

specification | preliminary



rhea
high-end spectrometer





Rhea series: high end spectrometer

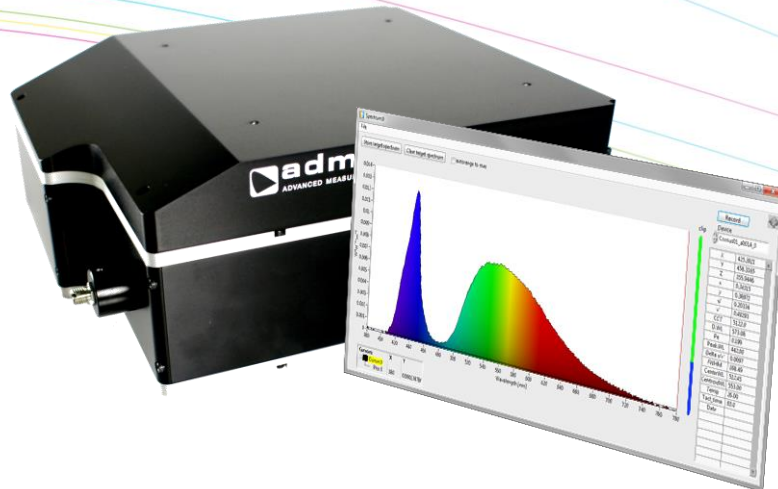
The Rhea series spectrometer offers a unique combination of ease of use and accurate measurement capabilities packed in a robust jacket. The Rhea utilizes a high-end cooled CCD detector for low noise and high dynamic range. The Neutral density filter wheel extends this dynamic range and also adds a shutter function. An ideal device for measurements where ease of use, stability, performance and price are of the essence. All in all the perfect solution for hassle free integration in your product or process. The Rhea spectrometer can virtually cover the entire wavelength range from 200-1100nm. Standard versions are available however we also support a broad range of gratings for specific applications. Standard versions are: VIS spectrometers ranging from 360 to 830nm. A UV spectrometer with a range from 200 to 435nm. A UV-NIR version of 200-1100 and a Raman version with a range of 450 to 1100nm

The Rhea series is available in a variety of optical systems: 5, 10 or 20mm collimating lens or a 1cm² cosine corrector. For measurements of light sources Admesy offers a range of integrating spheres which can be connected through M8 fixed position fiber connections. This fixed position fiber connector has been developed to connect the optical fiber in a fixed and uniform way from calibration to final use. Due to this fixed position measurement results are more stable.



Highlights

- Various standard spectral ranges including UV, VIS and NIR, custom spectral options range from 200-1100.
- Cooled high-end CCD detector, cooled to -10 degrees Celsius
- High optical throughput design
- Neutral density filter wheel for huge dynamic range
- Shutter function
- Low noise
- Auto-range function
- Wavelength calibrated
- Very low stray light
- Excellent linearity, internally compensated within 1%
- Dark current compensated, virtually zero over entire integration range
- USBTMC compliant, SCPI command set, high speed device
- USB, RS232, Ethernet connections and trigger in & out for ideal system integration
- All calculations are carried out inside the device, saving processing power in production environments
- Robust housing, optimized for mounting and protection in harsh production environments





Rhea	
Model	Rhea01
Spectral ranges	380-780nm 360-830nm 200-435nm 200-1100nm Custom wavelength options are available: any range between 200-1100nm can be selected for custom applications.
Optical resolution (FWHM)	Depending on chosen option
Order sorting filter	Linear variable filter
Wavelength accuracy	+/- 0.5nm
Stray light	<0.05% measured at 400nm with 455nm cut-off filter with broadband light source
Luminance accuracy	+/-4% (after calibration)
Chromaticity accuracy	+/- 0.002 (after calibration)
Non - Linearity	< 1%
Baseline noise	+/- 6 counts
Filter wheel	OD0, OD1, OD2, OD3, OD4, shutter function
Integration time	8ms – 10 minutes
Spectral resolution	Selectable 0.5nm-1nm-2.5nm-5nm-10nm
Cooling temperature	-10 degrees Celsius
Interfaces	High speed USB, RS232, Ethernet, Trigger connections
Measurement parameters	Spectral output, radiometric data or colour data (Lumen, x,y, DWL, PWL, CRI, CCT, etc.)
Data processing time	14ms
Size (LxWxH)	230 x 195 x 82.5mm (without optical system)
Weight	3000 gram
Operating temperature	10-35°C
Power consumption	5000mW



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