

TetraCon 325 TetraCon 325/C



Standard conductivity cell

Distributed by:



Carl Stuart Limited

ADVANCED APPLIED TECHNOLOGIES

Contact Us:

Ir Ph: 01 4523432

UK Ph: 08452 30 40 30

Web: www.carlstuart.com

Email: info@carlstuart.com

**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.

Copyright

© Weilheim 2005, WTW GmbH
Reprinting - even as excerpts - is only allowed with the explicit written authorization of WTW GmbH, Weilheim.
Printed in Germany.

List of contents

1	Overview	12
1.1	Structure and function	12
1.2	Recommended fields of application	12
2	Cleaning	13
3	What to do if...	13
4	Technical data	14

1 Overview

1.1 Structure and function

Structure



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

1.2 Recommended fields of application

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

The TetraCon 325/C ist particularly suitable for heavy chemical stress, particularly for acid media.

2 Cleaning



Cleaning

Caution

Before cleaning, disconnect the sensor from the instrument.

A thorough cleaning is particularly recommended for measurements of low conductivities.

Contamination	Cleaning procedure
Lime sediments	Immerse in acetic acid for 5 minutes (volume share = 10 %)
Fat/oil	Clean with warm water that contains 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 media (e.g. strong acids and lyes, organic solvents) or too high temperatures shorten the operational lifetime considerably or damage the measuring cell. The warranty does not cover cases where such conditions cause failure or mechanical damage.

Disposal

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

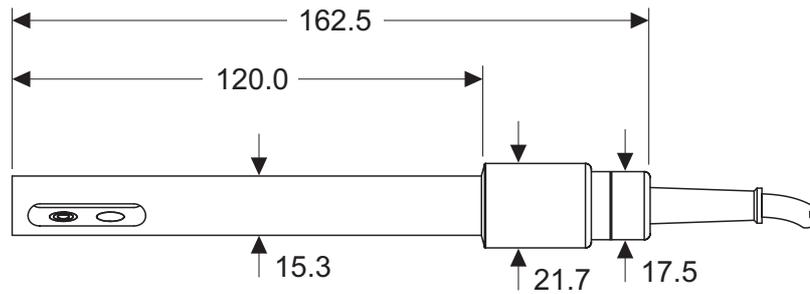
3 What to do if...

Error symptom	Cause	Remedy
No temperature or conductivity display	<ul style="list-style-type: none"> – No connection between measuring instrument and sensor – Cable defective 	<ul style="list-style-type: none"> – Check connection between measuring instrument and sensor
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 – Observe the application range – Clean the sensor (see section 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 sensor

4 Technical data

General features	Measuring principle	Four-electrode measurement
	Cell constant	0.475 cm ⁻¹ ±1.5 %
	Temperature sensor	integrated NTC 30 (30 kΩ / 25 °C)

**Dimensions
(in mm)**



Weight approx. 135 g

Materials	Shaft	Epoxy
	Connection head	TetraCon 325: POM TetraCon 325/C: PEEK
	Plug connection for DO module	PEEK
	Conductivity electrodes	Graphite
	Thermistor enclosure	Graphite

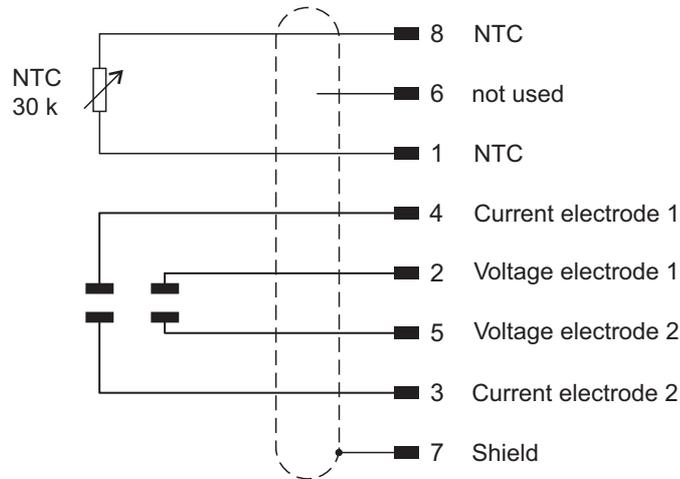
Connection cable	Lengths	TetraCon 325: 1,5 / 3 / 6 / 10 / 15 / 20 m TetraCon 325/C: 1,5 m
	Diameter	6 mm
	Smallest allowed bend radius	Permanent bend: 80 mm Single time or short time bend: 50 mm
	Plug type	Socket, 8 pins

Pressure resistance	Sensor with closed plug connection	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 97/23/EC directive ("Pressure equipment directive").

Measurement conditions	Conductivity measuring range	1 μ S/cm ... 2 S/cm
	Temperature range	-5 ... 80 °C (100 °C)
	Max. allowed overpressure	2 x 10 ⁵ Pa (2 bar)
	Minimum depth of immersion	36 mm
	Maximum depth of immersion	Entire sensor+cable (up to 80 °C) Sensor shaft only (=120 mm / up to 100 °C)
	Operating position	any
Storage conditions	Recommended storing method	in air
	Storage temperature	0 ... 50 °C
Characteristic data on delivery	Temperature responding behavior	t ₉₉ (99 % of the final value after) < 20 s
	Precision of the temperature sensor	± 0.2 K

Pin assignment



Plug from the front:

