

PV7704



Pressure switch with IO-Link

PV-010MSER14-UFRVG/US/ /



Product characteristics

Number of inputs and outputs	Number of digital outputs: 2	
Measuring range	-100...1000 kPa	-0.1...1 MPa
Process connection	threaded connection R 1/4 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 [MPa]	30	
Pressure rating [MPa]	2.5	
Note on pressure rating	static	
Vacuum resistance	-1000 mbar	-0.1 MPa
Type of pressure	relative pressure; vacuum	

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
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Outputs

Total number of outputs	2
Output signal	switching signal; IO-Link; (configurable)
Electrical design	PNP/NPN
Number of digital outputs	2



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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	-100...1000 kPa		-0.1...1 MPa
Set point SP [MPa]	-0.09...1		
Reset point rP [MPa]	-0.095...0.995		
In steps of [MPa]	0.0005		
Factory setting	SP1 = 0.25 MPa	rP1 = 0.23 MPa	ou1 = Hno;
	SP2 = 0.75 MPa	rP2 = 0.73 MPa	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)
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

Interfaces	
Communication interface	IO-Link
Transmission type	COM2 (38,4 kBaud)
IO-Link revision	1.1
SDCI standard	IEC 61131-9



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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		
Process data analogue	2		
Process data binary	2		
Min. process cycle time [ms]	5		
Supported DeviceIDs	Type of operation	DeviceID	
	default	784	
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]	667.77		
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]	62.5		
Housing	cylindrical		
Dimensions [mm]	Ø 19 / L = 67		
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 R 1/4 external thread internal thread:M5		
Restrictor element integrated	yes		
Remarks			
Remarks	BFSL = Best Fit Straight Line		
	LS = limit value setting		
Pack quantity	1 pcs.		

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Electrical connection

Connector: 1 x M12; coding: A



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