

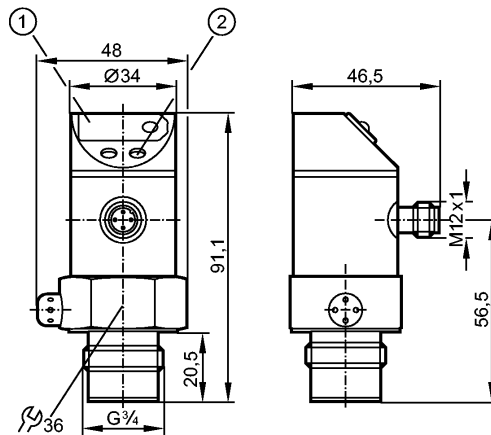


PF2957

PF-001BREB34-MFRKG/US/ /P



Pressure sensors



- 1: 7-segment LED display
- 2: Programming button



Product characteristics

Combined pressure sensor
Quick disconnect
no dead space
Freely rotatable housing 350°
Zero and span adjustable
Function programmable
Process connection: G ¾ A
2 outputs
OUT1 = switching output
OUT2 = switching output or analog output
7-segment LED display
Measuring range: -50...1000 mbar / -0.7...14.5 psi / -5.0...100 kPa

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	1000 kPa
Bursting pressure min.	30000 mbar	450 psi	3000 kPa
Medium temperature [°C]	-25...80		

Electrical data

Electrical design	DC PNP/NPN
Operating voltage [V]	20...30 DC
Current consumption [mA]	< 60
Insulation resistance [MΩ]	> 100 (500 V DC)
Protection class	III
Reverse polarity protection	yes

Outputs

Output	2 outputs OUT1 = switching output OUT2 = switching output or analog output
Output function	2 x normally open / closed programmable or 1 x normally open / closed programmable + 1 x analog (4...20 mA / 0...10 V; programmable 1:4)



PF2957

PF-001BREB34-MFRKG/US/ /P



Pressure sensors

Current rating	[mA]	2 x 250
Voltage drop	[V]	< 2
Short-circuit protection		yes (non-latching)
Overload protection		yes
Switching frequency	[Hz]	≤ 170
Analog output		4...20 mA / 0...10 V
Max. load	[Ω]	4...20 mA: max. (U _b - 10 V) x 50 / 0...10 V: min. 2000

Measuring / setting range

Display unit	mbar, psi, kPa		
Measuring range	-50...1000 mbar	-0.7...14.5 psi	-5.0...100 kPa
Setting range			
Set point, SP	-45...999 mbar	-0.7...14.5 psi	-4.5...99.9 kPa
Reset point, rP	-50...994 mbar	-0.7...14.4 psi	-5.0...99.4 kPa
Analog start point, ASP	-50...749 mbar	-0.7...10.9 psi	-5.0...74.9 kPa
Analog end point, AEP	200...999 mbar	2.9...14.5 psi	20.0...99.9 kPa
in steps of	1 mbar	0.1 psi	0.1 kPa
Factory setting	SP1 = 250 mbar; rP1 = 230 mbar ASP = 0 mbar; AEP = 999 mbar		

Accuracy / deviations

Accuracy / deviations (in % of the span) Turn down 1:1			
Characteristics deviation *)	< ± 0.6		
Linearity	< ± 0.5		
Hysteresis	< ± 0.1		
Repeatability **)	< ± 0.1		
Long-term stability ***)	< ± 0.1		
Temperature coefficients (TEMPCO) in the temperature range 0...80° 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]	0.2
Min. response time switching output	[ms]	3
Damping for the switching output (dAP)	[s]	0...4
Damping for the analog output (dAA)	[s]	0 - 0.1 - 0.5 - 2
Response time analog output	[ms]	3
Integrated watchdog		yes

Software / programming

Programming options	hysteresis / window function; N.O. / N.C.; output polarity; current / voltage outputs; damping; calibration of displayed values; display can be rotated / deactivated; display unit
---------------------	---

Environment

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



PF2957

PF-001BREB34-MFRKG/US/ /P



Pressure sensors

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 61000-4-6 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]	170

Mechanical data

Process connection	G 3/4 A
Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); PTFE; FPM (Viton); stainless steel 316L / 1.4435; surface characteristics: Ra < 0.4 / Rz 4
Housing materials	stainless steel 316L / 1.4404; PBT (Pocan); PC (Makrolon); PEI; EPDM/X (Santoprene); FPM (Viton)
Switching cycles min.	100 million
Weight [kg]	0.303

Displays / operating elements

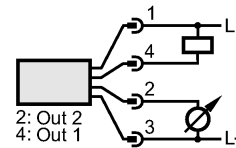
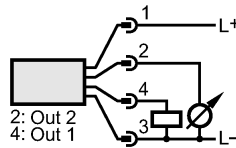
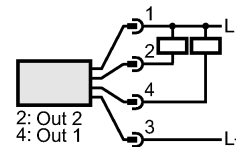
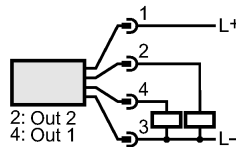
Display	Switching status 2 x LED red Function display 7-segment LED display Measured values 7-segment LED display
---------	---

Electrical connection

Connection	M12 connector; gold-plated contacts
------------	-------------------------------------

Wiring

Programming of the output function (OUT1 / OUT2):
Hno = hysteresis / normally open
Hnc = hysteresis / normally closed
Fno = window function / normally open
Fnc = window function / normally closed
Complementary outputs:
output 1: = Hno, output 2: = Hnc
(with the same SP / rP)



Programming of the analog output (OUT2):
I = current output (4...20 mA)
U = voltage output (0...10 V)



Remarks

Remarks	*) 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
-----------------------	---