Baumer
Passion for Sensors

Pressure sensor

PP56H-2.BB81R.D214.512021.0010

Article number: 11269579

Overview

- Resistant to all common CIP cleaning media
- Condensate-proof measuring cell
- IO-Link dual channel output (in parallel to 4 ... 20 mA)
- Space-saving installations
- Easy parameterization via display, IO-Link and FlexProgram

Picture similar

Technical data

Performance characteristics	
Pressure type	Relative (gauged)
Measuring range	-1 … 15 bar
Max. turndown ratio	5 : 1
Compensated temperature range	-20 … 70 °C
Max. measuring error	± 0.3 % FSR , within compensated temperature range Including zero-point and span error, non-linearity (by terminal base line), hysteresis and non-repeatability (EN 61298-2) For turndown, multiply this value by the applied turndown ratio
Temperature coefficient	≤ 0.1 % FSR/10 K @ -40 ... -20 °C ≤ 0.1 % FSR/10 K @ > 70 °C Refer to section "Operating conditions"
Long term stability	≤ 0.2 % FSR/a
Standard error of measurement (BFSL)	± 0.12 % FSR , within compensated temperature range Including non-linearity, hysteresis and non-repeatability according BFSL For turndown, multiply this value by the applied turndown ratio
Step response time, T90	≤ 45 ms , 2-wire ≤ 25 ms , 3-wire
Process conditions	
Process temperature	-40 … 100 °C
Process pressure	60 bar , proof pressure 120 bar , burst pressure
SIP/CIP compatibility	< 30 min, without cooling neck @ medium temperature up to 125 °C
Process connection	
Connection variants	ISO 2852 (Tri-Clamp), DN 33.7; 38, Ø 50.5

Process connection	
Wetted parts material	AISI 316L (1.4404)
Wetted parts material, membrane	AISI 316L (1.4435)
Surface roughness (in contact with medium)	
Membrane	Ra ≤ 0.4 µm
Process connection	Ra ≤ 0.8 µm
Weld joint	Ra ≤ 0.8 µm
Ambient conditions	
Operating temperature range	-30 … 70 °C , with display -10 … 70 °C , optimal display readability
Storage temperature range	-40 … 85 °C
Degree of protection (EN 60529)	IP 67 IP 69 K , with appropriate mating connector
Humidity	< 100 % RH , condensing
Insulation resistance	> 100 MΩ , 500 V DC
Vibration (sinusoidal) (EN 60068-2-6)	1.6 mm (2 … 25 Hz), 4 g (25 … 100 Hz), 1 octave / min.
Shock (EN 61373)	300m/s² @ 15ms
Housing	
Style	Compact transmitter, Ø50 mm
Overall size	Refer to section "Dimensional drawings"
Material	AISI 316L (1.4404)
Electrical connection	
Connector	M12-A, 4-pin, stainless steel
Interface	IO-Link 1.1 FlexProgram
Power supply	
Voltage supply range	15 … 35 V DC 18 … 30 V DC , with IO-Link

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Power supply

Current consumption (no load)	3.5 mA … 23 mA , 2-wire 16 mA typ., 25 mA max., 3-wire mode
Reverse polarity protection	Yes
Power-up time	< 600 ms @ 24 V

Compliance and approvals

EMC	EN 61326-1 EN 61326-2-3 Deviation during immunity testing ≤ 0.2% FSR

Output signals

Switching output

Output type	PNP NPN Push-pull
Switching logic	High-Active Low-Active
Voltage drop	< 2 VDC
Current rating	100 mA , max.
Off leak current	< 160 µA , max.
Short circuit protection	Yes
Damping	0 … 60 s , programmable

4 ... 20 mA

Output signal	4 … 20 mA 20 … 4 mA , programmable Following accuracy specifications to be added to the values in section "performance characteristics" if sensor is used in analog mode.
Accuracy	± 0.1 % FSR (± 16 µA)
Step response time, T90	≤ 25 ms
Load resistance	Rs ≤ (V DC - 15 V)/23 mA, 2-wire mode Rs ≤ (V DC - 10 V)/23 mA, 3- & 4-wire mode
Ripple immunity	< 1 % FSR (1 Vrms, 50Hz...1kHz)
Effect of variations in supply voltage	< 0.01 % FSR/V (± 1.6 µA/V), deviating from 24 VDC
Damping	0 … 60 s , programmable

IO-Link interface

IO-Link version	1.1
Device profile	Smart Sensor Profile
IO-Link port type	Class A
Baud rate	38,4 kbaud (COM2)
Cycle time	≥ 4 ms
Process data length	48 bit
SIO-mode	Yes
Process data (cyclic)	Pressure Switch state State of alert
Diagnostic data (acyclic)	Measuring cell temperature CPU temperature Operation
Adjustable data (acyclic)	Offset settings Switch parameters Current output limit values Display configuration Tags Password for access
Dual Channel	IO-Link / SIO Mode
Dual Channel 2	Analogue / SIO Mode

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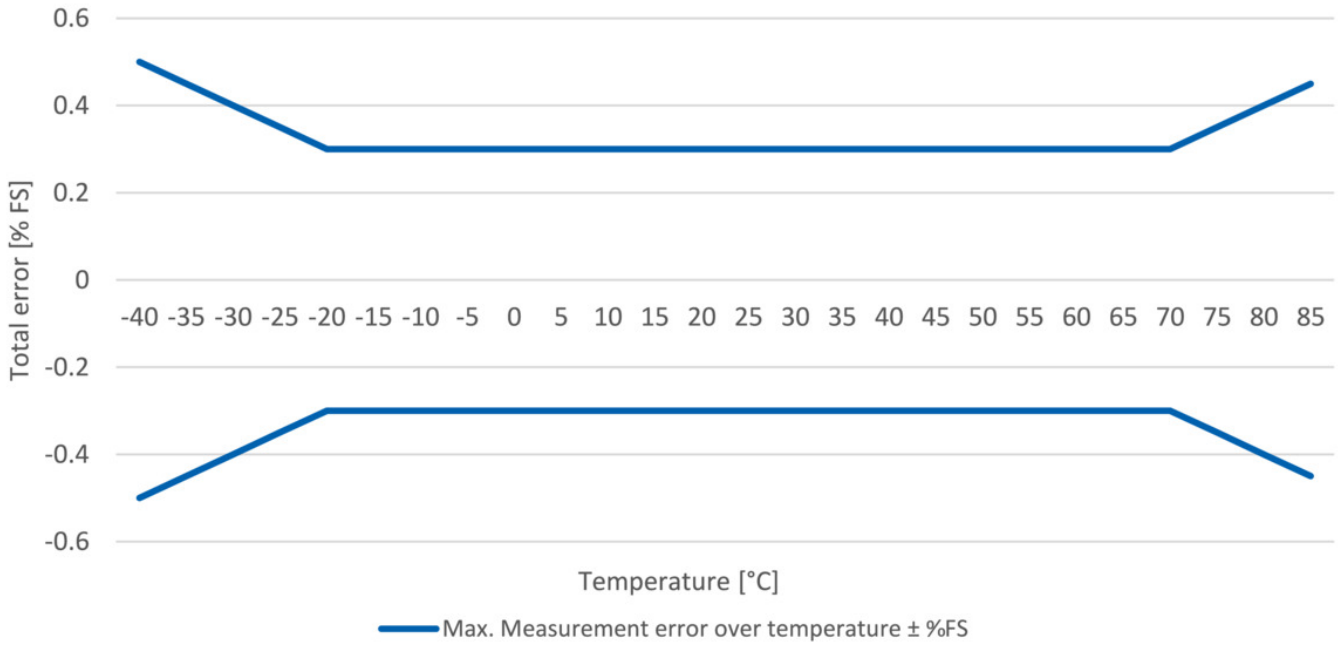
Display

User configurable data	
Error- / Warning-indication	Individually configurable display and backlight indication in white, green or red colour, steady or flashing light. Configurable limits over the range

General information	
Panel type	Graphical LCD
Display range	-9999 … 99999
Max. digit height	21.8 mm
Material	Polycarbonate

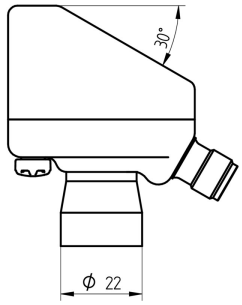
Operating conditions

Temperature coefficient

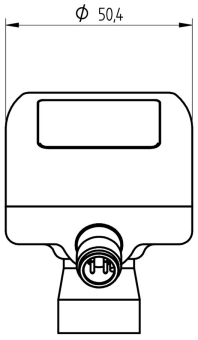


Dimensional drawings (mm)

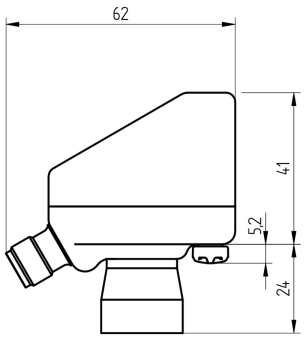
Housing



Display housing left view



Display housing front view



Display housing right view

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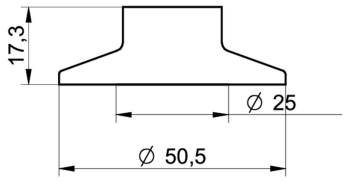
Dimensional drawings (mm)

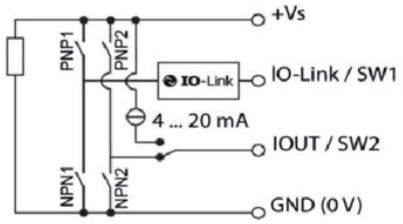
Process connection



C04-51
Tri-Clamp Ø 50.5, membrane Ø 25 mm (BCID: C04)

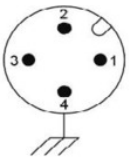
Electrical connection

Equivalent circuit



Function	Pin assignment
+Vs	1
Iout / SW2	2
GND (0 V)	3
IO-Link / SW1	4
Frame Ground	Plug thread

Coding



Operating mode	Used pins
IO-Link / dual channel	1, 2, 3, 4
analog 3-wire	1, 2, 3
analog 2-wire	1, 2

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