

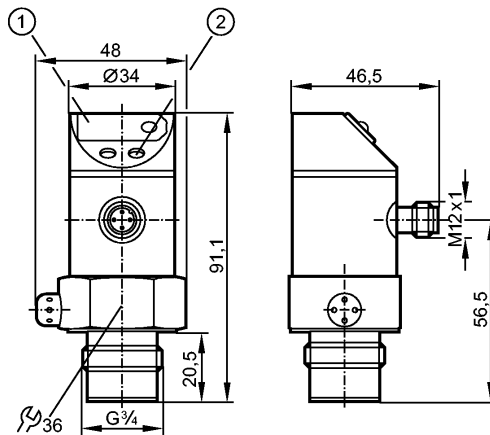


# PF2953

PF-025-REB34-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: -1.0...25 bar / -15...363 psi / -0.1...2.5 MPa

### Application

Application	Type of pressure: relative pressure Hygienic systems, viscous media and liquids with suspended particles Liquids and gases		
Pressure rating	100 bar	1450 psi	10 MPa
Bursting pressure min.	200 bar	2900 psi	20 MPa
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)



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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 <sub>b</sub> - 10 V) x 50 / 0...10 V: min. 2000

### Measuring / setting range

Display unit	bar, psi, MPa		
Measuring range	-1.0...25 bar	-15...363 psi	-0.1...2.5 MPa
Setting range			
Set point, SP	-0.8...25.0 bar	-12...363 psi	-0.08...2.50 MPa
Reset point, rP	-0.9...24.9 bar	-13...362 psi	-0.09...2.49 MPa
Analog start point, ASP	-1.0...18.8 bar	-15...272 psi	-0.10...1.88 MPa
Analog end point, AEP	5.3...25.0 bar	76...363 psi	0.53...2.50 MPa
in steps of	0.1 bar	1 psi	0.01 MPa
Factory setting	SP1 = 6.3 bar; rP1 = 5.8 bar ASP = 0.0 bar; AEP = 25.0 bar		

### 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
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### Environment

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



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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 61000-4-6 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 <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; PBT (Pocan); PC (Makrolon); PEI; EPDM/X (Santoprene); FPM (Viton)
Switching cycles min.	100 million
Weight [kg]	0.303

## Displays / operating elements

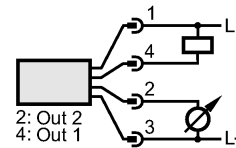
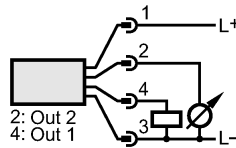
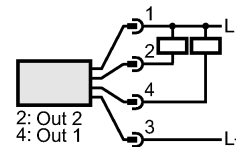
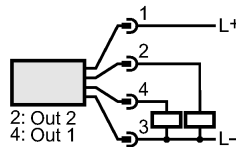
Display	Switching status 2 x LED red Function display 7-segment LED display Measured values 7-segment LED display
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## Electrical connection

Connection	M12 connector; gold-plated contacts
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### 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
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Pack quantity [piece]	1
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