

DEEP CTD FOR GLIDERS AND AUVS

SMALL CTD,
BIG POSSIBILITIES

The RBRcentauro³ offers a new world of measurement opportunities for gliders and AUVs in deepwater. Optimised for vehicle integration applications, the instrument requires no pump to obtain fine structure measurements. The RBRcentauro³ provides high accuracy while consuming less power due to modern electronic design and the lack of moving parts.

FEATURES



High accuracy



Low power consumption



Realtime communications



240M readings



Rapid calibration



Depths up to 2000m

The following configuration* is available:

- ▶ RBRcentauro³ 2 Hz, standard thermistor response, realtime data output, depths up to 2000m

*Other variants may be available upon request.

The RBRcentauro³ measures conductivity using a transverse CTD designed to endure harsh conditions. The CFD-optimised, low aspect ratio conductivity cell is self-flushing and does not require a pump. Datasets can be read directly in Matlab, or exported to Excel, OceanDataView®, or text files.

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The RBRcentauro³ design is optimised for gliders and AUVs. The CTD is used to derive salinity, density, and sound velocity. The instrument ensures totally silent operation allowing for passive acoustic listening and turbulence measurements. Power consumption is 90% lower than that of traditional pumped CTD sensors and allows for substantially longer deployments. The RBRcentauro³ is unaffected by surface contaminants or freezing conditions, comes pre-calibrated to account for static conductive elements, and is rated to 2000m.

Specifications

Physical

| | |
|------------------|---|
| Storage | ~240M readings |
| External power | 4.5 to 30V |
| Communication | RS-232 |
| Clock drift | ±60 seconds/year |
| Housing: | Titanium |
| Diameter | ~60mm |
| Length | ~206mm (instrument only) ~254mm (with connector) |
| Height | ~146mm |
| Weight | ~1600g in air, ~950g in water |
| Max depth rating | 2000m |

Pressure

| | |
|-------------------|---------------------------|
| Range | 2000 dbar |
| Initial accuracy | ±0.05% full scale |
| Resolution | 0.001% full scale |
| Time constant | <0.01s |
| Typical stability | 0.05% full scale per year |

Power consumption

| | |
|---------------|-------------------|
| ≤1Hz sampling | 22.8mJ per sample |
| 2Hz sampling | 46mW |
| Sleep power | 180µW |

Conductivity

| | |
|-------------------|---------------------|
| Range | 0 to 85mS/cm |
| Initial accuracy | ±0.003mS/cm |
| Resolution | <0.001mS/cm |
| Typical stability | 0.010mS/cm per year |

* Vehicle dynamics and geometry may affect measurement accuracy.

Temperature

| | |
|-------------------|------------------|
| Range | -5°C to 35°C |
| Initial accuracy | ±0.002° |
| Resolution | <0.00005°C |
| Time constant | ~1s |
| Typical stability | 0.002°C per year |

* A wider temperature range is available upon request. Contact RBR for more information.



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