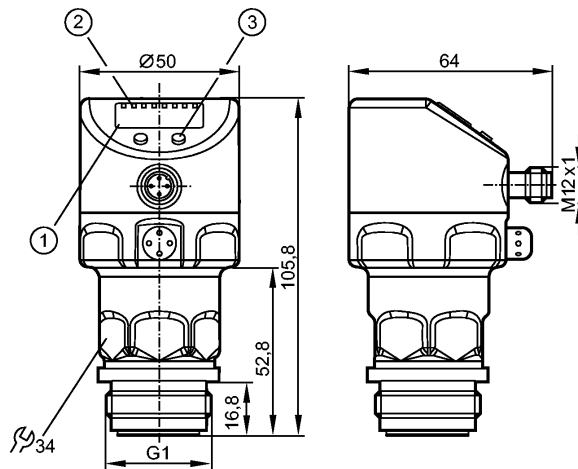


PI2799

PI-1-1BREA01-MFRKG/US/ /P

Pressure sensors



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

   **EHDG Certified**  

Made in Germany

Product characteristics

Combined pressure sensor
Connector
Process connection: G 1 A / Aseptoflex Vario
Display units:
mbar, kPa, psi, inH2O, mWS, % of the span
Function programmable
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: -1000...1000 mbar / -14.5...14.5 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	
Reverse polarity protection	yes	

Outputs

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Pressure sensors

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 analogue (4...20 / 20...4 mA, scalable)
Current rating [mA]	--- (2L) / 250 (3L)
Voltage drop [V]	--- (2L) / < 2 (3L)
Short-circuit protection	pulsed
Overload protection	yes
Switching frequency [Hz]	--- (2L) / 125 (3L)
Analogue output	I: 4...20 mA (Ineg: 20...4 mA)
Max. load [Ω]	300 (2L) / max. (U _b - 10 V) x 50 (3L)

Measuring / setting range

Measuring range	-1000...1000 mbar	-14.5...14.5 psi
Setting range		
Set point, SP	-998...1000 mbar	-14.45...14.50 psi
Reset point, rP	-1000...998 mbar	-14.50...14.45 psi
Analogue start point, ASP	-1000...500 mbar	-14.50...7.25 psi
Analogue end point, AEP	-500...1000 mbar	-7.25...14.50 psi
in steps of	1 mbar	0.05 psi
Factory setting	SP1 = -500 mbar; rP1 = -540 mbar SP2 = 500 mbar; rP2 = 460 mbar ASP = -1000 mbar; AEP = 1000 mbar	

Accuracy / deviations

Accuracy / deviations (in % of the span) Turn down 1:1	
Switch point accuracy	< ± 0.2
Characteristics deviation *)	< ± 0.2
Linearity	< ± 0.15
Hysteresis	< ± 0.15
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	< ± 0.05
Greatest TEMPCO of the span	< ± 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 analogue output (dAA) [s]	0.01...99.99
Step response time analogue output [ms]	45 (2L) / 7 (3L)
Integrated watchdog	yes

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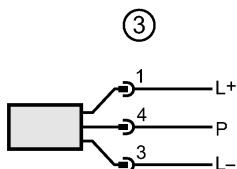
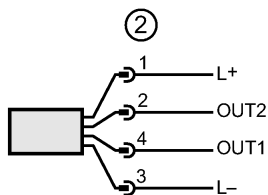
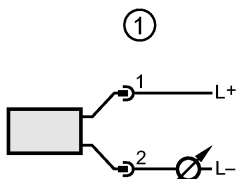
Pressure sensors

Interfaces	
IO-Link Device	
Transfer type	COM2 (38.4 kBaud)
IO-Link revision	1.0
IO-Link Device ID	258 d / 00 01 02 h
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
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 ₂ O ₃); 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]	0.311
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
Wiring	

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Pressure sensors



- 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
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Pack quantity	[piece]	1
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