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
- Hot-swap compatible for exchanging the sensor cube 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 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

The device is a conductivity measuring sensor. It is designed for operation on a fluidic backplane in the Type 8905 online water analysis system.

The conductivity of water generally reflects the amount of dissolved substances it contains. Not only is the absolute value at each moment 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 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.<br>Further information can be found in chapter "3.1. Bürkert resistApp" on page 4. | |
| Housing | PPE+PS |
| Lever | Zamak, painted |
| Seal | EPDM |
| Compatibility | With online water analysis system Type 8905 (the electrical and fluidic contact is made via backplane system.)<br>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 | • Conductivity sensor: Graphite 2-electrode system, C = 1<br>• Temperature sensor: Pt1000 Class B, contact with the water sample |
| Measuring range | 50 µS/cm...5000 µS/cm (measurement up to 10 mS/cm possible at limited measurement deviation) |
| Maintenance | Interval: 12 months, typical, depending on the water quality |
| **Performance data** | |
| **Conductivity measurement** | |
| Measurement compensation | Temperature compensated |
| Measurement deviation | ± 2 % of measured value |
| Measuring range resolution | 0.01 µS/cm |
| Linearity | ± 0.2 % of full scale |
| Repeatability | ± 0.2 % of full scale |
| Response time (t90) | < 5 s |
| **Temperature measurement** | |
| Measuring range | 0...+ 50 °C (+ 32...+ 122 °F) |
| Measuring range resolution | 0.01 °C (0.018 °F) |
| **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 |
| 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<br>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.<br>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. |

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| Environment and installation | |
|---|---|
| Ambient temperature | • Operation: 0...+ 40 °C (+ 32...+ 104 °F)<br>• 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<br>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<br>• IP20, as standalone product |
| 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

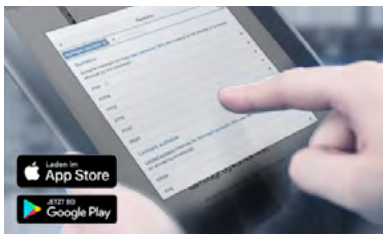
In accordance with the Declaration of Conformity, the product is compliant with the EU Directives.

## 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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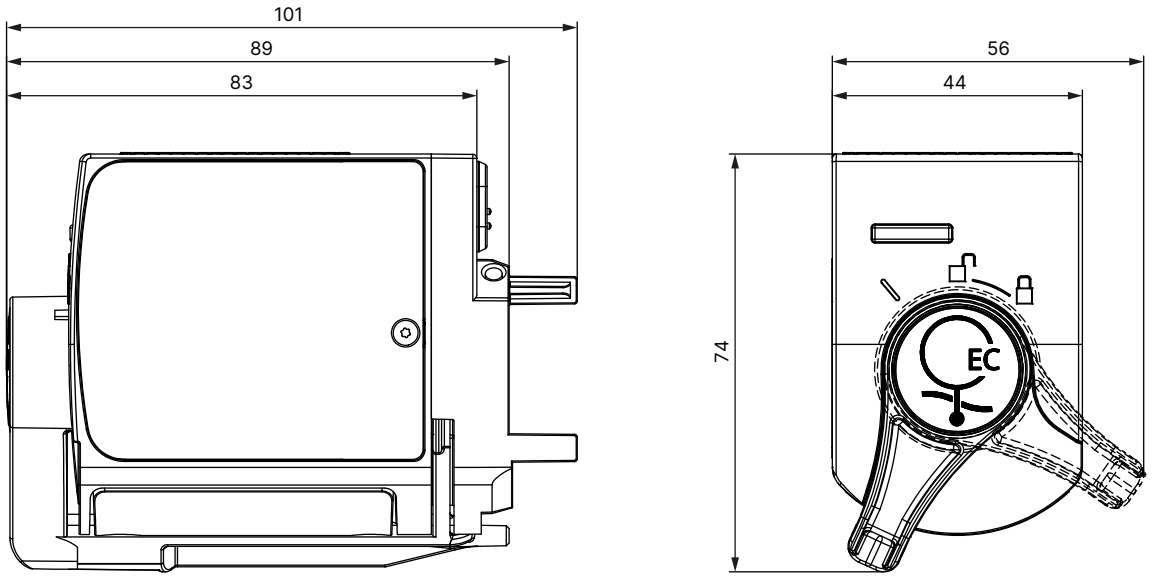
## 4. Dimensions

**Note:**
Dimensions in mm, unless otherwise stated

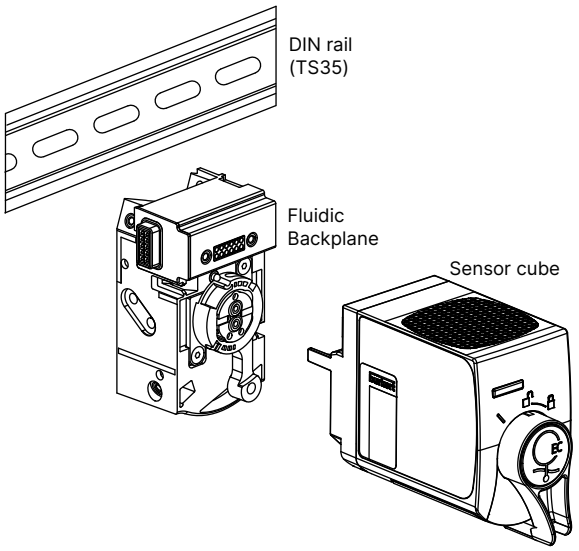



## 5. Product installation

### 5.1. Installation notes

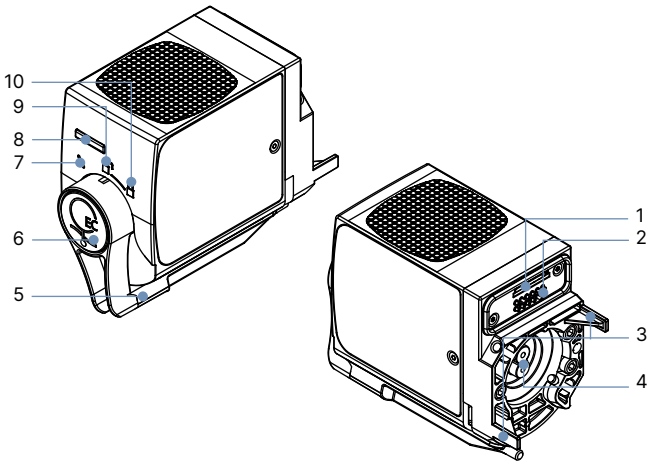
The Type MS03 sensor cube is designed for use with Type 8905 online water analysis system. The sensor cube is mounted onto the backplane of the Type 8905, which is installed on a DIN rail (TS35).

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



# 6. Product 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 | Lever to:<br>• lock / unlock the product<br>• carry out maintenance operations |
| 6 | Push button for unlocking |
| 7 | Maintenance position |
| 8 | Sensor cube status LED |
| 9 | Unlocked position |
| 10 | 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

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## 7.3. Ordering chart

**Note:**
The conductivity 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. |
|---|---|
| Conductivity sensor cube | 567626 |

## 7.4. Ordering chart accessories

| Description | Article no. |
|---|---|
| Calibration solution, 50 ml, conductivity standard value: 5 mS/cm (+ 25 °C), ± 0.5 % accuracy | 807199 |
| Calibration solution, 250 ml, conductivity standard value: 100 µS/cm (+ 25 °C), ± 1 % accuracy | 440017 |
| Calibration solution, 250 ml, conductivity standard value: 706 µS/cm (+ 25 °C), ± 2 % accuracy | 440018 |
| Calibration solution, 250 ml, conductivity standard value: 1413 µS/cm (+ 25 °C), ± 1 % accuracy | 440019 |

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