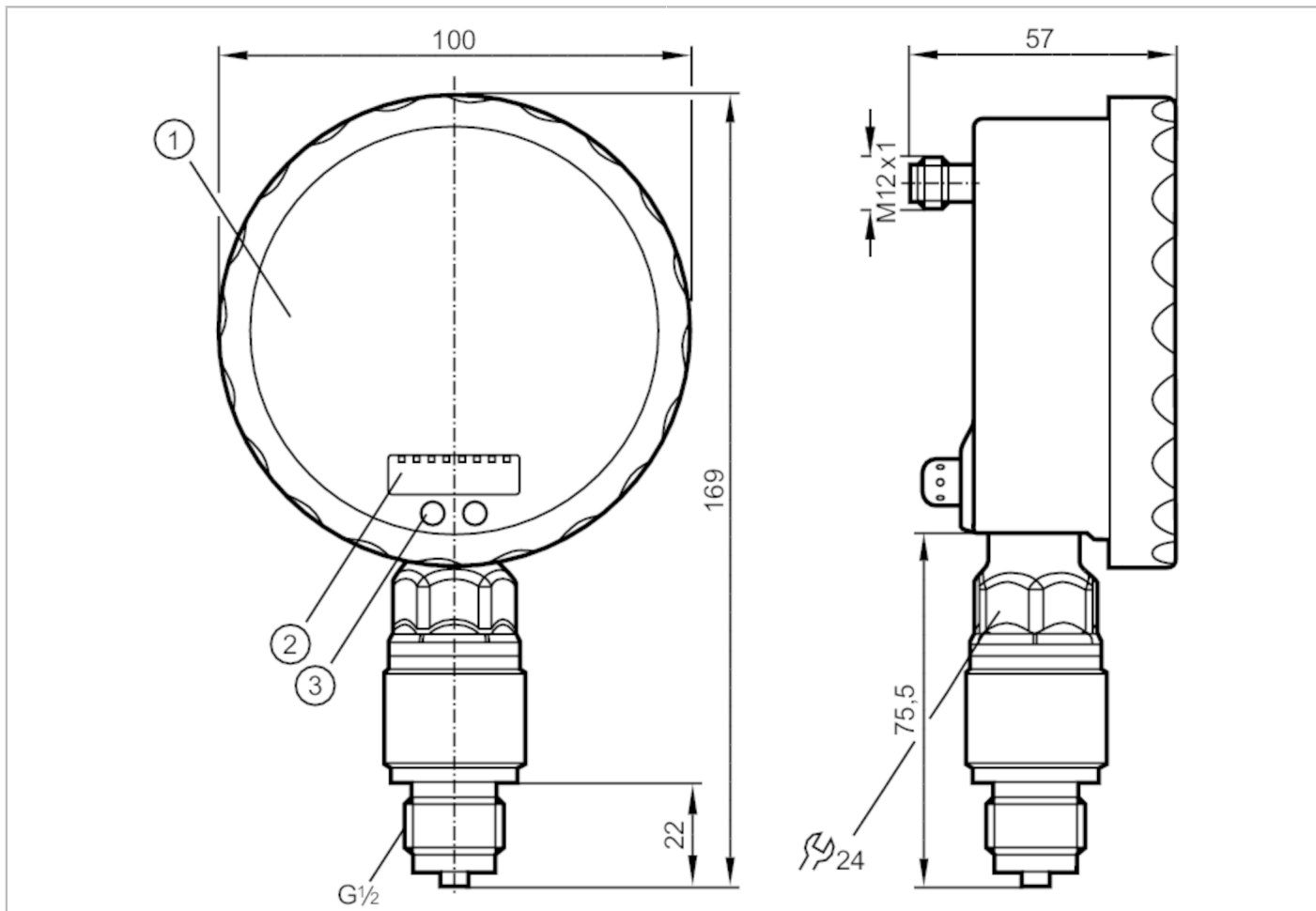


PG2409



Pressure sensor with analogue display

PG-1-1-REB12-MFRKG/US/ IP



- 1 analogue display
- 2 alphanumeric display 4-digit
- 3 sensor field (programming button)



Product characteristics

Output signal	switching signal; analogue signal; (configurable)		
Measuring range	-1...1 bar	-1000...1000 mbar	-14.52...14.52 psi
Process connection	threaded connection G 1/2 external thread		

Application

Special feature	Gold-plated contacts		
Application	for industrial applications; Safety manometer (S) based on DIN EN 837-1		
Media	liquids and gases		
Medium temperature [°C]	-25...80		
Pressure rating	10 bar	145 psi	
Min. bursting pressure	30 bar	435 psi	
Type of pressure	relative pressure; vacuum		



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Electrical data			
Operating voltage	[V]	18...32 DC	
Current consumption	[mA]	< 70; (24 V)	
Min. insulation resistance	[MΩ]	100; (500 V DC)	
Protection class		III	
Reverse polarity protection		yes	
Power-on delay time	[s]	6	
Integrated watchdog		yes	
Inputs / outputs			
Number of inputs and outputs		Number of digital outputs: 1; Number of analogue outputs: 1	
Outputs			
Total number of outputs		2	
Output signal		switching signal; analogue signal; (configurable)	
Electrical design		PNP/NPN	
Number of digital outputs		1	
Output function		normally open / normally closed; (parameterisable)	
Max. voltage drop switching output DC	[V]	2	
Permanent current rating of switching output DC	[mA]	250	
Switching frequency DC	[Hz]	75	
Number of analogue outputs		1	
Analogue current output	[mA]	4...20, invertible; (scalable)	
Max. load	[Ω]	(U _b - 10 V) / 20 mA	
Short-circuit protection		yes	
Type of short-circuit protection		pulsed	
Overload protection		yes	
Measuring/setting range			
Measuring range		-1...1 bar	-1000...1000 mbar -14.52...14.52 psi
Set point SP		-0.992...1.6 bar	-14.4...23.22 psi
Reset point rP		-1...1.592 bar	-14.52...23.1 psi
Analogue start point		-1...1.1 bar	-14.52...15.96 psi
Analogue end point		-0.5...1.6 bar	-7.26...23.22 psi
In steps of		0.004 bar	0.06 psi
Accuracy / deviations			
Switch point accuracy	[% of the span]	< ± 0,5; (Turn down 1:1)	
Repeatability	[% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)	
Characteristics deviation	[% of the span]	< ± 0,25 (BFSL) / < ± 0,5 (LS); (Turn down 1:1; BFSL = Best Fit Straight Line)	
Hysteresis deviation	[% of the span]	< ± 0,25; (Turn down 1:1)	
Long-term stability		< ± 0,1; (Turn down 1:1; per 6 months)	

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	[% of the span]	
Temperature coefficient zero point	[% of the span / 10 K]	< ± 0,2; (0...70 °C)
Temperature coefficient span	[% of the span / 10 K]	< ± 0,2; (0...70 °C)

Response times

Response time	[ms]	< 9
Damping for the switching output dAP	[s]	0.01...30
Damping for the analogue output dAA	[s]	0.01...30
Step response time analogue output	[ms]	28

Operating conditions

Ambient temperature	[°C]	-20...80
Storage temperature	[°C]	-40...100
Protection		IP 67; 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]	103
Pressure Equipment Directive		Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request

Mechanical data

Weight	[g]	609.5
Materials		stainless steel (1.4404 / 316L); PA; FKM; PTFE; viewing glass: laminated safety glass 4 mm
Materials (wetted parts)		Al2O3 (ceramics); FKM; stainless steel (1.4404 / 316L)
Min. pressure cycles		100 million
Process connection		threaded connection G 1/2 external thread
Restrictor element integrated		no (can be retrofitted)

Displays / operating elements

Display	Display unit	2 x LED, green
	switching status	LED, yellow
	switch points	LED ring, red
	function display	alphanumeric display, red 4-digit
	measured values	analogue display, 0...350° rotatable, pointer not visible when unit disconnected
	measured values	alphanumeric display, red 4-digit
With scale		yes
Extended display range (max.)	1.6 bar	23.22 psi

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Remarks

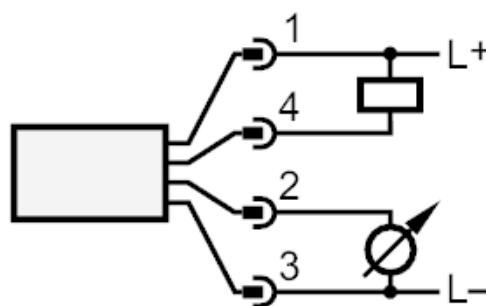
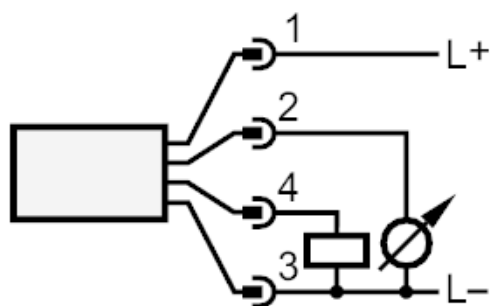
Remarks	switch point accuracy in the extended display range: 1.5 % of the span
Pack quantity	1 pcs.

Electrical connection

Connector: 1 x M12; Contacts: gold-plated



Connection



OUT1	switching output
OUT2	analogue output