

PROVOR ICE

Oceanographic ARGO profiling float
Ice sensing algorithm ISA
Rafos reception

PROVOR ICE design was based on the PROVOR CTS3 ARGO float to fit with polar oceans applications. In order to be positioned under sea ice covered PROVOR ICE embeds a Rafos acoustic receiver @260 HZ.

Qualified ARGO technology :

- CTD with DO and multisensors in options
- Possibility to set various types of missions
- capability to transmit profiles in delayed mode in case of aborted surfacing tentative, up to 30 profiles
- Programmable surfacing time
- Iridium telemetry providing increased data transmission and remote control
- GPS positioning
- Down to 2000 m depth
- Self-ballasted float with increased buoyancy
- Up to 200 cycles @2000 meters, 10 days, 118 points



Profiling floats

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INSTRUMENTATION

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PROVOR ICE

Iridium 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°C
 - Initial accuracy $\pm 0.002^{\circ}\text{C}$
 - Observed drift $< 0.002^{\circ}\text{C}$ / 5 years
- ▶ Pressure
 - Range 0 dbars to 2100 dbars
 - 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

ENVIRONMENTAL OPERATING CONDITIONS

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

USER INTERFACE

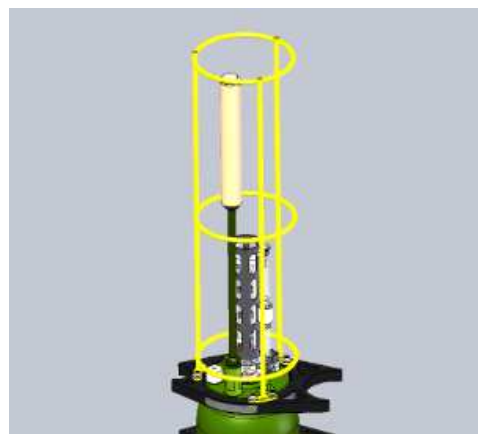
- a - Using Bluetooth
 - Mission programming, float checking, etc.
 - Terminal Personal Computer
- b- Fan tail ready
 - Activation by magnetic switch
 - Remove magnet launches float
 - Audible informations for selftest results

TELEMETRY

Data Transmission Iridium (SBD or Rudics)
Helicoidal antenna
Duration on surface time optimized
Positioning GPS

STORAGE CONDITIONS

Temperature -20°C to 50°C (-4°F to 122°F)
Time before Use 1 year,
real time clock saved by separate battery

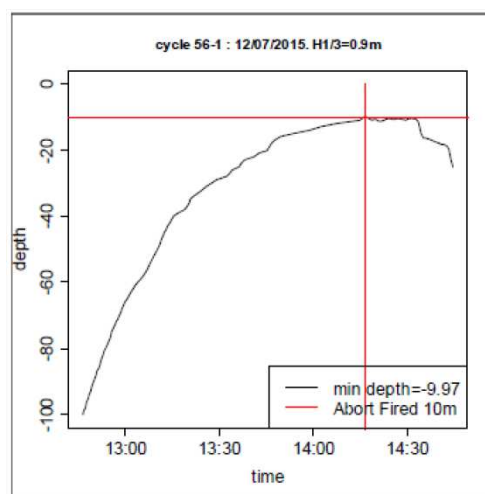


Rafos positioning

Receiver and clock manufactured by Seascan
Hydrophone : Rafos 2 Benthos
Frequency 260 Hz

Ice sensing Algorithm ISA

Delay mode for transmission aborted profiles



Thank you to LOV for picture

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