**OPERATING MANUAL**

ba75798e04 12/2017


# KLE 325

STANDARD CONDUCTIVITY MEASURING CELL

WTW

a xylem brand

# Contents

# 1 Overview

## 1.1 Structure and function

**Structure**


| | |
|---|---|
| **1** | Measuring electrode |
| **2** | Temperature sensor in graphite enclosure |
| **3** | Shaft |
| **4** | Closing head |

## 1.2 Recommended fields of application

- On site measurements in rivers, lakes and wastewater
- Fish farming
- Ground water measurements
- Applications in water laboratories

# 2 Cleaning

**CAUTION**
**To clean the sensor, disconnect it from the instrument.**

**Outside cleaning**

We recommend to clean the sensor thoroughly, especially before measuring low conductivity values.

| Contamination | Cleaning procedure |
|---|---|
| Lime sediments | Immerse in acetic acid for 5 minutes (volume share = 10 %) |
| Fat/oil | Clean with warm water containing washing-up liquid |

After cleaning, thoroughly rinse with deionized water and recalibrate if necessary.

**Aging of the conductivity measuring cell**

Normally, the conductivity measuring cell does not age. Special measuring mediums (e.g. strong acids and bases, organic solvents) or temperatures that are too high may considerably reduce its lifetime or lead to damage. The warranty does not cover cases where such conditions cause failure or mechanical damage.

**Disposal**

We recommend to dispose of the measuring cell as electronic waste.

# 3 What to do if...

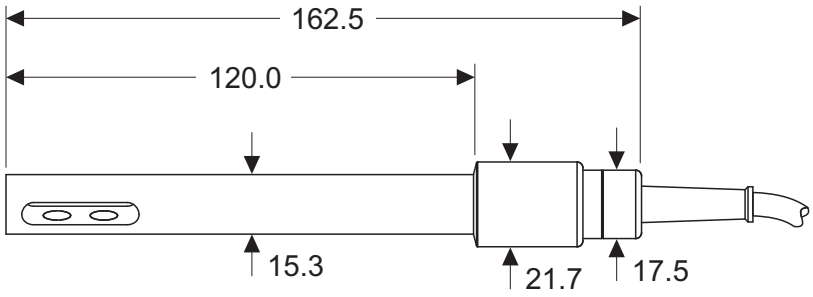
| Error symptom | Cause | Remedy |
|---|---|---|
| No temperature or conductivity display | – No connection between measuring instrument and conductivity measuring cell<br>– Cable defective | – Connection between measuring instrument and conductivity measuring cell |
| Measurement delivers implausible conductivity values | – Incorrect cell constant adjusted at the measuring instrument<br>– Measuring range exceeded<br>– Contamination in the area of the electrodes<br>– Electrodes damaged | – Check / correct the cell constant<br>– Make sure the correct sensor is being used for the application<br>– Clean the conductivity measuring cell (see section 2).<br>– Return the sensor |
| Incorrect temperature display | – The temperature sensor was not immersed deep enough in the measuring solution<br>– Temperature sensor defective | – Observe the minimum immersion depth<br>– Return the conductivity measuring cell |

# 4 Technical data

**General features**

| | |
|---|---|
| Measuring principle | 2-electrodes measurement |
| Cell constant | 0.84 $cm^{-1}$ ±1.5 % |
| Temperature sensor | integrated NTC 30 (30 kΩ at 25 °C / 77 °F) |

**Dimensions (in mm)**




**Weight** approx. 135 g

**Materials**

| | |
|---|---|
| Shaft | Epoxy |
| Connection head | POM |
| Conductivity electrodes | Graphite |
| Thermistor enclosure | Graphite |

**Connection cable**

| | |
|---|---|
| Length | 1.5 m |
| Diameter | 6 mm |
| Smallest allowed bend radius | fixed installation: 50 mm<br>flexible use: 80 mm |
| Plug type | Socket, 8 pins |

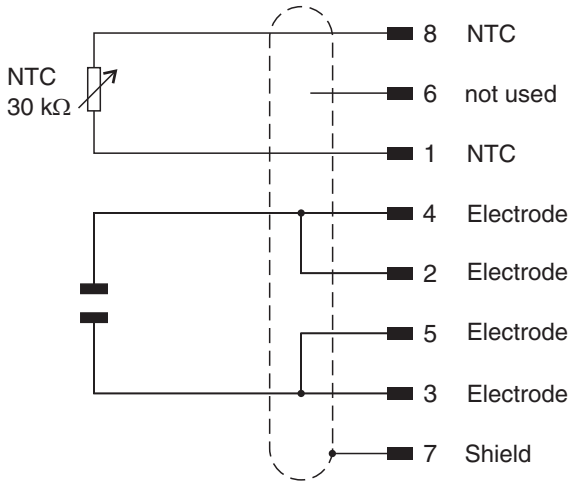
**Pressure resistance**

| | |
|---|---|
| Sensor with connection cable | IP 68 (2 x $10^5$ Pa or 2 bar) |
| Cable plug | IP 67 (when plugged in) |

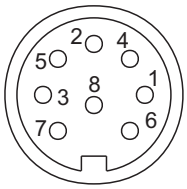
The KLE 325 meets the requirements according to article 3(3) of the directive, 97/23/EC ("pressure equipment directive").

| | | |
|---|---|---|
| **Measurement conditions** | Conductivity measuring range | 10 µS/cm ... 20 mS/cm |
| | Temperature range | 0 ... 80 °C (32 ... 176 °F) |
| | Max. allowed overpressure | 2 x $10^5$ Pa (2 bar) |
| | Minimum depth of immersion | 36 mm |
| | Maximum depth of immersion | Entire sensor +cable |
| | Operating position | Any |
| **Storage conditions** | Recommended storing method | In air |
| | Storage temperature | 0 ... 50 °C (32 ... 122 °F) |
| **Characteristic data on delivery** | Temperature responding behavior | $t_{99}$ (99 % of the final value display after) < 20 s |
| | Precision of the temperature sensor | ± 0.2 K |

**Pin assignment**




Plug from the front:



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1) The tissue in plants that brings water upward from the roots;
2) a leading global water technology company.

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