Self-referencing Spectrophotometer

- Auto-Calibrating
- Fast-non scanning device
- Acquire a full spectrum in a millisecond
- Small
- Portable
- Lightweight (5 lbs)

Our new, lightweight spectrophotometer retains all the best features of our on-line process systems. Our patented self-referencing scheme renders this spectrophotometer easy to use, keep and maintains its calibration.

This spectrophotometer can be used in several different environments, from the laboratory to the production floor. A dust proof version is available.

Feasibility studies on fluid bed dryers and coaters are easy to perform. With the spectrophotometer mounted on a tripod, one can look through existing windows.

The user has a choice of several different detectors, both silicon and InGaAs. Silicon diode arrays and CCDs cover the visible range, from 380nm to 1100nm. InGaAs detectors provide coverage from 900nm to 2200nm.

CONTROL DEVELOPMENT
THE PRICE PERFORMANCE LEADER...

Product Specifications

Part Number	NIR100-128L-1.7TS	NIR1000-128L-1.7T1	NIR1000-256L-1.7T1	NIR1000-256L-2.2T2	PDA1000-512
Spectrometer					
Spectral Range (nm)*	900-1700	900-1700	900-1700	1100-2200	380-1100
Linear Dispersion (nm/pixel)*	6.250	6.250	3.125	4.400	1.5
Resolution FWHM (nm)*	12.5	12.5	6.25	8.8	3.00
Wavelength Accuracy*	¼ pixel	¼ pixel	¼ pixel	¼ pixel	¼ pixel
Input Fiber					
Core Diameter (microns)	400	400	400	400	400
Material	Ultra Low OH	Ultra Low OH	Ultra Low OH	Ultra Low OH	Ultra Low OH
Connector	905 SMA	905 SMA	905 SMA	905 SMA	905 SMA
Slit Width**	50 micron	50 micron	50 micron	50 micron	25 micron
Optics	f/3	f/3	f/3	f/2	f/2
Grating					
Lines/mm	200	200	400	400	400
Coating Material	Gold	Gold	Gold	Gold	Al
Blaze Wavelength (nm)	1315nm	1315	1315	1600	500
Order Sorting Filter	Yes	Yes	Yes	Yes	Yes

*nominal
**other widths available; slit height is always greater than the fiber core diameter

Detector					
Material Type	InGaAs	InGaAs	InGaAs	Extended InGaAs	Silicon PDA
Number of elements	128	128	256	256	512
T.E. cooling	None*	single stage	single stage	double stage	None*
Pixel Dimensions (WxH)	50 μm X 500 μm	50 μm X 500 μm	50 μm X 500 μm	50 μm X 250 μm	25 μm X 500 μm

*heated, temperature stabilized

Electronics					
Integration times	10 μs to 16 s	10 μs to 16 s	10 μs to 16 s	10 μs to 16 s***	1.7ms to 16 s
A/D Converter	16 Bit, 330 KHz	16 Bit, 330 KHz*	16 Bit, 330 KHz*	16 Bit, 330 KHz*	16 Bit, 330 KHz
Read out speed	8 μs per pixel	2 μs per pixel	2 μs per pixel	2 μs per pixel	3 μs per pixel
Readout Noise **	<5 counts RMS	<5 counts RMS	<3.5 counts RMS	<4.5 counts RMS	<6 counts RMS
Offset DAC	Yes	Yes	Yes	Yes	Yes
Flash Memory	On-Board	On-Board	On-Board	On-Board	On-Board
Microprocessor	Enhanced 8051	Enhanced 8051	Enhanced 8051	Enhanced 8051	Enhanced 8051
Strobe	TTL compatible	TTL compatible	TTL compatible	TTL compatible	TTL compatible
Lamp Drivers	Two	Two	Two	Two	Two

* 18 Bit A/D, 16 Bit displayed   ** nominal   ***typically < 0.5s due to detector limitations

Power Requirements					
Voltage	5V DC	5V DC	5V DC	5V DC	5V DC
Current	8.0 Amps	8.0 Amps	8.0 Amps	8.0 Amps	8.0 Amps
Power supply	Included	Included	Included	Included	Included

Communications
USB2.0 Interface

Internal Wavelength Calibration
Internal Mercury-Argon line source

Physical Dimensions
Spectrometer Body	5.5"L X 4.25"W X 3.0"H, 139.7mm L x 107.95mm W X 76.2mm H
Probe Head	6"L x 2.6" diameter, 152.4mm L x 63.5mm diameter,
Weight	5 lb

Software
The following is included free with every spectrometer purchase:
Spec32™, DLLs, Lab View VI, and 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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