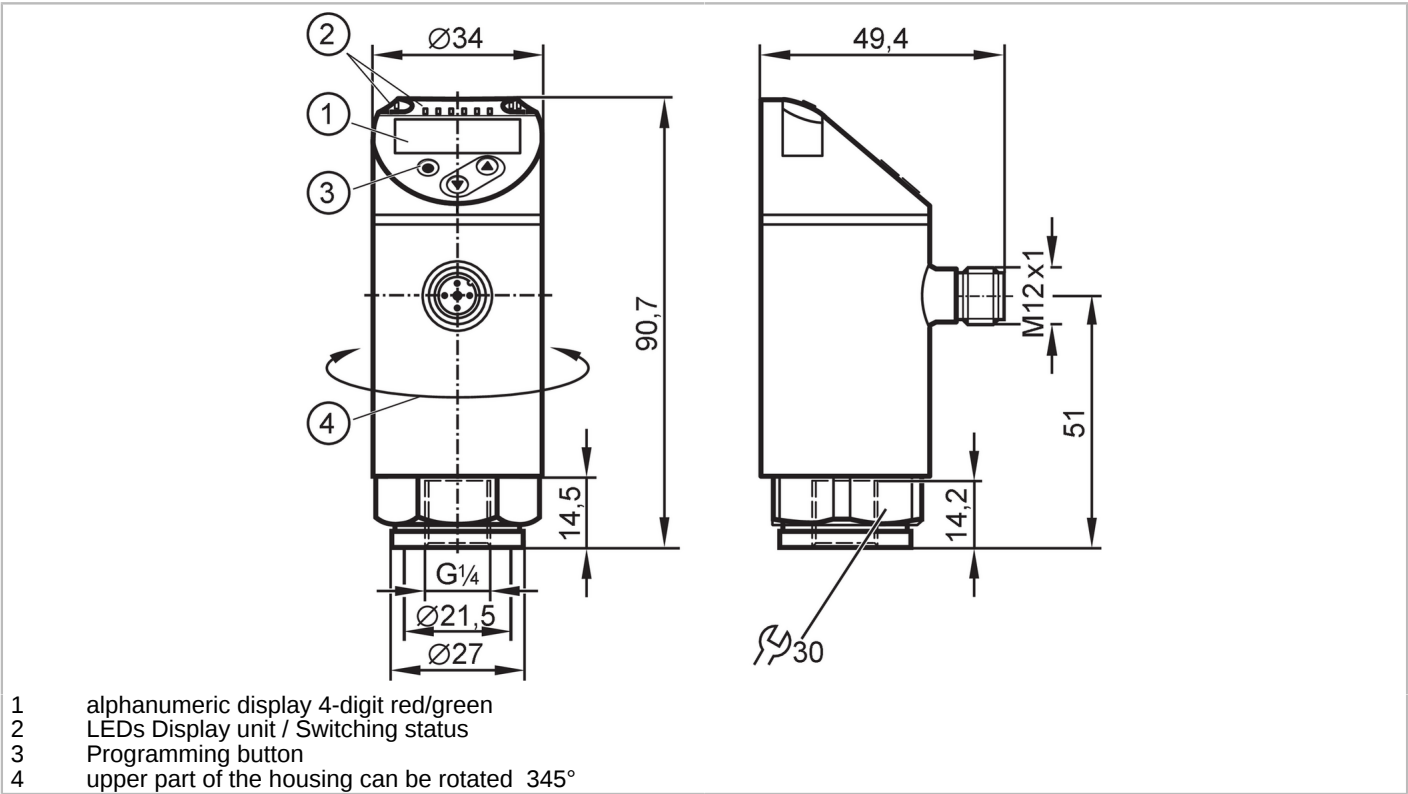


PN3129



Pressure sensor with display

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



Product characteristics				
Number of inputs and outputs	Number of digital outputs: 1; Number of analog 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. burst pressure	50000 mbar	725 psi	1450 inHg	5000 kPa
Pressure rating	20000 mbar	290 psi	590 inHg	2000 kPa
Vacuum resistance	-1000 mbar		-0.1 MPa	
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			
Integrated watchdog	yes			



Pressure sensor with display

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

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		-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 [% of the span]		< ± 0,05; (per 6 months)			



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Temperature coefficient zero point [% of the span / 10 K]	< ± 0,2; (-0...80 °C)
Temperature coefficient span [% of the span / 10 K]	< ± 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	<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 at "Downloads"						

Factory setting / CMPT = 2

Profiles	Smart Sensor - SSP 0	Generic Profiled Sensor
	Function	Device identification
	Function	Process data variable
	Function	Device diagnosis
Min. process cycle time [ms]	2.3	
IO-Link resolution pressure	1 mbar	0.001 MPa
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 - SSP 3.1	Measuring Sensor
	Common - I&D	Identification and Diagnosis
Min. process cycle time [ms]	3	
IO-Link resolution pressure	0.5 mbar	0.0005 MPa

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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 number	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		tubular
Dimensions	[mm]	Ø 34 / L = 90.7
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 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: 4, gold-plated



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Connection



OUT1	Switching output
	IO-Link
OUT2	analog output
	Core colors :
BK =	black
BN =	brown
BU =	blue
WH =	white