

PP20S process - D1 IO-Link

Fully welded pressure sensor with industrial connection

PP20S-2.#####.D1##.##20##.000

Overview

- IO-Link dual channel output
- All market typical industrial connections available
- Condensate-proof measuring cell
- Space-saving installations
- Absolute pressure, relative pressure and vacuum measurement
- Pressure sensor with silicon measuring cell



Technical data

Performance characteristics

Pressure type	Absolute Relative (gauged)
Compensated temperature range	-20 ... 125 °C
Long term stability	≤ 0.2 % FSR/a
Max. measuring error	± 0.5 % FSR ± 1.0 % FSR, 0 ... 0.4 bar Including zero-point and span error, non-linearity (by terminal base line), hysteresis and non-repeatability (EN 61298-2)
Max. measuring span	40 bar
Measuring range	-1 ... 40 bar
Standard error of measurement (BFSL)	± 0.2 % FSR ± 0.5 % FSR, 0 ... 0.4 bar Including non-linearity, hysteresis and non-repeatability according BFSL
Min. measuring span	0.4 bar
Rise time (10 ... 90 %)	≤ 5 ms
Temperature coefficient	≤ 0.2 % FSR/10 K, measuring span ≤ 0.2 % FSR/10 K, zero point

Process conditions

Process temperature	-20 ... 125 °C
Process pressure	Refer to section "Operating conditions"

Process connection

Connection variants	Refer to section "Dimensional drawings"
Wetted parts material	AISI 316L (1.4404)
Wetted parts material, membrane	AISI 316L (1.4435)

Surface roughness (in contact with medium)

Process connection	Ra ≤ 0.8 µm
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Ambient conditions

Operating temperature range	-20 ... 85 °C
Storage temperature range	-40 ... 85 °C
Degree of protection (EN 60529)	IP 67, without connector M12-A, 5-pin IP 69, with appropriate cable

Ambient conditions

Insulation resistance	> 100 MΩ, 500 V DC
Bump (EN 60068-2-27)	100 g / 2 ms, 4000 impulses per axis and direction
Cold (EN 60068-2-1)	Ab: -40 °C, 2 h (not in operation)
Damp heat, cyclic (EN 60068-2-30)	Db: 55 °C, Variant 1, 2 cycles (2 · 24 h)
Dry heat (EN 60068-2-2)	Be: 85 °C, 6 h (in operation)
Shock (EN 60068-2-27)	50 g / 11 ms, 100 g / 6 ms, 10 impulses per axis and direction
Vibration (sinusoidal) (EN 60068-2-6)	1.5 mm p-p (10 ... 58 Hz), 10 g (58 Hz ... 2 kHz), 10 cycles (2.5 h) per axis
Vibration, broad-band random (EN 60068-2-64)	0.1 g ² / Hz, > 10 gRMS (20 Hz ... 1 kHz), 30 min. per axis

Output signal

Current output	4 ... 20 mA, 3-wire
Load resistance	R _s ≤ (V _s - 11 V)/0.02 A
Short circuit protection	Yes

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)
SIO-mode	Yes
Process data (cyclic)	Pressure or temperature Switch state State of alert Scaling factor
Diagnostic data (acyclic)	Ambient pressure Device temperature CPU temperature Operation time (since power-on) Device Status Power supply
Adjustable data (acyclic)	Offset settings Switch parameters Measuring mode

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PP20S-2.#####.D1##.##20##.000

Technical data

IO-Link interface

Dual Channel IO-Link / Analogue
Analogue / SIO Mode

Housing

Style Compact transmitter
Overall size Refer to section "Dimensional drawings"
Material AISI 316L (1.4404)

Electrical connection

Connector M12-A, 5-pin, stainless steel, IO-Link output

Power supply

Voltage supply range 18 ... 30 V DC , with IO-Link
11 ... 30 V DC , with 4 ... 20 mA output signal

Reverse polarity protection Yes

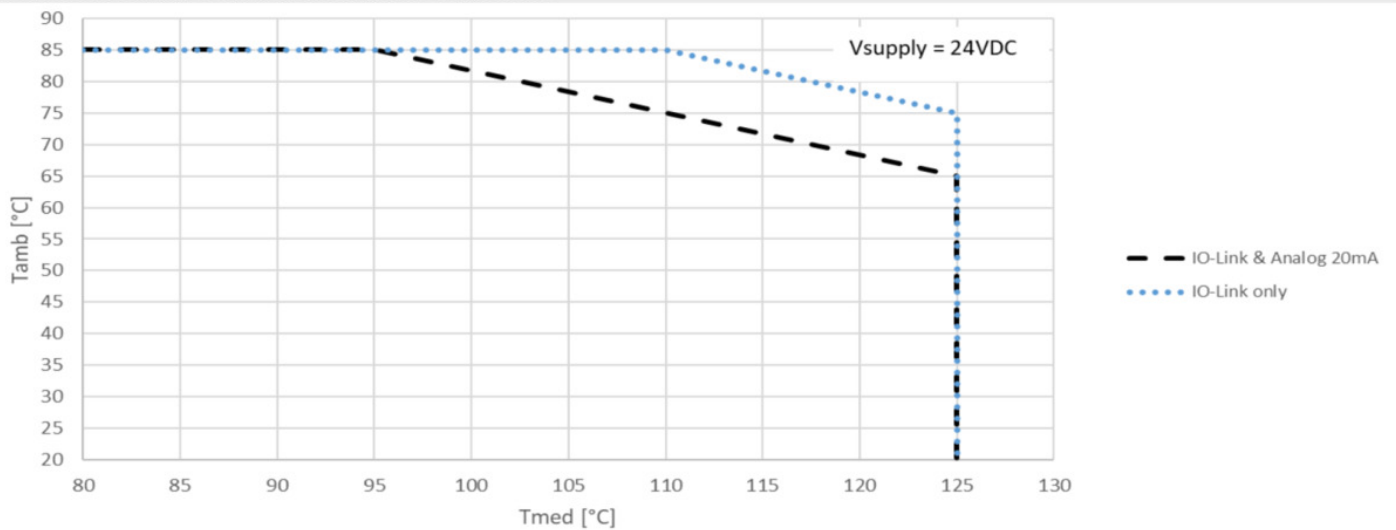
Compliance and approvals

EMC EN 61000-6-2
EN 61000-6-3
EN 61326-2-3

Operating conditions

Measuring range (bar)		Proof pressure (bar)	Burst pressure (bar)		
-1 ... 0	-1 ... 1	0 ... 0.4	0 ... 1	5	10
-1 ... 3	-1 ... 5	0 ... 2.5		10	20
0 ... 4	0 ... 5			20	40
-1 ... 9	0 ... 6	0 ... 10		50	100
0 ... 16	0 ... 25			80	160
0 ... 40					

Maximum operating conditions in subject to temperature



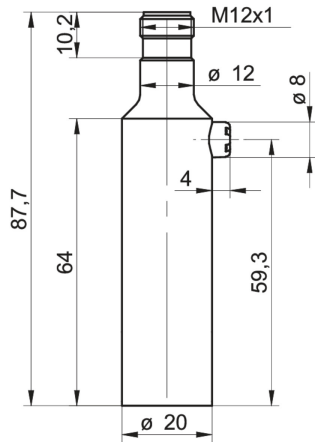
PP20S process - D1 IO-Link

Fully welded pressure sensor with industrial connection

PP20S-2.#####.D1##.##20##.000

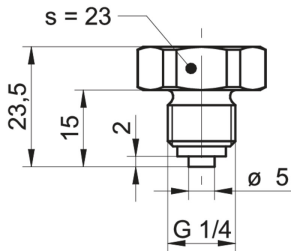
Dimensional drawings (mm)

Housing

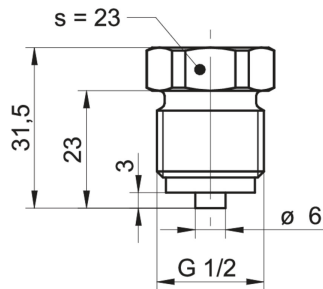


Housing with connector M12-A

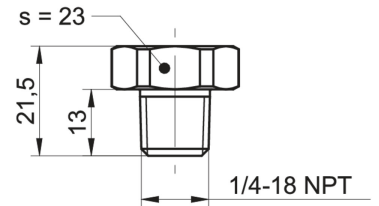
Process connection



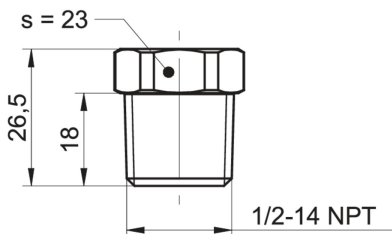
G30-02
G 1/4 B EN 837-1 (BCID: G30)



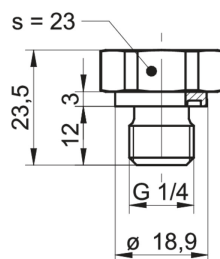
G31-03
G 1/2 B EN 837-1 (BCID: G31)



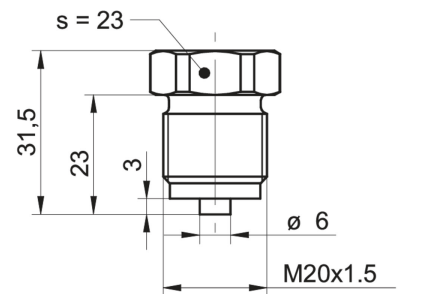
N01-04
1/4-18 NPT (BCID: N01)



N02-05
1/2-14 NPT (BCID: N02)



G50-06
G 1/4 A DIN 3852-E (BCID: G50)



M08-07
M20 x 1.5 ISO 261 / ISO 965 (BCID: M08)

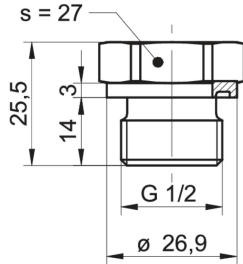
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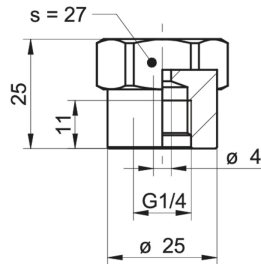
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Dimensional drawings (mm)

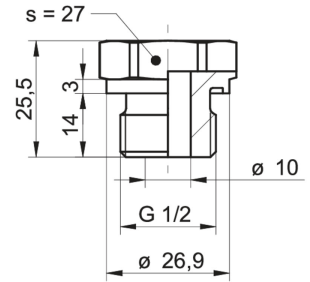
Process connection



G51-09
G 1/2 A DIN 3852-E (BCID: G51)



G21-12
G 1/4 A ISO 228-1 female thread (BCID: G21)



G51-19
G 1/2 A DIN 3852-E, hole \varnothing 10 mm
(BCID: G51)

Electrical connection

Output type	Equivalent circuit	Electrical connection	Function	Pin assignment
IO-Link & analog 3-wire			+Vs	1
			GND (0V)	3
			SW1, IO-Link	4
			lout	2
			Frame ground	plug thread
			n.c.	5
			operating mode	used pins
			IO-Link	pin 1, 3, 4
			Analog 4 ... 20 mA	pin 1, 2, 3
			Dual-channel	pin 1, 2, 3, 4

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PP20S-2.#####.D1##.##20##.000

Ordering information

Ordering key - Configuration possibilities see website

	PP20S	-	2	.	#	###	#	.	D1	15	.	##	2	0	#	0	.	0	0	0
Product	PP20S																			
Housing material	Stainless steel 1.4404 AISI 316L		2																	
Accuracy	±1.0 % FS						1													
	±0.5 % FS						3													
Measuring range	0 ... 0.4 bar (EN)						B11													
	0...1 bar (EN)						B15													
	0 ... 2.5 bar (EN)						B18													
	0 ... 4 bar (EN)						B19													
	0 ... 6 bar (EN)						B20													
	0 ... 10 bar (EN)						B22													
	0 ... 16 bar (EN)						B24													
	0...25 bar (EN)						B26													
	0 ... 40 bar (EN)						B27													
	-1...0 bar (EN)						B59													
	-1...1 bar (EN)						B73													
	-1...3 bar (EN)						B76													
	-1...5 bar (EN)						B77													
	-1...9 bar (EN)						B79													
	0...5 bar (EN)						B98													
Kind of pressure	Relative (gauged)																			R
	Absolute																			A
Output signal	IO-Link Dual Ch., 4 ... 20 mA V1																			D1
Output Connection	M12-A, 5-pin																			15
Process connection	G 1/4 B EN 837-1 (G30)																			02
	G 1/2 B EN 837-1 (G31)																			03
	1/4-18 NPT (N01)																			04
	1/2-14 NPT (N02)																			05
	G 1/4 A DIN 3852-E (G50)																			06
	M20 × 1.5 ISO 261 / ISO 965 (M08)																			07
	G 1/2 A DIN 3852-E (G51)																			09
	G 1/4 A ISO 228-1 female thread (G21)																			12
	G 1/2 A DIN 3852-E, hole Ø 10 mm (G52)																			19
Process connection material	Stainless steel 1.4404 AISI 316L																			2
Seal	None																			0
Oil filling	Standard oil																			1
	NSF H1 listed (FDA approved)																			2
Display	Without display																			0

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Ordering information

Ordering key - Configuration possibilities see website

	PP20S	-	2	.	#	###	#	.	D1	15	.	##	2	0	#	0	.	0	0	0
ATEX																				
Standard safety																			0	
Approvals																				
Standard approvals																			0	
Technology																				
Silicon																			0	