

Fluid Sensors

for Pressure, Flow Rate, Temperature and Fill-Level

Intelligent Process Monitoring



Full Control of Processes in Systems and Machines

Whether pressure, flow rate, fill-level or temperature is involved: wenglor's fluid sensors acquire all relevant values in processes with liquid or gaseous media without fail. Highly precise measurement data and digital interfaces permit accurate process monitoring and data analysis in real-time, in order to optimize sequences and reduce the consumption of resources. This results in increased efficiency and productivity for machines and systems.

- ① Overflow protection
- ② Minimum and maximum fill-level monitoring
- ③ Continuous fill-level measurement
- ④ Dry-running protection
- ⑤ Pressure and temperature monitoring at pumps
- ⑥ Monitoring the temperature of the medium
- ⑦ Flow velocity and temperature monitoring
- ⑧ Leak detection

Top Performance in Liquids

weFlux² is the new generation of high-performance fluid sensors which cuts the costs and effort associated with process monitoring in half. The reason: the sensors combine two measuring functions, along with an analysis module, in a single, compact stainless steel housing.

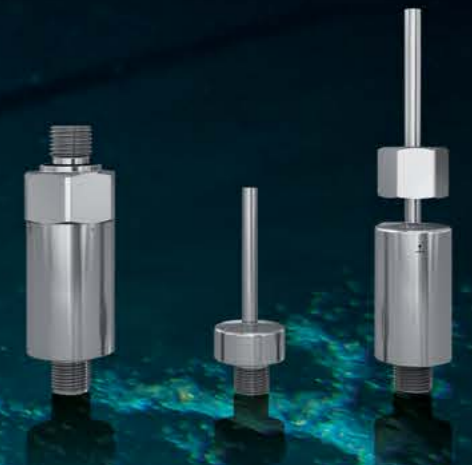
weFlux² = Pressure + Temperature

weFlux² = Flow Rate + Temperature

Ready for Industrie 4.0 

 IO-Link

IP68/IP69K



Measuring Pressure in Liquids and Gases

weFlux² pressure sensors unite two functions in a single, compact, laser welded V4A stainless steel housing. They measure relative pressure from –1 to +400 bar and temperature within a range of – 40 to +125° C. wenglor offers a large selection of pressure sensors with freely combinable sensor outputs and various process connections.

A Single Sensor for Pressure and Temperature

weFlux² pressure sensors use an innovative measuring cell with an integrated temperature element. This innovation provides the sensors with the unique capability of measuring both pressure and temperature in any desired medium. Customers benefit from reduced costs because no additional temperature sensors are required. Furthermore, reducing the number of sensors also offers a decisive advantage for compact systems and machines where only minimal mounting space is available.

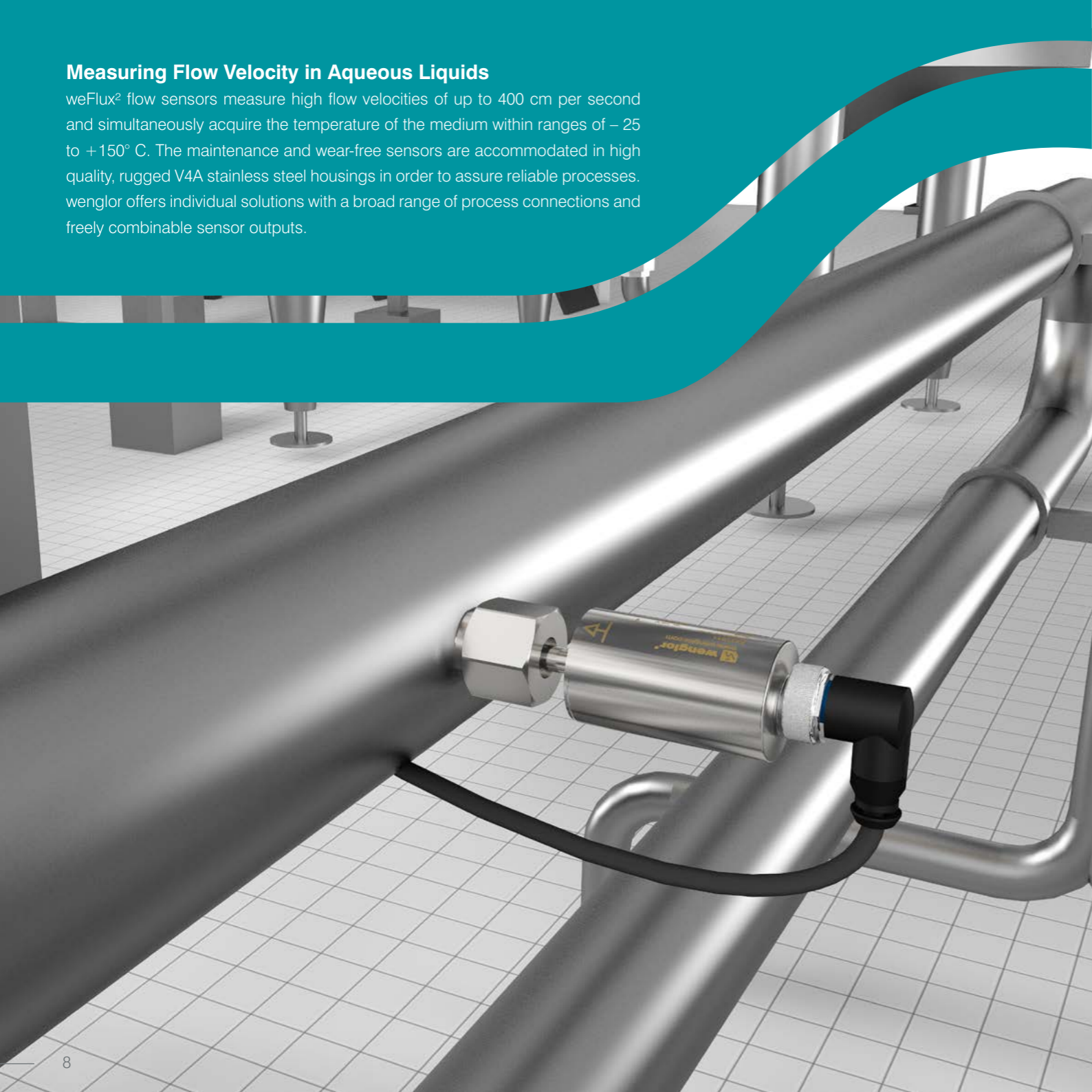
New Dimensions in Flexibility

The setting options included with weFlux² pressure sensors open up new dimensions in flexibility. The number of sensor types required in systems is thus reduced, and stock-keeping is kept simple and cost-effective. Depending on individual requirements, sensor parameters, filter and output functions, as well as the unit of measure of the measured values (bar, PSI or Pascal), can be flexibly adjusted.



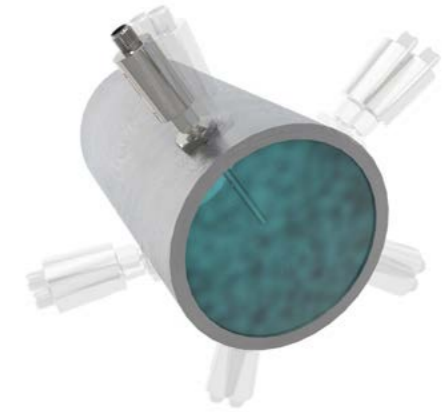
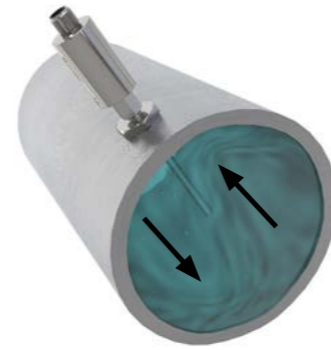
Measuring Flow Velocity in Aqueous Liquids

weFlux² flow sensors measure high flow velocities of up to 400 cm per second and simultaneously acquire the temperature of the medium within ranges of – 25 to +150° C. The maintenance and wear-free sensors are accommodated in high quality, rugged V4A stainless steel housings in order to assure reliable processes. wenglor offers individual solutions with a broad range of process connections and freely combinable sensor outputs.



A Single Sensor for Flow and Temperature

weFlux² flow sensors make use of a special, further developed calorimetric measuring principle. The measuring probe is heated for this innovative process, and flow rate is measured on the basis of the amount of heat which is carried off by the flowing medium. The advantage: acquired values can be used to determine temperature at the same time, thus reducing costs and mounting space otherwise required for temperature sensors. wenglor's flow calculator is available as a free software tool for the calculation of flow rates.



No Alignment Required

Thanks to the further developed measurement method, the sensors don't have to be aligned to the direction of flow. This prevents installation errors and associated production downtime.

Flexible Installation

The ability to mount weFlux² flow sensors in any desired position makes it possible to integrate them flexibly into systems and machine.

Hygienic Design

The corrosion resistant, laser welded V4A stainless steel housing with hygienic design is FDA compliant. Depending on the sensor variant, sensors are available with process connections designed in accordance with EHEDG guidelines.



Measuring Temperature in Liquids and Gases

With their large measuring ranges from -50 to $+200^{\circ}\text{C}$, weFlux² temperature sensors protect machines and systems against overheating, for example by monitoring temperatures in cooling circuits. Extremely short response times of less than two seconds ensure stable processes. The modular product range includes solutions with IO-Link, analog output or PT100/PT1000 resistor.

Precision Temperature Monitoring

The right process temperature is a decisive quality factor in production. weFlux² sensors monitor the temperature of the medium – accurate to $\pm 0.5^{\circ}\text{C}$ – and forward data to the controller in real-time thanks to IO-Link 1.1. This makes it possible to detect even the smallest temperature fluctuations and react to them quickly – for consistently high quality in production.

Hygienic Design

The corrosion resistant, laser welded V4A stainless steel housing with hygienic design is FDA compliant. Depending on the sensor variant, sensors are available with process connections designed in accordance with EHEDG guidelines.





Fill-Level Measurement at the Next Higher Level

LevelTech is the fill-level sensor which
differentiates amongst liquids as well as states.



Measuring Fill-Levels in Any Desired Media

wenglor offers solutions for continuous fill-level measurement as well as limit value acquisition – or both in combination.

LevelTech fill-level sensors monitor limit values in tanks, containers and piping. Pressure sensors continuously detect the fill-level by measuring the hydrostatic pressure. wenglor offers a variety of precision ultrasonic sensors for contactless fill-level measurement.

Limit Value Acquisition for Various Media

Thanks to their innovative frequency sweep technology, LevelTech fill-level sensors can be used in a great variety of media. With their two switching outputs, the sensors are capable of distinguishing between foam and liquids, as well as detecting barrier layers between different media such as oil and water. Even in the event that deposits of sticky and viscous media accumulate, their reliable switching performance is nevertheless retained. The compact stainless steel housing is FDA compliant.

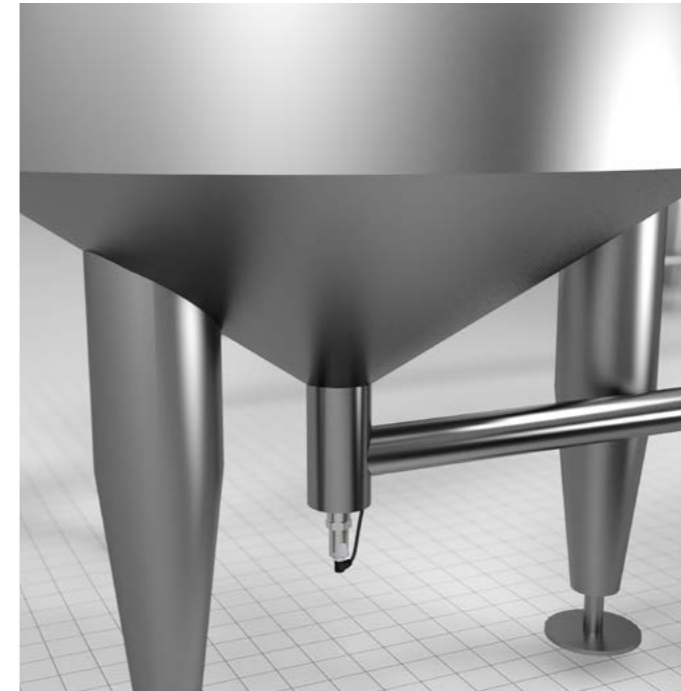
Continuous fill-level measurement

Continuous fill-level measurement can be implemented for dynamic applications with weFlux² pressure sensors. The sensors measure the hydrostatic pressure of the liquid, which is proportional to the fill-level. This makes it possible to measure the actual fill-level with the help of a pressure sensor at the bottom of a tank containing liquid.



Contactless Fill-Level Measurement with Ultrasound

Ultrasonic sensors are exceptionally well suited for fill-level measurements involving all types of liquids and bulk goods. The functional principle ensures stable processes because it's insensitive to interference factors such as dust, smoke, mist and vapor. wenglor offers sensors for continuous fill-level measurement, as well as for the detection of minimum and maximum fill-levels.





Fluid Intelligence

through Digital Communication

Digital communication makes processes consistently transparent and reveals potential for optimization and innovation.

Communication

Already today, wenglor fluid sensors are plunging into digital processes. They make use of ultramodern communication standards with the latest IO-Link version to this end. Customers benefit from simplified operation, accelerated initial start-up, increased system availability and reduced maintenance costs.

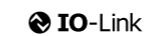


Simple Configuration

wenglor's free wTeach2 software permits simple setup of fluid sensors with IO-Link. The switching points can also be adjusted in diagrams with just a single click in a clear-cut, user-friendly manner.

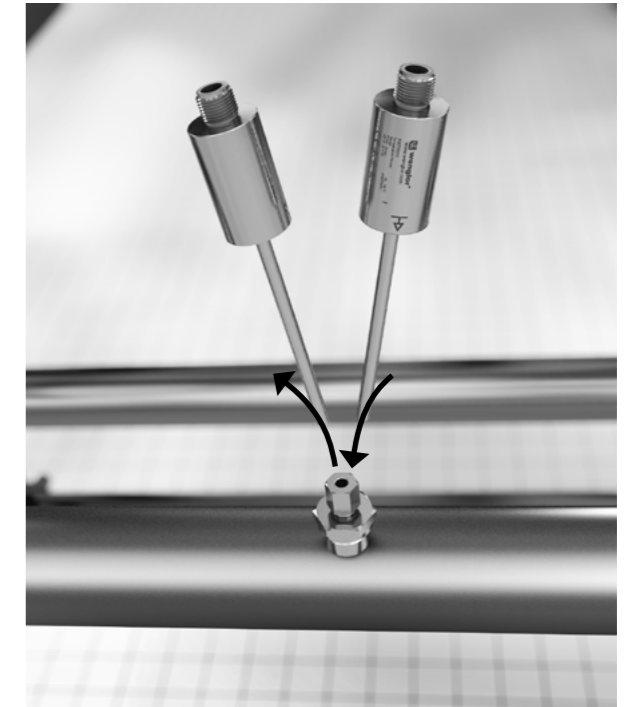
Integration into Existing Systems

The sensors communicate with all common control systems via the IO-Link interface and can thus be easily integrated into existing networks.



Process Optimization

Fluid sensors with IO-Link generate and transmit additional diagnostics and status data for condition monitoring. These data can be analyzed by wTeach2 software in order to make information available for requirements-oriented maintenance, and to avoid downtime.



Plug & Play with Data Storage

If a sensor is replaced, stored settings are transferred automatically to the new sensor making replacement possible without initial programming.

Quick Initial Start-Up

Set up once – duplicate as often as you like: the fluid sensors' configuration can be stored to the controller and transferred to other applications by simply clicking a button, regardless of your current location.

Performance in its Element

weFlux² and LevelTech sensors are amongst the most accurate products within their respective categories. Thanks to their top-quality components, they're resistant to shock and vibration, maintenance and wear-free, and they're capable of withstanding high pressure levels. Laser welding assures sensors of the best possible quality which are resistant to corrosion, aggressive chemicals and cleaning agents thanks to IP68/IP69K protection.



weFlux² Pressure Sensor

- For liquid and gaseous media
- Pressure measuring range from -1 to +400 bar
- Temperature measuring range from -40 to +125° C
- Pressure measuring accuracy: $\pm 0.5\%$
- Temperature measuring accuracy: $\pm 1^\circ \text{C}$
- Latest IO-Link version 1.1
- 2 analog outputs (pressure/temperature)



weFlux² Flow Sensor

- For aqueous media
- Flow velocity measuring range up to 400 cm/s
- Temperature measuring range from -25 to +150° C
- Flow velocity measuring accuracy: $\pm 2\%$
- Temperature measuring accuracy: $\pm 1^\circ \text{C}$
- Latest IO-Link version 1.1
- 2 analog outputs (flow/temperature)



weFlux² Temperature Sensor

- For liquid and gaseous media
- Measuring range with IO-Link: -50 to +150° C
- Measuring range with PT100/PT1000: -50 to +200° C
- Measuring accuracy: $\pm 0.5^\circ \text{C}$
- Response time T90: < 2 seconds
- Latest IO-Link version 1.1



LevelTech Fill-Level Sensor

- For liquid, pasty, sticky and solid media
- Measuring range: dielectric constant > 1.5
- Temperature of medium -40 to +115° C
- Response time: 0.04 seconds
- Latest IO-Link version 1.1
- 2 switching outputs

Pressure Sensors

weFlux²



Transmitter

–1 to +400 bar

G1/4" AG | G1/2" AG | Schrader valve

IO-Link 1.1 | PNP/NPN/push-pull | NC/NO (switchable)



2-wire

–1 to +400 bar

G1/4" AG | G1/2" AG | G3/4" AG | Schrader valve

1 × analog



Pressure + temperature

–1 to +10 bar

G3/4" AG

IO-Link 1.1 | PNP/NPN/push-pull | NC/NO (switchable)
2 × analog



Absolute pressure, 2-wire

0 bis +100 bar

19 mm, flush mounted

1 × analog

uniBar



Plastic

–1 to +600 bar

G1/2" IG | G1/2" AG | G1/2" CIP-compatible
G1/4" IG | G1/8" IG | G3/8" IG

1 × PNP + 1 × analog | 2 × PNP | 1 × relay + 1 × analog



Plastic pressure gauge

–1 to +600 bar

G1/2" IG | G1/2" AG | G1/2" CIP-compatible
G1/4" IG | G3/8" IG

1 × PNP + 1 × analog | 2 × PNP | 1 × relay + 1 × analog



Stainless steel

10 bis +400 bar



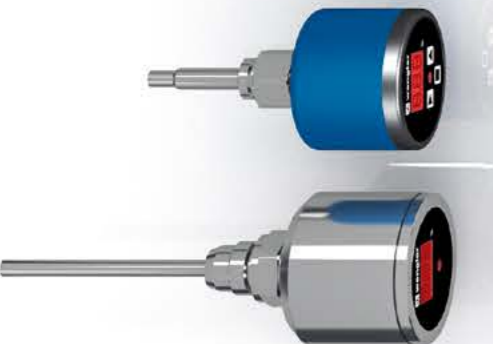
G1/2" CIP-compatible

1 × PNP + 1 × analog | 2 × PNP



Just a few clicks to the desired product: visit us at www.wenglor.com/weflux .

Flow Sensors

	Medium	Measuring Range in cm/s	Process Connections	Probe Length in mm	Interfaces
weFlux ² 	Water	10 to 400	Cutting/locking ring	9.5	IO-Link 1.1 PNP/NPN/push-pull NC/NO (switchable) 2 × analog
			M18×1.5 sealing cone	13.5	
			G1/2" hygienic design	16.4	
			G1/2" CIP-compatible	32.0	
			G1/4"	36.0	
			G1/2"	50.0	
			Clamp	75.0	
			Varivent	100.0	
			Dairy pipe fitting	200.0	
uniFlow 	Water	10 to 300	M18×1.5 sealing cone	44.0	1 × PNP 1 × PNP + 1 × analog 2 × PNP 1 × relay 1 × relay + 1 × analog 1 × PNP 1 × PNP + 1 × analog 2 × PNP 1 × relay + 1 × analog 1 × PNP 1 × PNP + 1 × analog 2 × PNP 1 × relay + 1 × analog 1 × PNP + 1 x analog 1 × relay + 1 × analog
			G1/4"	10.0	
			G1/2"	10.0	
			G1/2" CIP-compatible	10.0	
uniFlow 	Oil	15 to 100	M18×1.5 sealing cone	44.0	1 × PNP 1 × PNP + 1 × analog 2 × PNP 1 × relay 1 × relay + 1 × analog 1 × PNP 1 × PNP + 1 × analog 2 × PNP 1 × relay + 1 × analog 1 × PNP 1 × PNP + 1 × analog 2 × PNP 1 × relay + 1 × analog 1 × PNP + 1 × analog 1 × relay + 1 × analog
			G1/4"	10.0	
			G1/2"	10.0	
			G1/2" CIP-compatible	10.0	



Fill-Level Sensors

LevelTech



Design

Measuring Range

Process Connections

Probe Length in mm

Interfaces

Plastic

DC > 1.5

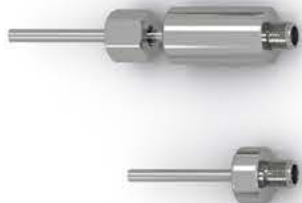
G1/2" AG
G1/2" NPT
G1/2" hygienic design

IO-Link 1.1 | PNP/NPN/push-pull | NC/NO (switchable)

Stainless steel

Temperature Sensors

weFlux²



Transmitter

– 50 to +150° C

Cutting/locking ring
M18×1.5 sealing cone
G1/4"
G1/2"

9.5

13.5

16.4

32.0

36.0

IO-Link 1.1 | PNP/NPN/push-pull | NC/NO (switchable)

Transducer

– 50 to +200° C

Clamp
Varivent
Dairy pipe fitting

50.0

75.0

100.0

200.0

PT100 | PT1000

uniTemp



Plastic

0 to +140° C

M18×1.5 sealing cone
G1/4"
G1/2"
G1/2" CIP-compatible

44.0

10.0

10.0

10.0

1 × PNP + 1 × analog | 2 × PNP | 1 × relay + 1 × analog

Stainless steel

0 to +140° C
0 to +200° C

Cutting ring
G1/2" CIP-compatible

110.0

10.0

1 × PNP + 1 × analog | 1 × relay + 1 × analog

Just a few clicks to the desired product: visit us at www.wenglor.com/weflux .





wenglor
the innovative family