

MINI*pack*



Compact, SmartMedia™ based multi-parameter monitoring system for oceanography and limnology

APPLICATIONS

- High performance monitoring of oceans, rivers, lakes and estuaries
- Intelligent host for multi-parameter systems
- Designed for towed vehicles, moorings & profiling
- Pollution monitoring
- Dye plume tracking



FEATURES

- Developed jointly with the Sir Alister Hardy Foundation.
- On-board conductivity, temperature, depth and fluorescence
- Compact and high performance
- SmartMedia™ card memory gives high capacity
- Internal batteries or externally powered
- Real time data acquisition option
- Output in engineering units
- Fluorescence options of chlorophyll-a, turbidity, rhodamine, amido rhodamine, fluorescein, Phycoerythrin or Phycocyanin
- Programmable power switching for external devices

MINI^{pack} is a low cost, compact, robust and fully integrated CTD-F sensor suite designed to meet the demands of open ocean, estuarine and fresh water environmental monitoring, incorporating a 24 channel data logger. MINI^{pack} is designed to be a multi-parameter sensor data logger that can be deployed individually or as the core of a larger multi-parameter system. As such, it may be used as a discrete profiling instrument, installed on a data buoy, moored in the ocean or to form the core of a towed undulating vehicle system. It has been designed specifically for easy installation into the Chelsea Technologies Group's range of towed vehicles.

This compact instrument contains a fluorimeter, conductivity, temperature and depth sensor. These sensors are coupled to a high performance data logger. For real time applications, the MINI^{pack} is provided with a transmission system with the capability of providing power to and acquiring data from up to 16 external sensors (14 differential channels & 2 single ended channels). These may typically include dissolved oxygen, pH, PAR, up & downwelling sensors, fluorimeters & transmissometers. A titanium / acetal housing contains all on-board sensors, processing boards, data transmission or internal batteries.

The highly versatile SmartMedia™ is used for pre-programming and storing of measured data. This data is easily extracted by a PC and presents data in ASCII files in engineering units, which are easily processed by propriety software packages. Data may be stored on the internal SmartMedia™ Card (for standalone mode) or transmitted in real-time up the cable using RS422 (RS232 option) format. An interface unit is available to convert RS422 (or RS232) for onward transmission to a PC. A user-friendly Windows based GUI enables error free programming of the internal logger and data extraction.

SPECIFICATION

Physical

Size:	114 mm dia. x 200 mm (sensors to end cap)	External input:	18 to 72VDC (via interface unit) 10 to 15VDC (external battery)
Weight:	3.25 kg (in air); 1.8kg (in water)	Material:	Titanium / Acetal
Depth rating:	600m		

Data Transmission

Type:	RS422 (RS232 option)	Sample period:	1 sec to 1 day
Data rate:	9600 baud	Sampling interval:	1 sec to 1 day
Scan rate:	1 Hz to 1 sample/day		

Data Logger

Capacity:	16Mbyte Storage Card (SmartMedia™)
No of readings:	100,000 records of all 24 channels

Internal Sensors

	Type	Range	Accuracy	Resolution
Conductivity	Induction Cell	0-70 mmhos/cm	0.005 mmhos/cm	0.001 mmhos/cm
Temperature	Pt resistance	-2 to +35 °C	0.003 °C	0.0005 °C
Pressure	Strain gauge with temp compensation	0-600dbar	0.2dbar	0.01dbar

Fluorimeter	Excitation Wavelength:	Emission Wavelength:	Concentration range:	Resolution:
Chlorophyll-a	470/30nm	685/30nm	0.03-100µg/l	0.01µg/l
Chlorophyll-a	430/30nm	685/30nm	0.03-100µg/l	0.01µg/l
Rhodamine	470/30nm	590/45nm	0.03-100µg/l	0.01µg/l
Amido Rhodamine	425/30nm	550/30nm	0.04-200µg/l	0.025µg/l
Fluorescein	480/80nm	530/30nm	0.03-100µg/l	0.01µg/l
Nephelometer	470/30nm	470/30nm	0.04-100FTU	0.01FTU
Phycocerythrin	530/30nm	580/30nm	0.03-100µg/l	0.01µg/l
Phycocyanin	590/35nm	645/35nm	0.03-100µg/l	0.01µg/l

Other ranges available on request.



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