

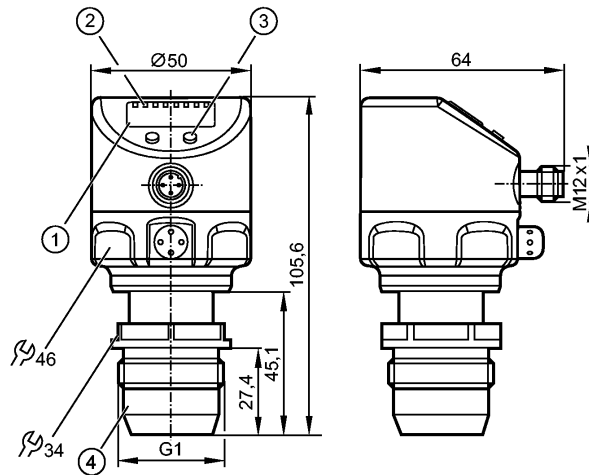


# PI2897

PI-001BREA01-MFRKG/US/ /P



Pressure sensors



- 1: 4-digit alphanumeric display
- 2: status LEDs
- 3: Programming button
- 4: Sealing cone G 1 male

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!

ACS CE US EC 1935/2004 EHEDG Certified

## IO-Link

### Product characteristics

Combined pressure sensor
Quick disconnect
Function programmable
Sealing cone G 1 male
Process connection: Sealing cone G 1 male
2-wire connection technology: analogue output
3-wire connection technology: 2 outputs OUT1 = switching output OUT2 = switching output or analogue output
4-digit alphanumeric display
Measuring range: -50...1000 mbar / -0.73...14.50 psi

### Application

Application	Type of pressure: relative pressure Hygienic systems, viscous media and liquids with suspended particles Liquids and gases	
Pressure rating	10000 mbar	145 psi
Bursting pressure min.	30000 mbar	435 psi
Medium temperature [°C]	-25...125 (145 max. 1h)	

### Electrical data

Electrical design	2 wires DC / 3 wires DC PNP/NPN	
Operating voltage [V]	20...32 DC (2L) / 18...32 DC (3L)	
Current consumption [mA]	3.6...21 (2L) / < 45 (3L)	
Insulation resistance [MΩ]	> 100 (500 V DC)	
Protection class	III	



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Reverse polarity protection	yes
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## Outputs

Output	2-wire connection technology: analogue output 3-wire connection technology: 2 outputs OUT1 = switching output OUT2 = switching output or analogue output
Output function	1 x normally open / normally closed programmable + 1 x normally open / normally closed programmable or 1 x analog (4...20 / 20...4 mA, scalable)
Current rating [mA]	250; (3L)
Voltage drop [V]	2; (3L)
Short-circuit protection	yes (non-latching)
Overload protection	yes
Switching frequency [Hz]	--- (2L) / 125 (3L)
Analog output	I: 4...20 mA (Ineg: 20...4 mA)
Max. load [ $\Omega$ ]	300 (2L) / max. (Ub - 10 V) x 50 (3L)

## Measuring / setting range

Display unit	mbar, kPa, psi, inH2O, mWS, % der Spanne	
Measuring range	-50...1000 mbar	-0.73...14.50 psi
Setting range		
Set point, SP	-48...1000 mbar	-0.70...14.50 psi
Reset point, rP	-50...998 mbar	-0.73...14.47 psi
Analog start point, ASP	-50...750 mbar	-0.73...10.88 psi
Analog end point, AEP	200...1000 mbar	2.90...14.50 psi
in steps of	1 mbar	0.01 psi
Factory setting	SP1 = 250 mbar; rP1 = 230 mbar SP2 = 750 mbar; rP2 = 730 mbar ASP = 0 mbar; AEP = 1000 mbar	

## Accuracy / deviations

Accuracy / deviations (in % of the span) Turn down 1:1	
Switch point accuracy	< $\pm$ 0.2
Characteristics deviation *)	< $\pm$ 0.2
Linearity	< $\pm$ 0.15
Hysteresis	< $\pm$ 0.15
Repeatability **)	< $\pm$ 0.1
Long-term stability ***)	< $\pm$ 0.1
Temperature coefficients (TEMPCO) in the temperature range 0...70° C (in % of the span per 10 K)	
Greatest TEMPCO of the zero point	< $\pm$ 0.05
Greatest TEMPCO of the span	< $\pm$ 0.15

## Reaction times

Power-on delay time [s]	1 (2L) / 0.5 (3L)
Min. response time switching output [ms]	--- (2L) / 3 (3L)
Damping for the switching output (dAP) [s]	0.00...30.00
Damping for the analog output (dAA) [s]	0.01...99.99



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Step response time analogue output [ms]	45 (2L) / 7 (3L)
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Integrated watchdog	yes
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## Interfaces

IO-Link Device	
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Transfer type	COM2 (38.4 kBaud)
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IO-Link revision	1.0
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IO-Link Device ID	256 d / 00 01 00 h
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Profiles	no profile
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SIO mode	yes
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Required master port class	A
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Process data analogue	1
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Process data binary	2
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Min. process cycle time [ms]	2.3
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## Environment

Ambient temperature [°C]	-25...80
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Storage temperature [°C]	-40...100
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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)
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Vibration resistance	DIN IEC 68-2-6:	20 g (10...2000 Hz)
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MTTF [Years]	148.85
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## Mechanical data

Process connection	Sealing cone G 1 male
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Materials (wetted parts)	ceramics (99.9 % Al <sub>2</sub> O <sub>3</sub> ); PTFE; stainless steel 316L / 1.4435; surface characteristics: Ra < 0.4 / Rz 4
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Housing materials	stainless steel 316L / 1.4404; FPM (Viton); PTFE; PBT (Pocan); PEI; PFA
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Switching cycles min.	100 million
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Weight [kg]	0.341
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## Displays / operating elements

Display	Display unit	LED green
	Switching status	LED yellow
	Function display	4-digit alphanumeric display
	Measured values	4-digit alphanumeric display

## Electrical connection

Connection	M12 connector; gold-plated contacts
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## Wiring

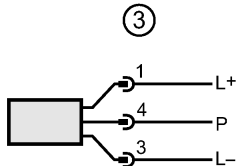
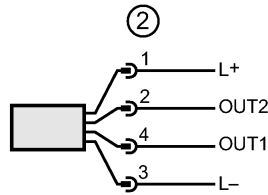
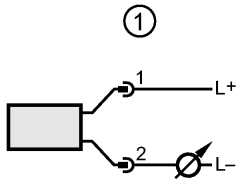


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- 1 connection for 2-wire operation
- 2 connection for 3-wire operation
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)

### Remarks

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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!

(2L) = value for 2-wire operation  
 (3L) = value for 3-wire operation  
 \*) linearity, incl. hysteresis and repeatability;  
 (limit value setting to DIN 16086)  
 \*\*) with temperature fluctuations < 10 K  
 \*\*\*) in % of the span per year

Pack quantity	[piece]	1
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