

PN2021

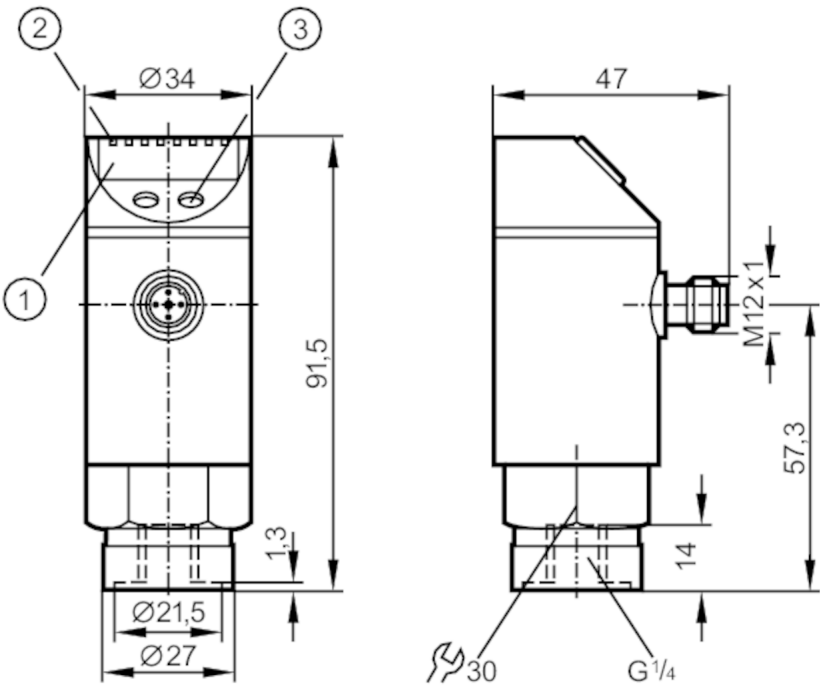


Pressure sensor with display

PN-250-SBR14-MFRKG/US/ /V

Article to be discontinued

Alternative articles: PN2071
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...250 bar	0...3630 psi	0...25 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 [°C]	-25...80		
Min. bursting pressure	850 bar	12300 psi	85 MPa
Pressure rating	400 bar	5800 psi	40 Mpa
Type of pressure	relative pressure		



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Electrical data			
Operating voltage	[V]	18...32 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	
Inputs / outputs			
Number of inputs and outputs		Number of digital outputs: 2; Number of analog outputs: 1	
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...250 bar	0...3630 psi
Set point SP		2...250 bar	30...3625 psi
Reset point rP		1...249 bar	15...3610 psi
Analog start point		0...187.5 bar	0...2720 psi
Analog end point		62.5...250 bar	905...3625 psi
In steps of		0.5 bar	5 psi
Factory setting			SP1 = 62.5 bar
			SP2 = 187.5 bar
			ASP = 0.0 bar
			rP1 = 57.5 bar
			rP2 = 182.5 bar
			AEP = 250.0 bar
Accuracy / deviations			
Switch point accuracy	[% of the span]	< ± 0,4; (Turn down 1:1)	
Repeatability		< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)	
Characteristics deviation		< ± 0,25 (BFSL) / < ± 0,5 (LS); (Turn down 1:1; BFSL = Best Fit Straight Line; LS = limit value setting)	



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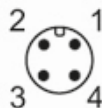
PN-250-SBR14-MFRKG/US/ /V

	[% of the span]	
Hysteresis deviation		< ± 0,1; (Turn down 1:1)
	[% of the span]	
Long-term stability		< ± 0,1; (Turn down 1:1; per year)
	[% 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]	< 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	
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	Type of operation	DeviceID
	default	57
Operating conditions		
Ambient temperature	[°C]	-25...80
Storage temperature	[°C]	-40...100
Protection	IP 67	



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Tests / approvals		
EMC	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
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]	265.2
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	
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.	
Electrical connection		
Connector: 1 x M12; coding: A; Contacts: gold-plated		
		

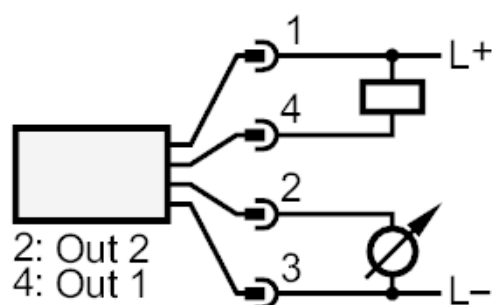
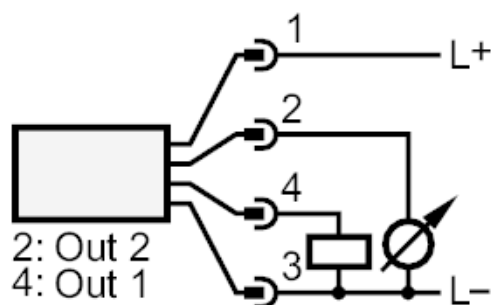
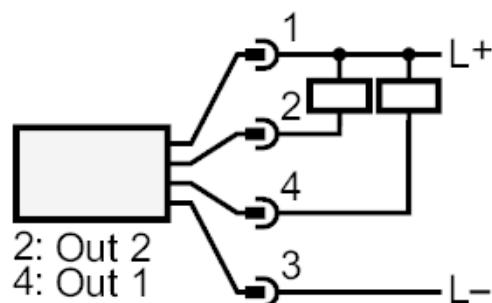
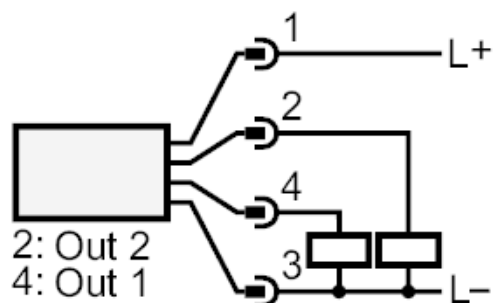




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Connection



OUT1	Switching output IO-Link
OUT2	Switching output analog output