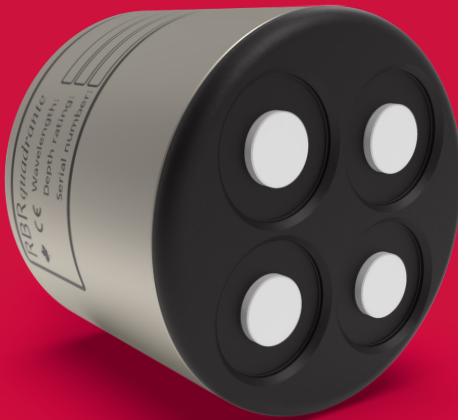


FOUR-CHANNEL RADIOMETER



**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 | 435g in air, 250g in water |
| Depth rating | 2000m |
| Sampling rate | Up to 32Hz |

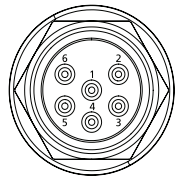
Power

| | |
|----------------|--|
| 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 |
| Initial accuracy ¹ | ±2% |
| 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/m ² /s (minimum) |
| Resolution | ±0.010µmol/m ² /s |

Narrow-band wavelength channels

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



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