

» ColoRad

Multi Channel Radiometer

Distribution in the UK & Ireland



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The ColoRad is a multi-channel radiometer which is able to perform simultaneous radiometric measurements in up to 4 channels (two of which can be cryogenically cooled) with high sensitivity and speed.

A new ColoRad model was introduced in December 2007. The new ColoRad includes many improvements over older units and its performance is much enhanced.

The new ColoRad is the perfect tool for performing field measurements in a number of defined spectral bands.

» FEATURES

- ▶ Radiometric channels are customer configurable and cover the range $0.2 \div 14 \mu\text{m}$
- ▶ Field of view (FOV) options for 40 or 80 mrad with the ability to add telescopes for wide or narrow FOV (as an example, a ColoRad may be ordered with 40 mrad FOV and an additional set of telescopes to increase the FOV to 80 mrad)
- ▶ Operates in chopped mode for high sensitivity and direct mode for fast measurements (with sampling rates $> 100 \text{ KHz/channel}$)
- ▶ User replaceable spectral filters and ND filters easily replaced during operation
- ▶ Comes complete with a small ruggedized PC and Power supply in separate carry case

» SPECIFICATIONS

Parameter	Value	Comments
Number of Channels	2-4 channels	Up to 2 cryogenic cooled channels, configurable spectral engine combinations
Filters (per channel)	1 spectral filter 1 ND filter	2 filter slides in the optical path for each channel
Attenuators	ND1, ND2, ND3	Included for each channel
Filter Slides	Accommodate 1" diam. filter, 1.6 mm thick	User mountable
Field of View non-uniformity	2.3° (40 mrad) or 4.6° (80 mrad)	Optional attachable telescopes
Field of view Size accuracy	< 10% of maximum	
Channel Bore sight Accuracy	< ±10% FWHM	
Modes of operation	±0.2° (±3 mrad)	
Chopping Frequency	Lock In (LIA) for high sensitivity Direct (DIR) for high speed	AC Coupled DC Coupled
DIR mode Band Width	100 - 1000 Hz	SW controlled chopper.
DIR Mode rise time	60kHz (-3db)	Chopper is in hold position
DIR Mode Gain Selection	< 10µsec	
NEI	1, 10, 100	SW selectable
Data Acquisition	10-9-10-10 W/cm2 for DIR mode 10-10-10-12 W/cm2 for LIA mode	Depending on the specific channel
Control Interface	Up to 200 Ksample/sec/channel	
Data interface	RS232 (9600 Baud)	
Optical head to controller distance	USB 2.0	
Bore sight Viewer	5 meter cable to the PC	manual contrast control of FOV overlay pattern
Bore sight Viewer FOV	CCD with FOV marker overlay and cross hair	
Weight of optical head	> 5° or > 10°	
Optical head Dimensions	< 25 Kg	Depending on number of channels
Power supply	L 735 x W 294 x H 329 mm	With shade cover
Environmental Conditions - Work	100 - 240 VAC 50-60 Hz	External power supply with 5m cable
Environmental Conditions - Storage	0°C ÷ 40°C	
Condensation prevention	-15°C ÷ 70°C	Storage in case
Carry case dimensions	Dry N2 purge valve available L 857 x W 730 x H 429	Rugged carry case with compartments for cables and accessories

» SPECTRAL ENGINES

Available detectors: Si, PbSe, InGaAs, InSb, MCT, PV-MCT

Available apertures: 23/48mm.

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