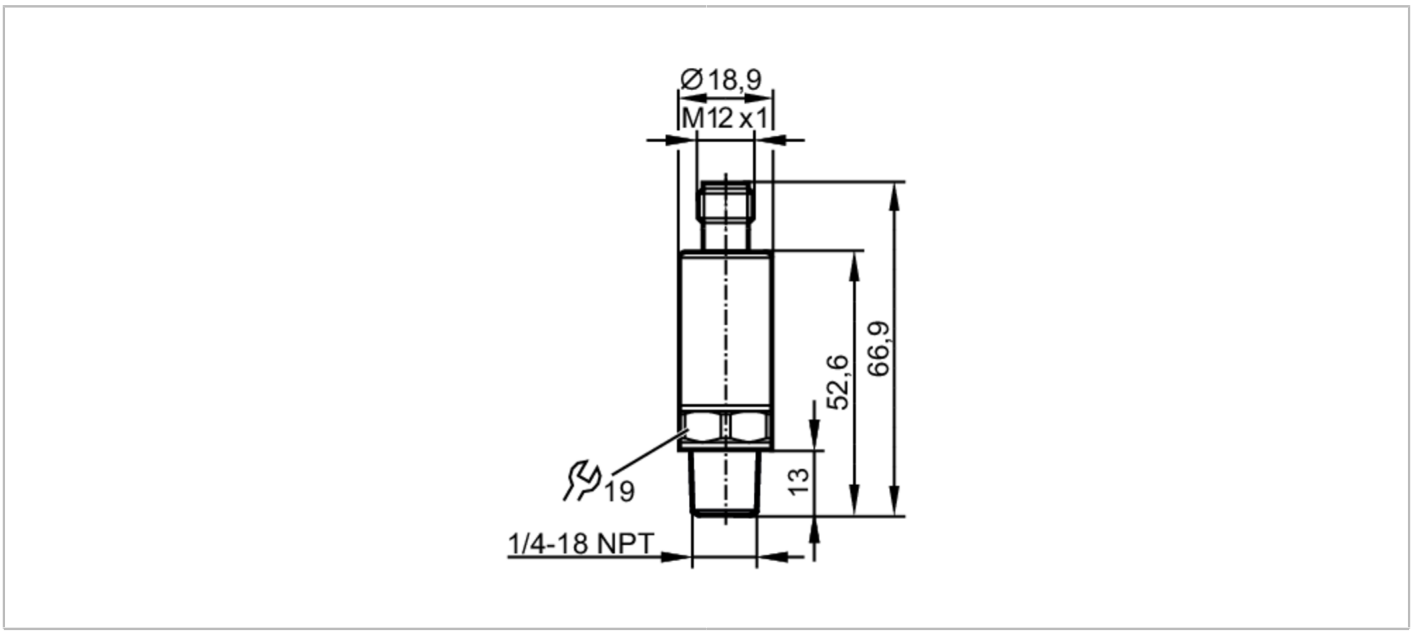
PV7604

Pressure switch with IO-Link

PV-010-SEN14-UFRVG/US/ /



Product characteristics				
Number of inputs and outputs	Number of digital outputs: 2			
Measuring range	-1...10 bar	-14.5...145 psi	-100...1000 kPa	-0.1...1 MPa
Process connection	threaded connection 1/4" NPT external thread internal thread:M5			
Application				
Measuring element	metallic thin film cell			
Application	for industrial applications			
Media	liquids and gases			
Medium temperature [°C]	-40...90			
Min. burst pressure	300 bar	4350 psi	30 MPa	
Pressure rating	25 bar	360 psi	2.5 MPa	
Note on pressure rating	static			
Vacuum resistance	-1000 mbar	-0.1 MPa		
Type of pressure	relative pressure; vacuum			
MAWP for applications according to CRN [bar]	25			
Electrical data				
Operating voltage [V]	18...30 DC			
Current consumption [mA]	< 15			
Min. insulation resistance [MΩ]	100; (500 V DC)			
Protection class	III			
Reverse polarity protection	yes			
Power-on delay time [s]	< 0.3			
Inputs / outputs				
Number of inputs and outputs	Number of digital outputs: 2			
Outputs				
Total number of outputs	2			

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Output signal		switching signal; IO-Link; (configurable)
Electrical design		PNP/NPN
Number of digital outputs		2
Output function		normally open / normally closed; (parameterisable)
Max. voltage drop switching output DC	[V]	2
Permanent current rating of switching output DC	[mA]	100
Switching frequency DC	[Hz]	< 170
Short-circuit protection		yes
Type of short-circuit protection		pulsed
Overload protection		yes

Measuring/setting range

Measuring range	-1...10 bar	-14.5...145 psi	-100...1000 kPa	-0.1...1 MPa
Set point SP	-0.9...10 bar	-13.1...145 psi		-0.09...1 MPa
Reset point rP	-0.95...9.95 bar	-13.8...144.3 psi		-0.095...0.995 MPa
In steps of	0.005 bar	0.1 psi		0.0005 MPa
Factory setting	SP1 = 2.5 bar	rP1 = 2.3 bar		ou1 = Hno;
	SP2 = 7.5 bar	rP2 = 7.3 bar		ou2 = Hno;
	dS1/dS2 = 0 ms	dr1/dr2 = 0 ms		
	coF = 0 %	P-n = PnP		dAP= 60 ms

Accuracy / deviations

Switch point accuracy [% of the span]		< ± 0,5 (nach DIN EN 61298-2)
Repeatability [% of the span]		< ± 0,05; (with temperature fluctuations < 10 K)
Characteristics deviation [% of the span]		< ± 0,5; (linearity incl. hysteresis and repeatability, limit value setting to DIN EN IEC 62828-1)
Linearity deviation [% of the span]		< ± 0,1 (BFSL) / < ± 0,2 (LS)
Zero-point stabilisation [% of the span]	IO-Link	1,0; (see operating instructions zero-point behaviour)
	switching output	1,0
Hysteresis deviation [% of the span]		< ± 0,2
Long-term stability [% of the span]		< ± 0,1; (per 6 months)
Temperature coefficient zero point [% of the span / 10 K]		< 0,1 (-25...90 °C) / < 0,2 (-40...-25 °C)
Temperature coefficient span [% of the span / 10 K]		< 0,1 (-25...90 °C) / < 0,2 (-40...-25 °C)

Response times

Response time	[ms]	< 3

Software / programming

Parameter setting options	hysteresis / window; normally open / normally closed; switching logic; switch-on/switch-off delay; Damping

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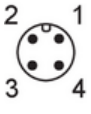
Interfaces			
Communication interface		IO-Link	
Transmission type		COM2 (38,4 kBaud)	
IO-Link revision		1.1	
SDCI standard		IEC 61131-9	
Profiles		Smart Sensor - SSP 0	Generic Profiled Sensor
		Function	Device identification
		Function	Process data variable
		Function	Device diagnosis
SIO mode		yes	
Required master port type		A	
Min. process cycle time	[ms]	5	
Supported DeviceIDs		**Type of operation**	**DeviceID**
		default	855
Operating conditions			
Ambient temperature	[°C]	-40...90	
Storage temperature	[°C]	-40...100	
Protection		IP 67; IP 69K	
Tests / approvals			
EMC		DIN EN 61326-1	
Shock resistance		DIN EN 60068-2-27	500 g (1 ms)
Vibration resistance		DIN EN 60068-2-6	20 g (10...2000 Hz)
MTTF	[years]	668	
UL approval		UL approval no.	J015
Pressure Equipment Directive		Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	
Mechanical data			
Weight	[g]	66	
Housing		cylindrical	
Dimensions	[mm]	Ø 18.9 / L = 66.9	
Materials		stainless steel (630/1.4542/17-4 PH); stainless steel (316L/1.4404); PEI	
Materials (wetted parts)		stainless steel (303/1.4305); stainless steel (630/1.4542/17-4 PH)	
Min. pressure cycles		60 million; (at 1.2 times nominal pressure)	
Tightening torque	[Nm]	50; (recommended tightening torque; depends on the lubrication, the seal and the pressure load)	
Process connection		threaded connection 1/4" NPT external thread internal thread:M5	
Restrictor element integrated		yes	
Remarks			
Remarks		BFSL = Best Fit Straight Line	
		LS = limit value setting	
Pack quantity		1 pcs.	

Electrical connection

Connector: 1 x M12; coding: A; Contacts: 4



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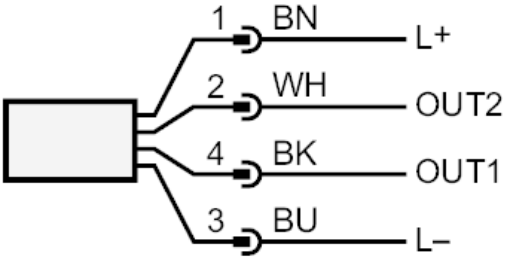
Connection



OUT1	switching output IO-Link
OUT2	switching output
	colours to DIN EN 60947-5-2
	Core colours :
BK =	black
BN =	brown
BU =	blue
WH =	white