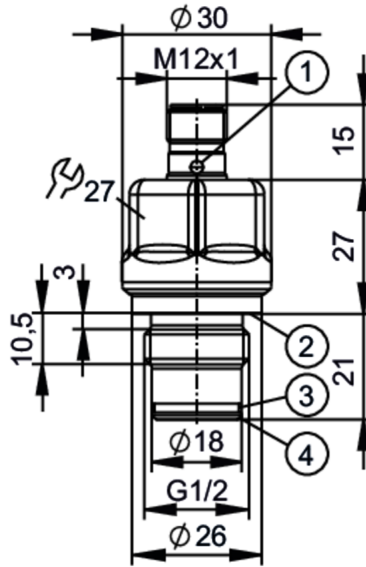


# PL1504



## Flush pressure transmitter

PL-010-REA12-A-DKG/US/ I



- 1 LED
- 2 sealing DIN EN ISO 1179-2
- 3 groove for O-ring 16.4 x 1.0
- 4 area for metal sealing



### Product characteristics

Number of inputs and outputs	Number of digital outputs: 1; Number of analog outputs: 1		
Measuring range	-1...10 bar	-14.5...145 psi	-0.1...1 MPa
Process connection	threaded connection G 1/2 external thread		

### Application

Special feature	gold-plated contacts		
Measuring element	ceramic-capacitive pressure measuring cell		
Temperature monitoring	yes		
Application	Industrial flush pressure transmitters, analog   PL; for industrial applications		
Media	viscous media and liquids with suspended particles; Liquids; other media on request		
Medium temperature [°C]	-25...110; (flush mount zero-leak using metal-to-metal seal. For permissible temperatures of other sealing versions, see sealing materials under "Accessories")		
Min. burst pressure	175 bar	2538 psi	17 MPa
Pressure rating	70 bar	1015 psi	7 MPa
Vacuum resistance [mbar]	-1000		
Type of pressure	relative pressure; vacuum		
No dead space	yes		

### Electrical data

Operating voltage [V]	9.6...30 DC		
Min. insulation resistance [MΩ]	100; (500 V DC)		
Protection class	III		
Reverse polarity protection	yes		
Integrated watchdog	yes		

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<b>2-wire</b>			
Current consumption	[mA]	3.5...21.5	
Power-on delay time	[s]	< 1	
<b>3-wire</b>			
Current consumption	[mA]	< 30	
Power-on delay time	[s]	< 0.5	
<b>Inputs / outputs</b>			
Number of inputs and outputs	Number of digital outputs: 1; Number of analog outputs: 1		
<b>Outputs</b>			
Total number of outputs	2		
Output signal	analog signal; IO-Link		
Number of digital outputs	1; (IO-Link)		
Number of analog outputs	1		
Analog current output	[mA]	4...20; (scalable; 1:5)	
Max. load	[Ω]	(U <sub>b</sub> - 9,6 V) / 21,5 mA; 670 Ω (U <sub>b</sub> = 24 V)	
Short-circuit proof	yes		
Overload protection	yes		
<b>Measuring/setting range</b>			
Measuring range	-1...10 bar	-14.5...145 psi	-0.1...1 MPa
Analog start point	-1...8 bar	-14.5...116 psi	-0.1...0.8 MPa
Analog end point	1...10 bar	14.5...145 psi	0.1...1 MPa
In steps of	0.002 bar	0.2 psi	0.0002 MPa
Factory setting	ASP = 0.0 bar	AEP = 10.0 bar	
	ASP = 0.0 psi	AEP = 145.0 psi	
	ASP = 0.0 MPa	AEP = 1.0 MPa	
<b>Temperature monitoring</b>			
Measuring range	-25...110 °C		-13...230 °F
<b>Accuracy / deviations</b>			
Repeatability	[% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)	
Characteristics deviation	[% of the span]	< ± 0,5; (linearity incl. hysteresis and repeatability, limit value setting to DIN EN IEC 62828-1)	
Linearity deviation	[% of the span]	< ± 0,15; (Turn down 1:1)	
Zero-point stabilization	[% of the span]	0,15; (IO-Link; analog output; (see operating instructions zero-point behavior))	
Hysteresis deviation	[% of the span]	< ± 0,15; (Turn down 1:1)	
Long-term stability	[% of the span]	< ± 0,1; (Turn down 1:1; per year)	
Temperature coefficient zero point	[% of the span / 10 K]	< ± 0,1 (-25...85 °C) < ± 0,3 (85...110 °C)	
Temperature coefficient span	[% of the span / 10 K]	< ± 0,1 (-25...85 °C) < ± 0,3 (85...110 °C)	

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## Flush pressure transmitter

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Temperature monitoring		
Accuracy	[K]	$\pm 2.5 \text{ K} + (0.045 \times (\text{ambient temperature} - \text{medium temperature}))$
<b>Reaction times</b>		
Damping process value dAP	[s]	0...99.99
Damping for the analog output dAA	[s]	0...99.99
2-wire		
Step response time analog output	[ms]	12
3-wire		
Step response time analog output	[ms]	3
Temperature monitoring		
Dynamic response T05 / T09	[s]	< 10 / <45; (DIN EN 60751 water; > 0,9 m/s)
<b>Interfaces</b>		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9	
Profiles	Common - I&D	Identification and Diagnosis
	Function	Measurement data, standard resolution
SIO mode	no	
Required master port class	A; (when pin 2 not connected: B)	
Min. process cycle time	[ms]	3.5
IO-Link resolution pressure	[bar]	0.002
IO-Link resolution temperature	[K]	0.2
IO-Link process data (cyclical)	<b>Function</b>	<b>bit length</b>
	pressure	16
	temperature	16
	device status	4
IO-Link functions (acyclical)	application specific tag; internal temperature	
Supported DeviceIDs	<b>Type of operation</b>	<b>DeviceID</b>
	default	1437
<b>Operating conditions</b>		
Ambient temperature	[°C]	-25...90
Storage temperature	[°C]	-40...100
Protection	IP 67; IP 68; IP 69	
<b>Tests / approvals</b>		
EMC	DIN EN 61326-1	
Shock resistance	DIN EN 60068-2-27	50 g (11 ms)
Vibration resistance	DIN EN 60068-2-6	20 g (10...2000 Hz)
MTTF	[years]	427
Embedded software included	yes	
UL approval	UL approval number	J050
	File number UL	E174189

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## Flush pressure transmitter

PL-010-REA12-A-DKG/US/ /

Embedded Software entwickelt nach	ISO 13849-1 : 2015 (clause 4.6.2)
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Mechanical data	
Weight [g]	113.97
Housing	tubular
Dimensions [mm]	Ø 30 / L = 63
Material	stainless steel (1.4435 / 316L); stainless steel (1.4404 / 316L); PA; PTFE; FKM
Materials (wetted parts)	stainless steel (1.4435 / 316L); Al <sub>2</sub> O <sub>3</sub> (ceramics) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE; (FKM for sealing with seal DIN EN ISO 1179-2, see operating instructions)
Min. pressure cycles	100 million
Tightening torque [Nm]	25
Process connection	threaded connection G 1/2 external thread

Displays / operating elements	
Display	operating status 2 LED, green

Accessories	
Items supplied	Gasket: G1/2, FKM DIN EN ISO1179-2 (-15...110°C), E30492
Accessories (optional)	Gasket: G1/2, EPDM DIN EN ISO1179-2 (-25...110°C), E30451
	Gasket: G1/2, FFKM DIN EN ISO1179-2 (-5...110°C), E30513
	O-ring: 16,4 x 1, FKM (-15...110°C), E30510
	O-ring: 16,4 x 1, EPDM (-25...110°C), E30511
	O-ring: 16,4 x 1, FFKM (-5...110°C), E30512

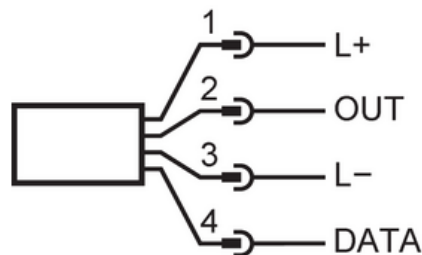
Remarks	
Pack quantity	1 pcs.

### Electrical connection

Connector: 1 x M12; coding: A; Contacts: 2, gold-plated



### Connection



### 2-wire

1	L+	
2	OUT	AO

### 3-wire

1	L+	
2	OUT	AO
3	L-	
4	DATA	IO-Link

AO: analog output; DATA: data interface