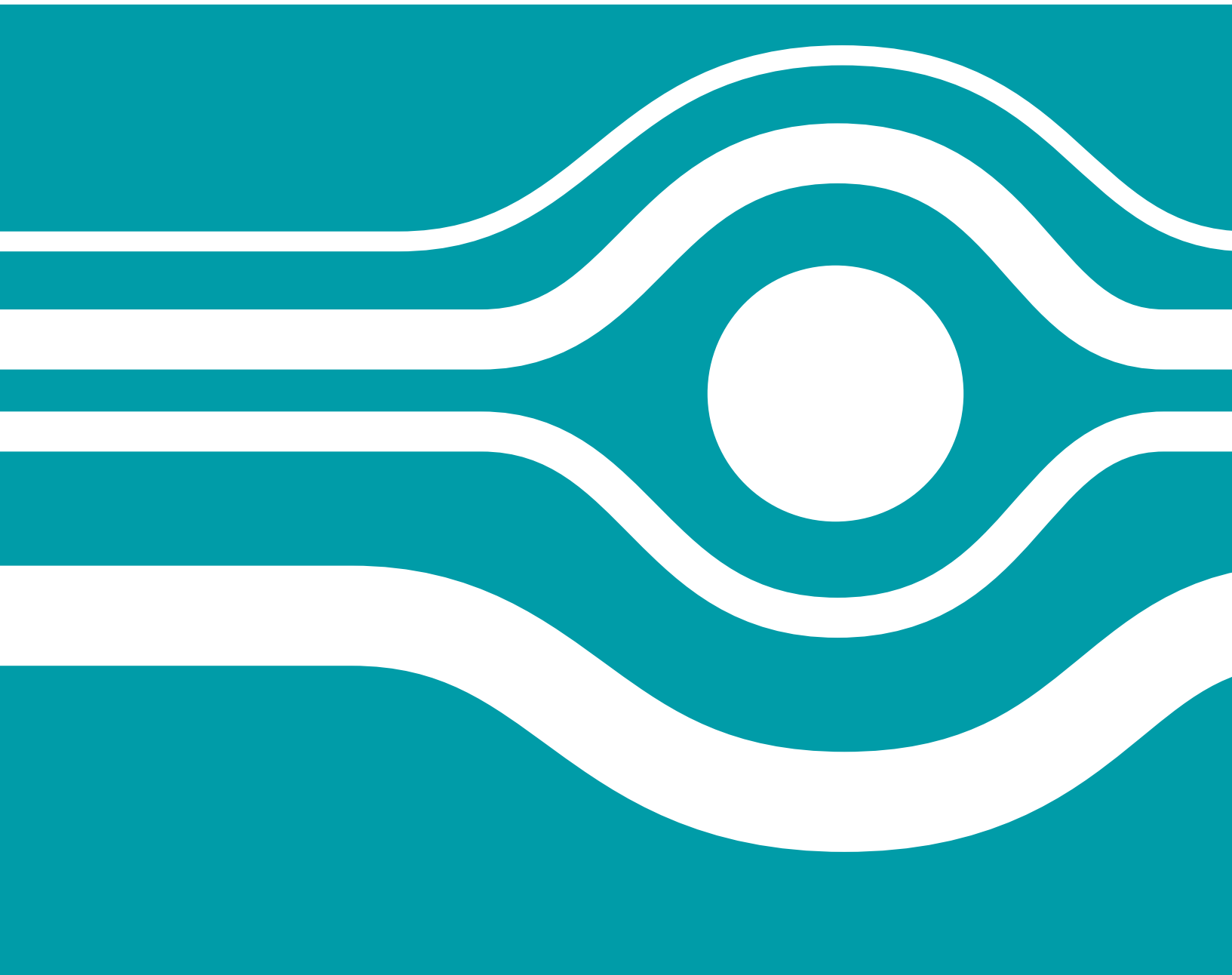
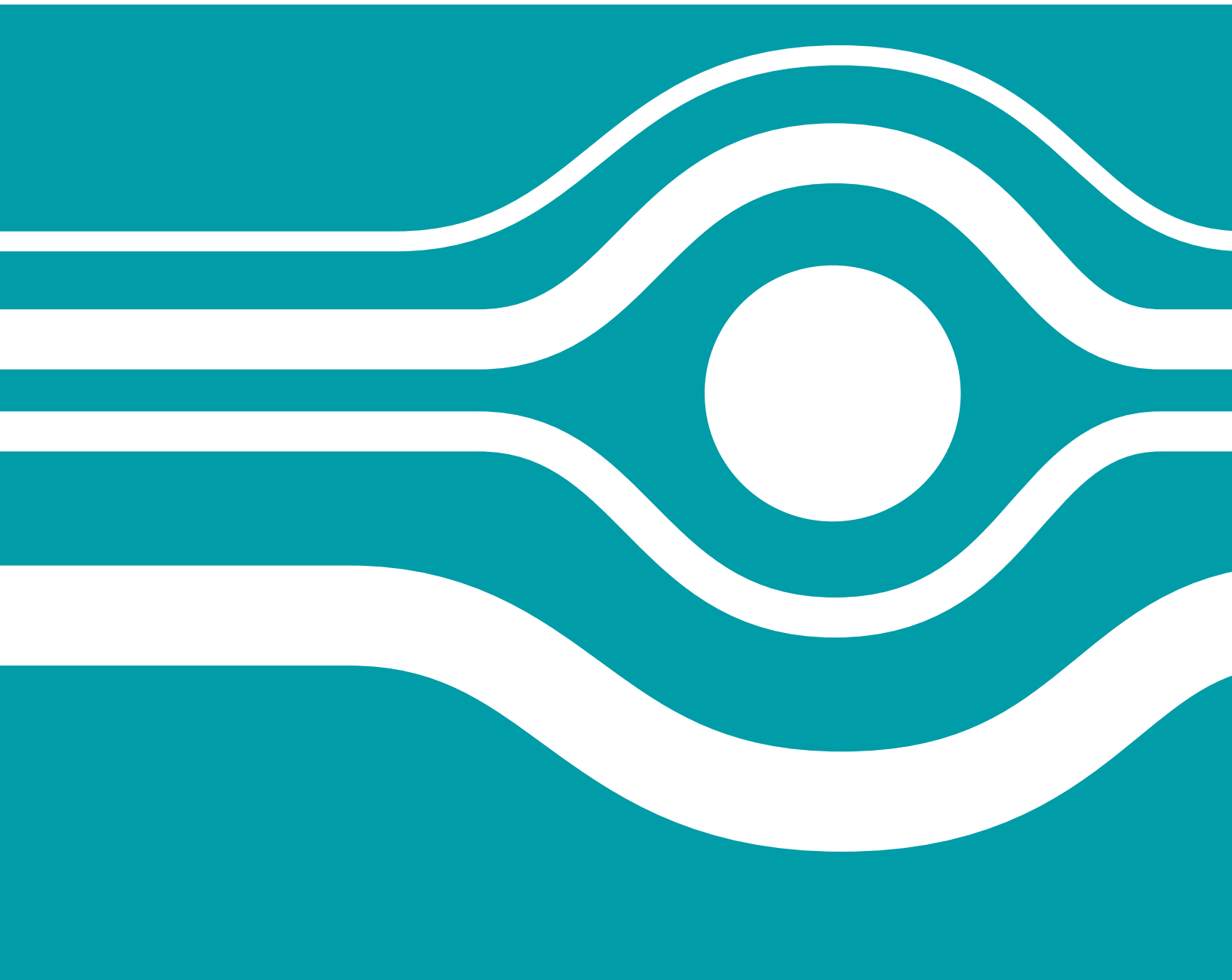


Fluid Sensors





Fluid Sensors

wenglor's fluid sensor technology covers a broad range of more than 900 products including flow, pressure and temperature sensors. Flow sensors ascertain the speed at which liquid media flow within closed systems and determine temperature as well. Pressure sensors measure the relative pressure of any desired media in closed systems. Temperature sensors determine the temperature of liquid and gaseous media, and permit reliable temperature monitoring within processes.

weFlux² flow and temperature sensors are equipped with a rugged V4A stainless steel housing with integrated analysis module. The FDA-compliant sensors intentionally refrain from the use of a display in order to be ideally suited for strict requirements in hygienically sensitive industrial areas. weFlux² Sensors are EHEDG-certified in combination with selected process connectors.

UniFlow, UniBar and UniTemp sensors are extremely user-friendly thanks to their uniform design, control and connection concepts. In particular the large 7-segment display ensures easy, intuitive operation.

Only a small selection of wenglor's fluid sensors is included in the catalog. An overview of the complete range can be viewed at www.wenglor.com. Customer-specific solutions can be implemented quickly and efficiently thanks to the modular design.

On the following pages you will find:

Pressure Sensors	4-13
Flow Sensors	14-33
Temperature Sensors	34-47



Pressure Sensors

UniBar pressure sensors measure the relative pressure in closed systems of any medium in the range of $-1 \dots 600$ bar.

The pressure applied to a pressure sensor is converted into an electronic signal and transmitted to a microprocessor for evaluation by an electronic amplifier. This takes on the evaluation of programmable switching points and finally displays the current pressure on the 7-segment display. The switch output reads out the corresponding switching signal, the analog output and the measurement value (optionally in $0 \dots 10$ V or $4 \dots 20$ mA).

Thanks to their front flush design, **pressure sensors with metal membrane** are piggable and therefore particularly suitable for areas with increased hygiene requirements, such as the food and pharmaceutical industries.

Only a small selection of wenglor pressure sensors is listed in the catalog. The full product range of pressure sensors can be found at www.wenglor.com. Various plastic and stainless steel housing types, pressure ranges, process connections and outputs can be combined.

Application examples:

- Process monitoring
- Monitoring and regulating pressure in filling systems
- Monitoring of compressed air systems
- Fill level determination in tank/silo systems
- Pressure regulation of aggregates
- Filter monitoring



wenglor Pressure Sensors at a Glance

This table provides information on additional sensors not included in the catalog.
 The data sheets are available for download at www.wenglor.com.

All sensors have M12×1 connector. The PNP switch output can be defined via the menu as normally closed or normally open.

Additional options:

- Pressure unit on display foil in mbar, bar or MPa
- Analog output as current or voltage output

Housing:

FA (Plastic)

FM (Plastic)

FX (Stainless Steel)



Pressure range	Process connection, female				Process connection, male	
	G1/8"	G1/4"	G3/8"	G1/2"	G1/2"	G1/2" CIP-capable
-1...0 bar	FA	—	—	FA	—	—
-0,5...0 bar	FA	—	—	FA	—	—
-0,25...0 bar	FA	—	—	FA	—	—
-0,1...0 bar	FA	—	—	FA	—	—
0...0,1 bar	FA	—	—	FA	—	—
0...0,5 bar	FA	—	—	FA	—	—
0...1 bar	FA	—	—	FA	—	—
0...6 bar	FA	—	—	FA	—	—
0...10 bar	FA	FA, FM	FA, FM	FA, FM	FA, FM	FA, FM, FX
0...25 bar	—	FA, FM	FA, FM	FA, FM	FA, FM	FA, FM, FX
0...40 bar	—	FA, FM	FA, FM	FA, FM	FA, FM	FA, FM, FX
0...100 bar	—	FA, FM	FA, FM	FA, FM	FA, FM	FA, FM, FX
0...160 bar	—	FA, FM	FA, FM	FA, FM	FA, FM	FA, FM, FX
0...250 bar	—	FA, FM	FA, FM	FA, FM	FA, FM	FA, FM, FX
0...400 bar	—	FA, FM	FA, FM	FA, FM	FA, FM	FA, FM, FX
0...600 bar	—	FA, FM	FA, FM	FA, FM	FA, FM	FA, FM, FX

All Standard Sensors are available under www.wenglor.com. Individual sensor solutions are available on request.

Pressure Sensor

0...40 bar

Range

UniBar



- **Highly visible output indicator**
- **Piggable with flush mounting**
- **Simple operation via the display**
- **Space-saving process connection thanks to small pressure membrane**

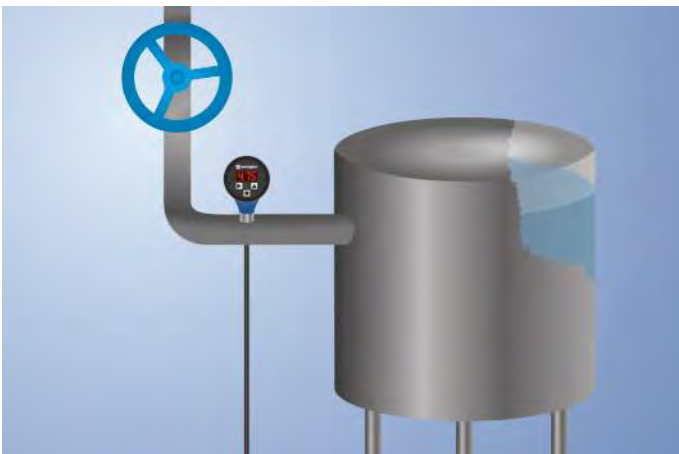
Technical Data

Sensor-specific data	
Adjustable Range	4...100 %
Medium	Liquids, gases
Switching Hysteresis	2 %
Measuring error	< ± 0,5 %
Temperature Drift	0,025 %/K
Environmental conditions	
Temperature of medium	-25...60 °C
Ambient temperature	-25...80 °C
EMC	DIN EN 61326-2-3
Shock resistance per DIN IEC 68-2-27	50 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 (U _b = 24 V)	< 60 mA
Response Time	30 ms
Switching Output/Switching Current	< 250 mA
Switching Output Voltage Drop	< 2 V
Resolution	10 bit
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
Connection	M12 × 1; 4-pin
Process Connection	G 1/2" CIP-capable

UniBar pressure sensors measure the relative pressure in closed systems of any medium in the range -1...600 bar.





UniBar pressure sensors are very easy to use thanks to the integrated display. The highly visible switching status display enables the rapid localization of affected sensors for maintenance processes.

Thanks to the metallic sealing edge on the process connection, no further seals are required.



* Tested by wenglor

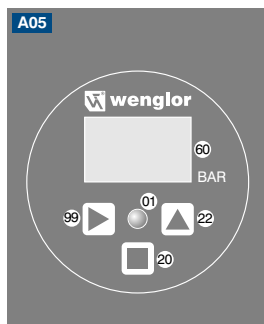
Plug Version

	Plug Version					
Part Number	FFMP001	FFMP002	FFMP003	FFMP189	FFMP190	FFMP191
   						
Analog Output	●	●	●			
Final value, analog output: scalable 2:1	●	●	●			
PNP NO/NC switchable	●	●	●	●	●	●
Measuring Range	0...10 bar	0...25 bar	0...40 bar	0...10 bar	0...25 bar	0...40 bar
Maximum overload pressure	20 bar	50 bar	80 bar	20 bar	50 bar	80 bar
Bursting pressure	40 bar	100 bar	160 bar	40 bar	100 bar	160 bar
Switching Outputs	1	1	1	2	2	2
Analog Output	4...20 mA Press	4...20 mA Press	4...20 mA Press			
Current Output Load Resistance	< 500 Ohm	< 500 Ohm	< 500 Ohm			
Degree of Protection	IP65 *	IP67 *	IP67 *	IP65 *	IP67 *	IP67 *
Connection Diagram No.	533	533	533	536	536	536
Control Panel No.	A05	A05	A05	A05	A05	A05
Suitable Connection Technology No.	21	21	21	21	21	21
Suitable Mounting Technology No.	905 906	905 906	905 906	905 906	905 906	905 906

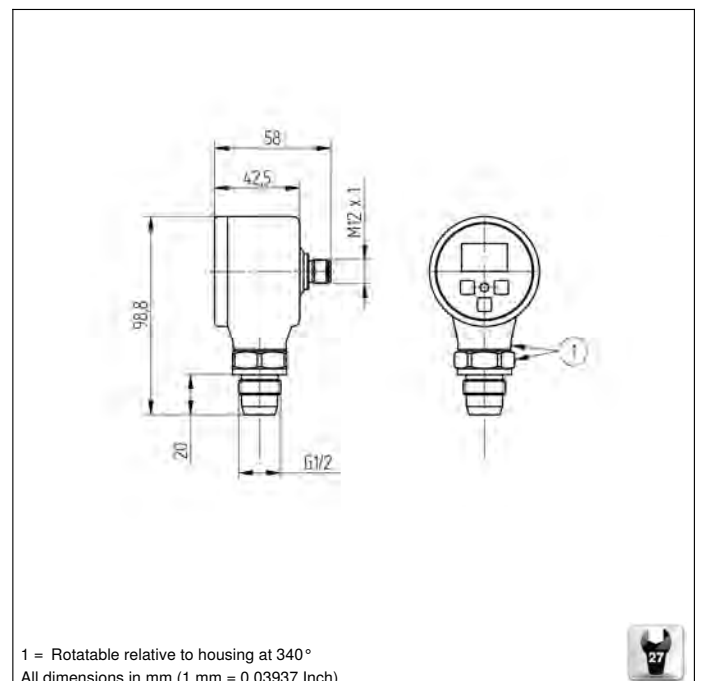
Connection Diagrams page 48

The complete product range of pressure sensors can be found at www.wenglor.com.
 An overview of this can be found in the table of contents.

Ctrl. Panel



01 = Switching Status Indicator 99 = Right button
 20 = Enter Button
 22 = UP Button
 60 = Display



Pressure Sensor

0...40 bar

Range

UniBar



- Highly visible output indicator
- Piggable with flush mounting
- Simple operation via the display
- Space-saving process connection thanks to small pressure membrane

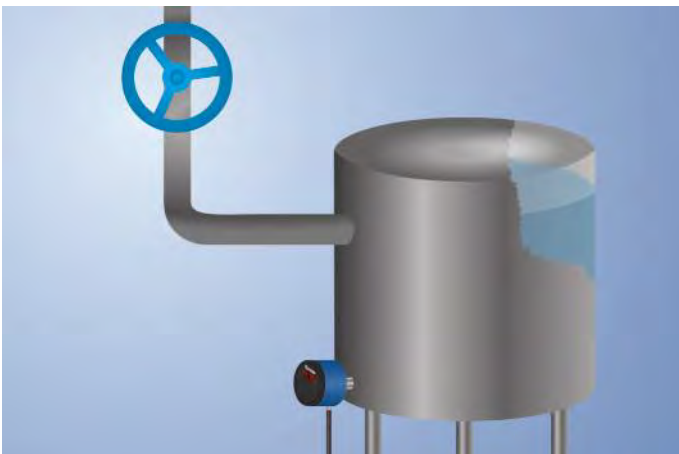
Technical Data

Sensor-specific data	
Adjustable Range	4...100 %
Medium	Liquids, gases
Switching Hysteresis	2 %
Measuring error	< ± 0,5 %
Temperature Drift	0,025 %/K
Environmental conditions	
Temperature of medium	-25...60 °C
Ambient temperature	-25...80 °C
EMC	DIN EN 61326-2-3
Shock resistance per DIN IEC 68-2-27	50 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 (U _b = 24 V)	< 60 mA
Response Time	30 ms
Switching Output/Switching Current	< 250 mA
Switching Output Voltage Drop	< 2 V
Resolution	10 bit
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
Connection	M12 × 1; 4-pin
Process Connection	G 1/2" CIP-capable

UniBar pressure sensors measure the relative pressure in closed systems of any medium in the range -1...600 bar.





UniBar pressure sensors are very easy to use thanks to the integrated display. The highly visible switching status display enables the rapid localization of affected sensors for maintenance processes.

Thanks to the metallic sealing edge on the process connection, no further seals are required.



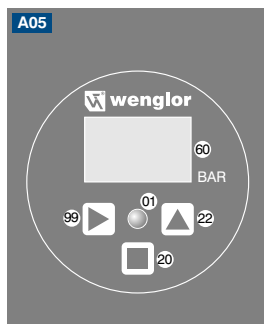
* Tested by wenglor

Plug Version

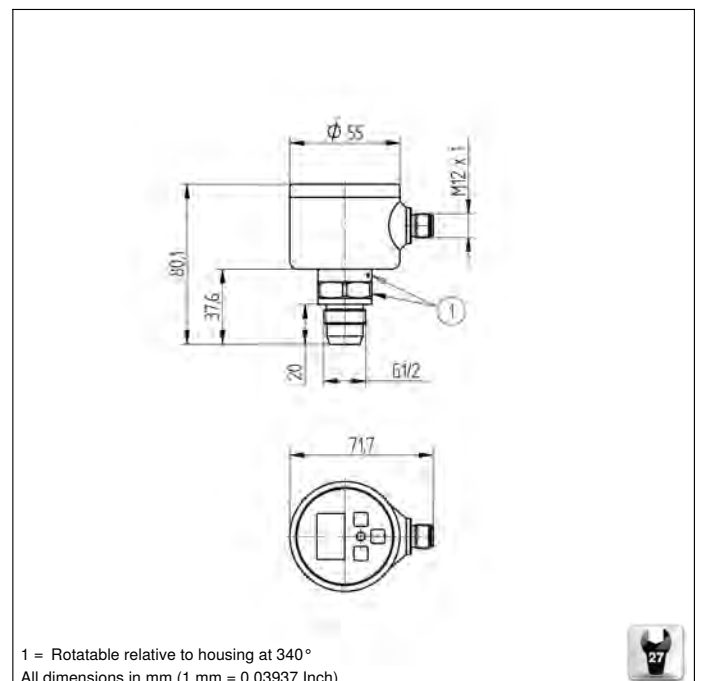
	Plug Version					
	Part Number	FFAP001	FFAP002	FFAP003	FFAP231	FFAP232
   						
Analog Output	●	●	●			
Final value, analog output: scalable 2:1	●	●	●			
PNP NO/NC switchable	●	●	●	●	●	●
Measuring Range	0...10 bar	0...25 bar	0...40 bar	0...10 bar	0...25 bar	0...40 bar
Maximum overload pressure	20 bar	50 bar	80 bar	20 bar	50 bar	80 bar
Bursting pressure	40 bar	100 bar	160 bar	40 bar	100 bar	160 bar
Switching Outputs	1	1	1	2	2	2
Analog Output	4...20 mA Press	4...20 mA Press	4...20 mA Press			
Current Output Load Resistance	< 500 Ohm	< 500 Ohm	< 500 Ohm			
Degree of Protection	IP65 *	IP67 *	IP67 *	IP65 *	IP67 *	IP67 *
Connection Diagram No.	533	533	533	536	536	536
Control Panel No.	A05	A05	A05	A05	A05	A05
Suitable Connection Technology No.	21	21	21	21	21	21
Suitable Mounting Technology No.	905 906	905 906	905 906	905 906	905 906	905 906

Connection Diagrams page 48

The complete product range of pressure sensors can be found at www.wenglor.com.
 An overview of this can be found in the table of contents.

Ctrl. Panel


01 = Switching Status Indicator 99 = Right button
 20 = Enter Button
 22 = UP Button
 60 = Display



Pressure Sensor

0...40 bar

Range

InoxSens UniBar



- FDA compliant
- Hygienic design makes it easy to clean
- Piggable with flush mounting
- Robust stainless steel housing with IP69K
- Space-saving process connection thanks to small pressure membrane

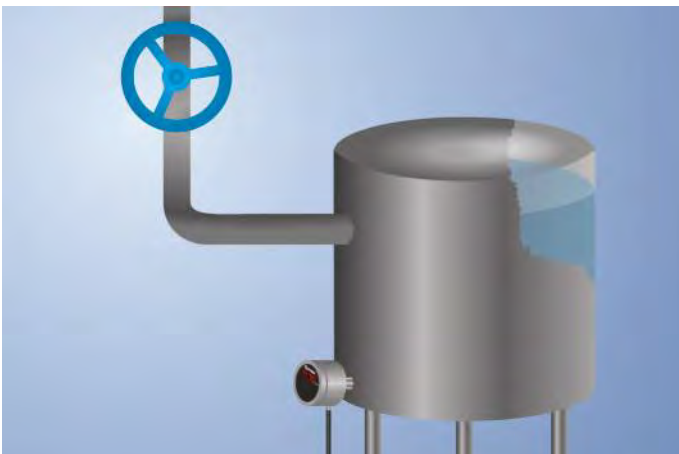
Technical Data

Sensor-specific data	
Adjustable Range	4...100 %
Medium	Liquids, gases
Switching Hysteresis	2 %
Measuring error	< ± 0,5 %
Temperature Drift	0,025 %/K
Environmental conditions	
Temperature of medium	-25...60 °C
Ambient temperature	-25...80 °C
EMC	DIN EN 61326-2-3
Shock resistance per DIN IEC 68-2-27	50 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 (U _b = 24 V)	< 60 mA
Response Time	1,2 s
Switching Output/Switching Current	< 250 mA
Switching Output Voltage Drop	< 2 V
Resolution	10 bit
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Protection Class	III
Mechanical Data	
Setting Method	Menu
Housing Material	1.4404; PC; EPDM
Material Control Panel	Polyester
Material in contact with media	1.4435; 1.4404
Connection	M12 × 1; 4-pin
Process Connection	G 1/2" CIP-capable

UniBar pressure sensors measure the relative pressure in closed systems of any medium in the range -1...600 bar.





UniBar pressure sensors are very easy to use thanks to the removable cover on the integrated display. The highly visible switching status display enables the rapid localization of affected sensors for maintenance processes.

Thanks to the metallic sealing edge on the process connection, no further seals are required.



* Tested by wenglor

Plug Version

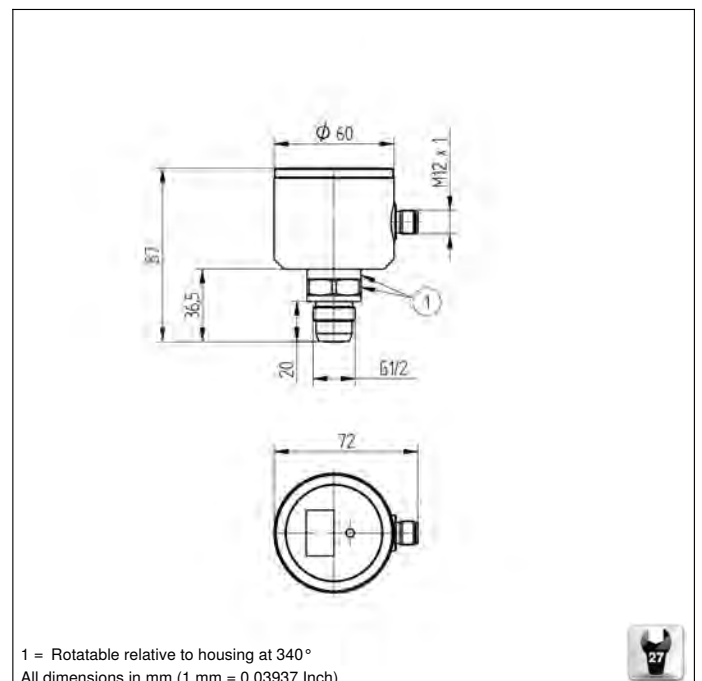
Part Number	Plug Version					
	FFXP001	FFXP002	FFXP003	FFXP050	FFXP051	FFXP052
   						
Analog Output	●	●	●			
Final value, analog output: scalable 2:1	●	●	●			
PNP NO/NC switchable	●	●	●	●	●	●
Measuring Range	0...10 bar	0...25 bar	0...40 bar	0...10 bar	0...25 bar	0...40 bar
Maximum overload pressure	20 bar	50 bar	80 bar	20 bar	50 bar	80 bar
Bursting pressure	40 bar	100 bar	160 bar	40 bar	100 bar	160 bar
Switching Outputs	1	1	1	2	2	2
Analog Output	4...20 mA Press	4...20 mA Press	4...20 mA Press			
Current Output Load Resistance	< 500 Ohm	< 500 Ohm	< 500 Ohm			
Degree of Protection	IP65/IP69K *	IP67/IP69K *	IP67/IP69K *	IP65/IP69K *	IP67/IP69K *	IP67/IP69K *
Connection Diagram No.	533	533	533	536	536	536
Control Panel No.	A13	A13	A13	A13	A13	A13
Suitable Connection Technology No.	21	21	21	21	21	21
Suitable Mounting Technology No.	905 906	905 906	905 906	905 906	905 906	905 906

Connection Diagrams page 48

The complete product range of pressure sensors can be found at www.wenglor.com.
 An overview of this can be found in the table of contents.

Ctrl. Panel


01 = Switching Status Indicator 60 = Display
 0A = Detachable lid 99 = Right button
 20 = Enter Button
 22 = UP Button





Flow Sensors

Flow Sensors from wenglor ascertain flow velocity and temperature of liquid media in closed systems. The unique, patented measuring method makes it possible to mount these sensor inside of pipes regardless of position without aligning the measuring probe to the direction of flow.

weFlux² Flow Sensors are equipped with a compact V4A stainless steel housing with integrated analysis module. The IO-Link version is distinguished by its variability with regard to combination and configuration of the two sensor outputs. The sensors can be configured in a decentralized fashion and diagnosis data can be queried at any time via the modern interface. A variant with two analog outputs in a single sensor has been made available for the first time ever by the weFlux² series.

UniFlow Flow Sensors are equipped with a large 7-segment display which permits easy reading of measured values as percentages or in liters per minute. The uniform design with intuitive control and connection concepts offers maximized user-friendliness. Depending on actual requirements, the sensors can be equipped with either one or two switching outputs, or one switching output in combination with an analog output.

Only a small selection of wenglor's fluid sensors is included in the catalog. An overview of the complete range can be viewed at www.wenglor.com.

Application examples:

- Flow rate monitoring in filling machines
- Coolant water monitoring in electric power generators
- Coolant water control
- Protection to prevent pumps from running dry



wenglor Flow Sensors at a Glance

This table provides information on additional sensors not included in the catalog. The data sheets are available for download at www.wenglor.com.

UniFlow

Additional options:

- Various process connection lengths
- Analog output as current or voltage output
- Versions with 2 switching outputs
- Versions with relay output

weFlux²

Additional options:

- Various process connection lengths
- Version with IO-Link
- Version with 2 analog outputs

Housing:

FA (Plastic)

FX (Stainless Steel)

FXFF (Stainless Steel)



Flow speed oil	Process connection			
	G1/4"	G1/2"	G1/2" CIP-capable	Sealing cone M18×1,5
1 m/s	FA	FA	FX	FA

Flow speed water	Process connection				
	G1/4"	G1/2"	G1/2" CIP-capable	Sealing cone M18×1,5	Insulation displacement connector 6 mm
2 m/s	FA	FA	FX	FA	—
3 m/s	FA	FA	FX	FA	—
4 m/s	—	—	—	FXFF	FXFF

All Standard Sensors are available under www.wenglor.com. Individual sensor solutions are available on request.

Flow Sensor

15...200 cm/s

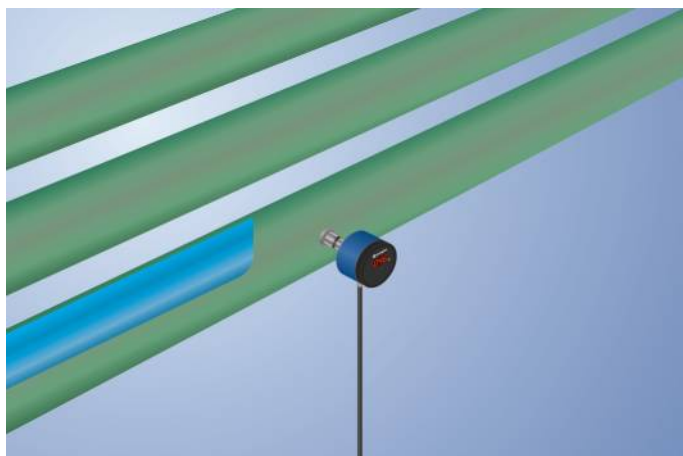
Range

UniFlow



- 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	
Measuring Range	15...200 cm/s
Adjustable Range	15...200 cm/s
Medium	Water
Measuring error	2 %
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
Mechanical Strength	60 bar
EMC	DIN EN 60947-5-9
Shock resistance per DIN IEC 68-2-27	50 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 (U _b = 24 V)	60 mA
Switching Outputs	1
Response Time	1...5 s
Switching Output/Switching Current	< 250 mA
Switching Output Voltage Drop	< 2 V
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	64 mm
Probe Length	44 mm
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	1436,42 a

* Tested by wenglor

		Plug Version	
		Part Number	FFAF001
PNP NO/NC switchable		●	
Connection Diagram No.		532	
Control Panel No.		A03	
Suitable Connection Technology No.		2	
Suitable Mounting Technology No.		900 901	

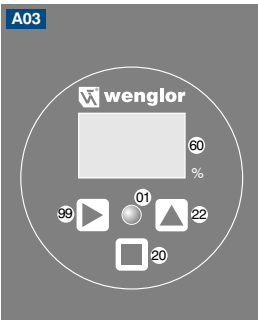
Connection Diagrams page 48

The complete product range of flow sensors can be found at www.wenglor.com.
 An overview of this can be found in the table of contents.

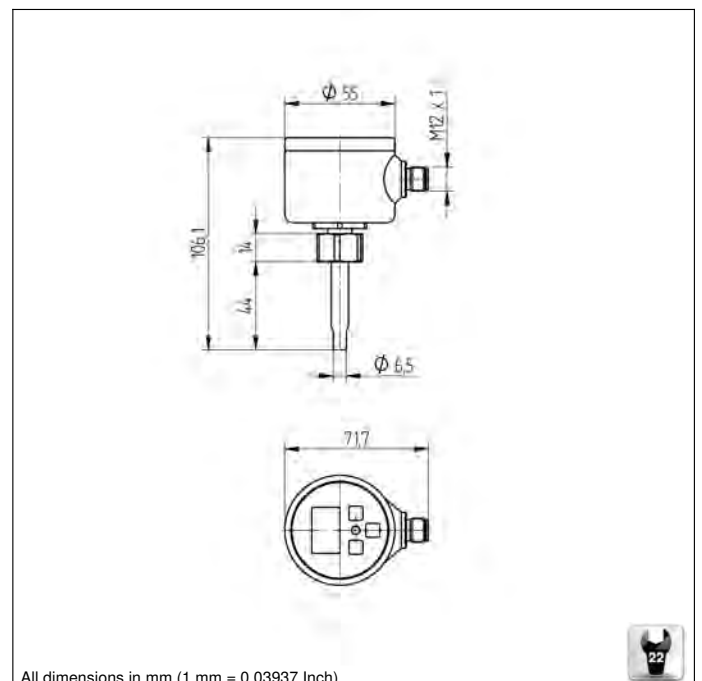
Complementary Products

Flow calculator software DNNF008

Ctrl. Panel



01 = Switching Status Indicator 99 = Right button
 20 = Enter Button
 22 = UP Button
 60 = Display



Flow Sensor

10...300 cm/s

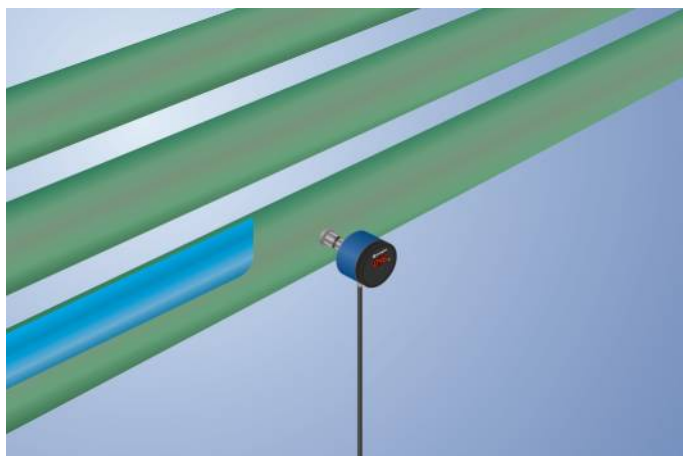
Range

UniFlow



- Display can be switched between flow and medium temperature
- Highest precision of its class
- Measurement independent of flow direction
- Selectable measuring range
- 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
Adjustable range 1	15...150 cm/s
Measuring range 2	20...300 cm/s
Adjustable range 2	30...300 cm/s
Medium	Water
Measuring error	2 %
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
Mechanical Strength	60 bar
EMC	DIN EN 60947-5-9
Shock resistance per DIN IEC 68-2-27	50 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 (U _b = 24 V)	60 mA
Switching Outputs	1
Response Time	1...5 s
Switching Output/Switching Current	< 250 mA
Switching Output Voltage Drop	< 2 V
Current Output Load Resistance	< 500 Ohm
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	64 mm
Probe Length	44 mm
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	1194,55 a

* Tested by wenglor

	Plug Version		
	Part Number	FFAF002	FFAF003
Analog output flow	●		
Analog output temperature		●	
Analog output switchable to flow or temperature			●
PNP NO/NC switchable	●	●	●
Analog Output	4...20 mA Flow	4...20 mA Temp	4...20 mA Flow / Temp
Connection Diagram No.	533	533	533
Control Panel No.	A03	A03	A03
Suitable Connection Technology No.	21	21	21
Suitable Mounting Technology No.	900 901	900 901	900 901

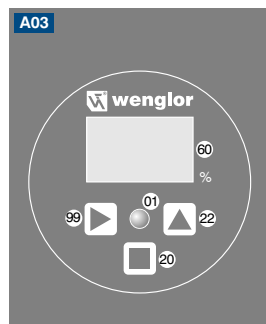
Connection Diagrams page 48

The complete product range of flow sensors can be found at www.wenglor.com.
 An overview of this can be found in the table of contents.

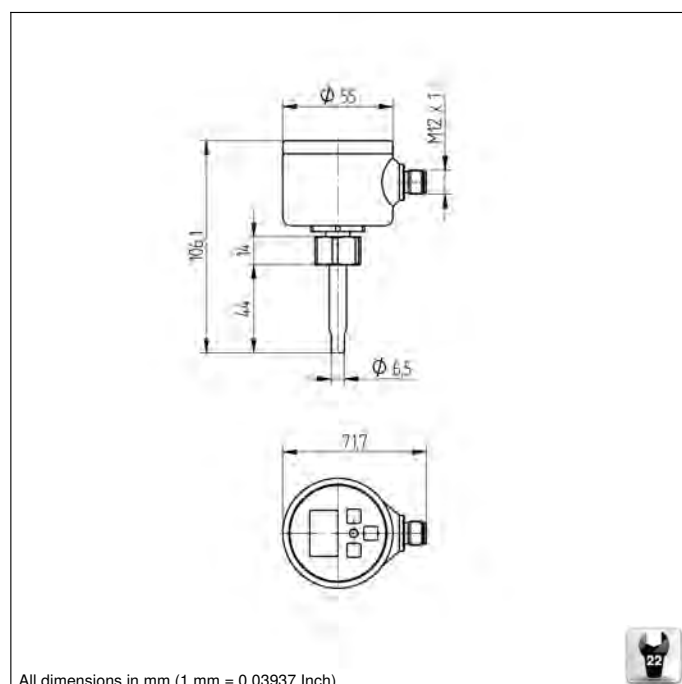
Complementary Products

Flow calculator software DNNF008

Ctrl. Panel



01 = Switching Status Indicator 99 = Right button
 20 = Enter Button
 22 = UP Button
 60 = Display



Flow Sensor

10...300 cm/s

Range

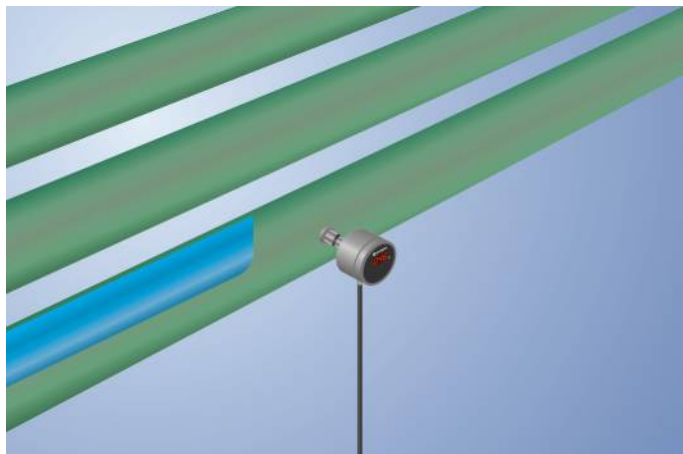
InoxSens UniFlow



- CIP-capable
- FDA compliant
- Highest precision of its class
- Hygienic design makes it easy to clean
- Measurement independent of flow direction
- 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 removable cover on the integrated display. The highly visible switching status display enables the rapid localization of affected sensors for maintenance processes.

Thanks to the metallic sealing edge on the process connection, no further seals are required.



Technical Data

Sensor-specific data

Selectable measuring range	10...300 cm/s
Measuring range 1	10...150 cm/s
Adjustable range 1	15...150 cm/s
Measuring range 2	20...300 cm/s
Adjustable range 2	30...300 cm/s
Medium	Water
Measuring error	2 %
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
Mechanical Strength	60 bar
EMC	DIN EN 60947-5-9
Shock resistance per DIN IEC 68-2-27	50 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 (U _b = 24 V)	60 mA
Switching Outputs	1
Response Time	1...5 s
Switching Output/Switching Current	< 250 mA
Switching Output Voltage Drop	< 2 V
Current Output Load Resistance	< 500 Ohm
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Protection Class	III





Mechanical Data

Setting Method	Menu
Housing Material	1.4404; PC; EPDM
Material Control Panel	Polyester
Material in contact with media	1.4435; 1.4404
Degree of Protection	IP67/IP69K *
Connection	M12 × 1; 4-pin
Process Connection	G 1/2" CIP-capable
Process Connection Length	48 mm
Probe Length	10 mm

Safety-relevant Data

MTTFd (EN ISO 13849-1)	1194,55 a
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* Tested by wenglor

	Plug Version						
	Part Number	FFXF001			FFXF002		
   							
Analog output flow		●					
Analog output temperature						●	
PNP NO/NC switchable		●				●	
Analog Output		4...20 mA Flow			4...20 mA Temp		
Connection Diagram No.		533			533		
Control Panel No.		A12			A12		
Suitable Connection Technology No.		21			21		
Suitable Mounting Technology No.		903	905	906	903	905	906

Connection Diagrams page 48

The complete product range of flow sensors can be found at www.wenglor.com.
 An overview of this can be found in the table of contents.

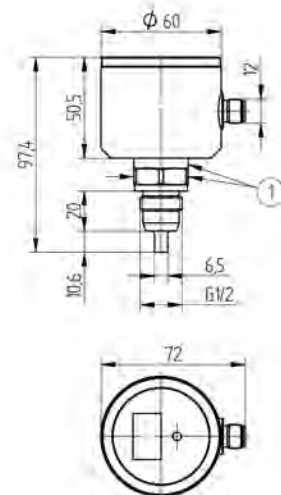
Complementary Products

Flow calculator software DNNF008

Ctrl. Panel



01 = Switching Status Indicator 60 = Display
 0A = Detachable lid 99 = Right button
 20 = Enter Button
 22 = UP Button



1 = Rotatable relative to housing at 340°
 All dimensions in mm (1 mm = 0.03937 Inch)



Flow Sensor

10...400 cm/s

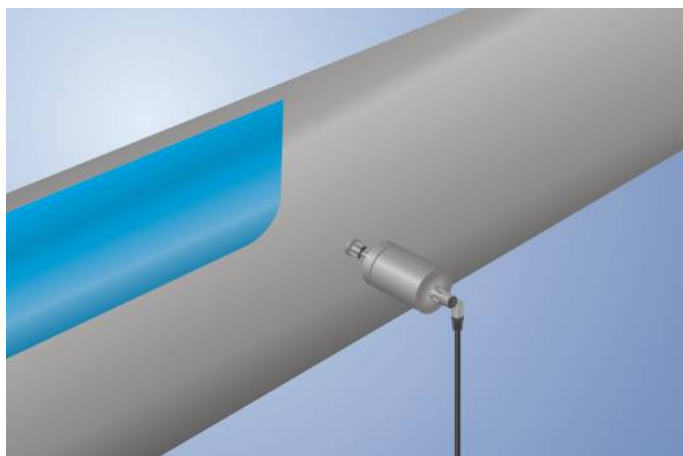
Range

weFlux² 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

weFlux² 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 Measurement Range	-25...150 °C
Adjustable Range	10...400 cm/s
Medium	Water
Measuring error	2 %
Temperature gradient	30 K
Response time in case of temperature jump	10 s
Environmental conditions	
Temperature of medium	-25...150 °C
Ambient temperature	-25...80 °C
Storage temperature	-25...80 °C
Mechanical Strength	100 bar
EMC	DIN EN 60947-5-9
Shock resistance per DIN IEC 68-2-27	50 g / 11 ms
Vibration resistance per DIN IEC 60068-2-6	20 g (10...2000 Hz)
Electrical Data	
Supply Voltage	12...32 V DC
Current Consumption (U _b = 24 V)	< 40 mA
Switching Outputs	2
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 _b -U _{bmin})/0,02A
Current Load Voltage Output	≤ 20 mA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Protection Class	III
Interface	IO-Link
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	Cutting/locking ring

* Tested by wenglor



Plug Version

	Plug Version	
	Part Number	
	FXFF001	FXFF002
Analog output switchable to flow or temperature	●	●
Switching output switchable to flow or temperature	●	●
Switchable to NC/NO	●	●
Configurable as PNP/NPN/Push-Pull	●	●
Process Connection Length	60 mm	110 mm
Probe Length	50 mm	100 mm
Connection Diagram No.	139	139
Suitable Connection Technology No.	21	21
Suitable Mounting Technology No.	907 908	907 908

Connection Diagrams page 48

The complete product range of flow sensors can be found at www.wenglor.com.
 An overview of this can be found in the table of contents.

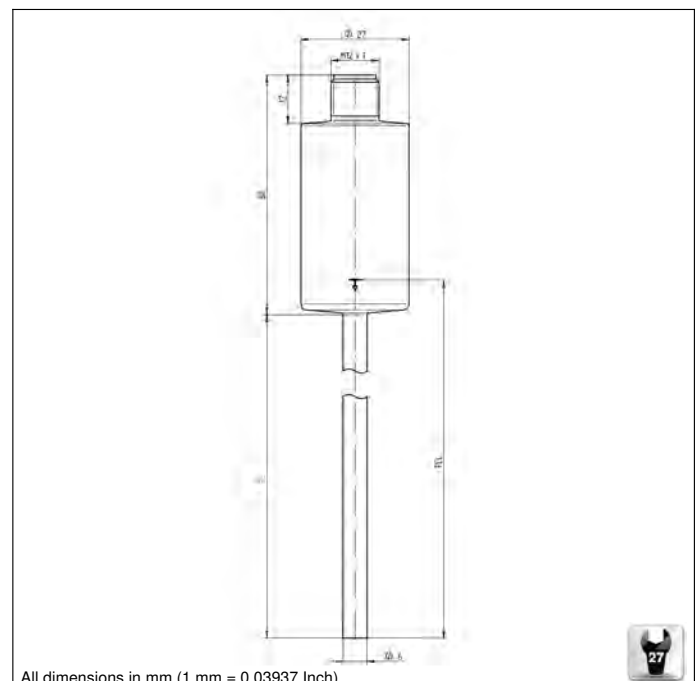
Complementary Products

Flow calculator software DNNF008

IO-Link Master

wTeach2 software DNNF005

ZH6C00x adapter to G1/4"



All dimensions in mm (1 mm = 0.03937 Inch)

Flow Sensor

10...400 cm/s

Range

weFlux² InoxSens

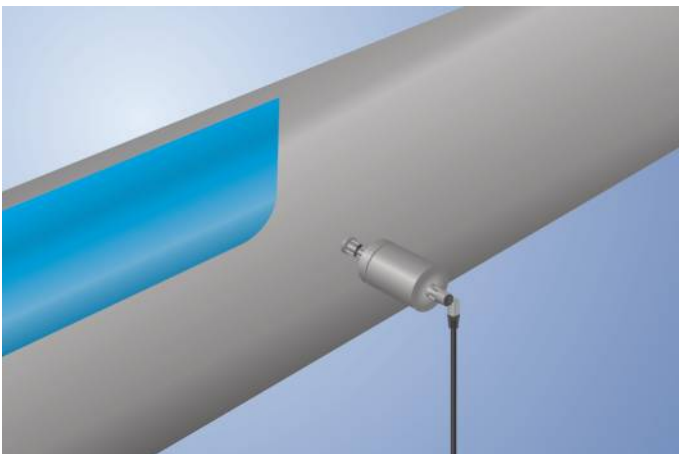


- 2 analog outputs: 4 ... 20 mA
- A single sensor for flow and temperature
- FDA compliant
- Measurement independent of flow direction and instillation position

Technical Data

Sensor-specific data	
Measuring Range	10...400 cm/s
Temperature Measurement Range	-25...150 °C
Adjustable Range	10...400 cm/s
Medium	Water
Measuring error	2 %
Temperature gradient	30 K
Response time in case of temperature jump	10 s
Environmental conditions	
Temperature of medium	-25...150 °C
Ambient temperature	-25...80 °C
Storage temperature	-25...80 °C
Mechanical Strength	100 bar
EMC	DIN EN 60947-5-9
Shock resistance per DIN IEC 68-2-27	50 g / 11 ms
Vibration resistance per DIN IEC 60068-2-6	20 g (10...2000 Hz)
Electrical Data	
Supply Voltage	12...32 V DC
Current Consumption (U _b = 24 V)	< 40 mA
Analog output O1	4...20 mA Flow
Analog output O2	4...20 mA Temp
Response Time	1...5 s
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Protection Class	III
Mechanical Data	
Housing Material	1.4404
Material in contact with media	1.4404
Degree of Protection	IP68/IP69K *
Connection	M12 × 1; 4-pin
Process Connection	Cutting/locking ring

weFlux² Flow Sensors with two analog outputs 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. The analysis module is integrated into the compact housing.



* Tested by wenglor

	Plug Version	
	Part Number	Part Number
	FXFF101	FXFF102
Analog output flow	●	●
Analog output temperature	●	●
Process Connection Length	60 mm	110 mm
Probe Length	50 mm	100 mm
Connection Diagram No.	141	141
Suitable Connection Technology No.	21	21
Suitable Mounting Technology No.	907 908	907 908

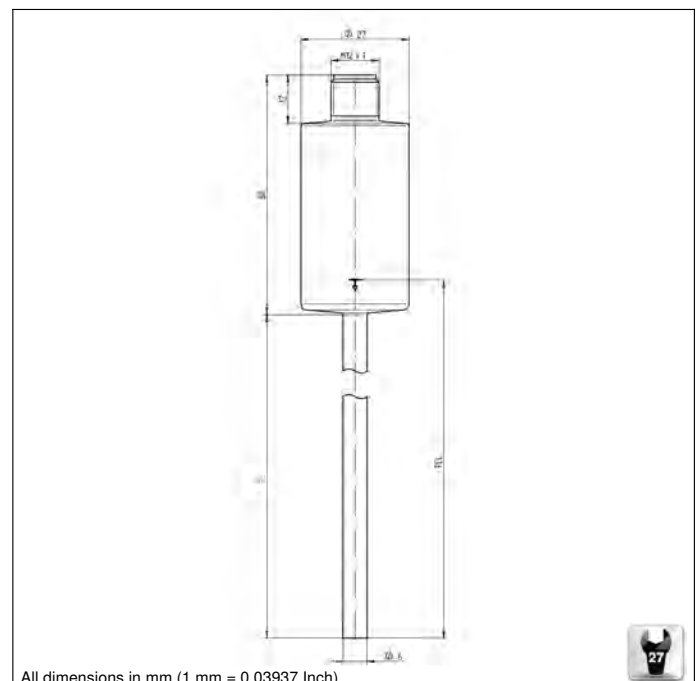
Connection Diagrams page 48

The complete product range of flow sensors can be found at www.wenglor.com.
 An overview of this can be found in the table of contents.

Complementary Products

Flow calculator software DNNF008

ZH6C00x adapter to G1/4"



Flow Sensor

10...400 cm/s

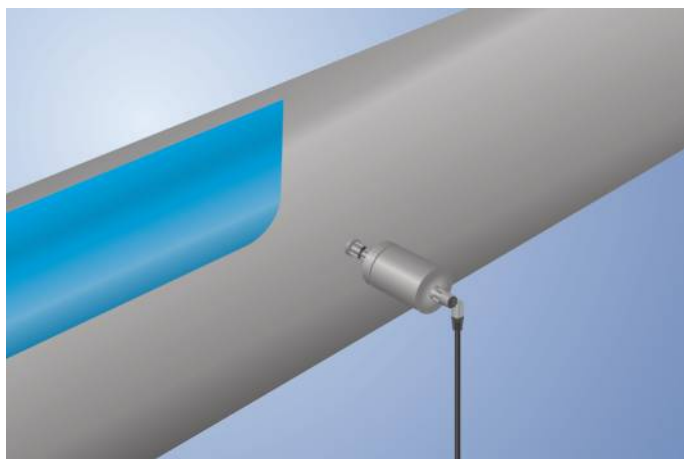
Range

weFlux² InoxSens



- 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 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 Measurement Range	-25...150 °C
Adjustable Range	10...400 cm/s
Medium	Water
Measuring error	2 %
Temperature gradient	30 K
Response time in case of temperature jump	10 s
Environmental conditions	
Temperature of medium	-25...150 °C
Ambient temperature	-25...80 °C
Storage temperature	-25...80 °C
Mechanical Strength	100 bar
EMC	DIN EN 60947-5-9
Shock resistance per DIN IEC 68-2-27	50 g / 11 ms
Vibration resistance per DIN IEC 60068-2-6	20 g (10...2000 Hz)
Electrical Data	
Supply Voltage	12...32 V DC
Current Consumption (U _b = 24 V)	< 40 mA
Switching Outputs	2
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 _b -U _{bmin})/0,02A
Current Load Voltage Output	≤ 20 mA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Protection Class	III
Interface	IO-Link
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	Clamp diameter: 50,5 mm
Process Connection Length	49 mm
Probe Length	32 mm

* Tested by wenglor



Plug Version

Part Number	FXFF005
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

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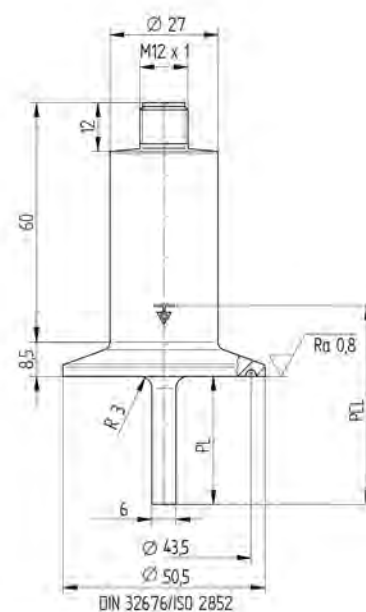
The complete product range of flow sensors can be found at www.wenglor.com.
 An overview of this can be found in the table of contents.

Complementary Products

Flow calculator software DNNF008

IO-Link Master

wTeach2 software DNNF005



All dimensions in mm (1 mm = 0.03937 Inch)

Flow Sensor

10...400 cm/s

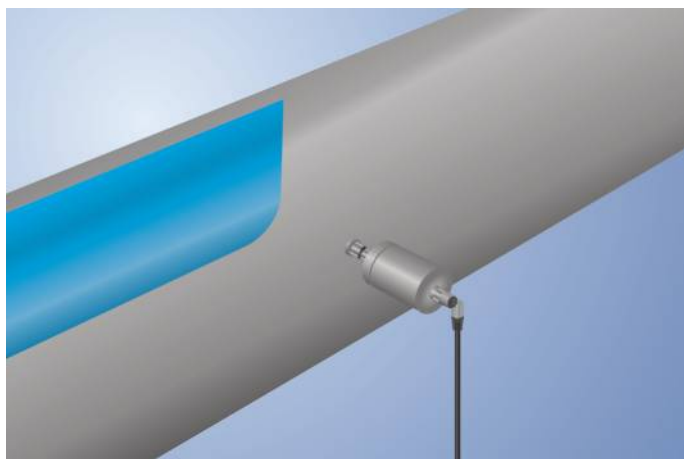
Range

weFlux² 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

weFlux² 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 Measurement Range	-25...150 °C
Adjustable Range	10...400 cm/s
Medium	Water
Measuring error	2 %
Temperature gradient	30 K
Response time in case of temperature jump	10 s
Environmental conditions	
Temperature of medium	-25...150 °C
Ambient temperature	-25...80 °C
Storage temperature	-25...80 °C
Mechanical Strength	100 bar
EMC	DIN EN 60947-5-9
Shock resistance per DIN IEC 68-2-27	50 g / 11 ms
Vibration resistance per DIN IEC 60068-2-6	20 g (10...2000 Hz)
Electrical Data	
Supply Voltage	12...32 V DC
Current Consumption (U _b = 24 V)	< 40 mA
Switching Outputs	2
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 _b -U _{bmin})/0,02A
Current Load Voltage Output	≤ 20 mA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Protection Class	III
Interface	IO-Link
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	M18×1,5

* Tested by wenglor



Plug Version

	Plug Version	
	Part Number	
	FXFF003	FXFF004
Analog output switchable to flow or temperature	●	●
Switching output switchable to flow or temperature	●	●
Switchable to NC/NO	●	●
Configurable as PNP/NPN/Push-Pull	●	●
Process Connection Length	82 mm	132 mm
Probe Length	50 mm	100 mm
Connection Diagram No.	139	139
Suitable Connection Technology No.	21	21
Suitable Mounting Technology No.	900 901 902	900 901 902

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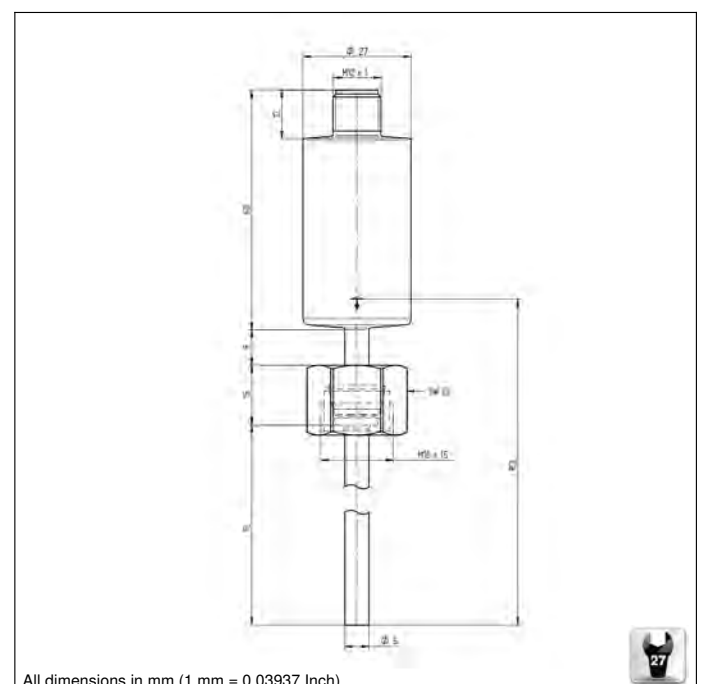
The complete product range of flow sensors can be found at www.wenglor.com.
 An overview of this can be found in the table of contents.

Complementary Products

Flow calculator software DNNF008

IO-Link Master

wTeach2 software DNNF005



All dimensions in mm (1 mm = 0.03937 Inch)



Flow Sensor

10...400 cm/s

Range

weFlux² InoxSens

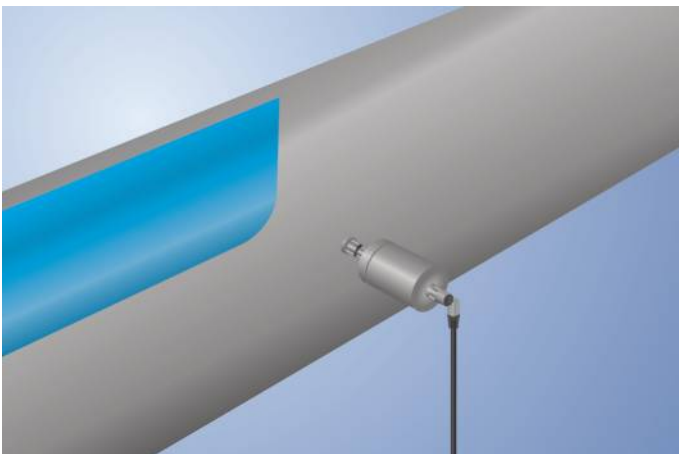


- **2 analog outputs: 4 ... 20 mA**
- **A single sensor for flow and temperature**
- **FDA compliant**
- **Measurement independent of flow direction and instillation position**





Technical Data

Sensor-specific data	
Measuring Range	10...400 cm/s
Temperature Measurement Range	-25...150 °C
Adjustable Range	10...400 cm/s
Medium	Water
Measuring error	2 %
Temperature gradient	30 K
Response time in case of temperature jump	10 s
Environmental conditions	
Temperature of medium	-25...150 °C
Ambient temperature	-25...80 °C
Storage temperature	-25...80 °C
Mechanical Strength	100 bar
EMC	DIN EN 60947-5-9
Shock resistance per DIN IEC 68-2-27	50 g / 11 ms
Vibration resistance per DIN IEC 60068-2-6	20 g (10...2000 Hz)
Electrical Data	
Supply Voltage	12...32 V DC
Current Consumption (U _b = 24 V)	< 40 mA
Analog output O1	4...20 mA Flow
Analog output O2	4...20 mA Temp
Response Time	1...5 s
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Protection Class	III
Mechanical Data	
Housing Material	1.4404
Material in contact with media	1.4404
Degree of Protection	IP68/IP69K *
Connection	M12 x 1; 4-pin
Process Connection	M18x1,5

weFlux² Flow Sensors with two analog outputs 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. The analysis module is integrated into the compact housing.



* Tested by wenglor

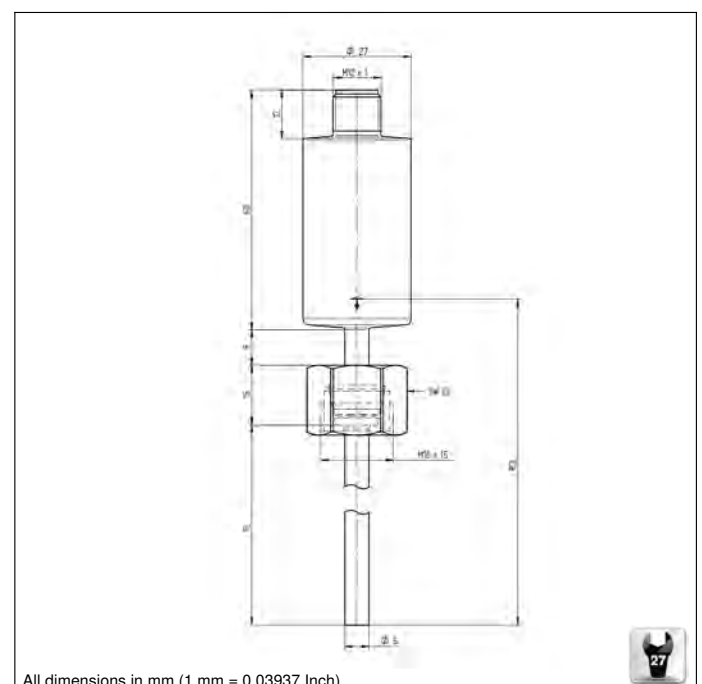
	Plug Version						
	Part Number	FXFF103			FXFF104		
   							
Analog output flow		●		●			
Analog output temperature		●		●			
Process Connection Length		82 mm			132 mm		
Probe Length		50 mm			100 mm		
Connection Diagram No.		141			141		
Suitable Connection Technology No.		21			21		
Suitable Mounting Technology No.		900	901	902	900	901	902

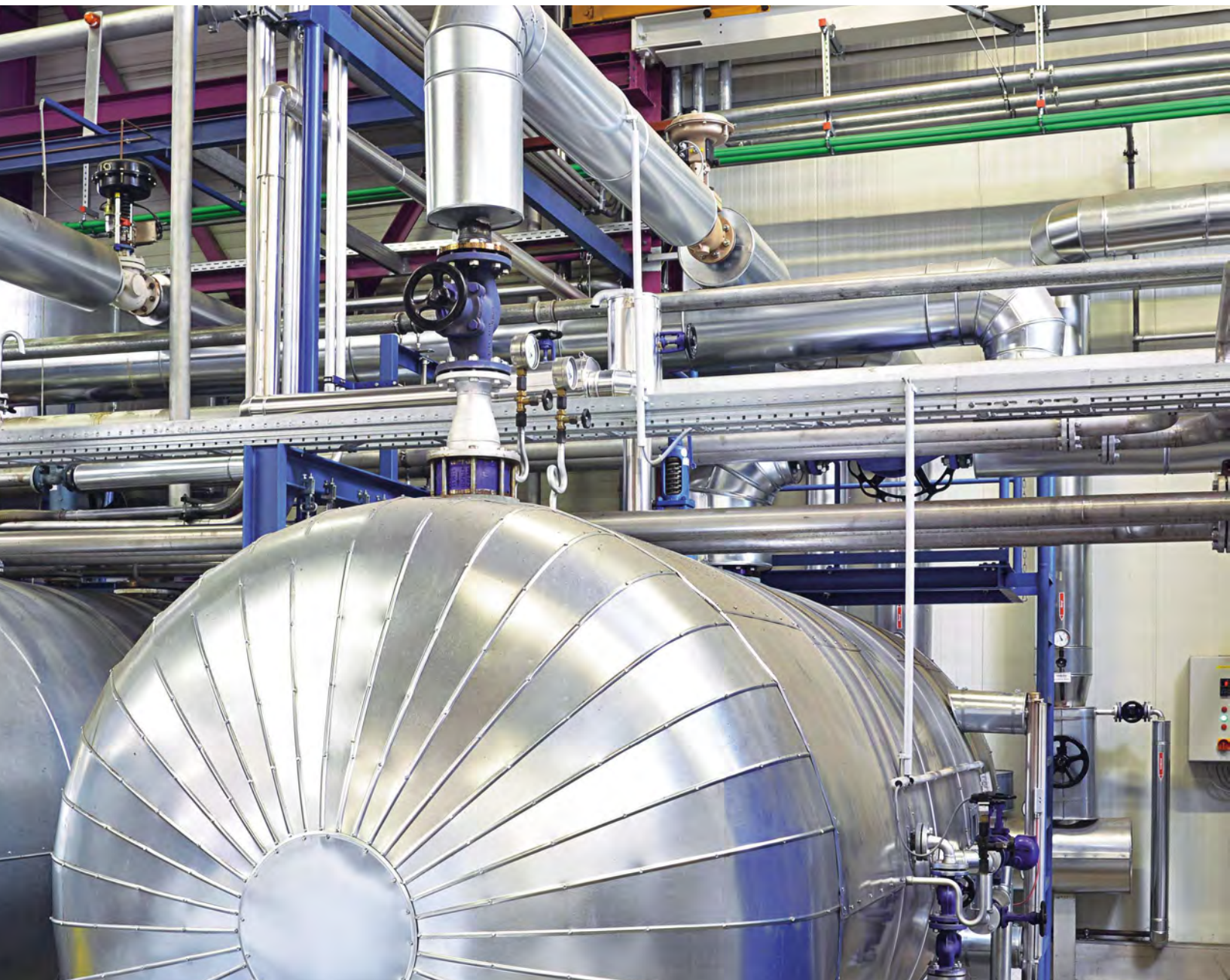
Connection Diagrams page 48

**The complete product range of flow sensors can be found at www.wenglor.com.
An overview of this can be found in the table of contents.**

Complementary Products

Flow calculator software DNNF008





Temperature Sensors

wenglor's temperature sensors measure and monitor the temperature of liquid and gaseous media in closed systems. They're distinguished by their compact design, their large measuring ranges and their high levels of accuracy.

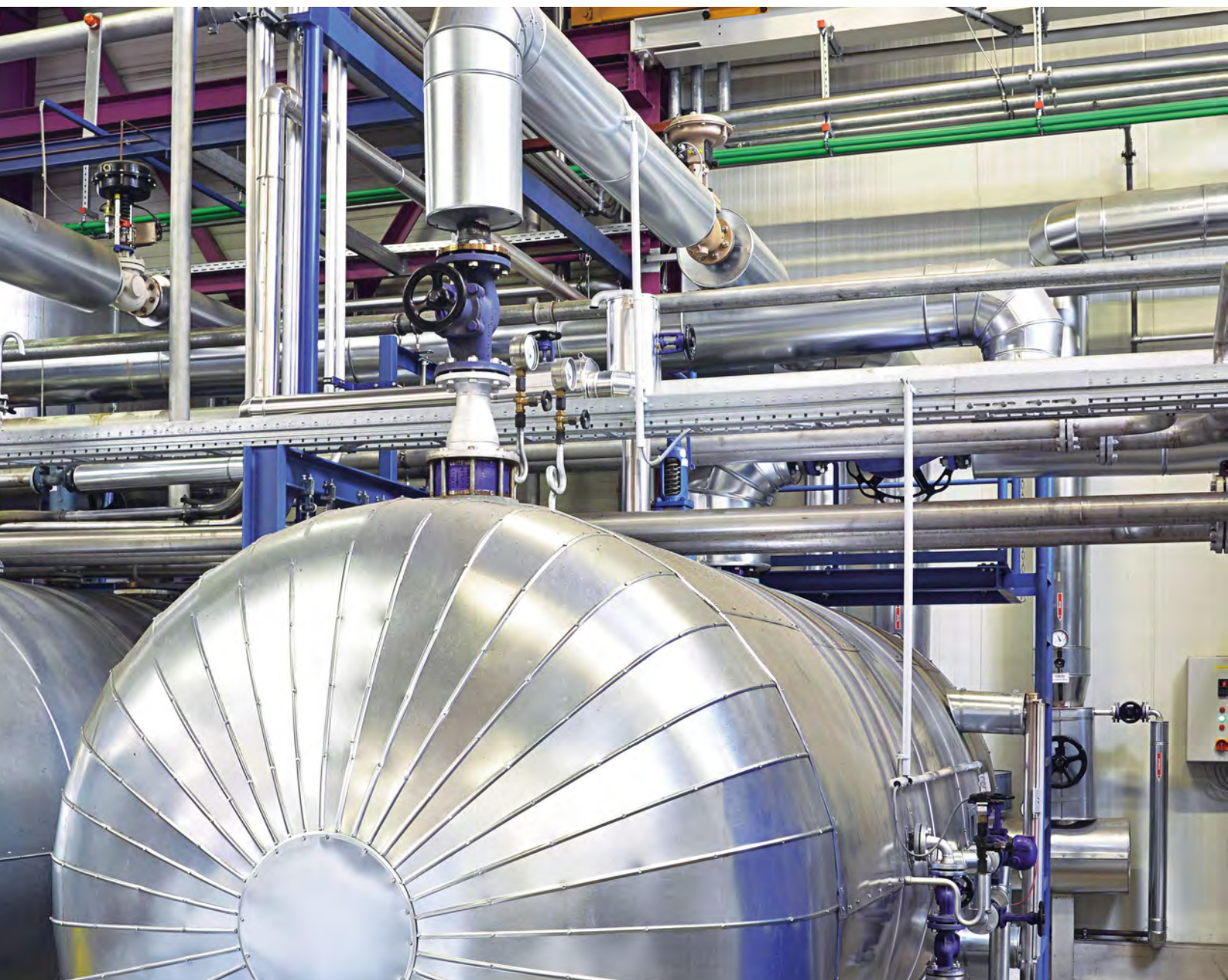
weFlux² Temperature Sensors are available with an integrated IO-Link interface or a PT100/PT1000 resistance value. The variant with IO-Link has a measuring range of -50 to $+150^{\circ}\text{C}$ and is distinguished by its variability with regard to combination and configuration of the two sensor outputs. The sensors can be configured in a decentralized fashion and diagnosis data can be queried at any time via the modern interface. The temperature sensors with PT100/PT1000 resistance value are distinguished by a large measuring range of -50 to $+200^{\circ}\text{C}$.

UniTemp Temperature Sensors detect temperature changes within a range of 0 to 200°C . Measured values are read out at the large, easy-to-read 7-segment display. The uniform design with intuitive operating and connection concepts is clear-cut and extremely user-friendly. Depending on actual requirements, the sensors can be equipped with either one or two switching outputs, or one switching output in combination with an analog output.

Only a small selection of wenglor's fluid sensors is included in the catalog. An overview of the complete range can be viewed at www.wenglor.com.

Application examples:

- Temperature monitoring in brewing processes
- Monitoring of inlet and return temperatures for solar-thermal energy conversion
- Temperature control in cheese production
- Temperature measurement in tempering ovens



wenglor Temperature Sensors at a Glance

This table provides information on additional sensors not included in the catalog.
 The data sheets are available for download at www.wenglor.com.

UniFlow

Additional options:

- Various process connection lengths
- Analog output as current or voltage output
- Versions with 2 switching outputs
- Versions with relay output

weFlux²

Additional options:

- Various process connection lengths
- Version with IO-Link
- Version with PT100 or PT1000

Housing:

FA (Plastic)



FX (Stainless Steel)



FXTT (Stainless Steel)



FXDD (Stainless Steel)



Temperature Range	Process connection				
	G1/4"	G1/2"	G1/2" CIP-capable	Sealing cone M18×1,5	Insulation displacement connector 6 mm
0...140 °C	FA	FA	FA, FX	FA	FA, FX
0...200 °C	—	—	—	—	FA, FX
-50...+150 °C	—	—	—	FXTT	FXTT
-50...+200 °C	—	—	—	FXDD	FXDD

All Standard Sensors are available under www.wenglor.com. Individual sensor solutions are available on request.

Temperature Sensor

0...140 °C

Range

UniTemp



- Highly visible output indicator
- Simple operation via the display
- Temperature range: 0...200 °C available

Technical Data

Sensor-specific data

Temperature Measurement Range	0...140 °C
Adjustable Range	2...139 °C
Medium	Liquids, gases
Measuring error	± 1 °C
Resolution	1 °C
Switching Hysteresis	2 °C
Response Time	2...4 s

Environmental conditions

Temperature of medium	0...140 °C
Ambient temperature	-20...80 °C
Mechanical Strength	60 bar
EMC	DIN EN 61326-2-3
Shock resistance per DIN IEC 68-2-27	50 g / 11 ms
Vibration resistance per DIN IEC 60068-2-6	20 g (10...2000 Hz)

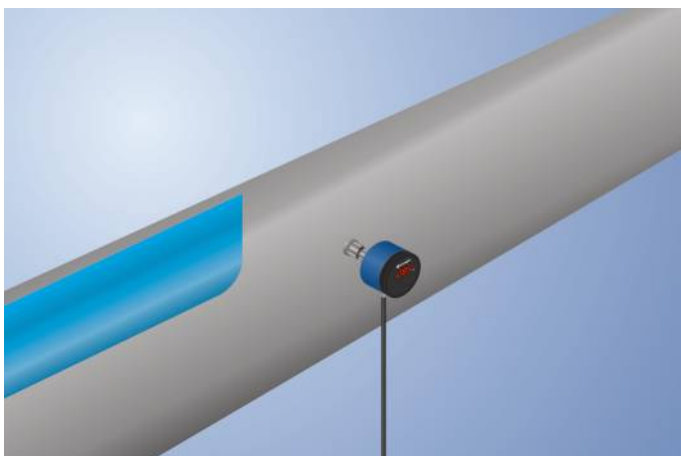
Electrical Data

Supply Voltage	16...32 V DC
Current Consumption (U _b = 24 V)	60 mA
Switching Output/Switching Current	< 250 mA
Switching Output Voltage Drop	< 2 V
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	64 mm
Probe Length	44 mm

UniTemp temperature sensors measure the temperature of liquid or gaseous media and facilitate the temperature monitoring of processes.



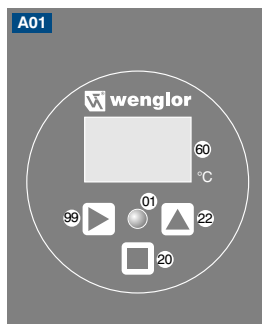
* Tested by wenglor

	Plug Version	
	FFAT001	FFAT041
   	Part Number	
Analog Output	●	
PNP NO/NC switchable	●	●
Switching Outputs	1	2
Analog Output	4...20 mA Temp	
Current Output Load Resistance	< 500 Ohm	
MTTFd (EN ISO 13849-1)	1194,55 a	1341,35 a
Connection Diagram No.	533	536
Control Panel No.	A01	A01
Suitable Connection Technology No.	21	21
Suitable Mounting Technology No.	900 901	900 901

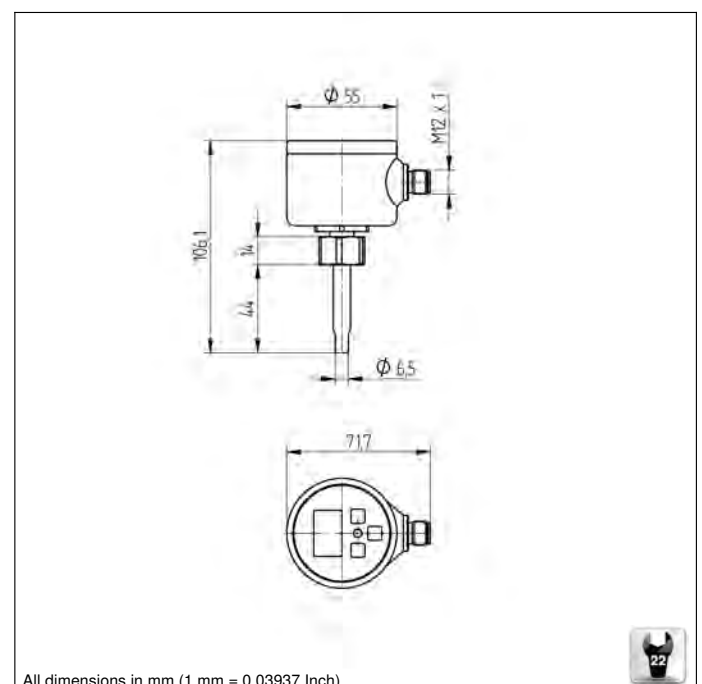
Connection Diagrams page 48

The complete product range of temperature sensors can be found at www.wenglor.com.
 An overview of this can be found in the table of contents.

Ctrl. Panel



01 = Switching Status Indicator 99 = Right button
 20 = Enter Button
 22 = UP Button
 60 = Display



Temperature Sensor

0...140 °C

Range

InoxSens UniTemp

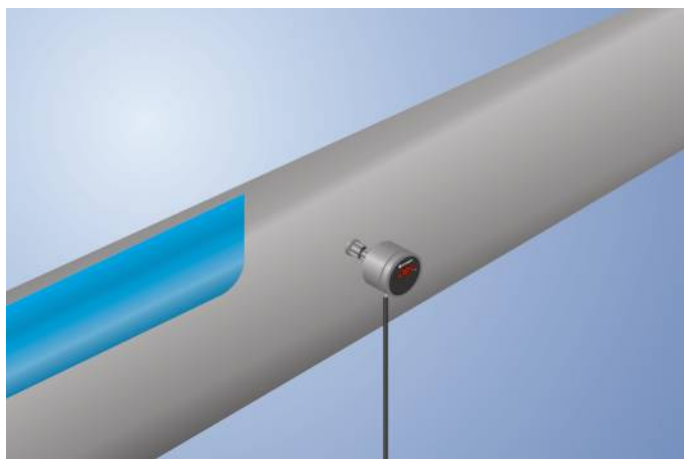


- FDA compliant
- Hygienic design makes it easy to clean
- Robust stainless steel housing with IP69K
- Simple operation via the display
- Temperature range: 0...200 °C available

UniTemp temperature sensors measure the temperature of liquid or gaseous media and facilitate the temperature monitoring of processes.

UniTemp temperature sensors are very easy to operate thanks to the removable cover on the integrated display. The highly visible switching status display enables the rapid localization of affected sensors for maintenance processes.

Thanks to the metallic sealing edge on the process connection, no further seals are required.



Technical Data

Sensor-specific data	
Temperature Measurement Range	0...140 °C
Adjustable Range	2...139 °C
Medium	Liquids, gases
Measuring error	± 1 °C
Resolution	1 °C
Switching Hysteresis	2 °C
Response Time	2...4 s
Environmental conditions	
Temperature of medium	0...140 °C
Ambient temperature	-20...80 °C
Mechanical Strength	60 bar
EMC	DIN EN 61326-2-3
Shock resistance per DIN IEC 68-2-27	50 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 (U _b = 24 V)	60 mA
Switching Outputs	1
Switching Output/Switching Current	< 250 mA
Switching Output Voltage Drop	< 2 V
Analog Output	4...20 mA Temp
Current Output Load Resistance	< 500 Ohm
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Protection Class	III
Mechanical Data	
Setting Method	Menu
Housing Material	1.4404; PC; EPDM
Material Control Panel	Polyester
Material in contact with media	1.4435; 1.4404
Degree of Protection	IP67/IP69K *
Connection	M12 × 1; 4-pin
Process Connection	G 1/2" CIP-capable
Process Connection Length	48 mm
Probe Length	10 mm
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	1194,55 a

* Tested by wenglor



Plug Version

Part Number	Plug Version
	FFXT001
Analog Output	●
PNP NO/NC switchable	●
Connection Diagram No.	533
Control Panel No.	A11
Suitable Connection Technology No.	21
Suitable Mounting Technology No.	903 905 906

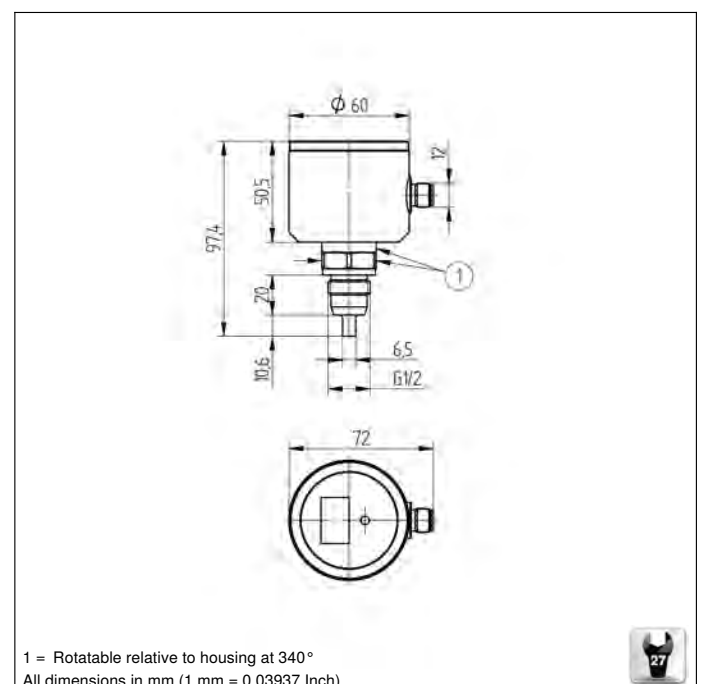
Connection Diagrams page 48

The complete product range of temperature sensors can be found at www.wenglor.com.
 An overview of this can be found in the table of contents.

Ctrl. Panel



- 01 = Switching Status Indicator 60 = Display
- 0A = Detachable lid 99 = Right button
- 20 = Enter Button
- 22 = UP Button



Temperature Sensor

-50...150 °C

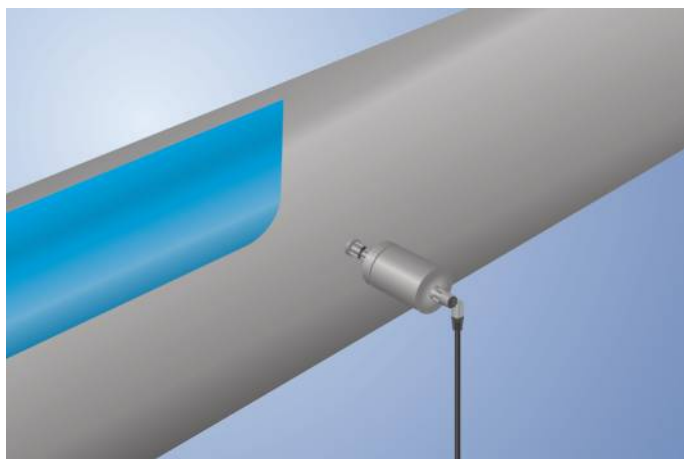
Range

weFlux² InoxSens



- **FDA compliant**
- **Ready for Industry 4.0 with IO-Link 1.1**
- **Response time T90: < 2 seconds**
- **Temperature measuring range: -50 ... +150° C**

weFlux² Temperature Sensors ensure precise temperature measurement of liquids and gases in closed piping systems. Either 2 switching outputs, 1 switching output and 1 analog output or one 2-wire analog output is available depending on settings and connection configuration. 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	
Sensor element	PT1000, Class B
Temperature Measurement Range	-50...150 °C
Adjustable Range	-50...150 °C
Medium	Liquids, gases
Measuring error	± 0,5 °C
Resolution	0,01 °C
Response Time	< 2 s
Environmental conditions	
Temperature of medium	-50...150 °C
Ambient temperature	-25...80 °C
Storage temperature	-25...80 °C
Mechanical Strength	100 bar
EMC	DIN EN 61326-1
Shock Resistance	IEC 60751
Vibration resistance	IEC 60751
Electrical Data	
2-wire supply power	8...32 V DC
3-wire supply power	12...32 V DC
Current Consumption (U _b = 24 V)	< 15 mA
Switching Outputs	2
Switching Output/Switching Current	± 100 mA
Switching Output Voltage Drop	< 1,5 V DC
Analog Output	0...10 V/4...20 mA
Current Output Load Resistance	(U _b -U _{bmin})/0,02A
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Protection Class	III
Interface	IO-Link
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	Cutting/locking ring

* Tested by wenglor



Plug Version

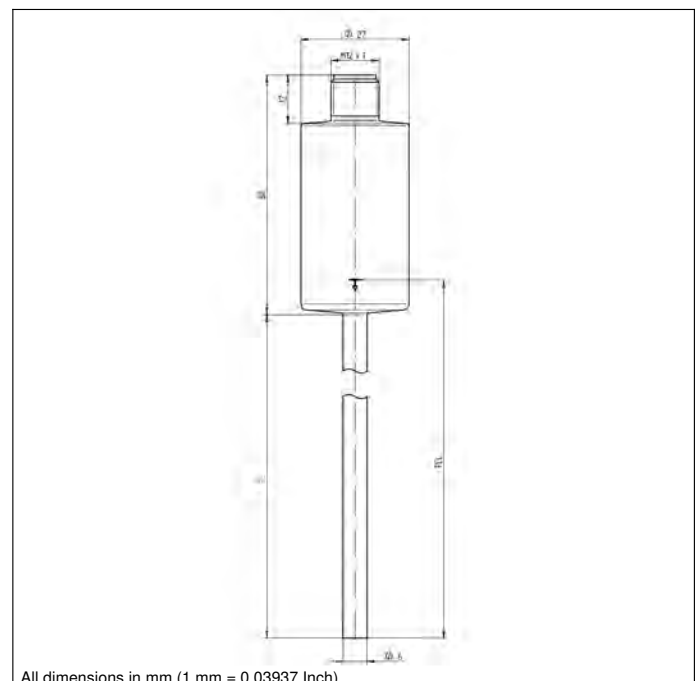
	Plug Version	
	Part Number	
	FXTT001	FXTT002
Analog Output	●	●
PNP NO/NC switchable	●	●
Configurable as PNP/NPN/Push-Pull	●	●
Process Connection Length	110 mm	210 mm
Probe Length	100 mm	200 mm
Connection Diagram No.	139	139
Suitable Connection Technology No.	21	21
Suitable Mounting Technology No.	907 908	907 908

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The complete product range of temperature sensors can be found at www.wenglor.com.
 An overview of this can be found in the table of contents.

Complementary Products

- IO-Link Master
- wTeach2 software DNNF005
- ZH6C00x adapter to G1/4"



Temperature Sensor

-50...150 °C

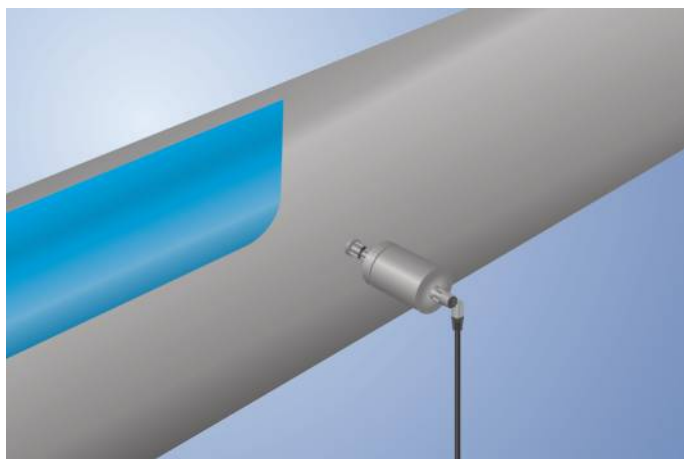
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- FDA compliant
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Measuring error	± 0,5 °C
Resolution	0,01 °C
Response Time	< 2 s
Environmental conditions	
Temperature of medium	-50...150 °C
Ambient temperature	-25...80 °C
Storage temperature	-25...80 °C
Mechanical Strength	100 bar
EMC	DIN EN 61326-1
Shock Resistance	IEC 60751
Vibration resistance	IEC 60751
Electrical Data	
2-wire supply power	8...32 V DC
3-wire supply power	12...32 V DC
Current Consumption (U _b = 24 V)	< 15 mA
Switching Outputs	2
Switching Output/Switching Current	± 100 mA
Switching Output Voltage Drop	< 1,5 V DC
Analog Output	0...10 V/4...20 mA
Current Output Load Resistance	(U _b -U _{bmin})/0,02A
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Protection Class	III
Interface	IO-Link
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	M18×1,5

* Tested by wenglor



Plug Version

	Plug Version	
	Part Number	
	FXTT003	FXTT004
Analog Output	●	●
PNP NO/NC switchable	●	●
Process Connection Length	132 mm	232 mm
Probe Length	100 mm	200 mm
Connection Diagram No.	139	139
Suitable Connection Technology No.	21	21
Suitable Mounting Technology No.	900 901	900 901

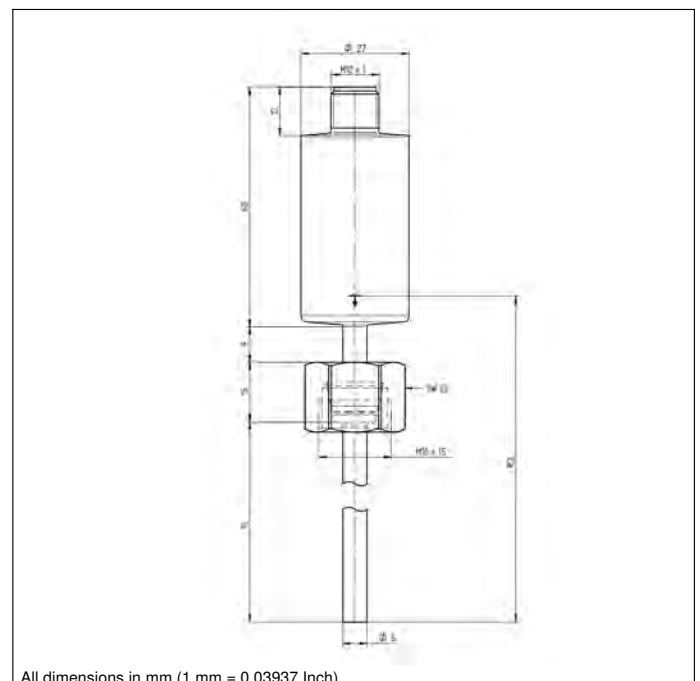
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The complete product range of temperature sensors can be found at www.wenglor.com.
 An overview of this can be found in the table of contents.

Complementary Products

IO-Link Master

wTeach2 software DNNF005



Temperature Sensor

-50...150 °C

Range

weFlux² InoxSens



Technical Data

Sensor-specific data

Temperature Measurement Range	-50...200 °C
Medium	Liquids, gases
Response Time	< 2 s

Environmental conditions

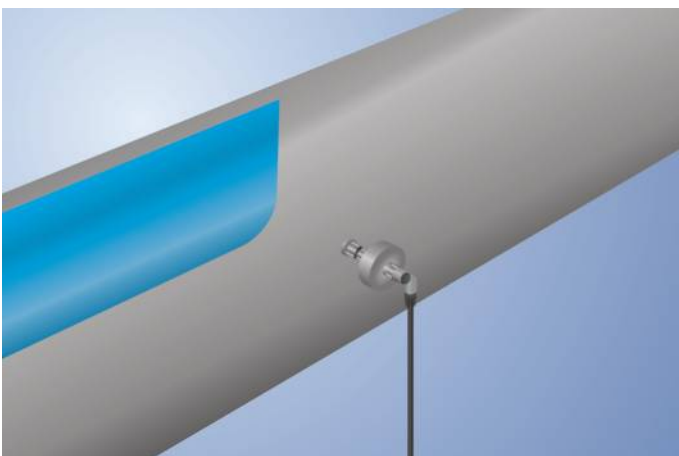
Temperature of medium	-50...200 °C
Ambient temperature	-25...80 °C
Storage temperature	-25...80 °C
Mechanical Strength	100 bar
Shock Resistance	IEC 60751
Vibration resistance	IEC 60751

Mechanical Data

Housing Material	1.4404
Material in contact with media	1.4404
Degree of Protection	IP68/IP69K *
Connection	M12 × 1; 4-pin
Process Connection	Cutting/locking ring

- **FDA compliant**
- **Response time T90: < 2 seconds**
- **Robust stainless steel housing with IP69K**
- **Temperature measuring range: -50 ... +200° C**

weFlux² Temperature Sensors ensure precise temperature measurement of liquids and gases in closed piping systems. It's easy to incorporate the standardized PT100/PT1000 resistance value into the controller. The compact housing with a diameter of just 27 mm is made of V4A stainless steel and features an easy-to-clean surface. Thanks to their rugged housing and functional design, the Temperature Sensors are FDA compliant.



* Tested by wenglor


Plug Version

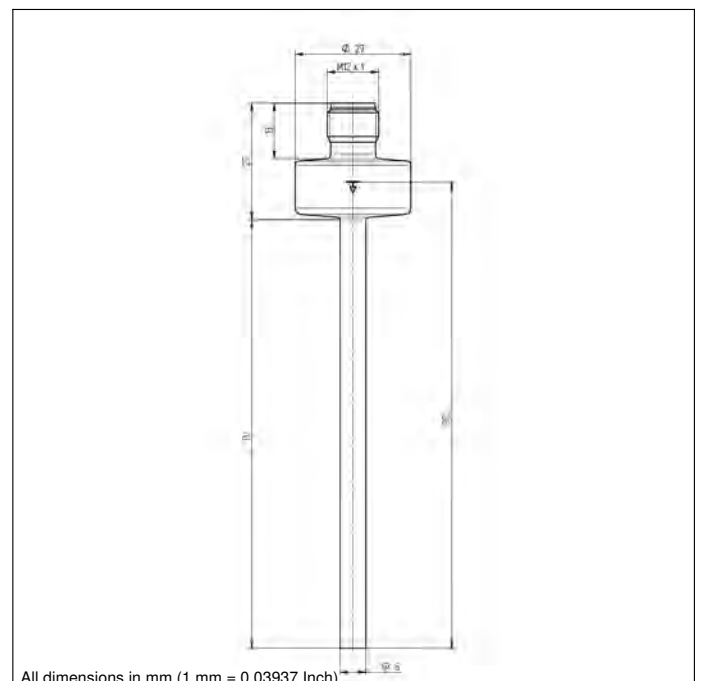
	Plug Version					
	Part Number	FXDD001	FXDD002	FXDD101	FXDD102	FXDD103
PT100		●	●			
PT1000				●	●	●
Sensor element		PT100, Class B	PT100, Class B	PT1000, Class B	PT1000, Class B	PT1000, Class B
Process Connection Length		60 mm	110 mm	60 mm	110 mm	210 mm
Probe Length		50 mm	100 mm	50 mm	100 mm	200 mm
Connection Diagram No.		140	140	140	140	140
Suitable Connection Technology No.		21	21	21	21	21
Suitable Mounting Technology No.		907 908	907 908	900 901 902	900 901 902	900 901 902

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The complete product range of temperature sensors can be found at www.wenglor.com.
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Complementary Products

ZH6C00x adapter to G1/4"



Connection Diagrams

Legend

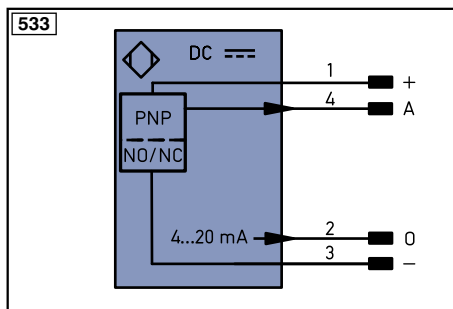
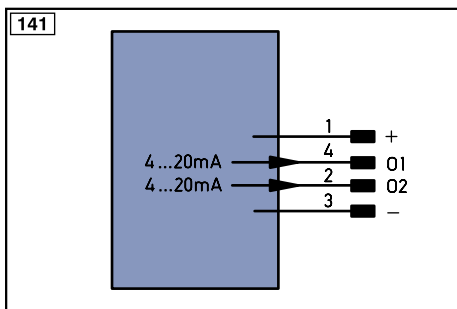
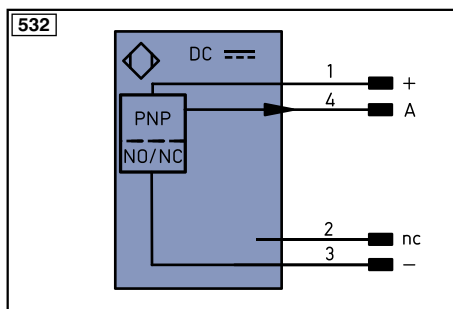
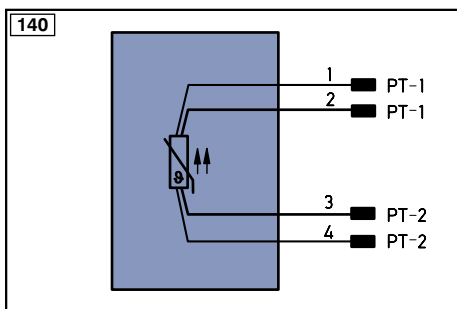
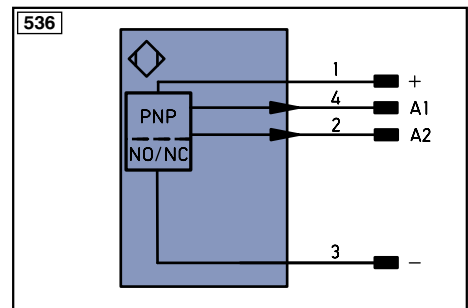
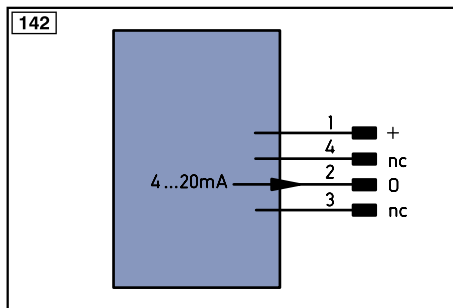
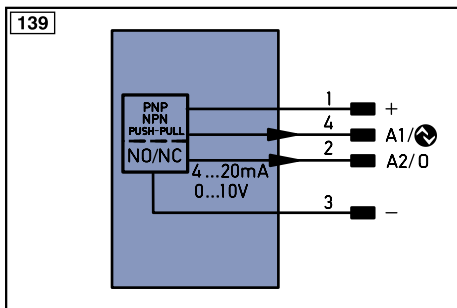
+	Supply Voltage +
-	Supply Voltage 0 V
~	Supply Voltage (AC Voltage)
A	Switching Output (NO)
\bar{A}	Switching Output (NC)
V	Contamination/Error Output (NO)
\bar{V}	Contamination/Error Output (NC)
E	Input (analog or digital)
T	Teach Input
Z	Time Delay (activation)
S	Shielding
RxD	Interface Receive Path
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)
EN _{DRS42Z}	Encoder 0-pulse 0-0̄ (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
A/W	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	Contacting Monitoring
EN _{ARS42Z}	Encoder A/ \bar{A} (TTL)
EN _{BRS42Z}	Encoder B/ \bar{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

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



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alphabetical

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