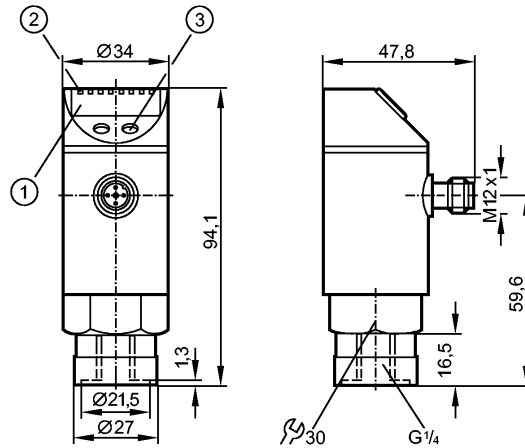


PN2060

PN-600-SBR14-MFRKG/US/ IV

Pressure sensors

New generation available: PN2160



- 1: 4-digit alphanumeric display
- 2: LEDs (display unit / switching status)
- 3: Programming button



Product characteristics

Combined pressure sensor
Quick disconnect
Zero and span adjustable
Function programmable
Process connection: G 1/4 I
2 outputs
OUT1 = switching output
OUT2 = switching output or analog output
4-digit alphanumeric display
Measuring range: 0...600 bar / 0...8700 psi / 0...60 MPa

Application

Application	Type of pressure: relative pressure Liquids and gases Use in gases at pressures > 25 bar only after contacting the manufacturer ifm		
Pressure rating	800 bar	11600 psi	80 MPa
Bursting pressure min.	1200 bar	17400 psi	120 MPa
Medium temperature [°C]	-25...80		

Electrical data

Electrical design	DC PNP/NPN
Operating voltage [V]	18...32 DC 1)
Current consumption [mA]	< 35
Insulation resistance [MΩ]	> 100 (500 V DC)
Protection class	III
Reverse polarity protection	yes

Outputs

Output	2 outputs OUT1 = switching output OUT2 = switching output or analog output
Output function	2 x normally open / closed programmable or 1 x normally open / closed programmable + 1 x analog (4...20 mA / 0...10 V; programmable 1:4)

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PN-600-SBR14-MFRKG/US/ /V

Pressure sensors

Current rating	[mA]	2 x 250
Voltage drop	[V]	< 2
Short-circuit protection		yes (non-latching)
Overload protection		yes
Switching frequency	[Hz]	≤ 500
Analog output		4...20 mA / 0...10 V
Max. load	[Ω]	4...20 mA: max. (U _b - 10 V) x 50 / 0...10 V: min. 2000

Measuring / setting range

Measuring range	0...600 bar	0...8700 psi	0...60 MPa
Setting range			
Set point, SP	6...600 bar	100...8700 psi	0.6...60.0 MPa
Reset point, rP	2...596 bar	40...8640 psi	0.2...59.6 MPa
Analog start point, ASP	0...450 bar	0...6520 psi	0.0...45.0 MPa
Analog end point, AEP	150...600 bar	2120...8700 psi	15.0...60.0 MPa
in steps of	2 bar	20 psi	0.2 MPa
Factory setting	SP1 = 150 bar; rP1 = 138 bar SP2 = 450 bar; rP2 = 438 bar ASP = 0 bar; AEP = 600 bar		

Accuracy / deviations

Accuracy / deviations (in % of the span) Turn down 1:1	
Switch point accuracy	< ± 0.4
Characteristics deviation *)	< ± 0.25 (BFSL) / < ± 0.5 (LS)
Hysteresis	< ± 1.0
Repeatability **)	< ± 0.1
Long-term stability ***)	< ± 0.1
Temperature coefficients (TEMPCO) in the temperature range 0...80° C (in % of the span per 10 K)	
Greatest TEMPCO of the zero point	< ± 0.2
Greatest TEMPCO of the span	< ± 0.2

Reaction times

Power-on delay time	[s]	0.3
Min. response time switching output	[ms]	1.5
Damping for the switching output (dAP)	[s]	0; 0.01...4.00
Damping for the analog output (dAA)	[s]	0; 0.01...4.00
Response time analog output	[ms]	3
Integrated watchdog		yes

Software / programming

Programming options	hysteresis / window function; N.O. / N.C; output polarity; current / voltage outputs; damping; calibration of displayed values; display can be rotated / deactivated; display unit
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Interfaces

IO-Link Device	
Transfer type	COM2 (38.4 kBaud)
IO-Link revision	1.0
IO-Link Device ID	75 d / 00 00 4B h

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PN-600-SBR14-MFRKG/US/ IV

Pressure sensors

Profiles	no profile
SIO mode	yes
Required master port class	A
Process data analogue	1
Process data binary	2
Min. process cycle time [ms]	2.3

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

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]	1385

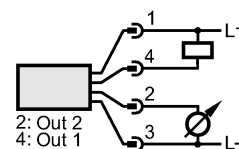
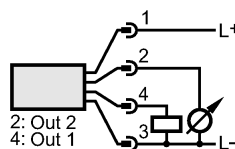
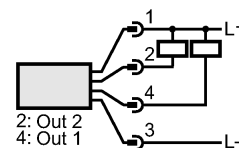
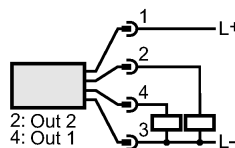
Mechanical data	
Process connection	G ¼ I
Materials (wetted parts)	stainless steel (303S22); ceramics; FPM (Viton)
Housing materials	stainless steel (304S15); stainless steel 316L / 1.4404; PC (Makrolon); PBT (Pocan); PEI; FPM (Viton)
Switching cycles min.	50 million
Weight [kg]	0.275

Displays / operating elements	
Display	Display unit 3 x LED green Switching status 2 x LED yellow Function display 4-digit alphanumeric display Measured values 4-digit alphanumeric display

Electrical connection	
Connection	M12 connector; gold-plated contacts

Wiring

Programming of the output function (OUT1 / OUT2):
 Hno = hysteresis / normally open
 Hnc = hysteresis / normally closed
 Fno = window function / normally open
 Fnc = window function / normally closed
 Complementary outputs:
 output 1: = Hno, output 2: = Hnc
 (with the same SP / rP)



Programming of the analog output (OUT2):
 I = current output (4...20 mA)
 U = voltage output (0...10 V)



**PN2060**

PN-600-SBR14-MFRKG/US/ IV

Pressure sensors

Remarks	
Remarks	1) to EN50178, SELV, PELV *) BFSL = Best Fit Straight Line / LS = Limit Value Setting **) with temperature fluctuations < 10 K ***) in % of the span per year
Pack quantity	[piece] 1

ifm efector, inc. • 1100 Atwater Drive • Malvern • PA 19355 — We reserve the right to make technical alterations without prior notice. — US — PN2060 — 08.09.2015

New generation available: PN2160