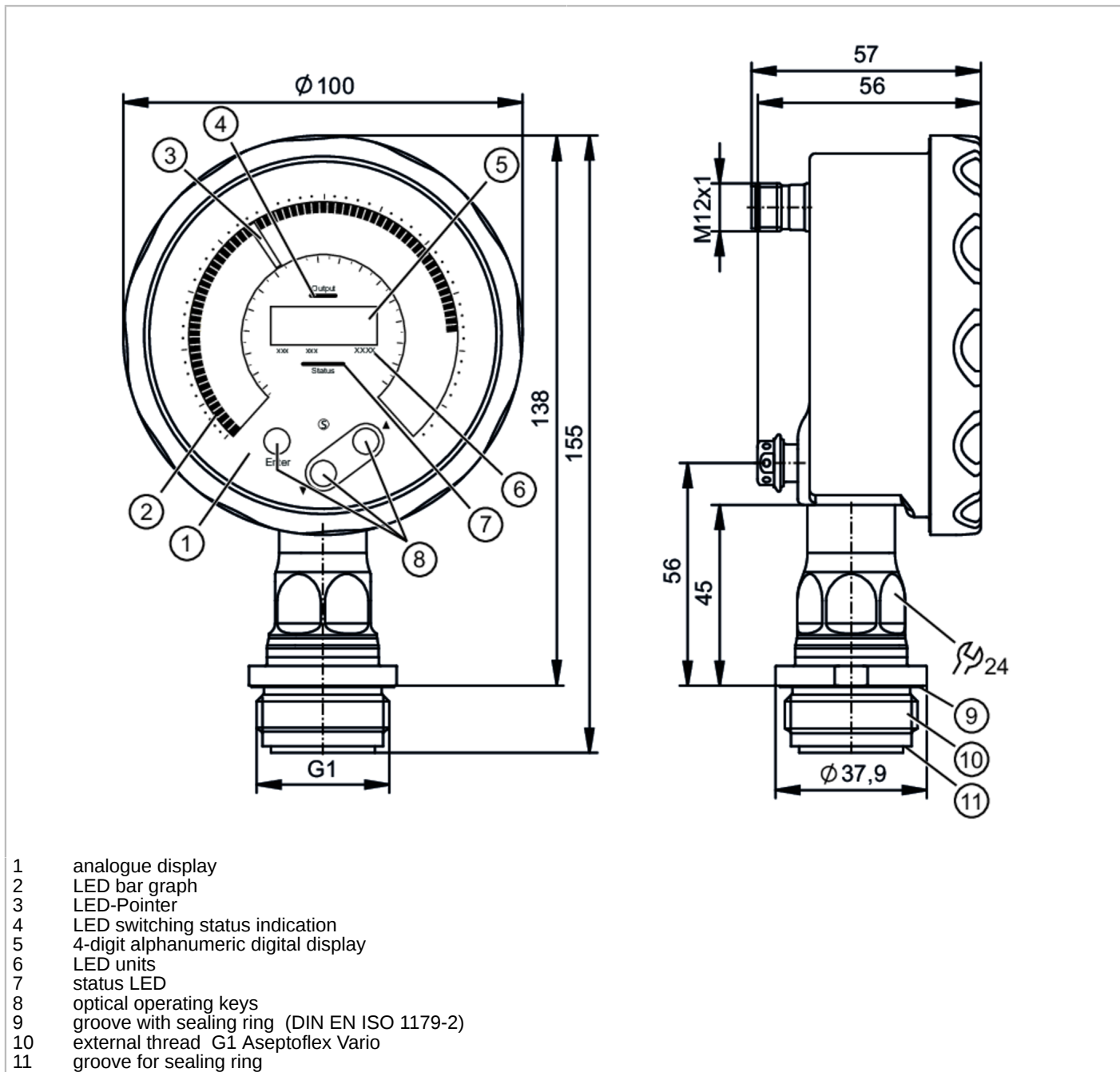


# PG1707



## Flush pressure sensor with display

PG-001-REA01-MFRKG/US/ IP



### Product characteristics

Number of inputs and outputs	Number of digital outputs: 1; Number of analogue outputs: 1	
Measuring range	-50...1000 mbar	-0.73...14.5 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	30000 mbar	435 psi
Pressure rating	10000 mbar	145 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 analogue outputs: 1	
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### Outputs

Total number of outputs	2	
Output signal	switching signal; analogue signal; IO-Link	
Electrical design	PNP/NPN	
Number of digital outputs	1	
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]	125	
Number of analogue outputs	1	
Analogue current output [mA]	4...20, invertible; (scalable)	
Max. load [Ω]	500	
Short-circuit protection	yes	
Type of short-circuit protection	pulsed	
Overload protection	yes	

### Measuring/setting range

Measuring range	-50...1000 mbar	-0.73...14.5 psi
Set point SP	-50...1000 mbar	-0.73...14.5 psi
Analogue start point	-50...800 mbar	-0.73...11.6 psi
Analogue end point	150...1000 mbar	2.18...14.5 psi
In steps of	2 mbar	0.02 psi

### Measuring range (bar)

Factory setting	SP1 = 250 mbar		
	SP2 = 230 mbar		
	ASP = 0.00 mbar		AEP = 1000 mbar
	dAP = 0.06 s		dAA = 0.06 s



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Measuring range (psi)													
Factory setting	<table border="1"> <tr> <td>SP1 = 3.63 psi</td> <td></td> <td></td> </tr> <tr> <td>SP2 = 3.34 psi</td> <td></td> <td></td> </tr> <tr> <td>ASP = 0.00 psi</td> <td></td> <td>AEP = 14.5 psi</td> </tr> <tr> <td>dAP = 0.06 s</td> <td></td> <td>dAA = 0.06 s</td> </tr> </table>	SP1 = 3.63 psi			SP2 = 3.34 psi			ASP = 0.00 psi		AEP = 14.5 psi	dAP = 0.06 s		dAA = 0.06 s
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SP2 = 3.34 psi													
ASP = 0.00 psi		AEP = 14.5 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 stabilisation [% of the span]	<table border="1"> <tr> <td>IO-Link, analogue output</td> <td>0,1; (see operating instructions zero-point behaviour)</td> </tr> <tr> <td>display, switching output</td> <td>0,2</td> </tr> </table>	IO-Link, analogue output	0,1; (see operating instructions zero-point behaviour)	display, switching output	0,2								
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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	<table border="1"> <thead> <tr> <th>Temperature range</th> <th>total deviation</th> </tr> </thead> <tbody> <tr> <td>-25...15 °C</td> <td>Characteristics deviation ± 0,05 % of the span / 10 K</td> </tr> <tr> <td>15...80 °C</td> <td>Characteristics deviation</td> </tr> <tr> <td>80...150 °C</td> <td>Characteristics deviation ± 0,1 % of the span / 10 K</td> </tr> </tbody> </table>	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				
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-25...15 °C	Characteristics deviation ± 0,05 % of the span / 10 K												
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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												
Response times													
Min. response time of switching output (dAP) [ms]	3												
Damping process value dAP [s]	0...99.99												
Damping for the analogue output dAA [s]	0...99.99												
Step response time analogue 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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## Flush pressure sensor with display

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IO-Link revision	1.1	
SDCI standard	IEC 61131-9	
Profiles	Common - I&D	Identification and Diagnosis
	Function	Measurement data, standard resolution
SIO mode	yes	
Required master port type	A	
Min. process cycle time [ms]	1.3	
IO-Link resolution pressure [bar]	0.00005	
IO-Link resolution temperature [K]	0.1	
IO-Link process data (cyclical)	<b>function</b>	<b>bit length</b>
	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	<b>Type of operation</b>	<b>DeviceID</b>
	default	1868

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 no.	J058
	File number UL	E174189

Mechanical data		
Weight [g]	656	
Housing	manometer housing	
Dimensions [mm]	155 x 100 x 57	
Materials	Housing: stainless steel (316L/1.4404); M12 connector: PPSU; Sealing: FKM; pressure compensation element: PTFE; viewing glass: laminated safety glass 4 mm	
Materials (wetted parts)	measuring cell: ceramics (99.9 % Al <sub>2</sub> O <sub>3</sub> ); Process connection: stainless steel (316L/1.4435) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; Sealing: PTFE	
Min. pressure cycles	100 million	
Tightening torque [Nm]	35	
Process connection	threaded connection G 1 external thread mit Dichtkontur Aseptoflex Vario	

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Displays / operating elements		
Display	Pointer	LED, white ; 72 steps
	LED bar graph	multi-colour ; 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

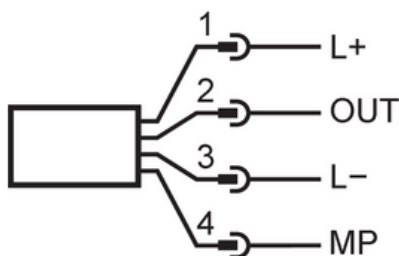
Remarks	
Pack quantity	1 pcs.

### 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

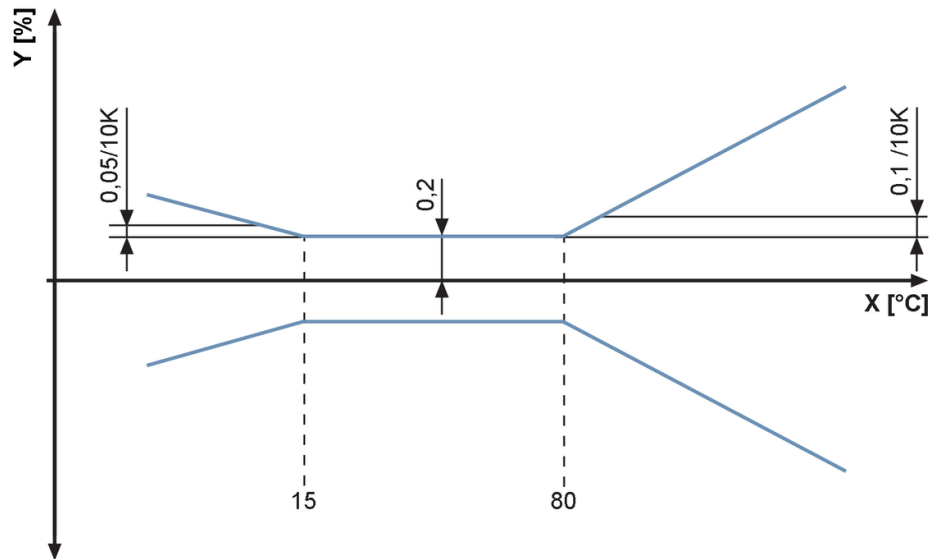


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### Diagrams and graphs

ambient temperature influence on the accuracy



X temperature  
Y total deviation