## COSTOF2-DW
### Communication & Storage Front-end, 2nd generation




*Oil & gas environment & production monitoring*


*Climate change monitoring*


*Multidisciplinary monitoring*


*Geohazard monitoring*

## Description

COSTOF2-DW is the latest generation of marine sensor data acquisition systems designed by IFREMER and enabling long-term operation on any observation platform from seabed to surface.

COSTOF2-DW can operate with different kind of sensors such as pressure sensors, temperature sensors, depth sensors and other conventional sensors. High data volume sensors such as 4K video cameras are also supported. COSTOF-DW can operate with up to 12 sensors working simultaneously depending on the sensor interface. COSTOF-DW supports: Ethernet, RS232, RS485, RS422 and 1-wire interface.

In autonomous mode or wired mode, data is stored on a µSD card or an SSD depending on the data volume. Any acquired data can then be recovered easily through Wi-Fi or Ethernet in wired mode.

The power consumption of the COSTOF2-DW is 1.5 mW in sleep mode (low power mode). The web interface makes the setup of the COSTO2-DW easy.
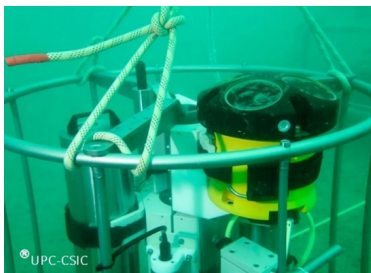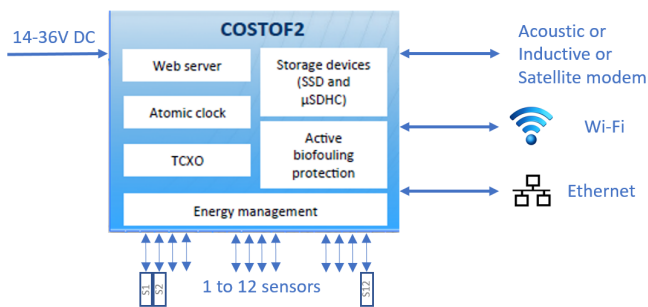
## Advantages

- **Wired mode and autonomous mode**

- **Supported sensors**

- **Underwater Wi-Fi link for easy configuration and data retrieval**

## Payloads & Options

- **Data Storage Capacity: 2 GB µSD, 512 GB SSD (up to 2 TB), up to 4 SSD**
- **Clock Accuracy**
  - **TXCO (default) Short term stability (Allan Deviation)" at $\tau$ =1 sec: $3.10^{-6}$**
  - **Atomic Clock Short term stability (Allan Deviation)" at $\tau$ =1 sec: $3.10^{-10}$**
- **Sensor software driver development kit (available on demand)**

## Provides

- **Energy supply and control**
- **Communication with the outside world (acoustic, inductive, satellite, 4G modems)**
- **Measurement sequencing and local data storage**
- **Precise time-stamping, sensors synchronization**
- **Protection against biofouling**
- **Technical data monitoring**

**COSTOF2**

14-36V DC

Web server | Storage devices (SSD and μSDHC)

Atomic clock

Active biofouling protection

TCXO

Energy management

1 to 12 sensors

Acoustic or Inductive or Satellite modem

Wi-Fi

Ethernet





## Wired mode and autonomous mode

The COSTOF2-DW can operate in two modes: wired mode and autonomous mode. In wired mode, the operating user can configure the COSTOF2-DW in order to make it work with the sensors chosen by the user. This configuration is made through a web interface where the user can actually set a custom name for the sensor, choose the driver from a list of supported sensors, set the acquisition frequency and other parameters. In this mode, you can also recover the data acquired and recorded by the COSTOF2-DW for each sensor and camera connected to the system in autonomous mode. Each acquired data is time-stamped. The COSTOF2-DW can then operate under the water in wired mode. It acquires data from sensors and records video from cameras following the configuration provided by the user.
The autonomous mode is another operating mode where the COSTOF2-DW is underwater, acquiring data from sensors and recording video from cameras following the configuration provided by the user in towed mode.

## Supported sensors

The COSTOF2-DW supports different kinds of sensors. High data volume sensors such as hydrophones for passive acoustics, 4K video cameras, ADCPs and seismometers (including broadband). Data acquired from these sensors is then stored in SSDs. The storage space provided by the SSDs can be up to 2TB.
Conventional sensors are also supported: the COSTOF2-DW can store data related to CTD, dissolved Oxygen, turbidity, current. This data is stored on fast and reliable SD cards.

## Underwater Wi-Fi link for easy configuration and data retrieval

It is possible to connect an underwater Wi-Fi module in order to communicate with the COSTOF2-DW through Wi-Fi for configuration and data retrieval purposes.

# Characteristics

- **Multisensor capacity: up to 12 sensors**

- **Supported sensors: sensors with Ethernet or RS232/485/422 or 1-wire interface**

- **Multifunction capability: wired and autonomous modes**

- **Easy to use: embedded web interface**

# Dimensions

- **Length: 750 mm**

- **Diameter: 142 mm**

- **Weight: 23 kg**

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