

SMALL POWERFUL COST-EFFICIENT MET-OCEAN DATA LOGGER WITH REMOTE COMMUNICATION

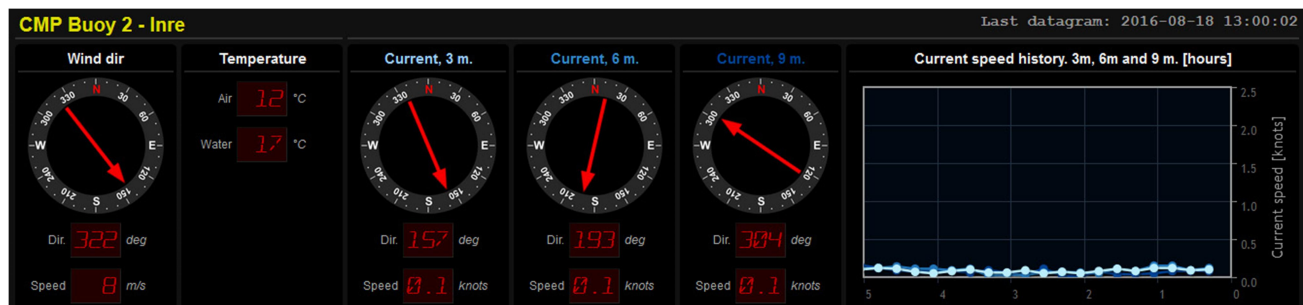
Ocean Origo's **SeaMooseTM Mini** is a very compact and powerful met-ocean logger/controller with remote communication capacity. It is flexible, cost-efficient and also extremely rugged. Waterproof down to 200 m depth it may be mounted on all sorts of buoys, platforms, etc. SeaMoose may interface a great number of sensors from well-known manufacturers like SeaBird, Nortek, AirMar, etc. SeaMoose may also connect to an inductive modem (SeaBird) for underwater communication with sensor string. SeaMoose samples parameters like salinity, temperature, air pressure, wind, waves, GPS, oxygen and much more. Customer selects sensor suite - Ocean Origo may assist in the choice. Data is stored on internal flash card (removable) and also transmitted wirelessly as e-mail or optionally to www server environment. Its small size, smart design, great flexibility and field-swappable character allows for rational and rapid field service also from small vessels, a key parameter for achieving low running costs in many applications.



SeaMoose comes in 2 different power supply versions: 'SeaMoose-EP' without internal batteries and thus relying on an external power source and 'SeaMoose-IP' equipped with internal batteries. A GSM modem (optionally Iridium satellite modem) is included for airborne 2-way communication. Depending on application/customer's choice, antenna may be integrated in the SeaMoose unit or alternatively connected to SeaMoose via cable. An 'easy-to-use' PC-program is included in the purchase which significantly simplifies instrument management and allows for system tests, parameter configuration, etc. Day after day, month after month, SeaMoose will deliver high quality, cost-efficient data.



- *For open ocean, coastal, near-shore, fjords, lakes, rivers and other places.*
 - *For authorities, universities, harbours, companies, etc.*
 - *Designed also for buoys-of-opportunity. Easy to fit on existing buoys and platforms.*
 - *"Near-real-time" data transmission and re-programming. Data accessible directly in your PC.*
 - *Customer selects sensors and devices.*
 - *100 % internal data backup of all transmitted data.*
 - *No fragile or error prone cable glands – only separable underwater connectors (SubConn/Impulse).*
 - *Easy to start-up, service and maintain. Perfect also for small vessel operation. Very cost-efficient.*
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- *Measures salinity, temperature, oxygen, current, GPS, wind speed, waves, chlorophyll, air pressure and much more according to customers choice.*
 - *SeaMoose simultaneously interfaces 16 analogue sensor channels, 5 digital sensors and 5 digital devices. More than enough for most applications. If you need more – contact Ocean Origo.*
 - *Full control of SeaMoose via powerful, intuitive PC program included in purchase. Very easy to use.*
 - *Ocean Origo also offers customized, complete turn-key data buoy systems based on SeaMoose including nautical equipment, battery bank, solar panels, sensors, mooring, etc.*



Example of optional (customized) www-interface

SEAMOOSE MINI EP/IP SPECIFICATION (typical values)

Versions	<ul style="list-style-type: none"> SeaMoose IP with internal batteries. See "Power Supply/Batteries" below for details. SeaMoose EP with no batteries. Must be powered by external source
Max. depth	House with internal antenna: 200 dBar. House with external antenna or external communication unit: IP68 or better. Discuss your application with Ocean Origo.
Material	Only non-corrosive material: Plastic + stainless steel (316).
Dimensions	EP: D x H = 100 x 130 mm excl. UW connectors. m = 2 kg IP: D x H = 140 x 280 mm excl. UW connectors. m = 6 kg (alkaline batteries)
Environment	Operation & Storage: -40 to +60 ° C
Mounting on buoys	May be mounted on virtually all types of buoys or substrates using M6 bolts (316) or hose clips.
Electronics	Low power electronics. Status LED indicator.
UW-connectors	Impulse/Subconn rubber/stainless steel: PC communication (RS232), External power (EP version), External com. unit (option), sensors (option).
Current consumption	0.3 mA sleep mode, 25 mA in active mode. Sensor and device current consumption to be added.
Power supply / Batteries	External power: 7-30 V. Internal Power Alkaline: 30 Ah: 7-10 V, 14 X D-size alkaline cells Internal Power Rechargeable Li-Ion: 26 Ah: 11 V, 2 X 13 Ah battery pack Internal Power Non-rechargeable Lithium: 72Ah: 10 V, 12 X D-size lithium cells
Sensor supply voltage	Several terminals for supplying power to various sensors/devices.
Max deployment time	Depending on operation configuration and sensor choice. Contact Ocean Origo for details.
Data storage	Compact flash card up to 64 GByte. 1 GByte standard.
Sensor & device interfaces ¹⁾	16 analogue voltage channels (0-5 V) + 5 digital sensors (RS232) + 5 digital devices (RS232). Each digital sensor may sample several parameters. Available drivers (free of charge) for digital sensors are SeaBird 37 CTD, Nortek AquaDopp, Nortek AquaPro, AirMar XX, etc.
Installing new sensors	Customer on-site installation possible. All necessary functions included in scope and described in manual. Alternatively, use Ocean Origo's sensor installation service at cost.
AD converter	16 bit, 16 channels. Accuracy better than 0.0015 %. User defined burst sampling.
PC communication	RS232 cable (20 m).
Control	Via Windows based PC-program. SeaMoose communication, control, testing & data processing. Operator selects sampling interval, start time, etc. prior to deployment. All SeaMoose subsystems can be tested. Easy to manage. Provides satisfying system overview.
Data on www/server	Data is transmitted to e-mail address specified by customer or optionally use Ocean Origo's www-service and get access to www-based data graphics, etc for a small monthly cost
Other	<ul style="list-style-type: none"> Run-time error log automatically generated and stored on CF memory card. On-card lithium battery back-up for real-time clock Auto-start sampling on power up
Scope of delivery	Transport case with SeaMoose unit incl. 1 GB flash card, GSM modem+internal antenna, PC-program, PC communication cable + blind plug, RS232/USB adapter, manual and protocol.
Options	<ul style="list-style-type: none"> Ocean Origo purchase and integration service of user selectable sensors and devices Drivers for novel digital sensor may be implemented at cost Iridium modem for global satellite telemetry communication Customized house design Customized www-based graphic interface MEMS-based directional wave sensor board for internal mounting (preliminary) RS422 or RS485 sensor interface Extra UW connectors (located on lid) External communication unit

1) Sensors operates simultaneously, devices sequentially

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