

TURBIDITY SENSOR



LOW POWER,
HIGH DYNAMIC RANGE

The RBRcoda Tu is a realtime turbidity sensor with two independent optical channels for optimising linearity and sensitivity. Its high dynamic range permits exposure to full sunlight with exceptionally low detection limits, while fast sampling rates, low power consumption, and high depth rating have been tailored for use in a wide variety of applications.

FEATURES



Low power
consumption



High
sensitivity



High
dynamic range



Depths up to
6000m



RS-232
output



Compact and
lightweight

The turbidity channel of the RBRcoda Tu ensures high sensitivity in the low range (0-1000FTU), while the optical backscatter channel is designed for high-turbidity applications (up to 20000FTU). All optical components of the RBRcoda Tu are robust and durable, selected to minimise aging due to UV/sunlight exposure, and thus show no change in properties over extended deployments. Its sapphire windows facilitate automated cleaning by a wiper to keep them free of biofouling during long-term moored deployments.

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LOW POWER, DYNAMIC RANGE

Specifications

Physical

Connector	MCBH-6-MP
Communications	RS-232
Housing	Titanium
Depth rating	6000m
Diameter	25mm
Length	65mm (100mm with connector)
Weight	110g in air, 70g in water
Operating temperature range	-5°C to +35°C
Sampling rate	Up to 32Hz

Turbidity

Wavelength	880nm
Centroid angle	90°
Linearity, R ²	0.99
Initial accuracy	5%
Calibrated range	0 - 1000FTU
Measurement range	0 - 1500FTU ¹
Detection limit	0.005FTU

¹ Response becomes non-linear above 1000FTU.

Turbidity (optical backscatter)

Wavelength	880nm
Centroid angle	135°
Linearity, R ²	0.99
Initial accuracy	5%
Calibrated range	1000 - 4000FTU
Measurement range	0 - 20000FTU ²
Detection limit	2.0FTU

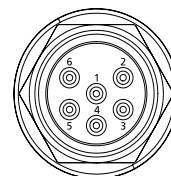
² Response becomes non-linear below 500FTU and above 15000FTU.



Power

Supply voltage	4.5V to 30V (12V nominal)
Power	2.3mJ/sample (4Hz or slower) 42mW (8Hz or faster)
Sleep current	10µA at 12V

MCBH-6-MP connector pinout



- ▶ Pin 1 - Ground
- ▶ Pin 2 - Power
- ▶ Pin 3 - Serial data from sensor
- ▶ Pin 4 - Serial data to sensor
- ▶ Pin 5 - N/C
- ▶ Pin 6 - N/C

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