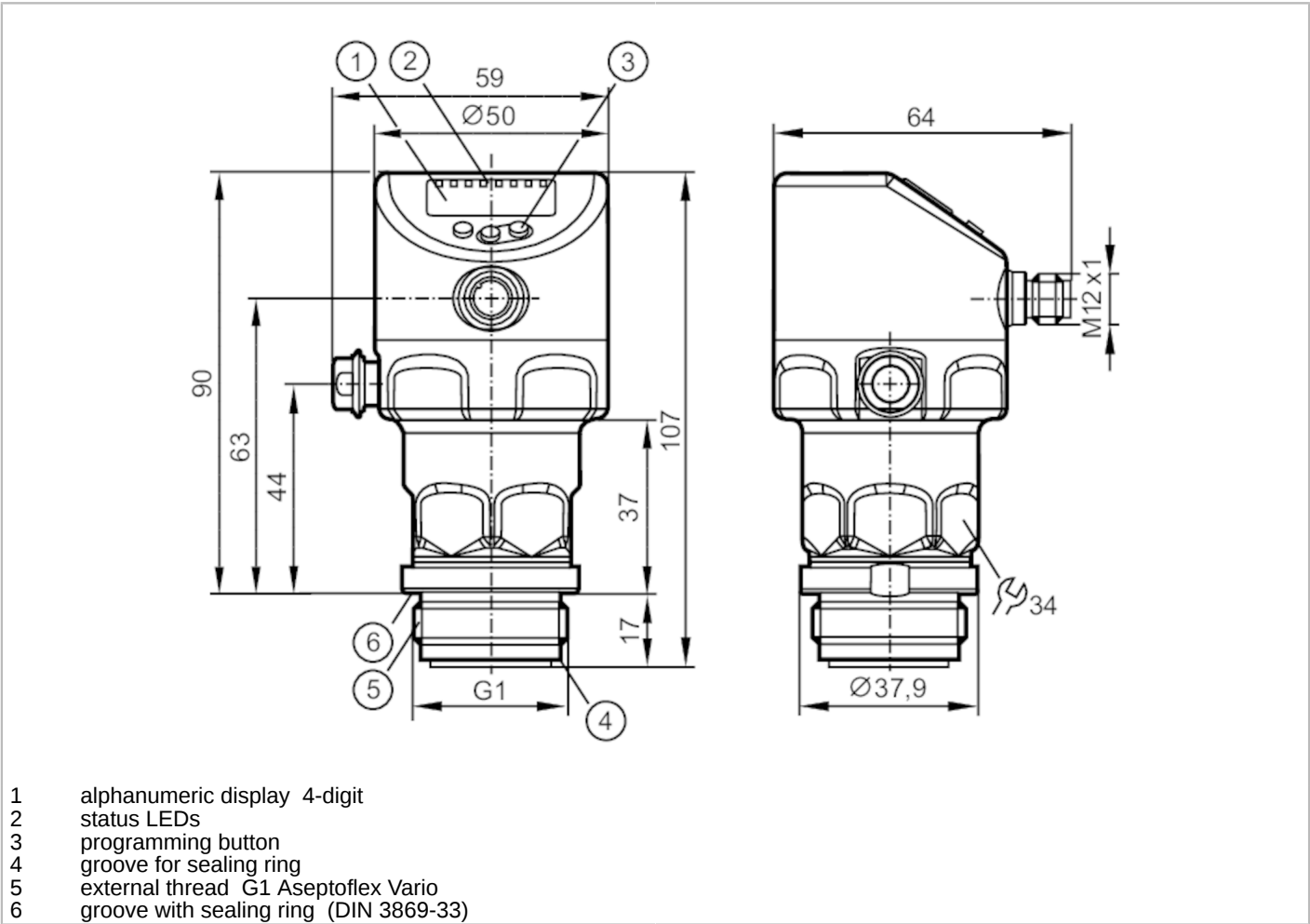




Flush pressure sensor with display

PI-040-REA01-MFRKG/US/ I/P



Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1		
Measuring range	-1...40 bar	-14.5...580 psi	-0.1...4 MPa
Process connection	threaded connection G 1 external thread Aseptoflex Vario		
Application			
Special feature	Gold-plated contacts		
Application	flush mountable for the food and beverage industry		
Media	viscous media and liquids with suspended particles; liquids and gases		
Medium temperature	[°C] -25...150		
Min. bursting pressure	400 bar	5800 psi	40 MPa
Pressure rating	125 bar	1800 psi	12.5 MPa
Vacuum resistance	[mbar] -1000		
Vacuum resistance	[MPa] -0.1		
Type of pressure	relative pressure; vacuum		
No dead space	yes		
Electrical data			
Min. insulation resistance	[MΩ] 100; (500 V DC)		
Protection class	III		



Flush pressure sensor with display

PI-040-REA01-MFRKG/US/ /P

Reverse polarity protection		yes	
Integrated watchdog		yes	
2-wire			
Operating voltage	[V]	20...30 DC	
Current consumption	[mA]	3.5...21.5	
Power-on delay time	[s]	< 1	
3-wire			
Operating voltage	[V]	18...30 DC	
Current consumption	[mA]	5...45; (430 bei max. Laststrom)	
Power-on delay time	[s]	< 0.5	
Inputs / outputs			
Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1		
Outputs			
Total number of outputs	2		
Output signal	switching signal; analogue signal; IO-Link		
Electrical design	PNP/NPN		
Number of digital outputs	2		
Output function	normally open / normally closed; (parameterisable)		
Number of analogue outputs	1		
Analogue current output	[mA]	4...20, invertible; (scalable)	
Short-circuit protection	yes		
Type of short-circuit protection	pulsed		
Overload protection	yes		
2-wire			
Max. load	[Ω]	300	
3-wire			
Max. voltage drop switching output DC	[V]	2	
Permanent current rating of switching output DC	[mA]	100	
Switching frequency DC	[Hz]	125	
Max. load	[Ω]	(Ub - 10 V) / 21,5 mA; 650 Ω (Ub = 24 V)	
Measuring/setting range			
Measuring range	-1...40 bar	-14.5...580 psi	-0.1...4 MPa
Set point SP	-0.94...40 bar	-13.6...580.2 psi	-0.094...4 MPa
Reset point rP	-1...39.94 bar	-14.5...579.3 psi	-0.1...3.994 MPa
Analogue start point	-1...32 bar	-14.5...464.1 psi	-0.1...3.2 MPa
Analogue end point	7...40 bar	101.5...580.2 psi	0.7...4 MPa
Min. difference between SP and rP	0.04 bar	0.6 psi	0.004 MPa
In steps of	0.06 bar	0.9 psi	0.006 MPa
Factory setting		SP1 = 10 bar	rP1 = 9.2 bar
		SP2 = 30 bar	rP2 = 29.2 bar
		ASP = 0.00 bar	AEP = 40.00 bar
		dAP = 0.06 s	dAA = 0.06 s



Flush pressure sensor with display

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Temperature monitoring		
Measuring range	-25...150 °C	-13...302 °F
Accuracy / deviations		
Switch point accuracy [% of the span]	< ± 0,2; (DIN EN IEC 62828-1; Turn down 1:1)	
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)	
Characteristics deviation [% of the span]	< ± 0,2; (DIN IEC EN 62828-1 incl. zero point and span error, non-linearity, hysteresis; Turn down 1:1)	
Linearity deviation [% of the span]	< ± 0,15; (Turn down 1:1)	
Hysteresis deviation [% of the span]	< ± 0,15; (Turn down 1:1)	
Long-term stability [% of the span]	< ± 0,1; (Turn down 1:1; per year)	
Total deviation over temperature range	Temperature range	total deviation
	-25...15 °C	Characteristics deviation ± 0,05 % of the span / 10 K
	15...80 °C	Characteristics deviation
	80...150 °C	Characteristics deviation ± 0,1 % of the span / 10 K
Notes on the accuracy / deviation	for further details see section Diagrams and graphs	
Temperature monitoring		
Accuracy [K]	± 2,5+ (0,08 x (Umgebungstemperatur - Mediumtemperatur))	
Repeatability [K]	± 0,2	
Resolution [K]	0.2	
Response times		
Damping process value dAP [s]	0...99.99	
Damping for the analogue output dAA [s]	0...99.99	
2-wire		
Step response time analogue output [ms]	30	
3-wire		
Min. response time of switching output (dAP) [ms]	3	
Step response time analogue output [ms]	7	
Temperature monitoring		
Dynamic response T05 / T09 [s]	< 35 / < 135; (DIN EN 60751 water ; > 0,9 m/s)	
Interfaces		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9	



Flush pressure sensor with display

PI-040-REA01-MFRKG/US/ /P

Profiles	Function class		Designation
	0x4000		Identification and Diagnosis
	0x800A		Measurement Data Channel (standard resolution)
SIO mode	yes		
Required master port type	A		
Min. process cycle time [ms]	5.6		
IO-Link resolution pressure [bar]	0.002		
IO-Link resolution temperature [K]	0.2		
IO-Link process data (cyclical)	function	bit length	
	pressure	32	
	temperature	32	
	device status	4	
	binary switching information	2	
IO-Link functions (acyclical)	application specific tag; internal temperature; operating hours counter; switching cycles counter; Pressure peak counter		
Supported DeviceIDs	Type of operation	DeviceID	
	default	1640	
Operating conditions			
Ambient temperature [°C]	-25...80		
Storage temperature [°C]	-40...100		
Protection	IP 67; IP 68; IP 69K		
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)	
MTTF [years]	208		
UL approval	UL Approval no.	J035	
	File number UL	E174189	
Mechanical data			
Weight [g]	403.8		
Housing	cylindrical		
Dimensions [mm]	Ø 50 / L = 107		
Materials	stainless steel (316L/1.4404); FKM; PTFE; PBT; PEI; PFA		
Materials (wetted parts)	ceramics (99.9 % Al2O3); stainless steel (316L/1.4435); surface characteristics: Ra < 0,4 / Rz 4; PTFE		
Min. pressure cycles	100 million		
Tightening torque [Nm]	35		
Process connection	threaded connection G 1 external thread Aseptoflex Vario		
Displays / operating elements			
Display	Display unit	LED, green	
	switching status	LED, yellow	
	function display	alphanumeric display, 4-digit	
	measured values	alphanumeric display, 4-digit	
Display unit	bar; psi; MPa		

PI1743



Flush pressure sensor with display

PI-040-REA01-MFRKG/US/ /P

Remarks

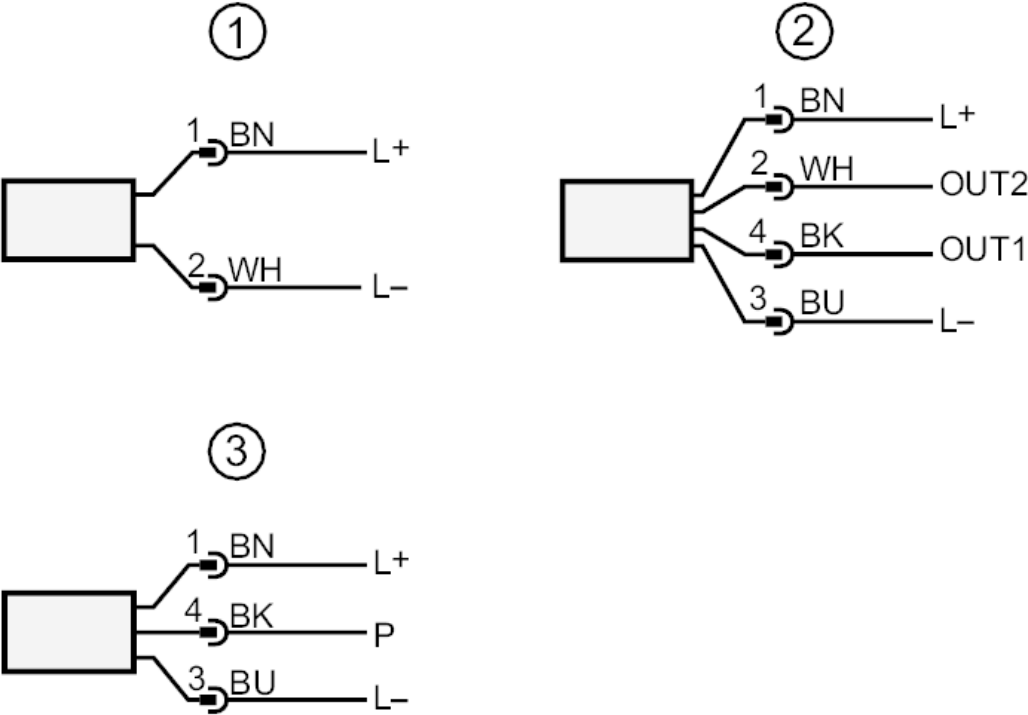
Pack quantity	1 pcs.
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Electrical connection

Connector: 1 x M12; coding: A; Contacts: gold-plated



Connection



- 1 connection for 2-wire operation
- 2 connection for 3-wire operation
- OUT1 switching output / IO-Link
- OUT2 switching output / analogue output
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)

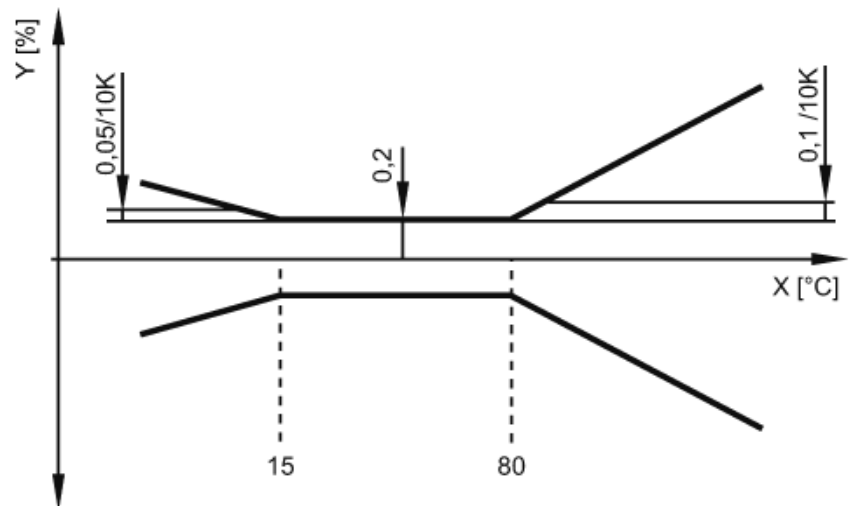


Flush pressure sensor with display

PI-040-REA01-MFRKG/US/ IP

Diagrams and graphs

ambient temperature influence on the accuracy



X temperature
Y total deviation