» ColoRad

Multi Channel Radiometer

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÷14 µm
- 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 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

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» 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 size	2.3° (40 mrad) or 4.6° (80 mrad) or 9.2° (160 mrad) or 18.4° (320 mrad)	Optional attachable telescopes
Field of View non-uniformity	< 10% of maximum	
Field of view Size accuracy	< ±10% FWHM	
Channel Bore sight Accuracy	±0.2° (±3 mrad)	
Modes of operation	Lock In (LIA) for high sensitivity Direct (DIR) for high speed	AC Coupled DC Coupled
Chopping Frequency	100 - 1000 Hz	SW controlled chopper.
DIR mode Band Width	60kHz (-3db)	Chopper is in hold position
DIR Mode rise time	< 10µsec	
DIR Mode Gain Selection	1, 10, 100	SW selectable
NEI	1E-9 to 1E-10 W/cm2, DIR mode 1E-10 to 1E-12 W/cm2,LIA mode	Depending on the specific channel
Data Acquisition	Up to 200 Ksample/sec/channel	
Control Interface	RS232 (9600 Baud)	
Data interface	USB 2.0	
Optical head to controller distance	5 meter cable to the PC	manual contrast control of FOV overlay pattern
Bore sight Viewer	CCD with FOV marker overlay and cross hair	
Bore sight Viewer FOV	> 5° or > 10°	
Weight of optical head	< 25 Kg	Depending on number of channels
Optical head Dimensions	L 735 x W 294 x H 329 mm	With shade cover
Power supply	100 - 240 VAC 50-60 Hz	External power supply with 5m cable
Environmental Conditions - Work	0°C ÷ 40°C	
Environmental Conditions - Storage	-15°C ÷70°C	Storage in case
Condensation prevention	Dry N2 purge valve available	
Carry case dimensions	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 appertures: 23/48mm.

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