# Flow Sensor
with IO-Link

FXFF007
Part Number

- **A single sensor for flow and temperature**
- **FDA compliant**
- **Measurement independent of flow direction and in-stillation 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 flow direction. The advantage: The number of measuring points and the diversity of sensor variants are cut in half, ensuring the greatest possible flexibility when installing 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.
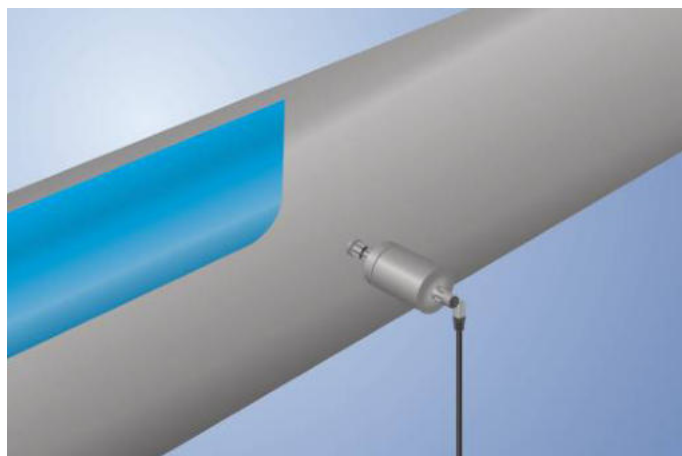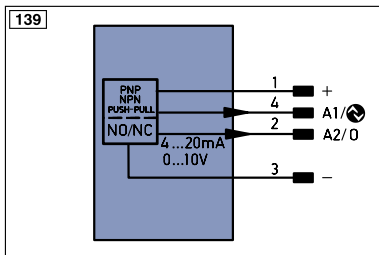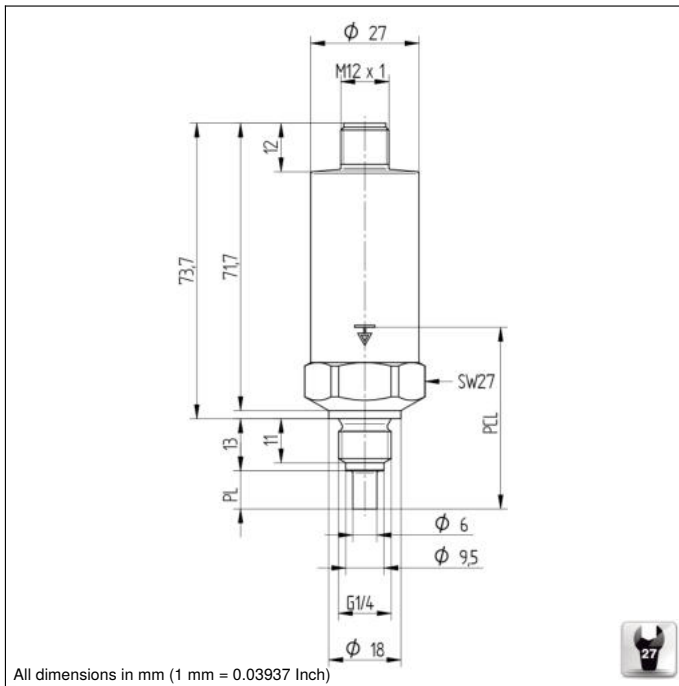
Technical Data

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 (total)	≤ 2 %
Response time in case of temperature jump	10 s
Environmental conditions	
Ambient temperature	-25...80 °C
Storage temperature	-25...80 °C
Pressure Resistance	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
Number of 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
Load Current Voltage Output	≤ 20 mA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Protection Class	III
Interface	IO-Link V1.1
Mechanical Data	
Setting Method	IO-Link
Housing Material	1.4404
Material in contact with media	1.4404
Degree of Protection	IP68/IP69K *
Connection	M12 × 1; 4-pin
Process Connection	G 1/4"
Process Connection Length (PCL)	45 mm
Probe Length (PL)	9,5 mm

Analog output switchable to flow or temperature	●
Switching output switchable to flow or temperature	●
Switchable to NC/NO	●
Configurable as PNP/NPN/Push-Pull	●
IO-Link	●

Connection Diagram No.	**139**
Suitable Connection Equipment No.	2
Suitable Mounting Technology No.	919 923

* Certified 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 an application below 0 °C must be tested individually for the mixture used.

Complementary Products

IO-Link Master
Software

All dimensions in mm (1 mm = 0.03937 Inch)

27

139

PNP
NPN
PUSH-PULL
NO/NC

4...20mA
0...10V

1 +
4 A1/⊙
2 A2/O
3 −

Legend

+	Supply Voltage +	PT	Platinum measuring resistor	EN_ARS422	Encoder A/Ā (TTL)	
−	Supply Voltage 0 V	nc	not connected	EN_BRS422	Encoder B/B̄ (TTL)	
~	Supply Voltage (AC Voltage)	U	Test Input	EN_A	Encoder A	
A	Switching Output (NO)	Ū	Test Input inverted	EN_B	Encoder B	
Ā	Switching Output (NC)	W	Trigger Input	A_MIN	Digital output MIN	
V	Contamination/Error Output (NO)	W−	Ground for the Trigger Input	A_MAX	Digital output MAX	
V̄	Contamination/Error Output (NC)	O	Analog Output	A_OK	Digital output OK	
E	Input (analog or digital)	O−	Ground for the Analog Output	SY In	Synchronization In	
T	Teach Input	BZ	Block Discharge	SY OUT	Synchronization OUT	
Z	Time Delay (activation)	A_MW	Valve Output	O_LT	Brightness output	
S	Shielding	a	Valve Control Output +	M	Maintenance	
RxD	Interface Receive Path	b	Valve Control Output 0 V	rsv	reserved	
TxD	Interface Send Path	SY	Synchronization		Wire Colors according to IEC 60757	
RDY	Ready	SY−	Ground for the Synchronization	BK	Black	
GND	Ground	E+	Receiver-Line	BN	Brown	
CL	Clock	S+	Emitter-Line	RD	Red	
E/A	Output/Input programmable	⏚	Grounding	OG	Orange	
⊙ IO-Link		SnR	Switching Distance Reduction	YE	Yellow	
PoE	Power over Ethernet	Rx+/−	Ethernet Receive Path	GN	Green	
IN	Safety Input	Tx+/−	Ethernet Send Path	BU	Blue	
OSSD	Safety Output	Bus	Interfaces-Bus A(+)/B(−)	VT	Violet	
Signal	Signal Output	La	Emitted Light disengageable	GY	Grey	
BI_D+/−	Ethernet Gigabit bidirect. data line (A-D)	Mag	Magnet activation	WH	White	
EN_0RS422	Encoder 0-pulse 0-0̄ (TTL)	RES	Input confirmation	PK	Pink	
		EDM	Contactor Monitoring	GNYE	Green/Yellow	