

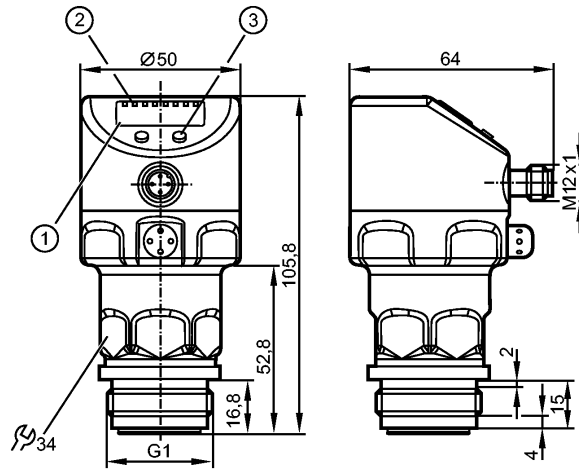


# PI2789

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



Pressure sensors



- 1: 4-digit alphanumeric display
- 2: status LEDs
- 3: Programming button

ACS
 CE
 UL LISTED
 EC 1935/2004 EHEDG Certified

FDA
 IO-Link

### Product characteristics

Combined pressure sensor
Quick disconnect
Function programmable
no dead space
Process connection: G 1 A / Aseptoflex Vario
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: -5.0...100.0 mbar / -2.00...40.16 inH2O

### Application

Application	Type of pressure: relative pressure Hygienic systems, viscous media and liquids with suspended particles Liquids and gases	
Pressure rating	4000 mbar	1606 inH2O
Bursting pressure min.	30000 mbar	12044 inH2O
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	
Reverse polarity protection	yes	

### Outputs



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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 [Ω]	300 (2L) / max. (U <sub>b</sub> - 10 V) x 50 (3L)

Measuring / setting range		
Display unit	mbar, kPa, inH2O, mmWS, % der Spanne	
Measuring range	-5.0...100.0 mbar	-2.00...40.16 inH2O
Setting range		
Set point, SP	-4.8...100.0 mbar	-1.92...40.16 inH2O
Reset point, rP	-5.0...99.8 mbar	-2.00...40.08 inH2O
Analog start point, ASP	-5.0...75.0 mbar	-2.00...30.12 inH2O
Analog end point, AEP	20.0...100.0 mbar	8.04...40.16 inH2O
in steps of	0.1 mbar	0.04 inH2O
Factory setting	SP1 = 25 mbar; rP1 = 23 mbar SP2 = 75 mbar; rP2 = 73 mbar ASP = 0 mbar; AEP = 100 mbar	

Accuracy / deviations		
Accuracy / deviations (in % of the span) Turn down 1:1		
Switch point accuracy	< ± 0.5	
Characteristics deviation *)	< ± 0.5	
Linearity	< ± 0.25	
Hysteresis	< ± 0.2	
Repeatability **)	< ± 0.1	
Long-term stability ***)	< ± 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	< ± 0.1	
Greatest TEMPCO of the span	< ± 0.2	

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	
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	
Transfer type	COM2 (38.4 kBaud)
IO-Link revision	1.0
IO-Link Device ID	259 d / 00 01 03 h
Profiles	no profile
SIO mode	yes
Required master port class	A
Process data analogue	1
Process data binary	2
Min. process cycle time [ms]	2.3

## Environment

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

## 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 [Years]	160

## Mechanical data

Process connection	G 1 A / Aseptoflex Vario
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
Housing materials	stainless steel 316L / 1.4404; FPM (Viton); PTFE; PBT (Pocan); PEI; PFA
Switching cycles min.	100 million
Weight [kg]	0.312

## Displays / operating elements

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

Connection	M12 connector; gold-plated contacts
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## Wiring

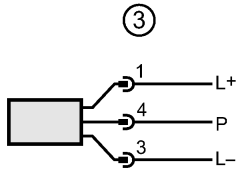
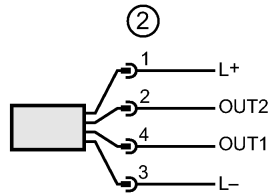
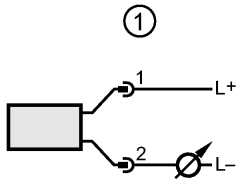


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- 1 connection for 2-wire operation
- 2 connection for 3-wire operation
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)

### Remarks

Remarks

(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