

## PF20S

Flow sensor for industrial applications

PF20S-#1.010.####.2#.#.0000.0

### Overview

- Flow and temperature measurement in a single sensor
- Binary or analog output signal
- Compact and robust
- Available with IO-Link interface



### Technical data

#### Performance characteristics

Down time at temperature step	< 10 s
Max. measuring error	± 2 % FSR , water ± 15 % FSR , oil ± 1 °C , temperature measurement @ flow > 0 cm/s
Measuring range, flow	10 ... 400 cm/s , water 10 ... 300 cm/s , oil
Measuring range, temperature	-25 ... 150 °C
Step response time	< 5 s

#### Process conditions

Process temperature	-25 ... 125 °C , water 0 ... 90 °C , oil 0 °C , temperature measurement @ flow > 0 cm/s
Process pressure	-1 ... 100 bar

#### Process connection

Connection variants	Refer to section "Dimensional drawings"
Mounting position	Any, top, bottom, side
Wetted parts material	AISI 316L (1.4404)
Surface roughness wetted parts	Ra ≤ 0.8 µm

#### Ambient conditions

Operating temperature range	-25 ... 80 °C
Storage temperature range	-25 ... 80 °C
Degree of protection (EN 60529)	IP67 IP68 , 30 min. @ 1 mH2O IP69K , with appropriate cable
Humidity	≤ 100 % RH , condensing

#### Ambient conditions

Shock (EN 60068-2-27)	30 g / 11 ms, 6 impulses per axis and direction
Vibration (sinusoidal) (EN 60068-2-6)	5 g (10 ... 2000 Hz)

#### Output signal

Current output	4 ... 20 mA
Voltage output	0 ... 10 V
Output type	Digital (push-pull) NPN PNP
Switching logic	Active high Active low Normally closed (NC) Normally open (NO)

Voltage drop	< 2 V, switching output
Current rating	100 mA , max.
Residual current	< 250 µA
Short circuit protection	Yes
Interface	IO-Link 1.1

#### Housing

Style	Compact transmitter
Overall size	Refer to section "Dimensional drawings"
Material	Stainless steel

#### Electrical connection

Connector	M12-A, 4-pin
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#### Power supply

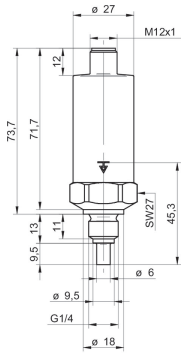
Voltage supply range	12 ... 32 V DC , with 2 x 4 ... 20 mA 18 ... 30 V DC , with IO-Link
Power-up time	10 s , max.
Reverse polarity protection	Yes

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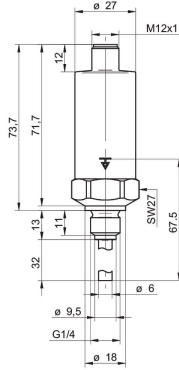
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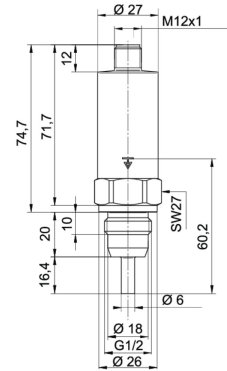
## Dimensional drawings (mm)



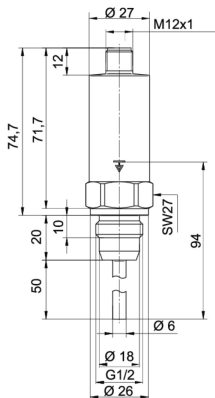
**G03-G030**  
G 1/4 A ISO 228-1  
Sensor length 9.5 mm (BCID: G03)



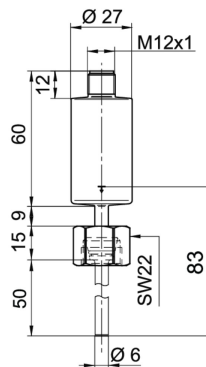
**G03-G033**  
G 1/4 A ISO 228-1  
Sensor length 32 mm (BCID: G03)



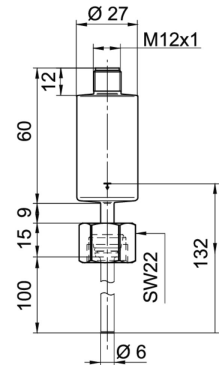
**G08-G081**  
G 1/2 A ISO 228-1 with cone  
Sensor length 16.4 mm (BCID: G08)



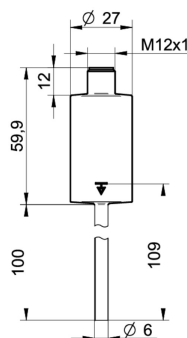
**G08-G085**  
G 1/2 A ISO 228-1 with cone  
Sensor length 50 mm (BCID: G08)



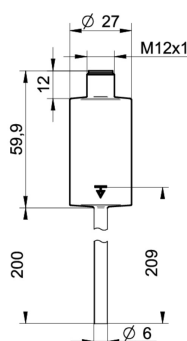
**T44-T445**  
Sealing cone M18x1.5  
Sensor length 50 mm (BCID: T44)



**T44-T447**  
Sealing cone M18x1.5  
Sensor length 100 mm (BCID: T44)



**T52-T527**  
Compression fitting Ø 6  
Sensor length 100 mm (BCID: T52)



**T52-T528**  
Compression fitting Ø 6  
Sensor length 200 mm (BCID: T52)

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## Electrical connection

Output signal	Equivalent circuit	Electrical connection	Function	Pin assignment
<b>Multi-parameter output</b>  4 ... 20 mA, 3-wire (flow) 4 ... 20 mA, 3-wire (temperature)			+Vs Iout (flow) Iout (temperature) GND (0 V) Frame ground	1 2 4 3 Plug thread
<b>Programmable output</b> Factory setting with IO-Link			+Vs SW1 (IO-Link) Iout GND (0 V) Frame ground	1 4 2 3 Plug thread
<b>Programmable output</b> Configuration programmable by customer			+Vs SW1 (IO-Link) Uout GND (0 V) Frame ground	1 4 2 3 Plug thread
<b>Programmable output</b> Configuration programmable by customer			+Vs SW1 (IO-Link) SW2 GND (0 V) Frame ground	1 4 2 3 Plug thread
<b>Programmable output</b> Configuration programmable by customer			+Vs SW1 (IO-Link) SW2 GND (0 V) Frame ground	1 4 2 3 Plug thread
<b>Programmable output</b> Configuration programmable by customer			+Vs SW1 (IO-Link) SW2 GND (0 V) Frame ground	1 4 2 3 Plug thread

## Ordering information

Ordering key - Configuration possibilities see website

Product	PF20S	-	#	1	.	010	.	####	.	2	#	.	#	.	0	00	0	.	0
Product	PF20S																		
Version																			
Version for Water																			1
Version for Oil																			2
Housing																			
Stainless steel, AISI 316L (1.4404)																			1
Electrical connection																			
M12-A, 4-pin, stainless steel																			010

The product features and technical data specified do not express or imply any warranty. Technical modifications subject to change.

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## Ordering information

**Ordering key - Configuration possibilities see website**

	PF20S	-	#	1	.	010	.	####	.	2	#	.	#	.	0	00	0	.	0	
<b>Process connection</b>																				
Sealing cone M18x1.5 (T44), Sensor length: 50 mm																				T445
Sealing cone M18x1.5 (T44), Sensor length: 100 mm																				T447
Compression fitting Ø 6 (T52), Sensor length: 100 mm																				T527
Compression fitting Ø 6 (T52), Sensor length: 200 mm																				T528
G 1/2 A ISO 228-1 with cone (G08), Sensor length: 16.4 mm																				G081
G 1/2 A ISO 228-1 with cone (G08), Sensor length: 50 mm																				G085
G 1/4 A ISO 228-1 (G03), Sensor length: 9.5 mm																				G030
G 1/4 A ISO 228-1 (G03), Sensor length: 32 mm																				G033
<b>Process connection material</b>																				
AISI 316L (1.4404)																				2
<b>Seal</b>																				
None																				0
FKM (Viton®)																				3
<b>Output signal</b>																				
Multi-parameter output, 2 x 4 - 20 mA (3-wire)																				0
Programmable output, IO-Link																				1
<b>Explosion protection</b>																				
Without																				0
<b>Industrial approvals</b>																				
Standard																				00
<b>Special approvals</b>																				
Standard																				0
<b>Configuration</b>																				
Factory settings																				0