

PROVOR CTS5

We come from the ocean



Profiling floats

Autonomous multisensors profiling float

- fully BGC-ARGO compliant
- for R&D and demanding application



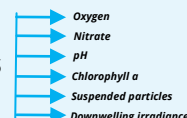
Additional sensors to the standard CTD



Fully BGC compliant



6 core BGC ARGO variables
+ Extras



Underwater Vision Profiler Sensor (UVP6-LP)



Up to 0.5 dbar resolution (average mode)
Up to 0.1 dbar resolution (raw data mode)



High sampling resolution
(Down to 1 sec)



Improved Iridium RUDICS telemetry



Down to 2000 meters depth



Graphical user interface to set mission and acquisition parameters



Self-ballasted float with increased buoyancy

nke
INSTRUMENTATION



PROVOR CTS5

Iridium Rudics transmission

TECHNICAL SPECIFICATIONS

Seabird Electronics SBE 41 CP

- ▶ Salinity
Range 0 to 40 PSU
Initial accuracy ± 0.003 PSU
Observed drift < 0.01 PSU / 5 years
- ▶ Temperature
Range -5°C to $+35^{\circ}\text{C}$
Initial accuracy $\pm 0.002^{\circ}\text{C}$
Observed drift $< 0.002^{\circ}\text{C}$ / 5 years
- ▶ Pressure
Range 0 dbar to 2100 dBar
Initial accuracy ± 2.4 dBar
Drift < 5 dBar / 5 years

FLOAT DIMENSIONS

Overall Length 225 cm with antenna
Hull Length 170 cm
Hull \varnothing 17.3 cm
Max. \varnothing 35 cm (damping collar)
Weight 40 kg *
(depending on configuration)

FLOAT CONSTRUCTION

Hull anodized aluminum casing
Syntactic foam for additional flotation*

BUOYANCY MANAGEMENT

Principle Oil ballast with pump
Positioning accuracy $\pm 30\text{m}$ (98.4 ft.)

NUMBER OF PROFILES CAPABILITIES

Depends on sensor consumption

OPERATING CONDITIONS

Max operating depth 2000 dbar
Operating temperature -2°C to 35°C
Operating life 4.5 years at sea
Power supply Lithium cells*

USER INTERFACE

- ▶ Using Bluetooth
Mission programming, float checking...
Terminal Personal Computer
- ▶ Graphical user interface

TELEMETRY

Data Transmission Iridium RUDICS
Duration on surface time optimized
Positioning GPS

STORAGE CONDITIONS

Temperature -20°C to $+50^{\circ}\text{C}$ (-4°F to $+122^{\circ}\text{F}$)
Maximum storage time before use: 1 year
Real time clock saved by separate battery

Example of embedded sensors

Bio & Geochemical CROver + ECOtriplet + OCR504

Manufactured by SeaBird, Wetlabs, Hydroptic, Anderaa
Refer to manufacturer data sheet for specifications

Backscattering, Chlorophyll, CDOM integrated in ECO3 set

Backscattering

Range $\approx 0.0024 - 5 \text{ m}^{-1}$
Sensitivity @470nm $1.2 \times 10^{-5} \text{ m}^{-1} \text{ sr}^{-1}$
Sensitivity @532nm $7.7 \times 10^{-6} \text{ m}^{-1} \text{ sr}^{-1}$
Sensitivity @660nm $3.8 \times 10^{-6} \text{ m}^{-1} \text{ sr}^{-1}$

Chlorophyll

Range 0.01-50 $\mu\text{g/l}$
Sensitivity 0.01 $\mu\text{g/l}$

CDOM

Range 0.18 - 375 ppb
Sensitivity 0.18 ppb

Transmittance Sensor

Range 0 to 100% (0 - 50.000)
Accuracy 0.1% FS
Resolution 1/50000

Irradiance

Range -30 to 300; 0-300 $\text{uW.cm}^{-2} \text{ nm}^{-1}$
Accuracy 0.0025; 0-300 $\text{uW.cm}^{-2} \text{ nm}^{-1}$
Resolution 0.01 $\text{uW.cm}^{-2} \text{ nm}^{-1}$

Dissolved oxygen Optode 4330 manufactured by AANDERAA

Range 0 $\mu\text{M/l}$ to 500 $\mu\text{M/l}$
Accuracy $\pm 2.5 \mu\text{M/l}$ or $\pm 1.5\%$ with multipoint calibration

Nutrient SUNA

Detection range 0.007 to 28 mg/l-N (0.5 to 2000 μM)
Accuracy $\pm 0.028 \text{ mg/l}$ ($\pm 2 \mu\text{M}$) or $\pm 10\%$ of reading

pH Sensor (SEAFET)

Accuracy $\pm 0.05 \text{ pH}$
Typical Stability 0.036 pH/year

*According added payload, additional flotation and battery can be adapted

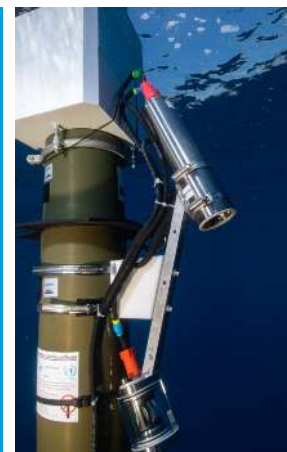
NEW—UNDERWATER VISION PROFILER (UVP6-LP)

The UVP (CNRS patent) is designed to study large ($>100 \mu\text{M}$) particles and zooplankton simultaneously and to quantify them in a known volume of water.

The UVP system makes use of computerised optical technology with custom lighting to acquire digital images of zooplankton in-situ down to depths of 6000m.

Compatible with ECOTAXA

Credit: HYDROPTIC



nke
INSTRUMENTATION



Sales Department

Tel : +33 (0)2 97 85 64 18 - Fax : +33 (0)2 97 36 55 17
info.instrumentation@nke.fr
www.nke-instrumentation.com



* Depending on configuration