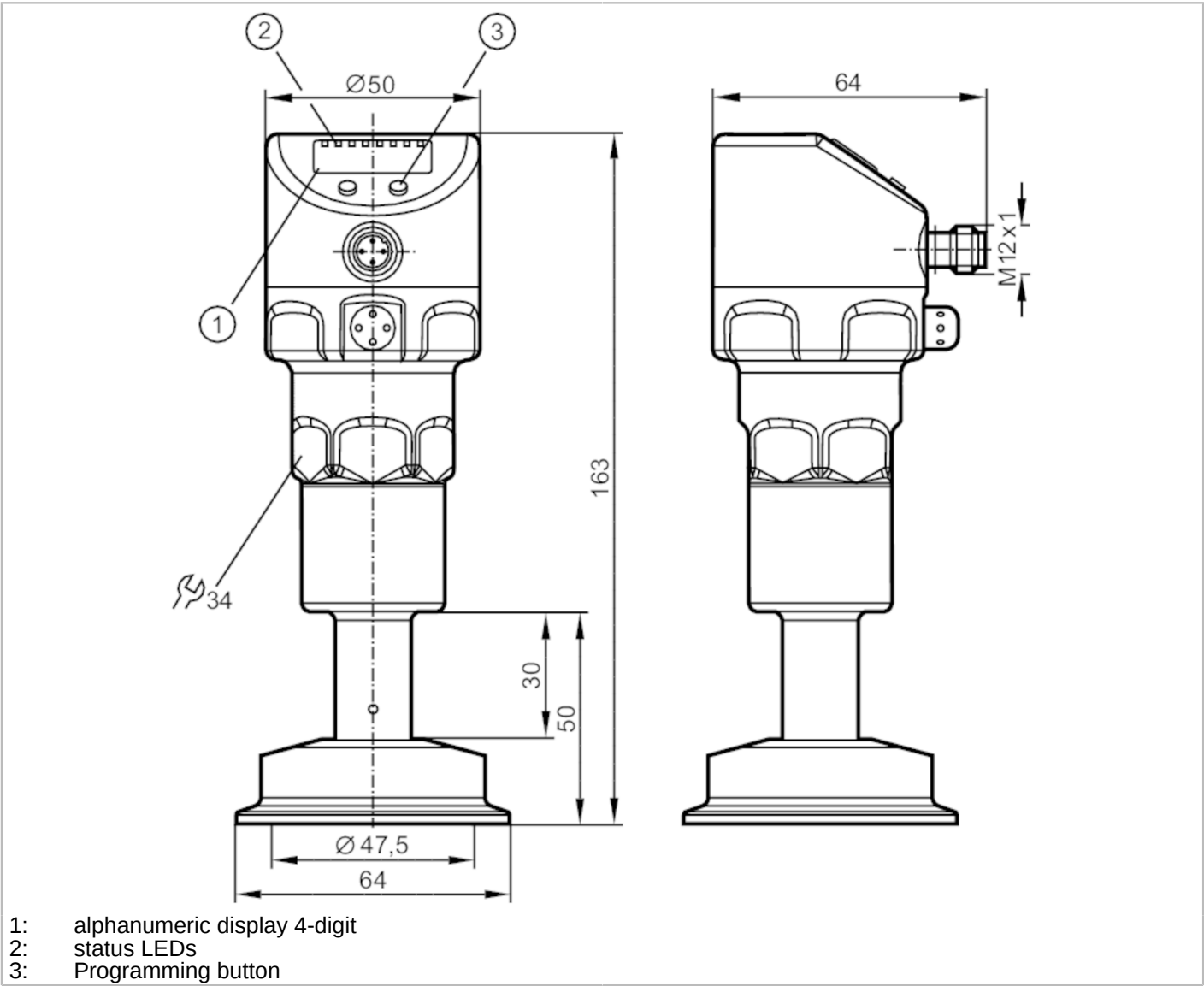


PI2309



Flush pressure sensor with display

PI-1-1BREZ02-MFRKG/US/ IP



Product characteristics			
Output signal	switching signal; analog signal; IO-Link; (configurable)		
Measuring range	-1000...1000 mbar	-14.5...14.5 psi	-100...100 kPa
Process connection	Clamp DN50 (2") DIN 32676 (ISO 2852)		
Application			
System	gold-plated contacts		
Application	flush mountable for the food and beverage industry		
Media	viscous media and liquids with suspended particles; liquids and gases		
Medium temperature [°C]	-25...200		
Min. bursting pressure	30000 mbar	435 psi	3000 kPa
Pressure rating	10000 mbar	145 psi	1000 kPa
Type of pressure	relative pressure; vacuum		



Flush pressure sensor with display

PI-1-1BREZ02-MFRKG/US/ IP

Electrical data		
Min. insulation resistance	[MΩ]	100; (500 V DC)
Protection class		III
Reverse polarity protection		yes
Integrated watchdog		yes
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 analog outputs: 1
Outputs		
Total number of outputs		2
Output signal		switching signal; analog signal; IO-Link; (configurable)
Electrical design		PNP/NPN
Number of digital outputs		2
Output function		normally open / closed; (configurable)
Number of analog outputs		1
Analog current output	[mA]	4...20, invertible; (scalable)
Short-circuit protection		yes
Type of short-circuit protection		yes (non-latching)
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]	(U _b - 10 V) / 20 mA



Flush pressure sensor with display

PI-1-1BREZ02-MFRKG/US/ /P

Measuring/setting range				
Measuring range		-1000...1000 mbar	-14.5...14.5 psi	-100...100 kPa
Set point SP		-998...1000 mbar	-14.45...14.5 psi	-99.8...100 kPa
Reset point rP		-1000...998 mbar	-14.5...14.45 psi	-100...99.8 kPa
Analog start point		-1000...500 mbar	-14.5...7.25 psi	-100...50 kPa
Analog end point		-500...1000 mbar	-7.25...14.5 psi	-50...100 kPa
In steps of		1 mbar	0.05 psi	0.1 kPa
Factory setting			SP1 = -500 mbar	rP1 = -540 mbar
			SP2 = 500 mbar	rP2 = 460 mbar
			ASP = -1000 mbar	AEP = 1000 mbar
Accuracy / deviations				
Switch point accuracy		< ± 0,2; (Turn down 1:1)		
[% of the span]				
Repeatability		< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)		
[% of the span]				
Characteristics deviation		< ± 0,2; (Turn down 1:1 , linearity, incl. hysteresis and repeatability , limit value setting to DIN EN IEC 62828-1)		
[% of the span]				
Linearity deviation		< ± 0,15; (Turn down 1:1)		
[% of the span]				
Hysteresis deviation		< ± 0,15; (Turn down 1:1)		
[% of the span]				
Long-term stability		< ± 0,1; (Turn down 1:1; per year)		
[% of the span]				
Temperature coefficient zero point		< ± 0,3; (0...200 °C)		
[% of the span / 10 K]				
Temperature coefficient span		< ± 0,15; (0...200 °C)		
[% of the span / 10 K]				
Reaction times				
Damping for the switching output dAP	[s]	0...30		
Damping for the analog output dAA	[s]			
2-wire				
Step response time analog output	[ms]	45		
3-wire				
Min. response time of switching output (dAP)	[ms]	3		
Step response time analog output	[ms]	7		



Flush pressure sensor with display

PI-1-1BREZ02-MFRKG/US/ IP

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	
Profiles	no profile	
SIO mode	yes	
Required master port class	A	
Process data analog	1	
Process data binary	2	
Min. process cycle time [ms]	2.3	
Supported DeviceIDs	Type of operation	DeviceID
	default	108
Operating conditions		
Ambient temperature [°C]	-25...80	
Note on ambient temperature	Medium temperature: ≤ 160 °C	
Ambient temperature [°C]	-25...65	
Note on ambient temperature	Medium temperature: ≤ 200 °C	
Storage temperature [°C]	-25...100	
Protection	IP 67; IP 68; IP 69K	
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]	141	
Note on approval	Including free 6-point calibration certificate.	
Mechanical data		
Weight [g]	1049.2	
Material	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 DN50 (2") DIN 32676 (ISO 2852)	
Surface characteristics Ra/Rz of the wetted parts	< 0.38 / -	
Fill fluid for pressure transfer	NEOBEE (food grade, 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	mbar; kPa; psi; inH2O; mWS; % of the span	
Remarks		
Pack quantity	1 pcs.	

PI2309

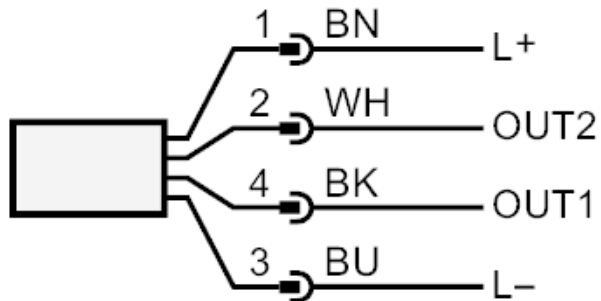
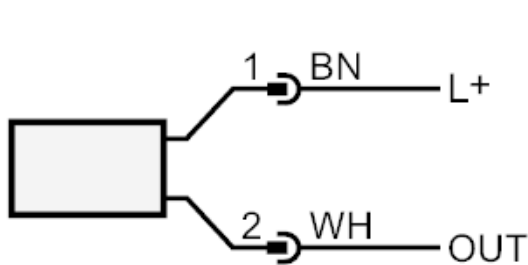


Flush pressure sensor with display

PI-1-1BREZ02-MFRKG/US/ IP

Electrical connection

Connector: 1 x M12; Contacts: gold-plated



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