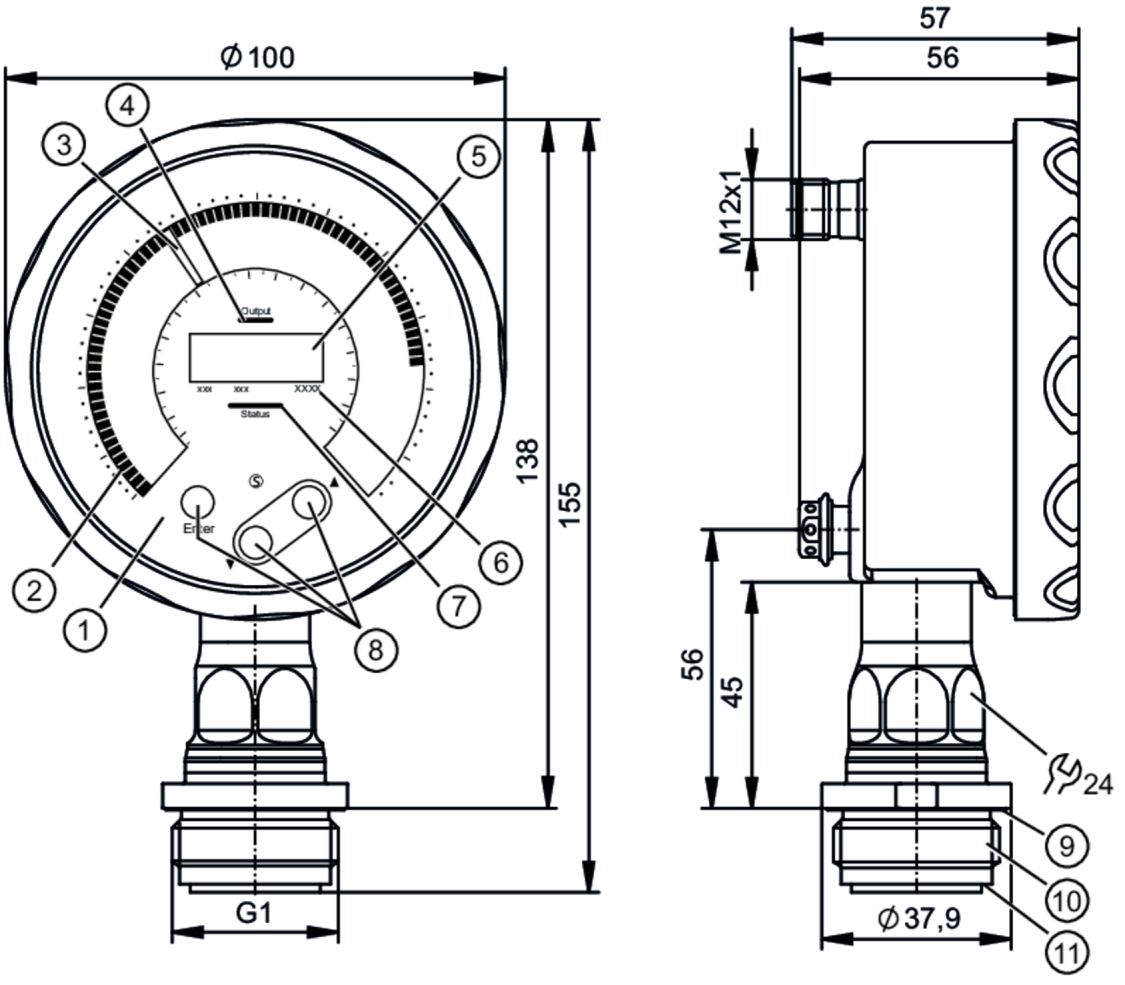
PG1705

Flush pressure sensor with display

PG-004-REA01-MFRKG/US/ /P



1	analog display
2	LED bar graph
3	LED-Pointer
4	LED switching status indication
5	4-digit alphanumeric digital display
6	LED units
7	Status LED
8	optical operating keys
9	groove with sealing ring (DIN EN ISO 1179-2)
10	external thread G1 Aseptoflex Vario
11	groove for sealing ring

EC 1935/2004 EHEDG Certified FCM IO-Link TSDP/TÜV UK CA

Product characteristics		
Number of inputs and outputs	Number of digital outputs: 1; Number of analog outputs: 1	
Measuring range	-1...4 bar	-14.5...58 psi
Process connection	threaded connection G 1 external thread mit Dichtkontur Aseptoflex Vario	
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
Measuring element	ceramic-capacitive pressure measuring cell
Application	flush mountable for the food and beverage industry

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Media		viscous media and liquids with suspended particles; liquids and gases	
Medium temperature	[°C]	-25...150	
Min. burst pressure		100 bar	1450 psi
Pressure rating		30 bar	435 psi
Vacuum resistance		-1000 mbar	14.5 psi
Type of pressure		relative pressure; vacuum	
No dead space		yes	
Electrical data			
Operating voltage	[V]	18...30 DC	
Current consumption	[mA]	25...260	
Min. insulation resistance	[MΩ]	100; (500 V DC)	
Protection class		III	
Reverse polarity protection		yes	
Power-on delay time	[s]	< 0.5	
Integrated watchdog		yes	
Inputs / outputs			
Number of inputs and outputs		Number of digital outputs: 1; Number of analog outputs: 1	
Outputs			
Total number of outputs		2	
Output signal		switching signal; analog signal; IO-Link	
Electrical design		PNP/NPN	
Number of digital outputs		1	
Output function		normally open / closed; (configurable)	
Max. voltage drop switching output DC	[V]	2	
Permanent current rating of switching output DC	[mA]	100	
Switching frequency DC	[Hz]	125	
Number of analog outputs		1	
Analog current output	[mA]	4...20, invertible; (scalable)	
Max. load	[Ω]	500	
Short-circuit protection		yes	
Type of short-circuit protection		yes (non-latching)	
Overload protection		yes	
Measuring/setting range			
Measuring range		-1...4 bar	-14.5...58 psi
Set point SP		-1...4 bar	-14.5...58 psi
Analog start point		-1...3.2 bar	-14.5...46.4 psi
Analog end point		-0.2...4 bar	-2.9...58 psi
In steps of		0.001 bar	0.1 psi
Measuring range (bar)			
Factory setting		SP1 = 1 bar	
		SP2 = 0.92 bar	
		ASP = 0.00 bar	AEP = 4.00 bar
		dAP = 0.06 s	dAA = 0.06 s

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Measuring range (psi)			
Factory setting	SP1 = 14.5 psi		
	SP2 =13.3 psi		
	ASP = 0.00 psi		AEP = 58 psi
	dAP = 0.06 s		dAA = 0.06 s
Temperature monitoring			
Measuring range	-25...150 °C	-13...302 °F	
Resolution of display [K]	1		
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)		
Zero-point stabilization [% of the span]	IO-Link, analog output	0,1; (see operating instructions zero-point behavior)	
	Display, Switching output	0,2	
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]	± 0.8 + (0.16 x (ambient temperature - medium temperature))		
Repeatability [K]	± 0,2		
Reaction times			
Min. response time of switching output (dAP) [ms]	3		
Damping process value dAP [s]	0...99.99		
Damping for the analog output dAA [s]	0...99.99		
Step response time analog output [ms]	7		
Temperature monitoring			
Dynamic response T05 / T09 [s]	< 55 / < 270; (DIN EN 60751 water ; > 0,9 m/s)		
Interfaces			
Communication interface	IO-Link		
Transmission type	COM3 (230,4 kBaud)		

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IO-Link revision		1.1	
SDCI standard		IEC 61131-9	
Profiles		Smart Sensor - SSP 4.2.2	Measuring and Switching Sensor, high resolution, 2 channel
		BLOB	Binary Large Object transfer
		Common - I&D	Identification and Diagnosis
		Extension	Sensor Control Wide
		Extension	Quantity detection, switches when value exceeds the setpoint
		Function	Locator
		Function	ProductURI
SIO mode		yes	
Required master port class		A	
Min. process cycle time	[ms]	1.3	
IO-Link resolution pressure	[bar]	0.0002	
IO-Link resolution temperature	[K]	0.1	
IO-Link process data (cyclical)		**Function**	**bit length**
		pressure	32
		temperature	32
		device status	4
		binary switching information pressure	2
		binary switching information temperature	2
IO-Link functions (acyclical)		application specific tag; internal temperature; operating hours counter; switching cycles counter; Pressure peak counter; Temperature peak counter	
Supported DeviceIDs		**Type of operation**	**DeviceID**
		default	1850
Operating conditions			
Ambient temperature	[°C]	-25...70	
Storage temperature	[°C]	-40...100	
Protection		IP 67; IP 69; (to DIN EN 60529)	
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	10 g (10...2000 Hz)
MTTF	[years]	115	
Embedded software included		yes	
UL approval		UL approval number	J058
		File number UL	E174189
Mechanical data			
Weight	[g]	652.3	
Housing		manometer housing	
Dimensions	[mm]	155 x 100 x 57	
Material		Housing: stainless steel (1.4404 / 316L); M12 connector: PPSU; sealing: FKM; pressure compensation element: PTFE; viewing glass: laminated safety glass 4 mm	
Materials (wetted parts)		measuring cell: ceramics (99.9 % Al2O3); Process connection: stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; sealing: PTFE	
Min. pressure cycles		100 million	

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Tightening torque	[Nm]	35	
Process connection		threaded connection G 1 external thread mit Dichtkontur Aseptoflex Vario	

Displays / operating elements

Display		Pointer	LED, white ; 72 steps
		LED bar graph	multi-color ; 72 steps
		Measured values	alphanumeric display, white 4-digit
		Switching status	LED, yellow
		device status	LED, red/green
		Display unit	LED, white
		Display	display rotation: 320°
Display unit		bar; psi; °C; °F	
Operating elements		3	optical operating keys

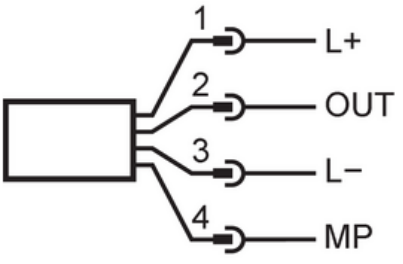
Remarks

Pack quantity	1 pcs.	

Electrical connection

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

Connection



1	L+	
2	OUT	AO
3	L-	
4	MP	DO (NO/NC), IO-Link

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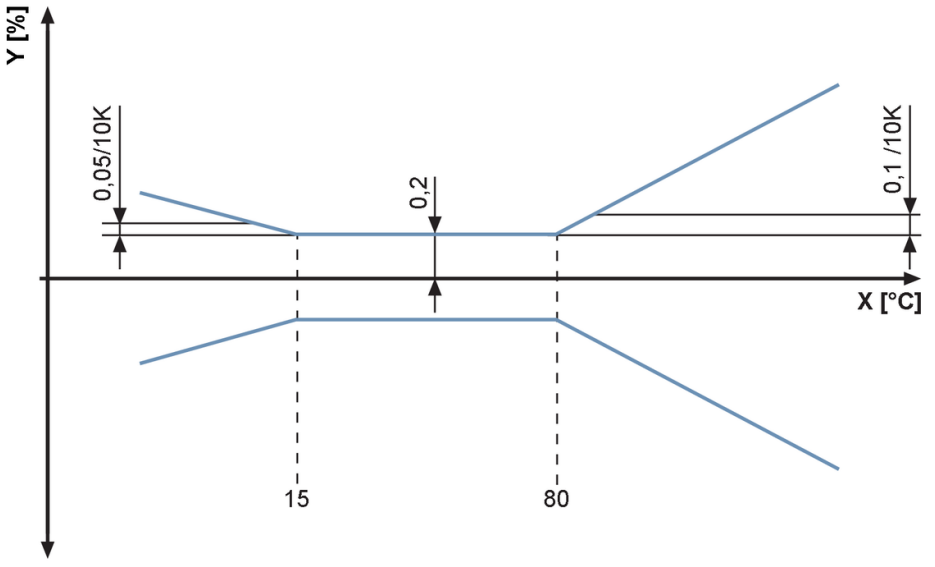
Diagrams and graphs

ambient temperature influence on the accuracy



X temperature

Y total deviation