



Flush pressure sensor with display

PI-2,5-REA01-MFRKG/US/ /P

Alternative articles: PI1806
When selecting an alternative article and accessories please note that technical data may differ!

Technical drawing of the PI2896 flush pressure sensor. The front view shows a cylindrical body with a top flange of diameter $\varnothing 50$. Callouts 1, 2, and 3 point to the display and LEDs on the top. The side view shows the sensor's profile with a 64mm width and an M12x1 connection. Dimensions include a total height of 106mm, a display height of 79mm, and a mounting flange height of 52mm. The bottom connection is G1 with a 70° chamfer. Callouts 4 and 5 point to the sealing ring and the G1 thread respectively.

1 alphanumeric display 4-digit
2 status LEDs
3 programming button
4 groove with sealing ring
5 ущільнювальний контур external thread G1

Attention: The unit must only be installed in a process connection for G1 sealing cone.
The G1A sealing cone of the unit is only suited for adapters with metal end stop.



Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1		
Measuring range	-0.124...2.5 bar	-124...2500 mbar	-1.8...36.27 psi -12.4...250 kPa
Process connection	threaded connection G 1 external thread sealing cone Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop.		
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. bursting pressure	50 bar	725 psi	5000 kPa
Pressure rating	20 bar	290 psi	2000 kPa
Vacuum resistance [mbar]	-1000		
Type of pressure	relative pressure		



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MAWP (for applications according to CRN)	[bar]	20			
Electrical data					
Min. insulation resistance	[MΩ]	100; (500 V DC)			
Protection class		III			
Reverse polarity protection		yes			
Measuring principle		hydrostatic			
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 analogue outputs: 1			
Outputs					
Total number of outputs		2			
Output signal		switching signal; analogue signal; IO-Link; (configurable)			
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]	250			
Switching frequency DC	[Hz]	125			
Max. load	[Ω]	(Ub - 10 V) / 20 mA			
Measuring/setting range					
Measuring range		-0.124...2.5 bar	-124...2500 mbar	-1.8...36.27 psi	-12.4...250 kPa
Set point SP		-0.12...2.5 bar	-1.74...36.27 psi	-12...250 kPa	
Reset point rP		-0.124...2.496 bar	-1.8...36.21 psi	-12.4...249.6 kPa	
Analogue start point		-0.124...1.88 bar	-1.8...27.27 psi	-12.4...188 kPa	
Analogue end point		0.5...2.5 bar	7.26...36.27 psi	50...250 kPa	



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In steps of	0.002 bar	0.03 psi	0.2 kPa
Factory setting		SP1 = 0.624 bar	rP1 = 0.574 bar
		SP2 = 1.874 bar	rP2 = 1.824 bar
		ASP = 0.000 bar	AEP = 2.500 bar

Accuracy / deviations	
Switch point accuracy [X21]	< ± 0,2; (Turn down 1:1)
Repeatability [X21]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation [X21]	< ± 0,2; (Turn down 1:1 , linearity, incl. hysteresis and repeatability , limit value setting to DIN EN IEC 62828-1)
Linearity deviation [X21]	< ± 0,15; (Turn down 1:1)
Hysteresis deviation [X21]	< ± 0,15; (Turn down 1:1)
Long-term stability [X21]	< ± 0,1; (Turn down 1:1; per year)
Temperature coefficient zero point [X22]	< ± 0,05; (0...70 °C)
Temperature coefficient span [X22]	< ± 0,15; (0...70 °C)

Response times	
Damping process value dAP [s]	0...30
Damping for the analogue output dAA [s]	0.01...99.99
2-wire	
Step response time analogue output [ms]	45
3-wire	
Min. response time of switching output (dAP) [ms]	3
Step response time analogue output [ms]	7

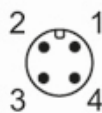
Interfaces					
Communication interface	IO-Link				
Transmission type	COM2 (38,4 kBaud)				
IO-Link revision	1.0				
Profiles	no profile				
SIO mode	yes				
Required master port type	A				
Process data analogue	1				
Process data binary	2				
Min. process cycle time [ms]	2.3				
Supported DeviceIDs	<table> <tr> <th>Type of operation</th><th>DeviceID</th></tr> <tr> <td>default</td><td>159</td></tr> </table>	Type of operation	DeviceID	default	159
Type of operation	DeviceID				
default	159				

Operating conditions	
Ambient temperature [°C]	-25...80
Storage temperature [°C]	-40...100
Protection	IP 67; IP 68; IP 69K



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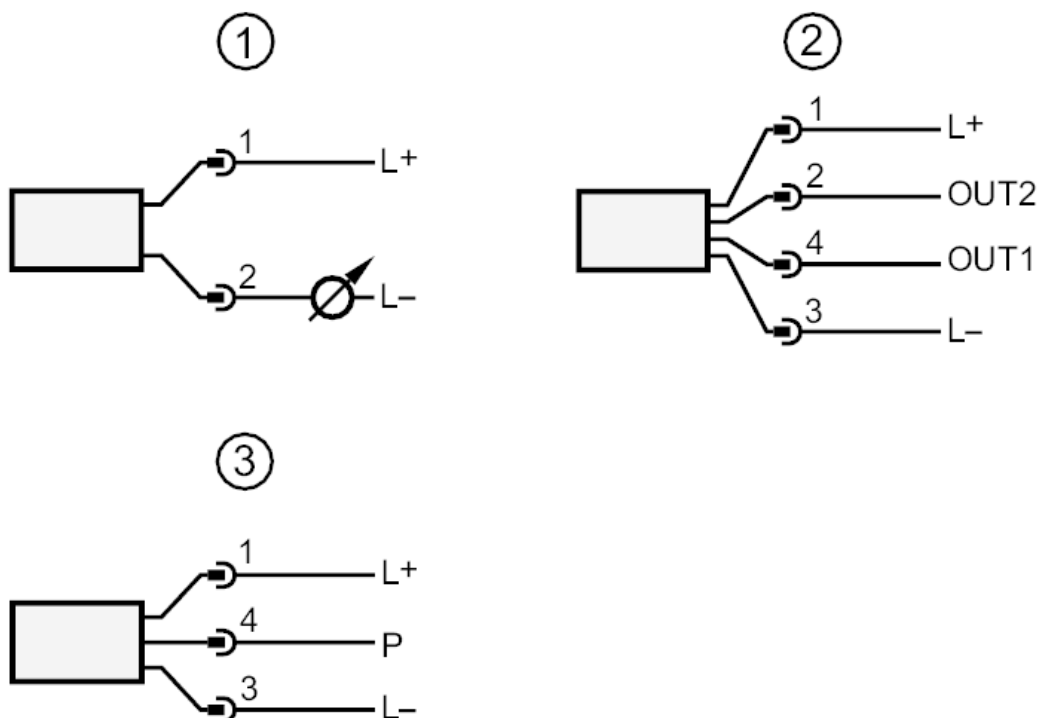
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Tests / approvals		
EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 Surge	0,5/1 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
MTTF	[ANN]	148.85
Mechanical data		
Weight	[g]	378
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	
Process connection	threaded connection G 1 external thread sealing cone Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop.	
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; kPa; psi; inH2O; mWS; % of the span	
Remarks		
Pack quantity	1 pcs.	
Electrical connection		
Connector: 1 x M12; coding: A; Contacts: 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 |
| | analogue output |
| 3 | connection for IO-Link parameter setting (P = communication via IO-Link) |