# Flow Sensor

## FFAF043

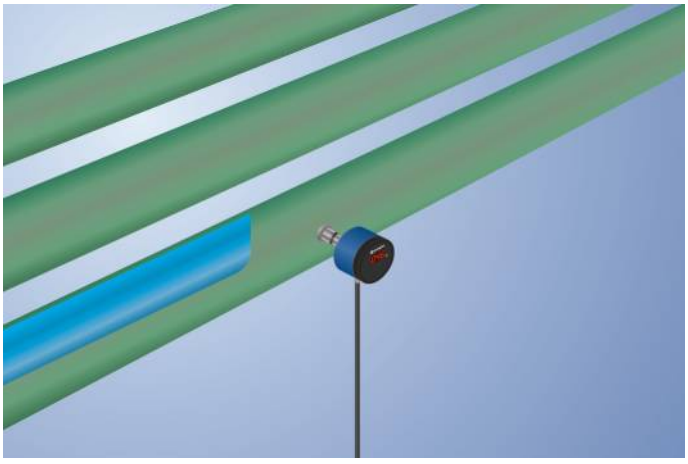
Part Number

UniFlow



- **Display can be switched between flow and medium temperature**
- **Highest precision of its class**
- **Installation in any position**
- **Measurement independent of flow direction**
- **Simple operation via the display**
- **Temperature of the medium: 0 ... 100° C (140° C for 24 hours without current measurement)**

wenglor UniFlow flow sensors measure the flow rate of aqueous and oily media in closed piping systems.
UniFlow flow sensors are very easy to operate thanks to the integrated display. The highly visible switching status display enables the rapid localization of affected sensors for maintenance processes.



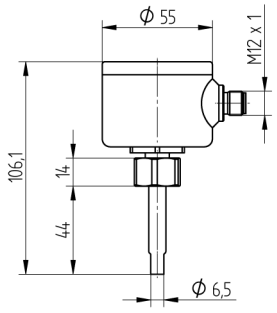
## Technical Data

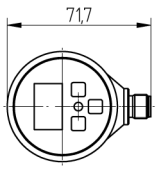
| | |
|---|---|
| **Sensor-specific data** | |
| Selectable measuring range | 10...300 cm/s |
| Measuring range 1 | 10...150 cm/s |
| Setting range 1 | 15...150 cm/s |
| Measuring range 2 | 20...300 cm/s |
| Setting range 2 | 30...300 cm/s |
| Medium | Water |
| Measuring error (total) | 2 % |
| MTTFd (EN ISO 13849-1) | 1194,55 a |
| Switching Hysteresis | 5 % |
| Temperature gradient | 30 K |
| Response time in case of temperature jump | 10 s |
| **Environmental conditions** | |
| Temperature of medium | 0...100 °C |
| Temperature of the medium, short-term | 140 °C |
| Ambient temperature | -20...70 °C |
| Pressure Resistance | 60 bar |
| EMC | DIN EN 60947-5-9 |
| Shock resistance per DIN IEC 68-2-27 | 30 g / 11 ms |
| Vibration resistance per DIN IEC 60068-2-6 | 20 g (10...2000 Hz) |
| **Electrical Data** | |
| Supply Voltage | 16...32 V DC |
| Current Consumption (Ub = 24 V) | 60 mA |
| Number of Switching Outputs | 1 |
| Analog Output | 0...10 V |
| Signal source | Temperature |
| Response Time | 1...5 s |
| Switching Output/Switching Current | < 250 mA |
| Switching Output Voltage Drop | < 2 V |
| Load Current Voltage Output | < 20 mA |
| Short Circuit Protection | yes |
| Reverse Polarity Protection | yes |
| Protection Class | III |
| **Mechanical Data** | |
| Setting Method | Menu |
| Housing Material | PBT; PC; FKM |
| Material Control Panel | Polyester |
| Material in contact with media | 1.4435; 1.4404; FKM |
| Degree of Protection | IP67 * |
| Connection | M12 × 1; 4-pin |
| Process Connection | Sealing cone M18 × 1,5 |
| Process Connection Length (PCL) | 64 mm |
| Probe Length (PL) | 44 mm |
| Analog output temperature | ● |
| PNP NO | ● |
| Connection Diagram No. | 534 |
| Control Panel No. | A03 |
| Suitable Connection Equipment No. | 2 |
| Suitable Mounting Technology No. | 900 901 |

* Certified by wenglor

## Complementary Products

| |
|---|
| Software |

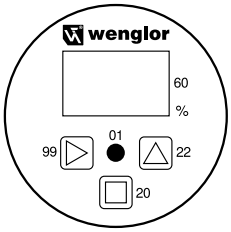


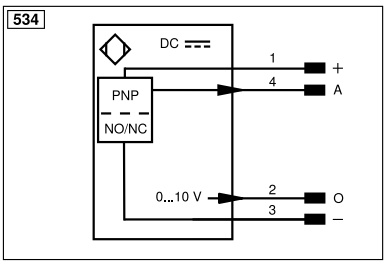

All dimensions in mm (1 mm = 0.03937 Inch)

22

## Ctrl. Panel




01 = Switching Status Indicator
20 = Enter key
22 = Up key
60 = display
99 = Right button




| Legend | | | | | |
|---|---|---|---|---|---|
| + | Supply Voltage + | nc | Not connected | ENBRS422 | Encoder B/B̄ (TTL) |
| – | Supply Voltage 0 V | U | Test Input | ENA | Encoder A |
| ~ | Supply Voltage (AC Voltage) | Ū | Test Input inverted | ENB | 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) | O | Analog Output | AOK | Digital output OK |
| V̄ | 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 |
| T | Teach Input | AMV | Valve Output | OLT | Brightness output |
| Z | Time Delay (activation) | a | Valve Control Output + | M | Maintenance |
| S | Shielding | b | Valve Control Output 0 V | rsv | Reserved |
| RxD | Interface Receive Path | SY | Synchronization | 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 |
| | 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 |
| EN0 RS422 | Encoder 0-pulse 0/0̄ (TTL) | EDM | Contactor Monitoring | GNYE | Green/Yellow |
| PT | Platinum measuring resistor | ENARS422 | Encoder A/Ā (TTL) | | |

Specifications are subject to change without notice V0-31.03.2023