rapidCTD – Underway Profiler

An evolution of the miniCTD and rapidSV, the rapidCTD is designed to operate autonomously and optionally in conjunction with the OceanScience rapidCAST underway profiling winch to deliver the highest quality CTD casts, while the vessel is underway.

A conductivity cell designed for optimum flow-through, a fast response thermistor sensor and a 0.01% pressure sensor synchronously sampling at up to 32Hz deliver the highest quality profiles in a robust package.

Sensor Specifications

Conductivity

Range:	0 - 80 mS/cm
Resolution:	0.001 mS/cm
Accuracy:	±0.01 mS/cm
Response:	30 milliseconds

Pressure

Range:	100 or 200 Bar
Resolution:	0.001% range
Accuracy:	±0.01% range
Response:	1 millisecond

Temperature

	High Spec (T1)	Standard Spec (T2)*
Range:	-5°C to +35°C	
Resolution:	0.001°C	0.001°C
Accuracy:	±0.01°C	±0.01°C
Response:	50 milliseconds	150 milliseconds*

*T2 Standard Spec: slower response but a more robust sensor

Physical

Materials:	Titanium / PEEK housing Polycarbonate & Composite sensor components
Depth Rating:	2000m max
Dimensions:	Ø50mm x 515mm
Weight:	3.2kg (in air)

Teledyne OceanScience rapidCAST Underway Profiling Winch

Memory

The rapidCTD is fitted with a solid-state non-volatile flash memory, capable of storing over 10 million lines of data. This is equivalent to 5,000 profiles to 1000m with a 1m profile resolution

Communications

System setup and data extraction is performed over a Bluetooth connection with a PC before and after deployment.

Multiple profiles can be recorded between downloads by switching the instrument off and on again using the magnetic switch key. On power up a new logging file is created.

Bluetooth auto-pairing and discovery make communicating with the instrument fast, simple and robust.

Electrical

Internal:	'C' Cell – 1.5V alkaline or 3.6V lithium
Battery Life	approximately 18 hours operation (alkaline)
	approximately 60 hours operation (lithium)

battery consumption estimates are based on recording down casts only at 8Hz observation period

Software

The system is supplied with DataLog x2 software, for instrument setup, data extraction and display.
DataLog x2 is license free

Ordering

0660042T**t**-XX	rapidCTD - Titanium housing

where: T**t** = with temperature sensor T1 or T2

XX pressure transducer range
select from 100 or 200 Bar

Supplied with:
- Integral Bluetooth communications
- 2x switch keys
- External Bluetooth antenna with 10m cable
- Tool kit
- DataLog x2 software
- Operating manual and system transit case