

# CDS 1100 AND 2100 SPECTROMETERS

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



CDS 1100 SPECTROMETER

## PIONEERING

First to pave the way for array spectrometers with lighting application software, Labsphere's high-end spectrometers with LightMtrX 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. Carrying over the best features of our industry-proven spectrometers while addressing today's industry needs, these spectral engines include user-activated integrated shutters for real-time dark correction and the most intuitive software modules for research, development and production.

## FEATURES:

High dynamic range for a broad range of applications

Multiple spectral ranges to choose from

Unmatched LightMtrX Software designed for application usability

Fast, low noise; TE Cooled back-thinned CCD Array Detector

Choice of 3m fiber optic input cables

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

SMA/Sphere Adaptor

## MEASURES:

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<sup>2</sup>-nm)

Irradiance (Watts/cm<sup>2</sup>-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...)

## FAST AND ACCURATE

The highly-sensitive, back-thinned CCD array of the CDS 1100 and 2100 spectrometers offer low noise, high-dynamic range, a choice of broad spectral ranges in the UV-VIS-NIR and unparalleled ease of use. When integrated with a Labsphere light metrology system, the spectrometers and LightMtrX software offer integrated spectral calibration for complete spectroradiometric, photometric and colorimetric characterization of light sources and light source systems from solid state lighting to camera calibration systems.

Labsphere's CDS 1100 and 2100 CCD array spectrometers are multi-channel spectral analyzers designed for real-time spectral characterization. When calibrated for the application with auxiliary hardware and LightMtrX software, the instantaneous acquisition can provide you with the gamut of spectroradiometric photopic, colorimetric, electrical and thermal characteristics of the device under test (DUT). The fast results provided by the spectrometers can help increase the rate of product development, decrease the time to market, and reduce development costs.

## COMPLETE YET FLEXIBLE

These high-end spectrometers are designed to accurately transition 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.



CDS 2100 WITH MEASUREMENT COMPONENTS

# Specifications

Part Number	Order Number
CDS 1100 CCD High-End Spectrometer 280 - 850 nm	AS-02746-100
CDS 2100 CCD High-End Spectrometer 350 - 1050 nm	AS-02746-200

## Component Properties and Performance

	CDS 1100	CDS 2100
Detector	TE Cooled 1044 x 64 CCD (back thinned)	TE Cooled 1044 x 64 CCD (back thinned)
Spectral Range	250-850 nm	350-1050 nm
Resolution	1.5 FWHM	1.5 FWHM
Integration Time	10 ms - 60 s	10 ms - 60 s
Cooling	10 +/- 0.05 C	10 +/- 0.05 C
TE Temp Drift	+/- 1 C	+/- 1 C
Linearity	+/- 0.5%	+/- 0.5%
Wavelength Accuracy	<+/- 0.4 nm	<+/- 0.4 nm
Stray Light Broadband	<10 <sup>-4</sup> at 400nm w/ III A source	<10 <sup>-4</sup> at 400nm w/ III A source
Stray Light LED/laser	<10 <sup>-5</sup> at 500nm w/633 nm laser	<10 <sup>-5</sup> at 500nm w/633 nm laser
Focal Length	100 mm	100 mm
Slit Width		
Optical Input	Choice of Optical Fibers sold separately (SMA connector)	Choice of Optical Fibers sold separately (SMA connector)
Includes	PA-SMA-050-SF/SL	PA-SMA-050-SF/SL
Speed	0.1 scans /sec	0.1 scans /sec
Dynamic Range (single scan)	30000:1	30000:1
Spectral Sample Interval	0.25nm	0.25nm
Mechanical Shutter	Yes	Yes
AD Converter	16 bit	16 bit
PC Interface	USB 2.0	USB 2.0
Weight	11.3 lbs (5.04 kg)	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)	8.3 x 13.0 x 3.5 in (21.1 x 32.9 x 8.9 cm)

### LightMtrX Software Platform with MtrX-SCAN Spectral Measurement Application Module

Sold separately, the LightMtrX, MtrX-SCAN software is a comprehensive light test application package. It includes several modules allowing for data collection and system control of a variety of system configurations and applications. As expansion hardware is added to the core system, applicable modules become activated via a key code provided by Labsphere. Documented key codes also enable Labsphere to easily track customer software releases in the field and allow for easy access to software revisions and upgrades. Purchase of the LightMtrX Service Package will allow LightMtrX users to automatically receive LightMtrX revisions and also be notified when upgrades are available.