

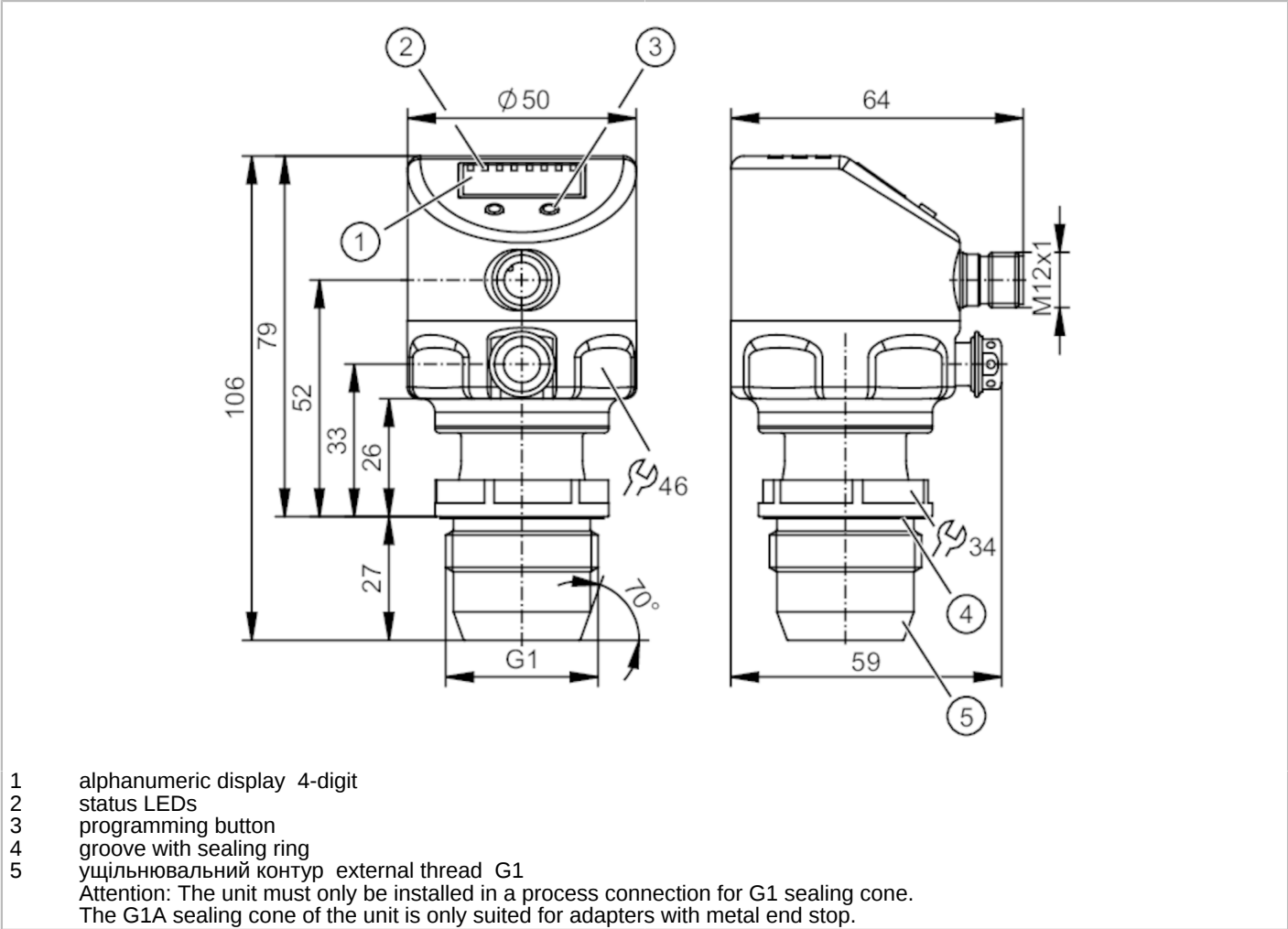


Flush pressure sensor with display

PI-,10BREA01-MFRKG/US/ /P

Alternative articles: PI1889

When selecting an alternative article and accessories please note that technical data may differ!



Product characteristics				
Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1			
Measuring range	-0.005...0.1 bar	-5...100 mbar	-2...40.16 inH2O	-0.5...10 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	30000 mbar	12044 inH2O	3000 kPa	
Pressure rating	4000 mbar	1606 inH2O	400 kPa	
Vacuum resistance [mbar]	-1000			
Type of pressure	relative pressure			



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MAWP (for applications according to CRN)	[bar]	4			
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		-0.005...0.1 bar	-5...100 mbar	-2...40.16 inH2O	-0.5...10 kPa
Set point SP		-4.8...100 mbar	-1.92...40.16 inH2O	-0.48...10 kPa	
Reset point rP		-5...99.8 mbar	-2...40.08 inH2O	-0.5...9.98 kPa	
Analogue start point		-5...75 mbar	-2...30.12 inH2O	-0.5...7.5 kPa	
Analogue end point		20...100 mbar	8.04...40.16 inH2O	2...10 kPa	



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In steps of	0.1 mbar	0.04 inH2O	0.01 kPa
Factory setting		SP1 = 25 mbar	rP1 = 23 mbar
		SP2 = 75 mbar	rP2 = 73 mbar
		ASP = 0 mbar	AEP = 100 mbar

Accuracy / deviations

Switch point accuracy	[X21]	< ± 0,5; (Turn down 1:1)
Repeatability	[X21]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation	[X21]	< ± 0,5; (Turn down 1:1, linearity, incl. hysteresis and repeatability, limit value setting to DIN EN IEC 62828-1)
Linearity deviation	[X21]	< ± 0,25; (Turn down 1:1)
Hysteresis deviation	[X21]	< ± 0,2; (Turn down 1:1)
Long-term stability	[X21]	< ± 0,1; (Turn down 1:1; per year)
Temperature coefficient zero point	[X22]	< ± 0,1; (0...70 °C)
Temperature coefficient span	[X22]	< ± 0,2; (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	Type of operation	DeviceID
	default	259

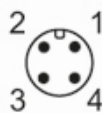
Operating conditions

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	[ANN]	148.85
Mechanical data		
Weight	[g]	376.5
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	mbar; kPa; inH2O; mmWS; % 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)