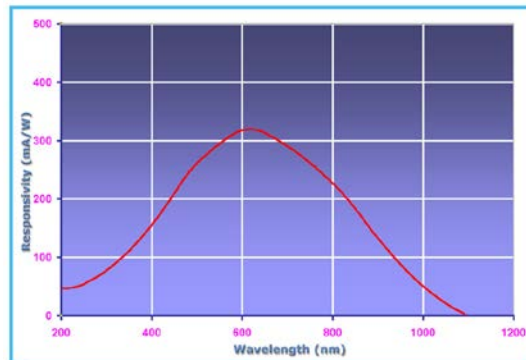# Diode Array Spectrometers

- *Deep Well and High dynamic range*
- *Spectral response from 200nm to 1100nm*
- *512 element diode array*
- *Enhanced 8051 microprocessor*
- *Up to 16 bit A/D*
- *Offset DAC*
- *Fast USB2.0 interface*
- *Non scanning device, acquire full spectrum in milliseconds!*
- *Small, rugged, portable*

Control Development, Inc. uses silicon photo-diode arrays to provide high performance spectrometers at very affordable prices for UV-VIS-SWNIR spectroscopy. Our diode array spectrometers with its deep well, high dynamic range are ideal for high light level measurements where small changes need to be detected. Features like Auto-Cal, on-board EEPROM calibration, and 18-Bit electronics provide a lot of performance at a very affordable price.

All our spectrometers come with free application software. CDI Spec32 is a data acquisition package with several data processing techniques included. Also supplied free are our Lab View VI, Active X application and DLLs.

All our devices are compact, rugged, portable and well suited for OEM applications, as well as process, QC, laboratory and educational purposes. We will custom design spectrometers for your application, usually at no extra charge.

Temperature Stabilized!

Control Development, Inc.
2633 Foundation Drive, South Bend, IN 46628
Phone: (574) 288-7338   Fax: (574) 288-7339
www.controldevelopment.com

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Product Specifications

Part Number	PDA-512

Spectrometer

Spectral Range (nm)*	200-1100
Linear Dispersion (nm/pixel)	defined by spectral range
Resolution FWHM (nm)	defined by linear dispersion
Wavelength Accuracy*	¼ pixel
Input Fiber	
Single fiber	
Core Diameter (microns)	400
Material	Ultra Low OH or High OH
Connector	905 SMA
Input Slit Width (microns)	25, 50, 100 or none (fiber itself)
Optics	f/2 or f/3
Gratings	
Lines/mm	200, 300, 400, 600, 1200, 1800, 2400, 3600
Coating Material	Aluminum or Gold
Order Sorting Filter	Available

*nominal, factory set, user defined range in that spectral region

Detector

Material Type	Silicon
Number of elements	512
Temperature control	heated, temperature stabilized
Pixel Dimensions (WxH)	25μm X 500 μm

Electronics

Integration times	1.7 ms to 16 s
A/D Converter	16 Bit
Read out speed	3 μs per pixel
Readout Noise *	<6 counts RMS
Offset DAC	Yes
Memory	On-Board
Microprocessor	Enhanced 8051
Strobe	TTL compatible
Lamp Drivers	Two

*nominal

Power Requirements

Voltage	5V DC
Current	8 Amps
Power supply	Included

Communications

USB2.0 Interface

Internal Wavelength Calibration

Internal Mercury-Argon line source option available

Physical Dimensions

Dimensions	6.535"L X 4.173"W X 3.0"H
Weight	2 lb

Software

The following is included free with every spectrometer purchase
Spec32™, DLLs, Lab View VI, Active X App, all with user manuals

Warranty and Support

Warranty	1 year
Extended Warranty	Available
Support	Several support packages available
Telephone	9:00 AM to 5:00 PM, EST, Mon-Fri.

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