

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	0 ... 20 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	bar , proof pressure 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
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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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Technical data
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
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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

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

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	$R_s \leq (V_{DC} - 15 V) / 23 \text{ mA}$, 2-wire mode $R_s \leq (V_{DC} - 10 V) / 23 \text{ mA}$, 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

Display

User configurable data

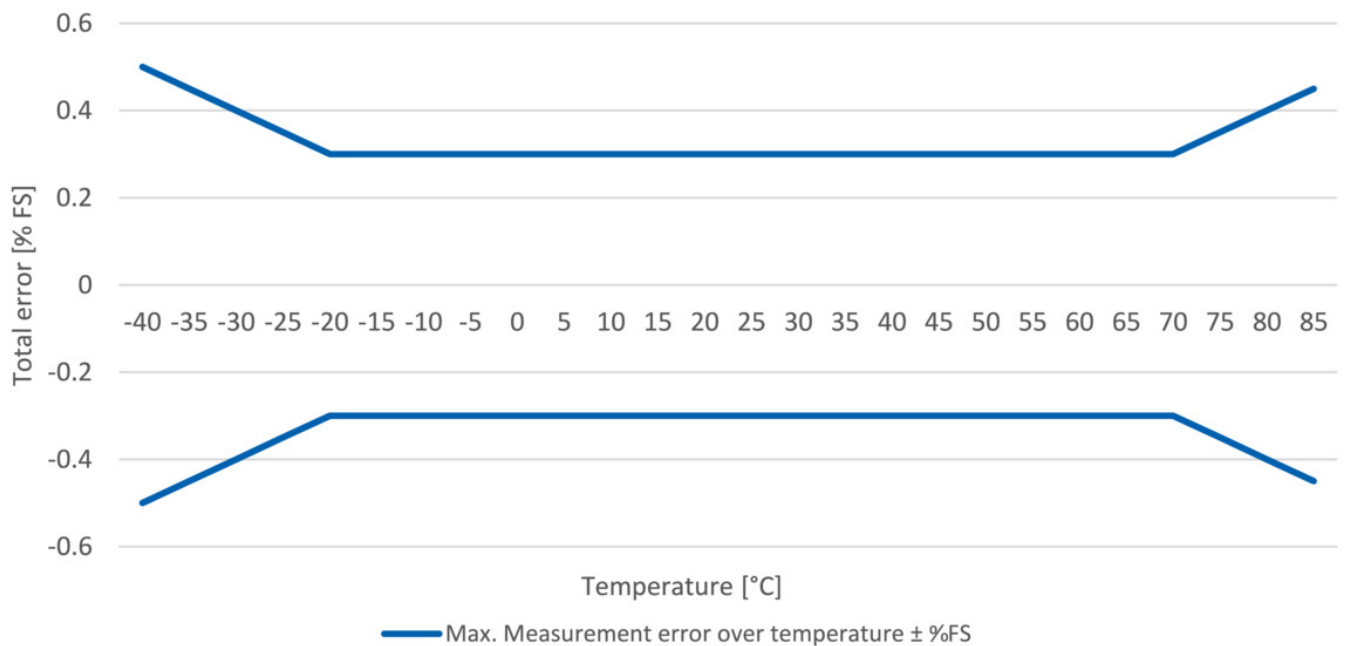
Error- / Warning-indication Individually configurable display and backlight indication in white, green or red colour, steady or flashing light. Configurable limits over the range

General information

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

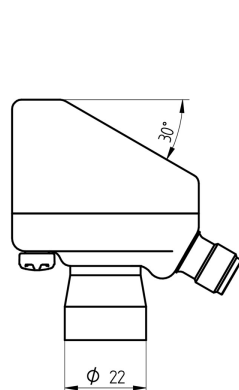
Operating conditions

Temperature coefficient

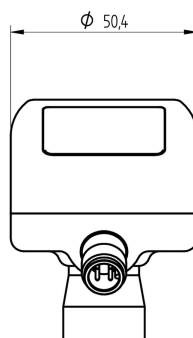


Dimensional drawings (mm)

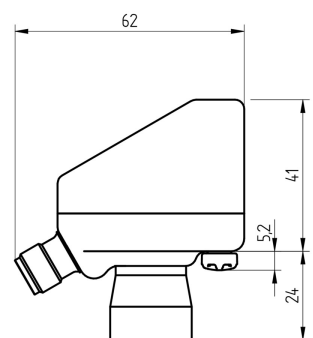
Housing



Display housing left view



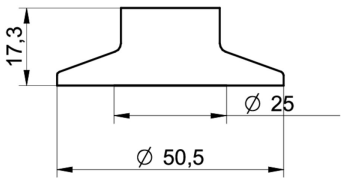
Display housing front view



Display housing right view

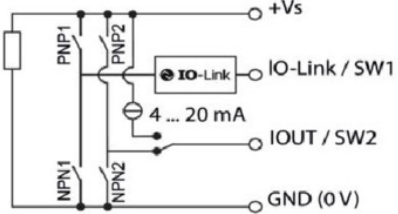
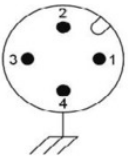
Dimensional drawings (mm)

Process connection



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

Electrical connection

Equivalent circuit	Function	Pin assignment	Coding	Operating mode	Used pins
	+Vs Iout / SW2 GND (0 V) IO-Link / SW1 Frame Ground	1 2 3 4 Plug thread		IO-Link / dual channel analog 3-wire analog 2-wire	1, 2, 3, 4 1, 2, 3 1, 2