

PN2020

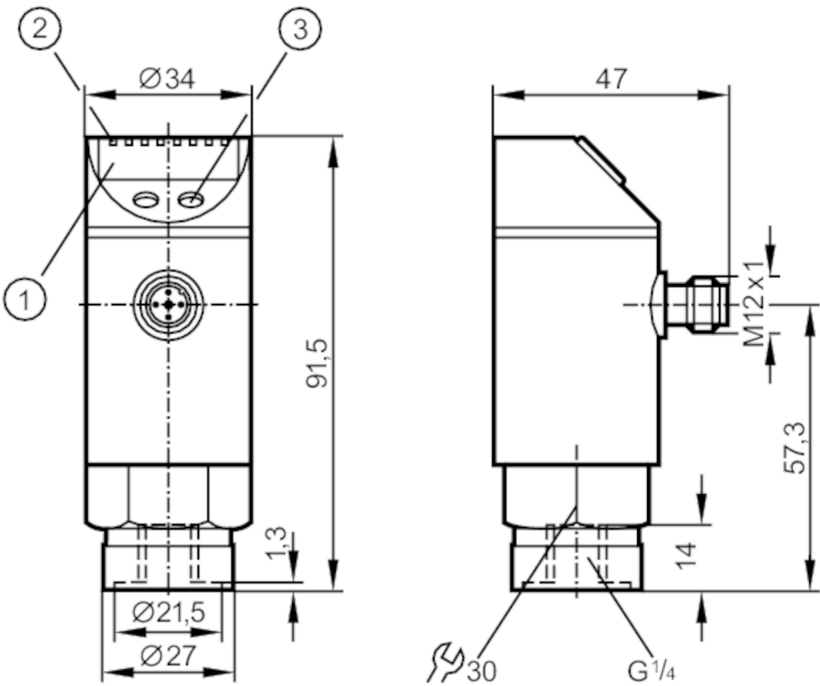


Pressure sensor with display

PN-400-SBR14-MFRKG/US/ /V

Article to be discontinued

Alternative articles: PN2070
When selecting an alternative article and accessories please note that technical data may differ!



- 1 alphanumeric display 4-digit
- 2 LEDs Display unit / Switching status
- 3 Programming button



Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	0...400 bar	0...5800 psi	0...40 MPa
Process connection	threaded connection G 1/4 Internal thread		
Application			
System	gold-plated contacts		
Application	for industrial applications		
Media	liquids and gases		
Conditionally suitable for	use in gases at pressures > 25 bar only on request		
Medium temperature	-25...80		
Min. bursting pressure	1000 bar	14500 psi	100 MPa
Pressure rating	600 bar	8700 psi	60 MPa
Type of pressure	relative pressure		
Electrical data			
Operating voltage	[V]	18...32 DC; (to SELV/PELV)	
Current consumption	[mA]	< 35	
Min. insulation resistance	[MΩ]	100; (500 V DC)	



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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: 2; Number of analog outputs: 1
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Outputs

Total number of outputs	2
Output signal	switching signal; analog signal; IO-Link; (configurable)
Electrical design	PNP/NPN
Number of digital outputs	2
Output function	normally open / closed; (configurable)
Max. voltage drop switching output DC [V]	2
Permanent current rating of switching output DC [mA]	250
Switching frequency DC [Hz]	< 500
Number of analog outputs	1
Analog current output [mA]	4...20; (scalable 1:4)
Max. load [Ω]	(U _b - 10 V) / 20 mA
Analog voltage output [V]	0...10; (scalable 1:4)
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...400 bar	0...5800 psi	0...40 MPa
Set point SP	4...400 bar	60...5800 psi	0.4...40 MPa
Reset point rP	2...398 bar	30...5770 psi	0.2...39.8 MPa
Analog start point	0...300 bar	0...4350 psi	0...30 MPa
Analog end point	100...400 bar	1450...5800 psi	10...40 MPa
In steps of	1 bar	10 psi	0.1 MPa
Factory setting		SP1 = 100 bar	rP1 = 92 bar
		SP2 = 300 bar	rP2 = 292 bar
		ASP = 0 bar	AEP = 400 bar

Accuracy / deviations

Switch point accuracy [% of the span]	< ± 0,4; (Turn down 1:1)
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation [% of the span]	< ± 0,25 (BFSL) / < ± 0,5 (LS); (Turn down 1:1; BFSL = Best Fit Straight Line; LS = limit value setting)
Hysteresis deviation [% of the span]	< ± 0,1; (Turn down 1:1)
Long-term stability [% of the span]	< ± 0,1; (Turn down 1:1; per year)



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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]	< 1.5
Damping process value dAP [s]	0.01...4
Damping for the analog output dAA [s]	0.01...4
Max. response time analog output [ms]	3

Software / programming

Parameter setting options	hysteresis / window; normally open / closed; switching logic; current/ voltage output; Damping; adaptation of displayed values; display can be rotated and switched off; Display unit; Zero point; span
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Interfaces

Communication interface	IO-Link				
Transmission type	COM2 (38,4 kBaud)				
IO-Link revision	1.0				
Profiles	no profile				
SIO mode	yes				
Required master port class	A				
Process data analog	1				
Process data binary	2				
Min. process cycle time [ms]	2.3				
Supported DeviceIDs	<table> <tr> <th>Type of operation</th><th>DeviceID</th></tr> <tr> <td>default</td><td>56</td></tr> </table>	Type of operation	DeviceID	default	56
Type of operation	DeviceID				
default	56				

Operating conditions

Ambient temperature [°C]	-25...80
Storage temperature [°C]	-40...100
Protection	IP 67

Tests / approvals

EMC	<table> <tr> <td>EN 61000-4-2 ESD</td><td>4 kV CD / 8 kV AD</td></tr> <tr> <td>EN 61000-4-3 HF radiated</td><td>10 V/m</td></tr> <tr> <td>EN 61000-4-4 Burst</td><td>2 kV</td></tr> <tr> <td>EN 61000-4-5 Surge</td><td>0,5/1 kV</td></tr> <tr> <td>EN 61000-4-6 HF conducted</td><td>10 V</td></tr> </table>	EN 61000-4-2 ESD	4 kV CD / 8 kV AD	EN 61000-4-3 HF radiated	10 V/m	EN 61000-4-4 Burst	2 kV	EN 61000-4-5 Surge	0,5/1 kV	EN 61000-4-6 HF conducted	10 V
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EN 61000-4-6 HF conducted	10 V										
Shock resistance	DIN IEC 68-2-27 50 g (11 ms)										
Vibration resistance	DIN IEC 68-2-6 20 g (10...2000 Hz)										
MTTF [years]	131										
Pressure equipment directive	sound engineering practice; can be used for group 2 fluids; group 1 fluids on request										

Mechanical data

Weight [g]	264.5
Material	stainless steel (1.4301 / 304); stainless steel (1.4404 / 316L); PC; PBT; PEI; FKM
Materials (wetted parts)	stainless steel (1.4305 / 303); ceramics; FKM



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Min. pressure cycles	100 million
Process connection	threaded connection G 1/4 Internal thread
Restrictor element integrated	yes

Displays / operating elements

Display	Display unit	3 x LED, green
	Switching status	2 x LED, yellow
	Function display	alphanumeric display, 4-digit
	Measured values	alphanumeric display, 4-digit

Remarks

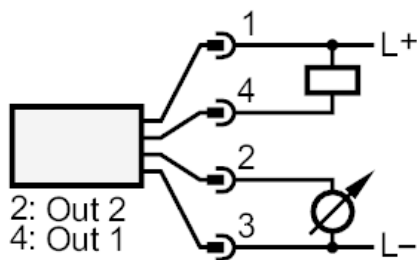
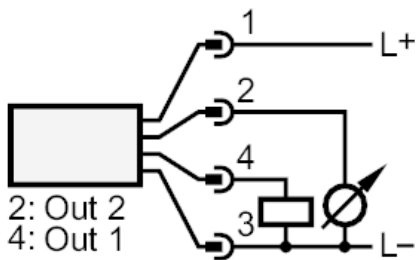
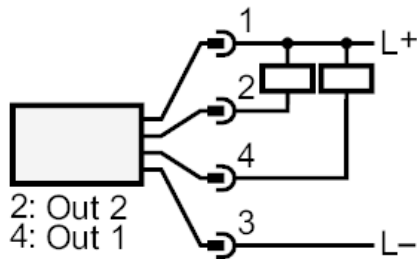
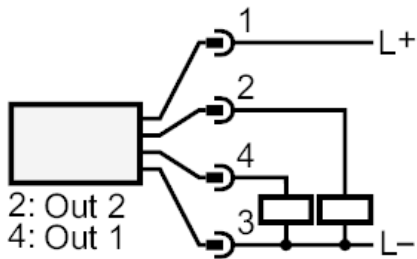
Pack quantity	1 pcs.
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Electrical connection

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



Connection



OUT1	Switching output
	IO-Link
OUT2	Switching output
	analog output