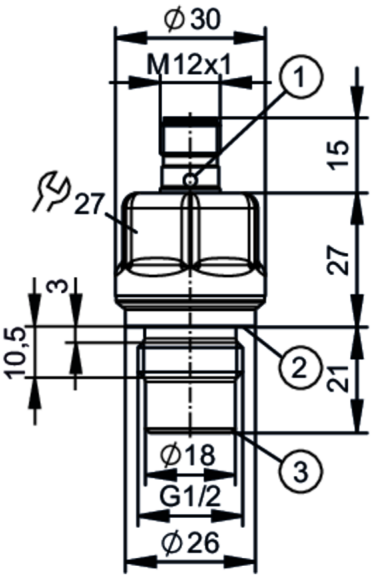
PL1523

Flush pressure transmitter

PL-060-REA12-A-DKG/US/ /



1 LED
2 Gasket DIN EN ISO 1179-2
3 area for metal sealing

IO-Link TSDP/TÜV

Product characteristics			
Number of inputs and outputs	Number of digital outputs: 1; Number of analog outputs: 1		
Measuring range	0...60 bar	0...870 psi	0...6 MPa
Process connection	threaded connection G 1/2 external thread - 21 mm		
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		
Conditionally suitable for	use in gases at pressures > 25 bar only 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	340 bar	4930 psi	34 MPa
Pressure rating	240 bar	3480 psi	24 MPa
Vacuum resistance [mbar]	-1000		
Type of pressure	relative pressure		
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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2-wire				
Current consumption	[mA]	3.5...21.5		
Power-on delay time	[s]	< 1		
3-wire				
Current consumption	[mA]	< 30		
Power-on delay time	[s]	< 0.5		
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		analog signal; IO-Link		
Number of digital outputs		1; (IO-Link)		
Number of analog outputs		1		
Analog current output	[mA]	4...20; (scalable; 1:10)		
Max. load	[Ω]	(Ub - 9,6 V) / 21,5 mA; 670 Ω (Ub = 24 V)		
Short-circuit proof		yes		
Overload protection		yes		
Measuring/setting range				
Measuring range		0...60 bar	0...870 psi	0...6 MPa
Analog start point		0...48 bar	0...696 psi	0...4.8 MPa
Analog end point		12...60 bar	174...870 psi	1.2...6 MPa
In steps of		0.01 bar	1 psi	0.001 MPa
Factory setting		ASP = 0.0 bar	AEP = 60.0 bar	
		ASP = 0.0 MPa	AEP = 6 MPa	
		ASP = 0.0 psi	AEP = 870 psi	
Temperature monitoring				
Measuring range		-25...110 °C	-13...230 °F	
Accuracy / deviations				
Repeatability	[% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)		
Characteristics deviation	[% of the span]	< ± 0,8; (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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Temperature monitoring			
Accuracy	[K]	± 2.5 K + (0.045 x (ambient temperature - medium temperature))	
Reaction times			
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)	
Interfaces			
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]	0.01	
IO-Link resolution temperature	[K]	0.2	
IO-Link process data (cyclical)		**Function**	**bit length**
		pressure	16
		temperature	16
		device status	4
IO-Link functions (acyclical)		application specific tag; internal temperature	
Supported DeviceIDs		**Type of operation**	**DeviceID**
		default	1433
Operating conditions			
Ambient temperature	[°C]	-25...90	
Storage temperature	[°C]	-40...100	
Protection		IP 67; IP 68; IP 69	
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	20 g (10...2000 Hz)
MTTF	[years]	427	
Embedded software included		yes	
UL approval		UL approval number	J057
		File number UL	E174189

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Embedded software developed in accordance with		ISO 13849-1 : 2015 (clause 4.6.2)

Mechanical data

Weight	[g]	114.32
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); Al2O3 (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 - 21 mm

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

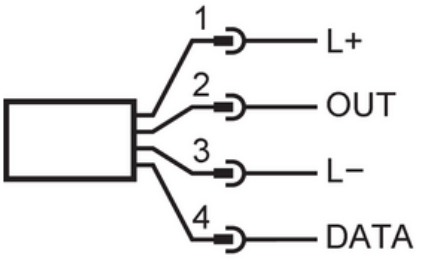
Remarks

Pack quantity	1 pcs.

Electrical connection

Connector: 1 x M12; coding: A; Contacts: 4, 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