

ENVIRONNEMENT

MINI TRACK II

- Small, low cost fluorimeter
- Low power consumption
- High sensitivity



APPLICATIONS

- In-situ chlorophyll & fluorophor studies
- Reservoir monitoring
- Dye tracing
- Wake studies
- Profiling on CTDs.
- Nephelometric particulate studies/ gravimetric analysis
- Process control (industrial feed water intakes)
- Designed for towed, profiled, moored or ROV deployment.

FEATURES

- High rejection of ambient daylight
- Low turbidity breakthrough
- Low Chlorophyll cross-talk in the Rhodamine version
- No pumping or water flow corrections needed
- Ground loop isolation to facilitate system installation
- Stable zero with low temperature coefficient
- Very low noise & large dynamic range with ultra-linear signal processing
- Accepts 6 : 1 supply voltage input
- Acetal housing for corrosion inhibition

INSTRUMENT DESCRIPTION

MINItracka II augments Chelsea Technologies' renowned range of AQUAtracka submersible fluorimeters. The emphasis on the different variants of MINItracka II is on low cost, size and power consumption - whilst still retaining excellent sensitivity, without sacrificing the all important turbidity rejection. All Chelsea's fluorimeters are notable for their ability to make measurements in high levels of daylight.

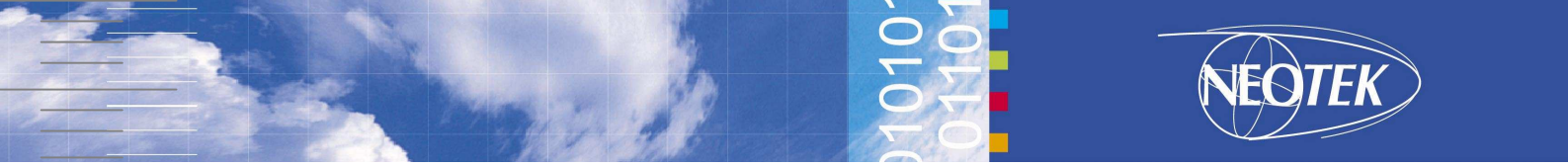
Specimen excitation is from a high brilliance blue LED combined with optical filtering. Optical emissions are detected by a large area, low temperature coefficient (tempco) photodiode which feeds a low noise preamp that, together with phase sensitive detection, gives an overall electronic noise figure close to the theoretical minimum possible. The performance of MINItracka II has a high degree of insensitivity to water temperature changes due to the low tempco of the new generation SQW LEDs, the selected photodiode used and the careful circuit design.

The sophisticated design of the electronic signal processing, combined with cowl design principles of the UV AQUAtracka incorporated in the pressure housing, enables it to operate successfully in high levels of ambient light. Hence, using MINItracka II means there is generally no requirement to pump seawater through a dark observing chamber, thus obviating the need for water flow corrections - not to mention the cost, inconvenience and power drain of a pump. For deck & laboratory applications, a flow through manifold is available.

The ease of use and installation is further enhanced by the provision of galvanic isolation between the power 0 volt and signal 0 volt lines within MINItracka II, thereby interrupting possible 'ground loops'. The high efficiency, proprietary design DC converter can also handle the unusually wide range of supply voltages between 7V and 40V without significant change in a power drain of 0.7W. The output will drive almost any sort of measuring or data logging device. It should be noted that the output of MINItracka II is linearly related to concentration and not logarithmically as might be expected from its AQUAtracka origins.

	Chlorophyll-a	Rhodamine (WT)	Amido Rhodamine	Fluorescein	Nephelometer	Phycocerythrin	Phycocyanin
Excitation Wavelength:	470/30nm	470/30nm	425/30nm	480/80nm	470/30nm	530/30nm	590/35nm
Emission Wavelength:	685/30nm	590/45nm	550/30nm	530/30nm	470/30nm	580/30nm	645/35nm
Concentration range:	0.03-100µg/l ⁽¹⁾	0.03-100µg/l	0.04-200µg/l	0.03-100µg/l	0.04-100 FTU	0.03-100µg/l	0.03-100µg/l
Resolution:	0.01µg/l	0.01µg/l	0.025µg/l	0.01µg/l	0.01 FTU	0.01µg/l	0.01µg/l

Notes: (1) Chlorophyll-a acetone; response from cultured isochrysis is typically 40 times that of Chlorophyll-a in acetone at the same concentration. (2) Other ranges available on request.



Technical Specification

Size	• 70mmdia x 149 mm
Weight in air	• 0.7 kg
Weight in water	• 0.15 kg
Pressure housing	• Acetal C
Depht rating	• 600 metres
Connector	• Subcan MCBH4M
Input Voltage	• 7 to 40 VDC
Output voltage	• 0 to 4 VDC
Power requirements	• 0.7 W
Noise	• 0.5 m V rms