Flow Sensor with IO-Link

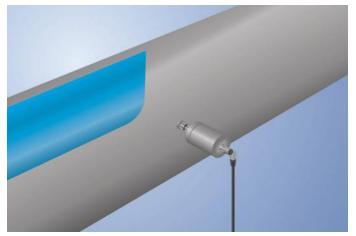
FXFF046

Part Number



- A single sensor for flow and temperature
- FDA compliant
- Measurement independent of flow direction and instillation 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

Measuring Range10400 cm/sTemperature of the medium, temperature measurement125 °C**Immeasurement125 °C**Setting Range10400 cm/sMediumWaterMeasuring error (total)< 2 %MTTFd (EN ISO 13849-1)1210,41 aResponse time in case of temperature jump10 sEnvironmental conditions-2580 °CStorage temperature-2580 °CStorage temperature-2580 °CPressure Resistance100 barEMCDIN EN 61326-1Shock resistance per DIN IEC 680-68-2-65 g (102000 Hz)Electrical Data2Supply Voltage1232 V DCCurrent Consumption (Ub = 24 V)< 40 mANumber of switching Outputs2Number of analog outputs1Analog Output420 mASignal sourceFlowResponse Time15 sSwitching Output Voltage Drop< 2 VLoad Current Voltage Output\$ 20 mAShort Circuit ProtectionyesProtection ClassIIIInterfaceIO-Link V1.1Mechanical Data1.4404Short Circuit ProtectionyesProtection ClassIIIInterfaceIO-LinkHousing Material1.4404Degree of ProtectionIP68/IP69K *Connection Fluptement No.I339Suitable Konnection Equipment No.2Suitable Konnection Equipment No.2Suitable Konnection Equipment No.22	Sensor-specific data			
Temperature of the medium, temperature measurement-25150 °CSetting Range10400 cm/sMediumWaterMeasuring error (total)< 2 %	Measuring Range	10400 cm/s		
measurement10400 cm/sSetting Range10400 cm/sMediumWaterMeasuring error (total)≤ 2 %MTTFd (EN ISO 13849-1)1210,41 aResponse time in case of temperature jump10 sEnvironmental conditions-2580 °CStorage temperature-2580 °CPressure Resistance100 barEMCDIN EN 61326-1Shock resistance per DIN IEC 68-2-2730 g / 11 msVibration resistance per DIN IEC 6068-2-65 g (102000 Hz)Electrical Data		0125 °C**		
Setting Range10400 cm/sMediumWaterMeasuring error (total)< 2 %		-25150 °C		
Measuring error (total) $\leq 2 \%$ MTTFd (EN ISO 13849-1)1210,41 aResponse time in case of temperature jump10 sEnvironmental conditions10 sAmbient temperature-2580 °CStorage temperature-2580 °CPressure Resistance100 barEMCDIN EN 61326-1Shock resistance per DIN IEC 68-2-2730 g / 11 msVibration resistance per DIN IEC 6068-2-65 g (102000 Hz)Electrical DataSupply VoltageSupply Voltage1232 V DCCurrent Consumption (Ub = 24 V)< 40 mA		10400 cm/s		
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MTTFd (EN ISO 13849-1)1210,41 aResponse time in case of temperature jump10 sEnvironmental conditionsAmbient temperature-2580 °CStorage temperature-2580 °CPressure Resistance100 barEMCDIN EN 61326-1Shock resistance per DIN IEC 68-2-2730 g / 11 msVibration resistance per DIN IEC 60068-2-65 g (102000 Hz)Electrical Data2Supply Voltage1232 V DCCurrent Consumption (Ub = 24 V)< 40 mA	Measuring error (total)			
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Storage temperature-2580 °CPressure Resistance100 barEMCDIN EN 61326-1Shock resistance per DIN IEC 68-2-2730 g / 11 msVibration resistance per DIN IEC 60068-2-65 g (102000 Hz)Electrical Data	Environmental conditions			
Pressure Resistance100 barEMCDIN EN 61326-1Shock resistance per DIN IEC 68-2-2730 g / 11 msVibration resistance per DIN IEC 60068-2-65 g (102000 Hz)Electrical DataSupply Voltage1232 V DCCurrent Consumption (Ub = 24 V)< 40 mA	Ambient temperature	-2580 °C		
EMCDIN EN 61326-1Shock resistance per DIN IEC 68-2-2730 g / 11 msVibration resistance per DIN IEC 60068-2-65 g (102000 Hz)Electrical DataSupply Voltage1232 V DCCurrent Consumption (Ub = 24 V)< 40 mA	Storage temperature	-2580 °C		
Shock resistance per DIN IEC 68-2-2730 g / 11 msVibration resistance per DIN IEC 60068-2-65 g (10200 Hz)Electrical Data30 g / 11 msSupply Voltage1232 V DCCurrent Consumption (Ub = 24 V)< 40 mA	Pressure Resistance	100 bar		
Vibration resistance per DIN IEC 60068-2-65 g (102000 Hz)Electrical DataSupply Voltage1232 V DCCurrent Consumption (Ub = 24 V)< 40 mA	EMC	DIN EN 61326-1		
Electrical DataSupply Voltage1232 V DCCurrent Consumption (Ub = 24 V)< 40 mA	Shock resistance per DIN IEC 68-2-27	30 g / 11 ms		
Supply Voltage1232 V DCCurrent Consumption (Ub = 24 V)< 40 mA	Vibration resistance per DIN IEC 60068-2-6			
Current Consumption (Ub = 24 V)< 40 mANumber of Switching Outputs2Number of analog outputs1Analog Output420 mASignal sourceFlowResponse Time15 sSwitching Output/Switching Current± 100 mASwitching Output Voltage Drop< 2 V	Electrical Data			
Number of Switching Outputs2Number of analog outputs1Analog Output420 mASignal sourceFlowResponse Time15 sSwitching Output/Switching Current± 100 mASwitching Output Voltage Drop< 2 V	Supply Voltage	1232 V DC		
Number of analog outputs1Analog Output420 mASignal sourceFlowResponse Time15 sSwitching Output/Switching Current± 100 mASwitching Output/Switching Current± 100 mASwitching Output Voltage Drop< 2 V	Current Consumption (Ub = 24 V)	< 40 mA		
Analog Output420 mASignal sourceFlowResponse Time15 sSwitching Output/Switching Current± 100 mASwitching Output/Switching Current± 100 mASwitching Output Voltage Drop< 2 V	Number of Switching Outputs	2		
Signal sourceFlowResponse Time15 sSwitching Output/Switching Current± 100 mASwitching Output Voltage Drop< 2 V	Number of analog outputs	1		
Response Time15 sSwitching Output/Switching Current± 100 mASwitching Output Voltage Drop< 2 V	Analog Output	420 mA		
Switching Output/Switching Current± 100 mASwitching Output/Switching Current± 100 mASwitching Output Voltage Drop< 2 V	Signal source	Flow		
Switching Output Voltage Drop< 2 V	Response Time	15 s		
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 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 1/2" hygienic design Probe Length (PL) 16,4 mm Analog output flow IO-Link IO-Link IN PNP NO IN Connection Diagram No. 139 Suitable Connection Equipment No. 2	Switching Output/Switching Current	± 100 mA		
Short Circuit Protection yes Reverse Polarity Protection yes Protection Class III Interface IO-Link V1.1 Mechanical Data IO-Link 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 1/2" hygienic design Probe Length (PL) 16,4 mm Analog output flow IO-Link IO-Link IO-Link PNP NO IO-Link Suitable Connection Equipment No. 139	Switching Output Voltage Drop	< 2 V		
Reverse Polarity Protection yes Protection Class III Interface IO-Link V1.1 Mechanical Data IO-Link 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 Probe Length (PL) 16,4 mm Analog output flow IO-Link IO-Link IO-Link PNP NO IO-Link Connection Diagram No. 139 Suitable Connection Equipment No. 2	Load Current Voltage Output	≤ 20 mA		
Protection ClassIIIInterfaceIO-Link V1.1Mechanical DataIO-LinkSetting MethodIO-LinkHousing Material1.4404Material in contact with media1.4404Degree of ProtectionIP68/IP69K *ConnectionM12 × 1; 4-pinProcess ConnectionG 1/2" hygienic designProbe Length (PL)16,4 mmAnalog output flowIO-LinkIO-LinkIO-LinkPNP NOIO-LinkConnection Diagram No.139Suitable Connection Equipment No.2	Short Circuit Protection	yes		
InterfaceIO-Link V1.1Mechanical DataSetting MethodIO-LinkHousing Material1.4404Material in contact with media1.4404Degree of ProtectionIP68/IP69K *ConnectionM12 × 1; 4-pinProcess ConnectionG 1/2" hygienic designProbe Length (PL)16,4 mmAnalog output flowImage: Connection Diagram No.Connection Diagram No.139Suitable Connection Equipment No.2	Reverse Polarity Protection	yes		
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 1/2" hygienic design Probe Length (PL) 16,4 mm Analog output flow IO-Link IO-Link IO-Link PNP NO IO-Link Suitable Connection Equipment No. 139	Protection Class	III		
Setting MethodIO-LinkHousing Material1.4404Material in contact with media1.4404Degree of ProtectionIP68/IP69K *ConnectionM12 × 1; 4-pinProcess ConnectionG 1/2" hygienic designProbe Length (PL)16,4 mmAnalog output flowImage: Connection Connection Diagram No.Connection Diagram No.139Suitable Connection Equipment No.2	Interface	IO-Link V1.1		
Housing Material 1.4404 Material in contact with media 1.4404 Degree of Protection IP68/IP69K * Connection M12 × 1; 4-pin Process Connection G 1/2" hygienic design Probe Length (PL) 16,4 mm Analog output flow Image: Connection Diagram No. Connection Diagram No. 139 Suitable Connection Equipment No. 2	Mechanical Data			
Material in contact with media 1.4404 Degree of Protection IP68/IP69K * Connection M12 × 1; 4-pin Process Connection G 1/2" hygienic design Probe Length (PL) 16,4 mm Analog output flow Image: Connection Diagram No. Connection Diagram No. 139 Suitable Connection Equipment No. 2	Setting Method	IO-Link		
Degree of ProtectionIP68/IP69K *ConnectionM12 × 1; 4-pinProcess ConnectionG 1/2" hygienic designProbe Length (PL)16,4 mmAnalog output flowIO-LinkIO-LinkIOPNP NOIOConnection Diagram No.139Suitable Connection Equipment No.2	Housing Material	1.4404		
Connection M12 × 1; 4-pin Process Connection G 1/2" hygienic design Probe Length (PL) 16,4 mm Analog output flow Image: Connection Diagram No. IO-Link Image: Connection Diagram No. Connection Diagram No. 139 Suitable Connection Equipment No. 2	Material in contact with media	1.4404		
Process Connection G 1/2" hygienic design Probe Length (PL) 16,4 mm Analog output flow Image: Connection Connection Diagram No. IO-Link Image: Connection Diagram No. Connection Diagram No. 139 Suitable Connection Equipment No. 2	Degree of Protection	IP68/IP69K *		
Probe Length (PL) 16,4 mm Analog output flow IO-Link IO-Link IO PNP NO IO Connection Diagram No. 139 Suitable Connection Equipment No. 2	Connection	M12 × 1; 4-pin		
Analog output flow IO-Link PNP NO Connection Diagram No. 139 Suitable Connection Equipment No. 2	Process Connection	G 1/2" hygienic design		
IO-Link PNP NO Connection Diagram No. Suitable Connection Equipment No. 2	Probe Length (PL)	16,4 mm		
PNP NO Image: Connection Diagram No. Connection Equipment No. Image: Connection Equipment No.	Analog output flow			
Connection Diagram No. 139 Suitable Connection Equipment No. 2	IO-Link			
Suitable Connection Equipment No. 2	PNP NO	O		
Suitable Connection Equipment No. 2	Connection Diagram No.	139		

* Certified by wenglor

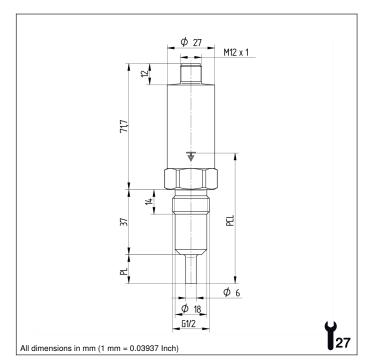
** The sensors were calibrated and specified for the medium water. Technically, the sensors are suitable for a medium temperature of up to -25 °C. To achieve a temperature below 0 °C, a different medium must be added to the water. This leads to a different measurement result, which is why an application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

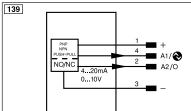
Complementary Products

IO-Link Master Software

weFlux² InoxSens







Legend						
+	Supply Voltage +	nc	Not connected	ENBRS422	Encoder B/B (TTL)	
-	Supply Voltage 0 V	U	Test Input	ENA	Encoder A	
\sim	Supply Voltage (AC Voltage)	Ū	Test Input inverted	ENв	Encoder B	
A	Switching Output (NO)	W	Trigger Input	Amin	Digital output MIN	
Ā	Switching Output (NC)	W-	Ground for the Trigger Input	Amax	Digital output MAX	
V	Contamination/Error Output (NO)	0	Analog Output	Аок	Digital output OK	
V	Contamination/Error Output (NC)	O-	Ground for the Analog Output	SY In	Synchronization In	
E	Input (analog or digital)	BZ	Block Discharge	SY OUT	Synchronization OUT	
Т	Teach Input	Amv	Valve Output	Olt	Brightness output	
Z	Time Delay (activation)	а	Valve Control Output +	Μ	Maintenance	
S	Shielding	b	Valve Control Output 0 V	rsv	Reserved	
RxD	Interface Receive Path	SY	Synchronization	Wire Colo	Wire Colors according to DIN IEC 60757	
TxD	Interface Send Path	SY-	Ground for the Synchronization	BK	Black	
RDY	Ready	E+	Receiver-Line	BN	Brown	
GND	Ground	S+	Emitter-Line	RD	Red	
CL	Clock	+	Grounding	OG	Orange	
E/A	Output/Input programmable	SnR	Switching Distance Reduction	YE	Yellow	
0	IO-Link	Rx+/-	Ethernet Receive Path	GN	Green	
PoE	ower over Ethernet	Tx+/-	Ethernet Send Path	BU	Blue	
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(-)	VT	Violet	
OSSD	Safety Output	La	Emitted Light disengageable	GY	Grey	
Signal	Signal Output	Mag	Magnet activation	WH	White	
BI_D+/-	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation	PK	Pink	
ENo RS422	Encoder 0-pulse 0/0 (TTL)	EDM	Contactor Monitoring	GNYE	Green/Yellow	
PT	Platinum measuring resistor	ENARS422	Encoder A/Ā (TTL)			

