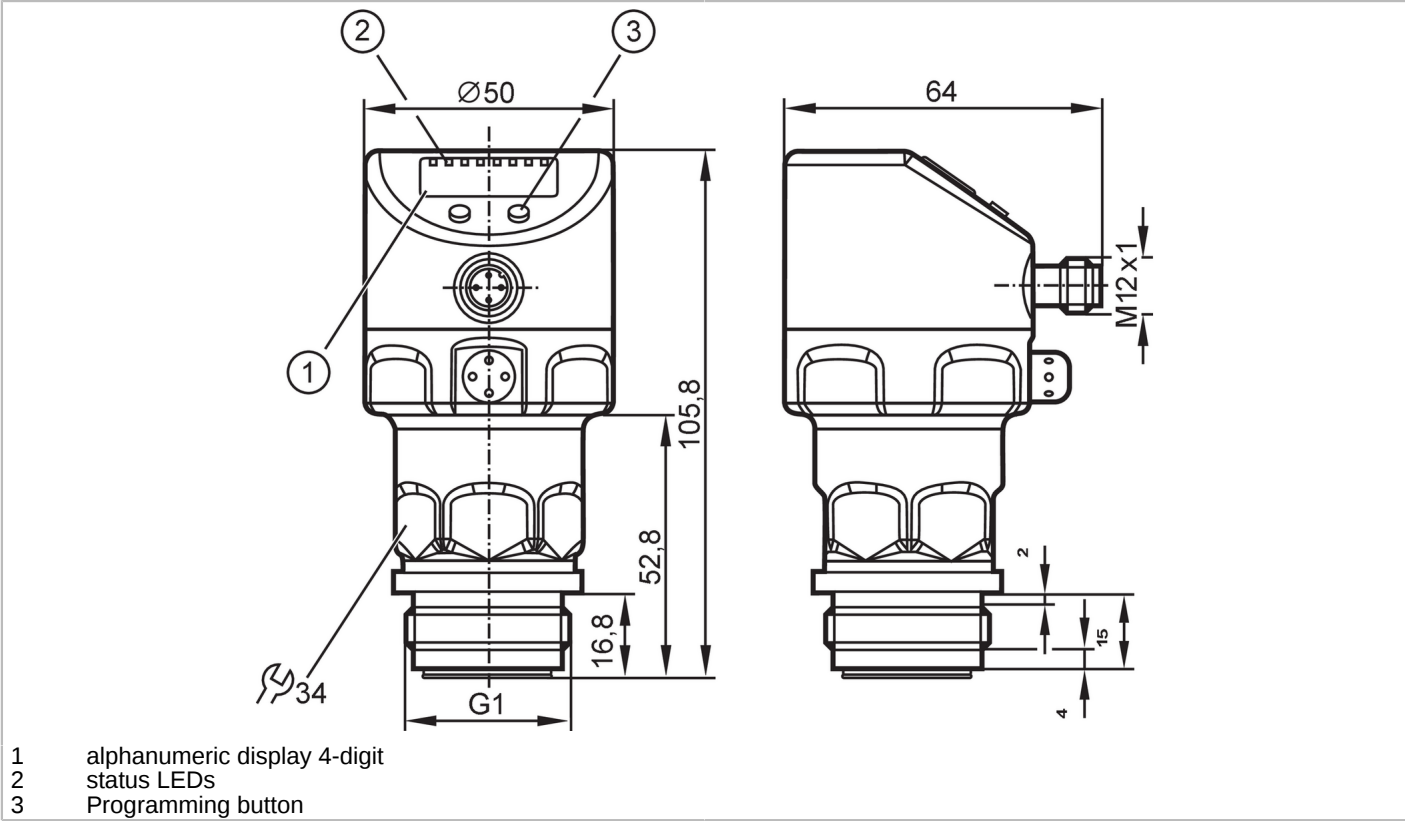




Flush pressure sensor with display

PI-004-REA01-MFRKG/US/ IP

Alternative articles: PI1705
When selecting an alternative article and accessories please note that technical data may differ!



ACS CRN LISTED EC 1935/2004 EHEDG Certified FDA IO-Link NSF Reg31

Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	-1...4 bar	-14.5...58 psi	-100...400 kPa
Process connection	threaded connection G 1 external thread with Aseptoflex Vario sealing contour		
Note	G1 Gewinde nach ISO 228. Alternativ dichtend über rückwärtige Dichtkontur mit Dichtung in Anlehnung an DIN EN ISO 1179-2.		
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...125; (145 max. 1h)		
Min. burst pressure	100 bar	1450 psi	10000 kPa
Pressure rating	30 bar	435 psi	3000 kPa
Vacuum resistance	-1000 mbar		-0.1 MPa
Type of pressure	relative pressure; vacuum		
No dead space	yes		
MAWP (for applications according to CRN) [bar]	30		
Electrical data			
Min. insulation resistance [MΩ]	100; (500 V DC)		



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Protection class	III		
Reverse polarity protection	yes		
Integrated watchdog	yes		
2-wire			
Operating voltage	[V]	20...32 DC	
Current consumption	[mA]	3.6...21	
Power-on delay time	[s]	1	
3-wire			
Operating voltage	[V]	18...32 DC	
Current consumption	[mA]	< 45	
Power-on delay time	[s]	0.5	
Inputs / outputs			
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Outputs			
Total number of outputs	2		
Output signal	switching signal; analog signal; IO-Link; (configurable)		
Electrical design	PNP/NPN		
Number of digital outputs	2		
Output function	normally open / closed; (configurable)		
Number of analog outputs	1		
Analog current output	[mA]	4...20, invertible; (scalable)	
Short-circuit protection	yes		
Type of short-circuit protection	yes (non-latching)		
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]	250	
Switching frequency DC	[Hz]	125	
Max. load	[Ω]	(Ub - 10 V) / 20 mA	
Measuring/setting range			
Measuring range	-1...4 bar	-14.5...58 psi	-100...400 kPa
Set point SP	-0.99...4 bar	-14.35...58 psi	-99...400 kPa
Reset point rP	-1...3.99 bar	-14.5...57.85 psi	-100...399 kPa
Analog start point	-1...3 bar	-14.5...43.5 psi	-100...300 kPa
Analog end point	0...4 bar	0...58 psi	0...400 kPa
In steps of	0.005 bar	0.05 psi	0.5 kPa
Factory setting		SP1 = 1.000 bar	rP1 = 0.920 bar
		SP2 = 3.000 bar	rP2 = 2.920 bar
		ASP = 0.000 bar	AEP = 4.000 bar
		dAP = 0.06 s	dAA = 0.03 s



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Accuracy / deviations		
Switch point accuracy [% of the span]	< ± 0,2; (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; (Turn down 1:1 , linearity, incl. hysteresis and repeatability , limit value setting to DIN EN IEC 62828-1)	
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)	
Temperature coefficient zero point [% of the span / 10 K]	< ± 0,05; (0...70 °C)	
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...70 °C)	
Reaction times		
Damping process value dAP [s]	0...30	
Damping for the analog output dAA [s]	0.01...99.99	
2-wire		
Step response time analog output [ms]	45	
3-wire		
Min. response time of switching output (dAP) [ms]	3	
Step response time analog output [ms]	7	
Interfaces		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.0	
SIO mode	yes	
Required master port class	A	
Process data analog	1	
Process data binary	2	
Min. process cycle time [ms]	2.3	
Supported DeviceIDs	Type of operation	DeviceID
	default	158
Operating conditions		
Ambient temperature [°C]	-25...80	
Storage temperature [°C]	-40...100	
Protection	IP 67; IP 68; IP 69K	



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Tests / approvals		
EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 Surge	0,5/1 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
MTTF	[years]	160
Note on approval	Factory certificate available as download at www.factory-certificate.ifm	
Mechanical data		
Weight	[g]	358.5
Housing		tubular
Dimensions	[mm]	Ø 50 / L = 105.8
Material	stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA	
Materials (wetted parts)	ceramics (99.9 % Al2O3); stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE	
Min. pressure cycles	100 million	
Process connection	threaded connection G 1 external thread with Aseptoflex Vario sealing contour	
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; kPa; % of the span	
Remarks		
Pack quantity	1 pcs.	
Electrical connection		
Connector: 1 x M12; coding: A; Contacts: 4, gold-plated		
		



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Connection



- 1 connection for 2-wire operation
- 2 connection for 3-wire operation :
- OUT1 Switching output
- OUT2 Switching output
- analog output
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)