

Flow Sensor with IO-Link

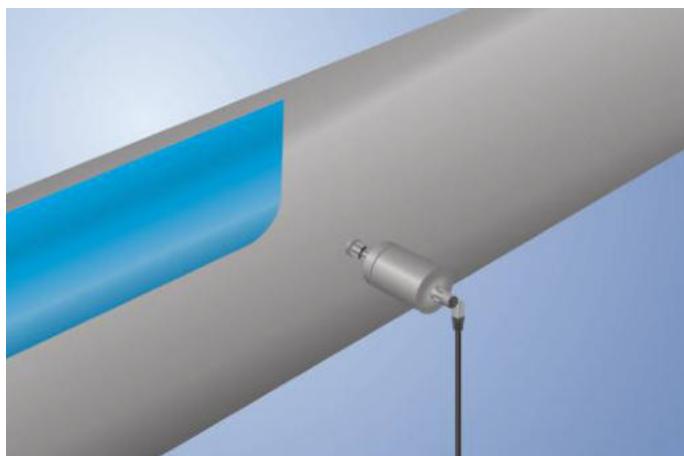
FXFF002

Part Number



- A single sensor for flow and temperature
- FDA compliant
- Measurement independent of flow direction and installation position
- Ready for Industry 4.0 with IO-Link 1.1

weFlux² Flow Sensors simultaneously measure flow velocity and the temperature of aqueous liquids regardless of position and direction of flow. Advantage: The number of measuring points and the diversity of sensor variants are cut in half, and greatest possible flexibility is assured for installation in closed piping systems. Either 2 switching outputs or 1 switching output and 1 analog output are available depending on application requirements. The outputs can be configured as desired via IO-Link in order to flexibly adapt the sensors to the respective application.



Technical Data

Sensor-specific data

Measuring Range	10...400 cm/s
Temperature of the medium, flow measurement	0...125 °C**
Temperature of the medium, temperature measurement	-25...150 °C
Adjustable Range	10...400 cm/s
Medium	Water
Measuring error	≤ 2 %
Response time in case of temperature jump	10 s

Environmental conditions

Ambient temperature	-25...80 °C
Storage temperature	-25...80 °C
Mechanical Strength	100 bar
EMC	DIN EN 61326-1
Shock resistance per DIN IEC 68-2-27	30 g / 11 ms
Vibration resistance per DIN IEC 60068-2-6	5 g (10...2000 Hz)

Electrical Data

Supply Voltage	12...32 V DC
Current Consumption (Ub = 24 V)	< 40 mA
Switching Outputs	2
Analog Outputs	1
Analog Output	0...10 V/4...20 mA
Response Time	1...5 s
Switching Output/Switching Current	± 100 mA
Switching Output Voltage Drop	< 2 V
Current Output Load Resistance	(Ub-Ubmin)/0,02A
Current Load Voltage Output	≤ 20 mA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Protection Class	III
Interface	IO-Link V1.1
IO-Link Version	1.1

Mechanical Data

Setting Method	IO-Link
Housing Material	1.4404
Material in contact with media	1.4404
Degree of Protection	IP68/IP69K *
Connection	M12 x 1; 4-pin
Process Connection	Cutting/locking ring
Process Connection Length (PCL)	109 mm
Probe Length (PL)	100 mm

Safety-relevant Data

MTTFd (EN ISO 13849-1)	1210,41 a
Diagnostic Coverage (DC)	0 %
Service Life TM (EN ISO 13849-1)	20 a

Analog output switchable to flow or temperature



Switching output switchable to flow or temperature



Switchable to NC/NO



Configurable as PNP/NPN/Push-Pull



Connection Diagram No.

139

Suitable Connection Technology No.

21

Suitable Mounting Technology No.

907 | 908

* Tested by wenglor

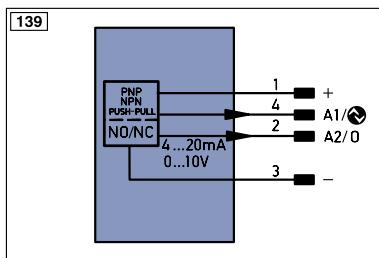
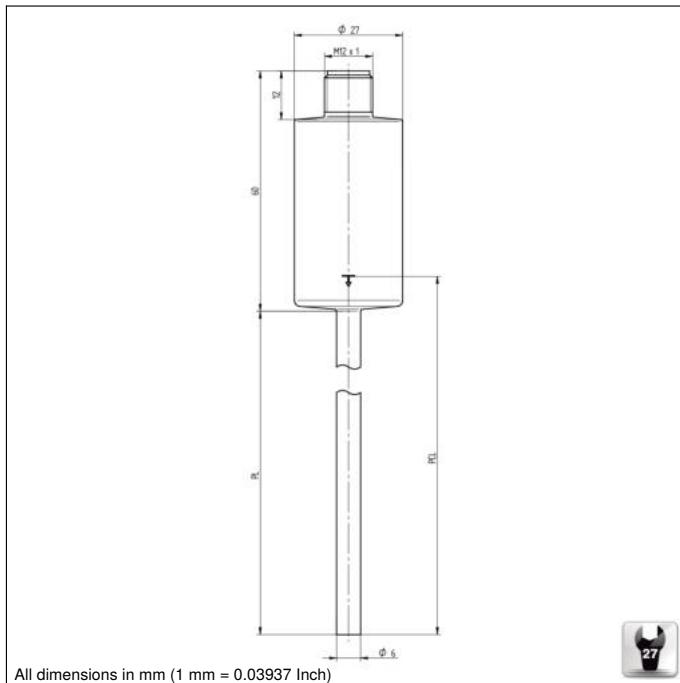
** The sensors were calibrated and specified for the medium water. Technically, the sensors are suitable for a medium temperature of up to -25 °C. To achieve a temperature below 0 °C, a different medium must be added to the water. This leads to a different measurement result, which is why a use under 0 °C must be tested individually for the mixture used.

Complementary Products

IO-Link Master

Software

ZH6C00x Adapter to G1/4"


Legend

+	Supply Voltage +	PT	Platinum measuring resistor
-	Supply Voltage 0 V	nc	not connected
~	Supply Voltage (AC Voltage)	U	Test Input
A	Switching Output (NO)	Ü	Test Input inverted
Ä	Switching Output (NC)	W	Trigger Input
V	Contamination/Error Output (NO)	O	Analog Output
Ü	Contamination/Error Output (NC)	O-	Ground for the Analog Output
E	Input (analog or digital)	BZ	Block Discharge
T	Teach Input	AVV	Valve Output
Z	Time Delay (activation)	a	Valve Control Output +
S	Shielding	b	Valve Control Output 0 V
RxD	Interface Receive Path	SY	Synchronization
TxD	Interface Send Path	E+	Receiver-Line
RDY	Ready	S+	Emitter-Line
GND	Ground	÷	Grounding
CL	Clock	SnR	Switching Distance Reduction
E/A	Output/Input programmable	Rx+/-	Ethernet Receive Path
IO-Link		Tx+/-	Ethernet Send Path
PoE	Power over Ethernet	Bus	Interfaces-Bus A(+)B(-)
IN	Safety Input	La	Emitted Light disengageable
SSD	Safety Output	Mag	Magnet activation
Signal	Signal Output	RES	Input confirmation
BL-D	Ethernet Gigabit bidirect. data line (A-D)	EDM	Contactor Monitoring
EN0RS422	Encoder 0-pulse 0-0 (TTL)	ENArS422	Encoder A/A (TTL)
ENBrS422	Encoder B/B (TTL)		

EN _A	Encoder A
EN _B	Encoder B
AMIN	Digital output MIN
AMAX	Digital output MAX
AOK	Digital output OK
SY IN	Synchronization IN
SY OUT	Synchronization OUT
0,1	Brightness output
M	Maintenance
rsv	reserved

Wire Colors according to DIN IEC 757

BK	Black
BN	Brown
RD	Red
OG	Orange
YE	Yellow
GN	Green
BU	Blue
VT	Violet
GY	Grey
WH	White
PK	Pink
GNYE	Green/Yellow

