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
- Hot swap compatible for exchanging the sensor cube during operation
- Minimal sample water consumption
- Available in 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 MS02 ▸
Chlorine (Cl2) or chlorine dioxide (ClO2) Sensor Cube

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 pH value in the water and is designed for operation on a fluidic backplane in the device Type 8905 online water analysis system.

The pH sensor cube contains an ISFET measuring cell, which is based on the MEMS technology (micro electro-mechanical system). The measurement gives the pH value of the sample water.

The electrical and fluidic connections are made 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.

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, painted
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	• pH sensor: ISFET (Ion Sensitive Field Effect Transistor) • Temperature sensor: Pt1000 Class B
Electrolyte	Reference electrode • Standard variant: Ag/AgCl, 3 mol KCl with biocide for use without chlorine (< 0.2 ppm) • Drinking water variant: Ag/AgCl, 3 mol KCl without biocide
Measuring range	pH 4...pH 9 (further measuring ranges on request)
Maintenance	12 months nominal, depending on the water quality
Performance data	
pH measurement	
Measurement deviation	± pH 0.1
Measuring range resolution	pH 0.02
Linearity	± pH 0.05
Repeatability	± pH 0.05
Response time (t_{90})	< 10 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 through 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 antifouling cartridge
Fluid conductivity	≥ 100 µS/cm
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 the 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 the 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	Through büS (Bürkert system bus, CANopen protocol)
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	• Operation: 0...+ 40 °C (+ 32...+ 104 °F) • Storage and transport: 0...+ 40 °C (+ 32...+ 104 °F), for empty/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
Installation category	Category I according to UL/EN 61010-1
Pollution degree	Degree 2 according to UL/EN 61010-1

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2. Approvals and conformities

2.1. Conformity

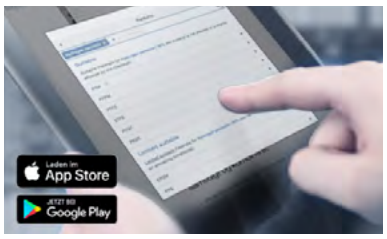
In accordance with the Declaration of Conformity, the product is compliant with the EU Directives.

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



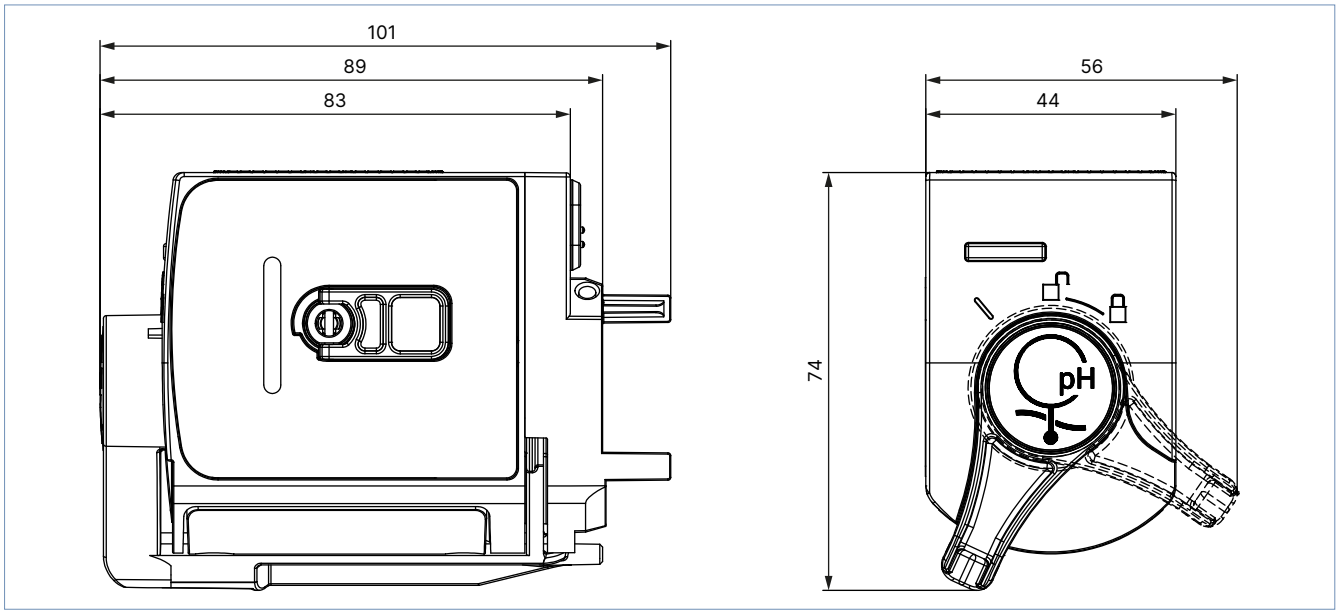
Bürkert resistApp – Chemical resistance chart

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

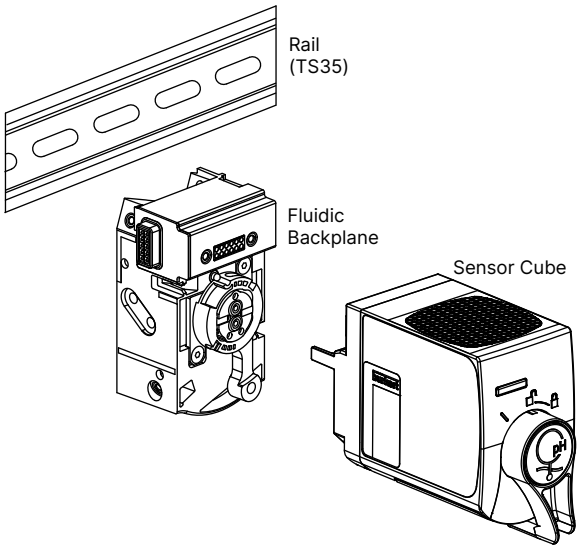


5. Product installation

5.1. Installation notes

The Type MS01 sensor cube is designed for use with the Type 8905 online water analysis system. The sensor cube is mounted onto the backplane of the Type 8905, which is installed on a standard DIN rail (TS35).

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



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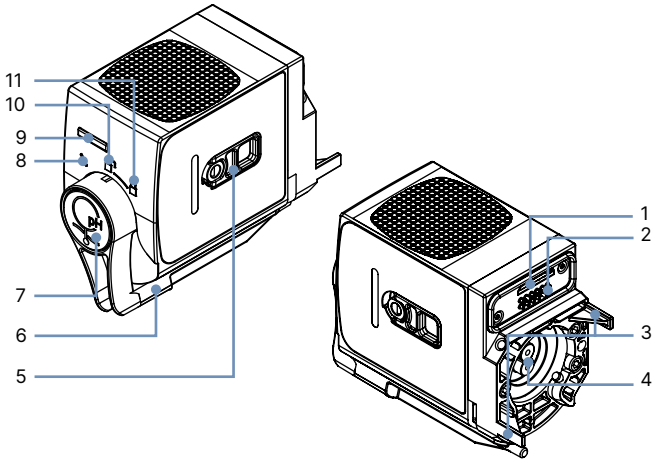
6. Product design and assembly

6.1. Product features



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

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 pH 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.
pH sensor cube with anti-biofouling external reference electrode	570691

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7.4. Ordering chart accessories

Description	Article no.
Buffer solution, 50 ml, pH value: 5.00 (+ 20 °C)	806698
Buffer solution, 50 ml, pH value: 7.00 (+ 20 °C)	806699
Buffer solution, 50 ml, pH value: 9.00 (+ 20 °C)	806700
Buffer solution, 500 ml, pH value: 4.01 (+ 20 °C)	418540
Buffer solution, 500 ml, pH value: 5.00 (+ 20 °C)	566031
Buffer solution, 500 ml, pH value: 7.00 (+ 20 °C)	418541
Buffer solution, 500 ml, pH value: 10.01 (+ 20 °C)	418543
Anti-biofouling external reference electrode	570699
Spare parts set: pH measuring cell	568038

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