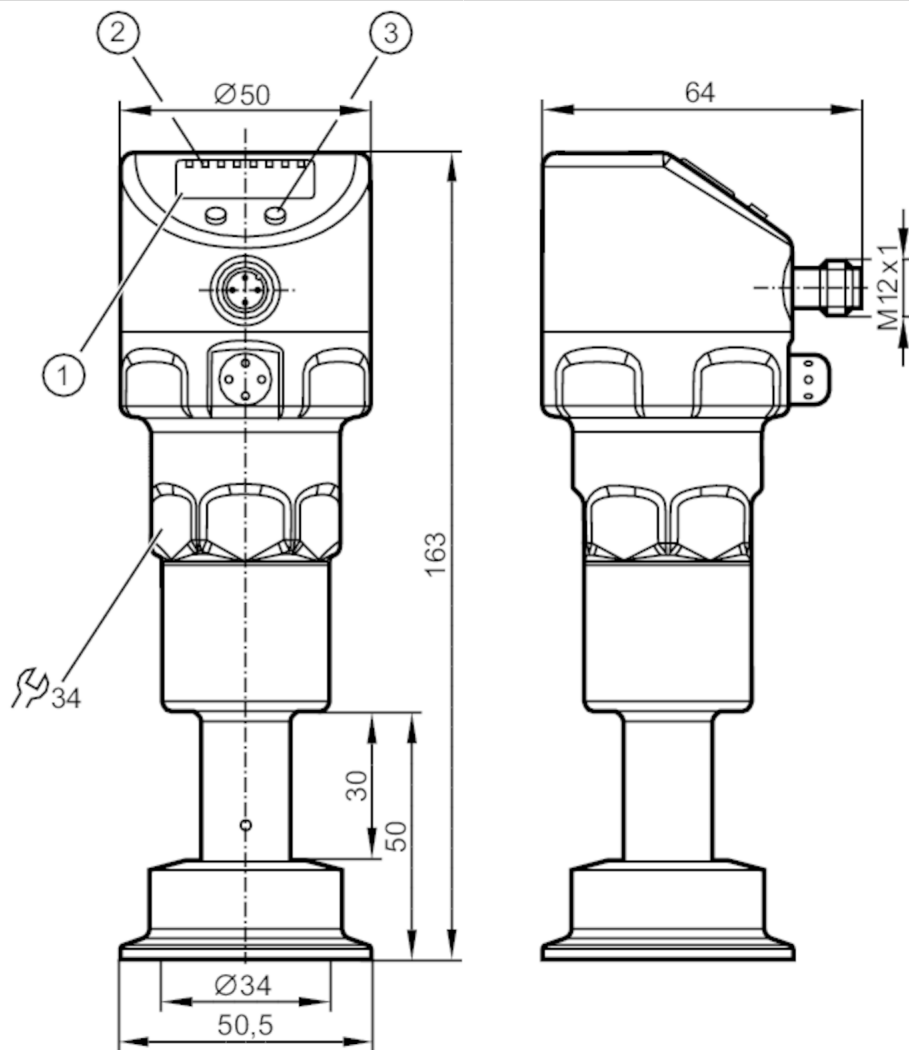


PI2203



Flush pressure sensor with display

PI-025-REZ01-MFRKG/US/ /P



- 1 alphanumeric display 4-digit
- 2 status LEDs
- 3 Programming button



Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	-1...25 bar	-14.4...362.7 psi	-0.1...2.5 MPa
Process connection	Clamp DN40 (1,5") 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]	-20...200; (-20...90 < 0 bar)		
Min. burst pressure	150 bar	2175 psi	15 MPa
Pressure rating	80 bar	1160 psi	8 MPa
Type of pressure	relative pressure; vacuum		
Electrical data			
Min. insulation resistance [MΩ]	100; (500 V DC)		



Flush pressure sensor with display

PI-025-REZ01-MFRKG/US/ /P

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]	(Ub - 10 V) / 20 mA	
Measuring/setting range			
Measuring range	-1...25 bar	-14.4...362.7 psi	-0.1...2.5 MPa
Set point SP	-0.96...25 bar	-13.8...362.7 psi	-0.096...2.5 MPa
Reset point rP	-1...24.96 bar	-14.4...362.1 psi	-0.1...2.496 MPa
Analog start point	-1...18.74 bar	-14.4...271.8 psi	-0.1...1.874 MPa
Analog end point	5.24...25 bar	76.2...362.7 psi	0.524...2.5 MPa
In steps of	0.02 bar	0.3 psi	0.002 MPa
Factory setting		SP1 = 6.24 bar	rP1 = 5.74 bar
		SP2 = 18.74 bar	rP2 = 18.24 bar
		ASP = 0.00 bar	AEP = 25.00 bar



Flush pressure sensor with display

PI-025-REZ01-MFRKG/US/ /P

Accuracy / deviations		
Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)	
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)	
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1 , 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]	IO-Link, analog output	0,15
	Display, Switching output	0,2
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]	< ± 0,2; (0...200 °C)	
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...200 °C)	
Reaction times		
Damping process value dAP [s]	0...30	
Damping for the analog output dAA [s]	0.01...99.99	
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	
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	
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	156
Operating conditions		
Ambient temperature [°C]	-25...80	
Note on ambient temperature	Medium temperature: ≤ 160 °C	



Flush pressure sensor with display

PI-025-REZ01-MFRKG/US/ /P

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]		142
Note on approval			Including free 6-point calibration certificate.

Mechanical data

Weight	[g]	1066.3
Housing		tubular
Dimensions	[mm]	Ø 50 / L = 163
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 DN40 (1,5") DIN 32676 (ISO 2852)
Surface characteristics Ra/Rz of the wetted parts		Ra < 0.38 µm
Fill fluid for pressure transfer		NEOBEE (food grade, FDA compliant)
Diaphragm diameter	[mm]	34

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.
---------------	--------

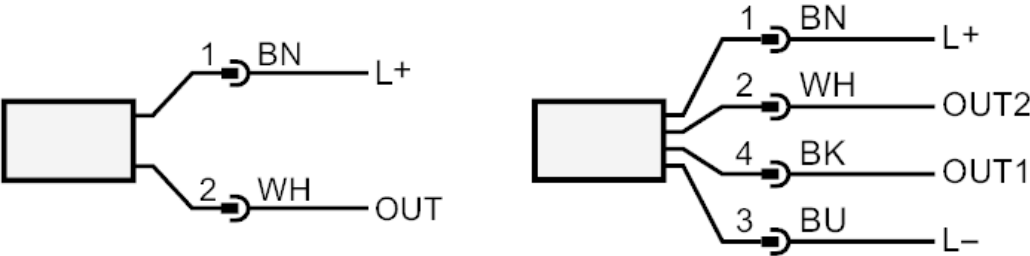


Flush pressure sensor with display

PI-025-REZ01-MFRKG/US/ /P

Electrical connection

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



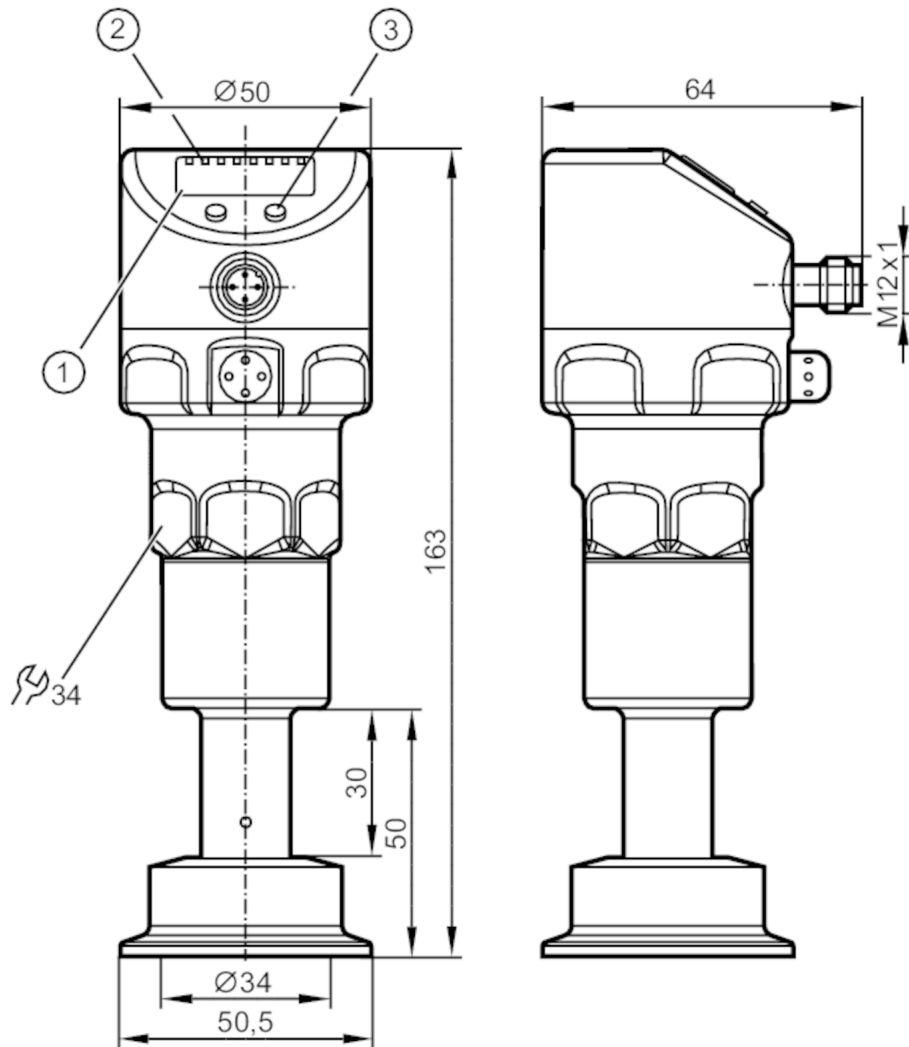
OUT	connection for 2-wire operation : analog output
OUT1	connection for 3-wire operation : Switching output
OUT2	IO-Link Switching output analog output
	Colors to DIN EN 60947-5-2
	Core colors :
BK =	black
BN =	brown
BU =	blue
WH =	white

PI2204



Flush pressure sensor with display

PI-010-REZ01-MFRKG/US/ /P



- 1 alphanumeric display 4-digit
- 2 status LEDs
- 3 Programming button



Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	-1...10 bar	-14.5...145 psi	-0.1...1 MPa
Process connection	Clamp DN40 (1,5") 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]	-20...200; (-20...90 < 0 bar)		
Min. burst pressure	100 bar	1450 psi	10 MPa
Pressure rating	50 bar	725 psi	5 MPa
Type of pressure	relative pressure; vacuum		
Electrical data			
Min. insulation resistance [MΩ]	100; (500 V DC)		



Flush pressure sensor with display

PI-010-REZ01-MFRKG/US/ /P

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]	(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
Analog start point	-1...7.5 bar	-14.5...108.7 psi	-0.1...0.75 MPa
Analog 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



Flush pressure sensor with display

PI-010-REZ01-MFRKG/US/ /P

Accuracy / deviations		
Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)	
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)	
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1 , 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]	IO-Link, analog output	0,15
	Display, Switching output	0,2
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]	< ± 0,2; (0...200 °C)	
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...200 °C)	
Reaction times		
Damping process value dAP [s]	0...30	
Damping for the analog output dAA [s]	0.01...99.99	
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	
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	
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	157
Operating conditions		
Ambient temperature [°C]	-25...80	
Note on ambient temperature	Medium temperature: ≤ 160 °C	



Flush pressure sensor with display

PI-010-REZ01-MFRKG/US/ /P

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]		142
Note on approval			Including free 6-point calibration certificate.

Mechanical data

Weight	[g]	1053
Housing		tubular
Dimensions	[mm]	Ø 50 / L = 163
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 DN40 (1,5") DIN 32676 (ISO 2852)
Surface characteristics Ra/Rz of the wetted parts		Ra < 0.38 µm
Fill fluid for pressure transfer		NEOBEE (food grade, FDA compliant)
Diaphragm diameter	[mm]	34

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.
---------------	--------

PI2204

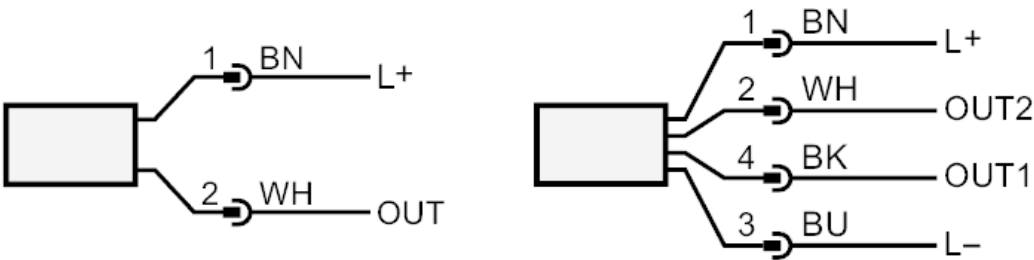


Flush pressure sensor with display

PI-010-REZ01-MFRKG/US/ /P

Electrical connection

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



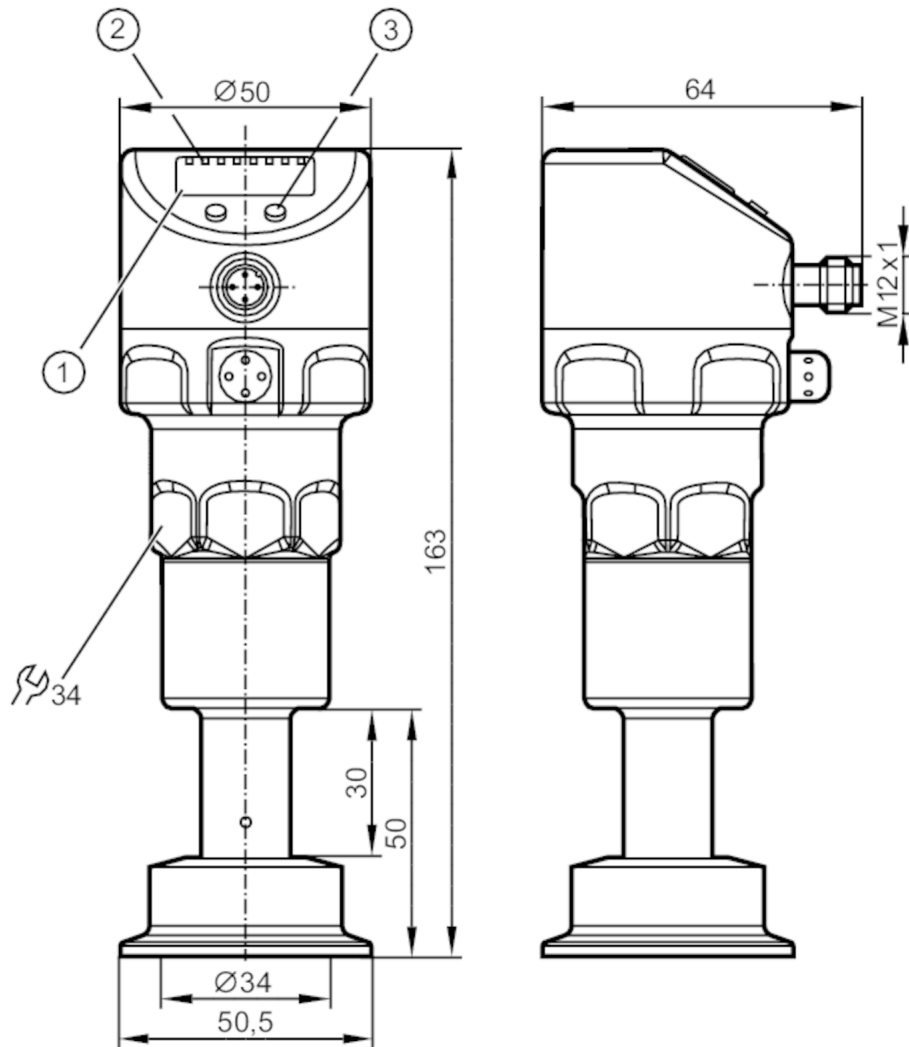
OUT	connection for 2-wire operation : analog output
OUT1	connection for 3-wire operation : Switching output
OUT2	IO-Link Switching output analog output
	Colors to DIN EN 60947-5-2
	Core colors :
BK =	black
BN =	brown
BU =	blue
WH =	white

PI2205



Flush pressure sensor with display

PI-004-REZ01-MFRKG/US/ /P



- 1 alphanumeric display 4-digit
- 2 status LEDs
- 3 Programming button



Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	-1...4 bar	-14.5...58 psi	-100...400 kPa
Process connection	Clamp DN40 (1,5") 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]	-20...200; (-20...90 < 0 bar)		
Min. burst pressure	50 bar	725 psi	5000 kPa
Pressure rating	30 bar	435 psi	3000 kPa
Type of pressure	relative pressure; vacuum		
Electrical data			
Min. insulation resistance [MΩ]	100; (500 V DC)		



Flush pressure sensor with display

PI-004-REZ01-MFRKG/US/ /P

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]	(Ub - 10 V) / 20 mA	
Measuring/setting range			
Measuring range	-1...4 bar	-14.5...58 psi	-100...400 kPa
Set point SP	-0.99...4 bar	-14.35...58 psi	-99...400 kPa
Reset point rP	-1...3.99 bar	-14.5...57.85 psi	-100...399 kPa
Analog start point	-1...3 bar	-14.5...43.5 psi	-100...300 kPa
Analog end point	0...4 bar	0...58 psi	0...400 kPa
In steps of	0.005 bar	0.05 psi	0.5 kPa
Factory setting		SP1 = 1.000 bar	rP1 = 0.920 bar
		SP2 = 3.000 bar	rP2 = 2.920 bar
		ASP = 0.000 bar	AEP = 4.000 bar



Flush pressure sensor with display

PI-004-REZ01-MFRKG/US/ /P

Accuracy / deviations		
Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)	
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)	
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1 , 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]	IO-Link, analog output	0,15
	Display, Switching output	0,2
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]	< ± 0,2; (0...200 °C)	
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...200 °C)	
Reaction times		
Damping process value dAP [s]	0...30	
Damping for the analog output dAA [s]	0.01...99.99	
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	
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	
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	158
Operating conditions		
Ambient temperature [°C]	-25...80	
Note on ambient temperature	Medium temperature: ≤ 160 °C	



Flush pressure sensor with display

PI-004-REZ01-MFRKG/US/ /P

Ambient temperature	[°C]	-25...60
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]	149
Note on approval		Including free 6-point calibration certificate.

Mechanical data

Weight	[g]	1072
Housing		tubular
Dimensions	[mm]	Ø 50 / L = 163
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 DN40 (1,5") DIN 32676 (ISO 2852)
Surface characteristics Ra/Rz of the wetted parts		Ra < 0.38 µm
Fill fluid for pressure transfer		NEOBEE (food grade, FDA compliant)
Diaphragm diameter	[mm]	34

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; kPa; % of the span

Remarks

Pack quantity	1 pcs.
---------------	--------

PI2205

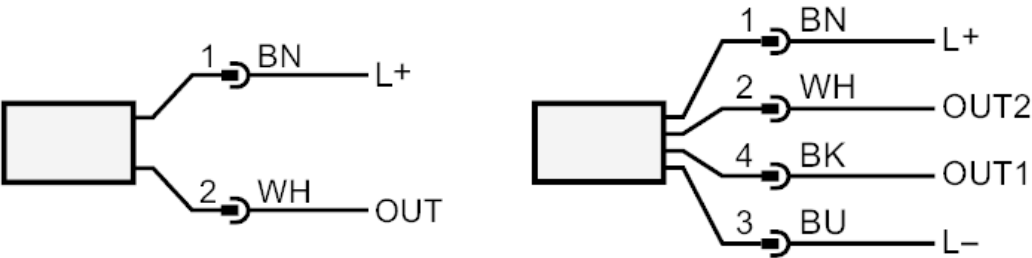


Flush pressure sensor with display

PI-004-REZ01-MFRKG/US/ /P

Electrical connection

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



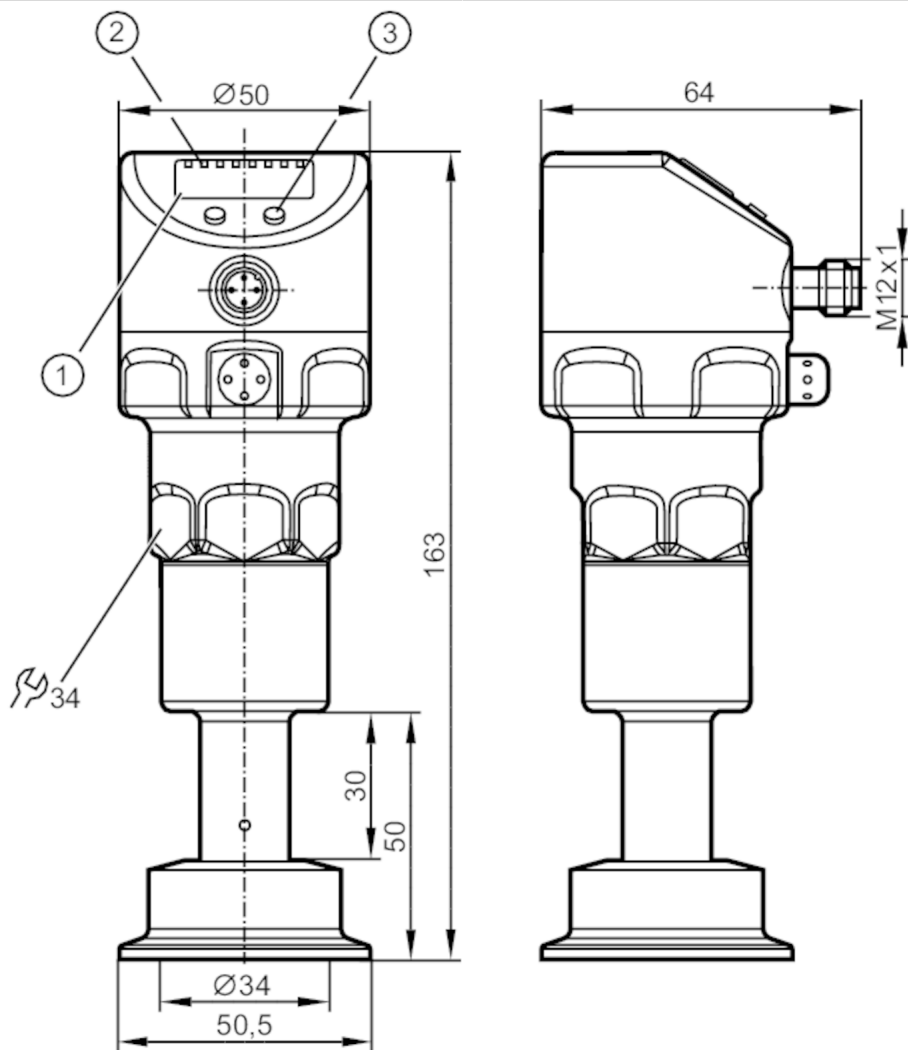
OUT	connection for 2-wire operation : analog output
OUT1	connection for 3-wire operation : Switching output
OUT2	IO-Link Switching output analog output
	Colors to DIN EN 60947-5-2
	Core colors :
BK =	black
BN =	brown
BU =	blue
WH =	white

PI2206



Flush pressure sensor with display

PI-2,5BREZ01-MFRKG/US/ IP



- 1 alphanumeric display 4-digit
- 2 status LEDs
- 3 Programming button



Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	-0.124...2.5 bar	-1.8...36.27 psi	-12.4...250 kPa
Process connection	Clamp DN40 (1,5") 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]	-20...200; (-20...90 < 0 bar)		
Min. burst pressure	50 bar	725 psi	5000 kPa
Pressure rating	20 bar	290 psi	2000 kPa
Type of pressure	relative pressure		
Electrical data			
Min. insulation resistance [MΩ]	100; (500 V DC)		



Flush pressure sensor with display

PI-2,5BREZ01-MFRKG/US/ IP

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]	(Ub - 10 V) / 20 mA	
Measuring/setting range			
Measuring range	-0.124...2.5 bar	-1.8...36.27 psi	-12.4...250 kPa
Set point SP	-0.12...2.5 bar	-1.74...36.27 psi	-12...250 kPa
Reset point rP	-0.124...2.496 bar	-1.8...36.21 psi	-12.4...249.6 kPa
Analog start point	-0.124...1.88 bar	-1.8...27.27 psi	-12.4...188 kPa
Analog end point	0.5...2.5 bar	7.26...36.27 psi	50...250 kPa
In steps of	0.002 bar	0.03 psi	0.2 kPa
Factory setting		SP1 = 0.624 bar	rP1 = 0.574 bar
		SP2 = 1.874 bar	rP2 = 1.824 bar
		ASP = 0.000 bar	AEP = 2.500 bar



Flush pressure sensor with display

PI-2,5BREZ01-MFRKG/US/ IP

Accuracy / deviations		
Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)	
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)	
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1 , 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]	IO-Link, analog output	0,15
	Display, Switching output	0,2
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]	< ± 0,2; (0...200 °C)	
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...200 °C)	
Reaction times		
Damping process value dAP [s]	0...30	
Damping for the analog output dAA [s]	0.01...99.99	
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	
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	
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	159
Operating conditions		
Ambient temperature [°C]	-25...80	
Note on ambient temperature	Medium temperature: ≤ 160 °C	



Flush pressure sensor with display

PI-2,5BREZ01-MFRKG/US/ IP

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]	142	
Note on approval	Including free 6-point calibration certificate.	

Mechanical data

Weight [g]	1067.4
Housing	tubular
Dimensions [mm]	Ø 50 / L = 163
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 DN40 (1,5") DIN 32676 (ISO 2852)
Surface characteristics Ra/Rz of the wetted parts	Ra < 0.38 µm
Fill fluid for pressure transfer	NEOBEE (food grade, FDA compliant)
Diaphragm diameter [mm]	34

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; kPa; psi; inH2O; mWS; % of the span	

Remarks

Pack quantity	1 pcs.
---------------	--------

PI2206

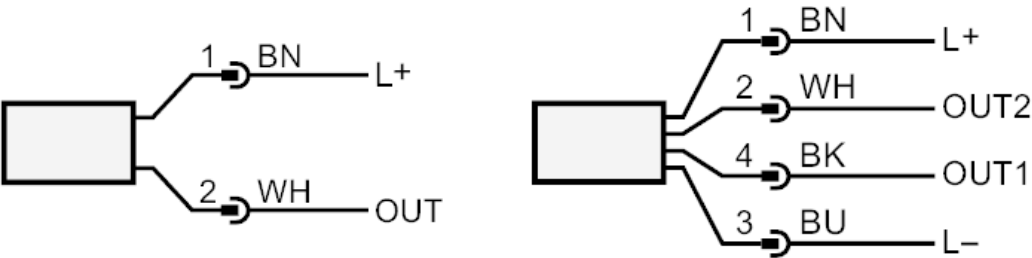


Flush pressure sensor with display

PI-2,5BREZ01-MFRKG/US/ /P

Electrical connection

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



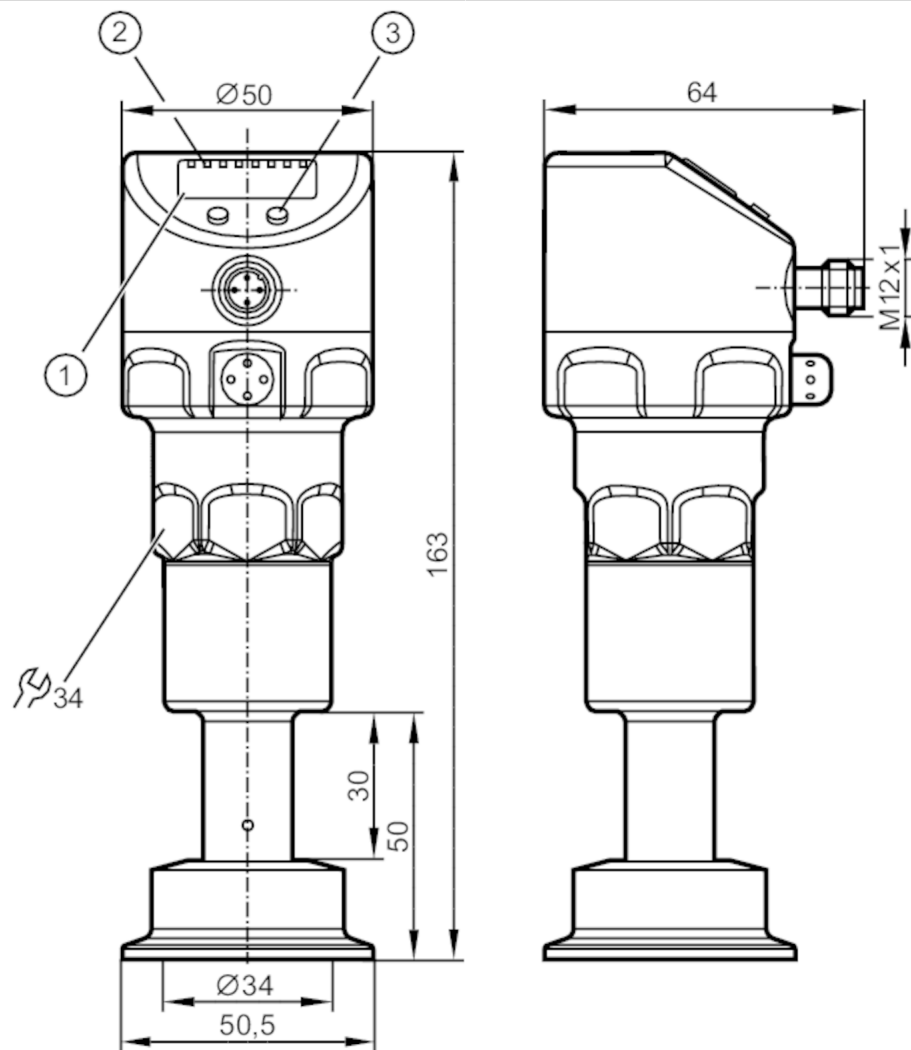
OUT	connection for 2-wire operation : analog output
OUT1	connection for 3-wire operation : Switching output
OUT2	IO-Link Switching output analog output
	Colors to DIN EN 60947-5-2
	Core colors :
BK =	black
BN =	brown
BU =	blue
WH =	white

PI2207



Flush pressure sensor with display

PI-001BREZ01-MFRKG/US/ /P



- 1 alphanumeric display 4-digit
- 2 status LEDs
- 3 Programming button



Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	-50...1000 mbar	-0.73...14.5 psi	-5...100 kPa
Process connection	Clamp DN40 (1,5") 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]	-20...200; (-20...90 < 0 bar)		
Min. bursting pressure	30000 mbar	435 psi	3000 kPa
Pressure rating	10000 mbar	145 psi	1000 kPa
Type of pressure	relative pressure		
Electrical data			
Min. insulation resistance [MΩ]	100; (500 V DC)		



Flush pressure sensor with display

PI-001BREZ01-MFRKG/US/ /P

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]	(Ub - 10 V) / 20 mA	
Measuring/setting range			
Measuring range	-50...1000 mbar	-0.73...14.5 psi	-5...100 kPa
Set point SP	-48...1000 mbar	-0.7...14.5 psi	-4.8...100 kPa
Reset point rP	-50...998 mbar	-0.73...14.47 psi	-0.5...99.8 kPa
Analog start point	-50...750 mbar	-0.73...10.88 psi	-5...75 kPa
Analog end point	200...1000 mbar	2.9...14.5 psi	20...100 kPa
In steps of	1 mbar	0.01 psi	0.1 kPa
Factory setting		SP1 = 250 mbar	rP1 = 230 mbar
		SP2 = 750 mbar	rP2 = 730 mbar
		ASP = 0 mbar	AEP = 1000 mbar



Flush pressure sensor with display

PI-001BREZ01-MFRKG/US/ /P

Accuracy / deviations		
Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)	
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)	
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1 , 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]	IO-Link, analog output	0,15
	Display, Switching output	0,2
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]	< ± 0,3; (0...200 °C)	
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...200 °C)	
Reaction times		
Damping process value dAP [s]	0...30	
Damping for the analog output dAA [s]	0.01...99.99	
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	
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	
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	256
Operating conditions		
Ambient temperature [°C]	-25...80	
Note on ambient temperature	Medium temperature: ≤ 160 °C	



Flush pressure sensor with display

PI-001BREZ01-MFRKG/US/ /P

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]	142
Note on approval		Including free 6-point calibration certificate.

Mechanical data		
Weight	[g]	1052.2
Housing		tubular
Dimensions	[mm]	Ø 50 / L = 163
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 DN40 (1,5") DIN 32676 (ISO 2852)
Surface characteristics Ra/Rz of the wetted parts		Ra < 0.38 µm
Fill fluid for pressure transfer		NEOBEE (food grade, FDA compliant)
Diaphragm diameter	[mm]	34

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.

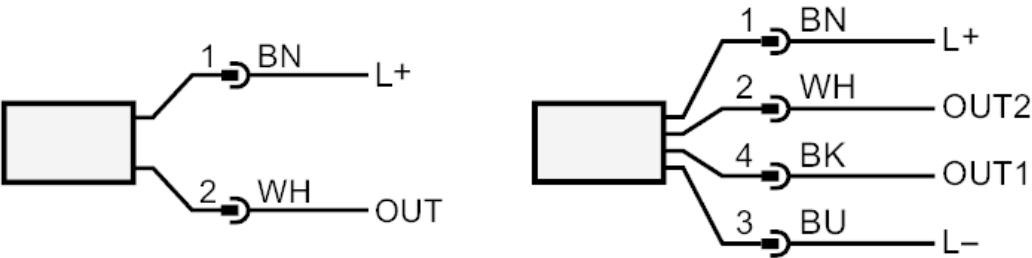


Flush pressure sensor with display

PI-001BREZ01-MFRKG/US/ /P

Electrical connection

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



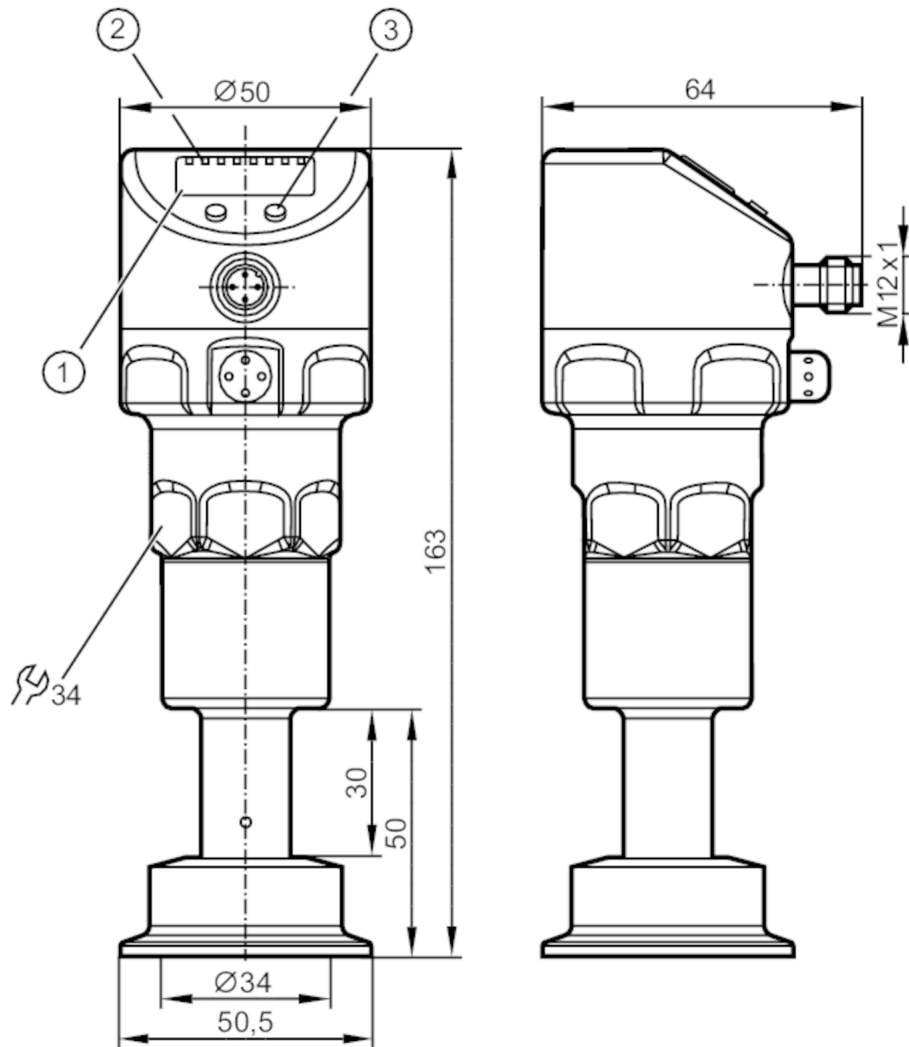
OUT	connection for 2-wire operation : analog output
OUT1	connection for 3-wire operation : Switching output
OUT2	IO-Link Switching output
	analog output
	Colors to DIN EN 60947-5-2
	Core colors :
BK =	black
BN =	brown
BU =	blue
WH =	white

PI2209



Flush pressure sensor with display

PI-1-1BREZ01-MFRKG/US/ IP



- 1 alphanumeric display 4-digit
- 2 status LEDs
- 3 Programming button



Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	-1000...1000 mbar	-14.5...14.5 psi	-100...100 kPa
Process connection	Clamp DN40 (1,5") 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]	-20...200; (-20...90 < 0 bar)		
Min. burst pressure	30000 mbar	435 psi	3000 kPa
Pressure rating	10000 mbar	145 psi	1000 kPa
Type of pressure	relative pressure; vacuum		
Electrical data			
Min. insulation resistance [MΩ]	100; (500 V DC)		



Flush pressure sensor with display

PI-1-1BREZ01-MFRKG/US/ IP

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	
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



Flush pressure sensor with display

PI-1-1BREZ01-MFRKG/US/ IP

Accuracy / deviations		
Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)	
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)	
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1 , 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]	IO-Link, analog output	0,15
	Display, Switching output	0,2
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]	< ± 0,3; (0...200 °C)	
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...200 °C)	
Reaction times		
Damping process value dAP [s]	0...30	
Damping for the analog output dAA [s]	0.01...99.99	
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	
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	
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	258
Operating conditions		
Ambient temperature [°C]	-25...80	
Note on ambient temperature	Medium temperature: ≤ 160 °C	



Flush pressure sensor with display

PI-1-1BREZ01-MFRKG/US/ IP

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]	1074.4
Housing		tubular
Dimensions	[mm]	Ø 50 / L = 163
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 DN40 (1,5") DIN 32676 (ISO 2852)
Surface characteristics Ra/Rz of the wetted parts		Ra < 0.38 µm
Fill fluid for pressure transfer		NEOBEE (food grade, FDA compliant)
Diaphragm diameter	[mm]	34

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.
---------------	--------

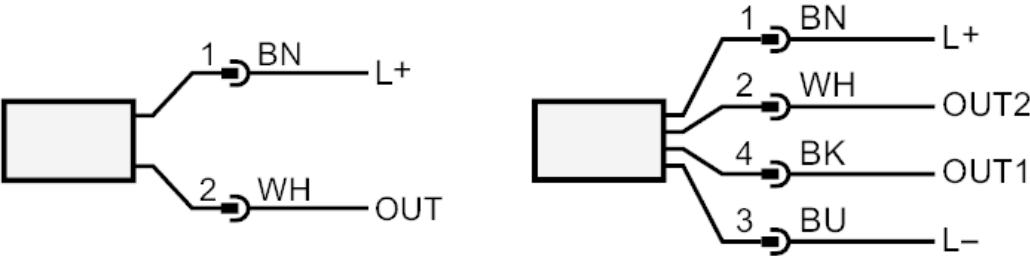


Flush pressure sensor with display

PI-1-1BREZ01-MFRKG/US/ IP

Electrical connection

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



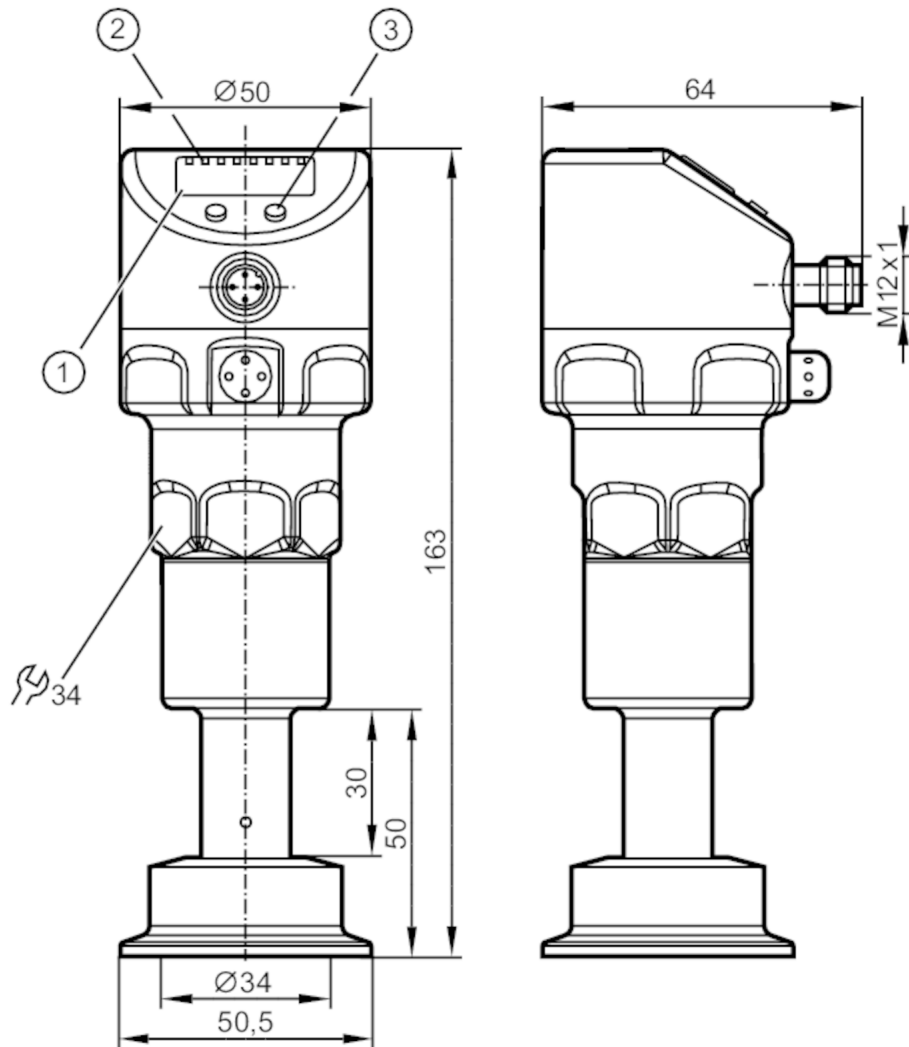
OUT	connection for 2-wire operation : analog output
OUT1	connection for 3-wire operation : Switching output
OUT2	IO-Link Switching output analog output
	Colors to DIN EN 60947-5-2
	Core colors :
BK =	black
BN =	brown
BU =	blue
WH =	white

PI2214



Flush pressure sensor with display

PI-010-REZ01-MFRKG/US/ /P



- 1 alphanumeric display 4-digit
- 2 status LEDs
- 3 Programming button



Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	-1...10 bar	-14.5...145 psi	-0.1...1 MPa
Process connection	Clamp DN40 (1,5") DIN 32676 (ISO 2852) electropolished		
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]	-20...200; (-20...90 < 0 bar)		
Min. burst pressure	100 bar	1450 psi	10 MPa
Pressure rating	50 bar	725 psi	5 MPa
Type of pressure	relative pressure; vacuum		
Electrical data			
Min. insulation resistance [MΩ]	100; (500 V DC)		



Flush pressure sensor with display

PI-010-REZ01-MFRKG/US/ /P

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]	(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
Analog start point	-1...7.5 bar	-14.5...108.7 psi	-0.1...0.75 MPa
Analog 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



Flush pressure sensor with display

PI-010-REZ01-MFRKG/US/ /P

Accuracy / deviations		
Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)	
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)	
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1 , 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]	IO-Link, analog output	0,15
	Display, Switching output	0,2
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]	< ± 0,2; (0...200 °C)	
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...200 °C)	
Reaction times		
Damping process value dAP [s]	0...30	
Damping for the analog output dAA [s]	0.01...99.99	
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	
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	
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	157
Operating conditions		
Ambient temperature [°C]	-25...80	
Note on ambient temperature	Medium temperature: ≤ 160 °C	



Flush pressure sensor with display

PI-010-REZ01-MFRKG/US/ /P

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)
Note on approval	Including free 6-point calibration certificate.	

Mechanical data

Weight	[g]	1056.6
Housing		tubular
Dimensions	[mm]	Ø 50 / L = 163
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 DN40 (1,5") DIN 32676 (ISO 2852) electropolished
Surface characteristics Ra/Rz of the wetted parts		Ra < 0.38 µm
Fill fluid for pressure transfer		NEOBEE (food grade, FDA compliant)
Diaphragm diameter	[mm]	34

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.
---------------	--------

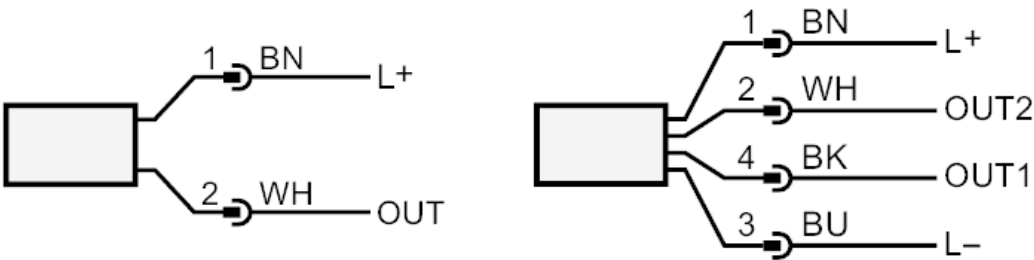


Flush pressure sensor with display

PI-010-REZ01-MFRKG/US/ /P

Electrical connection

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



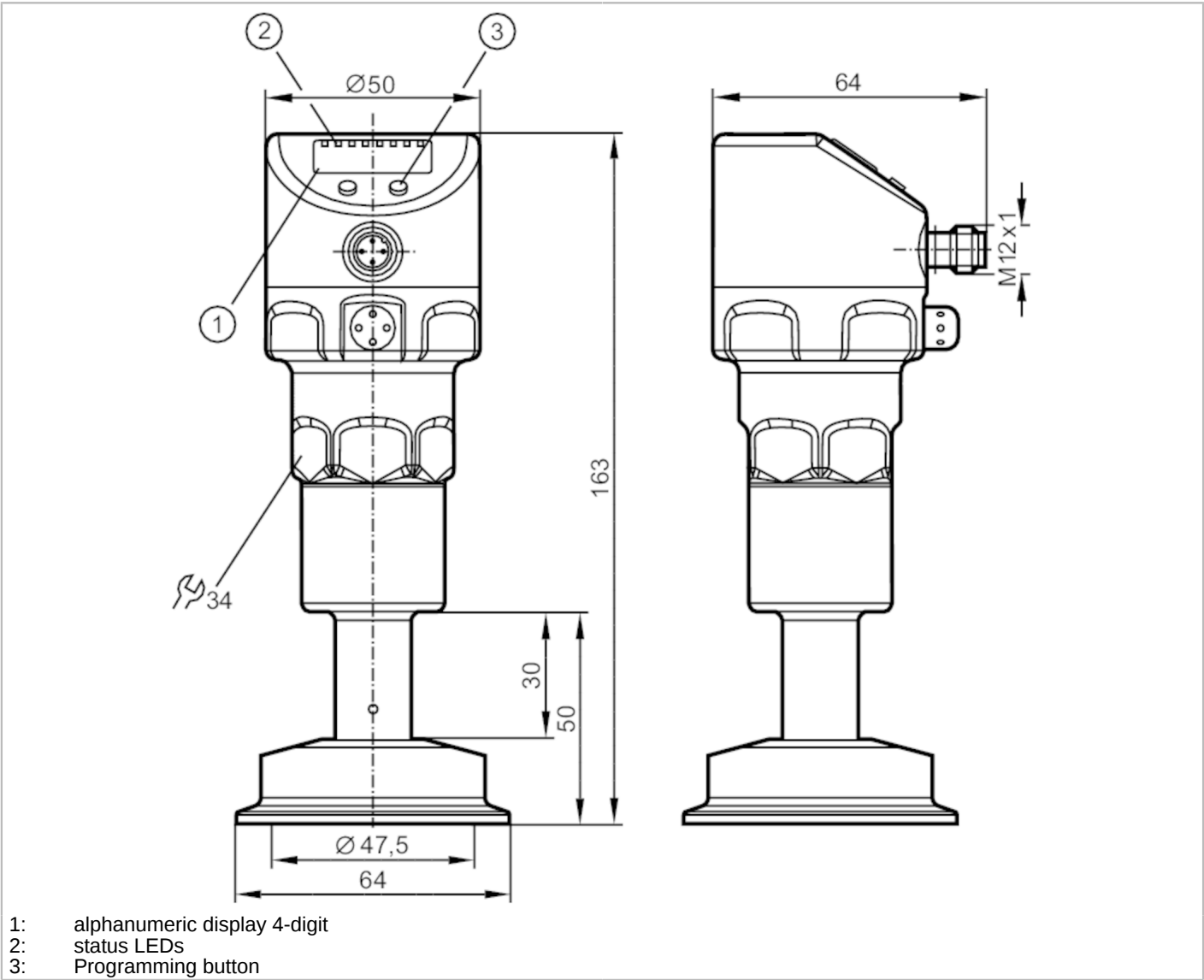
OUT	connection for 2-wire operation : analog output
OUT1	connection for 3-wire operation : Switching output
OUT2	IO-Link Switching output analog output
	Colors to DIN EN 60947-5-2
	Core colors :
BK =	black
BN =	brown
BU =	blue
WH =	white

PI2303



Flush pressure sensor with display

PI-025-REZ02-MFRKG/US/ IP





Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	-1...25 bar	-14.4...362.7 psi	-0.1...2.5 MPa
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]	-20...200; (-20...90 < 0 bar)		
Min. burst pressure	150 bar	2175 psi	15 MPa
Pressure rating	80 bar	1160 psi	8 MPa
Type of pressure	relative pressure; vacuum		

Electrical data

Min. insulation resistance [MΩ]	100; (500 V DC)
---------------------------------	-----------------



Flush pressure sensor with display

PI-025-REZ02-MFRKG/US/ /P

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]	(Ub - 10 V) / 20 mA	
Measuring/setting range			
Measuring range	-1...25 bar	-14.4...362.7 psi	-0.1...2.5 MPa
Set point SP	-0.96...25 bar	-13.8...362.7 psi	-0.096...2.5 MPa
Reset point rP	-1...24.96 bar	-14.4...362.1 psi	-0.1...2.496 MPa
Analog start point	-1...18.74 bar	-14.4...271.8 psi	-0.1...1.874 MPa
Analog end point	5.24...25 bar	76.2...362.7 psi	0.524...2.5 MPa
In steps of	0.02 bar	0.3 psi	0.002 MPa
Factory setting		SP1 = 6.24 bar	rP1 = 5.74 bar
		SP2 = 18.74 bar	rP2 = 18.24 bar
		ASP = 0.00 bar	AEP = 25.00 bar



Flush pressure sensor with display

PI-025-REZ02-MFRKG/US/ /P

Accuracy / deviations		
Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)	
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)	
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1 , 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]	IO-Link, analog output	0,15
	Display, Switching output	0,2
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]	< ± 0,2; (0...200 °C)	
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...200 °C)	
Reaction times		
Damping process value dAP [s]	0...30	
Damping for the analog output dAA [s]	0.01...99.99	
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	
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	
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	156
Operating conditions		
Ambient temperature [°C]	-25...80	
Note on ambient temperature	Medium temperature: ≤ 160 °C	



Flush pressure sensor with display

PI-025-REZ02-MFRKG/US/ /P

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]	142
Note on approval		Including free 6-point calibration certificate.

Mechanical data

Weight	[g]	1199.2
Housing		tubular
Dimensions	[mm]	Ø 50 / L = 163
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		Ra < 0.38 µm
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		bar; psi; MPa; % of the span

Remarks

Pack quantity	1 pcs.
---------------	--------

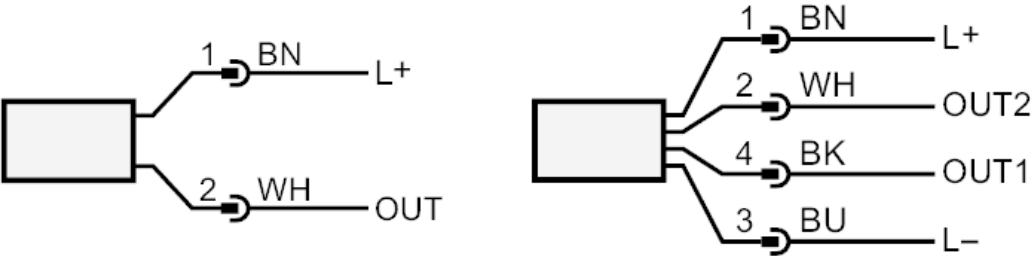


Flush pressure sensor with display

PI-025-REZ02-MFRKG/US/ /P

Electrical connection

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



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

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



Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	-1...10 bar	-14.5...145 psi	-0.1...1 MPa
Process connection	Clamp DN50 (2") DIN 32676 (ISO 2852)		

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]	-20...200; (-20...90 < 0 bar)		
Min. burst pressure	100 bar	1450 psi	10 MPa
Pressure rating	50 bar	725 psi	5 MPa
Type of pressure	relative pressure; vacuum		

Min. insulation resistance	[MΩ]	100; (500 V DC)
----------------------------	------	-----------------



Flush pressure sensor with display

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

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]	(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
Analog start point	-1...7.5 bar	-14.5...108.7 psi	-0.1...0.75 MPa
Analog 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



Flush pressure sensor with display

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

Accuracy / deviations		
Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)	
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)	
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1 , 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]	IO-Link, analog output	0,15
	Display, Switching output	0,2
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]	< ± 0,2; (0...200 °C)	
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...200 °C)	
Reaction times		
Damping process value dAP [s]	0...30	
Damping for the analog output dAA [s]	0.01...99.99	
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	
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	
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	157
Operating conditions		
Ambient temperature [°C]	-25...80	
Note on ambient temperature	Medium temperature: ≤ 160 °C	



Flush pressure sensor with display

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

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]		142
Note on approval			Including free 6-point calibration certificate.

Mechanical data

Weight	[g]	1168
Housing		tubular
Dimensions	[mm]	Ø 50 / L = 163
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		Ra < 0.38 µm
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		bar; psi; MPa; % of the span

Remarks

Pack quantity	1 pcs.
---------------	--------

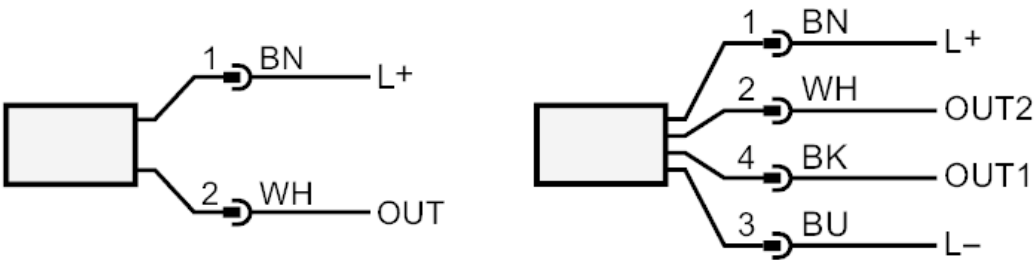


Flush pressure sensor with display

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

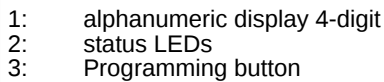
Electrical connection

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



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

PI-004-REZ02-MFRKG/US/ /P



Min. insulation resistance	[MΩ]	100; (500 V DC)
----------------------------	------	-----------------



Flush pressure sensor with display

PI-004-REZ02-MFRKG/US/ /P

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]	(Ub - 10 V) / 20 mA	
Measuring/setting range			
Measuring range	-1...4 bar	-14.5...58 psi	-100...400 kPa
Set point SP	-0.99...4 bar	-14.35...58 psi	-99...400 kPa
Reset point rP	-1...3.99 bar	-14.5...57.85 psi	-100...399 kPa
Analog start point	-1...3 bar	-14.5...43.5 psi	-100...300 kPa
Analog end point	0...4 bar	0...58 psi	0...400 kPa
In steps of	0.005 bar	0.05 psi	0.5 kPa
Factory setting		SP1 = 1.000 bar	rP1 = 0.920 bar
		SP2 = 3.000 bar	rP2 = 2.920 bar
		ASP = 0.000 bar	AEP = 4.000 bar



Flush pressure sensor with display

PI-004-REZ02-MFRKG/US/ /P

Accuracy / deviations		
Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)	
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)	
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1 , 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]	IO-Link, analog output	0,15
	Display, Switching output	0,2
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]	< ± 0,2; (0...200 °C)	
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...200 °C)	
Reaction times		
Damping process value dAP [s]	0...30	
Damping for the analog output dAA [s]	0.01...99.99	
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	
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	
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	158
Operating conditions		
Ambient temperature [°C]	-25...80	
Note on ambient temperature	Medium temperature: ≤ 160 °C	



Flush pressure sensor with display

PI-004-REZ02-MFRKG/US/ /P

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]		149
Note on approval			Including free 6-point calibration certificate.

Mechanical data

Weight	[g]	1191
Housing		tubular
Dimensions	[mm]	Ø 50 / L = 163
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		Ra < 0.38 µm
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		bar; psi; kPa; % of the span

Remarks

Pack quantity	1 pcs.
---------------	--------

PI2305

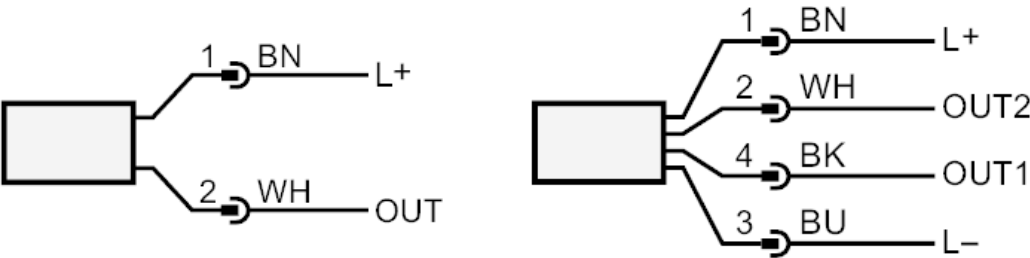


Flush pressure sensor with display

PI-004-REZ02-MFRKG/US/ /P

Electrical connection

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



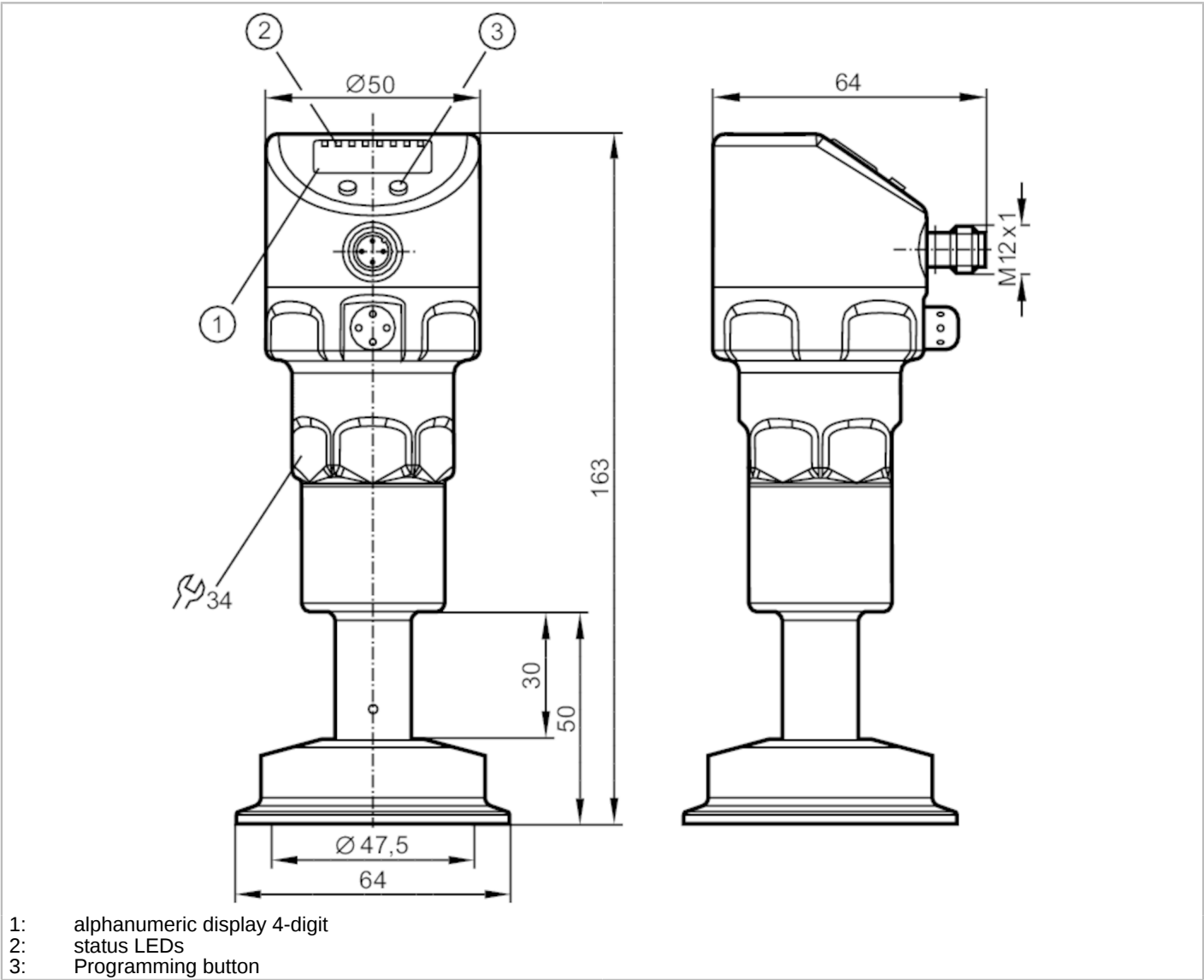
OUT	connection for 2-wire operation : analog output
OUT1	connection for 3-wire operation : Switching output
OUT2	IO-Link Switching output analog output
	Colors to DIN EN 60947-5-2
	Core colors :
BK =	black
BN =	brown
BU =	blue
WH =	white

PI2306



Flush pressure sensor with display

PI-2,5BREZ02-MFRKG/US/ IP



- 1: alphanumeric display 4-digit
- 2: status LEDs
- 3: Programming button
- EC 1935/2004** EHEDG Certified **FCM** **UK CA**

Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	-0.124...2.5 bar	-1.8...36.27 psi	-12.4...250 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]	-20...200; (-20...90 < 0 bar)		
Min. burst pressure	50 bar	725 psi	5000 kPa
Pressure rating	20 bar	290 psi	2000 kPa
Type of pressure	relative pressure		
Electrical data			
Min. insulation resistance [MΩ]	100; (500 V DC)		



Flush pressure sensor with display

PI-2,5BREZ02-MFRKG/US/ IP

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]	(Ub - 10 V) / 20 mA	
Measuring/setting range			
Measuring range	-0.124...2.5 bar	-1.8...36.27 psi	-12.4...250 kPa
Set point SP	-0.12...2.5 bar	-1.74...36.27 psi	-12...250 kPa
Reset point rP	-0.124...2.496 bar	-1.8...36.21 psi	-12.4...249.6 kPa
Analog start point	-0.124...1.88 bar	-1.8...27.27 psi	-12.4...188 kPa
Analog end point	0.5...2.5 bar	7.26...36.27 psi	50...250 kPa
In steps of	0.002 bar	0.03 psi	0.2 kPa
Factory setting		SP1 = 0.624 bar	rP1 = 0.574 bar
		SP2 = 1.874 bar	rP2 = 1.824 bar
		ASP = 0.000 bar	AEP = 2.500 bar



Flush pressure sensor with display

PI-2,5BREZ02-MFRKG/US/ IP

Accuracy / deviations		
Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)	
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)	
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1 , 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]	IO-Link, analog output	0,15
	Display, Switching output	0,2
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]	< ± 0,2; (0...200 °C)	
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...200 °C)	
Reaction times		
Damping process value dAP [s]	0...30	
Damping for the analog output dAA [s]	0.01...99.99	
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	
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	
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	159
Operating conditions		
Ambient temperature [°C]	-25...80	
Note on ambient temperature	Medium temperature: ≤ 160 °C	

PI2306



Flush pressure sensor with display

PI-2,5BREZ02-MFRKG/US/ IP

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]	142
Note on approval		Including free 6-point calibration certificate.

Mechanical data		
Weight	[g]	1194.7
Housing		tubular
Dimensions	[mm]	Ø 50 / L = 163
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		Ra < 0.38 µm
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		bar; kPa; psi; inH2O; mWS; % of the span

Remarks		
Pack quantity		1 pcs.

PI2306

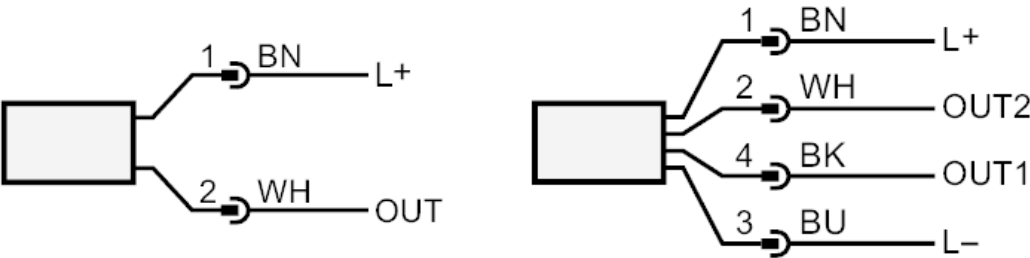


Flush pressure sensor with display

PI-2,5BREZ02-MFRKG/US/ /P

Electrical connection

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



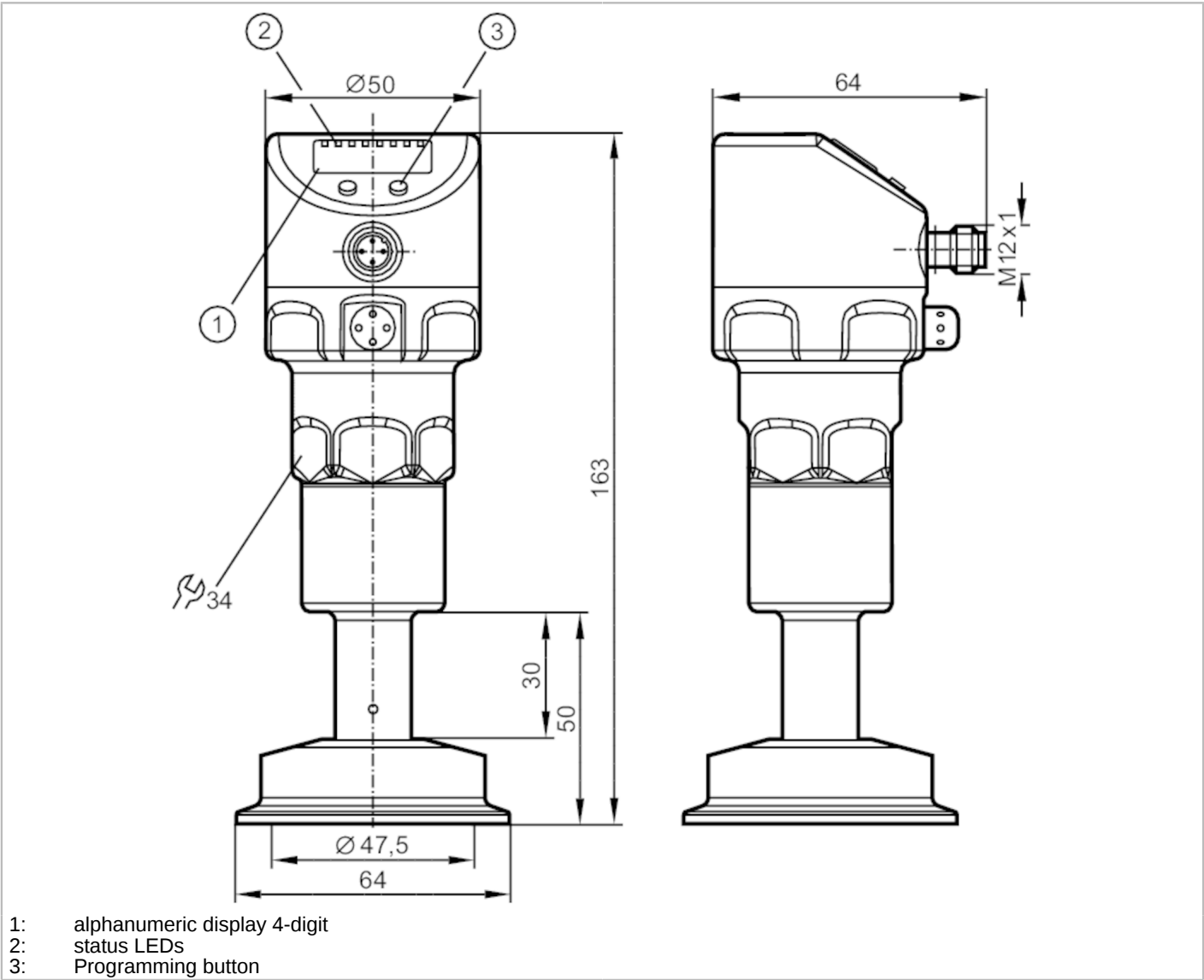
OUT	connection for 2-wire operation : analog output
OUT1	connection for 3-wire operation : Switching output
OUT2	IO-Link Switching output analog output
	Colors to DIN EN 60947-5-2
	Core colors :
BK =	black
BN =	brown
BU =	blue
WH =	white

PI2307



Flush pressure sensor with display

PI-001BREZ02-MFRKG/US/ /P



Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	-50...1000 mbar	-0.73...14.5 psi	-5...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]	-20...200; (-20...90 < 0 bar)		
Min. bursting pressure	30000 mbar	435 psi	3000 kPa
Pressure rating	10000 mbar	145 psi	1000 kPa
Type of pressure	relative pressure		
Electrical data			
Min. insulation resistance [MΩ]	100; (500 V DC)		



Flush pressure sensor with display

PI-001BREZ02-MFRKG/US/ /P

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]	(Ub - 10 V) / 20 mA	
Measuring/setting range			
Measuring range	-50...1000 mbar	-0.73...14.5 psi	-5...100 kPa
Set point SP	-48...1000 mbar	-0.7...14.5 psi	-4.8...100 kPa
Reset point rP	-50...998 mbar	-0.73...14.47 psi	-0.5...99.8 kPa
Analog start point	-50...750 mbar	-0.73...10.88 psi	-5...75 kPa
Analog end point	200...1000 mbar	2.9...14.5 psi	20...100 kPa
In steps of	1 mbar	0.01 psi	0.1 kPa
Factory setting		SP1 = 250 mbar	rP1 = 230 mbar
		SP2 = 750 mbar	rP2 = 730 mbar
		ASP = 0 mbar	AEP = 1000 mbar



Flush pressure sensor with display

PI-001BREZ02-MFRKG/US/ /P

Accuracy / deviations		
Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)	
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)	
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1 , 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]	IO-Link, analog output	0,15
	Display, Switching output	0,2
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]	< ± 0,3; (0...200 °C)	
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...200 °C)	
Reaction times		
Damping process value dAP [s]	0...30	
Damping for the analog output dAA [s]	0.01...99.99	
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	
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	
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	256
Operating conditions		
Ambient temperature [°C]	-25...80	
Note on ambient temperature	Medium temperature: ≤ 160 °C	



Flush pressure sensor with display

PI-001BREZ02-MFRKG/US/ /P

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]		142
Note on approval			Including free 6-point calibration certificate.

Mechanical data

Weight	[g]	1200.45
Housing		tubular
Dimensions	[mm]	Ø 50 / L = 163
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		Ra < 0.38 µm
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.
---------------	--------

PI2307

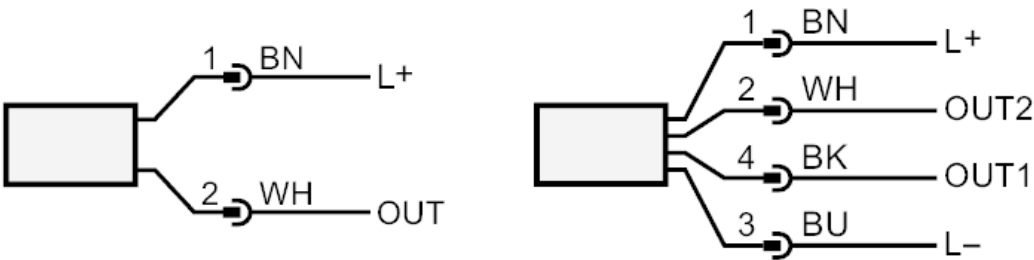


Flush pressure sensor with display

PI-001BREZ02-MFRKG/US/ /P

Electrical connection

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



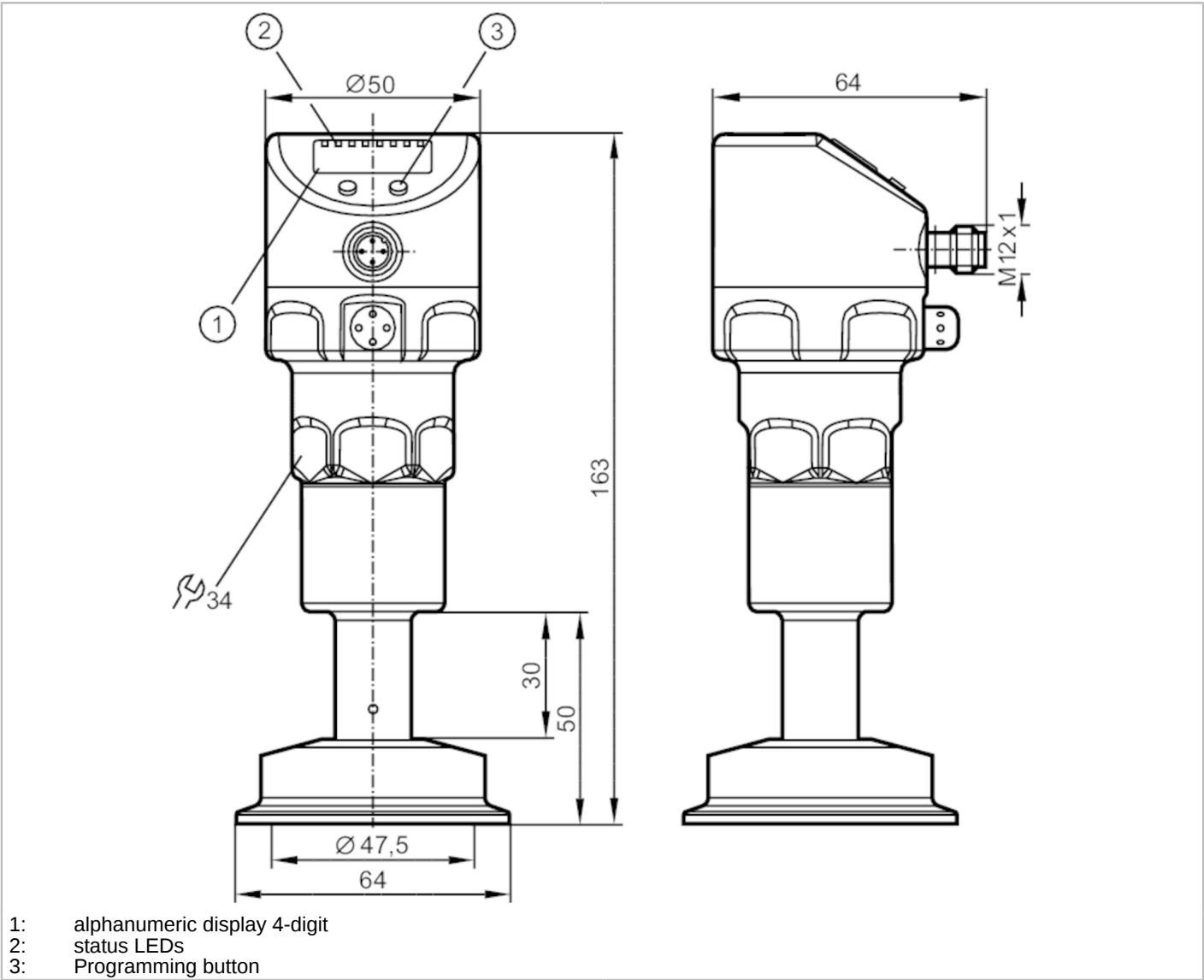
OUT	connection for 2-wire operation : analog output
OUT1	connection for 3-wire operation : Switching output
OUT2	IO-Link Switching output analog output
	Colors to DIN EN 60947-5-2
	Core colors :
BK =	black
BN =	brown
BU =	blue
WH =	white

PI2309



Flush pressure sensor with display

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



Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
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]	-20...200; (-20...90 < 0 bar)		
Min. burst pressure	30000 mbar	435 psi	3000 kPa
Pressure rating	10000 mbar	145 psi	1000 kPa
Type of pressure	relative pressure; vacuum		
Electrical data			
Min. insulation resistance [MΩ]	100; (500 V DC)		



Flush pressure sensor with display

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

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]	(Ub - 10 V) / 20 mA	
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



Flush pressure sensor with display

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

Accuracy / deviations		
Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)	
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)	
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1 , 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]	IO-Link, analog output	0,15
	Display, Switching output	0,2
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]	< ± 0,3; (0...200 °C)	
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...200 °C)	
Reaction times		
Damping process value dAP [s]	0...30	
Damping for the analog output dAA [s]	0.01...99.99	
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	
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	
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	258
Operating conditions		
Ambient temperature [°C]	-25...80	
Note on ambient temperature	Medium temperature: ≤ 160 °C	



Flush pressure sensor with display

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

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]	1200.3
Housing		tubular
Dimensions	[mm]	Ø 50 / L = 163
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		Ra < 0.38 µm
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

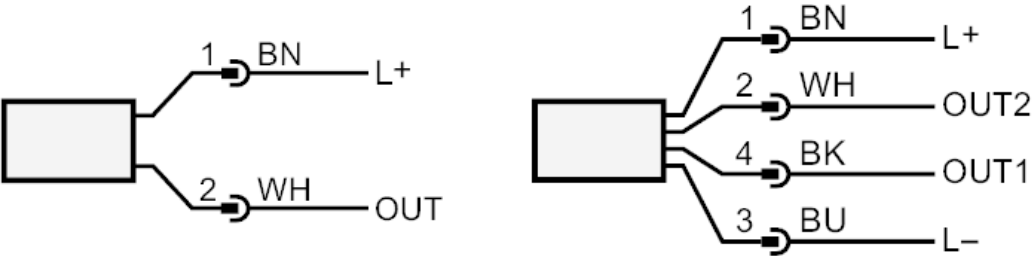


Flush pressure sensor with display

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

Electrical connection

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



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

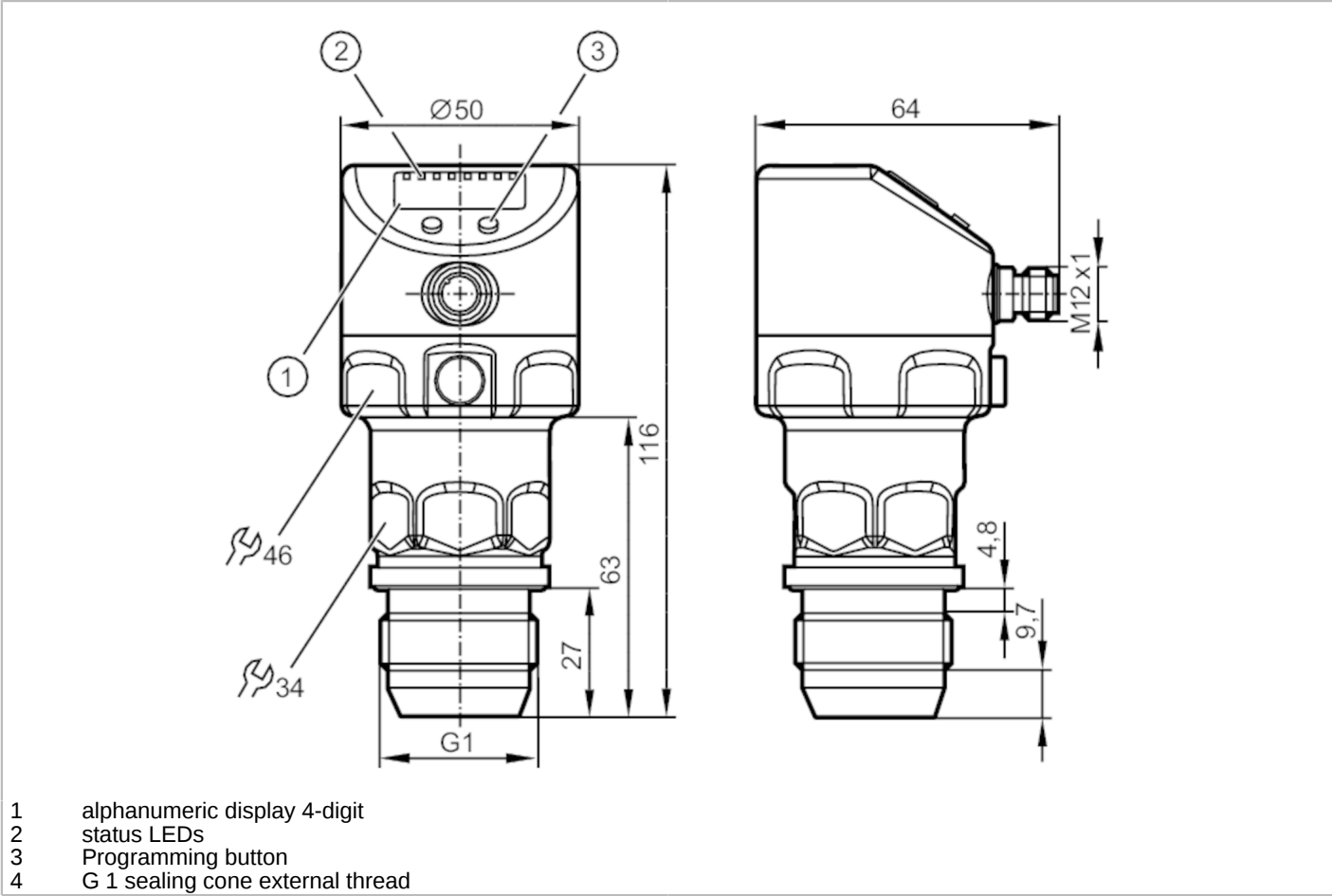
PI2602



Flush pressure sensor with display

PI-100-REA01-MFRKG/US/ I/P

Alternative articles: PI1602
When selecting an alternative article and accessories please note that technical data may differ!



Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	-1...100 bar	-15...1450 psi	-0.1...10 MPa
Process connection	threaded connection G 1 external thread sealing cone		
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		
Conditionally suitable for	use in gases at pressures > 25 bar only on request		
Medium temperature [°C]	-25...125; (145 max. 1h)		
Min. burst pressure	650 bar	9425 psi	65 MPa
Pressure rating	200 bar	2900 psi	20 MPa
Vacuum resistance	-1000 mbar	-0.1 MPa	
Type of pressure	relative pressure; vacuum		
No dead space	yes		



Flush pressure sensor with display

PI-100-REA01-MFRKG/US/ /P

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]	(Ub - 10 V) / 20 mA	
Measuring/setting range			
Measuring range	-1...100 bar	-15...1450 psi	-0.1...10 MPa
Set point SP	-0.8...100 bar	-12...1450 psi	-0.08...10 MPa
Reset point rP	-1...99.8 bar	-15...1448 psi	-0.1...9.98 MPa
Analog start point	-1...75 bar	-15...1088 psi	-0.1...7.5 MPa
Analog end point	24...100 bar	348...1450 psi	2.4...10 MPa
In steps of	0.1 bar	1 psi	0.01 MPa



Flush pressure sensor with display

PI-100-REA01-MFRKG/US/ /P

Factory setting	SP1 = 25.0 bar	rP1 = 23 bar
	SP2 = 75.0 bar	rP2 = 73 bar
	ASP = 0.0 bar	AEP = 100.0 bar
	dAP = 0.06 s	dAA = 0.03 s

Accuracy / deviations

Switch point accuracy [% of the span]	< ± 0,5; (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; (Turn down 1:1, 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)
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]	< ± 0,2; (0...70 °C)
Temperature coefficient span [% of the span / 10 K]	< ± 0,2; (0...70 °C)

Reaction times

Damping process value dAP [s]	0...30
Damping for the analog output dAA [s]	0.01...99.99
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

Interfaces

Communication interface	IO-Link	
IO-Link revision	1.0	
SIO mode	yes	
Required master port class	A	
Process data analog	1	
Process data binary	2	
Supported DeviceIDs	Type of operation	DeviceID
	default	731

Operating conditions

Ambient temperature [°C]	-25...80
Storage temperature [°C]	-40...100
Protection	IP 67; IP 68; IP 69K

PI2602



Flush pressure sensor with display

PI-100-REA01-MFRKG/US/ /P

Tests / approvals		
EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 Surge	0,5/1 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
MTTF [years]		154
Note on approval	Factory certificate available as download at www.factory-certificate.ifm	
UL approval	UL approval number	J017
	File number UL	E174189

Mechanical data		
Weight [g]		374
Housing		tubular
Dimensions [mm]		Ø 50 / L = 116
Material		stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA
Materials (wetted parts)		ceramics (99.9 % Al ₂ O ₃); stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE
Min. pressure cycles		100 million
Process connection		threaded connection G 1 external thread sealing cone

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; MPa; psi; % of the span

Remarks	
Pack quantity	1 pcs.

Electrical connection	
-----------------------	--

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

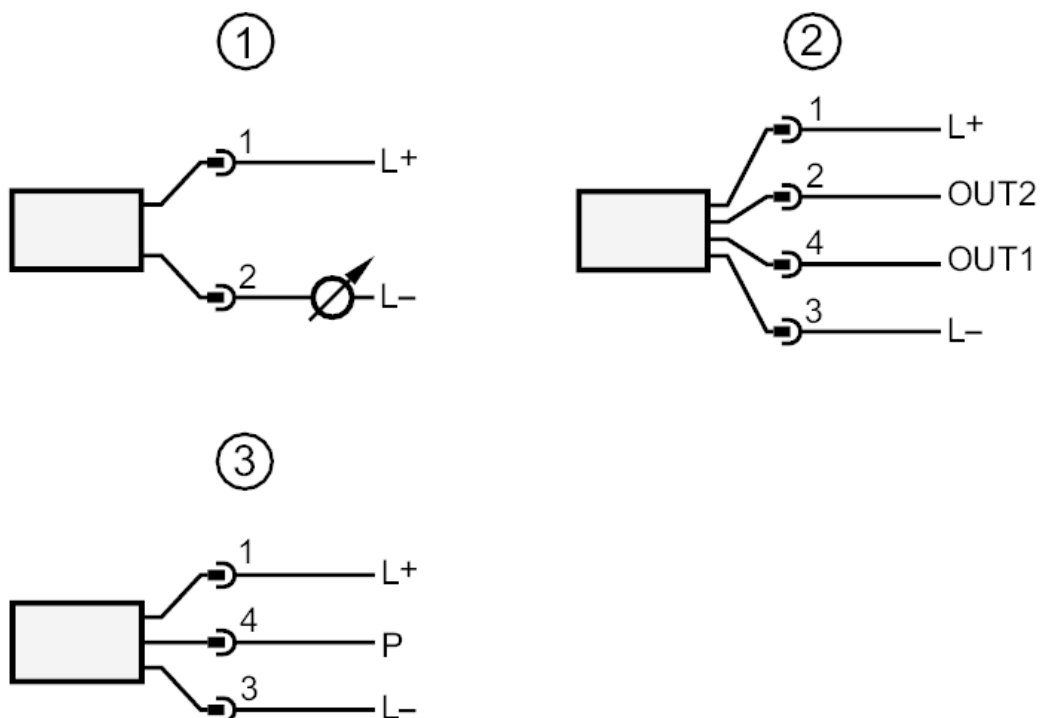




Flush pressure sensor with display

PI-100-REA01-MFRKG/US/ IP

Connection



- 1 connection for 2-wire operation
- 2 connection for 3-wire operation :
- OUT1 Switching output
- OUT2 Switching output
- analog output
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)

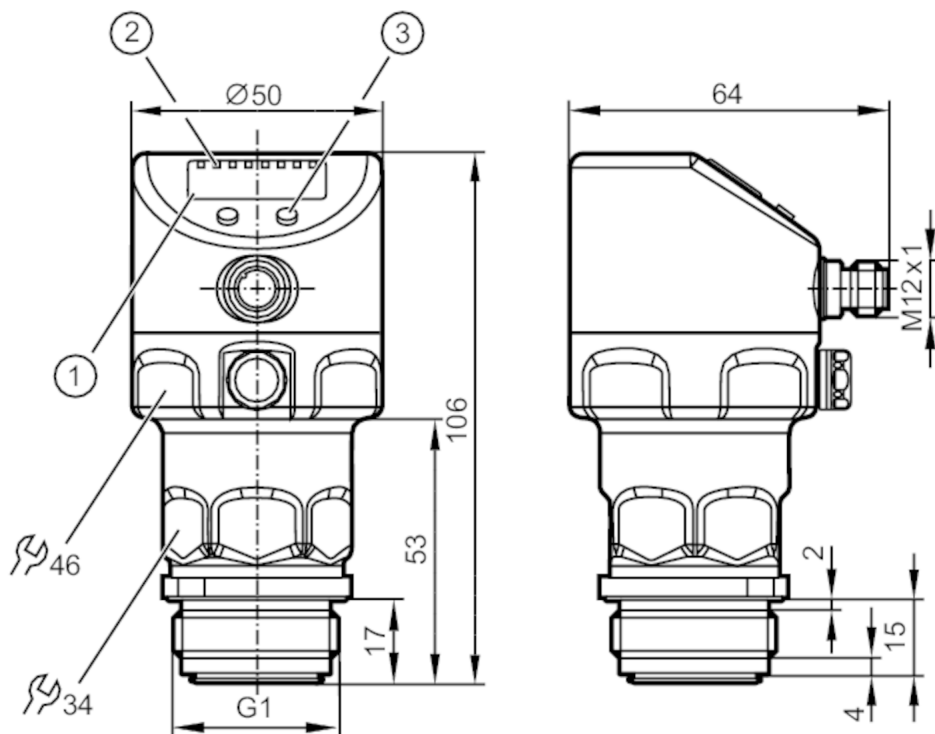


Flush pressure sensor with display

PI-016-REA01-MFRKG/US/ I/P

Alternative articles: PI1714

When selecting an alternative article and accessories please note that technical data may differ!



- 1 alphanumeric display 4-digit
2 status LEDs
3 Programming button



ACS



CRN



EC 1935/2004

EHEDG Certified

FCM



IO-Link



Reg31



Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	-1...16 bar	-14.6...232 psi	-0.1...1.6 MPa
Process connection	threaded connection G 1 external thread Aseptoflex Vario		

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...125; (145 max. 1h)		
Min. burst pressure	250 bar	3625 psi	25 MPa
Pressure rating	75 bar	1085 psi	7.5 MPa
Vacuum resistance	-1000 mbar	-0.1 MPa	
Type of pressure	relative pressure; vacuum		
No dead space	yes		
MAWP (for applications according to CRN) [bar]	60		

Electrical data

Min. insulation resistance [MΩ]	100; (500 V DC)
Protection class	III



Flush pressure sensor with display

PI-016-REA01-MFRKG/US/ /P

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]	(Ub - 10 V) / 20 mA	
Measuring/setting range			
Measuring range	-1...16 bar	-14.6...232 psi	-0.1...1.6 MPa
Set point SP	-0.98...16 bar	-14.2...232 psi	-0.098...1.6 MPa
Reset point rP	-1...15.98 bar	-14.6...231.6 psi	-0.1...1.598 MPa
Analog start point	-1...12 bar	-14.6...174 psi	-0.1...1.2 MPa
Analog end point	3...16 bar	43.6...232 psi	0.3...1.6 MPa
In steps of	0.02 bar	0.2 psi	0.002 MPa
Factory setting		SP1 = 4.0 bar	rP1 = 3.68 bar
		SP2 = 12.0 bar	rP2 = 11.68 bar
		ASP = 0.0 bar	AEP = 16.0 bar
		dAP = 0.06 s	dAA = 0.03 s



Flush pressure sensor with display

PI-016-REA01-MFRKG/US/ /P

Accuracy / deviations		
Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)	
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)	
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1 , 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)	
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]	< ± 0,05; (0...70 °C)	
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...70 °C)	
Reaction times		
Damping process value dAP [s]	0...30	
Damping for the analog output dAA [s]	0.01...99.99	
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	
Interfaces		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.0	
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	729
Operating conditions		
Ambient temperature [°C]	-25...80	
Storage temperature [°C]	-40...100	
Protection	IP 67; IP 68; IP 69K	



Flush pressure sensor with display

PI-016-REA01-MFRKG/US/ /P

Tests / approvals		
EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 Surge	0,5/1 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
MTTF [years]		154
Note on approval	Factory certificate available as download at www.factory-certificate.ifm	
UL approval	UL approval number	J018
	File number UL	E174189

Mechanical data		
Weight [g]		361
Housing		tubular
Dimensions [mm]		Ø 50 / L = 106
Material	stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA	
Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE	
Min. pressure cycles		100 million
Process connection	threaded connection G 1 external thread Aseptoflex Vario	

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; MPa; psi; % of the span	

Remarks	
Pack quantity	1 pcs.

Electrical connection

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

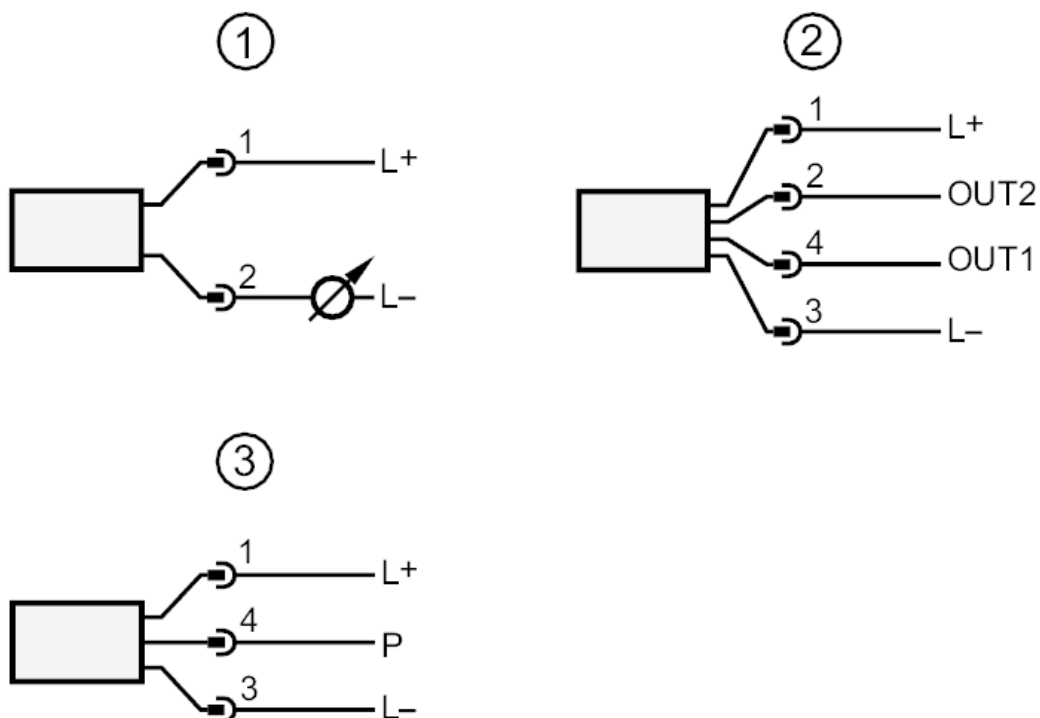




Flush pressure sensor with display

PI-016-REA01-MFRKG/US/ IP

Connection



- 1 connection for 2-wire operation
- 2 connection for 3-wire operation :
- OUT1 Switching output
- OUT2 Switching output
- analog output
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)

PI2715

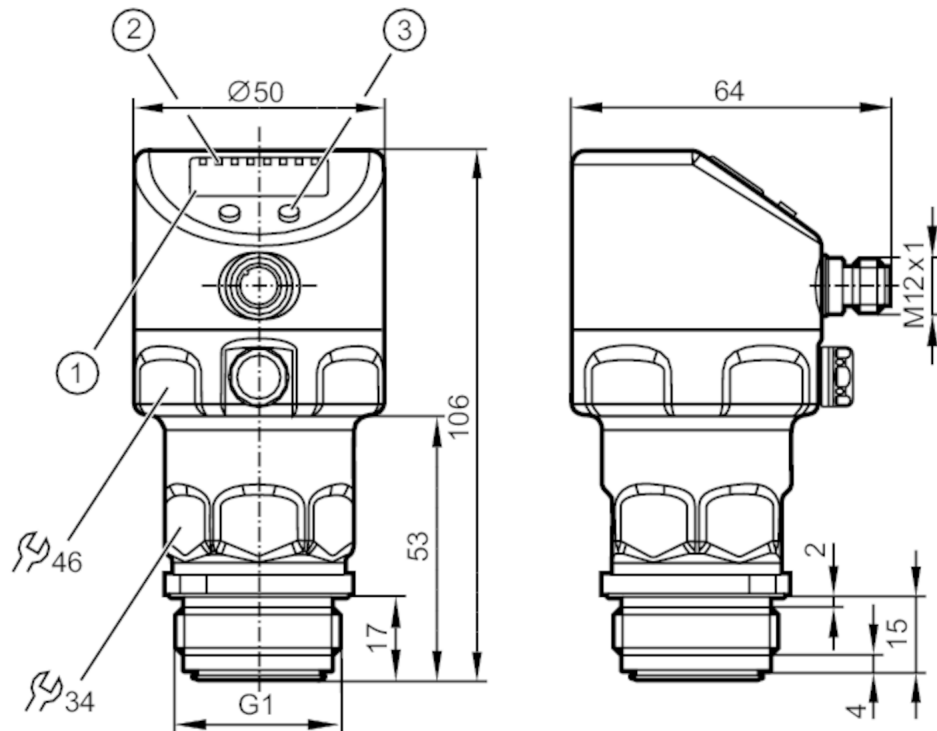


Flush pressure sensor with display

PI-006-REA01-MFRKG/US/ I/P

Alternative articles: PI1715

When selecting an alternative article and accessories please note that technical data may differ!



- 1 alphanumeric display 4-digit
- 2 status LEDs
- 3 Programming button



ACS



CRN



EC 1935/2004

EHEDG Certified

FCM



IO-Link



Reg31



Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	-1...6 bar	-14.5...87 psi	-100...600 kPa
Process connection	threaded connection G 1 external thread Aseptoflex Vario		

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...125; (145 max. 1h)		
Min. burst pressure	100 bar	1450 psi	10000 kPa
Pressure rating	30 bar	435 psi	3000 kPa
Vacuum resistance	-1000 mbar	-0.1 MPa	
Type of pressure	relative pressure; vacuum		
No dead space	yes		
MAWP (for applications according to CRN) [bar]	30		

Electrical data

Min. insulation resistance [MΩ]	100; (500 V DC)
Protection class	III



Flush pressure sensor with display

PI-006-REA01-MFRKG/US/ /P

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]	(Ub - 10 V) / 20 mA	
Measuring/setting range			
Measuring range	-1...6 bar	-14.5...87 psi	-100...600 kPa
Set point SP	-0.99...6 bar	-14.4...87 psi	-99...600 kPa
Reset point rP	-1...5.99 bar	-14.5...86.9 psi	-100...599 kPa
Analog start point	-1...4.5 bar	-14.5...65.3 psi	-100...450 kPa
Analog end point	0.5...6 bar	7.3...87 psi	50...600 kPa
In steps of	0.005 bar	0.1 psi	0.5 kPa
Factory setting		SP1 = 1.5 bar	rP1 = 1.38 bar
		SP2 = 4.5 bar	rP2 = 4.380 bar
		ASP = 0.0 bar	AEP = 6.0 bar
		dAP = 0.06 s	dAA = 0.03 s



Flush pressure sensor with display

PI-006-REA01-MFRKG/US/ /P

Accuracy / deviations		
Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)	
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)	
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1 , 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)	
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]	< ± 0,05; (0...70 °C)	
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...70 °C)	
Reaction times		
Damping process value dAP [s]	0...30	
Damping for the analog output dAA [s]	0.01...99.99	
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	
Interfaces		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.0	
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	728
Operating conditions		
Ambient temperature [°C]	-25...80	
Storage temperature [°C]	-40...100	
Protection	IP 67; IP 68; IP 69K	



Flush pressure sensor with display

PI-006-REA01-MFRKG/US/ /P

Tests / approvals		
EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 Surge	0,5/1 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
MTTF	[years]	154
Note on approval	Factory certificate available as download at www.factory-certificate.ifm	
UL approval	UL approval number	J018
	File number UL	E174189
Mechanical data		
Weight	[g]	359.5
Housing		tubular
Dimensions	[mm]	Ø 50 / L = 106
Material		stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA
Materials (wetted parts)		ceramics (99.9 % Al2O3); stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE
Min. pressure cycles		100 million
Process connection		threaded connection G 1 external thread Aseptoflex Vario
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; kPa; psi; % of the span
Remarks		
Pack quantity		1 pcs.
Electrical connection		
Connector: 1 x M12; coding: A; Contacts: gold-plated		
		

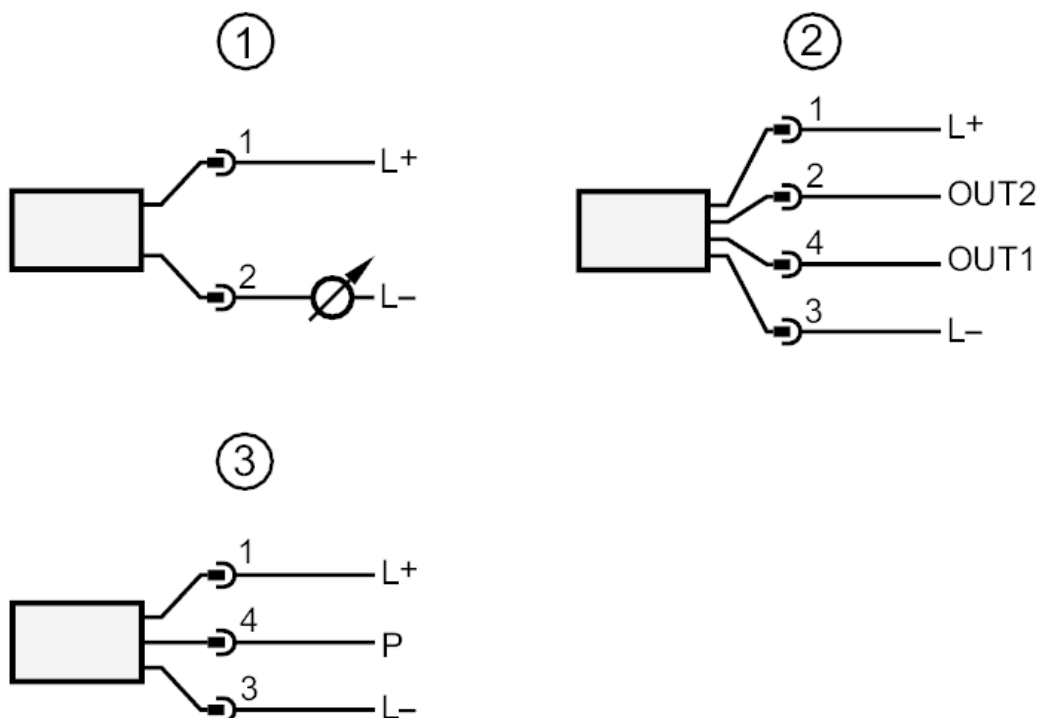




Flush pressure sensor with display

PI-006-REA01-MFRKG/US/ IP

Connection



- 1 connection for 2-wire operation
- 2 connection for 3-wire operation :
- OUT1 Switching output
- OUT2 Switching output
- analog output
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)

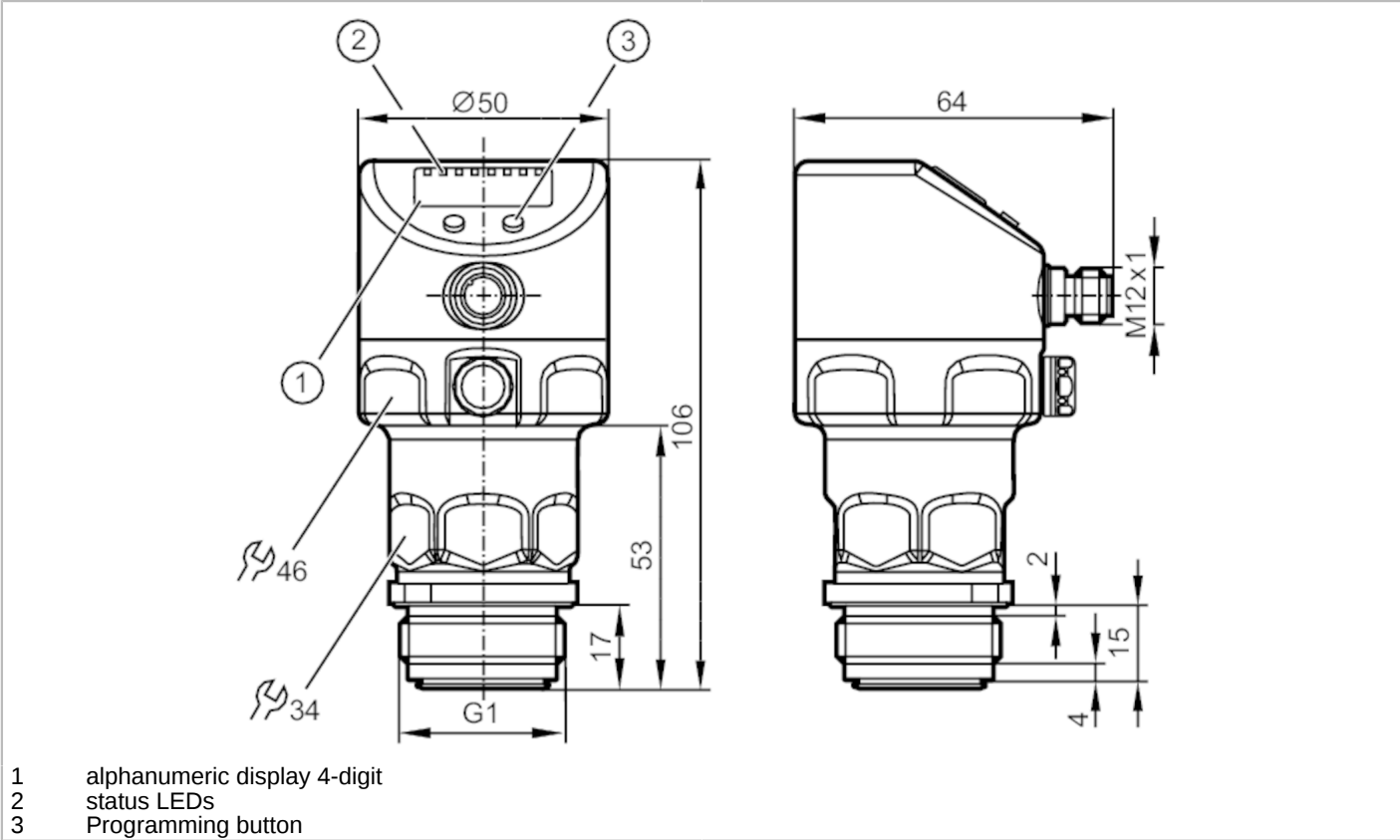
PI2717



Flush pressure sensor with display

PI-1,6-REA01-MFRKG/US/ IP

Alternative articles: PI1717
When selecting an alternative article and accessories please note that technical data may differ!



 ACS  CRN  LISTED EC 1935/2004 EHEDG Certified FCM    Reg31 

Product characteristics				
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1			
Measuring range	-0.1...1.6 bar	-100...1600 mbar	-1.46...23.2 psi	-10...160 kPa
Process connection	threaded connection G 1 external thread Aseptoflex Vario			
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...125; (145 max. 1h)			
Min. burst pressure	40000 mbar	580 psi	4000 kPa	
Pressure rating	15000 mbar	215 psi	1500 kPa	
Vacuum resistance	-1000 mbar		-0.1 MPa	
Type of pressure	relative pressure			
No dead space	yes			
MAWP (for applications according to CRN)	[bar] 15			
Electrical data				
Min. insulation resistance	[MΩ] 100; (500 V DC)			
Protection class	III			



Flush pressure sensor with display

PI-1,6-REA01-MFRKG/US/ /P

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]	(Ub - 10 V) / 20 mA		
Measuring/setting range				
Measuring range	-0.1...1.6 bar	-100...1600 mbar	-1.46...23.2 psi	-10...160 kPa
Set point SP	-96...1600 mbar	-1.4...23.2 psi	-9.6...160 kPa	
Reset point rP	-100...1598 mbar	-1.44...23.16 psi	-10...159.8 kPa	
Analog start point	-100...1200 mbar	-1.46...17.42 psi	-10...120 kPa	
Analog end point	300...1600 mbar	4.34...23.2 psi	30...160 kPa	
In steps of	2 mbar	0.02 psi	0.2 kPa	
Factory setting		SP1 = 0.4 bar	rP1 = 0.368 bar	
		SP2 = 1.2 bar	rP2 = 1.168 bar	
		ASP = 0.0 bar	AEP = 1.6 bar	
		dAP = 0.06 s	dAA = 0.03 s	



Flush pressure sensor with display

PI-1,6-REA01-MFRKG/US/ /P

Accuracy / deviations		
Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)	
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)	
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1 , 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)	
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]	< ± 0,05; (0...70 °C)	
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...70 °C)	
Reaction times		
Damping process value dAP [s]	0...30	
Damping for the analog output dAA [s]	0.01...99.99	
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	
Interfaces		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.0	
Profiles	Smart Sensor - SSP 0	Generic Profiled Sensor
	Function	Device identification
	Function	Process data variable
	Function	Device diagnosis
SIO mode	yes	
Required master port class	A	
Process data analog	1	
Process data binary	2	
Min. process cycle time [ms]	5	
Supported DeviceIDs	Type of operation	DeviceID
	default	727
Operating conditions		
Ambient temperature [°C]	-25...80	
Storage temperature [°C]	-40...100	



Flush pressure sensor with display

PI-1,6-REA01-MFRKG/US/ /P

Protection	IP 67; IP 68; IP 69K
------------	----------------------

Tests / approvals

EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 Surge	0,5/1 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
MTTF [years]	154	
Note on approval	Factory certificate available as download at www.factory-certificate.ifm	
UL approval	UL approval number	J018
	File number UL	E174189

Mechanical data

Weight [g]	360
Housing	tubular
Dimensions [mm]	Ø 50 / L = 106
Material	stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA
Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE
Min. pressure cycles	100 million
Process connection	threaded connection G 1 external thread Aseptoflex Vario

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; inH ₂ O; mWS; % of the span	

Remarks

Pack quantity	1 pcs.
---------------	--------

Electrical connection

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

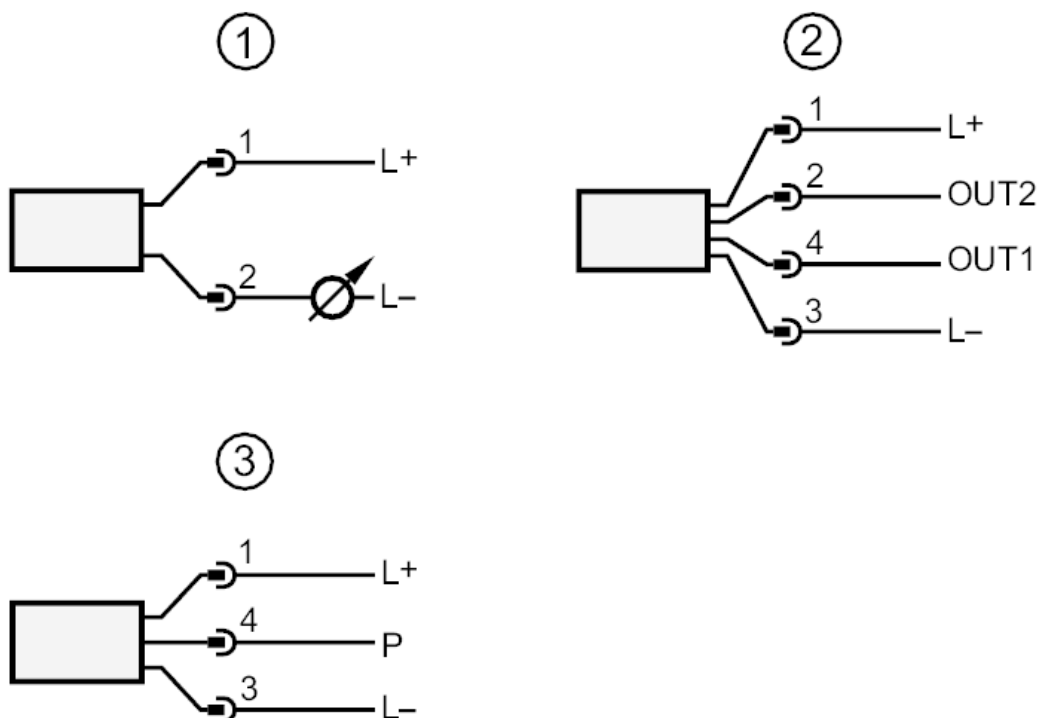




Flush pressure sensor with display

PI-1,6-REA01-MFRKG/US/ /P

Connection



- 1 connection for 2-wire operation
- 2 connection for 3-wire operation :
- OUT1 Switching output
- OUT2 Switching output
- analog output
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)

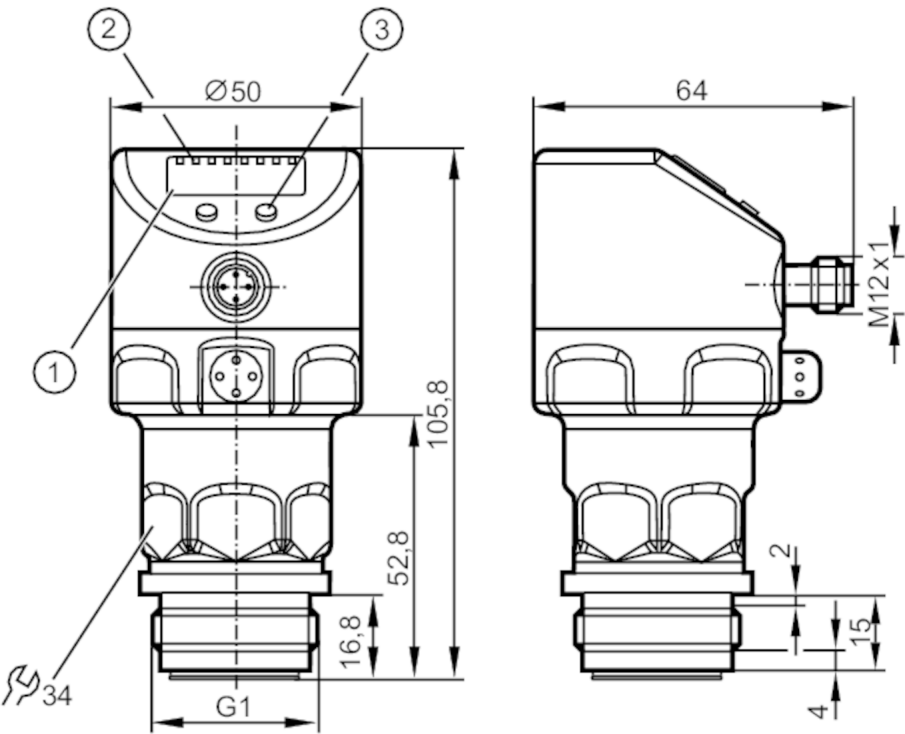


Flush pressure sensor with display

PI-,10BREA01-MFRKG/US/ /P

Alternative articles: PI1789

When selecting an alternative article and accessories please note that technical data may differ!



- 1 alphanumeric display 4-digit
- 2 status LEDs
- 3 Programming button



Product characteristics				
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1			
Measuring range	-0.005...0.1 bar	-5...100 mbar	-2...40.16 inH2O	-0.5...10 kPa
Process connection	threaded connection G 1 external thread Aseptoflex Vario			
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...125; (145 max. 1h)			
Min. burst pressure	30000 mbar	12044 inH2O	3000 kPa	
Pressure rating	4000 mbar	1606 inH2O	400 kPa	
Vacuum resistance	-1000 mbar		-0.1 MPa	
Type of pressure	relative pressure			
No dead space	yes			
MAWP (for applications according to CRN)	[bar] 4			



Flush pressure sensor with display

PI-,10BREA01-MFRKG/US/ /P

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]	(Ub - 10 V) / 20 mA		
Measuring/setting range				
Measuring range		-0.005...0.1 bar	-5...100 mbar	-2...40.16 inH2O -0.5...10 kPa
Set point SP		-4.8...100 mbar	-1.92...40.16 inH2O	-0.48...10 kPa
Reset point rP		-5...99.8 mbar	-2...40.08 inH2O	-0.5...9.98 kPa
Analog start point		-5...75 mbar	-2...30.12 inH2O	-0.5...7.5 kPa
Analog end point		20...100 mbar	8.04...40.16 inH2O	2...10 kPa
In steps of		0.1 mbar	0.04 inH2O	0.01 kPa



Flush pressure sensor with display

PI-,10BREA01-MFRKG/US/ /P

Factory setting	SP1 = 25 mbar	rP1 = 23 mbar
	SP2 = 75 mbar	rP2 = 73 mbar
	ASP = 0 mbar	AEP = 100 mbar
	dAP = 0.06 s	dAA = 0.03 s

Accuracy / deviations

Switch point accuracy [% of the span]	< ± 0,5; (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; (Turn down 1:1, linearity, incl. hysteresis and repeatability, limit value setting to DIN EN IEC 62828-1)
Linearity deviation [% of the span]	< ± 0,25; (Turn down 1:1)
Hysteresis deviation [% of the span]	< ± 0,2; (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; (0...70 °C)
Temperature coefficient span [% of the span / 10 K]	< ± 0,2; (0...70 °C)

Reaction times

Damping process value dAP [s]	0...30
Damping for the analog output dAA [s]	0.01...99.99
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

Interfaces

Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.0	
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	259

Operating conditions

Ambient temperature [°C]	-25...80
Storage temperature [°C]	-40...100



Flush pressure sensor with display

PI-,10BREA01-MFRKG/US/ /P

Protection	IP 67; IP 68; IP 69K
------------	----------------------

Tests / approvals

EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 Surge	0,5/1 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
MTTF [years]	160	
Note on approval	Factory certificate available as download at www.factory-certificate.ifm	
UL approval	UL approval number	J018
	File number UL	E174189

Mechanical data

Weight [g]	362.6
Housing	tubular
Dimensions [mm]	Ø 50 / L = 105.8
Material	stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA
Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE
Min. pressure cycles	100 million
Process connection	threaded connection G 1 external thread Aseptoflex Vario

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; inH ₂ O; mmWS; % of the span	

Remarks

Pack quantity	1 pcs.
---------------	--------

Electrical connection

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

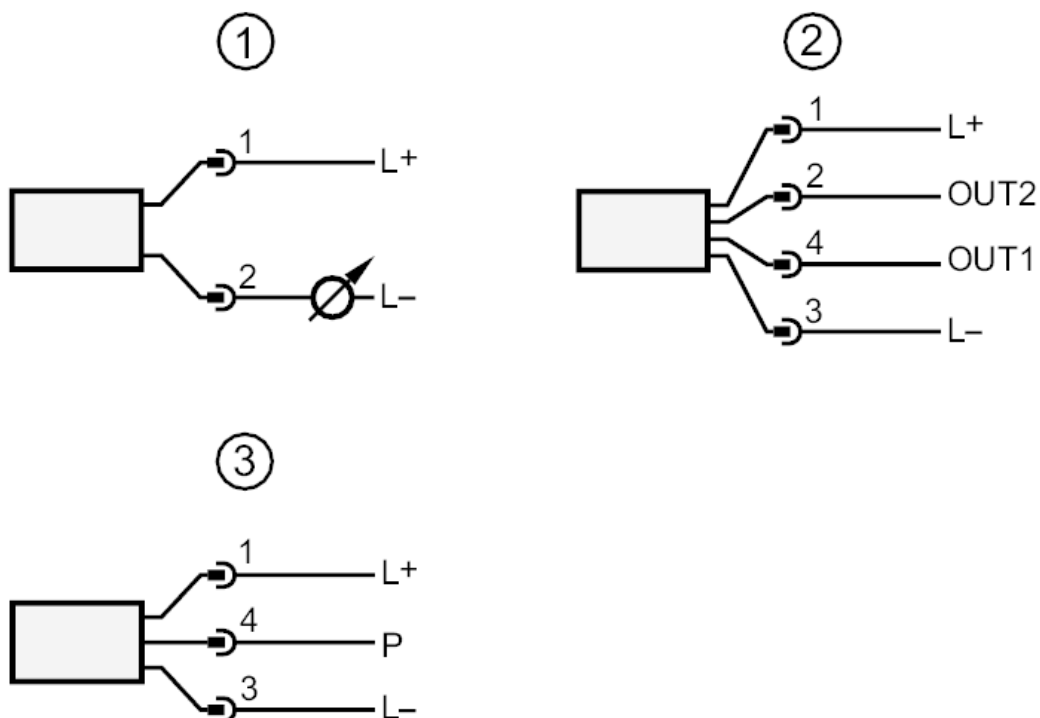




Flush pressure sensor with display

PI-,10BREA01-MFRKG/US/ /P

Connection



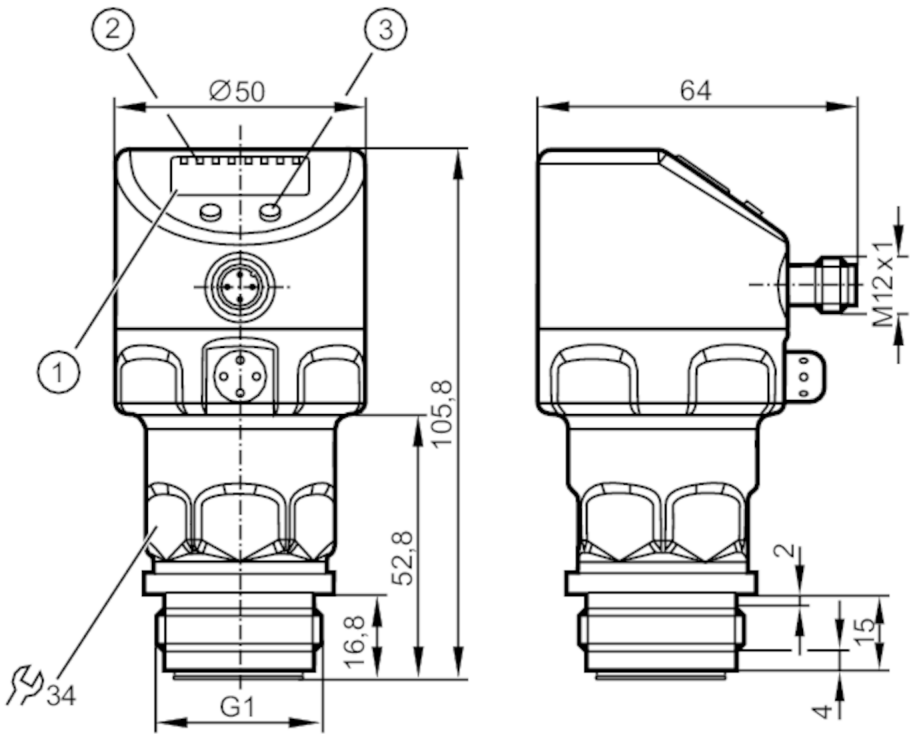
- 1 connection for 2-wire operation
- 2 connection for 3-wire operation :
- OUT1 Switching output
- OUT2 Switching output
- analog output
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)



Flush pressure sensor with display

PI-025-REA01-MFRKG/US/ IP

Alternative articles: PI1703
When selecting an alternative article and accessories please note that technical data may differ!



- 1 alphanumeric display 4-digit
- 2 status LEDs
- 3 Programming button



Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	-1...25 bar	-14.4...362.7 psi	-0.1....2.5 MPa
Process connection	threaded connection G 1 external thread Aseptoflex Vario		
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...125; (145 max. 1h)		
Min. burst pressure	350 bar	5075 psi	35 MPa
Pressure rating	100 bar	1450 psi	10 MPa
Vacuum resistance	-1000 mbar	-0.1 MPa	
Type of pressure	relative pressure; vacuum		
No dead space	yes		
MAWP (for applications according to CRN)	[bar]	60	



Flush pressure sensor with display

PI-025-REA01-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]	(Ub - 10 V) / 20 mA	
Measuring/setting range			
Measuring range	-1...25 bar	-14.4...362.7 psi	-0.1...2.5 MPa
Set point SP	-0.96...25 bar	-13.8...362.7 psi	-0.096...2.5 MPa
Reset point rP	-1...24.96 bar	-14.4...362.1 psi	-0.1...2.496 MPa
Analog start point	-1...18.74 bar	-14.4...271.8 psi	-0.1...1.874 MPa
Analog end point	5.24...25 bar	76.2...362.7 psi	0.524...2.5 MPa
In steps of	0.02 bar	0.3 psi	0.002 MPa



Flush pressure sensor with display

PI-025-REA01-MFRKG/US/ /P

Factory setting	SP1 = 6.24 bar	rP1 = 5.74 bar
	SP2 = 18.74 bar	rP2 = 18.24 bar
	ASP = 0.00 bar	AEP = 25.00 bar
	dAP = 0.06 s	dAA = 0.03 s

Accuracy / deviations

Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1, 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)
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]	< ± 0,05; (0...70 °C)
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...70 °C)

Reaction times

Damping process value dAP [s]	0...30
Damping for the analog output dAA [s]	0.01...99.99
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

Interfaces

Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.0	
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	156

Operating conditions

Ambient temperature [°C]	-25...80
Storage temperature [°C]	-40...100



Flush pressure sensor with display

PI-025-REA01-MFRKG/US/ /P

Protection	IP 67; IP 68; IP 69K
------------	----------------------

Tests / approvals

EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 Surge	0,5/1 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
MTTF [years]	160	
Note on approval	Factory certificate available as download at www.factory-certificate.ifm	

Mechanical data

Weight [g]	357.5
Housing	tubular
Dimensions [mm]	Ø 50 / L = 105.8
Material	stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA
Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE
Min. pressure cycles	100 million
Process connection	threaded connection G 1 external thread Aseptoflex Vario

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; coding: A; Contacts: gold-plated

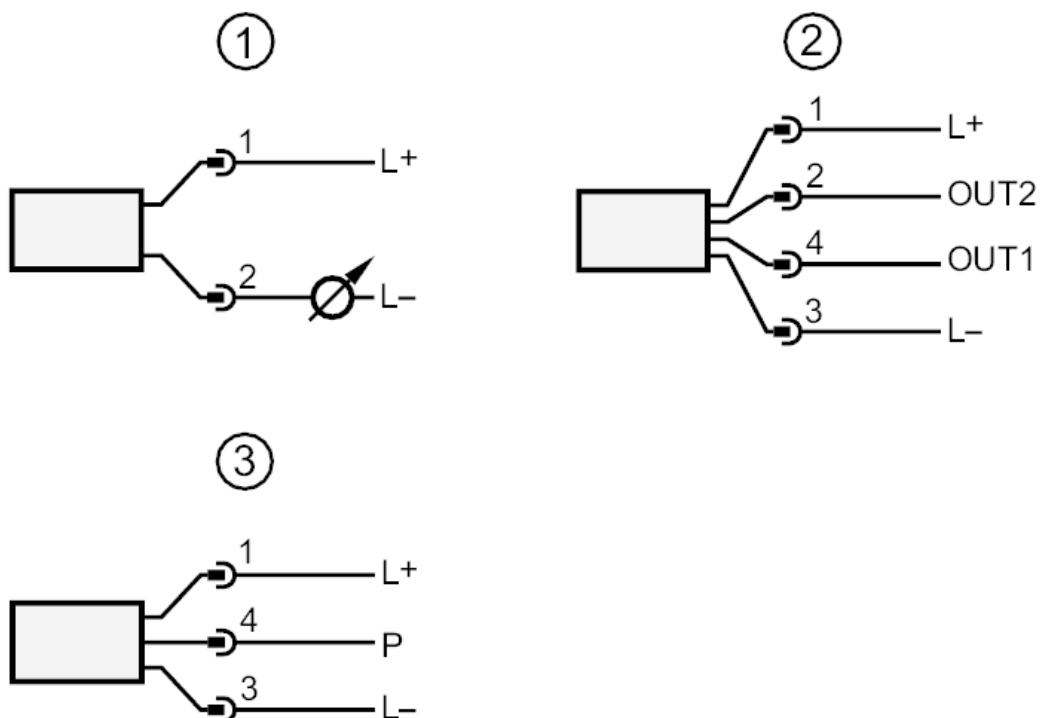




Flush pressure sensor with display

PI-025-REA01-MFRKG/US/ IP

Connection



- 1 connection for 2-wire operation
- 2 connection for 3-wire operation :
- OUT1 Switching output
- OUT2 Switching output
- analog output
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)

PI2794

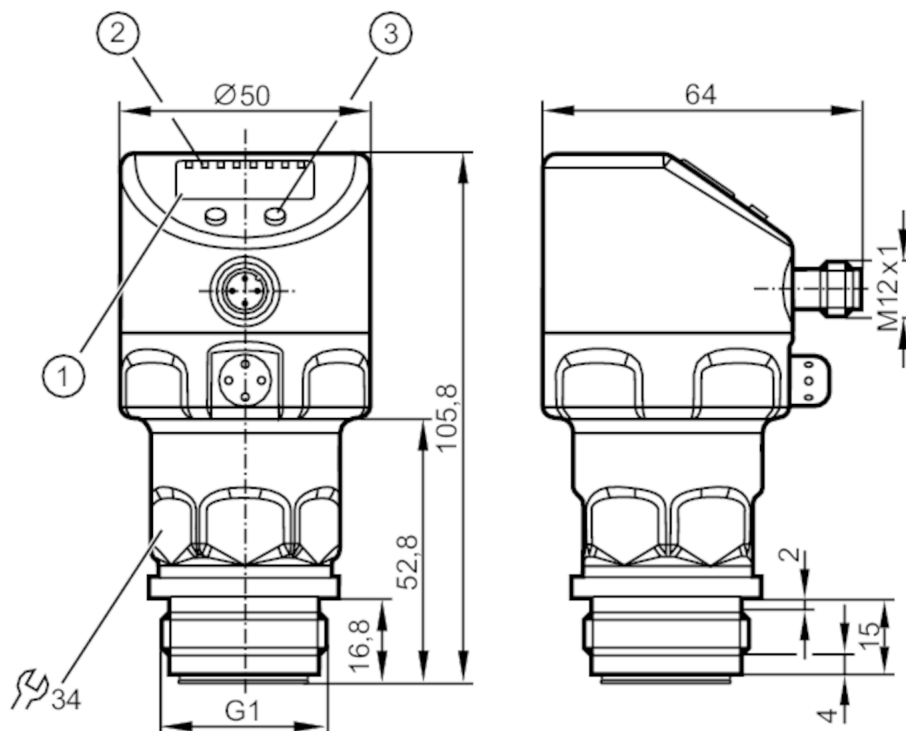


Flush pressure sensor with display

PI-010-REA01-MFRKG/US/ IP

Alternative articles: PI1704

When selecting an alternative article and accessories please note that technical data may differ!



- 1 alphanumeric display 4-digit
- 2 status LEDs
- 3 Programming button



ACS



CRN



EC 1935/2004

EHEDG Certified

FCM

FDA

IO-Link

NSF

Reg31

UK CA

NSF

Reg31

UK CA

UK CA

Product characteristics

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

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...125; (145 max. 1h)		
Min. bursting pressure	150 bar	2175 psi	15 MPa
Pressure rating	50 bar	725 psi	5 MPa
Vacuum resistance	-1000 mbar	-0.1 MPa	
Type of pressure	relative pressure; vacuum		
No dead space	yes		
MAWP (for applications according to CRN)	50 bar	725 psi	5 MPa



Flush pressure sensor with display

PI-010-REA01-MFRKG/US/ /P

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]	(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
Analog start point	-1...7.5 bar	-14.5...108.7 psi	-0.1...0.75 MPa
Analog 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



Flush pressure sensor with display

PI-010-REA01-MFRKG/US/ /P

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
	dAP = 0.06 s	dAA = 0.03 s

Accuracy / deviations

Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1, 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)
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]	< ± 0,05; (0...70 °C)
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...70 °C)

Reaction times

Damping process value dAP [s]	0...30
Damping for the analog output dAA [s]	0.01...99.99
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

Interfaces

Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.0	
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	157

Operating conditions

Ambient temperature [°C]	-25...80
Storage temperature [°C]	-40...100

PI2794



Flush pressure sensor with display

PI-010-REA01-MFRKG/US/ IP

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]	160	
Note on approval	Factory certificate available as download at www.factory-certificate.ifm	

Mechanical data

Weight [g]	351.8	
Housing	tubular	
Dimensions [mm]	Ø 50 / L = 105.8	
Material	stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA	
Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE	
Min. pressure cycles	100 million	
Process connection	threaded connection G 1 external thread Aseptoflex Vario	

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; coding: A; Contacts: gold-plated

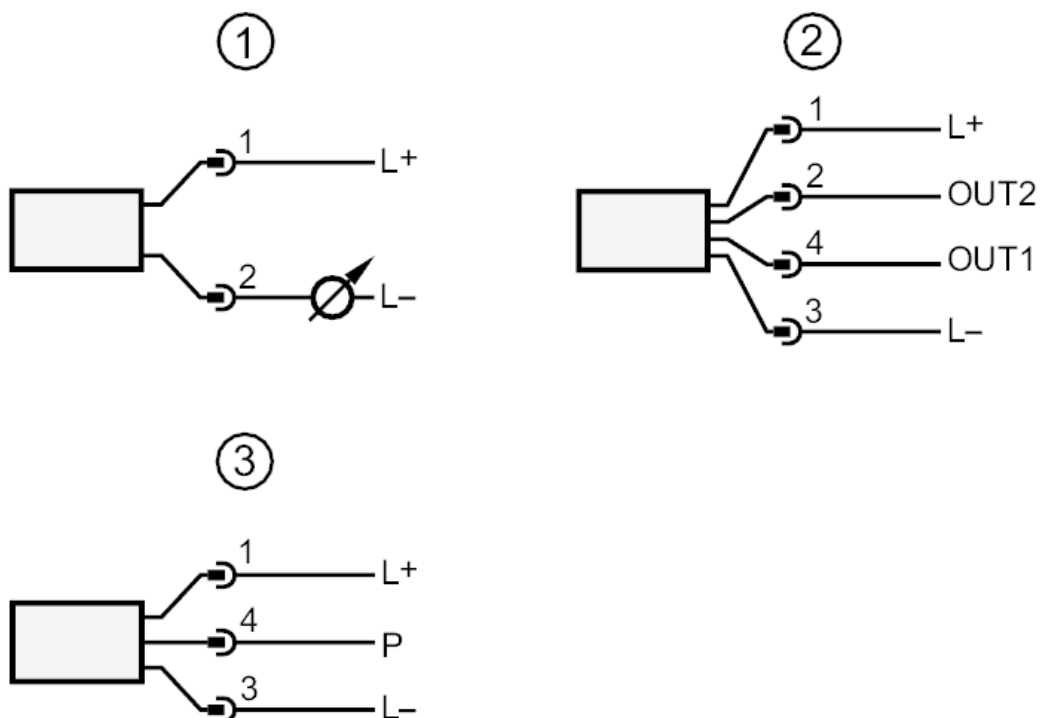




Flush pressure sensor with display

PI-010-REA01-MFRKG/US/ IP

Connection



- 1 connection for 2-wire operation
- 2 connection for 3-wire operation :
- OUT1 Switching output
- OUT2 Switching output
- analog output
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)

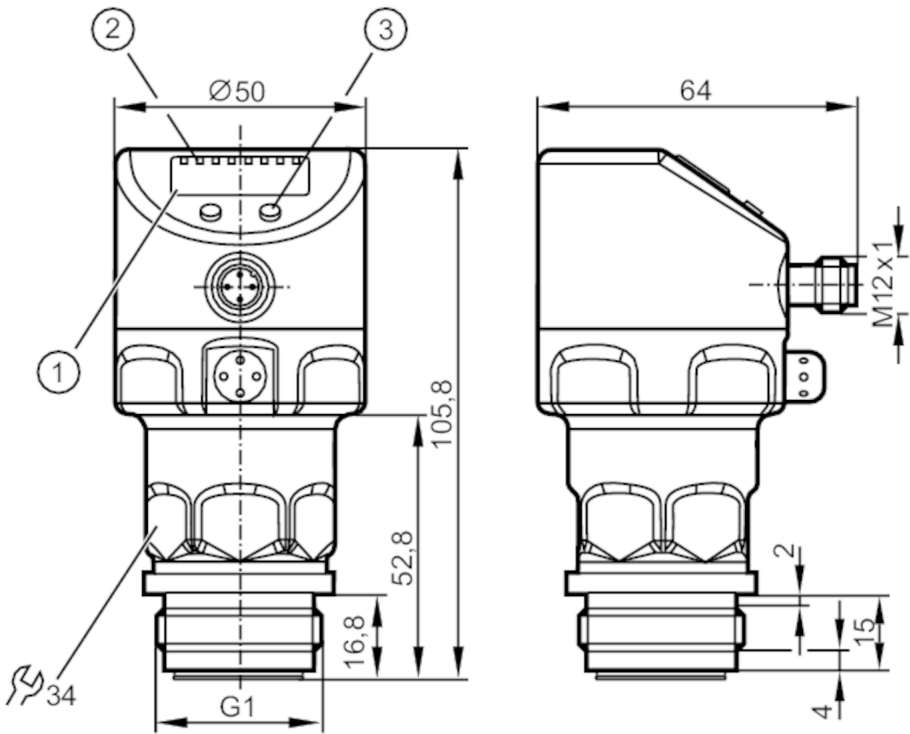


Flush pressure sensor with display

PI-004-REA01-MFRKG/US/ /P

Alternative articles: PI1705

When selecting an alternative article and accessories please note that technical data may differ!



- 1 alphanumeric display 4-digit
- 2 status LEDs
- 3 Programming button



Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	-1...4 bar	-14.5...58 psi	-100...400 kPa
Process connection	threaded connection G 1 external thread Aseptoflex Vario		
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...125; (145 max. 1h)		
Min. burst pressure	100 bar	1450 psi	10000 kPa
Pressure rating	30 bar	435 psi	3000 kPa
Vacuum resistance	-1000 mbar	-0.1 MPa	
Type of pressure	relative pressure; vacuum		
No dead space	yes		
MAWP (for applications according to CRN)	[bar]	30	



Flush pressure sensor with display

PI-004-REA01-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	
Measuring/setting range			
Measuring range	-1...4 bar	-14.5...58 psi	-100...400 kPa
Set point SP	-0.99...4 bar	-14.35...58 psi	-99...400 kPa
Reset point rP	-1...3.99 bar	-14.5...57.85 psi	-100...399 kPa
Analog start point	-1...3 bar	-14.5...43.5 psi	-100...300 kPa
Analog end point	0...4 bar	0...58 psi	0...400 kPa
In steps of	0.005 bar	0.05 psi	0.5 kPa



Flush pressure sensor with display

PI-004-REA01-MFRKG/US/ /P

Factory setting	SP1 = 1.000 bar	rP1 = 0.920 bar
	SP2 = 3.000 bar	rP2 = 2.920 bar
	ASP = 0.000 bar	AEP = 4.000 bar
	dAP = 0.06 s	dAA = 0.03 s

Accuracy / deviations

Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1, 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)
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]	< ± 0,05; (0...70 °C)
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...70 °C)

Reaction times

Damping process value dAP [s]	0...30
Damping for the analog output dAA [s]	0.01...99.99
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

Interfaces

Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.0	
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	158

Operating conditions

Ambient temperature [°C]	-25...80
Storage temperature [°C]	-40...100



Flush pressure sensor with display

PI-004-REA01-MFRKG/US/ IP

Protection	IP 67; IP 68; IP 69K
------------	----------------------

Tests / approvals

EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 Surge	0,5/1 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
MTTF [years]	160	
Note on approval	Factory certificate available as download at www.factory-certificate.ifm	

Mechanical data

Weight [g]	358.5
Housing	tubular
Dimensions [mm]	Ø 50 / L = 105.8
Material	stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA
Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE
Min. pressure cycles	100 million
Process connection	threaded connection G 1 external thread Aseptoflex Vario

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; kPa; % of the span	

Remarks

Pack quantity	1 pcs.
---------------	--------

Electrical connection

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

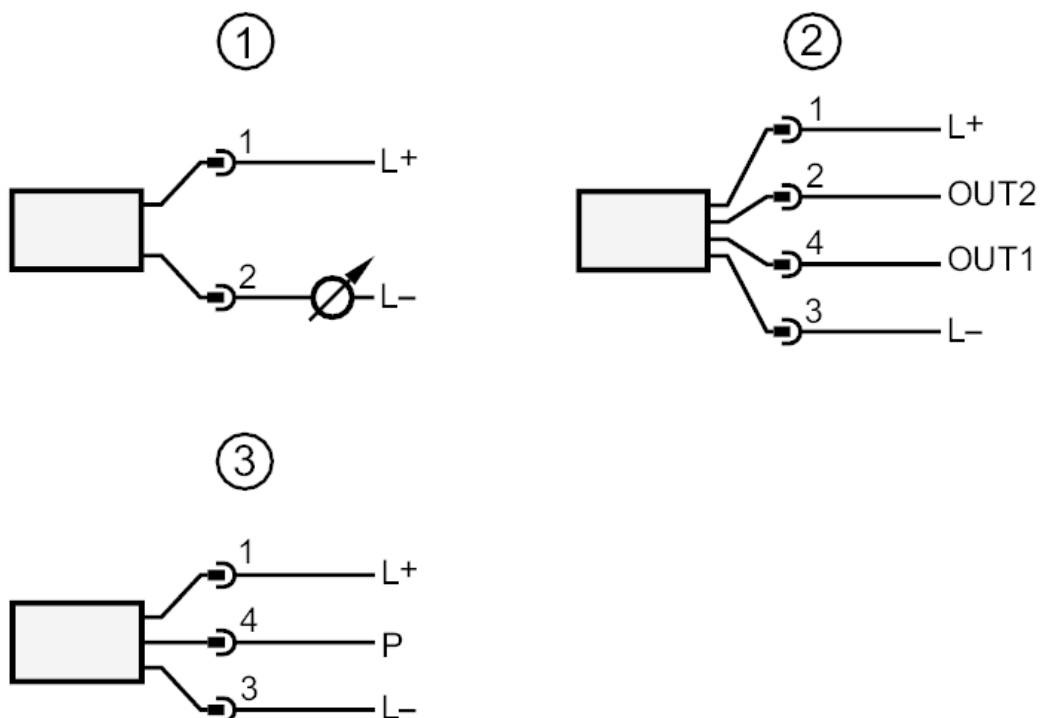




Flush pressure sensor with display

PI-004-REA01-MFRKG/US/ IP

Connection



- 1 connection for 2-wire operation
- 2 connection for 3-wire operation :
- OUT1 Switching output
- OUT2 Switching output
- analog output
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)

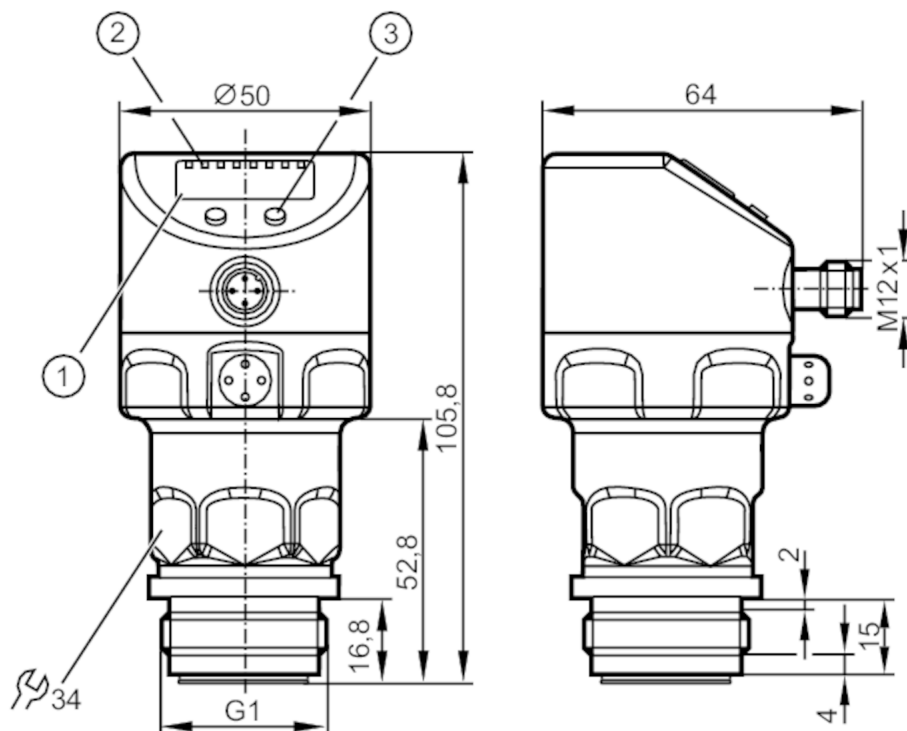


Flush pressure sensor with display

PI-2,5-REA01-MFRKG/US/ /P

Alternative articles: PI1706

When selecting an alternative article and accessories please note that technical data may differ!



- 1 alphanumeric display 4-digit
 2 status LEDs
 3 Programming button



ACS



CRN



EC 1935/2004

EHEDG

Certified

FCM

FDA

IO-Link

NSF

Reg31

UK

CA

Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1			
Measuring range	-0.124...2.5 bar	-124...2500 mbar	-1.8...36.27 psi	-12.4...250 kPa
Process connection	threaded connection G 1 external thread Aseptoflex Vario			

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...125; (145 max. 1h)		
Min. burst pressure	50 bar	725 psi	5000 kPa
Pressure rating	20 bar	290 psi	2000 kPa
Vacuum resistance	-1000 mbar	-0.1 MPa	
Type of pressure	relative pressure		
No dead space	yes		
MAWP (for applications according to CRN) [bar]	20		



Flush pressure sensor with display

PI-2,5-REA01-MFRKG/US/ /P

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]	(Ub - 10 V) / 20 mA		
Measuring/setting range				
Measuring range		-0.124...2.5 bar	-124...2500 mbar	-1.8...36.27 psi -12.4...250 kPa
Set point SP		-0.12...2.5 bar	-1.74...36.27 psi	-12...250 kPa
Reset point rP		-0.124...2.496 bar	-1.8...36.21 psi	-12.4...249.6 kPa
Analog start point		-0.124...1.88 bar	-1.8...27.27 psi	-12.4...188 kPa
Analog end point		0.5...2.5 bar	7.26...36.27 psi	50...250 kPa
In steps of		0.002 bar	0.03 psi	0.2 kPa



Flush pressure sensor with display

PI-2,5-REA01-MFRKG/US/ /P

Factory setting	SP1 = 0.624 bar	rP1 = 0.574 bar
	SP2 = 1.874 bar	rP2 = 1.824 bar
	ASP = 0.000 bar	AEP = 2.500 bar
	dAP = 0.06 s	dAA = 0.03 s

Accuracy / deviations

Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1, 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)
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]	< ± 0,05; (0...70 °C)
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...70 °C)

Reaction times

Damping process value dAP [s]	0...30
Damping for the analog output dAA [s]	0.01...99.99
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

Interfaces

Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.0	
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	159

Operating conditions

Ambient temperature [°C]	-25...80
Storage temperature [°C]	-40...100



Flush pressure sensor with display

PI-2,5-REA01-MFRKG/US/ /P

Protection	IP 67; IP 68; IP 69K
------------	----------------------

Tests / approvals

EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 Surge	0,5/1 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
MTTF [years]	160	
Note on approval	Factory certificate available as download at www.factory-certificate.ifm	

Mechanical data

Weight [g]	358.5
Housing	tubular
Dimensions [mm]	Ø 50 / L = 105.8
Material	stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA
Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE
Min. pressure cycles	100 million
Process connection	threaded connection G 1 external thread Aseptoflex Vario

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; kPa; psi; inH ₂ O; mWS; % of the span	

Remarks

Pack quantity	1 pcs.
---------------	--------

Electrical connection

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

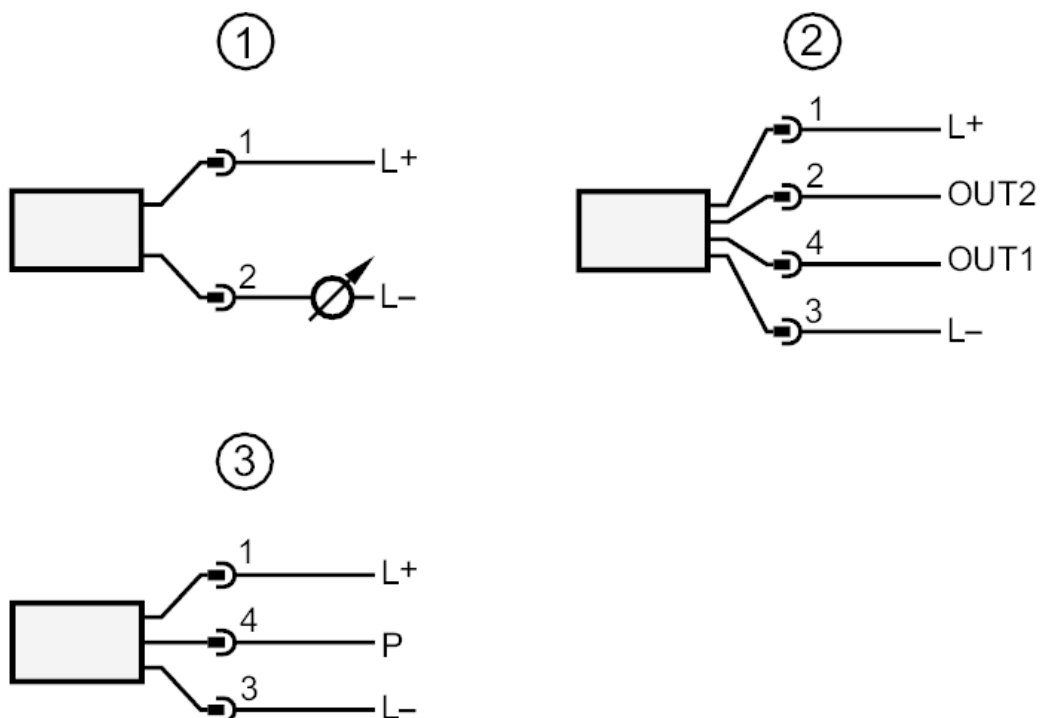




Flush pressure sensor with display

PI-2,5-REA01-MFRKG/US/ /P

Connection



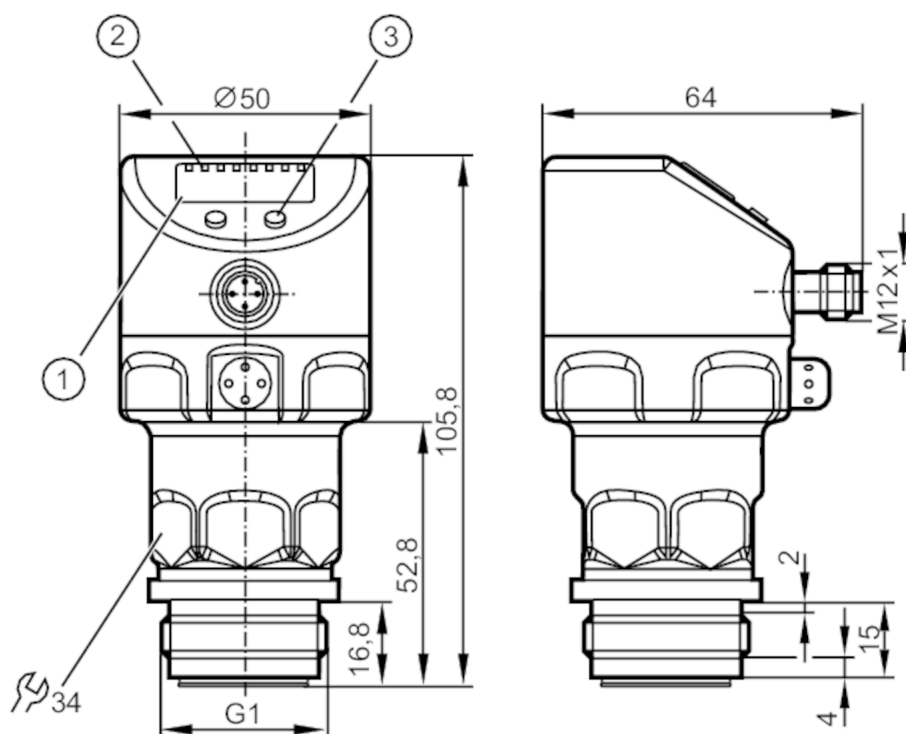
- 1 connection for 2-wire operation
- 2 connection for 3-wire operation :
- OUT1 Switching output
- OUT2 Switching output
- analog output
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)

Flush pressure sensor with display

PI-001BREA01-MFRKG/US/ /P

Alternative articles: PI1707

When selecting an alternative article and accessories please note that technical data may differ!



- 1 alphanumeric display 4-digit
 2 status LEDs
 3 Programming button



ACS



CRN



US

EC 1935/2004

EHEDG Certified

FCM



Reg31



Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1			
Measuring range	-0.05...1 bar	-50...1000 mbar	-0.73...14.5 psi	-5...100 kPa
Process connection	threaded connection G 1 external thread Aseptoflex Vario			

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...125; (145 max. 1h)		
Min. burst pressure	30000 mbar	435 psi	3000 kPa
Pressure rating	10000 mbar	145 psi	1000 kPa
Vacuum resistance	-1000 mbar	-0.1 MPa	
Type of pressure	relative pressure		
No dead space	yes		
MAWP (for applications according to CRN) [bar]	10		



Flush pressure sensor with display

PI-001BREA01-MFRKG/US/ /P

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]	(Ub - 10 V) / 20 mA		
Measuring/setting range				
Measuring range		-0.05...1 bar	-50...1000 mbar	-0.73...14.5 psi -5...100 kPa
Set point SP		-48...1000 mbar	-0.7...14.5 psi	-4.8...100 kPa
Reset point rP		-50...998 mbar	-0.73...14.47 psi	-0.5...99.8 kPa
Analog start point		-50...750 mbar	-0.73...10.88 psi	-5...75 kPa
Analog end point		200...1000 mbar	2.9...14.5 psi	20...100 kPa
In steps of		1 mbar	0.01 psi	0.1 kPa



Flush pressure sensor with display

PI-001BREA01-MFRKG/US/ /P

Factory setting	SP1 = 250 mbar	rP1 = 230 mbar
	SP2 = 750 mbar	rP2 = 730 mbar
	ASP = 0 mbar	AEP = 1000 mbar
	dAP = 0.06 s	dAA = 0.03 s

Accuracy / deviations

Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1, 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)
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]	< ± 0,05; (0...70 °C)
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...70 °C)

Reaction times

Damping process value dAP [s]	0...30
Damping for the analog output dAA [s]	0.01...99.99
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

Interfaces

Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.0	
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	256

Operating conditions

Ambient temperature [°C]	-25...80
Storage temperature [°C]	-40...100



Flush pressure sensor with display

PI-001BREA01-MFRKG/US/ /P

Protection	IP 67; IP 68; IP 69K
------------	----------------------

Tests / approvals

EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 Surge	0,5/1 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
MTTF [years]	160	
Note on approval	Factory certificate available as download at www.factory-certificate.ifm	

Mechanical data

Weight [g]	356
Housing	tubular
Dimensions [mm]	Ø 50 / L = 105.8
Material	stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA
Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE
Min. pressure cycles	100 million
Process connection	threaded connection G 1 external thread Aseptoflex Vario

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; inH ₂ O; mWS; % of the span	

Remarks

Pack quantity	1 pcs.
---------------	--------

Electrical connection

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

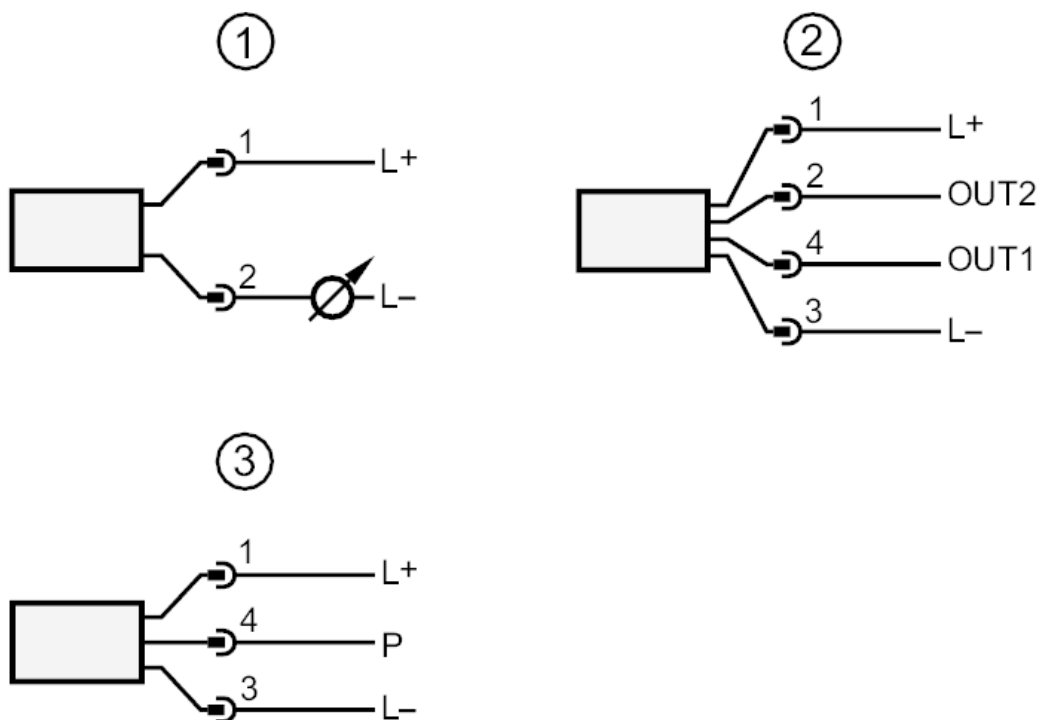




Flush pressure sensor with display

PI-001BREA01-MFRKG/US/ /P

Connection



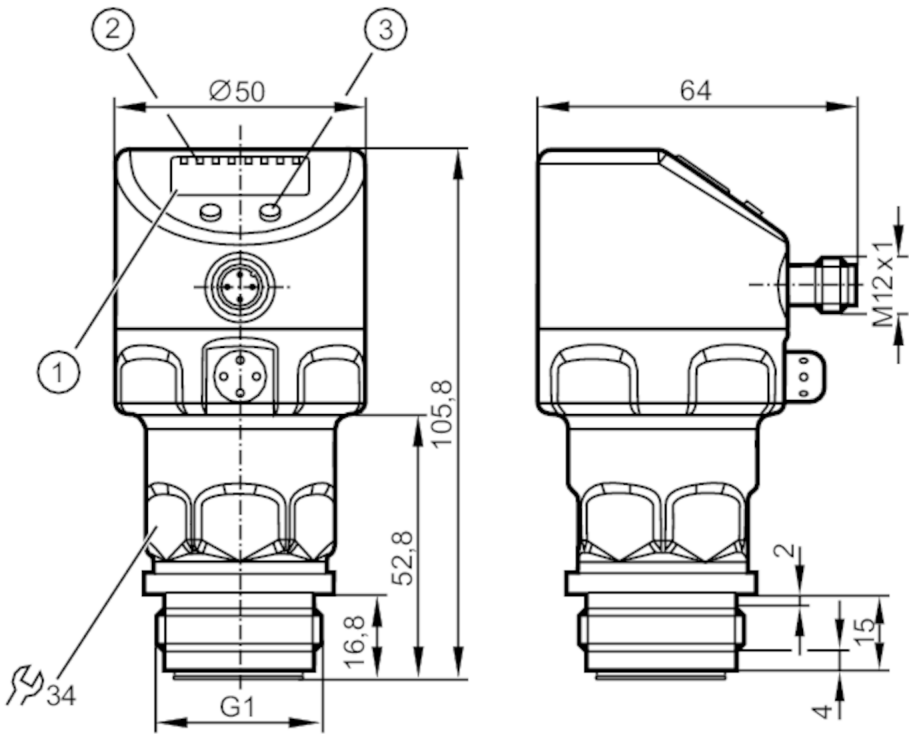
- 1 connection for 2-wire operation
- 2 connection for 3-wire operation :
- OUT1 Switching output
- OUT2 Switching output
- analog output
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)



Flush pressure sensor with display

PI-,25BREA01-MFRKG/US/ /P

Alternative articles: PI1708
When selecting an alternative article and accessories please note that technical data may differ!



- 1 alphanumeric display 4-digit
- 2 status LEDs
- 3 Programming button

ACS CRN EC 1935/2004 EHEDG Certified FCM Reg31

Product characteristics				
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1			
Measuring range	-0.0124...0.25 bar	-12.4...250 mbar	-5...100.4 inH2O	-1.24...25 kPa
Process connection	threaded connection G 1 external thread Aseptoflex Vario			
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...125; (145 max. 1h)			
Min. burst pressure	30000 mbar	12044 inH2O	3000 kPa	
Pressure rating	6000 mbar	2400 inH2O	600 kPa	
Vacuum resistance	-1000 mbar		-0.1 MPa	
Type of pressure	relative pressure			
No dead space	yes			
MAWP (for applications according to CRN)	[bar] 10			



Flush pressure sensor with display

PI-,25BREA01-MFRKG/US/ /P

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]	(Ub - 10 V) / 20 mA		
Measuring/setting range				
Measuring range		-0.0124...0.25 bar	-12.4...250 mbar	-5...100.4 inH2O -1.24...25 kPa
Set point SP		-12...250 mbar	-4.8...100.4 inH2O	-1.2...25 kPa
Reset point rP		-12.4...249.6 mbar	-5...100.2 inH2O	-1.24...24.96 kPa
Analog start point		-12.4...187.4 mbar	-5...75.2 inH2O	-1.24...18.74 kPa
Analog end point		50...250 mbar	20.1...100.4 inH2O	5...25 kPa
In steps of		0.2 mbar	0.1 inH2O	0.02 kPa



Flush pressure sensor with display

PI-,25BREA01-MFRKG/US/ /P

Factory setting	SP1 = 62.4 mbar	rP1 = 57.4 mbar
	SP2 = 187.4 mbar	rP2 = 182.4 mbar
	ASP = 0.0 mbar	AEP = 250.0 mbar
	dAP = 0.06 s	dAA = 0.03 s

Accuracy / deviations

Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1, 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)
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]	< ± 0,05; (0...70 °C)
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...70 °C)

Reaction times

Damping process value dAP [s]	0...30
Damping for the analog output dAA [s]	0.01...99.99
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

Interfaces

Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.0	
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	257

Operating conditions

Ambient temperature [°C]	-25...80
Storage temperature [°C]	-40...100



Flush pressure sensor with display

PI-,25BREA01-MFRKG/US/ /P

Protection	IP 67; IP 68; IP 69K
------------	----------------------

Tests / approvals

EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 Surge	0,5/1 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
MTTF [years]	160	
Note on approval	Factory certificate available as download at www.factory-certificate.ifm	
UL approval	UL approval number	J018
	File number UL	E174189

Mechanical data

Weight [g]	354
Housing	tubular
Dimensions [mm]	Ø 50 / L = 105.8
Material	stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA
Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE
Min. pressure cycles	100 million
Process connection	threaded connection G 1 external thread Aseptoflex Vario

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; inH ₂ O; mmWS; % of the span	

Remarks

Pack quantity	1 pcs.
---------------	--------

Electrical connection

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

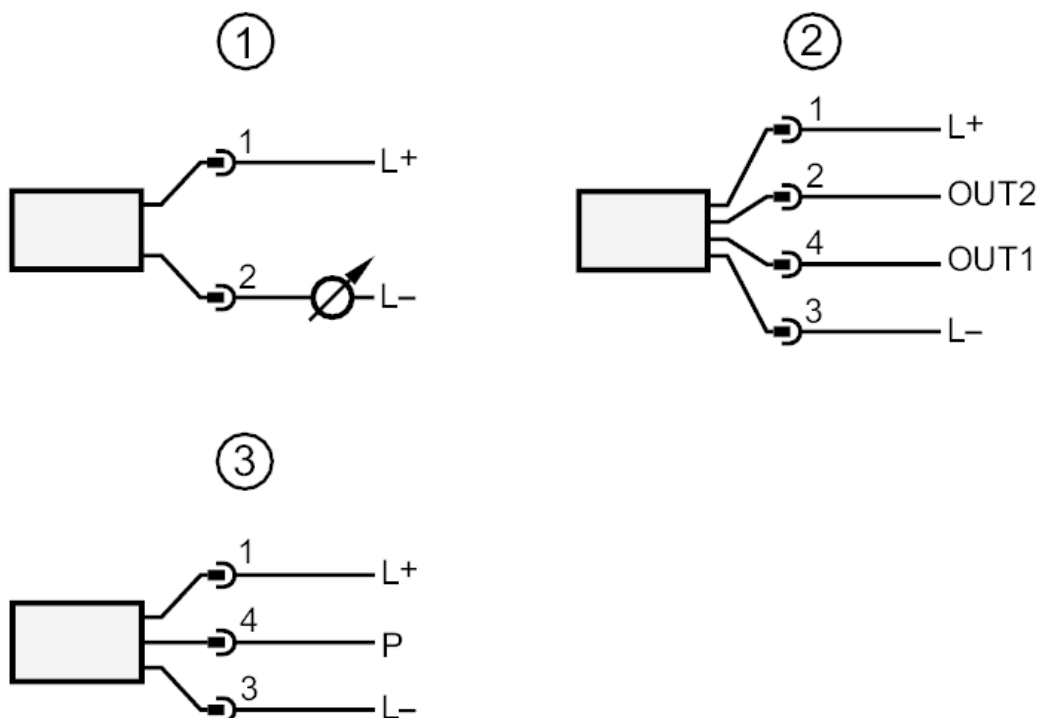




Flush pressure sensor with display

PI-,25BREA01-MFRKG/US/ /P

Connection



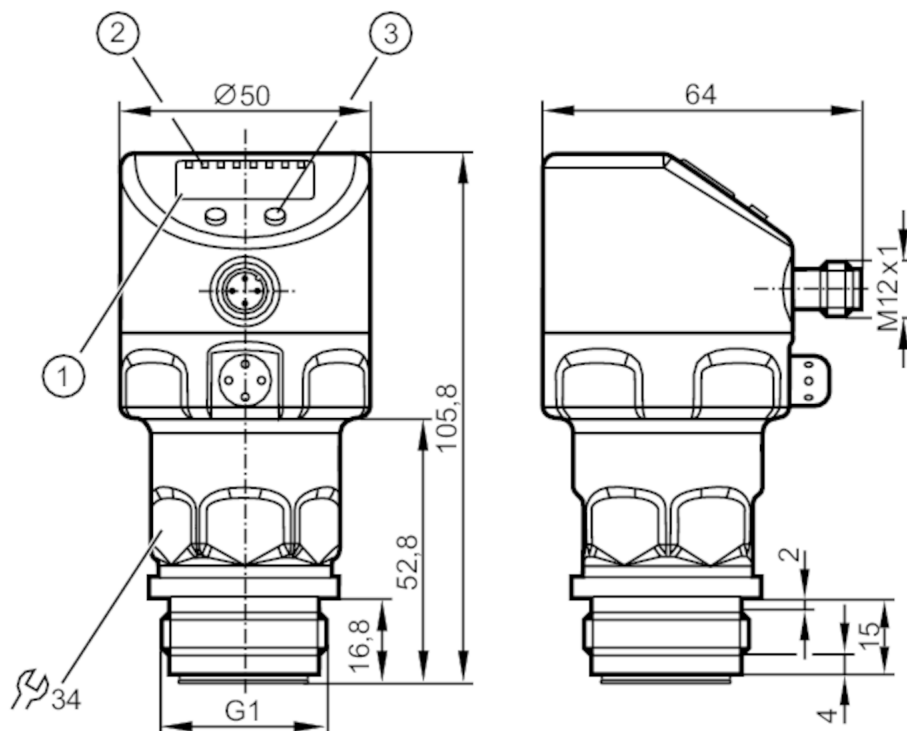
- 1 connection for 2-wire operation
- 2 connection for 3-wire operation :
- OUT1 Switching output
- OUT2 Switching output
- analog output
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)

Flush pressure sensor with display

PI-1-1BREA01-MFRKG/US/ /P

Alternative articles: PI1709

When selecting an alternative article and accessories please note that technical data may differ!



- 1 alphanumeric display 4-digit
- 2 status LEDs
- 3 Programming button



ACS



CRN



EC 1935/2004

EHEDG

Certified

FCM

FDA

IO-Link

NSF

Reg31

UK

CA

Product characteristics

Number of inputs and outputs

Number of digital outputs: 2; Number of analog outputs: 1

Measuring range

-1...1 bar

-1000...1000 mbar

-14.5...14.5 psi

-100...100 kPa

Process connection

threaded connection G 1 external thread Aseptoflex Vario

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...125; (145 max. 1h)

Min. burst pressure

30000 mbar

435 psi

3000 kPa

Pressure rating

10000 mbar

145 psi

1000 kPa

Vacuum resistance

-1000 mbar

-0.1 MPa

Type of pressure

relative pressure; vacuum

No dead space

yes

MAWP (for applications according to CRN)

[bar]

10



Flush pressure sensor with display

PI-1-1BREA01-MFRKG/US/ /P

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]	(Ub - 10 V) / 20 mA		
Measuring/setting range				
Measuring range		-1...1 bar	-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



Flush pressure sensor with display

PI-1-1BREA01-MFRKG/US/ /P

Factory setting	SP1 = -500 mbar	rP1 = -540 mbar
	SP2 = 500 mbar	rP2 = 460 mbar
	ASP = -1000 mbar	AEP = 1000 mbar
	dAP = 0.06 s	dAA = 0.03 s

Accuracy / deviations

Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1, 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)
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]	< ± 0,05; (0...70 °C)
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...70 °C)

Reaction times

Damping process value dAP [s]	0...30
Damping for the analog output dAA [s]	0.01...99.99
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

Interfaces

Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.0	
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	258

Operating conditions

Ambient temperature [°C]	-25...80
Storage temperature [°C]	-40...100



Flush pressure sensor with display

PI-1-1BREA01-MFRKG/US/ /P

Protection	IP 67; IP 68; IP 69K
------------	----------------------

Tests / approvals

EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 Surge	0,5/1 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
MTTF [years]	160	
Note on approval	Factory certificate available as download at www.factory-certificate.ifm	

Mechanical data

Weight [g]	359	
Housing	tubular	
Dimensions [mm]	Ø 50 / L = 105.8	
Material	stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA	
Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE	
Min. pressure cycles	100 million	
Process connection	threaded connection G 1 external thread Aseptoflex Vario	

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; inH ₂ O; mWS; % of the span	

Remarks

Pack quantity	1 pcs.
---------------	--------

Electrical connection

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

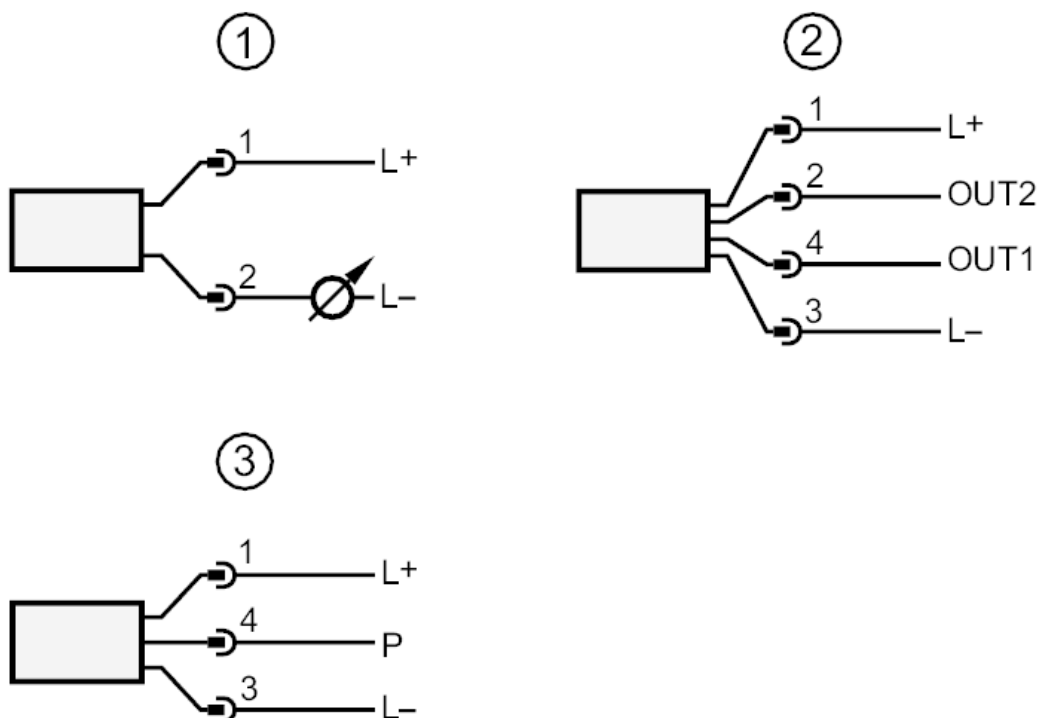




Flush pressure sensor with display

PI-1-1BREA01-MFRKG/US/ /P

Connection



- 1 connection for 2-wire operation
- 2 connection for 3-wire operation :
- OUT1 Switching output
- OUT2 Switching output
- analog output
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)

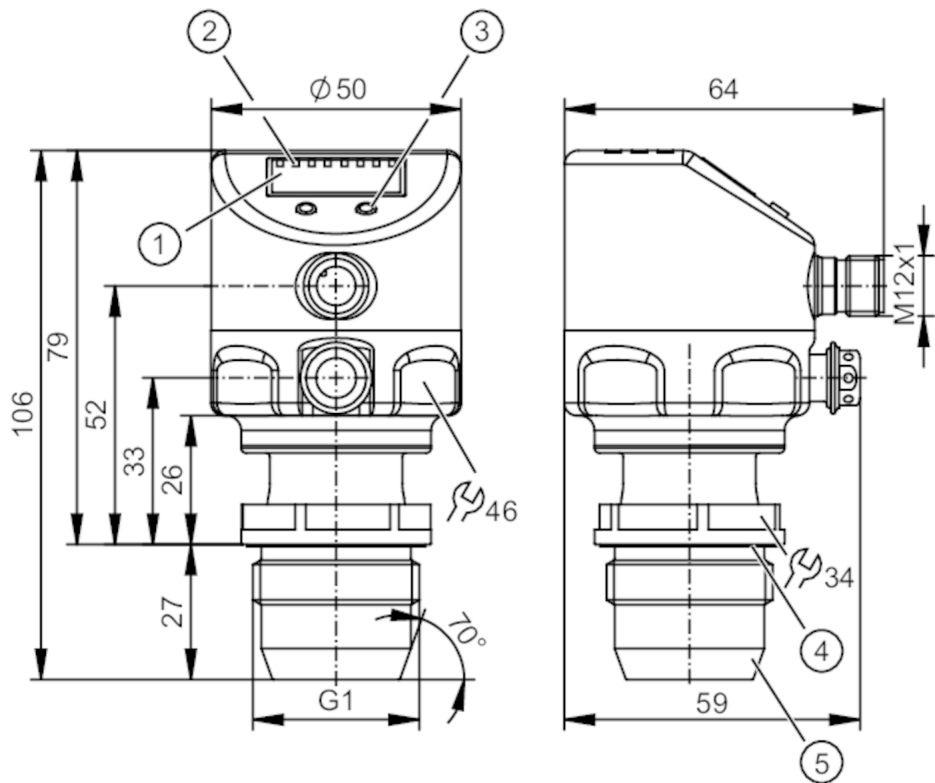


Flush pressure sensor with display

PI-006-REA01-MFRKG/US/ I/P

Alternative articles: PI1815

When selecting an alternative article and accessories please note that technical data may differ!



- 1 alphanumeric display 4-digit
 - 2 status LEDs
 - 3 Programming button
 - 4 groove with sealing ring
 - 5 sealing contour external thread G1
- Attention: The unit must only be installed in a process connection for G1 sealing cone.
The G1A sealing cone of the unit is only suited for adapters with metal end stop.



Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	-1...6 bar	-14.5...87 psi	-100...600 kPa
Process connection	threaded connection G 1 external thread sealing cone Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop.		
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...125; (145 max. 1h)		
Min. burst pressure	100 bar	1450 psi	10000 kPa
Pressure rating	30 bar	435 psi	3000 kPa
Vacuum resistance	-1000 mbar		-0.1 MPa
Type of pressure	relative pressure; vacuum		



Flush pressure sensor with display

PI-006-REA01-MFRKG/US/ /P

No dead space		yes		
MAWP (for applications according to CRN)	[bar]	30		
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]	(Ub - 10 V) / 20 mA		
Measuring/setting range				
Measuring range		-1...6 bar	-14.5...87 psi	-100...600 kPa
Set point SP		-0.99...6 bar	-14.4...87 psi	-99...600 kPa
Reset point rP		-1...5.99 bar	-14.5...86.9 psi	-100...599 kPa
Analog start point		-1...4.5 bar	-14.5...65.3 psi	-100...450 kPa
Analog end point		0.5...6 bar	7.3...87 psi	50...600 kPa



Flush pressure sensor with display

PI-006-REA01-MFRKG/US/ /P

In steps of	0.005 bar	0.1 psi	0.5 kPa
Factory setting		SP1 = 1.5 bar	rP1 = 1.38 bar
		SP2 = 4.5 bar	rP2 = 4.380 bar
		ASP = 0.0 bar	AEP = 6.0 bar
		dAP = 0.06 s	dAA = 0.03 s

Accuracy / deviations

Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1, 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)
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]	< ± 0,05; (0...70 °C)
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...70 °C)

Reaction times

Damping process value dAP [s]	0...30
Damping for the analog output dAA [s]	0.01...99.99

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

Interfaces

Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.0	
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 default	DeviceID 728

Operating conditions

Ambient temperature [°C]	-25...80
--------------------------	----------

PI2815



Flush pressure sensor with display

PI-006-REA01-MFRKG/US/ /P

Storage temperature	[°C]	-40...100
Protection		IP 67; IP 68; IP 69K

Tests / approvals

EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 Surge	0,5/1 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
MTTF	[years]	154

Mechanical data

Weight	[g]	377
Housing		tubular
Dimensions	[mm]	Ø 50 / L = 106
Material		stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA
Materials (wetted parts)		ceramics (99.9 % Al ₂ O ₃); stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE
Min. pressure cycles		100 million
Process connection		threaded connection G 1 external thread sealing cone Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop.

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; kPa; psi; % of the span

Remarks

Pack quantity	1 pcs.
---------------	--------

Electrical connection

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

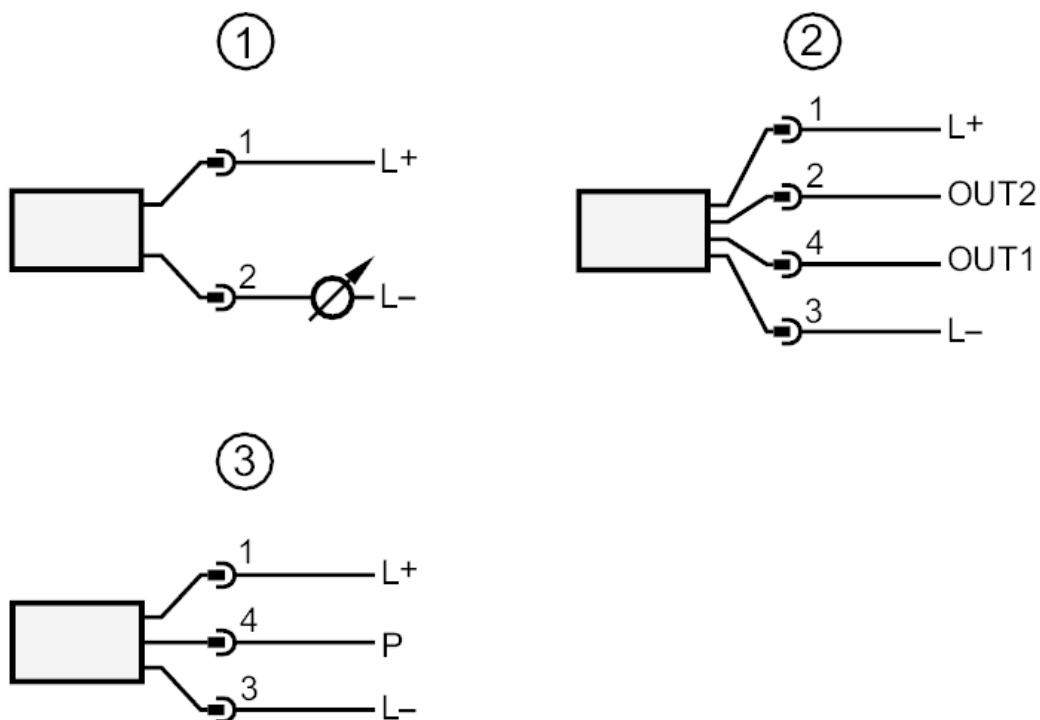




Flush pressure sensor with display

PI-006-REA01-MFRKG/US/ IP

Connection



- 1 connection for 2-wire operation
- 2 connection for 3-wire operation :
- OUT1 Switching output
- OUT2 Switching output
- analog output
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)

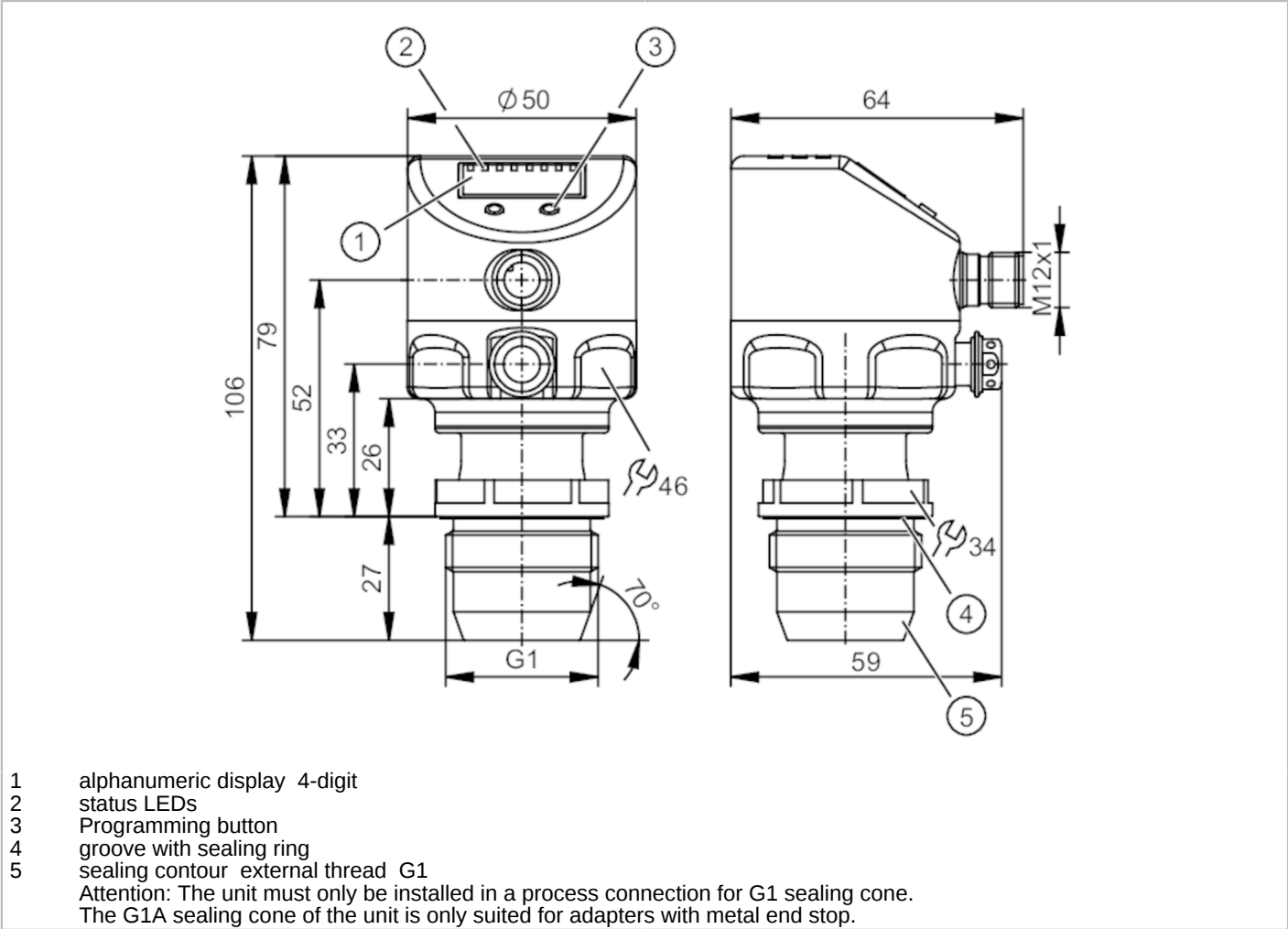


Flush pressure sensor with display

PI-1,6-REA01-MFRKG/US/ /P

Alternative articles: PI1817

When selecting an alternative article and accessories please note that technical data may differ!



Product characteristics				
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1			
Measuring range	-0.1...1.6 bar	-100...1600 mbar	-1.46...23.2 psi	-10...160 kPa
Process connection	threaded connection G 1 external thread sealing cone Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop.			
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...125; (145 max. 1h)			
Min. burst pressure	40000 mbar	580 psi	4000 kPa	
Pressure rating	15000 mbar	215 psi	1500 kPa	
Vacuum resistance	-1000 mbar		-0.1 MPa	
Type of pressure	relative pressure			



Flush pressure sensor with display

PI-1,6-REA01-MFRKG/US/ /P

No dead space		yes			
MAWP (for applications according to CRN)	[bar]	15			
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			
Measuring/setting range					
Measuring range		-0.1...1.6 bar	-100...1600 mbar	-1.46...23.2 psi	-10...160 kPa
Set point SP		-96...1600 mbar	-1.4...23.2 psi	-9.6...160 kPa	
Reset point rP		-100...1598 mbar	-1.44...23.16 psi	-10...159.8 kPa	
Analog start point		-100...1200 mbar	-1.46...17.42 psi	-10...120 kPa	
Analog end point		300...1600 mbar	4.34...23.2 psi	30...160 kPa	



Flush pressure sensor with display

PI-1,6-REA01-MFRKG/US/ /P

In steps of	2 mbar	0.02 psi	0.2 kPa
Factory setting		SP1 = 0.4 bar	rP1 = 0.368 bar
		SP2 = 1.2 bar	rP2 = 1.168 bar
		ASP = 0.0 bar	AEP = 1.6 bar
		dAP = 0.06 s	dAA = 0.03 s

Accuracy / deviations

Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1, 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)
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]	< ± 0,05; (0...70 °C)
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...70 °C)

Reaction times

Damping process value dAP [s]	0...30
Damping for the analog output dAA [s]	0.01...99.99

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

Interfaces

Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.0	
Profiles	Smart Sensor - SSP 0	Generic Profiled Sensor
	Function	Device identification
	Function	Process data variable
	Function	Device diagnosis
SIO mode	yes	
Required master port class	A	
Process data analog	1	
Process data binary	2	
Min. process cycle time [ms]	5	

PI2817



Flush pressure sensor with display

PI-1,6-REA01-MFRKG/US/ IP

Supported DeviceIDs	Type of operation	DeviceID
	default	727

Operating conditions		
Ambient temperature	[°C]	-25...80
Storage temperature	[°C]	-40...100
Protection		IP 67; IP 68; IP 69K

Tests / approvals		
EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 Surge	0,5/1 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
MTTF	[years]	154

Mechanical data		
Weight	[g]	380.5
Housing		tubular
Dimensions	[mm]	Ø 50 / L = 106
Material		stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA
Materials (wetted parts)		ceramics (99.9 % Al ₂ O ₃); stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE
Min. pressure cycles		100 million
Process connection		threaded connection G 1 external thread sealing cone Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop.

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; inH ₂ O; mWS; % of the span

Remarks	
Pack quantity	1 pcs.

Electrical connection

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

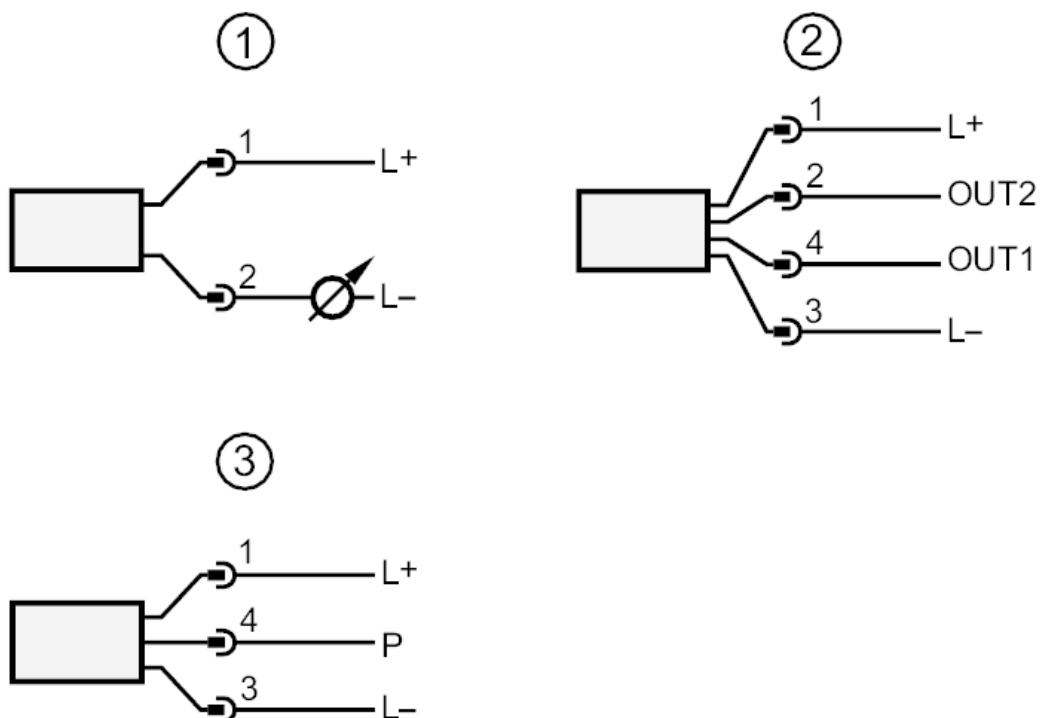




Flush pressure sensor with display

PI-1,6-REA01-MFRKG/US/ /P

Connection



- 1 connection for 2-wire operation
- 2 connection for 3-wire operation :
- OUT1 Switching output
- OUT2 Switching output
- analog output
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)

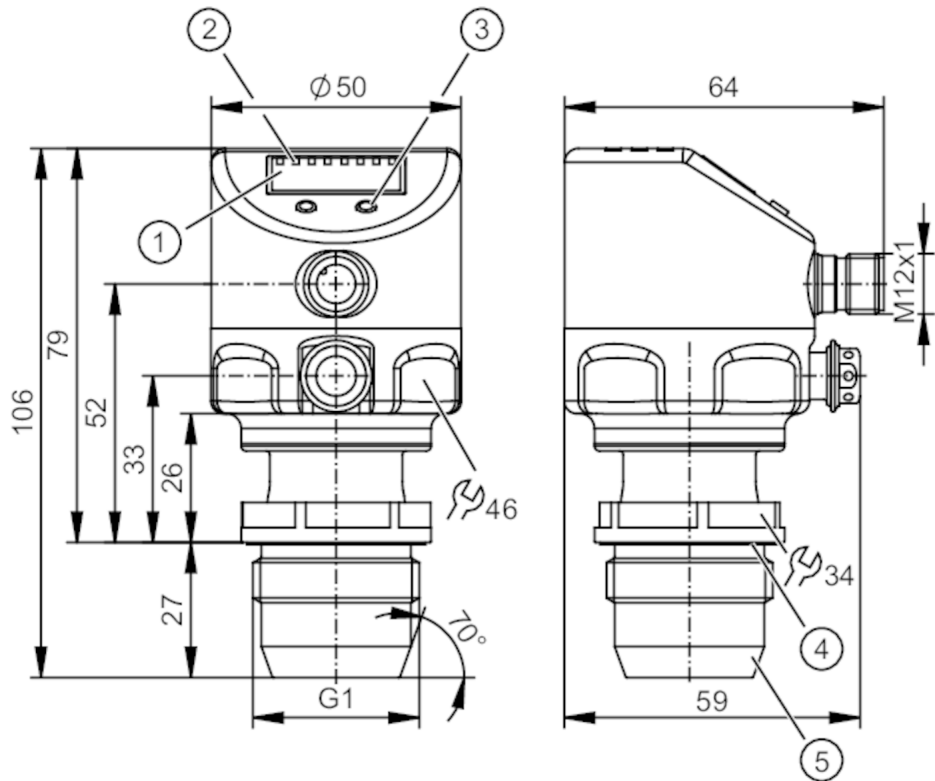


Flush pressure sensor with display

PI-,10BREA01-MFRKG/US/ /P

Alternative articles: PI1889

When selecting an alternative article and accessories please note that technical data may differ!



- 1 alphanumeric display 4-digit
 - 2 status LEDs
 - 3 Programming button
 - 4 groove with sealing ring
 - 5 sealing contour external thread G1
- Attention: The unit must only be installed in a process connection for G1 sealing cone.
The G1A sealing cone of the unit is only suited for adapters with metal end stop.



Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	-0.005...0.1 bar	-5...100 mbar	-2...40.16 inH2O -0.5...10 kPa
Process connection	threaded connection G 1 external thread sealing cone Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop.		
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...125; (145 max. 1h)		
Min. burst pressure	30000 mbar	12044 inH2O	3000 kPa
Pressure rating	4000 mbar	1606 inH2O	400 kPa
Vacuum resistance	-1000 mbar		-0.1 MPa
Type of pressure	relative pressure		



Flush pressure sensor with display

PI-,10BREA01-MFRKG/US/ /P

MAWP (for applications according to CRN)	[bar]	4
--	-------	---

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

Measuring/setting range

Measuring range	-0.005...0.1 bar	-5...100 mbar	-2...40.16 inH2O	-0.5...10 kPa
Set point SP	-4.8...100 mbar	-1.92...40.16 inH2O	-0.48...10 kPa	
Reset point rP	-5...99.8 mbar	-2...40.08 inH2O	-0.5...9.98 kPa	
Analog start point	-5...75 mbar	-2...30.12 inH2O	-0.5...7.5 kPa	
Analog end point	20...100 mbar	8.04...40.16 inH2O	2...10 kPa	
In steps of	0.1 mbar	0.04 inH2O	0.01 kPa	



Flush pressure sensor with display

PI-,10BREA01-MFRKG/US/ /P

Factory setting	SP1 = 25 mbar	rP1 = 23 mbar
	SP2 = 75 mbar	rP2 = 73 mbar
	ASP = 0 mbar	AEP = 100 mbar
	dAP = 0.06 s	dAA = 0.03 s

Accuracy / deviations

Switch point accuracy [% of the span]	< ± 0,5; (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; (Turn down 1:1, linearity, incl. hysteresis and repeatability, limit value setting to DIN EN IEC 62828-1)
Linearity deviation [% of the span]	< ± 0,25; (Turn down 1:1)
Hysteresis deviation [% of the span]	< ± 0,2; (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; (0...70 °C)
Temperature coefficient span [% of the span / 10 K]	< ± 0,2; (0...70 °C)

Reaction times

Damping process value dAP [s]	0...30
Damping for the analog output dAA [s]	0.01...99.99
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

Interfaces

Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.0	
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	259

Operating conditions

Ambient temperature [°C]	-25...80
Storage temperature [°C]	-40...100



Flush pressure sensor with display

PI-,10BREA01-MFRKG/US/ /P

Protection	IP 67; IP 68; IP 69K
------------	----------------------

Tests / approvals

EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 Surge	0,5/1 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
MTTF [years]	148.85	

Mechanical data

Weight [g]	376.5
Housing	tubular
Dimensions [mm]	Ø 50 / L = 106
Material	stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA
Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE
Min. pressure cycles	100 million
Process connection	threaded connection G 1 external thread sealing cone Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop.

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; inH ₂ O; mmWS; % of the span	

Remarks

Pack quantity	1 pcs.
---------------	--------

Electrical connection

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

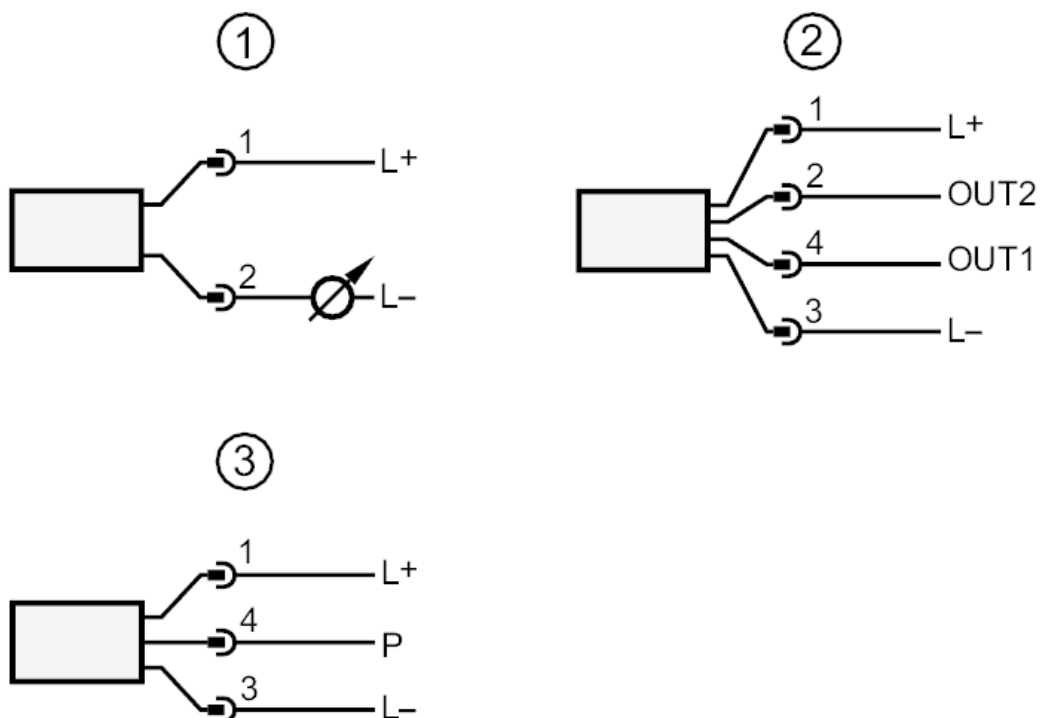




Flush pressure sensor with display

PI-,10BREA01-MFRKG/US/ /P

Connection



- 1 connection for 2-wire operation
- 2 connection for 3-wire operation :
- OUT1 Switching output
- OUT2 Switching output
- analog output
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)

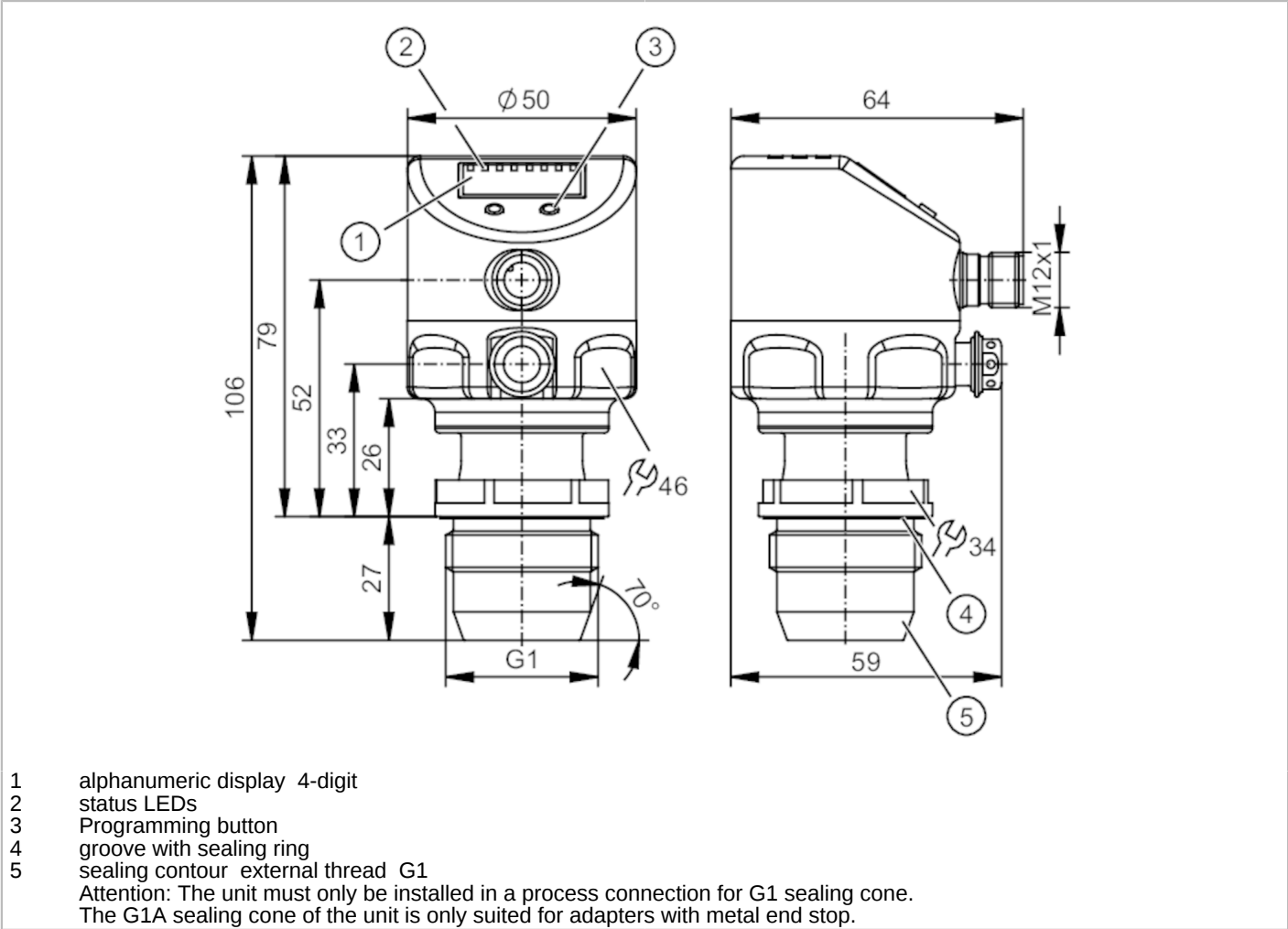


Flush pressure sensor with display

PI-025-REA01-MFRKG/US/ /P

Alternative articles: PI1803

When selecting an alternative article and accessories please note that technical data may differ!



Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	-1...25 bar	-14.4...362.7 psi	-0.1...2.5 MPa
Process connection	threaded connection G 1 external thread sealing cone Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop.		
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	-25...125; (145 max. 1h)		
Min. burst pressure	350 bar	5075 psi	35 MPa
Pressure rating	100 bar	1450 psi	10 MPa
Vacuum resistance	-1000 mbar	-0.1 MPa	
Type of pressure	relative pressure; vacuum		



Flush pressure sensor with display

PI-025-REA01-MFRKG/US/ IP

MAWP (for applications according to CRN)	[bar]	60
--	-------	----

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

Measuring/setting range

Measuring range	-1...25 bar	-14.4...362.7 psi	-0.1...2.5 MPa
Set point SP	-0.96...25 bar	-13.8...362.7 psi	-0.096...2.5 MPa
Reset point rP	-1...24.96 bar	-14.4...362.1 psi	-0.1...2.496 MPa
Analog start point	-1...18.74 bar	-14.4...271.8 psi	-0.1...1.874 MPa
Analog end point	5.24...25 bar	76.2...362.7 psi	0.524...2.5 MPa
In steps of	0.02 bar	0.3 psi	0.002 MPa



Flush pressure sensor with display

PI-025-REA01-MFRKG/US/ /P

Factory setting	SP1 = 6.24 bar	rP1 = 5.74 bar
	SP2 = 18.74 bar	rP2 = 18.24 bar
	ASP = 0.00 bar	AEP = 25.00 bar
	dAP = 0.06 s	dAA = 0.03 s

Accuracy / deviations

Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1, 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)
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]	< ± 0,05; (0...70 °C)
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...70 °C)

Reaction times

Damping process value dAP [s]	0...30
Damping for the analog output dAA [s]	0.01...99.99
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

Interfaces

Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.0	
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	156

Operating conditions

Ambient temperature [°C]	-25...80
Storage temperature [°C]	-40...100



Flush pressure sensor with display

PI-025-REA01-MFRKG/US/ IP

Protection	IP 67; IP 68; IP 69K
------------	----------------------

Tests / approvals

EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 Surge	0,5/1 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
MTTF [years]	148.85	

Mechanical data

Weight [g]	378
Housing	tubular
Dimensions [mm]	Ø 50 / L = 106
Material	stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA
Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE
Min. pressure cycles	100 million
Process connection	threaded connection G 1 external thread sealing cone Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop.

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; coding: A; Contacts: gold-plated

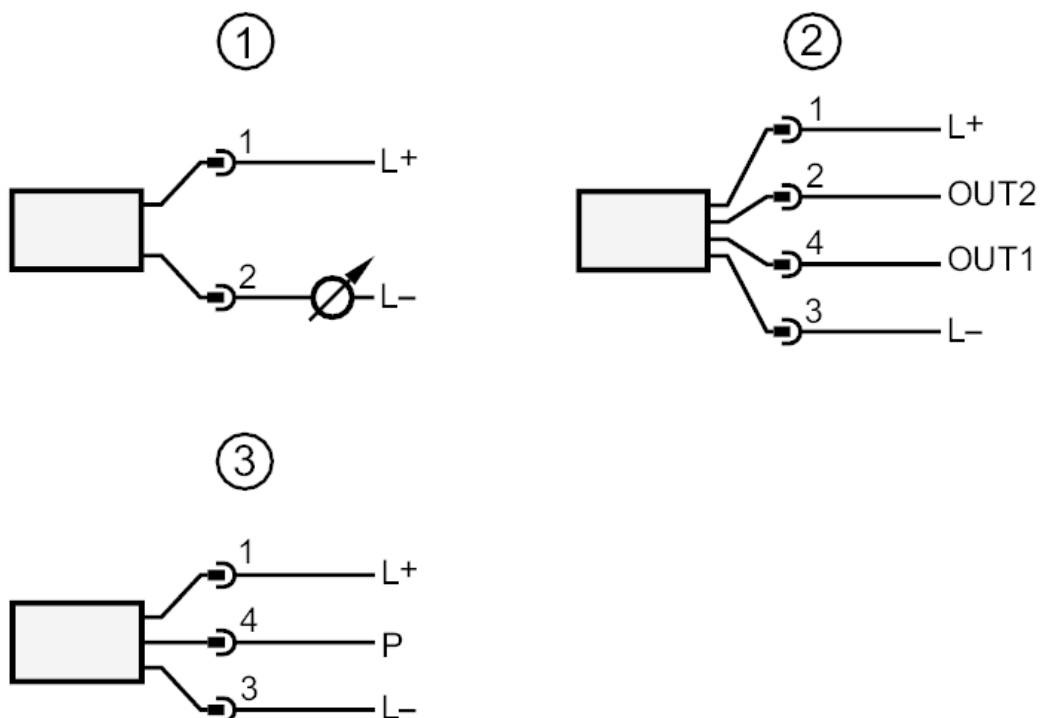




Flush pressure sensor with display

PI-025-REA01-MFRKG/US/ IP

Connection



- 1 connection for 2-wire operation
- 2 connection for 3-wire operation :
- OUT1 Switching output
- OUT2 Switching output
- analog output
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)

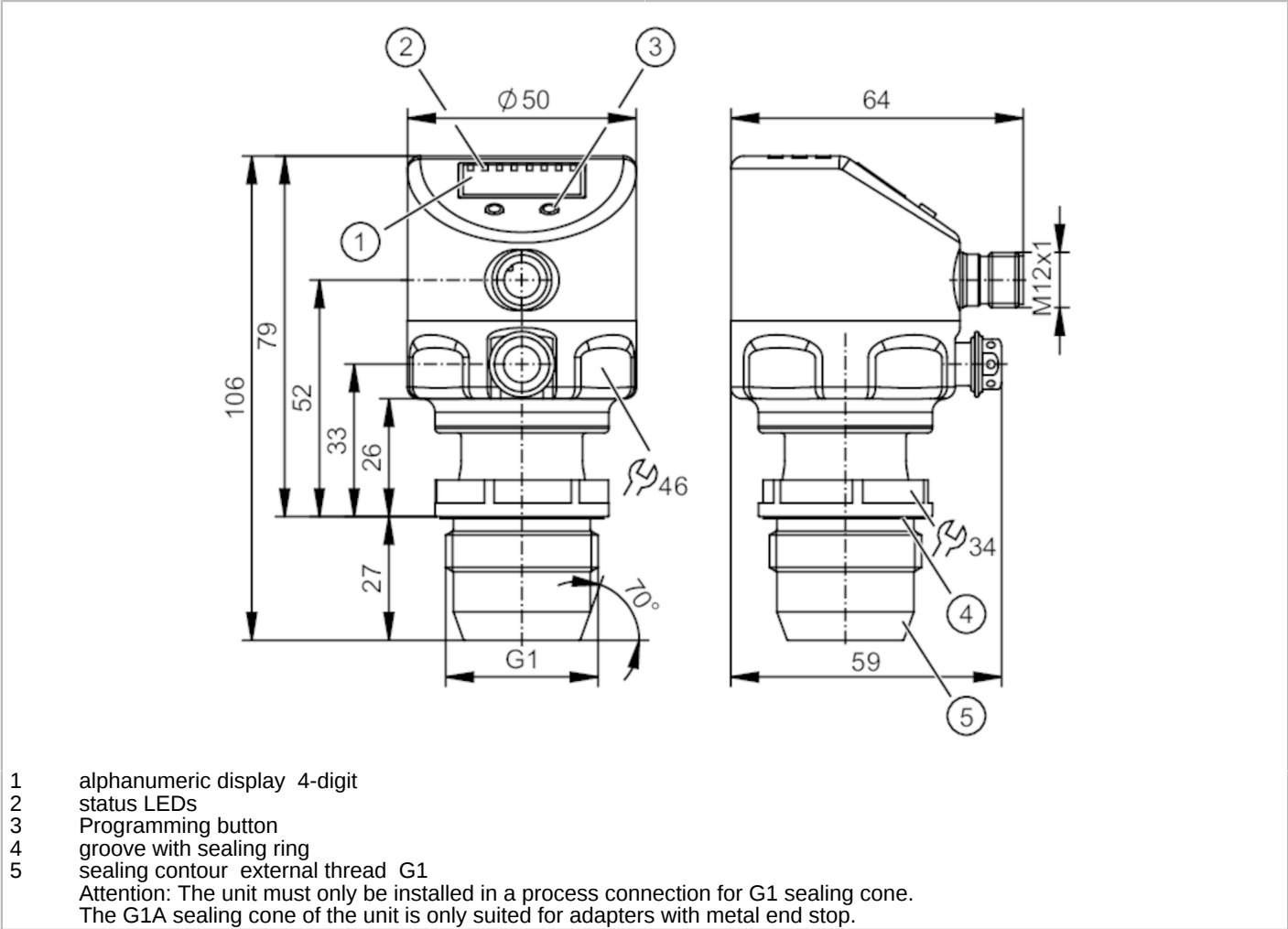


Flush pressure sensor with display

PI-010-REA01-MFRKG/US/ /P

Alternative articles: PI1804

When selecting an alternative article and accessories please note that technical data may differ!



Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	-1...10 bar	-14.5...145 psi	-0.1...1 MPa
Process connection	threaded connection G 1 external thread sealing cone Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop.		
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...125; (145 max. 1h)		
Min. burst pressure	150 bar	2175 psi	15 MPa
Pressure rating	50 bar	725 psi	5 MPa
Vacuum resistance	-1000 mbar		-0.1 MPa
Type of pressure	relative pressure; vacuum		



Flush pressure sensor with display

PI-010-REA01-MFRKG/US/ /P

MAWP (for applications according to CRN)	[bar]	50	
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]	(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
Analog start point	-1...7.5 bar	-14.5...108.7 psi	-0.1...0.75 MPa
Analog 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



Flush pressure sensor with display

PI-010-REA01-MFRKG/US/ /P

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
	dAP = 0.06 s	dAA = 0.03 s

Accuracy / deviations

Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1, 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)
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]	< ± 0,05; (0...70 °C)
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...70 °C)

Reaction times

Damping process value dAP [s]	0...30
Damping for the analog output dAA [s]	0.01...99.99
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

Interfaces

Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.0	
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	157

Operating conditions

Ambient temperature [°C]	-25...80
Storage temperature [°C]	-40...100



Flush pressure sensor with display

PI-010-REA01-MFRKG/US/ IP

Protection	IP 67; IP 68; IP 69K
------------	----------------------

Tests / approvals

EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 Surge	0,5/1 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
MTTF [years]	148.85	

Mechanical data

Weight [g]	378.5	
Housing	tubular	
Dimensions [mm]	Ø 50 / L = 106	
Material	stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA	
Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE	
Min. pressure cycles	100 million	
Process connection	threaded connection G 1 external thread sealing cone Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop.	

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; coding: A; Contacts: gold-plated

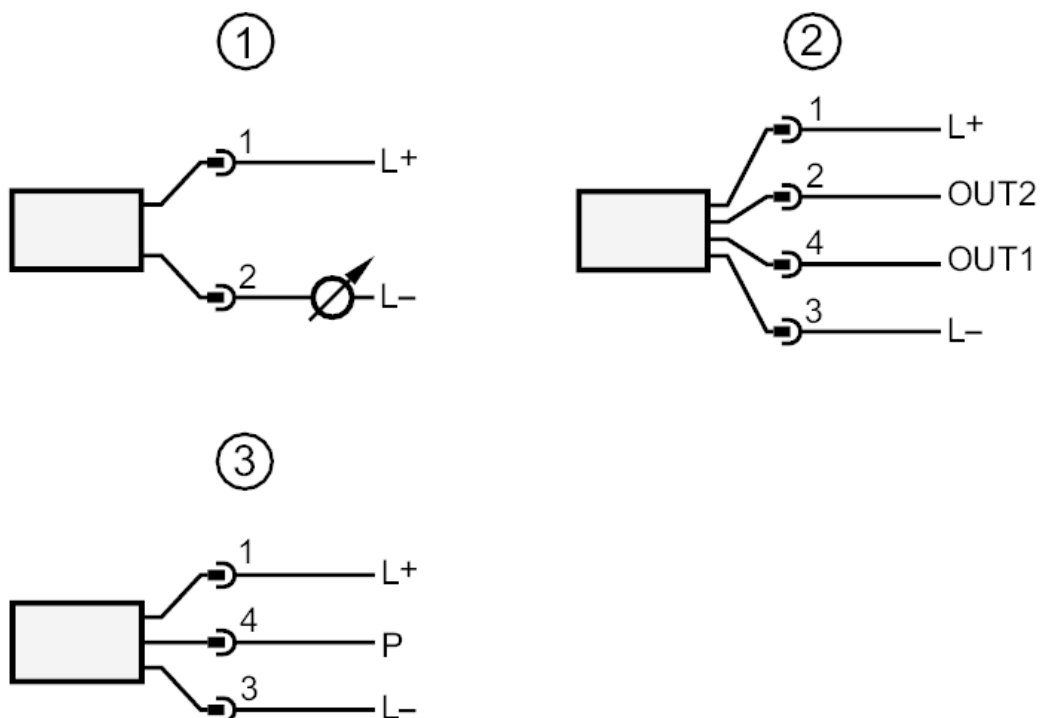




Flush pressure sensor with display

PI-010-REA01-MFRKG/US/ IP

Connection



- 1 connection for 2-wire operation
- 2 connection for 3-wire operation :
- OUT1 Switching output
- OUT2 Switching output
- analog output
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)

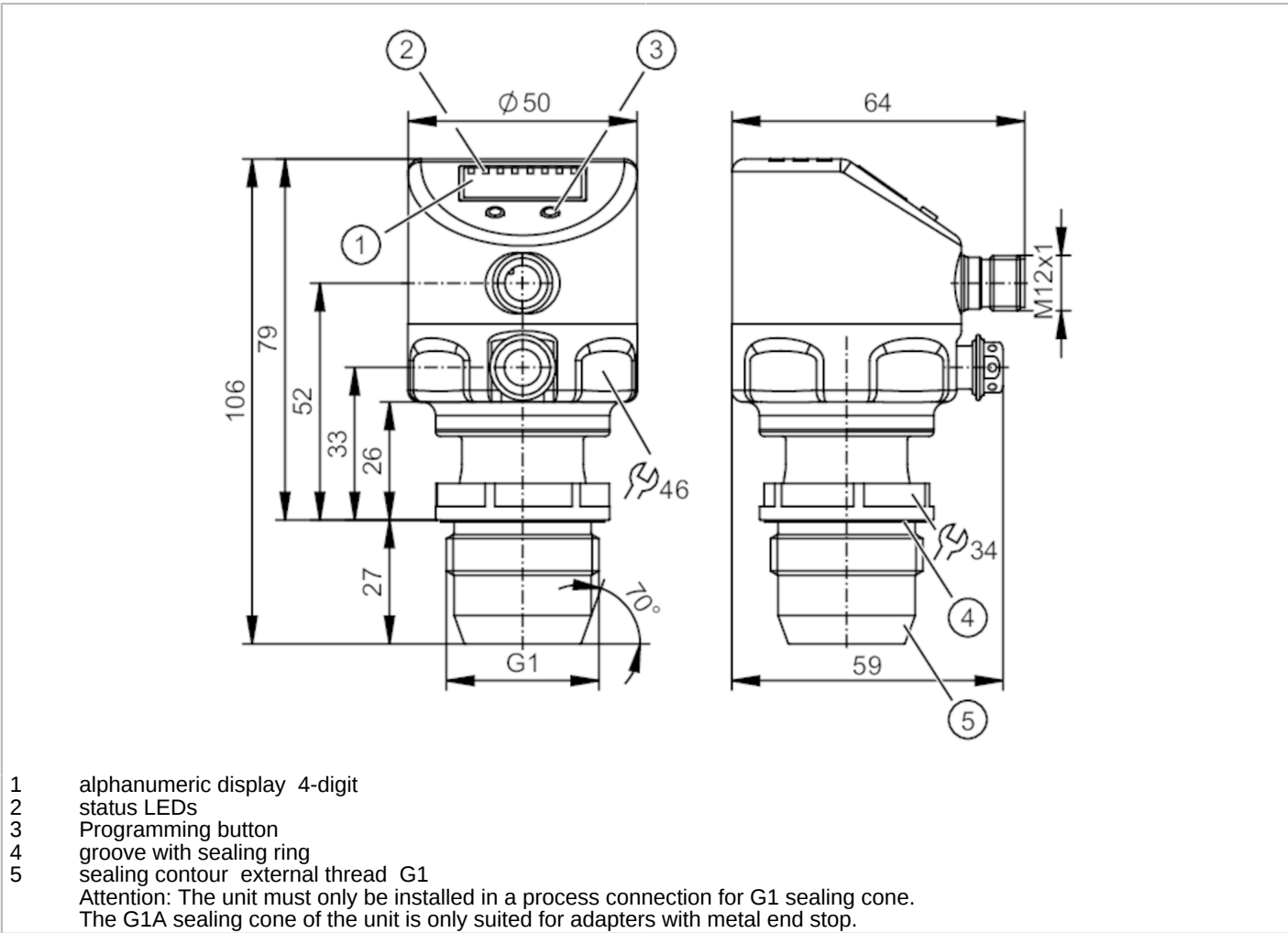


Flush pressure sensor with display

PI-004-REA01-MFRKG/US/ /P

Alternative articles: PI1805

When selecting an alternative article and accessories please note that technical data may differ!



Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	-1...4 bar	-14.5...58 psi	-100...400 kPa
Process connection	threaded connection G 1 external thread sealing cone Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop.		
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	-25...125; (145 max. 1h)		
Min. burst pressure	100 bar	1450 psi	10000 kPa
Pressure rating	30 bar	435 psi	3000 kPa
Vacuum resistance	-1000 mbar		-0.1 MPa
Type of pressure	relative pressure; vacuum		



Flush pressure sensor with display

PI-004-REA01-MFRKG/US/ /P

MAWP (for applications according to CRN)	[bar]	30		
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]	(Ub - 10 V) / 20 mA		
Measuring/setting range				
Measuring range		-1...4 bar	-14.5...58 psi	-100...400 kPa
Set point SP		-0.99...4 bar	-14.35...58 psi	-99...400 kPa
Reset point rP		-1...3.99 bar	-14.5...57.85 psi	-100...399 kPa
Analog start point		-1...3 bar	-14.5...43.5 psi	-100...300 kPa
Analog end point		0...4 bar	0...58 psi	0...400 kPa
In steps of		0.005 bar	0.05 psi	0.5 kPa



Flush pressure sensor with display

PI-004-REA01-MFRKG/US/ /P

Factory setting	SP1 = 1.000 bar	rP1 = 0.920 bar
	SP2 = 3.000 bar	rP2 = 2.920 bar
	ASP = 0.000 bar	AEP = 4.000 bar
	dAP = 0.06 s	dAA = 0.03 s

Accuracy / deviations

Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1, 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)
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]	< ± 0,05; (0...70 °C)
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...70 °C)

Reaction times

Damping process value dAP [s]	0...30
Damping for the analog output dAA [s]	0.01...99.99
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

Interfaces

Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.0	
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	158

Operating conditions

Ambient temperature [°C]	-25...80
Storage temperature [°C]	-40...100



Flush pressure sensor with display

PI-004-REA01-MFRKG/US/ IP

Protection	IP 67; IP 68; IP 69K
------------	----------------------

Tests / approvals

EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 Surge	0,5/1 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
MTTF [years]	148.85	

Mechanical data

Weight [g]	379
Housing	tubular
Dimensions [mm]	Ø 50 / L = 106
Material	stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA
Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE
Min. pressure cycles	100 million
Process connection	threaded connection G 1 external thread sealing cone Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop.

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; kPa; % of the span	

Remarks

Pack quantity	1 pcs.
---------------	--------

Electrical connection

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

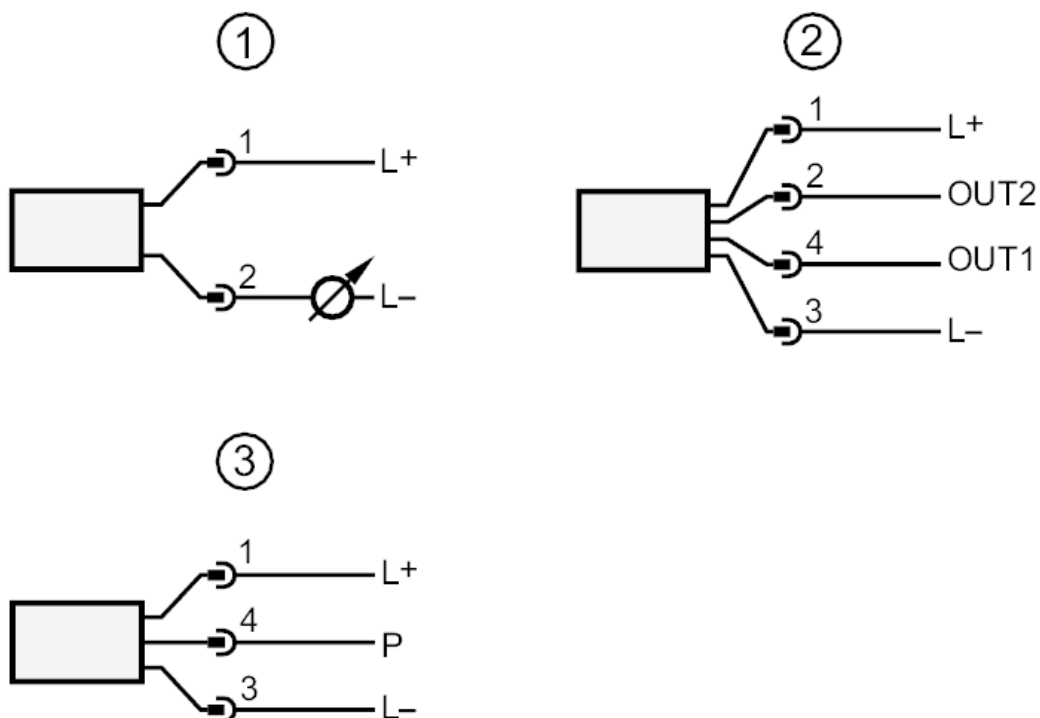




Flush pressure sensor with display

PI-004-REA01-MFRKG/US/ IP

Connection



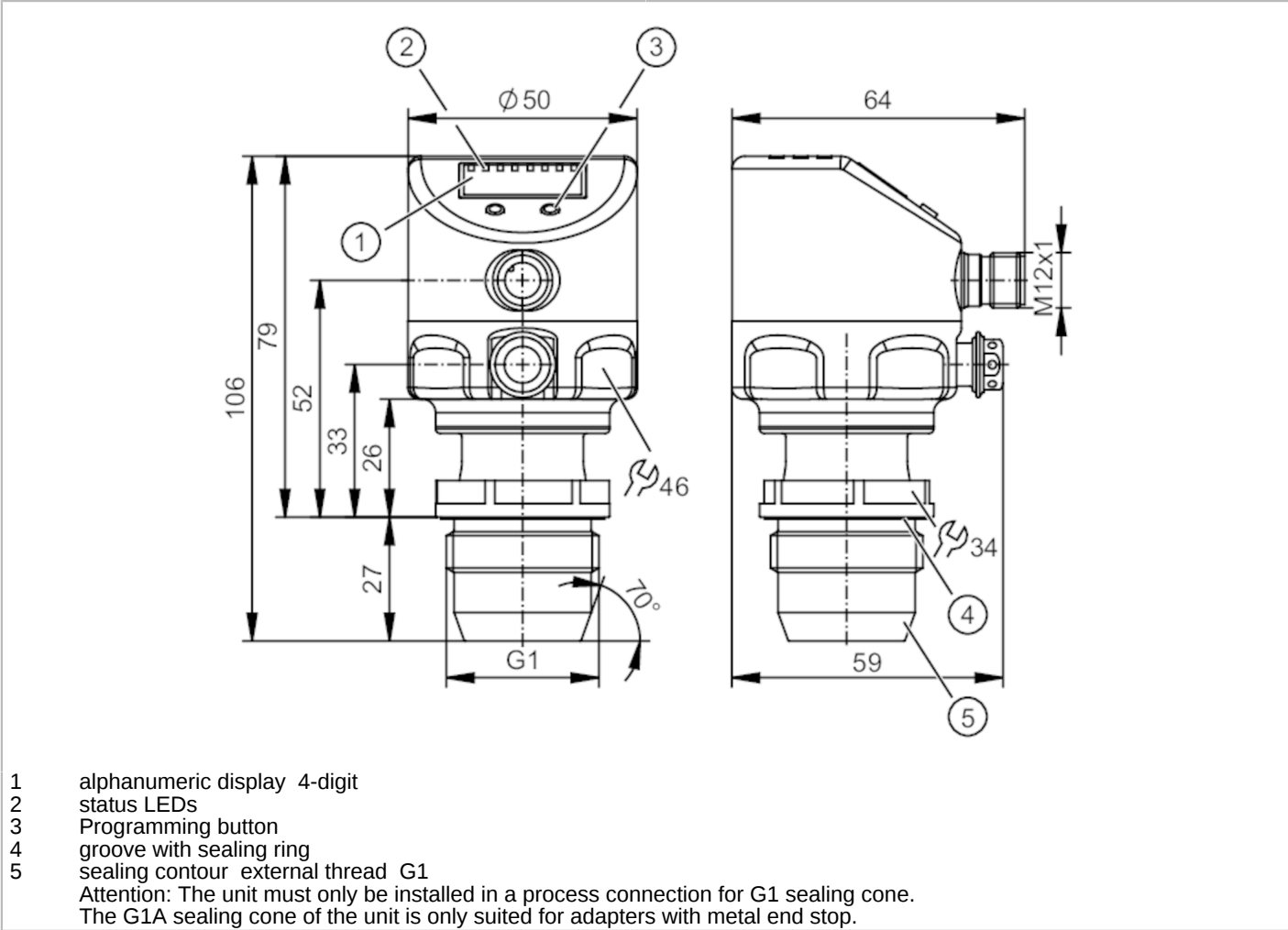
- 1 connection for 2-wire operation
- 2 connection for 3-wire operation :
- OUT1 Switching output
- OUT2 Switching output
- analog output
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)



Flush pressure sensor with display

PI-2,5-REA01-MFRKG/US/ /P

Alternative articles: PI1806
When selecting an alternative article and accessories please note that technical data may differ!



Product characteristics				
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1			
Measuring range	-0.124...2.5 bar	-124...2500 mbar	-1.8...36.27 psi	-12.4...250 kPa
Process connection	threaded connection G 1 external thread sealing cone Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop.			
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...125; (145 max. 1h)			
Min. burst pressure	50 bar	725 psi	5000 kPa	
Pressure rating	20 bar	290 psi	2000 kPa	
Vacuum resistance	-1000 mbar		-0.1 MPa	
Type of pressure	relative pressure			



Flush pressure sensor with display

PI-2,5-REA01-MFRKG/US/ /P

MAWP (for applications according to CRN)	[bar]	20
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
Measuring/setting range		
Measuring range	-0.124...2.5 bar	-124...2500 mbar -1.8...36.27 psi -12.4...250 kPa
Set point SP	-0.12...2.5 bar	-1.74...36.27 psi -12...250 kPa
Reset point rP	-0.124...2.496 bar	-1.8...36.21 psi -12.4...249.6 kPa
Analog start point	-0.124...1.88 bar	-1.8...27.27 psi -12.4...188 kPa
Analog end point	0.5...2.5 bar	7.26...36.27 psi 50...250 kPa
In steps of	0.002 bar	0.03 psi 0.2 kPa



Flush pressure sensor with display

PI-2,5-REA01-MFRKG/US/ /P

Factory setting	SP1 = 0.624 bar	rP1 = 0.574 bar
	SP2 = 1.874 bar	rP2 = 1.824 bar
	ASP = 0.000 bar	AEP = 2.500 bar
	dAP = 0.06 s	dAA = 0.03 s

Accuracy / deviations

Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1, 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)
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]	< ± 0,05; (0...70 °C)
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...70 °C)

Reaction times

Damping process value dAP [s]	0...30
Damping for the analog output dAA [s]	0.01...99.99
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

Interfaces

Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.0	
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	159

Operating conditions

Ambient temperature [°C]	-25...80
Storage temperature [°C]	-40...100



Flush pressure sensor with display

PI-2,5-REA01-MFRKG/US/ /P

Protection	IP 67; IP 68; IP 69K
------------	----------------------

Tests / approvals

EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 Surge	0,5/1 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
MTTF [years]	148.85	

Mechanical data

Weight [g]	378
Housing	tubular
Dimensions [mm]	Ø 50 / L = 106
Material	stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA
Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE
Min. pressure cycles	100 million
Process connection	threaded connection G 1 external thread sealing cone Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop.

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; kPa; psi; inH ₂ O; mWS; % of the span	

Remarks

Pack quantity	1 pcs.
---------------	--------

Electrical connection

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

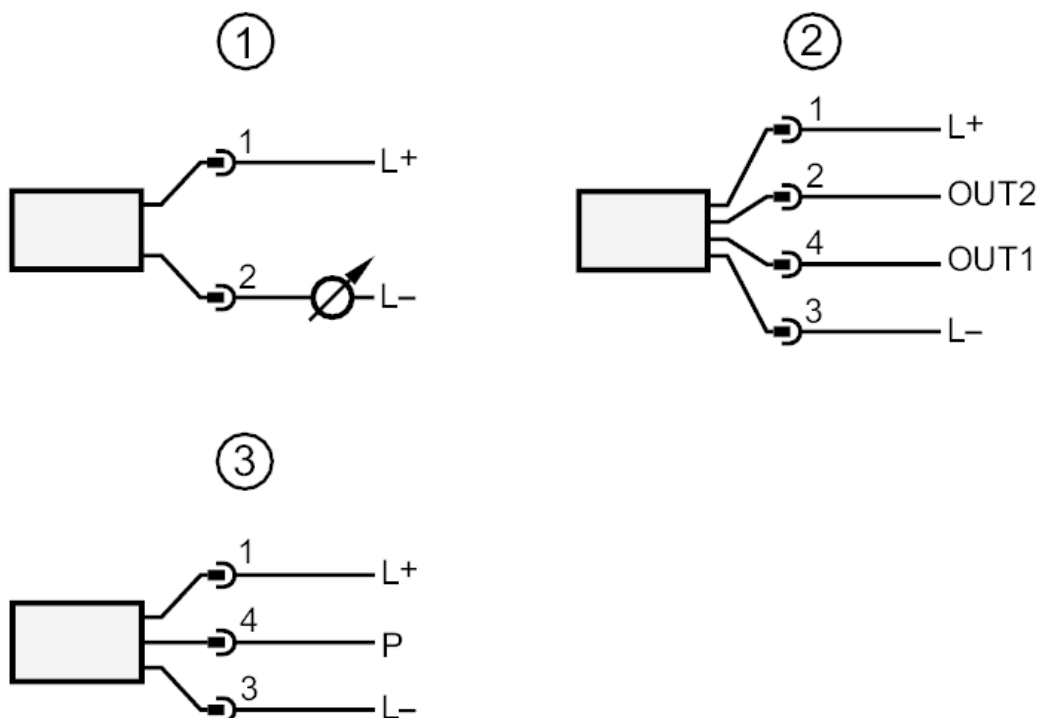




Flush pressure sensor with display

PI-2,5-REA01-MFRKG/US/ /P

Connection



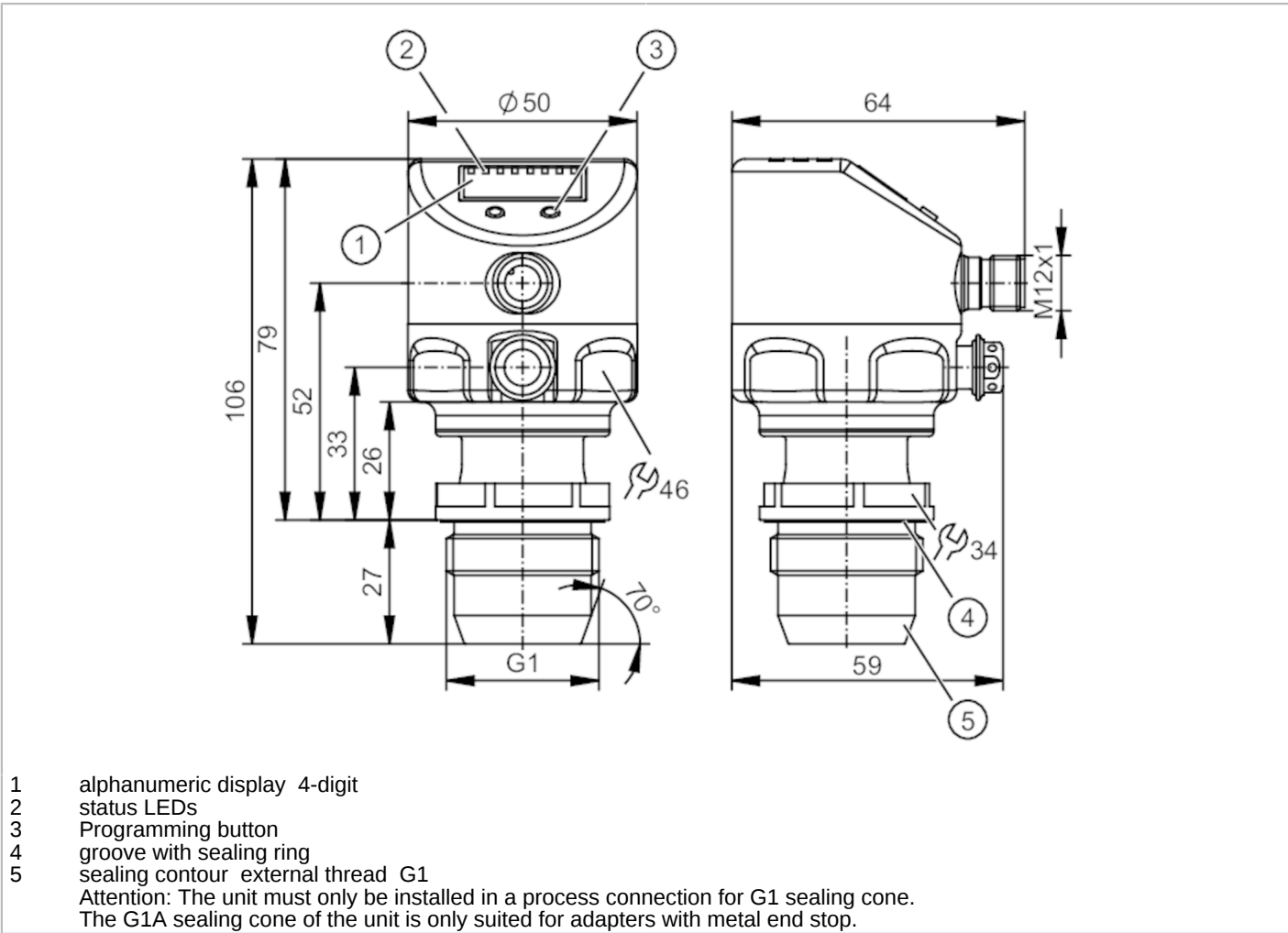
- 1 connection for 2-wire operation
- 2 connection for 3-wire operation :
- OUT1 Switching output
- OUT2 Switching output
- analog output
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)



Flush pressure sensor with display

PI-001BREA01-MFRKG/US/ /P

Alternative articles: PI1807
When selecting an alternative article and accessories please note that technical data may differ!



ACS

CE

CRN

US LISTED

EC 1935/2004

FCM

UK CA

Product characteristics				
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1			
Measuring range	-0.05...1 bar	-50...1000 mbar	-0.73...14.5 psi	-5...100 kPa
Process connection	threaded connection G 1 external thread sealing cone Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop.			
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...125; (145 max. 1h)			
Min. burst pressure	30000 mbar	435 psi	3000 kPa	
Pressure rating	10000 mbar	145 psi	1000 kPa	
Vacuum resistance	-1000 mbar		-0.1 MPa	
Type of pressure	relative pressure			



Flush pressure sensor with display

PI-001BREA01-MFRKG/US/ /P

MAWP (for applications according to CRN)	[bar]	10
--	-------	----

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

Measuring/setting range

Measuring range	-0.05...1 bar	-50...1000 mbar	-0.73...14.5 psi	-5...100 kPa
Set point SP	-48...1000 mbar	-0.7...14.5 psi	-4.8...100 kPa	
Reset point rP	-50...998 mbar	-0.73...14.47 psi	-0.5...99.8 kPa	
Analog start point	-50...750 mbar	-0.73...10.88 psi	-5...75 kPa	
Analog end point	200...1000 mbar	2.9...14.5 psi	20...100 kPa	
In steps of	1 mbar	0.01 psi	0.1 kPa	



Flush pressure sensor with display

PI-001BREA01-MFRKG/US/ /P

Factory setting	SP1 = 250 mbar	rP1 = 230 mbar
	SP2 = 750 mbar	rP2 = 730 mbar
	ASP = 0 mbar	AEP = 1000 mbar
	dAP = 0.06 s	dAA = 0.03 s

Accuracy / deviations

Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1, 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)
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]	< ± 0,05; (0...70 °C)
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...70 °C)

Reaction times

Damping process value dAP [s]	0...30
Damping for the analog output dAA [s]	0.01...99.99
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

Interfaces

Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.0	
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	256

Operating conditions

Ambient temperature [°C]	-25...80
Storage temperature [°C]	-40...100



Flush pressure sensor with display

PI-001BREA01-MFRKG/US/ /P

Protection	IP 67; IP 68; IP 69K
------------	----------------------

Tests / approvals

EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 Surge	0,5/1 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
MTTF [years]		148.85
UL approval	UL approval number	E174189

Mechanical data

Weight [g]	378
Housing	tubular
Dimensions [mm]	Ø 50 / L = 106
Material	stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA
Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE
Min. pressure cycles	100 million
Process connection	threaded connection G 1 external thread sealing cone Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop.

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; inH ₂ O; mWS; % of the span	

Remarks

Pack quantity	1 pcs.
---------------	--------

Electrical connection

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

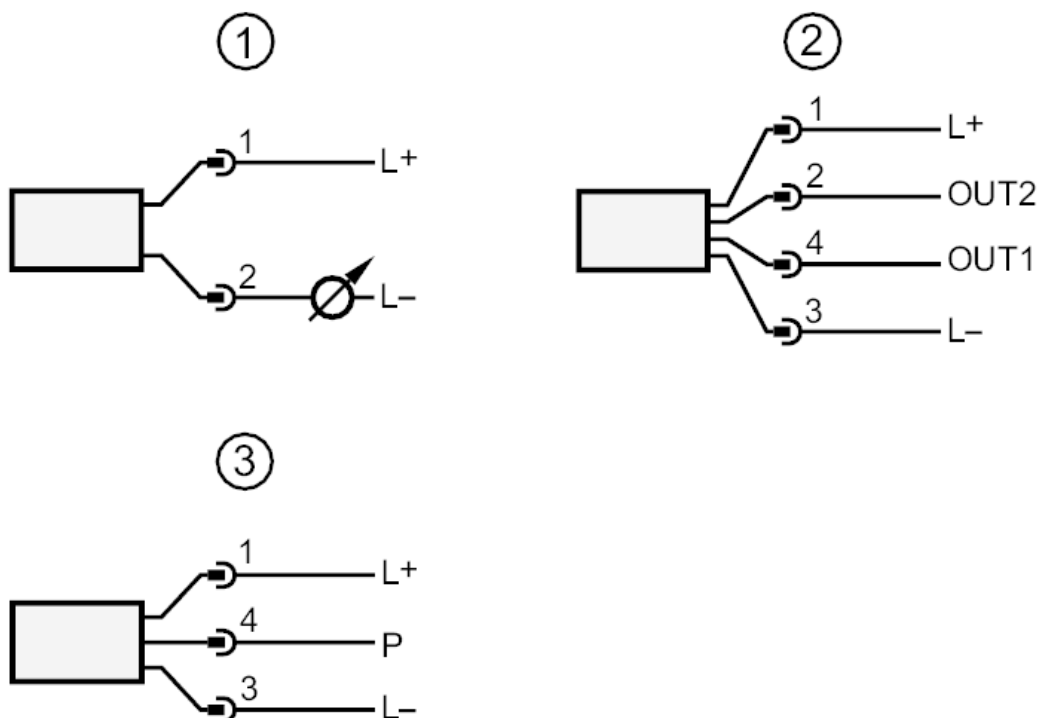




Flush pressure sensor with display

PI-001BREA01-MFRKG/US/ /P

Connection



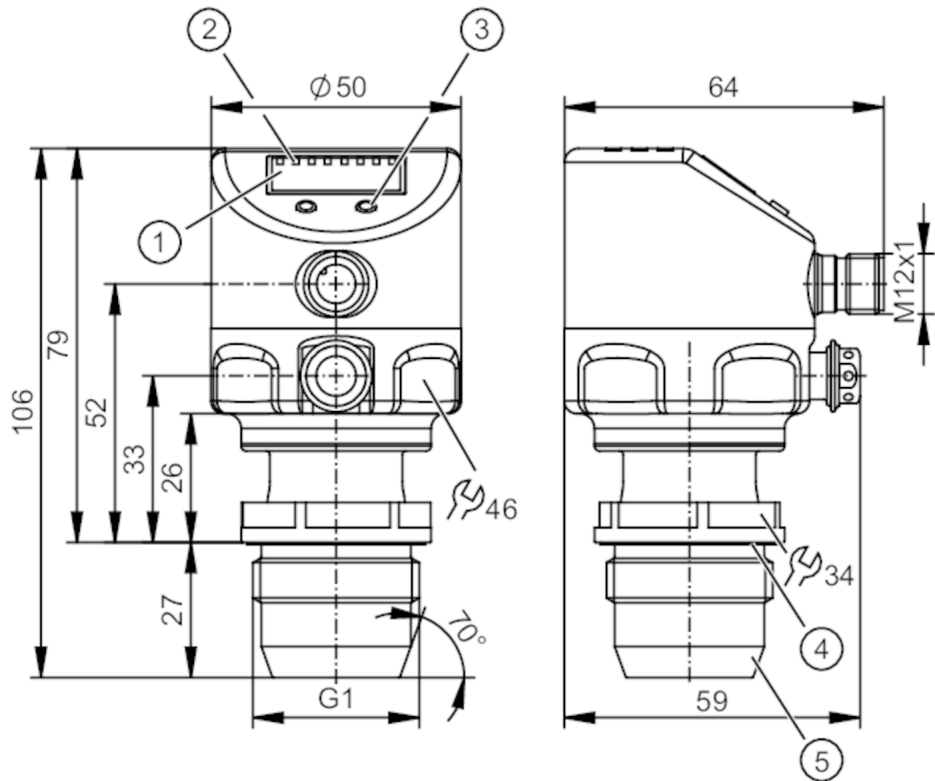
- 1 connection for 2-wire operation
- 2 connection for 3-wire operation :
- OUT1 Switching output
- OUT2 Switching output
- analog output
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)



Flush pressure sensor with display

PI-,25BREA01-MFRKG/US/ /P

Alternative articles: PI1808
When selecting an alternative article and accessories please note that technical data may differ!



- 1 alphanumeric display 4-digit
 - 2 status LEDs
 - 3 Programming button
 - 4 groove with sealing ring
 - 5 sealing contour external thread G1
- Attention: The unit must only be installed in a process connection for G1 sealing cone.
The G1A sealing cone of the unit is only suited for adapters with metal end stop.



Product characteristics				
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1			
Measuring range	-0.0124...0.25 bar	-12.4...250 mbar	-5...100.4 inH2O	-1.24...25 kPa
Process connection	threaded connection G 1 external thread sealing cone Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop.			
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...125; (145 max. 1h)			
Min. burst pressure	30000 mbar	12044 inH2O	3000 kPa	
Pressure rating	6000 mbar	2400 inH2O	600 kPa	
Vacuum resistance	-1000 mbar		-0.1 MPa	
Type of pressure	relative pressure			



Flush pressure sensor with display

PI-,25BREA01-MFRKG/US/ /P

MAWP (for applications according to CRN)	[bar]	10
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
Measuring/setting range		
Measuring range	-0.0124...0.25 bar -12.4...250 mbar -5...100.4 inH2O -1.24...25 kPa	
Set point SP	-12...250 mbar -4.8...100.4 inH2O	-1.2...25 kPa
Reset point rP	-12.4...249.6 mbar -5...100.2 inH2O	-1.24...24.96 kPa
Analog start point	-12.4...187.4 mbar -5...75.2 inH2O	-1.24...18.74 kPa
Analog end point	50...250 mbar 20.1...100.4 inH2O	5...25 kPa
In steps of	0.2 mbar 0.1 inH2O	0.02 kPa



Flush pressure sensor with display

PI-,25BREA01-MFRKG/US/ /P

Factory setting	SP1 = 62.4 mbar	rP1 = 57.4 mbar
	SP2 = 187.4 mbar	rP2 = 182.4 mbar
	ASP = 0.0 mbar	AEP = 250.0 mbar
	dAP = 0.06 s	dAA = 0.03 s

Accuracy / deviations

Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1, 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)
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]	< ± 0,05; (0...70 °C)
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...70 °C)

Reaction times

Damping process value dAP [s]	0...30
Damping for the analog output dAA [s]	0.01...99.99
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

Interfaces

Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.0	
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	257

Operating conditions

Ambient temperature [°C]	-25...80
Storage temperature [°C]	-40...100



Flush pressure sensor with display

PI-,25BREA01-MFRKG/US/ /P

Protection	IP 67; IP 68; IP 69K
------------	----------------------

Tests / approvals

EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 Surge	0,5/1 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
MTTF [years]	148.85	

Mechanical data

Weight [g]	377
Housing	tubular
Dimensions [mm]	Ø 50 / L = 106
Material	stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA
Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE
Min. pressure cycles	100 million
Process connection	threaded connection G 1 external thread sealing cone Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop.

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; inH ₂ O; mmWS; % of the span	

Remarks

Pack quantity	1 pcs.
---------------	--------

Electrical connection

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

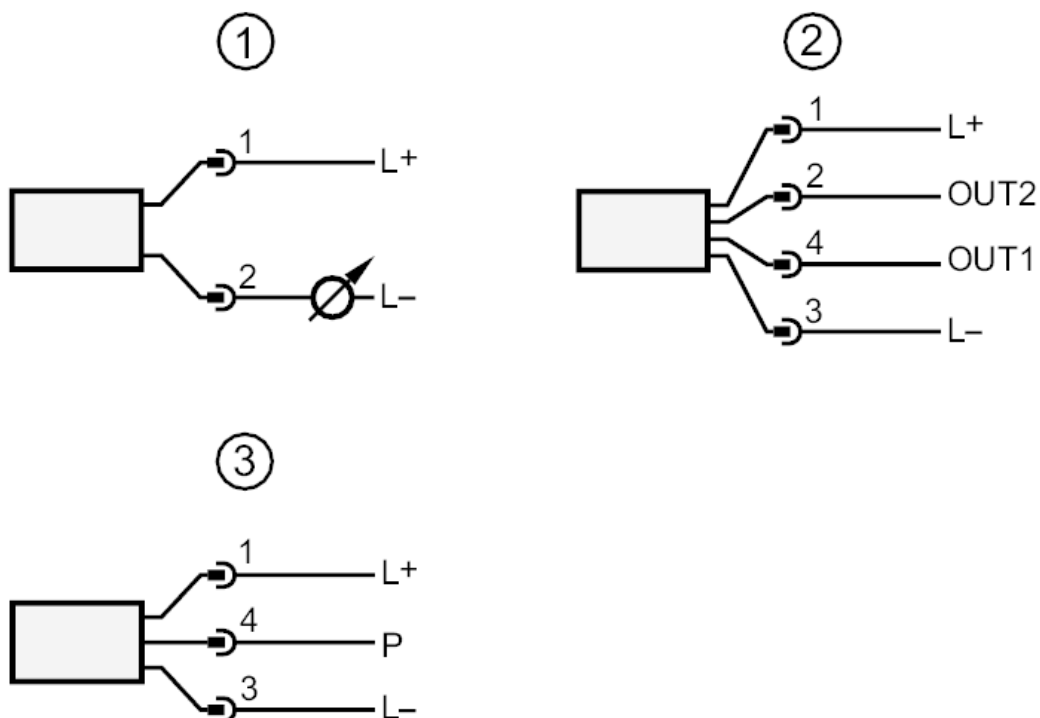




Flush pressure sensor with display

PI-,25BREA01-MFRKG/US/ IP

Connection



- 1 connection for 2-wire operation
- 2 connection for 3-wire operation :
- OUT1 Switching output
- OUT2 Switching output
- analog output
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)

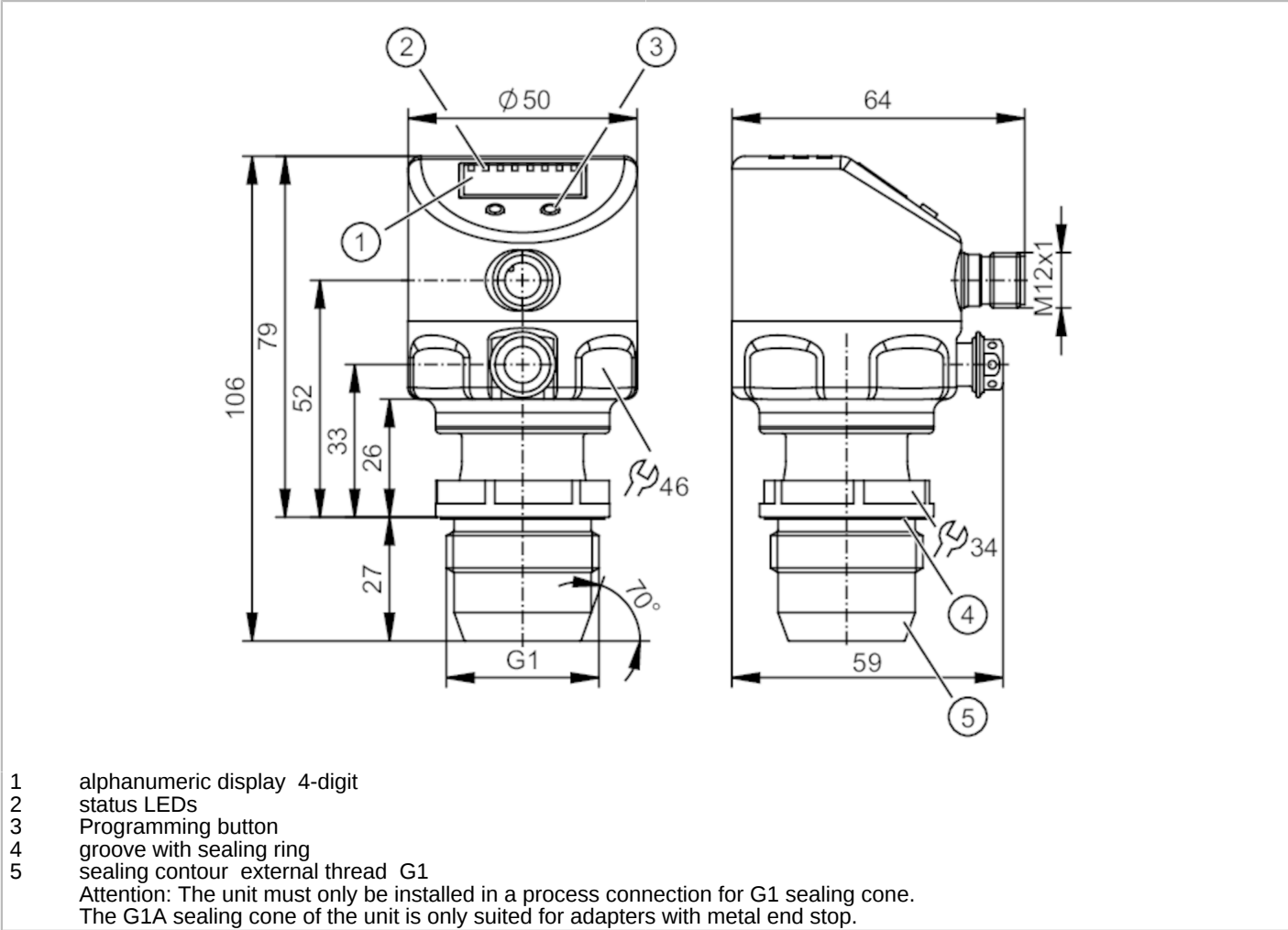


Flush pressure sensor with display

PI-1-1BREA01-MFRKG/US/ /P

Alternative articles: PI1809

When selecting an alternative article and accessories please note that technical data may differ!



Product characteristics				
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1			
Measuring range	-1...1 bar	-1000...1000 mbar	-14.5...14.5 psi	-100...100 kPa
Process connection	threaded connection G 1 external thread sealing cone Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop.			
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...125; (145 max. 1h)			
Min. burst pressure	30000 mbar	435 psi	3000 kPa	
Pressure rating	10000 mbar	145 psi	1000 kPa	
Vacuum resistance	-1000 mbar		-0.1 MPa	
Type of pressure	relative pressure; vacuum			



Flush pressure sensor with display

PI-1-1BREA01-MFRKG/US/ /P

MAWP (for applications according to CRN)	[bar]	10		
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]	(Ub - 10 V) / 20 mA		
Measuring/setting range				
Measuring range	-1...1 bar	-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	



Flush pressure sensor with display

PI-1-1BREA01-MFRKG/US/ /P

Factory setting	SP1 = -500 mbar	rP1 = -540 mbar
	SP2 = 500 mbar	rP2 = 460 mbar
	ASP = -1000 mbar	AEP = 1000 mbar
	dAP = 0.06 s	dAA = 0.03 s

Accuracy / deviations

Switch point accuracy [% of the span]	< ± 0,2; (Turn down 1:1)
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Characteristics deviation [% of the span]	< ± 0,2; (Turn down 1:1, 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)
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]	< ± 0,05; (0...70 °C)
Temperature coefficient span [% of the span / 10 K]	< ± 0,15; (0...70 °C)

Reaction times

Damping process value dAP [s]	0...30
Damping for the analog output dAA [s]	0.01...99.99
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

Interfaces

Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.0	
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	258

Operating conditions

Ambient temperature [°C]	-25...80
Storage temperature [°C]	-40...100



Flush pressure sensor with display

PI-1-1BREA01-MFRKG/US/ /P

Protection	IP 67; IP 68; IP 69K
------------	----------------------

Tests / approvals

EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 Surge	0,5/1 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance	DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000 Hz)
MTTF [years]	148.66	

Mechanical data

Weight [g]	379
Housing	tubular
Dimensions [mm]	Ø 50 / L = 106
Material	stainless steel (1.4404 / 316L); FKM; PTFE; PBT; PEI; PFA
Materials (wetted parts)	ceramics (99.9 % Al ₂ O ₃); stainless steel (1.4435 / 316L) surface characteristics: Ra < 0,4 µm / Rz = 4 µm; PTFE
Min. pressure cycles	100 million
Process connection	threaded connection G 1 external thread sealing cone Attention: The unit must only be installed in a process connection for G1 sealing cone.; The G1A sealing cone of the unit is only suited for adapters with metal end stop.

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; inH ₂ O; mWS; % of the span	

Remarks

Pack quantity	1 pcs.
---------------	--------

Electrical connection

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

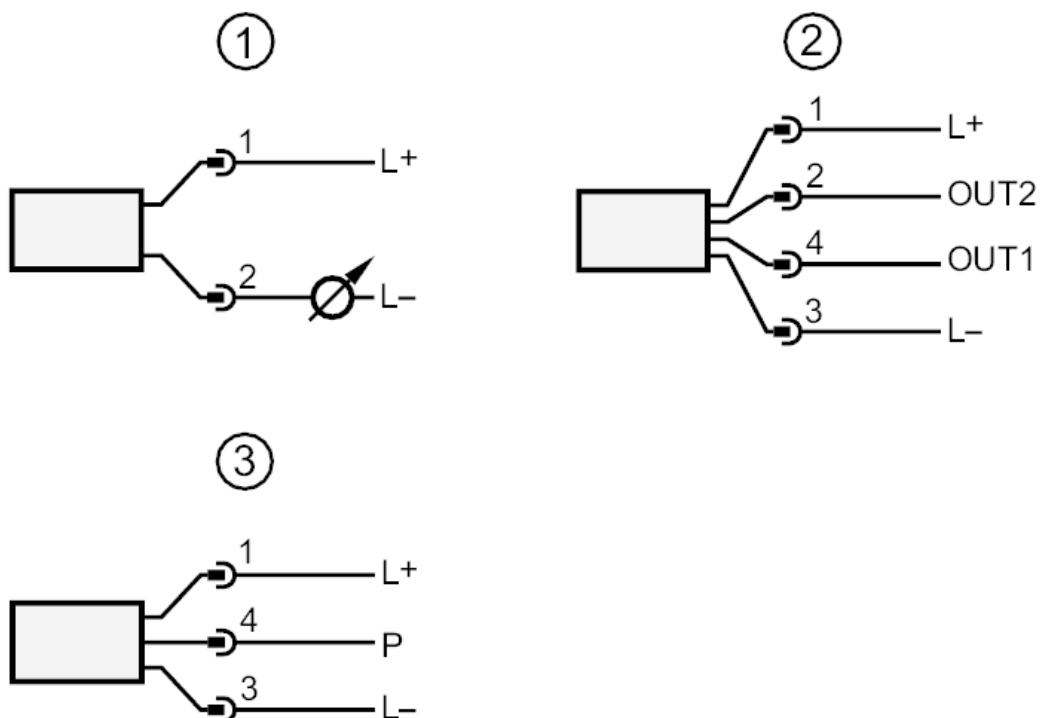




Flush pressure sensor with display

PI-1-1BREA01-MFRKG/US/ /P

Connection



- 1 connection for 2-wire operation
- 2 connection for 3-wire operation :
- OUT1 Switching output
- OUT2 Switching output
- analog output
- 3 connection for IO-Link parameter setting (P = communication via IO-Link)