bürkert
FLUID CONTROL SYSTEMS

Oxidation reduction potential (ORP) sensor cube

- Fully compatible with büS systems and a wide range of further analysis sensor cubes
- Hot-swap compatible for exchanging the sensor cube during operation
- Minimal sample water consumption
- Available as standard with biocide for all applications to avoid biofouling

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 MZ15 ▸
Manual calibration and cleaning module

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 the oxidation reduction potential (ORP) in the water. It is designed for operation on a fluidic backplane in the Type 8905 online water analysis system.

The ORP value is one of the most important water parameters. The value 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 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 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.

The sensor cube provides protection against biological growth on the reference electrode and is recommended for all applications, especially those with no or very low chlorine in the water.

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Visit product website ▸

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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
Seal	EPDM
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	ORP sensor: platinum potentiometric 2-electrode measuring cell
Electrolyte	Reference electrode: Ag/AgCl, 3 mol KCl with biocide
Measuring range	2000...+ 2000 mV
Maintenance	Interval: 12 months, typical, depending on the water quality
Performance data	
ORP measurement	
Measurement deviation	± 10 mV
Measuring range resolution	100 µV
Response time (t90)	< 10 s
Electrical data	
Operating voltage	24 V DC via the backplane of the system Type 8905 (via büS)
Power consumption	0.8 VA
Medium data	
Fluid	• Water without particles: drinking water, industrial water • For Cl < 0.2 ppm, use anti-biofouling external reference electrode
Fluid pH range	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
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 via 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.
Environment and installation	
Ambient temperature	• Operation: 0...+ 40 °C (+ 32...+ 104 °F) • Storage and transport: 0...+ 40 °C (+ 32...+ 104 °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	• IP65, when plugged in the fluidic backplane • IP20, as standalone product

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

2. Approvals and conformities

2.1. Conformity

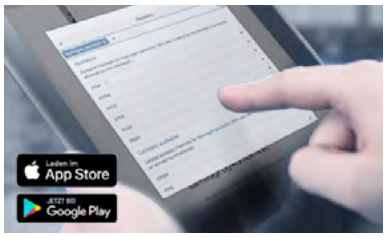
In accordance with the Declaration of Conformity, the product is compliant with the EU Directives.

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

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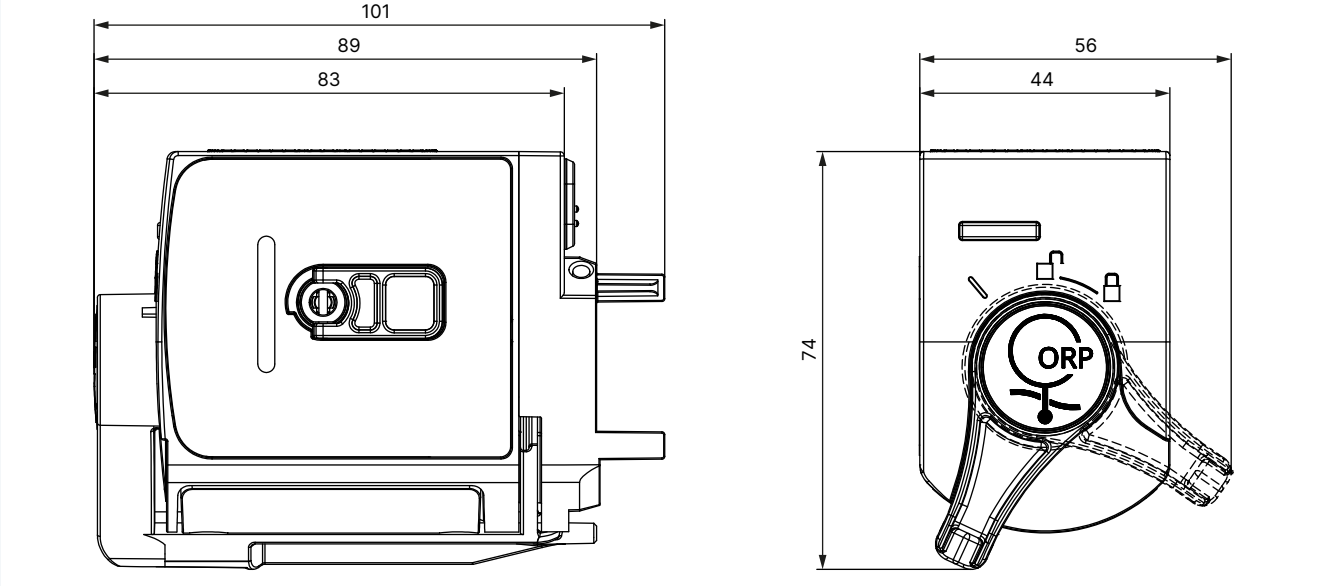
4. Dimensions

Note:
Dimensions in mm, unless otherwise stated

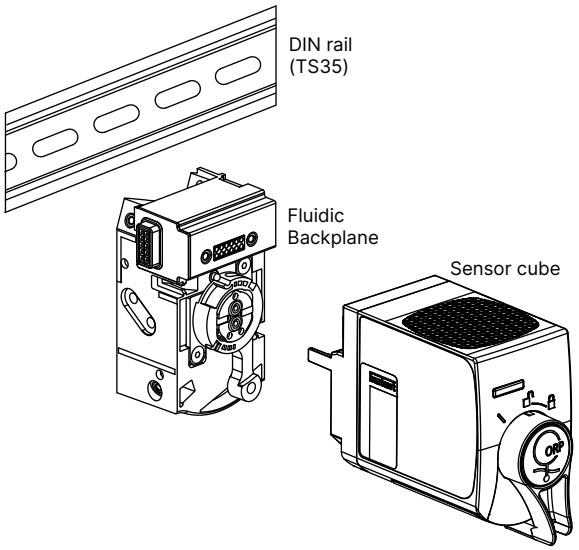


5. Product installation

5.1. Installation notes

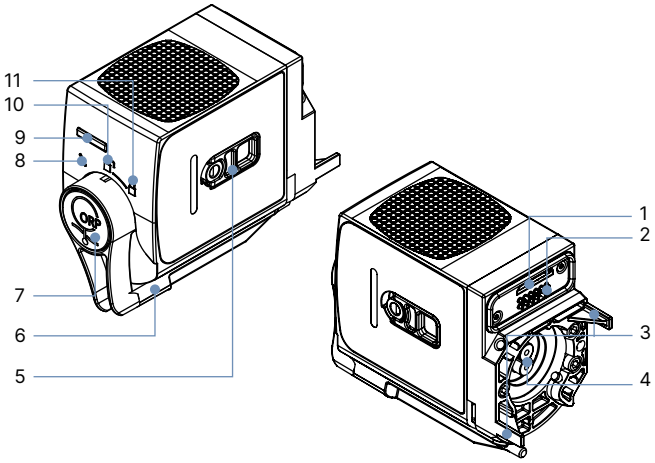
The Type MS04 sensor cube iis designed for use with Type 8905 online water analysis system. The sensor cube is mounted onto the backplane of Type 8905 which is installed on a DIN rail (TS35).

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



6. Product design and assembly

6.1. Product features



No.	Element
1	Slot for the micro-SIM card (for configuration data)
2	Electrical interface
3	Guide pins
4	Fluid connections
5	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

7. Ordering information

7.1. 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.

Order online now

7.2. 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.

Try out our product filter

7.3. Ordering chart

Note:
The ORP 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.
ORP sensor cube with anti-biofouling external reference electrode	570692

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7.4. Ordering chart accessories

Description	Article no.
Buffer solution, 50 ml, ORP value: 475 mV (+ 25 °C)	807045
Buffer solution, 500 ml, ORP value: 475 mV (+ 25 °C)	418555
Anti-biofouling external reference electrode	570699
Spare parts set: ORP measuring cell	568039

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