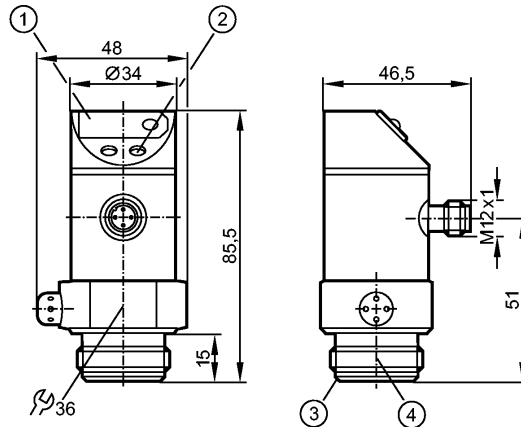


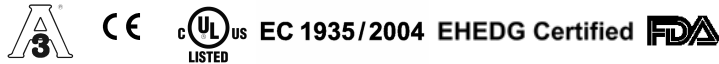
**PF2054**

PF-010-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: -0.5...10 bar / -7...145 psi / -50...1000 kPa

**Application**

Application	Type of pressure: relative pressure Hygienic systems, viscous media and liquids with suspended particles Liquids and gases		
Pressure rating	50 bar	725 psi	5000 kPa
Bursting pressure min.	150 bar	2175 psi	15000 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
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**PF2054**

PF-010-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. (U <sub>b</sub> - 10 V) x 50 / 0...10 V: min. 2000		

**Measuring / setting range**

Display unit	bar, psi, kPa		
Measuring range	-0.5...10 bar	-7...145 psi	-50...1000 kPa
Setting range			
Set point, SP	-0.45...9.99 bar	-7 ...145 psi	-45...999 kPa
Reset point, rP	-0.50...9.94 bar	-7 ...144 psi	-50...994 kPa
Analog start point, ASP	-0.50...7.49 bar	-7 ...109 psi	-50...749 kPa
Analog end point, AEP	2.00...9.99 bar	29 ...145 psi	200...999 kPa
in steps of	0.01 bar	1 psi	1 kPa
Factory setting	SP1 = 2.50 bar; rP1 = 2.30 bar ASP = 0.00 bar; AEP = 9.99 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		

**PF2054**

PF-010-RES30-MFRKG/US/ /P

**Pressure sensors**

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]	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]	0.318

**Displays / operating elements**

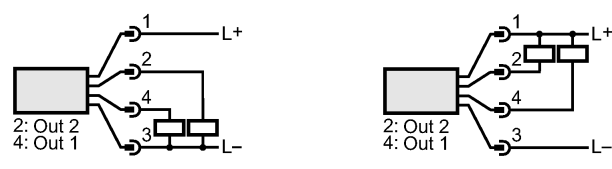
Display	Switching status 2 x LED red Function display 7-segment LED display Measured values 7-segment LED display
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**Electrical connection**

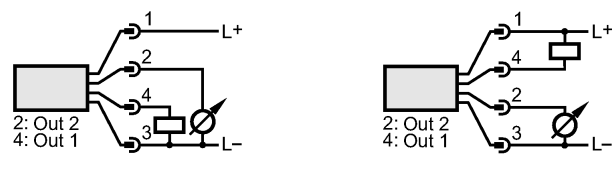
Connection	M12 connector; gold-plated contacts
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**Wiring**

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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