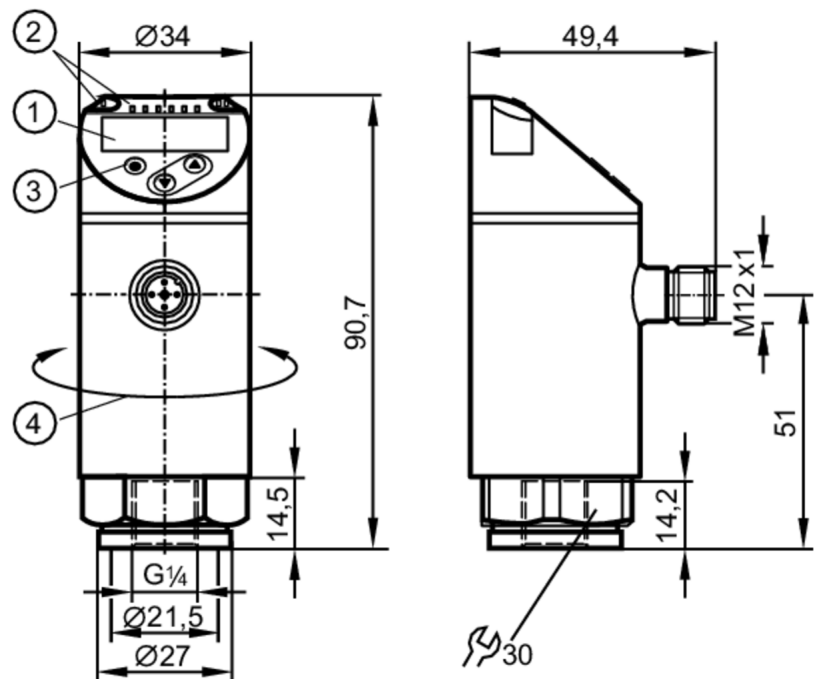




Pressure sensor with display

PN-1-1BRER14-QFRKG/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: 2				
Measuring range	-1...1 bar	-1000...1000 mbar	-14.5...14.5 psi	-29.4...29.4 inHg	-100...100 kPa
Process connection	threaded connection G 1/4 internal thread				
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	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; 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				



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Power-on delay time	[s]	< 0.3				
Integrated watchdog		yes				
Inputs / outputs						
Number of inputs and outputs		Number of digital outputs: 2				
Outputs						
Total number of outputs		2				
Output signal		switching signal; IO-Link; (configurable)				
Electrical design		PNP/NPN				
Number of digital outputs		2				
Output function		normally open / normally closed; (parameterisable)				
Max. voltage drop switching output DC		2.5				
Permanent current rating of switching output DC		150; (200 (...60 °C) 250 (...40 °C))				
Switching frequency DC		[Hz] < 170				
Short-circuit protection		yes				
Type of short-circuit protection		pulsed				
Overload protection		yes				
Measuring/setting range						
Measuring range		-1...1 bar	-1000...1000 mbar	-14.5...14.5 psi	-29.4...29.4 inHg	-100...100 kPa
Factory setting / CMPT = 2						
Set point SP		-980...1000 mbar	-14.3...14.5 psi	-29...29.6 inHg	-98...100 kPa	
Reset point rP		-990...990 mbar	-14.4...14.4 psi	-29.4...29.2 inHg	-99...99 kPa	
Min. difference between SP and rP		10 mbar	0.2 psi	0.4 inHg	1 kPa	
In steps of		10 mbar	0.1 psi	0.2 inHg	0.1 kPa	
Status_B High Resolution / CMPT = 3						
Set point SP		-983...1000 mbar	-14.3...14.5 psi	-29...29.5 inHg	-98...100 kPa	
Reset point rP		-993...990 mbar	-14.4...14.4 psi	-29.3...29.2 inHg	-99...99 kPa	
Min. difference between SP and rP		10 mbar	0.2 psi	0.3 inHg	1 kPa	
In steps of		1 mbar	0.1 psi	0.1 inHg	0.1 kPa	
Accuracy / deviations						
Switch point accuracy		< ± 0,5				
[% of the span]						
Repeatability		< ± 0,1; (with temperature fluctuations < 10 K)				
[% of the span]						
Characteristics deviation		< ± 0,25 (BFSL) / < ± 0,5 (LS); (BFSL = Best Fit Straight Line; LS = limit value setting)				
[% of the span]						
Hysteresis deviation		< ± 0,25				
[% of the span]						
Long-term stability		< ± 0,05; (per 6 months)				
[% of the span]						
Temperature coefficient zero point		< ± 0,2; (-25...80 °C)				
[% of the span / 10 K]						



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Temperature coefficient span [% of the span / 10 K]	< ± 0,2; (-25...80 °C)	
Response times		
Response time [ms]	< 3	
Delay time programmable dS, dr [s]	0...50	
Software / programming		
Parameter setting options	hysteresis / window; normally open / normally closed; switching logic; switch-on/switch-off delay; Damping; Display unit	
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; (when pin 2 not connected: B)	
Process data analogue	1	
Process data binary	2	
Supported DeviceIDs	Type of operation	DeviceID
	Factory setting / CMPT = 2	406
	Status_B High Resolution / CMPT = 3	604
	PN7009	314
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]	0.0001	
IO-Link process data (cyclical)	function	bit length
	pressure	14
	binary switching information	2
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]	1	
IO-Link resolution pressure [MPa]	0.0001	
IO-Link process data (cyclical)	function	bit length
	pressure	16
	device status	4
	binary switching information	2
IO-Link functions (acyclical)	application specific tag	
Operating conditions		
Ambient temperature [°C]	-25...80	

PN7099



Pressure sensor with display

PN-1-1BRER14-QFRKG/US/ IV

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]	260
UL approval	UL Approval no.	J001
Pressure Equipment Directive	Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	

Mechanical data

Weight	[g]	235.5
Materials	stainless steel (1.4404 / 316L); PBT+PC-GF30; PBT-GF20; PC	
Materials (wetted parts)	stainless steel (1.4404 / 316L); 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	
Restrictor element integrated	no (can be retrofitted)	

Displays / operating elements

Display	Display unit	4 x LED, green (bar, psi, kPa, inHg)
	switching status	2 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



PN7099



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Connection



OUT1 switching output

IO-Link

OUT2 switching output

colours to DIN EN 60947-5-2

Core colours :

BK = black

BN = brown

BU = blue

WH = white