CDS-2600 Spectrometer

When performance, speed, flexibility, and usability are your priorities

Pioneering

First to pave the way for array spectrometers with lighting application software, Labsphere's high-end spectrometers with Integral software continue to set the pace. The base design is the proven Crossed Czerny-Turner spectrograph, with a top of the line electrically-cooled, back-thinned illuminated CCD detector designed for highly efficient stray-light rejection. Our knowledge of many years has been applied to yield a spectrometer design that addresses today's industry needs. The spectral engine includes user-activated integrated shutters for real-time dark subtraction and low uncorrected stray light with intuitive software modules for research, development and production.

Fast and Accurate

The highly-sensitive, back-thinned CCD array of the CDS-2600 spectrometer offers low noise, high-dynamic range, very low stray light and unparalleled ease of use. Labsphere's CDS-2600 CCD array spectrometer is a multi-channel spectral analyzer designed for real-time spectral characterization.

When integrated within a Labsphere light metrology system, calibration with auxiliary hardware using Integral® software enables instantaneous acquisition of data that can realize the full range of spectroradiometric, photopic, colorimetric, electrical and thermal characteristics of the device under test (DUT). The increased sensitivity of the CDS-2600 facilitates fast, accurate data driven results that can help increase the rate of product development, decrease the time to market, and reduce development costs.

Complete yet Flexible

The CDS-2600 with software stray light correction yields a high performance spectrometer designed to accurately support measurement needs to transition product from research to production. When you are ready to increase your capacity, the integral design and graphical user interface make it easy to transition from research to production with the same high performance you demand from the lab and the ease of use your operations desire.

PB-13093-000 Rev.00

Value

- High dynamic range for a broad range of applications
- Fixed cable with SMA
- Internal shutter (real-time dark subtraction)
- Stray light correction
- Integral® software designed for usability
- Fast, low noise; TE cooled back-thinned CCD array detector
- Bench top and rack mountable compact design for today's demanding workspaces
- Adapts to any of Labsphere's light metrology systems and components with NIST traceable calibration options

Measure

- Total Spectral Flux (watts/nm)
- Total Radiant Flux (watts)
- Total Luminous Flux (lumens)
- Spectral Intensity (watts/sr-nm)
- Averaged Luminous Intensity (lumens/sr)
- Averaged Radiant Intensity (watts/sr)
- Spectral Irradiance (watts/cm^2-nm)
- Irradiance (watts/cm^2-nm)
- Illuminance (lux)
- Dominant Wavelength
- Spectral Purity
- Correlated Color Temperature
- Peak Wavelength
- Color Rendering Index (CRI)
- Chromaticity Coordinates
- Correlated Color Temperature
- Half-Bandwidth
- Temporal: W(s), lm(s), CCT(s)

Integral® Software

Sold separately, Integral software is a comprehensive light test application package. It allows for data collection and system control of a variety of system configurations and applications. As a certified National Instruments LabVIEW Alliance partner, Labsphere has designed Integral to include robust reporting capabilities. Integral includes multi-language support and can be accessed remotely via an HTML5-enabled browser. Integral also offers an optional API license option allowing users to create their own programs and interface with existing software applications.

Purchase of the Integral Software Maintenance Plan allows Integral users to stay current with revisions and upgrades when available.

Ordering Information

Model Number	Part Number
CDS-2600 CCD High-End Spectrometer	AS-03023-200

Product Properties and Performance

Model Number	CDS 2600
Detector:	TE Cooled 1044 x 64 CCD (back thinned)
Spectral Range:	325 - 1050 nm
Calibrated Spectral Range:	350 - 1050 nm
Resolution:	2.4 nm
Data Point Interval:	1.0 nm
Integration Time:	8 ms - 900 seconds
Cooling:	-10 ± 0.05 C
TE Temp Drift:	± 1 C
Linearity:	± 0.1%
Sensitivity:	290 ms
Wavelength Accuracy:	<± 0.3 nm
Average % Noise (360-830 nm):	0.07%
Uncorrected Stray Light:	6.1%*
Software Corrected Stray Light:	<1.0%*
Stray Light:	<2x10-4 at 400 nm Measured as the signal at 400 nm divided by the maximum signal in the spectrum while illuminating with a 3000K tungsten halogen lamp filtered by a 3 mm thick Schott GG455 filter
Laser Stray Light:	<1x10-4 Measured as the signal at 500 nm divided by the peak signal while illuminating with a 633 nm HeNe laser
LED Stray Light:	<1x10-4 Measured as the signal 100 nm below the signal at the peak wavelength while illuminating with an amber LED
Focal Length:	100 mm
Slit Width:	25 µm
Optical Input:	600 µm, permanently mounted
Includes:	knurled SMA
Speed:	0.1 scans/sec
Dynamic Range:	> 200,000:1**
Internal Shutter:	Yes
AD Converter:	18 bit
PC Interface:	USB 2.0
Weight:	11.3 lbs (5.04 kg)
Dimensions: (W x D x H)	8.3 x 13.0 x 3.5 in (21.1 x 32.9 x 8.9 cm)

* Stray light is the average reported transmittance from 360 - 470 nm through a 500 nm cut-on filter.

** Measured as the saturation signal divided by the standard deviation of the dark signal with 10 scans averaged.

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