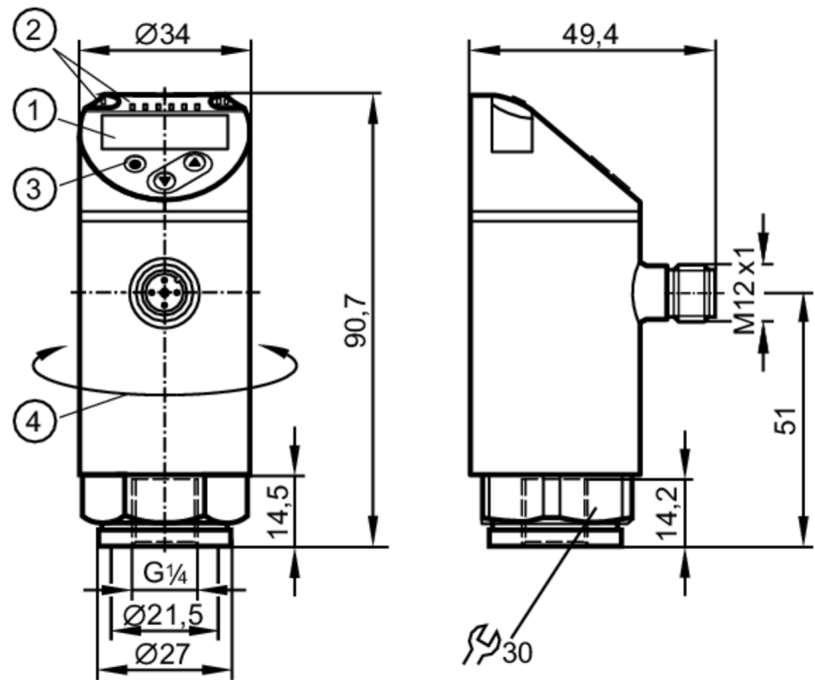


PN3097



Pressure sensor with display

PN-001BRER14-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 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 Internal thread M6 I				
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				
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				



Pressure sensor with display

PN-001BRER14-MFRKG/US/ IV

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...14.45 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 [% 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)



Pressure sensor with display

PN-001BRER14-MFRKG/US/ IV

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

PN3097



Pressure sensor with display

PN-001BRER14-MFRKG/US/ IV

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]	233.5
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 (bar, 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



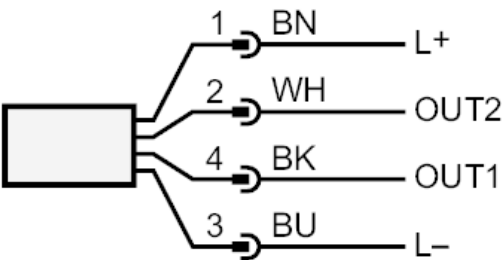
PN3097



Pressure sensor with display

PN-001BRER14-MFRKG/US/ IV

Connection



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