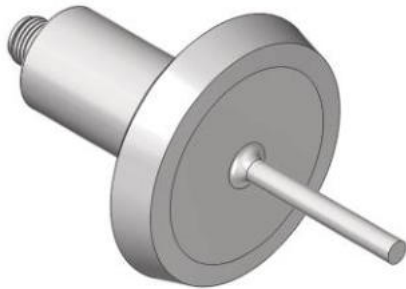


# Flow Sensor with IO-Link

## FXFF016

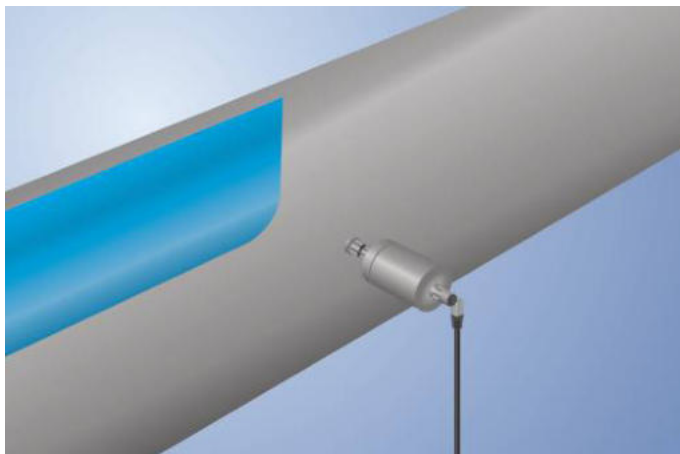
Part Number

weFlux<sup>2</sup> InoxSens



- 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

weFlux<sup>2</sup> 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

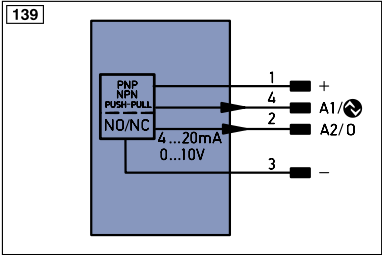
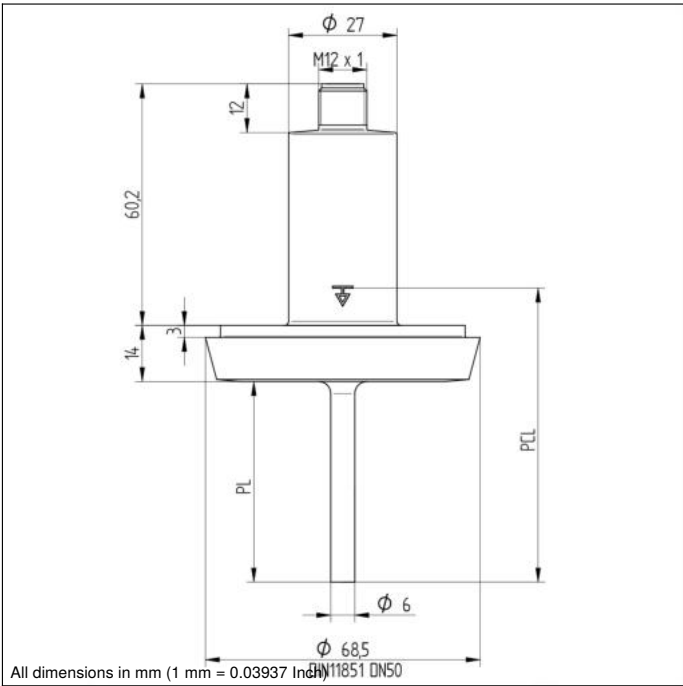
| Sensor-specific data                               |                                            |
|----------------------------------------------------|--------------------------------------------|
| Measuring Range                                    | 10...400 cm/s                              |
| 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                                | 25 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 (U <sub>b</sub> = 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                     | (U <sub>b</sub> -U <sub>bmin</sub> )/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 × 1; 4-pin                             |
| Process Connection                                 | Dairy pipe DN50                            |
| Process Connection Length (PCL)                    | 73 mm                                      |
| Probe Length (PL)                                  | 50 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                  | ●                                          |
| Connection Diagram No.                             | 139                                        |
| Suitable Connection Technology No.                 | 21                                         |

\* 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



| Legend    |                                            |
|-----------|--------------------------------------------|
| +         | Supply Voltage +                           |
| -         | Supply Voltage 0 V                         |
| ~         | Supply Voltage (AC Voltage)                |
| A         | Switching Output (NO)                      |
| $\bar{A}$ | Switching Output (NC)                      |
| V         | Contamination/Error Output (NO)            |
| $\bar{V}$ | Contamination/Error Output (NC)            |
| E         | Input (analog or digital)                  |
| T         | Teach Input                                |
| Z         | Time Delay (activation)                    |
| S         | Shielding                                  |
| RxD       | Interface Receive Path                     |
| TxD       | Interface Send Path                        |
| RDY       | Ready                                      |
| GND       | Ground                                     |
| CL        | Clock                                      |
| E/A       | Output/Input programmable                  |
|           | IO-Link                                    |
| PoE       | Power over Ethernet                        |
| IN        | Safety Input                               |
| OSSD      | Safety Output                              |
| Signal    | Signal Output                              |
| BI...D+/- | Ethernet Gigabit bidirect. data line (A-D) |
| EN0 RS422 | Encoder 0-pulse 0-0 (TTL)                  |
| PT        | Platinum measuring resistor                |
| nc        | not connected                              |
| U         | Test Input                                 |
| $\bar{U}$ | Test Input inverted                        |
| W         | Trigger Input                              |
| O         | Analog Output                              |
| O-        | Ground for the Analog Output               |
| BZ        | Block Discharge                            |
| AWV       | Valve Output                               |
| a         | Valve Control Output +                     |
| b         | Valve Control Output 0 V                   |
| SY        | Synchronization                            |
| E+        | Receiver-Line                              |
| S+        | Emitter-Line                               |
| $\pm$     | Grounding                                  |
| SnR       | Switching Distance Reduction               |
| Rx+/-     | Ethernet Receive Path                      |
| Tx+/-     | Ethernet Send Path                         |
| Bus       | Interfaces-Bus A(+)/B(-)                   |
| La        | Emitted Light disengageable                |
| Mag       | Magnet activation                          |
| RES       | Input confirmation                         |
| EDM       | Contactors Monitoring                      |
| ENAR5422  | Encoder A/A' (TTL)                         |
| ENBR5422  | Encoder B/B' (TTL)                         |
| ENa       | Encoder A                                  |
| ENb       | Encoder B                                  |
| AMIN      | Digital output MIN                         |
| AMAX      | Digital output MAX                         |
| AOK       | Digital output OK                          |
| SY In     | Synchronization In                         |
| SY OUT    | Synchronization OUT                        |
| OLt       | 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 |

