

Turbidity sensor cube

- Fully compatible with büS systems and a wide range of further analysis sensor cubes
- Optical sensor according to DIN EN ISO 7027 or EPA method 180.1
- Hot-swap compatible for exchanging the sensor cube during operation
- Minimal sample water consumption
- With moisture monitoring for permanently stable turbidity measurement

Product variants described in the data sheet may differ from the product presentation and description.

Can be combined with

	Type 8905 Online water analysis system	▶
	Type 8906 Online water analysis system	▶
	Type MZ20 Cleaning System	▶
	Type ME61 EDIP process display	▶
	Type ME43 Fieldbus gateway	▶
	Type ME63 Industrial Ethernet gateway, IP65/ IP67/ IP69k	▶
	Type ME44 I/O module, IP 20	▶
	Type ME66 büS distribution box, IP65/ IP67/ IP69k	▶

Type description

This sensor cube measures turbidity according to DIN EN ISO 7027 or EPA method 180.1. It is designed for operation on a fluidic backplane in the Type 8905 online water analysis system.

The continuous analysis of turbidity in water is an indicator of undesirable, undissolved substances in water. The measurement before and after filter stages can indicate the filter effect and enables, for example, the optimisation of backwashing processes. In the best case, this can lead to water and energy savings.

The electrical and fluidic connections are established via the backplane of the system. The sensor cube communicates with the system via the digital büS interface, allowing fully automatic login to the online water analysis system. If the sensor is plugged into the system, it automatically logs on to the büS and can be parameterised according to customer requirements.

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1. General technical data

Product properties

Material

Make sure the device materials are compatible with the fluid you are using.
 Further information can be found in chapter [“3.1. Bürkert resistApp” on page 4.](#)

Housing	PPE + PS
Lever	Zamak, painted
Seal	EPDM
Cuvette	Glass
Valve	Silicone
Compatibility	With online water analysis system Type 8905 (the electrical and fluidic contact is made via backplane system.) Further information can be found in the data sheet of the online water analysis system, see data sheet Type 8905 ▶.
Dimensions	Further information can be found in chapter “4. Dimensions” on page 5.
Measuring element	Turbidity sensor according to DIN EN ISO 7027: IR-Laser 90° light scattering, replaceable cuvette ¹⁾
Measuring range	<ul style="list-style-type: none"> • 0...40 FNU²⁾
Maintenance	<ul style="list-style-type: none"> • Interval: 12 months, typical, depending on the water quality. Regular manual or automatic cleaning (with Type MZ20, see data sheet Type 8905 ▶ for more information.) • Exchange of desiccant as required, monitoring of humidity by means of integrated sensor

Performance data

Turbidity measurement

Measuring range resolution	± 0.0006 FNU
Measurement deviation	± 0.02 FNU or 2 % of measured value (the greater value applies)
Linearity	± 0.5 % of full scale
Repeatability	± 0.02 FNU or 2 % of measured value (the greater value applies)
Response time (t90)	Depending on filter settings (by default 8 samples = 1 s)
Humidity monitoring	Yes
Exchangeable desiccant agent	Yes

Electrical data

Operating voltage	24 V DC via the backplane of the system Type 8905 (via bÜS)
Power consumption	0.8 VA

Media data

Fluid	Water without particles: drinking water, industrial water
pH value	pH 4...pH 9
Temperature of the fluid sample	+ 3...+ 40 °C (+ 37...+ 104 °F)
Pressure of the fluid sample	PN 3
Flow rate of the fluid sample	> 6 l/h
Filter of the fluid sample	> 100 µm

Product connections

Process connection	Via pinch valve in the fluidic backplane of Type 8905 Further information can be found in the data sheet of the online water analysis system, see data sheet Type 8905 ▶.
Electrical connection	Spring contacts in the fluidic backplane of Type 8905 which is connected to a bÜS system Further information can be found in the data sheet of the online water analysis system, see data sheet Type 8905 ▶.

Data transfer

Internal communication	Via bÜS (Bürkert system bus, CANopen-based) or CANopen
External communication by status LED	According to NAMUR NE 107

Approvals and conformities

Directives

CE directive	Further information on the CE directive can be found in chapter “2.2. Standards” on page 4.
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Environment and installation	
Ambient temperature	<ul style="list-style-type: none"> • Operation: + 3...+ 40 °C (+ 37...+ 104 °F) • Storage and transport: - 10...+ 60 °C (+ 14...+ 140 °F), for empty and purged sensor cube
Relative air humidity	≤ 90 %, without condensation
Height above sea level	Max. 2000 m
Operating condition	Continuous
Equipment mobility	Fixed
Application range	Indoor and outdoor Protect the device against electromagnetic interference, ultraviolet rays and, when installed outdoors, against the effects of climatic conditions.
Degree of protection according to IEC/ EN 60529	<ul style="list-style-type: none"> • IP65, when plugged in the fluidic backplane • IP20, as standalone product
Installation category	Category I according to UL/EN 61010-1
Pollution degree	Degree 2 according to UL/EN 61010-1

1.) Only for turbidity measurement with sensor cube according to DIN EN ISO 7027 and only by Bürkert specialist staff. Contact your Bürkert sales office.
 2.) Further measuring ranges on request

2. Approvals and conformities

2.1. Conformity

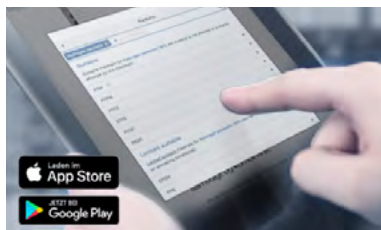
In accordance with the Declaration of Conformity, the product is compliant with the EU Directives.

2.2. Standards

The applied standards which are used to demonstrate compliance with the EU Directives are listed in the EU-Type Examination Certificate and/or the EU Declaration of Conformity.

3. Materials

3.1. Bürkert resistApp



Bürkert resistApp – Chemical resistance chart

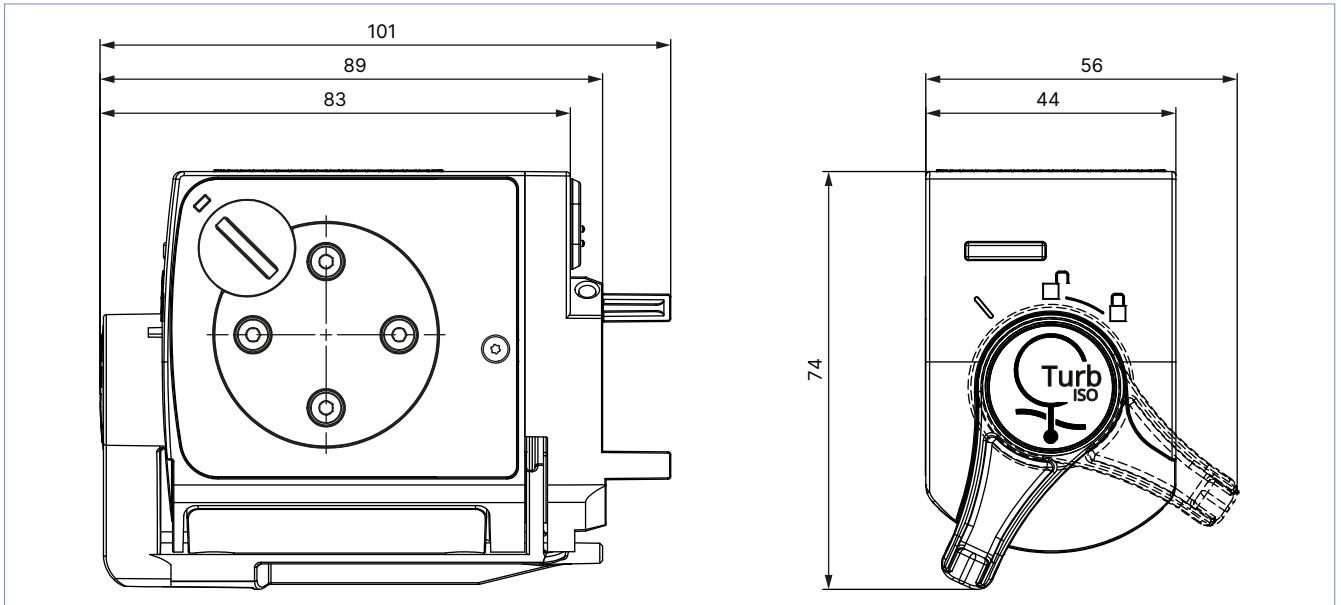
You want to ensure the reliability and durability of the materials in your individual application case? Verify your combination of media and materials on our website or in our resistApp.

[Start chemical resistance check](#)

4. Dimensions

Note:

Dimensions in mm, unless otherwise stated

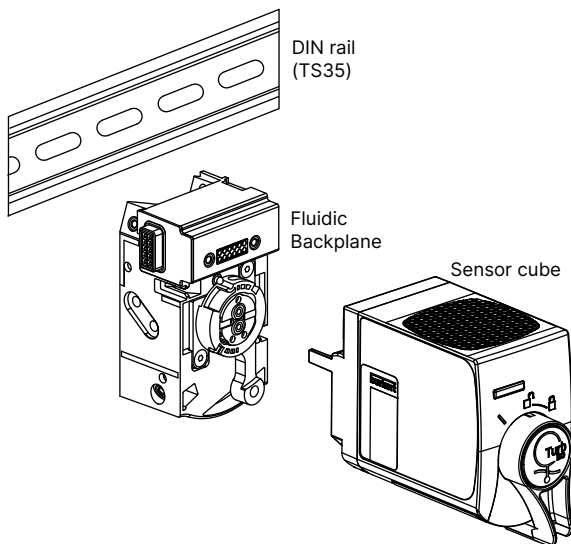


5. Product installation

5.1. Installation notes

The Type MS05 sensor cube is designed for use with Type 8905 online water analysis system. The sensor cube is mounted onto the backplane of the Type 8905, which is installed on a DIN rail (TS35).

See **data sheet Type 8905** ► online water analysis system for more information.



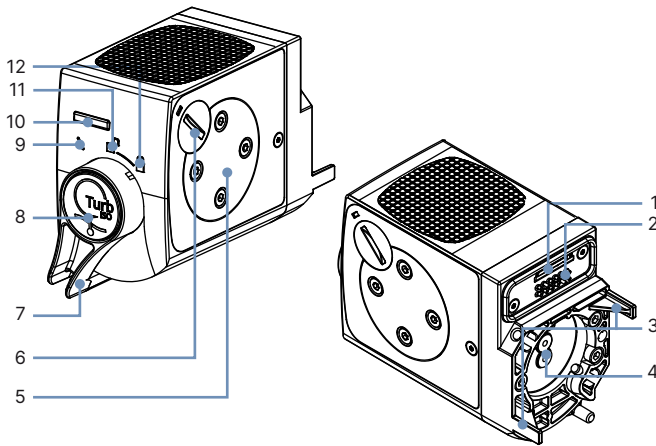
6. Product operation

6.1. Measurement principle

The sensor cube receives the sample water through the fluidic backplane into which it is plugged. The measurement is based on the detection of light scattered at a 90° angle to the incident beam. The sample flows through a cuvette made of glass or a glass/PET composite.

7. Product design and assembly

7.1. Product features



No.	Element
1	Slot for the micro-SIM card (for configuration data)
2	Electrical interface
3	Guide pins
4	Fluid connections
5	Cover for the cuvette
6	Desiccator cover
7	Lever to: <ul style="list-style-type: none"> lock / unlock the product carry out maintenance operations
8	Push button for unlocking
9	Maintenance position
10	Sensor cube status LED
11	Unlocked position
12	Locked position

8. Ordering information

8.1. Bürkert eShop



Bürkert eShop – Easy ordering and quick delivery

You want to find your desired Bürkert product or spare part quickly and order directly? Our online shop is available for you 24/7. Sign up and enjoy all the benefits.

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8.2. Bürkert product filter



Bürkert product filter – Get quickly to the right product

You want to select products comfortably based on your technical requirements? Use the Bürkert product filter and find suitable articles for your application quickly and easily.

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8.3. Ordering chart



Note:

The turbidity sensor cube must be operated within a system.

Observe the order information for online water analysis system Type 8905, see **data sheet Type 8905** ▶ or contact your Bürkert sales office.

Description	Article no.
Turbidity sensor cube according to DIN EN ISO 7027	568701 

8.4. Ordering chart accessories

Description	Article no.
Desiccant agent	572279 
Bubble trap	568492 
Type 8905 Cleaning system, 2 solutions See data sheet Type 8905 ▶ for more information.	567124 