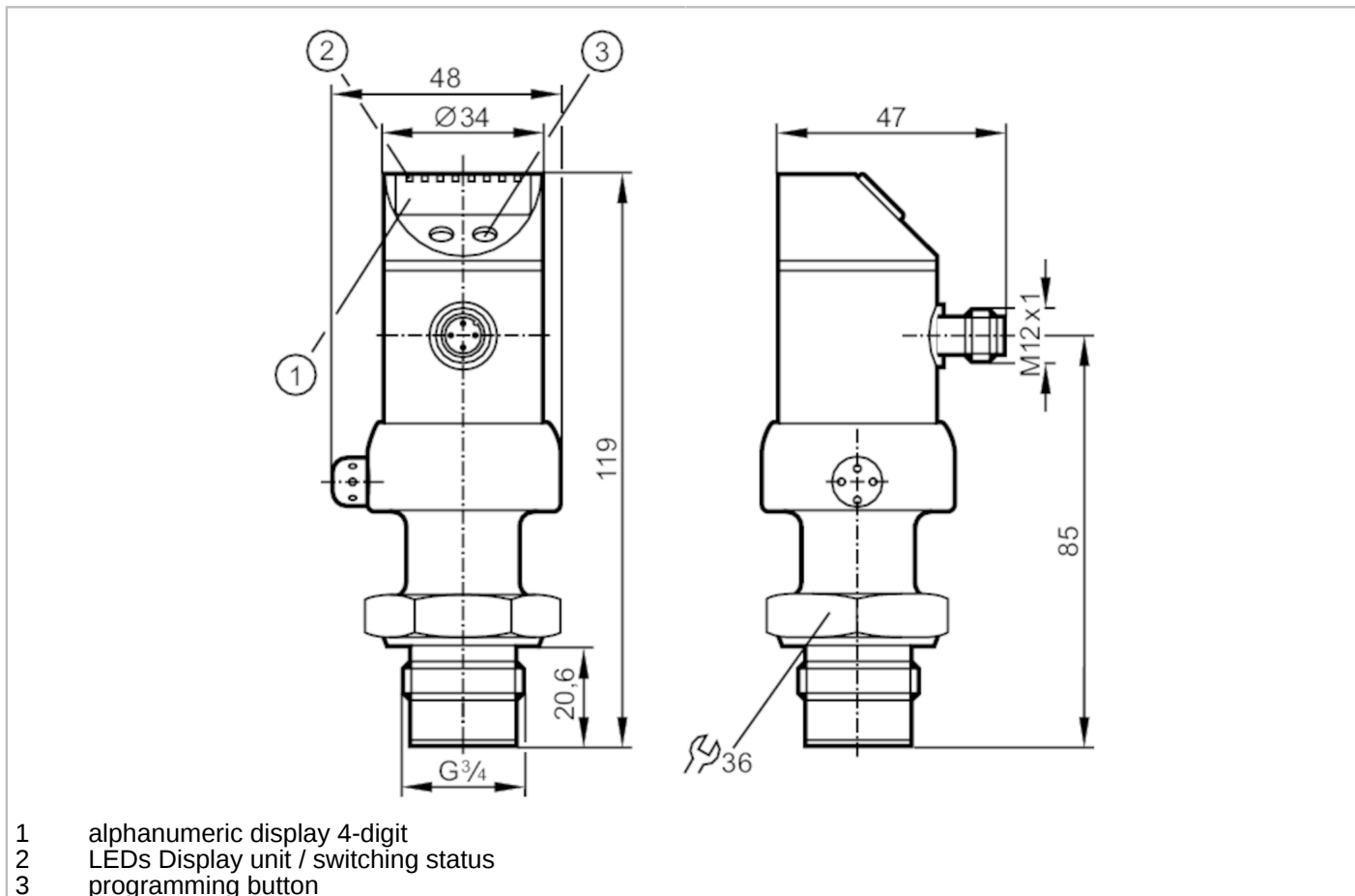


# PI2997



## Flush pressure sensor with display

PI-001-REB34-MFRKG/US/ IP



### Product characteristics

Output signal	switching signal; analogue signal; (configurable)	
Measuring range	-0.05...1 bar	-50...1000 mbar
Process connection	threaded connection G 3/4 external thread	

### Application

Special feature	Gold-plated contacts	
Application	food and beverage industry	
Installation	freely rotatable housing 350°	
Media	viscous media and liquids with suspended particles; liquids and gases	
Medium temperature [°C]	-25...125; (145 max. 1h)	
Pressure rating [mbar]	10000	
Min. bursting pressure [mbar]	30000	
Type of pressure	relative pressure	
No dead space	yes	



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Electrical data		
Operating voltage	[V]	18...32 DC
Current consumption	[mA]	< 50
Min. insulation resistance	[MΩ]	100; (500 V DC)
Protection class		III
Reverse polarity protection		yes
Power-on delay time	[s]	0.5
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]	6
Number of analogue outputs		1
Analogue current output	[mA]	4...20, invertible; (scalable 1:4)
Max. load	[Ω]	(U <sub>b</sub> - 10 V) / 20 mA
Analogue voltage output	[V]	0...10, invertible; (scalable 1:4)
Min. load resistance	[Ω]	2000
Short-circuit protection		yes
Type of short-circuit protection		pulsed
Overload protection		yes
Measuring/setting range		
Measuring range		-0.05...1 bar      -50...1000 mbar
Set point SP	[mbar]	-48...1000
Reset point rP	[mbar]	-50...998
Analogue start point	[mbar]	-50...750
Analogue end point	[mbar]	200...1000
In steps of	[mbar]	1
Factory setting		SP1 = 250 mbar      rP1 = 230 mbar ASP = 0 mbar      AEP = 1000 mbar
Accuracy / deviations		
Switch point accuracy	[% of the span]	< ± 0,2; (Turn down 1:1)
Repeatability	[% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation		< ± 0,2; (Turn down 1:1 linearity, incl. hysteresis and repeatability limit value setting to DIN 16086)



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	[% of the span]	
Linearity deviation	[% of the span]	$< \pm 0,15$ ; (Turn down 1:1)
Hysteresis deviation	[% of the span]	$< \pm 0,15$ ; (Turn down 1:1)
Long-term stability	[% of the span]	$< \pm 0,1$ ; (Turn down 1:1; per year)
Temperature coefficient zero point	[% of the span / 10 K]	$< \pm 0,05$ ; (0...70 °C)
Temperature coefficient span	[% of the span / 10 K]	$< \pm 0,15$ ; (0...70 °C)

### Response times

Response time	[ms]	$< 100$
Damping for the switching output dAP	[s]	0.1...100
Damping for the analogue output dAA	[s]	0.1...100
Step response time analogue output	[ms]	25

### Software / programming

Parameter setting options	hysteresis / window; normally open / normally closed; switching logic; current/voltage output; Damping; adaptation of displayed values; display can be rotated and switched off; Display unit; zero point; span
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### Operating conditions

Ambient temperature	[°C]	-25...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]	163

### Mechanical data

Weight	[g]	383
Materials		stainless steel (1.4404 / 316L); PC; PBT; PEI; FKM; PTFE
Materials (wetted parts)		ceramics (99.9 % Al <sub>2</sub> O <sub>3</sub> ); PTFE; stainless steel (1.4435 / 316L); surface characteristics: Ra $< 0,4$ / Rz 4
Min. pressure cycles		100 million
Process connection		threaded connection G 3/4 external thread

# PI2997



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### Displays / operating elements

Display	Display unit	6 x, green
	switching status	LED, yellow
	function display	alphanumeric display, 4-digit
	measured values	alphanumeric display, 4-digit
Display unit	mbar; kPa; psi; inH2O; mWS; % of the span	

### Remarks

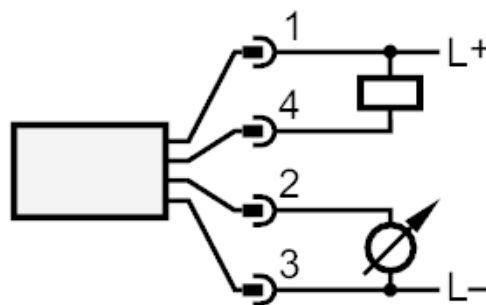
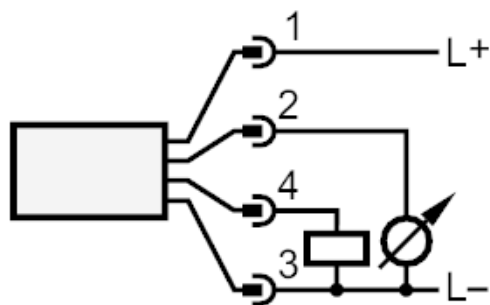
Pack quantity	1 pcs.
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### Electrical connection

Connector: 1 x M12; Contacts: gold-plated



### Connection



OUT1            switching output  
 OUT2            analogue output