Operating manual

KLE 325

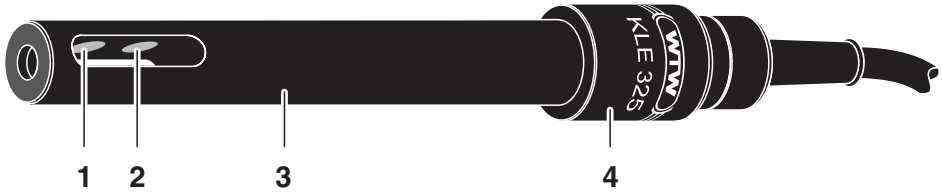
Standard conductivity measuring cell

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...

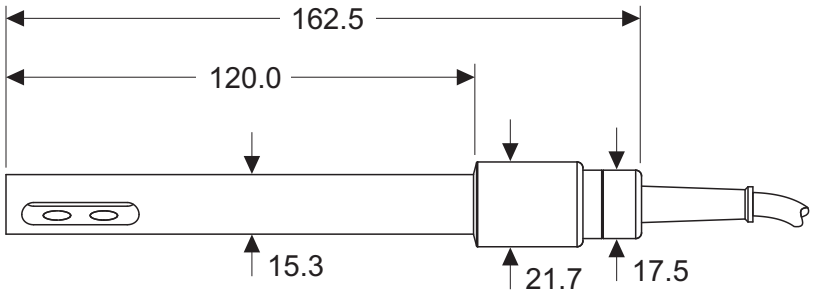
Error symptom	Cause	Remedy
No temperature or conductivity display	– No connection between measuring instrument and conductivity measuring cell – Cable defective	– Connection between measuring instrument and conductivity measuring cell
Measurement delivers implausible conductivity values	– Incorrect cell constant adjusted at the measuring instrument – Measuring range exceeded – Contamination in the area of the electrodes – Electrodes damaged	– Check / correct the cell constant – Make sure the correct sensor is being used for the application – Clean the conductivity measuring cell (see section 2). – Return the sensor
Incorrect temperature display	– The temperature sensor was not immersed deep enough in the measuring solution – Temperature sensor defective	– Observe the minimum immersion depth – 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 flexible use: 80 mm
Plug type	Socket, 8 pins

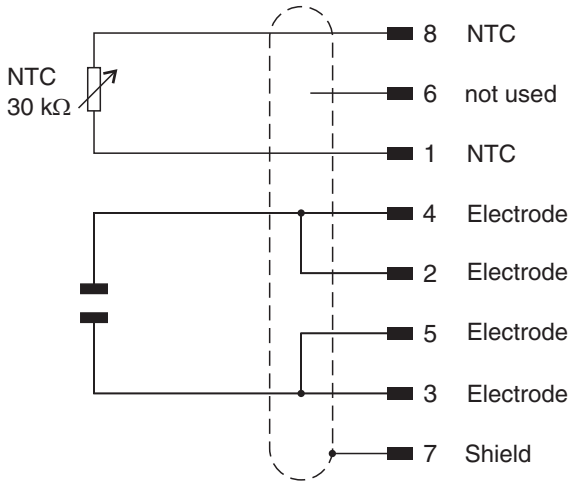
Pressure resistance

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

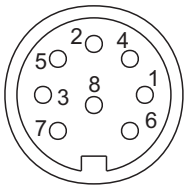
The KLE 325 meets the requirements according to article 3(3) of the directive, 97/23/EC ("pressure equipment directive").

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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