

TetraCon 325 TetraCon 325/C



Standard conductivity measuring cell

**Accuracy when going to
press**

The use of advanced technology and the high quality standard of our instruments are the result of continuous development. This may result in differences between this operating manual and your instrument. Also, we cannot guarantee that there are absolutely no errors in this manual. Therefore, we are sure you will understand that we cannot accept any legal claims resulting from the data, figures or descriptions.

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1 Overview

1.1 Structure and function

Structure



1	Voltage electrode (inside, 2x)
2	Current electrode (ring, 2x)
3	Temperature sensor in graphite enclosure
4	Shaft
5	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

The TetraCon 325/C is especially suitable for higher chemical loads, particularly acidic media.

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.

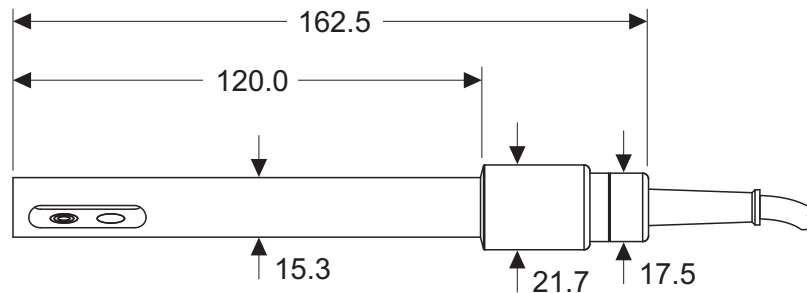
3 What to do if...

Error symptom	Cause	Remedy
No temperature or conductivity display	<ul style="list-style-type: none"> – No connection between measuring instrument and conductivity measuring cell – Cable defective 	<ul style="list-style-type: none"> – Connection between measuring instrument and conductivity measuring cell
Measurement delivers implausible conductivity values	<ul style="list-style-type: none"> – Incorrect cell constant adjusted at the measuring instrument – Measuring range exceeded – Contamination in the area of the electrodes – Electrodes damaged 	<ul style="list-style-type: none"> – Check / correct the cell constant – Make sure the correct sensor is being used for the application – Clean the conductivity measuring cell (see chapter 2). – Return the sensor
Incorrect temperature display	<ul style="list-style-type: none"> – The temperature sensor was not immersed deep enough in the measuring solution – Temperature sensor defective 	<ul style="list-style-type: none"> – Observe the minimum immersion depth – Return the conductivity measuring cell

4 Technical data

General features	Measuring principle	Four-electrodes measurement
	Cell constant	0.475 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	TetraCon 325: POM TetraCon 325/C: PEEK
	Conductivity electrodes	Graphite
	Thermistor enclosure	Graphite

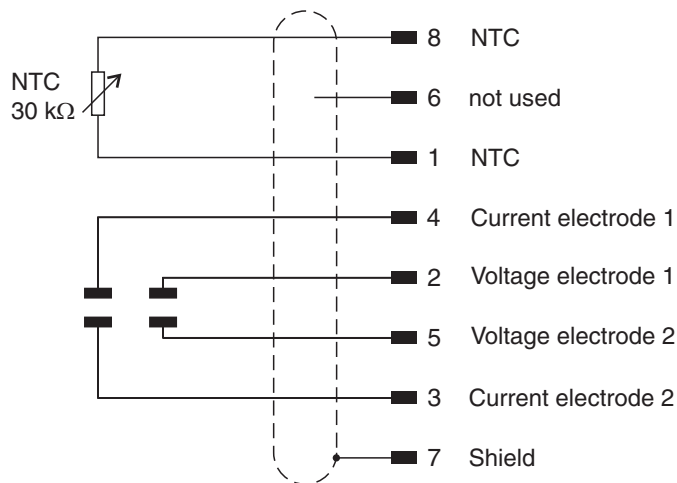
Connection cable	Lengths	TetraCon 325: 1.5 / 3 / 6 / 10 / 15 / 20 m TetraCon 325/C: 1.5 m
	Diameter	6 mm
	Smallest allowed bend radius	fixed installation: 50 mm flexible use: 80 mm
	Plug type	Socket, 8 pins

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

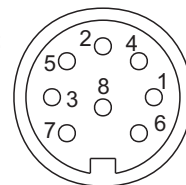
The TetraCon 325 / TetraCon 325/C meets the requirements according to article 3(3) of the directive, 97/23/EC ("pressure equipment directive").

Measurement conditions	Conductivity measuring range	1 μ S/cm ... 2 S/cm
	Temperature range	-5 ... 80 °C (100 °C) 23 ... 176 °F (212 °F)
	Max. allowed overpressure	2 x 10 ⁵ Pa (2 bar)
	Minimum depth of immersion	36 mm
	Maximum depth of immersion (at temperature)	Whole sensor + cable up to 80 °C (176 °F) Sensor shaft only (=120 mm) up to 100 °C (212 °F)
	Operating position	Any
	Storage conditions	Recommended storing method
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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