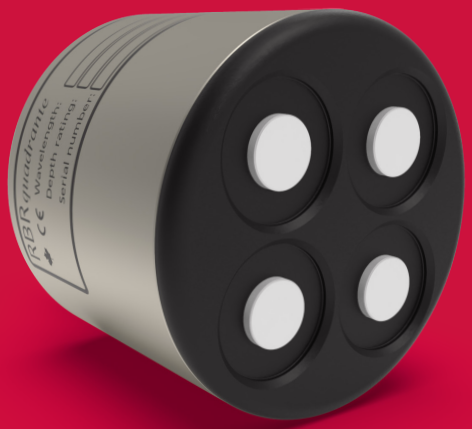
RBR

MEASURE THE BLUE PLANET

rbr-global.com

RBR*quadrante*

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.

RBR

MEASURE THE BLUE PLANET

rbr-global.com

RBR*quadrante*

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

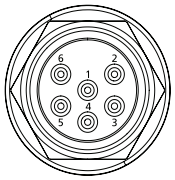
Power

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

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[1]	±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[2]	>25dB (typical), OD 2.5

[1] RBR calibrates radiometers with NIST traceable references.
[2] Out-of-band rejection is wavelength-dependent for narrow-band radiometers.

Photosynthetically active radiation

Wavelength range	400nm to 700nm
Full scale range	0-5000µmol/m²/s (minimum)
Resolution	±0.010µmol/m²/s

Narrow-band wavelength channels

Centre wavelengths (CWL)[3]	413 / 445 / 475 / 488 / 508 / 532 / 560nm
Full width at half-maximum	10nm (25mm for CWL 475nm)
Full scale range	0-200µW/cm²/nm (full sun)
Resolution[4]	±0.001µW/cm²/nm

[3] Other CWL options within the 400-1100nm range are available upon request. Contact RBR for more information.
[4] 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.

RBR Ltd

+1 613 599 8900
info@rbr-global.com
rbr-global.com

RBR#00013218revG 01/2024