

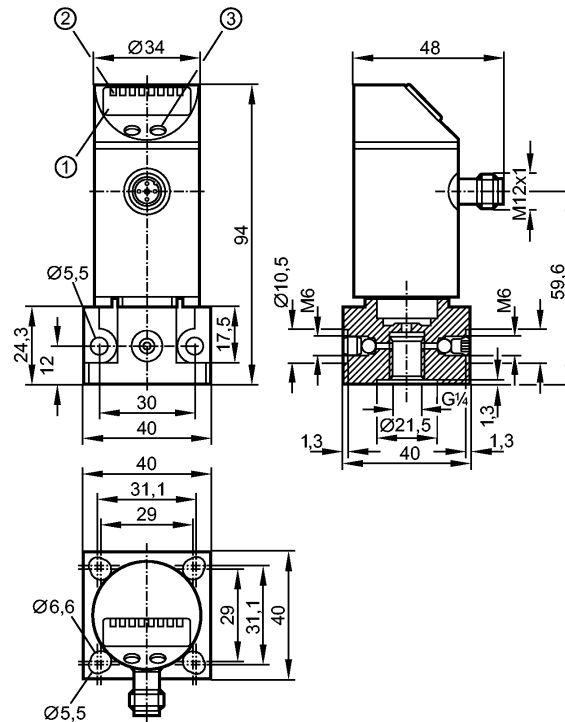


PY7000

PN-400-SGR14-KG /US/ /V



Pressure sensors



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

CE IO-Link

Product characteristics

Electronic pressure monitor

Quick disconnect

with flange adapter

Function programmable

Process connection: G 1/4 I / M6

2 outputs

OUT1 = switching output

OUT2 = switching output or diagnostic output

4-digit alphanumeric display

Measuring range: 0...400 bar / 0...5800 psi / 0...40 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	450 bar	6525 psi	45 MPa
Bursting pressure min.	1000 bar	14500 psi	100 MPa
Medium temperature [°C]	-25...80		

Electrical data

Electrical design	DC PNP/NPN		
Operating voltage [V]	18...36 DC ¹⁾		
Current consumption [mA]	< 50		
Insulation resistance [MΩ]	> 100 (500 V DC)		
Protection class	III		



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Reverse polarity protection	yes
Overvoltage protection [V]	up to 40 V

Outputs

Output	2 outputs OUT1 = switching output OUT2 = switching output or diagnostic output
Output function	2 x normally open / closed programmable or 1 x normally open / closed programmable + 1 x normally closed (diagnostic function)
Current rating [mA]	250
Voltage drop [V]	< 2
Short-circuit protection	yes (non-latching)
Switching frequency [Hz]	≤ 170

Measuring / setting range

Measuring range	0...400 bar	0...5800 psi	0...40 MPa
Setting range			
Set point, SP	4...400 bar	60...5790 psi	0.4...40.0 MPa
Reset point, rP	2...398 bar	30...5760 psi	0.2...39.8 MPa
in steps of	2 bar	30 psi	0.2 MPa
Factory setting	SP1 = 100 bar; rP1 = 92 bar SP2 = 300 bar; rP2 = 292 bar		

Accuracy / deviations

Accuracy / deviations (in % of the span)	
Switch point accuracy	< ± 0.5
Characteristics deviation *)	< ± 0.5
Hysteresis	< ± 0.25
Repeatability **)	< ± 0.1
Long-term stability ***)	< ± 0.05
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
Delay time programmable dS, dr [s]	0; 0.2...50
Integrated watchdog	yes

Software / programming

Programming options	hysteresis / window function; N.O. / N.C; diagnostic function; output polarity; on delay, off delay; damping; display unit
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Interfaces

IO-Link Device	
Transfer type	COM2 (38.4 kBaud)
IO-Link revision	1.1
SDCI standard	IEC 61131-9 CDV
IO-Link Device ID	307 d / 00 01 33 h
Profiles	no profile
SIO mode	yes
Required master port class	A



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Process data analogue	1
Process data binary	2
Min. process cycle time [ms]	2.3

Environment	
Ambient temperature [°C]	-20...80 (UB < 32 V) / -20...60 (UB > 32 V)
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)

Mechanical data	
Process connection	G ¼ I / M6
Materials (wetted parts)	free cutting steel (441S29); ceramics; FPM (Viton)
Housing materials	stainless steel (304S15); PC (Makrolon); PBT (Pocan); PEI; FPM (Viton)
Switching cycles min.	50 million
Weight [kg]	0.38

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

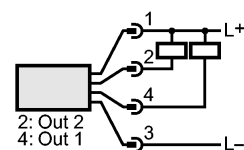
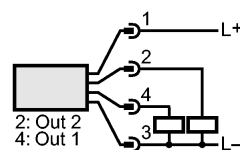
Programming of the output function

-----OUT1-----

Hno = hysteresis / normally open
 Hnc = hysteresis / normally closed
 Fno = window function / normally open
 Fnc = window function / normally closed

-----OUT2-----

Hno = hysteresis / normally open
 Hnc = hysteresis / normally closed
 Fno = window function / normally open
 Fnc = window function / normally closed
 dESI = diagnostic function (normally closed)



Remarks

Remarks	1) to EN50178, SELV, PELV
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Pressure sensors

*) linearity, incl. hysteresis and repeatability;
(limit value setting to DIN 16086)
) with temperature fluctuations < 10 K
) in% of the span / 6 months

Pack quantity	[piece]	1
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