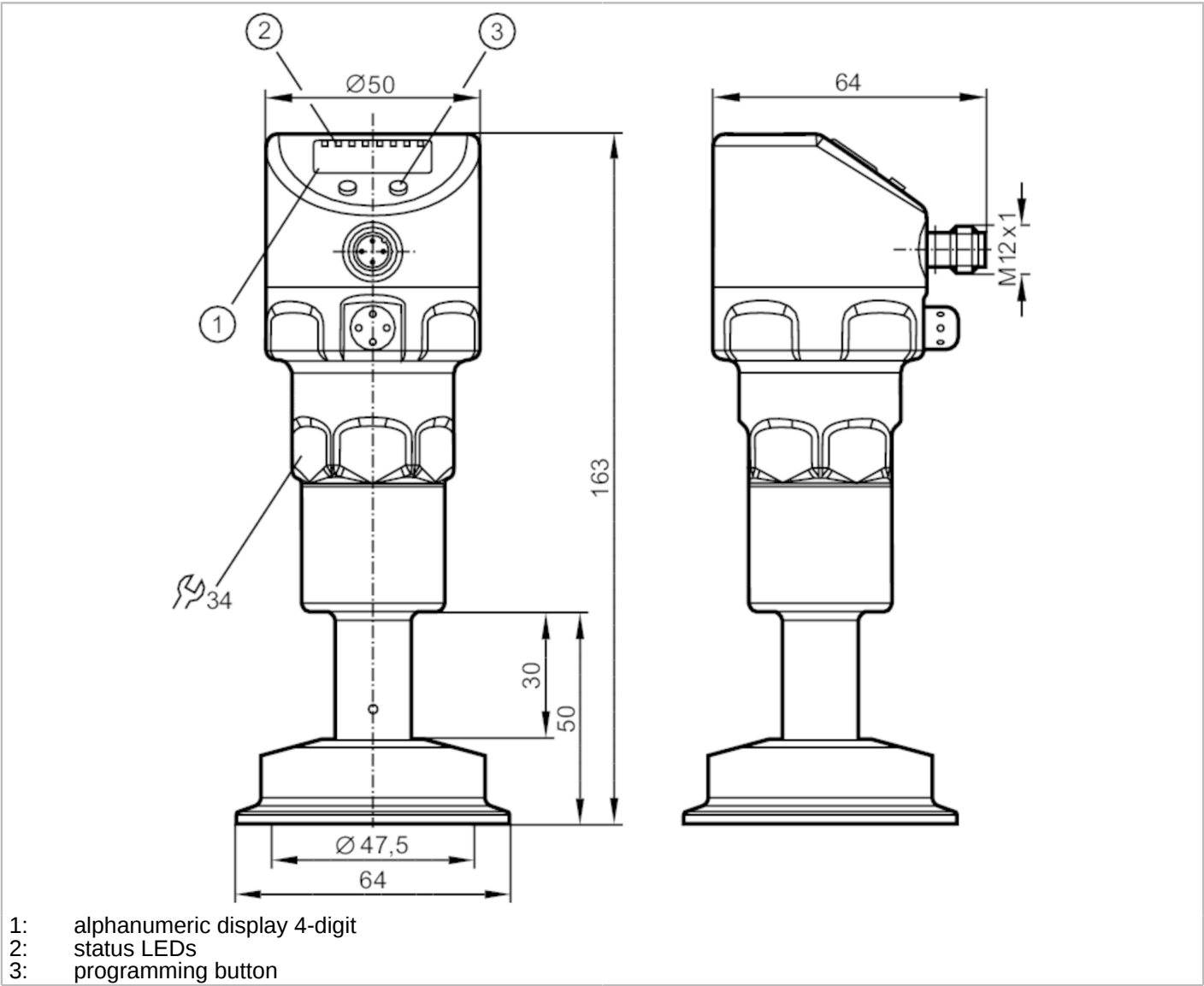


PI2304



Flush pressure sensor with display

PI-010-REZ02-MFRKG/US/ /P



EC 1935/2004 EHEDG Certified

Application			
Application	hygienic systems		
Media	viscous media and liquids with suspended particles; liquids and gases		
Medium temperature [°C]	-25...200; (-25...160 °C; Ambient temperature > 65 °C)		
Pressure rating	50 bar	725 psi	5 MPa
Min. bursting pressure	100 bar	1450 psi	10 MPa
Type of pressure	relative pressure		
Electrical data			
Min. insulation resistance [MΩ]	100; (500 V DC)		
Protection class	III		
Reverse polarity protection	yes		
Integrated watchdog	yes		



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2-wire			
Operating voltage	[V]	20...32 DC	
Current consumption	[mA]	3.6...21	
Power-on delay time	[s]	1	
3-wire			
Operating voltage	[V]	18...32 DC	
Current consumption	[mA]	< 45	
Power-on delay time	[s]	0.5	
Inputs / outputs			
Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1		
Outputs			
Total number of outputs	2		
Output signal	switching signal; analogue signal; IO-Link; (configurable)		
Electrical design	PNP/NPN		
Number of digital outputs	2		
Output function	normally open / normally closed; (parameterisable)		
Number of analogue outputs	1		
Analogue current output	[mA]	4...20, invertible; (scalable)	
Short-circuit protection	yes		
Type of short-circuit protection	pulsed		
Overload protection	yes		
2-wire			
Max. load	[Ω]	300	
3-wire			
Max. voltage drop switching output DC	[V]	2	
Permanent current rating of switching output DC	[mA]	250	
Switching frequency DC	[Hz]	125	
Max. load	[Ω]	(Ub - 10 V) / 20 mA	
Measuring/setting range			
Measuring range	-1...10 bar	-14.5...145 psi	-0.1...1 MPa
Set point SP	-0.98...10 bar	-14.2...145 psi	-0.098...1 MPa
Reset point rP	-1...9.98 bar	-14.5...144.7 psi	-0.1...0.998 MPa
Analogue start point	-1...7.5 bar	-14.5...108.7 psi	-0.1...0.75 MPa
Analogue end point	1.5...10 bar	21.8...145 psi	0.15...1 MPa
In steps of	0.01 bar	0.1 psi	0.001 MPa
Factory setting		SP1 = 2.50 bar	rP1 = 2.30 bar
		SP2 = 7.50 bar	rP2 = 7.30 bar
		ASP = 0.00 bar	AEP = 10.00 bar
Accuracy / deviations			
Switch point accuracy	< ± 0,2; (Turn down 1:1)		



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	[% of the span]	
Repeatability	[% of the span]	$< \pm 0,1$; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation	[% of the span]	$< \pm 0,2$; (Turn down 1:1 linearity, incl. hysteresis and repeatability limit value setting to DIN 16086)
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]	$< \pm 0,2$; (0...200 °C)
Temperature coefficient span	[% of the span / 10 K]	$< \pm 0,15$; (0...200 °C)

Response times

Damping for the switching output dAP	[s]	0...30
Damping for the analogue output dAA	[s]	0.01...99.99
2-wire		
Step response time analogue output	[ms]	45
3-wire		
Min. response time of switching output (dAP)	[ms]	3
Step response time analogue output	[ms]	7

Interfaces

Communication interface	IO-Link
Transmission type	COM2 (38,4 kBaud)
IO-Link revision	1.0
SDCI standard	IO-Link Communication Specification, Version 1.0, January 2009, Ordner No: 10.002
IO-Link device ID	103 d / 00 00 67 h
Profiles	no profile
SIO mode	yes
Required master port type	A
Process data analogue	1
Process data binary	2
Min. process cycle time	[ms] 2.3

Operating conditions

Ambient temperature	[°C]	-25...80
Note on ambient temperature		-25...60 °C Medium temperature: > 160 °C
Storage temperature	[°C]	-25...100
Protection		IP 67; IP 68; IP 69K



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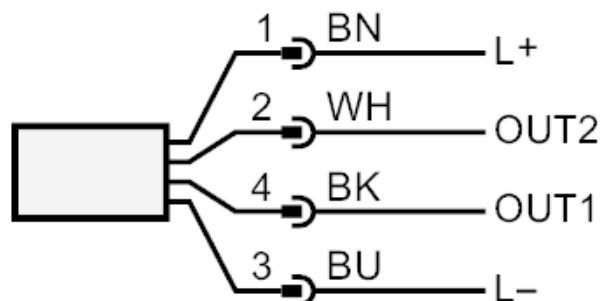
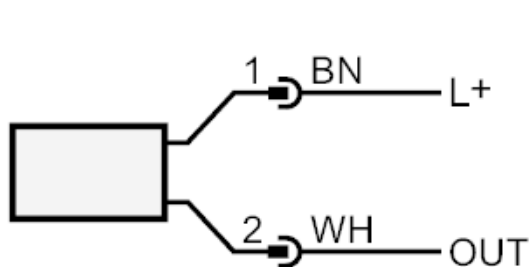
Tests / approvals		
EMC	DIN EN 61000-6-2	
	DIN EN 61000-6-3	
Shock resistance	DIN EN 60068-2-27	50 g (11 ms)
Vibration resistance	DIN EN 60068-2-6	20 g (10...2000 Hz)
MTTF	[years]	142
Note on approval	Including free 6-point calibration certificate.	
Mechanical data		
Weight	[g]	1059.2
Materials	stainless steel (1.4404 / 316L); stainless steel (1.4435 / 316L); PBT; PEI; PFA	
Materials (wetted parts)	stainless steel (1.4435 / 316L)	
Min. pressure cycles	10 million	
Process connection	Clamp DN 51 / 2"	
Surface characteristics Ra/Rz of the wetted parts	< 0.38 / -	
Fill fluid for pressure transfer	medical white oil (suited for use in food applications, FDA compliant)	
Diaphragm diameter	[mm]	47.5
Displays / operating elements		
Display	Display unit	LED, green
	switching status	LED, yellow
	function display	alphanumeric display, 4-digit
	measured values	alphanumeric display, 4-digit
Display unit	bar; psi; MPa; % of the span	
Remarks		
Pack quantity	1 pcs.	
Electrical connection		
Connector: 1 x M12; Contacts: gold-plated		
		

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	connection for 2-wire operation :
OUT	analogue output
	connection for 3-wire operation :
OUT1	switching output
	IO-Link
OUT2	switching output
	analogue output
	colours to DIN EN 60947-5-2
	Core colours :
BK =	black
BN =	brown
BU =	blue
WH =	white