

PP20S process - Ax Analog

Fully welded pressure sensor with industrial connection

PP20S-2.#####.A###.##20##.000

Overview

- 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 %)	≤ 15 ms
Temperature coefficient	≤ 0.2 % FSR/10 K, measuring span ≤ 0.2 % FSR/10 K, zero point

Process conditions

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

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, 4-pin IP 69, with appropriate cable
Insulation resistance	> 100 MΩ, 500 V DC

Ambient conditions

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), 300 min. per axis

Output signal

Current output	4 ... 20 mA, 2-wire
Voltage output	0 ... 10 V DC, 3-wire
Load resistance	> 5 kΩ, with voltage output Rs ≤ (Vs - 8 V)/0.020 A, with current output
Short circuit protection	Yes

Housing

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

Electrical connection

Connector	M12-A, 4-pin, stainless steel
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Power supply

Voltage supply range	11 ... 30 V DC, with 4 ... 20 mA output signal 13 ... 30 V DC, with 0 ... 10 V output signal
Reverse polarity protection	Yes

Compliance and approvals

EMC	EN 61000-6-2 EN 61000-6-3 EN 61326-2-3
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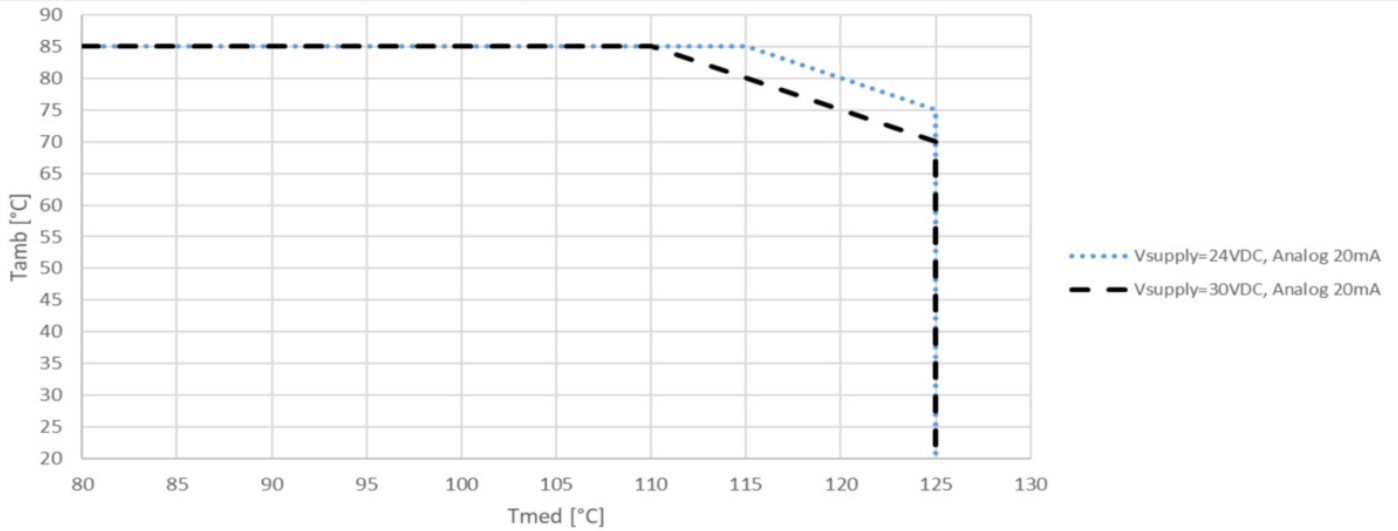
Fully welded pressure sensor with industrial connection

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Operating conditions

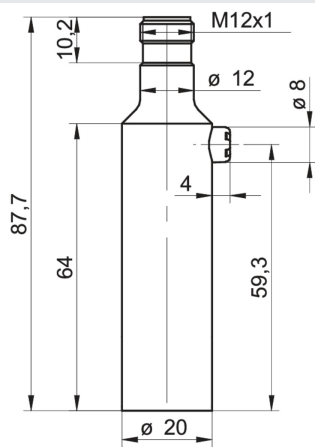
Measuring range (bar)				Proof pressure (bar)	Burst pressure (bar)
-1 ... 0	-1 ... 1	0 ... 0.4	0 ... 1	5	10
-1 ... 3	-1 ... 5	0 ... 2.5		10	20
0 ... 4	0 ... 5			20	40
-1 ... 9	0 ... 6	0 ... 10		50	100
0 ... 16	0 ... 25			80	160
0 ... 40					

Maximum operating conditions in subject to temperature



Dimensional drawings (mm)

Housing



Housing with connector M12-A

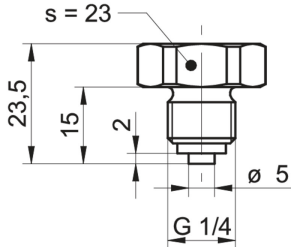
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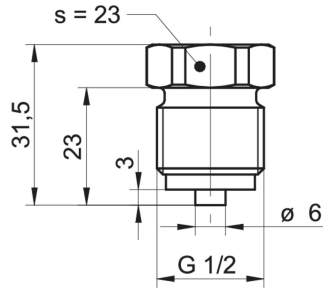
PP20S-2.#####.A###.##20##.000

Dimensional drawings (mm)

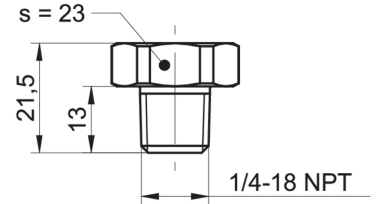
Process connection



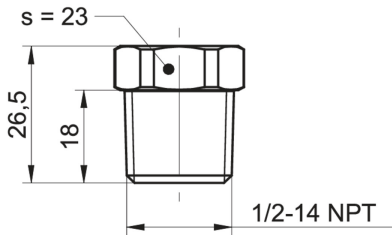
G30-02
G 1/4 B EN 837-1 (BCID: G30)



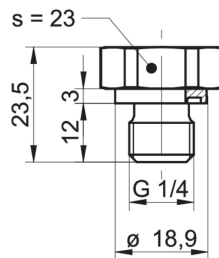
G31-03
G 1/2 B EN 837-1 (BCID: G31)



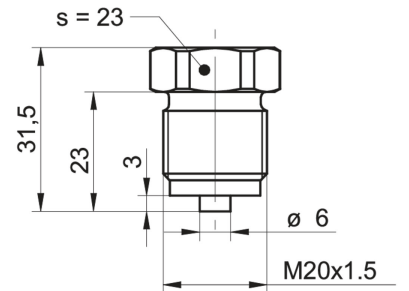
N01-04
1/4-18 NPT (BCID: N01)



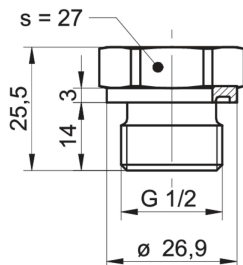
N02-05
1/2-14 NPT (BCID: N02)



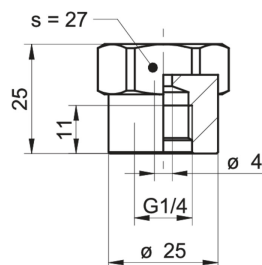
G50-06
G 1/4 A DIN 3852-E (BCID: G50)



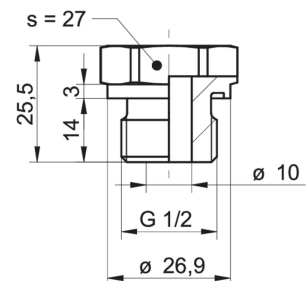
M08-07
M20 x 1.5 ISO 261 / ISO 965 (BCID: M08)



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 Ø 10 mm (BCID: G51)

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Electrical connection

Output type	Equivalent circuit	Electrical connection	Function	Pin assignment								
4 ... 20 mA (2-wire)			<table border="1"> <tr> <td>+Vs</td> <td>1</td> </tr> <tr> <td>lout</td> <td>3</td> </tr> <tr> <td>Frame Ground</td> <td>Plug thread</td> </tr> <tr> <td>n.c.</td> <td>2, 4</td> </tr> </table>	+Vs	1	lout	3	Frame Ground	Plug thread	n.c.	2, 4	
+Vs	1											
lout	3											
Frame Ground	Plug thread											
n.c.	2, 4											
0 ... 10 V (3-wire)			<table border="1"> <tr> <td>+Vs</td> <td>1</td> </tr> <tr> <td>Uout</td> <td>2, 4</td> </tr> <tr> <td>GND (0 V)</td> <td>3</td> </tr> <tr> <td>Frame Ground</td> <td>Plug thread</td> </tr> </table>	+Vs	1	Uout	2, 4	GND (0 V)	3	Frame Ground	Plug thread	
+Vs	1											
Uout	2, 4											
GND (0 V)	3											
Frame Ground	Plug thread											

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Ordering information

Ordering key - Configuration possibilities see website

	PP20S	-	2	.	#	###	#	.	##	##	.	##	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	4...20 mA																			A1
	0...10 V																			A2
Output Connection	M12-A, 4-pin																			14
	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

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Ordering information

Ordering key - Configuration possibilities see website

	PP20S	-	2	.	#	###	#	.	##	##	.	##	2	0	#	0	.	0	0	0
Display																				
Without display																		0	0	0
ATEX																				
Standard safety																		0	0	0
Approvals																				
Standard approvals																		0	0	0
Technology																				
Silicon																		0	0	0