



Pressure switch with IO-Link

PV-010MSER14-UFRVG/US/ /



Product characteristics

Output signal	switching signal; IO-Link; (configurable)	
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	
Pressure rating [MPa]	2.5	
Note on pressure rating	static	
Min. bursting pressure [MPa]	30	
Vacuum resistance [mbar]	-1000	
Type of pressure	relative pressure	

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
------------------------------	------------------------------



Pressure switch with IO-Link

PV-010MSER14-UFRVG/US/ /

Outputs			
Total number of outputs		2	
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		-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
		SP2 = 0.75 MPa	rP2 = 0.73 MPa
		dS1/dS2 = 0 ms	dr1/dr2 = 0 ms
		coF = 0 %	P-n = PnP
		ou1 = Hno;	ou2 = Hno;
			dAP= 60 ms
Accuracy / deviations			
Switch point accuracy		< ± 0,5 (nach DIN EN 61298-2)	
	[% of the span]		
Repeatability		< ± 0,05; (with temperature fluctuations < 10 K)	
	[% of the span]		
Characteristics deviation		< ± 0,5 (nach DIN EN 61298-2); (incl. drift when overtightened, zero point and span error, non-linearity, hysteresis)	
	[% of the span]		
Linearity deviation		< ± 0,1 (BFSL) / < ± 0,2 (LS)	
	[% of the span]		
Hysteresis deviation		< ± 0,2	
	[% of the span]		
Long-term stability		< ± 0,1; (per 6 months)	
	[% of the span]		
Temperature coefficient zero point		< 0,1 (-25...90 °C) / < 0,2 (-40...-25 °C)	
	[% of the span / 10 K]		
Temperature coefficient span		< 0,1 (-25...90 °C) / < 0,2 (-40...-25 °C)	
	[% of the span / 10 K]		
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	



Pressure switch with IO-Link

PV-010MSER14-UFRVG/US/ /

Interfaces		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9	
IO-Link device ID	784 d / 00 03 10 h	
Profiles	Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis	
SIO mode	yes	
Required master port type	A	
Process data analogue	2	
Process data binary	2	
Min. process cycle time	[ms]	5
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]	62.2
Materials	1.4542 (17-4 PH / 630); stainless steel (1.4404 / 316L); PEI	
Materials (wetted parts)	stainless steel (1.4305 / 303); 1.4542 (17-4 PH / 630)	
Min. pressure cycles	60 million; (at 1.2 times nominal pressure)	
Tightening torque	[Nm]	50; (recommended tightening torque; depends on lubrication, seal and pressure rating)
Process connection	threaded connection R 1/4 external thread internal threadM5	
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		
		

PV7704



Pressure switch with IO-Link

PV-010MSER14-UFRVG/US/ /

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