

ARVOR CM

Coastal profiling float Multisensors

ARVOR-CM is a subsurface profiling float designed to operate in coastal environment and perform oceanographic measurements as a pseudo-eulerian station. It is designed to embed several sensors in addition to CTD, such as DO and fluorometer sensors.

Its design has been optimized to reduce its drift thanks to a seabed standby and anti-drift claws, an optimized profiling speed (~25 cm/ss), and a short data transmission duration.

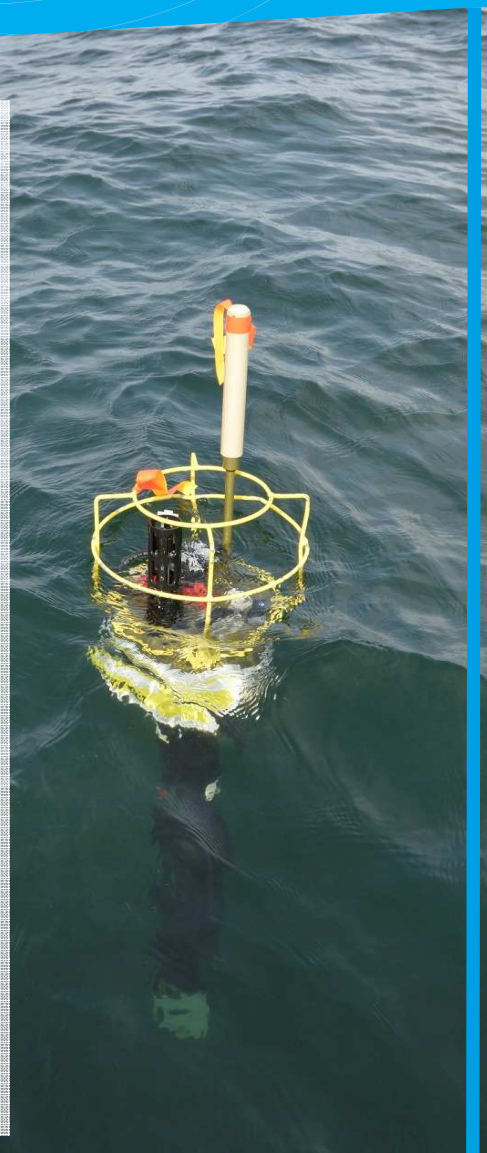
The ARVOR-CM is fitted with "ARGO" used CTD.

The design of the ARVOR-CM has used elements and know-how used in the ARVOR and PROVOR offshore profiling floats range.

At the end of the mission, the recovery is facilitated by "rendez vous" function activated via the "Iridium" downlink.

Main characteristics:

- "Sea-Bird" proven CTD metrology
- capability to embed additional sensors
- Sampling over the entire water column
- Up to one set of measure per meter
- 300* cycles (lithium cells)
- Operation depth : 400 meters
- Virtual mooring
- Two ways Iridium transmission / remote control
- Light and easy to deploy (26kg)
- Self ballasted



Profiling floats

nke
INSTRUMENTATION

www.nke-instrumentation.com





ARVOR CM

Coastal profiling float. Developed in industrial partnership with Ifremer

TECHNICAL SPECIFICATIONS TYPE ARVOR-CM (Coastal)

SBE 41 CP manufactured by Seabird electronics

- 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

Optional sensors

- DO Dissolved oxygen
- Chl-A Turner design / Wetlabs ECO Flbbcd, FINTU
- Turbidity Sea Point / Wetlabs

TELEMETRY

IRIDIUM SBD transmission ,
Remote control by Iridium

DATA TRANSMITTED

One set of measure averaged up to one per meter

TRANSMITTED RESOLUTION

- Salinity 0.001 PSU
- Temperature 0.001 $^{\circ}\text{C}$
- Pressure offset 1 cbar (reseted when surfacing)

POSITIONNING

GPS receiver 12 channels

FLOAT DIMENSIONS

Overall Length 195 cm with antenna
Hull Length 140 cm
Hull Diameter 12,5 cm
Measurement head cap 26 cm
Weight in the air 25 kg (according payload)

FLOAT CONSTRUCTION

GRP tube
High pressure synthetic foam for floatation

OPERATION FEATURES

Operation depth: 400 dBar
Number of profiles: up to 300 cycles (according payload)
Operating temperature: -2°C to 35°C
Power supply: Lithium battery

STORAGE CONDITIONS

Temperature -20°C to $+70^{\circ}\text{C}$ (-4°F to $+158^{\circ}\text{F}$)
Maximum storage time before use: 1 year
Real time clock saved by separate battery

BUOYANCY MANAGEMENT

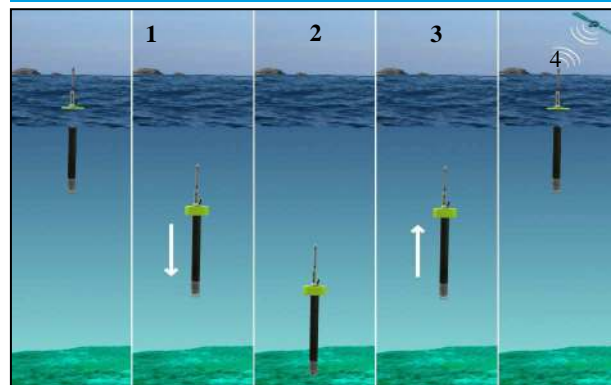
Principle: Oil ballast with pump & valve

USER INTERFACE

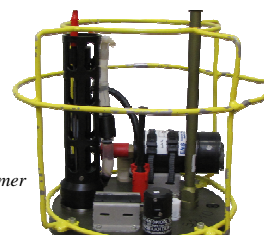
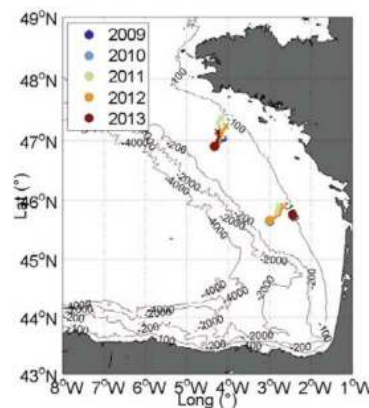
- A - Bluetooth User Interface
 - Mission programming, float checking, etc.
 - Terminal Personal Computer
- B- Activation by magnetic switch
 - Remove magnet launches the float
- C- Remote control
 - Modification of mission parameters via Iridium downlink



TYPICAL CYCLE



- 1/ Descent
- 2/ Seabed standby until pre-programmed pop up time
- 3/ Pop up and measurements
- 4/ At surface :
 - GPS fix acquisition
 - Reading for new set of parameters (remote control)
 - Data transmission (Iridium)



Pictures and drawing thanks to Ifremer
And to Olivier Dugornay

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

