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АНАЛИТИЧЕСКИЕ ДАТЧИКИ

DATA SHEET

Type MS01

bürkert
FLUID CONTROL SYSTEMS

pH Sensor Cube

- Fully compatible with büS systems and a wide range of further analysis sensor cubes
- Sensor: MEMS ISFET technology
- Modular sensor cube for hot swap (exchange during operation)
- Minimal sample water flow needed

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

Can be combined with

Type 8905 ▸
Online Analysis System

Type 8920 ▸
Bürkert Communicator

Type description

The device is a pH measurement sensor. It is used within the Online Analysis System Type 8905 by being plugged into a spare fluidic backplane slot.

The pH value is the most common parameter in water analysis. The pH sensor cube contains an ISFET measuring cell, based on microelectromechanical systems technology (MEMS) to measure the pH value.

The electrical and fluidic connections are made via the connection panel of the system. The sensor cube communicates with the system via büS, allowing fully automatic login to the online 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

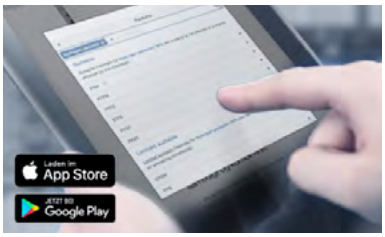
Product properties	
Material	
Please make sure the device materials are compatible with the fluid you are using. Detailed information can be found in chapter "2.1. Chemical Resistance Chart – Bürkert resistApp" on page 4.	
Housing	PPE+PS
Lever	Zamak, painted
Seals	EPDM
Dimensions	Detailed information can be found in chapter "3. Dimensions" on page 4.
pH sensor	ISFET (Ion Sensitive Field Effect Transistor)
Temperature sensor	Pt1000 Class B
Electrolyte	3 mol KCl (reference electrode)
Compatibility	With Online Analysis System Type 8905 (the electrical and fluidic contact is made via backplane system.) Detailed information can be found in the data sheet of the online analysis system, see **data sheet Type 8905** ▶ for more information.
Measuring range	pH 4…pH 9 (further measuring ranges on request)
Maintenance	12 months nominal, depending on the water quality
Performance data	
pH measurement	
Measuring range resolution	pH 0.02
Measurement deviation	± pH 0.1
Linearity	± pH 0.05
Repeatability	± pH 0.05
Response time (t_{90})	<10 s
Temperature measurement	0…+50 °C (+32…+122 °F)
Electrical data	
Operating voltage	24 V DC through the backplane of the system Type 8905 via büS
Power consumption	0.8 VA
Media data	
Fluid	Water without particles: drinking water, industrial water
Sample water	
Temperature	+3…+40 °C (+37…+104 °F)
Pressure	PN3
Flow rate	>6 l/h
Process/Port connection & communication	
Process connection	Via pinch valve in the fluidic backplane of the Type 8905 Detailed information can be found in the data sheet of t the Online Analysis System, see **data sheet Type 8905** ▶ for more information.
Electrical connection	Spring contacts in the fluidic backplane of the Type 8905, which is connected to a büS System Detailed information can be found in the data sheet of t the Online Analysis System, see **data sheet Type 8905** ▶ for more information.
Data transfer	
Internal communication	Through büS (Bürkert bus, CANopen protocol)
External communication by status LED	According to NAMUR NE 107
Approvals and Certificates	
Standards	
Protection class according to IEC/ EN 60529	• IP65, when plugged in the fluidic backplane • IP20, as standalone product
Directives	
CE directives	The applied standards, which verify conformity with the EU Directives, can be found on the EU Type Examination Certificate and/or the EU Declaration of conformity (if applicable).
Environment and installation	
Ambient temperature	
Operating	0…+40 °C (+32…+104 °F)

DTS 1000220806 EN Version: N Status: RL (released | freigegeben | validé) printed: 12.01.2021

Storage and transport	For empty/purged sensor cube • -10…+60 °C (+14…+140 °F) without the reference electrode • +3…+40 °C (+37…+104 °F) with the reference electrode
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)
Installation category	Category I according to UL/EN 61010-1
Pollution degree	Degree 2 according to UL/EN 61010-1

2. Materials

2.1. Chemical Resistance Chart – Bürkert resistApp



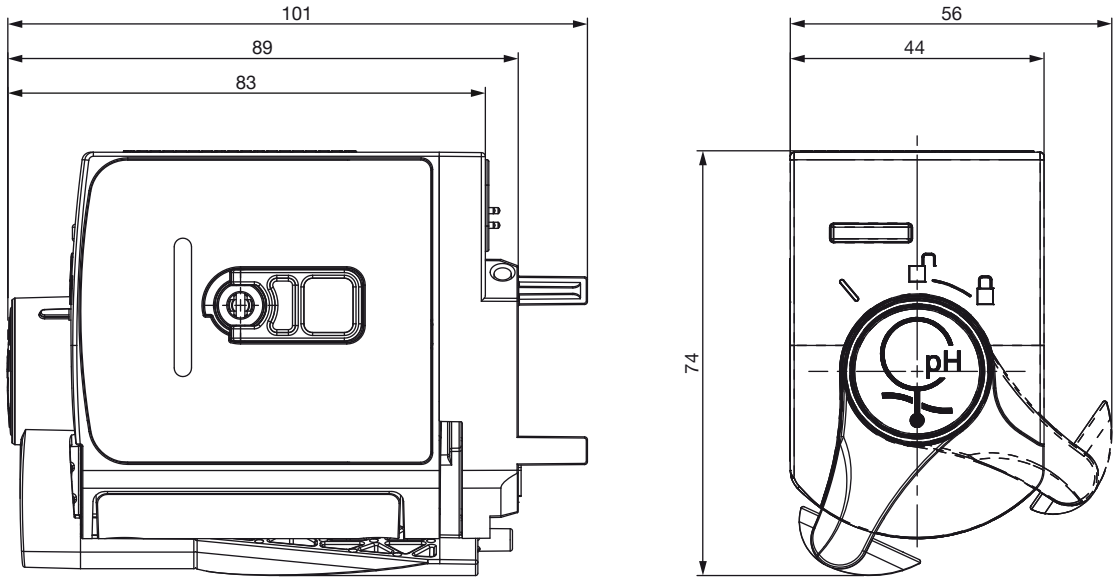
Bürkert resistApp – Chemical Resistance Chart

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

3. Dimensions

Note:
Dimensions in mm



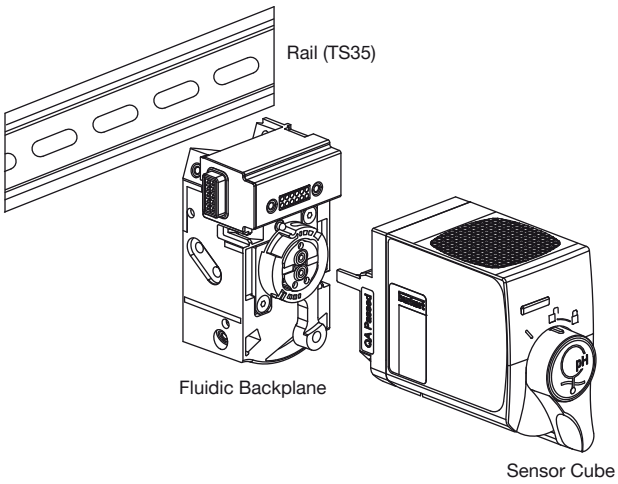
4. Product installation

4.1. Installation notes

Note:

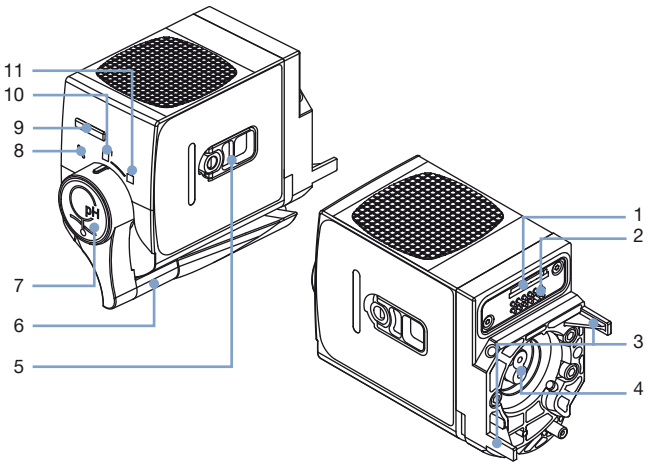
- The sensor cube is designed for use with the online analysis system, Type 8905. The sensor cube is simply plugged into the backplane in Type 8905.
- It is also possible to mount the backplane individually on a DIN rail.

See **data sheet Type 8905** ▸ Online Analysis System for more information.

Installation examples	
Product mounted in a housing for the Online analysis system Type 8905. • pH sensor cube Type MS01 • Housing Type 8905 with display Type ME21 and controller Type ME25 	**Product without housing mounted of the backplane on standard rail (TS35).** 

5. Product design and assembly

5.1. Product features



Product without housing

No.	Element
1	Slot micro-SIM card (for configuration data)
2	Electrical interface
3	Guide pins
4	Fluid connections
5	Lever to: • lock / unlock the product • carry out maintenance operations
6	Housing of the external reference electrode
7	Push button for unlocking
8	Maintenance position
9	Sensor cube Status LED
10	Unlocked position
11	Locked position

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6. Ordering information

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6.3. Ordering chart

Note:
The pH sensor cube must be operated within a system.

Please refer to the order information for Online Analysis System Type 8905, see **data sheet Type 8905** ▸ or contact your Bürkert representative.

Description	Article no.
pH sensor cube	567624

6.4. Ordering chart accessories

Description	Article no.
Buffer solution, 50 ml, pH 5 (+20 °C)	806698
Buffer solution, 50 ml, pH 7 (+20 °C)	806699
Buffer solution, 50 ml, pH 9 (+20 °C)	806700
External reference electrode	566084
Replacement part set: measurement cell	568038

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DATA SHEET

Type MS02

bürkert
FLUID CONTROL SYSTEMS

Chlorine (Cl_2) or chlorine dioxide (ClO_2) Sensor Cube

- Fully compatible with büS systems and a wide range of further analysis sensor cubes
- Optional pH compensated chlorine measurement
- Modular sensor cube for hot swap (exchange during operation)
- Minimal sample water flow needed
- MEMS technology sensor

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

Can be combined with

Type 8905 ▸
Online Analysis System

Type 8920 ▸
Bürkert Communicator

Type description

The device is selectable to measure chlorine or chlorine dioxide in water. It is used within the Online Analysis System Type 8905 by being plugged into a spare fluidic backplane slot.

The sensor cube contains a high precision membrane covered amperiometric sensor, based on Bürkert microelectromechanical systems technology (MEMS). The measurement signal shows the Cl_2 or ClO_2 content within the sample water. The chlorine measurement reflects either the available chlorine HOCl or, if coupled with a MS01 pH sensor cube for pH compensation, the free chlorine.

The electrical and fluidic connections are made via the connection panel of the system. The sensor cube is communicating with the system via büS, allowing fully automatic login to the online 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	
Please make sure the device materials are compatible with the fluid you are using. Detailed information can be found in chapter "2.1. Chemical Resistance Chart – Bürkert resistApp" on page 4.	
Housing	PPE+PS
Lever	Zamak, painted
Seals	EPDM
Dimensions	Detailed information can be found in chapter "3. Dimensions" on page 5.
Chlorine/chlorine dioxide sensor	Membrane covered PT-cell, amperiometric 3 electrodes measurement, without electrolyte
Temperature sensor	Pt1000 Class B, no contact with the water sample
Compatibility	With Online Analysis System Type 8905 (the electrical and fluidic contact is made via backplane system.) Detailed information can be found in the data sheet of the online analysis system, see **data sheet Type 8905** ▶ for more information.
Measuring range	
Chlorine measurement (Cl_2)	0.01…5 ppm
Chlorine measurement (ClO_2)	0.005…5 ppm
Maintenance	12 months nominal, depending on the water quality
Performance data	
Chlorine measurement (Cl_2)	
Sensitivity	-11 nA/ppm (at pH 5), -8 nA/ppm (at pH 7)
pH compensation	Yes, with MS01 sensor cube Detailed information can be found in the data sheet of the pH sensor cube, see **data sheet Type MS01** ▶ for more information
Measuring range resolution	0.01 ppm
Measurement deviation	±0.03 ppm or ±5 % of the measured value
Linearity	±0.02 ppm of the measured value
Repeatability	±0.02 ppm of the measured value
Response time (t_{90})	<30 s
Chlorine measurement (ClO_2)	
Sensitivity	-4 nA/ppm
pH compensation	No
Measuring range resolution	0.001 ppm
Measurement deviation	±0.005 ppm or ±3 % of the measured value (the greater value applies)
Linearity	±0.01 ppm or ±3 % of the measured value (the greater value applies)
Repeatability	±0.01 ppm or ±3 % of the measured value (the greater value applies)
Response time (t_{90})	<30 s
Temperature measurement	0…+50 °C (+32…+122 °F)
Electrical data	
Operating voltage	24 V DC through 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 range	pH 4…pH 9
Conductivity	>50 µs/cm
Sample water	
Temperature	+3…+40 °C (+37…+104 °F)
Pressure	PN3
Flow rate	>6 l/h
Process/Port connection & communication	
Process connection	Via pinch valve in the fluidic backplane of the Type 8905 Detailed information can be found in the data sheet of t the Online Analysis System, see **data sheet Type 8905** ▶ for more information.

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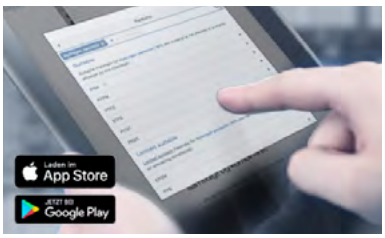
Electrical connection	Spring contacts in the fluidic backplane of the Type 8905, which is connected to a büS System Detailed information can be found in the data sheet of t the Online Analysis System, see **data sheet Type 8905** ▶ for more information.
Data transfer	
Internal communication	Through büS (Bürkert bus, CANopen protocol)
External communication by status LED	According to NAMUR NE 107
Approvals and Certificates	
Standards	
Protection class according to IEC/ EN 60529	• IP65, when plugged in the fluidic backplane • IP20, as standalone product
Directives	
CE directives	The applied standards, which verify conformity with the EU Directives, can be found on the EU Type Examination Certificate and/or the EU Declaration of conformity (if applicable).
Environment and installation	
Ambient temperature	
Operating	+3…+40 °C (+37…+104 °F)
Storage and transport	For empty/purged sensor cube: -10…+60 °C (+14…+140 °F)
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)
Installation category	Category I according to UL/EN 61010-1
Pollution degree	Degree 2 according to UL/EN 61010-1

2. Materials

2.1. Chemical Resistance Chart – Bürkert resistApp



Bürkert resistApp – Chemical Resistance Chart

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Start Chemical Resistance Check

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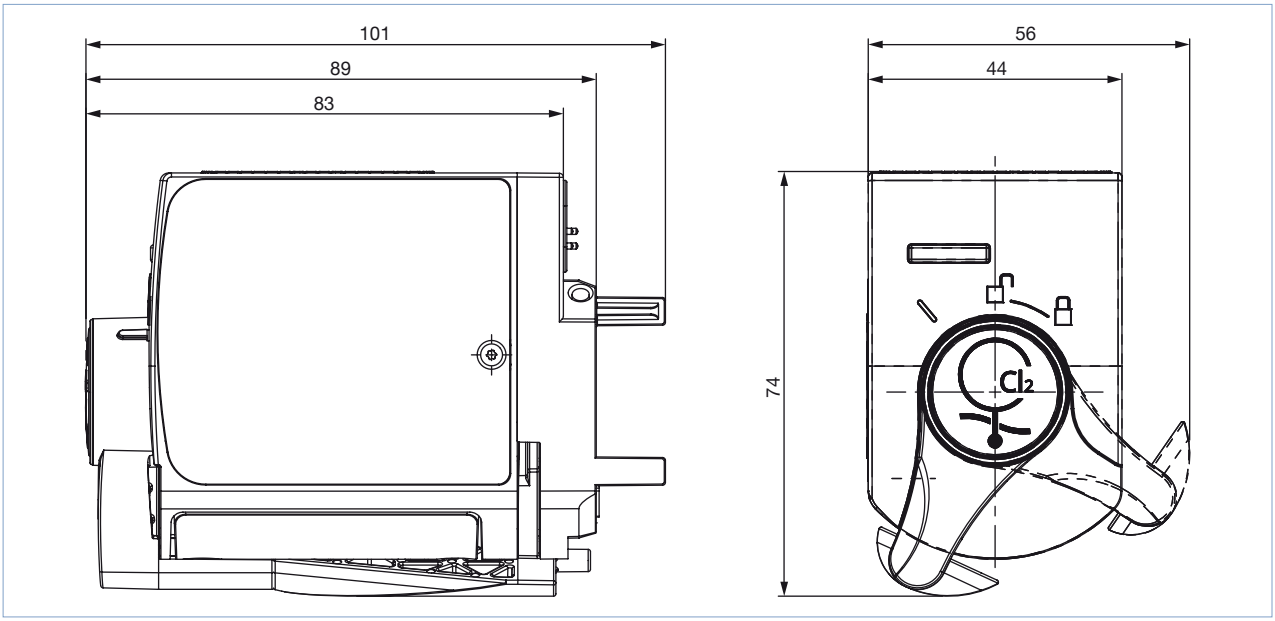
3. Dimensions

Note:
Dimensions in mm



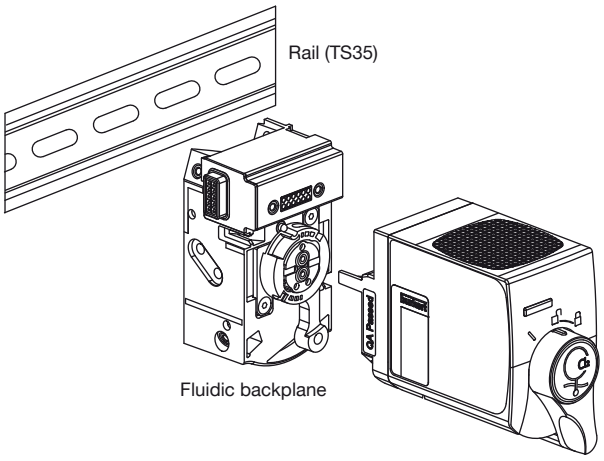
4. Product installation

4.1. Installation notes

Note:

- The sensor cube is designed for use with the online analysis system, Type 8905. The sensor cube is simply plugged into the backplane in Type 8905.
- It is also possible to mount the backplane individually on a DIN rail.

See **data sheet Type 8905** ▸ Online Analysis System for more information.

Installation examples	
Product mounted in a housing for the Online analysis system Type 8905. • Chlorine or chlorine dioxide sensor cube Type MS02 • Housing Type 8905 with display Type ME21 and controller Type ME25 	**Product without housing mounted of the backplane on standard rail (TS35).** 

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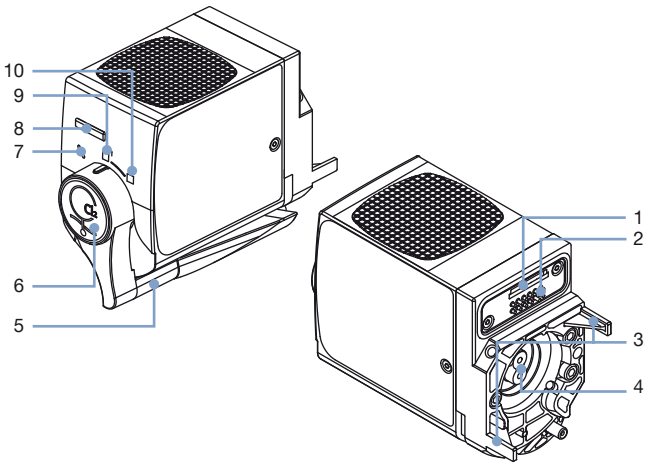
5. Product design and assembly

5.1. Product features



Product without housing

No.	Element
1	Slot micro-SIM card (for configuration data)
2	Electrical interface
3	Guide pins
4	Fluid connections
5	Lever to: • lock / unlock the product • carry out maintenance operations
6	Push button for unlocking
7	Maintenance position
8	Sensor cube Status LED
9	Unlocked position
10	Locked position

6. Ordering information

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DATA SHEET

Type MS03

bürkert
FLUID CONTROL SYSTEMS

Conductivity Sensor Cube

- Fully compatible with büS systems and a wide range of further analysis sensor cubes
- Resistive 2-electrode sensor
- Modular sensor cube for hot swap (exchange during operation)
- Minimal sample water flow needed

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

Can be combined with

Type 8905 ▸
Online Analysis System

Type 8920 ▸
Bürkert Communicator

Type description

The device is a conductivity measurement sensor. It is used within the Online Analysis System Type 8905 by being plugged into a spare fluidic backplane slot.

The conductivity of water follows in general the content of dissolved substances in the water. Not only the absolute value at each moment is an indicator for the continuity of the water quality, but quick changes in the conductivity may indicate unwanted change in the water. A rising or falling value can also be used as an indicator for process feedback in specific treatment steps.

The electrical and fluidic connections are made via the connection panel of the system. The sensor cube is communicating with the system via büS, allowing fully automatic login to the online 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	
Please make sure the device materials are compatible with the fluid you are using. Detailed information can be found in chapter "2.1. Chemical Resistance Chart – Bürkert resistApp" on page 4.	
Housing	PPE+PS
Lever	Zamak, painted
Seals	EPDM
Dimensions	Detailed information can be found in chapter "3. Dimensions" on page 4.
Conductivity sensor	Graphite 2-electrode system, C = 1
Temperature sensor	Pt1000 Class B, contact with the water sample
Compatibility	With Online Analysis System Type 8905 (the electrical and fluidic contact is made via backplane system.) Detailed information can be found in the data sheet of the online analysis system, see **data sheet Type 8905** ▶ for more information.
Measuring range	50 µS/cm…5000 µS/cm (measurement up to 10 mS/cm possible at limited measurement deviation)
Maintenance	12 months nominal, depending on the water quality
Performance data	
Conductivity measurement	
Measurement compensation	Temperature compensated
Measurement deviation	±2 % of measured value
Linearity	±0.2 % of full scale
Repeatability	±0.2 % of full scale
Response time (t_{90})	<5 s
Temperature measurement	0…+50 °C (+32…+122 °F)
Electrical data	
Operating voltage	24 V DC through 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 range	pH 4…pH 9
Sample water	
Temperature	+3…+40 °C (+37…+104 °F)
Pressure	PN3
Flow rate	>6 l/h
Process/Port connection & communication	
Process connection	Via pinch valve in the fluidic backplane of the Type 8905 Detailed information can be found in the data sheet of t the Online Analysis System, see **data sheet Type 8905** ▶ for more information.
Electrical connection	Spring contacts in the fluidic backplane of the Type 8905, which is connected to a büS System Detailed information can be found in the data sheet of t the Online Analysis System, see **data sheet Type 8905** ▶ for more information.
Data transfer	
Internal communication	Through büS (Bürkert bus, CANopen protocol)
External communication by status LED	According to NAMUR NE 107
Approvals and Certificates	
Standards	
Protection class according to IEC/ EN 60529	• IP65, when plugged in the fluidic backplane • IP20, as standalone product
Directives	
CE directives	The applied standards, which verify conformity with the EU Directives, can be found on the EU Type Examination Certificate and/or the EU Declaration of conformity (if applicable).

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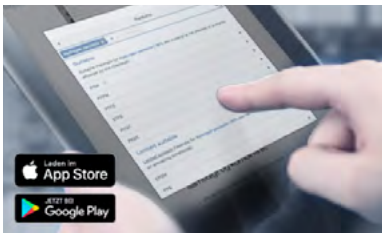
Environment and installation	
Ambient temperature	
Operating	0…+40 °C (+32…+104 °F)
Storage and transport	For empty/purged sensor cube: -10…+60 °C (+14…+140 °F)
Relative air humidity	≤90 %, without condensation
Height above sea level	Max. 2000 m
Operating condition	Continuous
Equipment mobility	Fixed
Application range	Indoor and outdoor (Protect the device against electromagnetic interference, ultraviolet rays and, when installed outdoors, against the effects of climatic conditions)
Installation category	Category I according to UL/EN 61010-1
Pollution degree	Degree 2 according to UL/EN 61010-1

2. Materials

2.1. Chemical Resistance Chart – Bürkert resistApp



Bürkert resistApp – Chemical Resistance Chart

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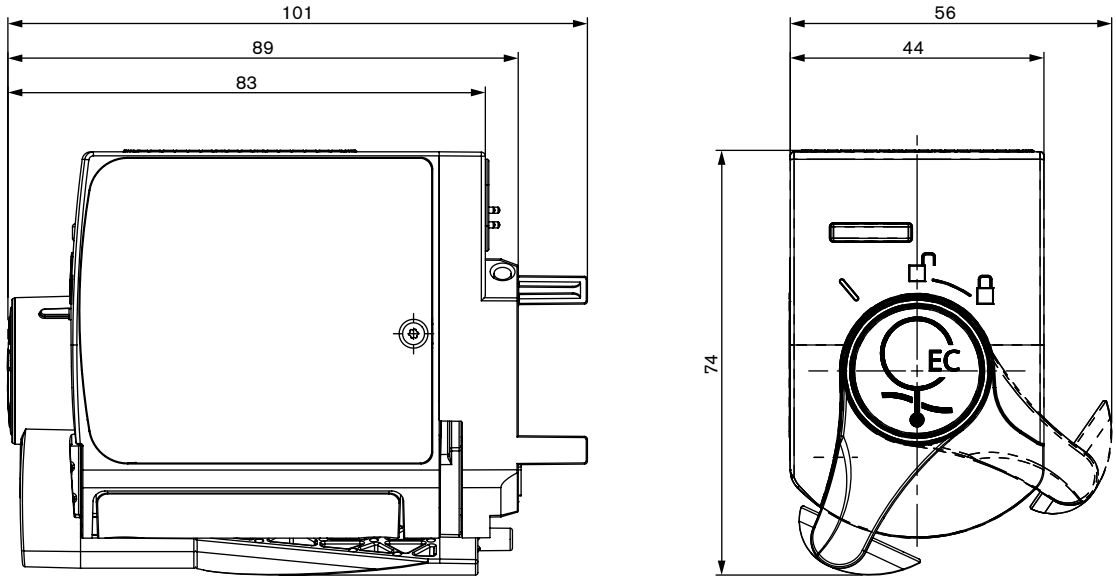
Start Chemical Resistance Check

3. Dimensions

Note:
Dimensions in mm



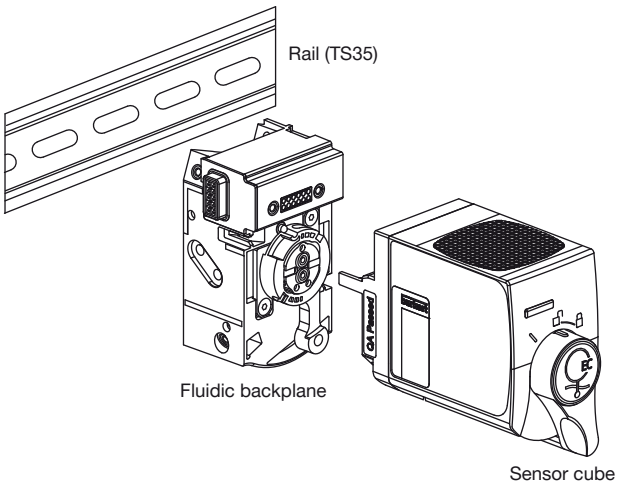
4. Product installation

4.1. Installation notes

Note:

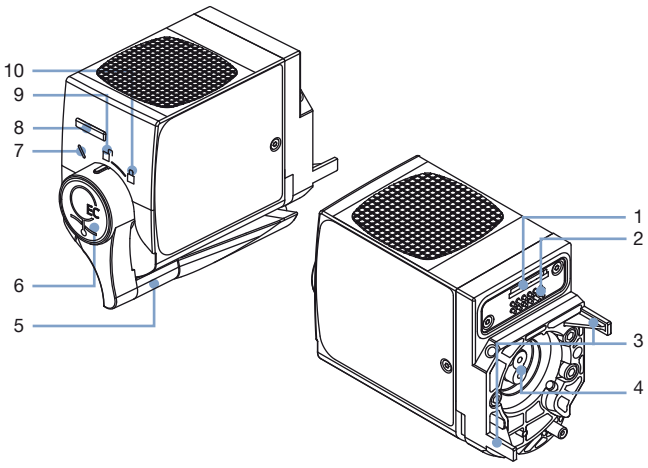
- The sensor cube is designed for use with the online analysis system, Type 8905. The sensor cube is simply plugged into the backplane in Type 8905.
- It is also possible to mount the backplane individually on a DIN rail.

See **data sheet Type 8905** ▸ Online Analysis System for more information.

Installation examples	
Product mounted in a housing for the Online analysis system Type 8905. • Conductivity sensor cube Type MS03 • Housing Type 8905 with display Type ME21 and controller Type ME25 	**Product without housing mounted of the backplane on standard rail (TS35).** 

5. Product design and assembly

5.1. Product features



Product without housing

No.	Element
1	Slot micro-SIM card (for configuration data)
2	Electrical interface
3	Guide pins
4	Fluid connections
5	Lever to: • lock / unlock the product • carry out maintenance operations
6	Push button for unlocking
7	Maintenance position
8	Sensor cube Status LED
9	Unlocked position
10	Locked position

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6. Ordering information

6.1. Bürkert eShop – Easy ordering and quick delivery

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6.3. Ordering chart

Note:
The conductivity sensor cube must be operated within a system.

Please refer to the order information for Online Analysis System Type 8905, see **data sheet Type 8905** ▸ or contact your Bürkert representative.

Description	Article no.
Conductivity sensor cube	567626

6.4. Ordering chart accessories

Description	Article no.
Calibration solution, 50 ml, 5 mS/cm (+25 °C)	807199

DTS 1000220809 EN Version: N Status: RL (released | freigegeben | validé) printed: 12.01.2021

DATA SHEET

Type MS04

bürkert
FLUID CONTROL SYSTEMS

ORP Sensor Cube

- Fully compatible with büS systems and a wide range of further analysis sensor cubes
- Modular sensor cube for hot swap (exchange during operation)
- Minimal sample water flow needed

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

Can be combined with

Type 8905 ▸
Online Analysis System

Type 8920 ▸
Bürkert Communicator

Type description

The device is an ORP measurement sensor. It is used within the Online Analysis System Type 8905 by being plugged into a spare fluidic backplane slot.

ORP value is one of the most important water parameters – it is an indicator for the activity of the disinfectant, with no measure of the applied dose but with measure of the remaining residual.

The electrical and fluidic connections are made via the connection panel of the system. The sensor cube is communicating with the system via büS, allowing fully automatic login to the online 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.

DTS 1000220810 EN Version: I Status: RL (released | freigegeben | validé) printed: 12.01.2021

1. General technical data

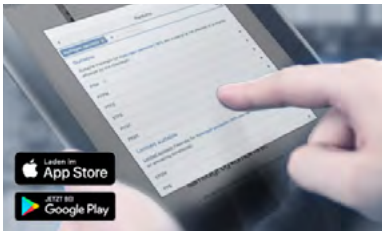
Product properties	
Material	
Please make sure the device materials are compatible with the fluid you are using. Detailed information can be found in chapter "2.1. Chemical Resistance Chart – Bürkert resistApp" on page 4.	
Housing	PPE+PS
Lever	Zamak
Seals	EPDM
Dimensions	Detailed information can be found in chapter "3. Dimensions" on page 4.
ORP sensor	Platinum potentiometric 2-electrode measuring cell
Electrolyte (reference electrode)	3 mol KCl
Compatibility	With Online Analysis System Type 8905 (the electrical and fluidic contact is made via backplane system.) Detailed information can be found in the data sheet of the online analysis system, see **data sheet Type 8905** ▸ for more information.
Measuring range	2000…+2000 mV
Maintenance	12 months nominal, depending on the water quality
Performance data	
ORP measurement	
Measurement deviation	±10 mV
Response time (t_{90})	<10 Sek.
Electrical data	
Operating voltage	24 V DC through 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 range	pH 4…pH 9
Sample water	
Temperature	+3…+40 °C (+37…+104 °F)
Pressure	PN3
Flow rate	>6 l/h
Process/Port connection & communication	
Process connection	Via pinch valve in the fluidic backplane of the Type 8905 Detailed information can be found in the data sheet of t the Online Analysis System, see **data sheet Type 8905** ▸ for more information.
Electrical connection	Spring contacts in the fluidic backplane of the Type 8905, which is connected to a büS System Detailed information can be found in the data sheet of t the Online Analysis System, see **data sheet Type 8905** ▸ for more information.
Data transfer	
Internal communication	Through büS (Bürkert bus, CANopen protocol)
External communication by status LED	According to NAMUR NE 107
Approvals and Certificates	
Standards	
Protection class according to IEC/ EN 60529	• IP65, when plugged in the fluidic backplane • IP20, as standalone product
Directives	
CE directives	The applied standards, which verify conformity with the EU Directives, can be found on the EU Type Examination Certificate and/or the EU Declaration of conformity (if applicable)
Environment and installation	
Ambient temperature	
Operating	0…+40 °C (+32…+104 °F)
Storage and transport	For empty/purged sensor cube • -10…+60 °C (+14…+140 °F) without the reference electrode • +3…+40 °C (+37…+104 °F) with the reference electrode
Relative air humidity	≤90 %, without condensation

DTS 1000220810 EN Version: I Status: RL (released | freigegeben | validé) printed: 12.01.2021

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)
Installation category	Category I according to UL/EN 61010-1
Pollution degree	Degree 2 according to UL/EN 61010-1

2. Materials

2.1. Chemical Resistance Chart – Bürkert resistApp



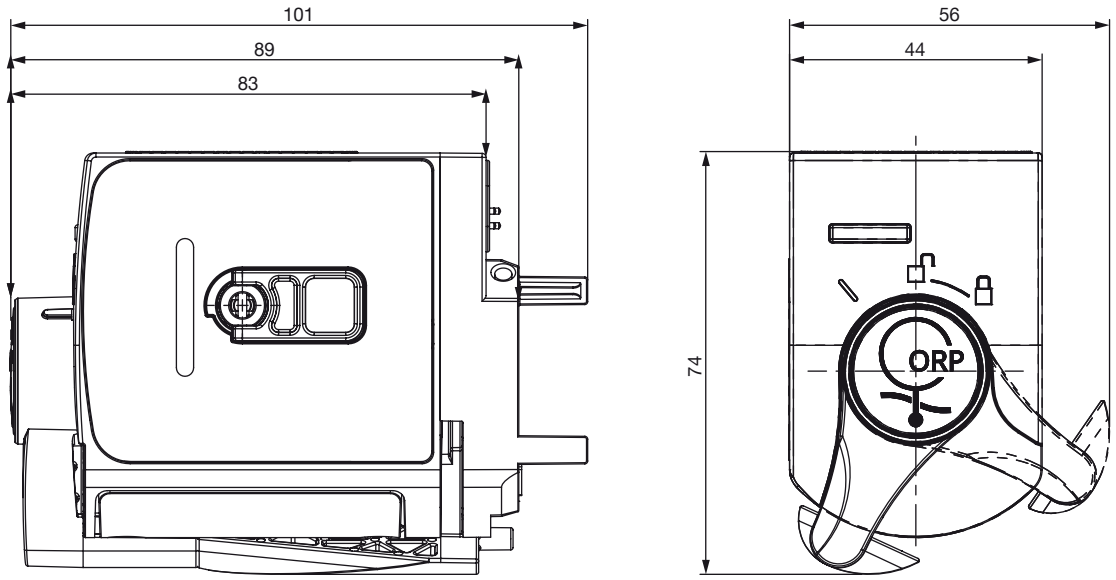
Bürkert resistApp – Chemical Resistance Chart

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

3. Dimensions

Note:
Dimensions in mm



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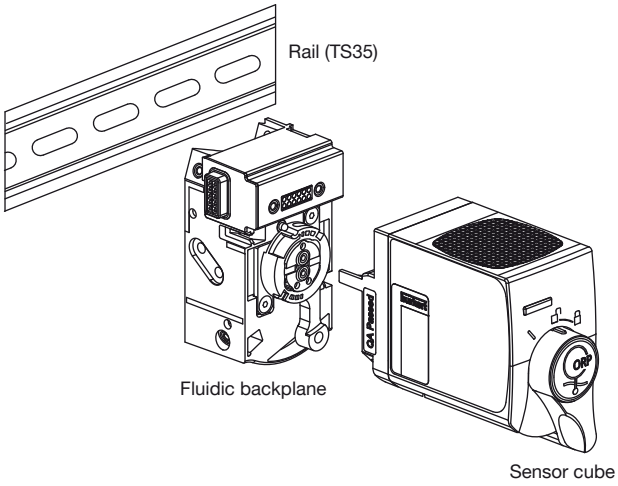
4. Product installation

4.1. Installation notes

Note:

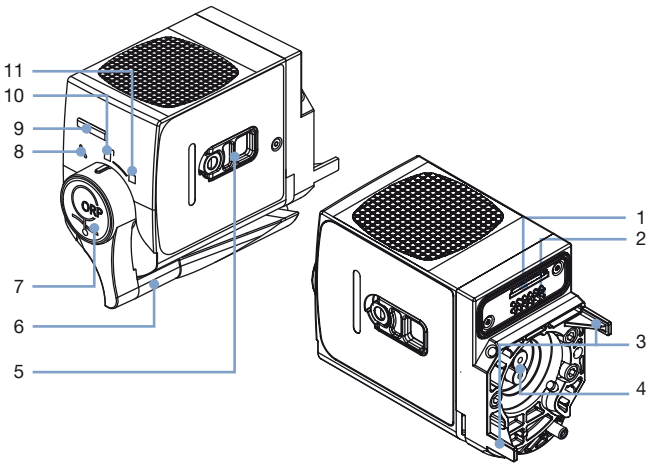
- The sensor cube is designed for use with the online analysis system, Type 8905. The sensor cube is simply plugged into the backplane in Type 8905.
- It is also possible to mount the backplane individually on a DIN rail.

See **data sheet Type 8905** ▸ Online Analysis System for more information.

Installation examples	
Product mounted in a housing for the Online analysis system Type 8905. • ORP sensor cube Type MS04 • Housing Type 8905 with display Type ME21 and controller Type ME25 	**Product without housing mounted of the backplane on standard rail (TS35).** 

5. Product design and assembly

5.1. Product features



Product without housing

No.	Element
1	Slot micro-SIM card (for configuration data)
2	Electrical interface
3	Guide pins
4	Fluid connections
5	Housing of the external reference electrode
6	Lever to: • lock / unlock the product • carry out maintenance operations
7	Push button for unlocking
8	Maintenance position
9	Sensor cube Status LED
10	Unlocked position
11	Locked position

DTS 1000220810 EN Version: I Status: RL (released | freigegeben | validé) printed: 12.01.2021

6. Ordering information

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6.3. Ordering chart

Note:
The ORP sensor cube must be operated within a system.

Please refer to the order information for Online Analysis System Type 8905, see **data sheet Type 8905** ▸ or contact your Bürkert representative.

Description	Article no.
ORP sensor cube	567627

6.4. Ordering chart accessories

Description	Article no.
Buffer solution 475 mV, 50 ml	807045
External reference electrode	566084
Replacement part set: measurement cell	568039

DTS 1000220810 EN Version: I Status: RL (released | freigegeben | validé) printed: 12.01.2021

DATA SHEET

Type MS05

bürkert
FLUID CONTROL SYSTEMS

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
- Modular sensor cube for hot swap (exchange during operation)
- Minimal sample water flow needed

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

Can be combined with

Type 8905 ▸
Online Analysis System

Type 8920 ▸
Bürkert Communicator

Type description

This sensor cube measures turbidity according to DIN EN ISO 7027 or EPA method 180.1 and is designed for operation on a fluidic backplane in the Online Analysis System 8905.

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 made via the connection panel of the system. The sensor cube communicates with the system via büS, allowing fully automatic login to the online 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.

DTS 1000220812 EN Version: N Status: RL (released | freigegeben | validé) printed: 13.01.2021

1. General technical data

Product properties		
Material		
Please make sure the device materials are compatible with the fluid you are using. Detailed information can be found in chapter "2.1. Chemical Resistance Chart – Bürkert resistApp" on page 4.		
Housing	PPE + PS	
Lever	Zamak, painted	
Seals	EPDM	
Cuvette	• In glass for version with sensor according to DIN EN ISO 7027 • In PET and glass for version with sensor according to EPA method 180.1	
Valve	Silicone	
Dimensions	Detailed information can be found in chapter "3. Dimensions" on page 5.	
Turbidity sensor	90° light scattering, replaceable cuvette[1)] Sensor according to: • DIN EN ISO 7027: IR-Laser • EPA method 180.1: Tungsten lamp	
Compatibility	With Online Analysis System Type 8905 (the electrical and fluidic contact is made via backplane system.) Detailed information can be found in the data sheet of the online analysis system, see **data sheet Type 8905** ▸ for more information.	
Measuring range	• 0…40 FNU[2)] with sensor according to DIN EN ISO 7027 • 0…40 NTU[2)] with sensor according to EPA method 180.1	
Maintenance	12 months nominal, depending on the water quality. Regular manual or automatic cleaning (with Type MZ20, see **data sheet Type MZ20** ▸ for more information.)	
Performance data		
Turbidity measurement with sensor according to	**DIN EN ISO 7027**	**EPA method 180.1**
Measuring range resolution	±0.0006 FNU	±0.005 NTU
Measurement deviation	±0.02 FNU or 2 % of measured value (the greater value applies)	±0.02 NTU 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)	±0.02 NTU or 2 % of measured value (the greater value applies)
Response time (t90)	Depending on filter settings (by default 8 samples = 1 s)	
Electrical data		
Operating voltage	24 V DC through 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	
Sample water		
Temperature	+3…+40 °C (+37…+104 °F)	
Pressure	PN3	
Flow rate	>6 l/h	
Sample water filter	>100 µm	
Process/Port connection & communication		
Process connection	Via pinch valve in the fluidic backplane of the Type 8905 Detailed information can be found in the data sheet of the Online Analysis System, see **data sheet Type 8905** ▸ for more information.	
Electrical connection	Spring contacts in the fluidic backplane of the Type 8905, which is connected to a büS System Detailed information can be found in the data sheet of the Online Analysis System, see **data sheet Type 8905** ▸ for more information.	
Data transfer		
Internal communication	Through büS (Bürkert bus, CAN–Protocol)	
External communication by status LED	According to NAMUR NE 107	

DTS 1000220812 EN Version: N Status: RL (released | freigegeben | validé) printed: 13.01.2021

Approvals and Certificates	
Standards	
Protection class according to IEC/ EN 60529	IP65, when plugged in the fluidic backplane IP20, as standalone product
Directives	
CE directives	The applied standards, which verify conformity with the EU Directives, can be found on the EU Type Examination Certificate and/or the EU Declaration of conformity (if applicable)
Environment and installation	
Ambient temperature	
Operating	+3…+40 °C (+37…+104 °F)
Storage and transport	For empty/purged sensor cube: -10…+60 °C (+14…+140 °F)
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)
Installation category	Category I according to UL/EN 61010-1
Pollution degree	Degree 2 according to UL/EN 61010-1

1.) Only for sensor acc. to DIN EN ISO 7027 and only by Bürkert qualified staff - contact your nearest Bürkert facility

2.) Further measuring ranges on request

2. Materials

2.1. Chemical Resistance Chart – Bürkert resistApp

Bürkert resistApp – Chemical Resistance Chart

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Start Chemical Resistance Check

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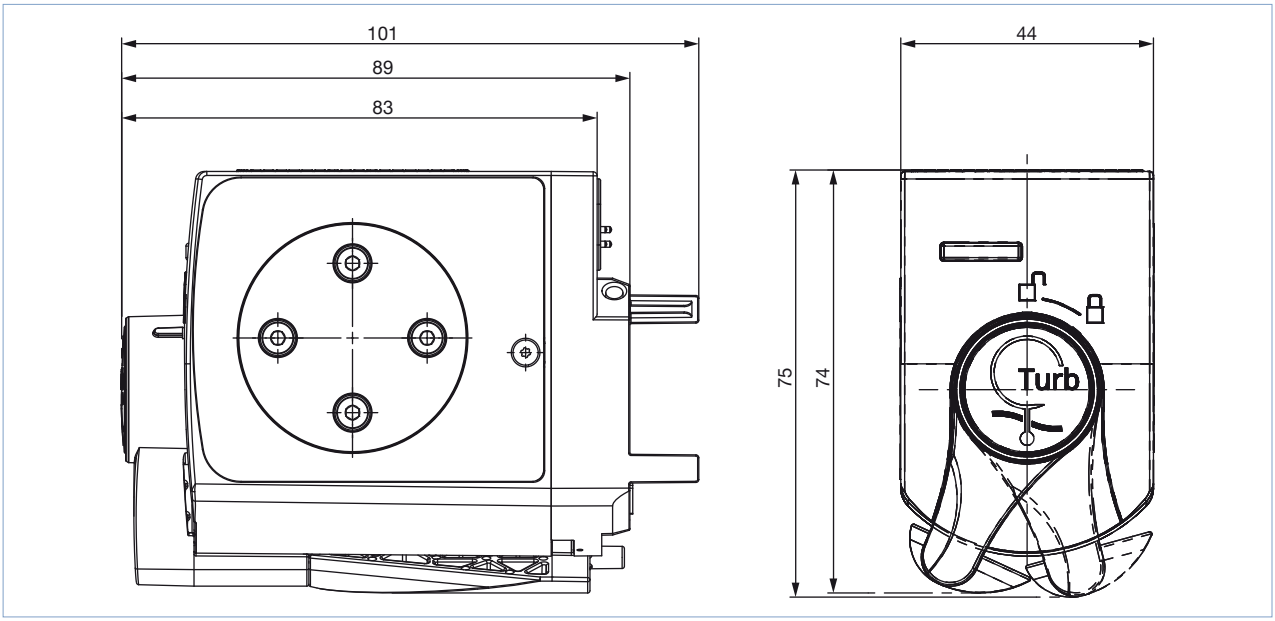
3. Dimensions

Note:
Dimensions in mm



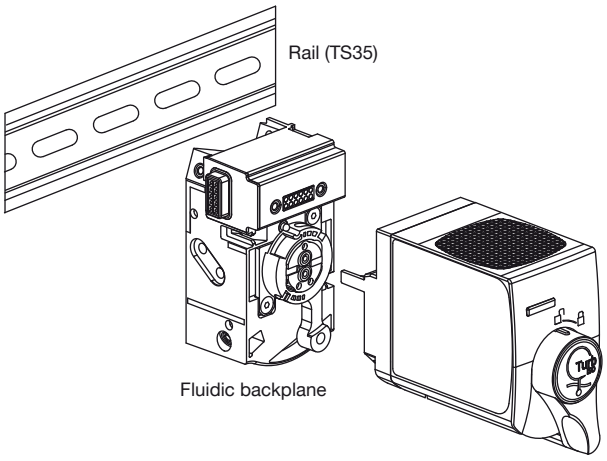
4. Product installation

4.1. Installation notes

Note:

- The sensor cube is designed for use with the online analysis system, Type 8905. The sensor cube is simply plugged into the backplane in Type 8905.
- It is also possible to mount the backplane individually on a DIN rail.

See **data sheet Type 8905** ▸ Online Analysis System for more information.

Installation examples	
Product mounted in a housing for the Online analysis system Type 8905. • Turbidity Sensor Cube Type MS05 • Housing Type 8905 with display Type ME21 and controller Type ME25 	**Product without housing mounted of the backplane on standard rail (TS35).** 

DTS 1000220812 EN Version: N Status: RL (released | freigegeben | validé) printed: 13.01.2021

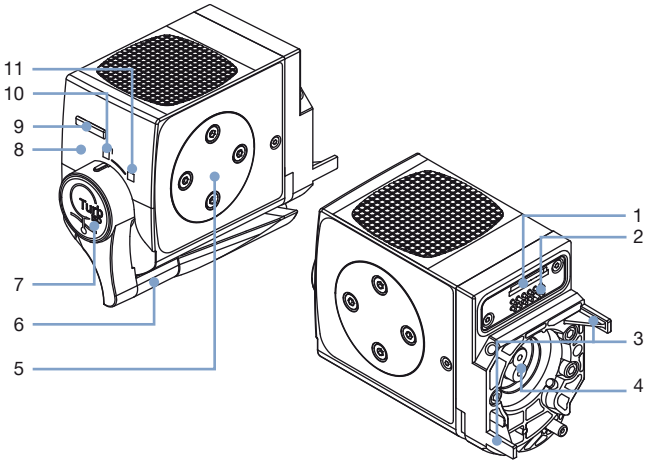
5. Product operation

5.1. Measuring principle

The sensor cube gets the sample water through the fluidic backplane, in which it is plugged in. The measurement is based on the detection of scattered light in an arrangement of 90° to the incident beam. The sample is flowing through a cuvette in glass or in glass/PET.

6. Product design and assembly

6.1. Product features



Product without housing

No.	Element
1	Slot micro-SIM card (for configuration data)
2	Electrical interface
3	Guide pins
4	Fluid connections
5	Housing for the cuvette
6	Lever to: • lock / unlock the product • carry out maintenance operations
7	Push button for unlocking
8	Maintenance position
9	Sensor cube Status LED
10	Unlocked position
11	Locked position

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