

# DST CTD online

## Online Conductivity (Salinity), Temperature and Depth Sensor Mini CTD salinity sensor for connection to embedded systems

Conductivity (CTD) sensor connection port for subsea device integration. For both short or long-term oceanographic surveys.



### Key features

- Smallest online conductivity sensor on the market
- Real time data streaming or data retrieval after surveying
- Fully submersible rugged design
- Pressure sensors from shallow to deep ocean

### Smallest CTD on the market

The small and handy CTD online is a modified version of the popular DST CTD standalone data logger. The sensor probe is only 22 mm in diameter and 75 mm in length and a subsea cable connects to the connector end. The small measuring device is also available as a CT online if depth measurements are not required.

### Application

The online CTD sensor is used for hydrographic and oceanographic studies:

- Survey missions where it is a part of autonomous underwater vehicles (AUV), either streaming data in real-time or for later data retrieval when AUV is surfaced.
- Long term stationary monitoring underwater where it is connected to a logging system.

## Fully submersible rugged design

The housing is ruggedly designed for durability, strong breakage resistance and high pressure survival. The CTD online has a robust plastic molding around the ceramic sensor housing and the housing has a threaded steel connector on the end. The subsea cable comes with a matching Teledyne subsea connector for a quick and easy connection to the CTD.

## Depth sensors from shallow to deep ocean

Customers choose between depth calibration ranges up to 100 m, 500 m, 1200 m or 2400 m. The shallower the range the better the depth resolution and accuracy.

## Conductivity cells are part of the logger housing

The conductivity sensor electrodes are located inside a small cup at the end of the logger housing. The pressure sensor for the depth measurements is located at the membrane and temperature sensor close to the membrane. When being a part of an AUV or underwater robots, the sensor end must be freely exposed to the seawater.

## Choose between different conductivity ranges, up to 63 mS/cm

When ordering the DST CTD you can select between four conductivity ranges:

- 13-63 mS/cm
- 13-50 mS/cm
- 3-37 mS/cm
- 0.3-5 mS/cm



## Don't know your applicable conductivity range?

The suitable range depends on the minimum and maximum salinity and temperature in the area where the loggers will be used. Provided with that information we can recommend a suitable range.

You can also calculate the most suitable conductivity range for your study with the free [SalCalc conductivity calculator](#) software.



## Specifications:

<b>Sensors</b>	Conductivity (salinity), temperature, pressure (depth)*
<b>Size (Diameter x Length)</b>	22 mm x 75 mm
<b>Maximum Diameter</b>	22 mm
<b>Housing Material</b>	Ceramic and ABS plastic molding
<b>Weight</b>	30 g in air
<b>Data Resolution</b>	12 bits
<b>Conductivity Ranges</b>	Choose between: 13 to 63 mS/cm, 13-50 mS/cm, 3-37 mS/cm or 0.3-5 mS/cm
<b>Conductivity Resolution</b>	Range 13-63 mS/cm: 0.02 mS/cm, Range 13-50 mS/cm: 0.01 mS/cm, Range 3-37 mS/cm: 0.01 mS/cm, Range 0.3-5 mS/cm: 0.002 mS/cm
<b>Conductivity Accuracy</b>	Range 13-63 mS/cm: +/-2 mS/cm, Range 13-50 mS/cm: +/-1.5 mS/cm, Range 3-37 mS/cm: +/-1.5 mS/cm, Range 0.3-5 mS/cm: +/-0.3 mS/cm
<b>Salinity Range</b>	Depends on conductivity and temp. range (consult with Star-Oddi)
<b>Salinity Resolution</b>	*Range 13-63 mS/cm: 0.01 PSU, Range 13-50 mS/cm: 0.01 PSU, Range 3-37 mS/cm: 0.01 PSU, Range 0.3-5 mS/cm: 0.0005 PSU
<b>Salinity Accuracy</b>	**Range 13-63 mS/cm: +/-1.5 PSU, Range 13-50 mS/cm: +/-1 PSU, Range 3-37 mS/cm: +/-1 PSU, Range 0.3-5 mS/cm: +/-0.1 PSU
<b>Temperature Range</b>	-1°C to +40°C (30°F to 104°F)
<b>Temperature Resolution</b>	0.032°C (0.058°F)
<b>Temperature Accuracy</b>	+/-0.1°C (0.18°F)
<b>Temperature Response Time</b>	Time constant (63%) reached in 20 sec.
<b>Standard Depth Ranges</b>	1m-100m, 5m-500m, 5m-1200m, 10m-2400m
<b>Depth Resolution</b>	0.03% of selected range
<b>Depth Accuracy</b>	+/-0.6% of selected range
<b>Depth Response Time</b>	Immediate
<b>Pressure Tolerance</b>	Depends on pressure sensor selected. Max 2500 m

<b>Data Streaming Interval</b>	1 second
<b>Power Requirements</b>	Vcc = 4-5V DC supply from user's system
<b>Embedded System Hardware Connection</b>	1. Direct to a microprocessor, 4-5V Vcc, where the RC232 port operates at 0-Vcc, and the resting voltage is high (=Vcc). 2. If the embedded system comes with a USART, i.e. a RS232 port with -Vp to +Vp, a transceiver chip is needed for voltage level adjustment and signals inversion. The Vp can range from 5 to 12V
<b>Communication Protocol</b>	RS232
<b>Clock</b>	Real time clock. Accuracy +/-1 min/month.
<b>Attachment Hole</b>	0.9 mm (diameter)
<b>Cable Connector</b>	User defined cable connector to embedded system
<b>Cable Length</b>	Customer defined, max 3 m.
<b>Software</b>	Use's own software or Star-Oddi's SeaStar

\*CT online version available, skipping pressure (depth) sensor

\*\*Based on conductivity full scale accuracy at 24°C.

Warranty: 12 months.

Specifications may change without notice.

