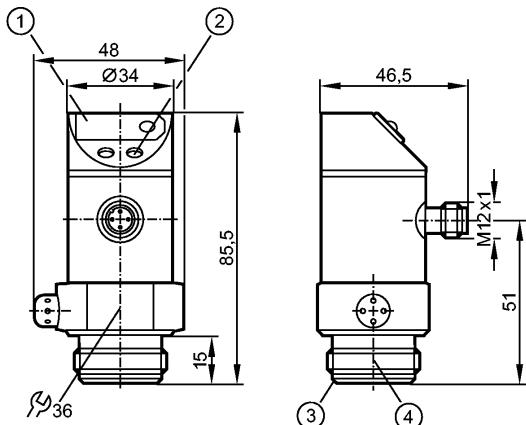


**PF2053**

PF-025-RES30-MFRKG/US/ /P

Pressure sensors



1: 7-segment LED display

2: Programming button

3: Aseptoflex sealing edge

4: Aseptoflex thread

**Product characteristics**

Combined pressure sensor

Quick disconnect

no dead space

Freely rotatable housing 350°

Zero and span adjustable

Function programmable

Process connection: for Aseptoflex adapter

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.

350 bar

5070 psi

35 MPa

Medium temperature

[°C]

-25...80

**Electrical data**

Electrical design

DC PNP/NPN

Operating voltage [V]

20...30 DC

Current consumption [mA]

&lt; 60

Insulation resistance [MΩ]

&gt; 100 (500 V DC)

Protection class

III

Reverse polarity protection

yes

**Outputs**

Output

2 outputs

OUT1 = switching output

OUT2 = switching output or analog output

**PF2053**

PF-025-RES30-MFRKG/US/ /P

Pressure sensors

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)		
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. (Ub - 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

**PF2053**

PF-025-RES30-MFRKG/US/ /P

Pressure sensors

Protection

IP 67

**Tests / approvals**

EMC	EN 61000-4-2 ESD: EN 61000-4-3 HF radiated: EN 61000-4-4 Burst: EN 61000-4-6 HF conducted:	4 kV CD / 8 kV AD 10 V/m 2 kV 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]		181

**Mechanical data**

Process connection	for Aseptoflex adapter
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]	0.315

**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**

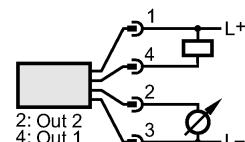
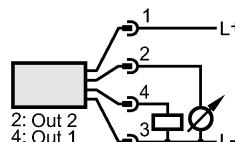
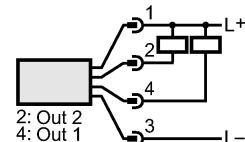
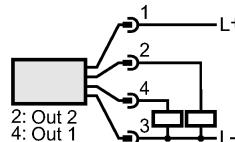
Connection	M12 connector; gold-plated contacts
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**Wiring**

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 The 3-A qualification is only valid if adapters with 3-A qualification are used for installation.
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Pack quantity	[piece]	1
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