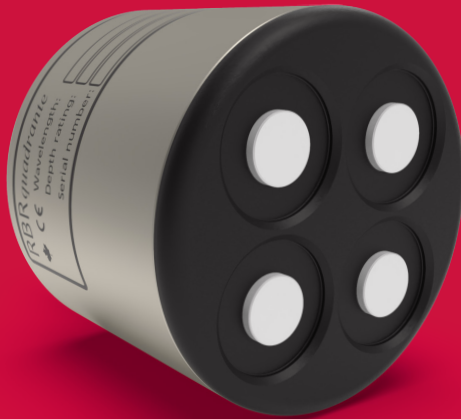


## FOUR-CHANNEL RADIOMETER



**LOW POWER,  
HIGH PERFORMANCE**

The RBR*quadrante* is a multi-spectral radiometer with four channels, capable of measuring multiple wavebands simultaneously, including PAR. It features a high dynamic range, optimized cosine response, and excellent low-light detection, while power consumption and depth rating have been tailored for use in a wide variety of applications.

### FEATURES



Low power consumption



High accuracy



High dynamic range



Depths up to 2000m



RS-232 output



Compact and lightweight

The following channels are available in the RBR*quadrante*:

- ▶ PAR (photosynthetically active radiation), uniform response between 400nm and 700nm
- ▶ Narrow-band radiation, variety of narrow-band channels

The RBR*quadrante* supports measurement of four wavebands within the same sensor package. Tolerant of a wide-ranging power supply, data are streamed via RS-232 on the MCBH-6-MP connector. The size makes this sensor compatible with existing vehicle payload bays.

## FOUR-CHANNEL RADIOMETER

### LOW POWER, HIGH PERFORMANCE

#### Specifications

##### Physical

Connector	MCBH-6-MP
Diffuser	Acrylic
Housing	Titanium
Diameter	63mm
Length	57mm, 93mm (with connector)
Weight	400g in air, 210g in water
Depth rating	2000m
Sampling rate	Up to 32Hz

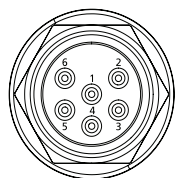
##### Power

Supply voltage	4.5V to 30V (12V nominal)
Sampling	4mJ per sample (4Hz or slower) 3mA/36mW (8Hz or faster)
Sleep current	10µA

##### Interface

RS-232 polled or autonomous streaming
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##### 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

##### Optical radiometry

Dynamic range	>5.5 decades
Absolute calibration <sup>1</sup>	±5%
Linearity	±1%
Operating temperature range	-5°C to 35°C
Cosine response error (water)	±5% at 0-60°C, ±10% at 61-82°C
Azimuth error (water)	±1.5% at 45°C
Out-of-band rejection <sup>2</sup>	>25dB (typical), OD 2.5

<sup>1</sup> RBR calibrates radiometers with NIST traceable references.

<sup>2</sup> Out-of-band rejection is wavelength-dependent for narrow-band radiometers.

##### Photosynthetically active radiation

Wavelength range	400nm to 700nm
Full scale range	0-5000µmol/m <sup>2</sup> /s (minimum)
Resolution	±0.010µmol/m <sup>2</sup> /s

##### Narrow-band wavelength channels

Centre wavelengths (CWL) <sup>3</sup>	413 / 445 / 475 / 488 / 508 / 532 / 560nm
Full width at half-maximum	10nm (25nm for CWL 475nm)
Full scale range	0-200µW/cm <sup>2</sup> /nm (full sun)
Resolution <sup>4</sup>	±0.001µW/cm <sup>2</sup> /nm

<sup>3</sup> Other CWL options within the 400-1100nm range are available upon request. Contact RBR for more information.

<sup>4</sup> Resolution is wavelength-dependent for narrow-band radiometers.

*Note: Dark offset is internally temperature-compensated.*

##### Instrument integration

The RBR*quadrante* can be easily added to any RBR instrument alongside the CTD and other sensors.



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