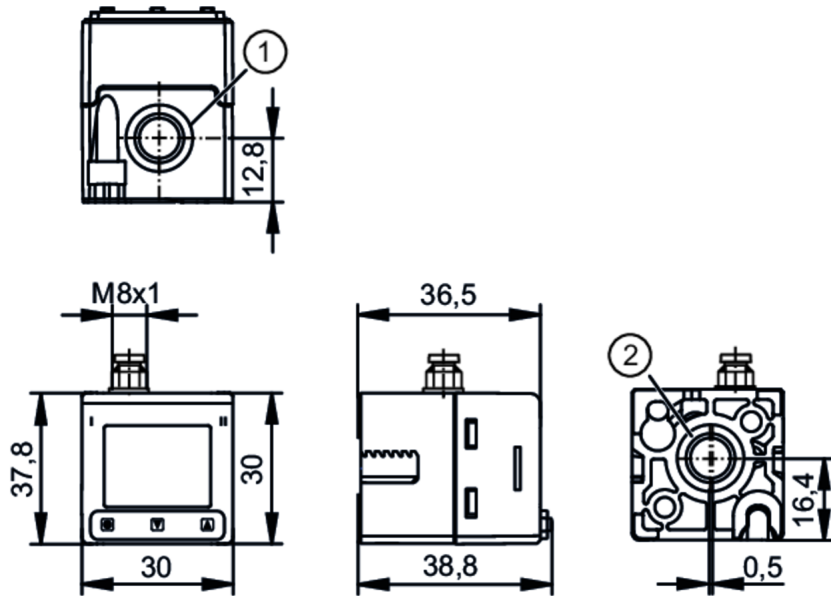


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Pressure sensor for pneumatics

PQ-001BKHR18-MFPKG/AS/



- 1 main pressure connection (P1) G 1/8 Tightening torque < 8 Nm insertion depth < 6.8 mm
 2 differential pressure connection (P2) G 1/8 Tightening torque < 8 Nm insertion depth < 6.8 mm



Product characteristics

Number of inputs and outputs	Number of digital outputs: 1; Number of analogue outputs: 1			
Measuring range	-1...1 bar	-1000...1000 mbar	-14.5...14.5 psi	-100...100 kPa
Process connection	threaded connection G 1/8 internal thread (2x)			

Application

Special feature	Gold-plated contacts		
Application	for industrial applications		
Media	compressed air; nitrogen (N ₂)		
Conditionally suitable for	other media on request		
Medium temperature	0...60 °C	32...140 °F	
Min. burst pressure	20 bar	290 psi	2 MPa
Pressure rating	10 bar	145 psi	1 MPa
Vacuum resistance	-1000 mbar	-14.5 psi	-0.1 MPa
Type of pressure	relative pressure; vacuum; differential pressure		

Electrical data

Operating voltage	[V]	18...30 DC
Current consumption	[mA]	< 30
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: 1; Number of analogue outputs: 1
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Outputs	
Total number of outputs	2
Output signal	switching signal; analogue signal; IO-Link; (configurable)
Electrical design	PNP/NPN; (configurable)
Number of digital outputs	1
Output function	normally open / normally closed; (parameterisable)
Max. voltage drop switching output DC [V]	2.5
Permanent current rating of switching output DC [mA]	100
Switching frequency DC [Hz]	< 170
Number of analogue outputs	1
Analogue current output [mA]	4...20, invertible; (scalable)
Max. load [Ω]	500
Analogue voltage output [V]	0...10 / 1...5, invertible; (scalable)
Min. load resistance [Ω]	2000
Short-circuit protection	yes
Type of short-circuit protection	pulsed
Overload protection	yes
Measuring/setting range	
Measuring range	-1...1 bar -1000...1000 mbar -14.5...14.5 psi -100...100 kPa
Set point SP	-1...1 bar -14.5...14.5 psi -100...100 kPa
Analogue start point	-1...0.6 bar -14.5...8.7 psi -100...60 kPa
Analogue end point	-0.6...1 bar -8.7...14.5 psi -60...100 kPa
In steps of	0.001 bar 0.01 psi 0.1 kPa
Accuracy / deviations	
Switch point accuracy [% of the span]	< ± 0,5; (turn down 1:1)
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K: turn down 1:1)
Characteristics deviation [% of the span]	< ± 0,5; (turn down 1:1; including linearity, hysteresis and repeatability)
Linearity deviation [% of the span]	< ± 0.5 % (limit value setting according to DIN EN IEC 62828-1) turn down 1:1
Hysteresis deviation [% of the span]	< ± 0,25; (turn down 1:1)
Long-term stability [% of the span]	< ± 0,1; (turn down 1:1; per year)
Temperature coefficient zero point [% of the span / 10 K]	0,2; (Turn down 1:1)
Temperature coefficient span [% of the span / 10 K]	0,2; (Turn down 1:1)
Response times	
Response time [ms]	6
Damping process value dAP [s]	0...4

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Damping for the analogue output dAA	[s]	0...99.99
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Software / programming

Parameter setting options	display can be rotated and switched off; analogue output selectable and scalable; Teach function; simulation function; diagnostic function
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Interfaces

Communication interface	IO-Link	
Transmission type	COM3 (230,4 kBaud)	
IO-Link revision	1.1.4	
SDCI standard	IEC 61131-9: 2019-06	
Profiles	Smart Sensor - SSP 4.1.1	Measuring and Switching Sensor, 1 channel
	BLOB	Binary Large Object transfer
	Common - I&D	Identification and Diagnosis
	Extension	Quantity detection, switches when value exceeds the setpoint
	Function	Locator
	Function	ProductURI
SIO mode	yes	
Required master port type	A	
Process data analogue	1	
Process data binary	2	
Min. process cycle time	[ms]	0.6
IO-Link resolution pressure	[bar]	0.0001
IO-Link process data (cyclical)	function	bit length
	pressure	16
	device status	4
	SSC1.1	1
	SSC1.2	1
IO-Link functions (acyclical)	application specific tag; internal temperature; Medium temperature	
Supported DeviceIDs	Type of operation	DeviceID
	default	1996

Operating conditions

Ambient temperature	0...60 °C	32...140 °F
Storage temperature	-25...85 °C	-13...185 °F
Protection	IP 65	

Tests / approvals

EMC	DIN EN 61326-1	
Shock resistance	DIN EN 60068-2-27	50 g (11 ms)
Vibration resistance	DIN EN 60068-2-6	20 g (10...2000 Hz)
Pressure Equipment Directive	Sound engineering practice; can be used for stable gases fluid group 2	

Mechanical data

Weight	[g]	53.2
Housing	rectangular	
Dimensions	[mm]	37.7 x 30 x 38.6
Materials	PBT; PC; TPE; NBR; FKM; brass; silicon (coated)	
Materials (wetted parts)	PBT; FKM; brass; silicon (coated)	

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Min. pressure cycles	50 million
Process connection	threaded connection G 1/8 internal thread (2x)

Displays / operating elements

Display	Display 1"	128 x 96 pixels
	switching status	1 x LED, yellow
Display unit	mbar; kPa; psi; mmHg; inHg; kgf/cm ²	

Accessories

Items supplied	head cap screw: 2 x (M3 x 8 mm)
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Remarks

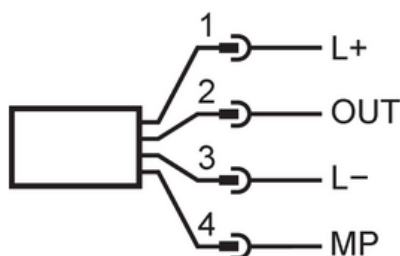
Pack quantity	1 pcs.
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Electrical connection - plug

Connector: 1 x M8; coding: A; Contacts: 4, gold-plated



Connection



1	L+	
2	OUT	AO
3	L-	
4	MP	DO, IO-Link

AO: analogue output; DO: digital output; MP: multi-function connection

Diagrams and graphs

drilling template

