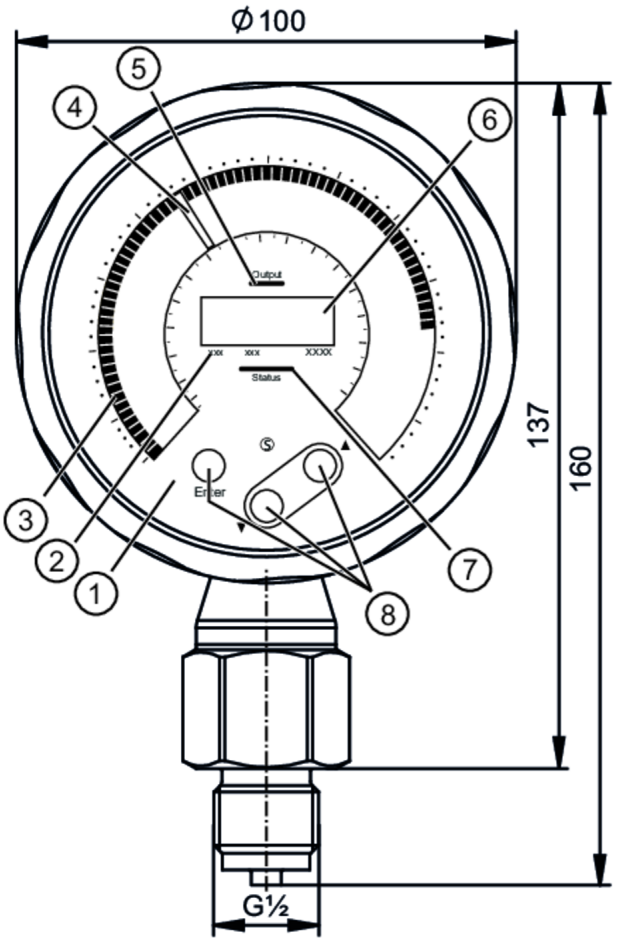
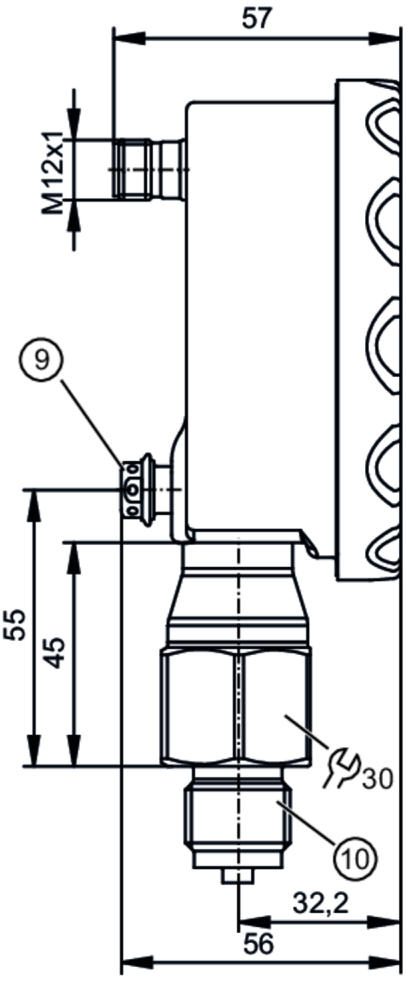
PG1414

Pressure sensor with analog display

PG-016-REB12-MFRKG/US/ /P





1	analog display
2	LED units
3	LED bar graph
4	LED pointer
5	LED switching status indication
6	4-digit alphanumeric digital display
7	Status LED
8	optical operating keys
9	pressure compensation element
10	threaded connection G 1/2 external thread DIN EN 837-1

Product characteristics			
Number of inputs and outputs		Number of digital outputs: 1; Number of analog outputs: 1	
Measuring range	-1...16 bar		-14.5...232.1 psi
Process connection		threaded connection G 1/2 external thread DIN EN 837-1	

Application			
System		gold-plated contacts	
Application		for industrial applications	
Media		liquids and gases	
Medium temperature	[°C]	-25...80; (higher temperature upon request)	
Min. burst pressure	250 bar		3625 psi

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Pressure rating		75 bar	1087 psi
Vacuum resistance		-1000 mbar	14.5 psi
Type of pressure		relative pressure; vacuum	
Electrical data			
Operating voltage	[V]	18...30 DC	
Current consumption	[mA]	25...260	
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 analog outputs: 1	
Outputs			
Total number of outputs		2	
Output signal		switching signal; analog signal; IO-Link	
Electrical design		PNP/NPN	
Number of digital outputs		1	
Output function		normally open / closed; (configurable)	
Max. voltage drop switching output DC	[V]	2	
Permanent current rating of switching output DC	[mA]	100	
Switching frequency DC	[Hz]	125	
Number of analog outputs		1	
Analog current output	[mA]	4...20, invertible; (scalable)	
Max. load	[Ω]	500	
Short-circuit protection		yes	
Type of short-circuit protection		yes (non-latching)	
Overload protection		yes	
Measuring/setting range			
Measuring range		-1...16 bar	-14.5...232.1 psi
Set point SP		-1...16 bar	-14.5...232.1 psi
Analog start point		-1...12.8 bar	-14.5...185.6 psi
Analog end point		2.2...16 bar	31.9...232.1 psi
In steps of		0.01 bar	0.2 psi
Measuring range (bar)			
Factory setting		SP1 = 4 bar	
		SP2 = 3.68 bar	
		ASP = 0.00 bar	AEP = 16 bar
		dAP = 0.06 s	dAA = 0.06 s

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Measuring range (psi)			
Factory setting	SP1 = 58 psi		
	SP2 = 53.4 psi		
	ASP = 0.00 psi		AEP = 232.1 psi
	dAP = 0.06 s		dAA = 0.06 s
Accuracy / deviations			
Switch point accuracy [% of the span]	< ± 0,5; (DIN EN IEC 62828-1; Turn down 1:1)		
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)		
Characteristics deviation [% of the span]	< ± 0,5; (DIN IEC EN 62828-1 incl. zero point and span error, non-linearity, hysteresis; Turn down 1:1)		
Zero-point stabilization [% of the span]	IO-Link, analog output	0,2; (see operating instructions zero-point behavior)	
	Display, Switching output	0,1	
Hysteresis deviation [% of the span]	< ± 0,25; (Turn down 1:1 -25...80°C)		
Long-term stability [% of the span]	< ± 0,1; (Turn down 1:1; per year)		
Temperature coefficient zero point [% of the span / 10 K]	< ± 0,25; (0...70 °C)		
Temperature coefficient span [% of the span / 10 K]	< ± 0,25; (0...70 °C)		
Reaction times			
Min. response time of switching output (dAP) [ms]	3		
Damping process value dAP [s]	0...99.99		
Damping for the analog output dAA [s]	0...99.99		
Step response time analog output [ms]	7		
Interfaces			
Communication interface	IO-Link		
Transmission type	COM3 (230,4 kBaud)		
IO-Link revision	1.1		
SDCI standard	IEC 61131-9		
Profiles	Smart Sensor - SSP 4.2.1	Measuring and Switching Sensor, high resolution, 1 channel	
	BLOB	Binary Large Object transfer	
	Common - I&D	Identification and Diagnosis	
	Extension	Sensor Control Wide	
	Extension	Quantity detection, switches when value exceeds the setpoint	
	Function	Locator	
	Function	ProductURI	
SIO mode	yes		
Required master port class	A		
Min. process cycle time [ms]	1.3		

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IO-Link resolution pressure	[bar]	0.0005	
IO-Link process data (cyclical)		**Function**	**bit length**
		pressure	32
		device status	4
		binary switching information pressure	2
IO-Link functions (acyclical)		application specific tag; internal temperature; operating hours counter; switching cycles counter; Pressure peak counter	
Supported DeviceIDs		**Type of operation**	**DeviceID**
		default	1873
Operating conditions			
Ambient temperature	[°C]	-25...70	
Storage temperature	[°C]	-40...100	
Protection		IP 67; IP 69; (to DIN EN 60529)	
Tests / approvals			
EMC		DIN EN 61326-1	
Shock resistance		DIN EN 60068-2-27	50 g (11 ms)
Vibration resistance		DIN EN 60068-2-6	10 g (10...2000 Hz)
MTTF	[years]	115	
Embedded software included		yes	
UL approval		UL approval number	J060
		File number UL	E174189
Mechanical data			
Weight	[g]	702.2	
Housing		manometer housing	
Dimensions	[mm]	160 x 100 x 57	
Material		Housing: stainless steel (1.4404 / 316L); M12 connector: PPSU; sealing: FKM; pressure compensation element: PTFE; viewing glass: laminated safety glass 4 mm	
Materials (wetted parts)		measuring cell: Al2O3 (ceramics); Process connection: stainless steel (1.4404 / 316L); sealing: FKM	
Min. pressure cycles		100 million	
Process connection		threaded connection G 1/2 external thread DIN EN 837-1	
Restrictor element integrated		no (can be retrofitted)	
Displays / operating elements			
Display		Pointer	LED, white ; 72 steps
		LED bar graph	multi-color ; 72 steps
		Measured values	alphanumeric display, white 4-digit
		Switching status	LED, yellow
		device status	LED, red/green
		Display unit	LED, white
		Display	display rotation: 320°
Display unit		bar; psi	
Operating elements		3	optical operating keys
Remarks			
Pack quantity		1 pcs.	

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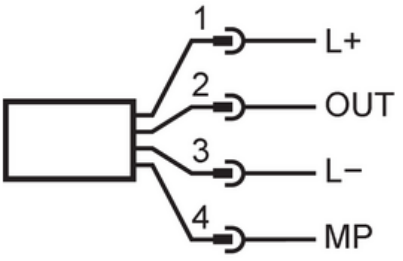
Electrical connection

Connector: 1 x M12; coding: A; Contacts: gold-plated

Connection



1	L+	
2	OUT	AO
3	L-	
4	MP	DO (NO/NC), IO-Link