



A new level of precision in portable analytical instruments

Featuring a 6 nm resolution, the portable LabSpec[®] 4 Hi-Res lab instrument has been upgraded with an enhanced spectrometer configuration for faster, more precise material analysis in fast-paced environments in the lab or on site. The portable lab instrument uses ASD's advanced near-infrared (NIR) spectroscopy to accurately characterize incoming, in-process, or finished products with high analytic throughput. Augmented with a substantial signal-to-noise performance boost in the SWIR region, the LabSpec 4 Hi-Res lab instrument provides faster measurement times without any compromise in analytical results.

- Updated spectrometer configuration delivers more accurate measurements with the same number of average scans.
- High throughput material analysis allows processing of hundreds of samples per day.
- Improved portability from a new ruggedized fiber optic cable, and a standard 802.11g Wi-Fi connection.
- Available with an internal broad-spectrum halogen light source (LabSpec 4 Hi-Res i model) for more versatile material analysis.

UNIQUE APPLICATIONS:

- Qualification and identification of a broad range of materials
- Materials analysis requiring sharper feature identification
- Liquid analysis, including petroleum and various industrial chemicals
- Analysis of active ingredients in pharmaceuticals

WITH INTERNAL LIGHT OPTION (i)

- Liquids
- Slurries
- Small sample sizes
- Any application requiring a probe with an external light source



The LabSpec 4 Hi-Res' dramatic signal-to-noise performance improvement allows technicians to capture the same quality of measurements in a quarter of the time required by previous models. This response enhancement helps you analyze materials in real time, measuring multiple constituents simultaneously, with minimal sample prep required.

The high spectral resolution of the LabSpec 4 Hi-Res analytical instrument is ideally suited for measuring materials that have sharp, well-defined spectral features, such as polymers, petrochemicals, industrial chemicals, and pharmaceutical active ingredients.

LabSpec 4 Hi-Res Specifications

PERFORMANCE

Wavelength range	350-2500 nm
Resolution	3 nm @ 700 nm 6 nm @ 1400/2100 nm
Scanning time	100 milliseconds
Signal-to-noise ratio	
VNIR	9,000:1 @ 700 nm
SWIR 1	9,000:1 @ 1400 nm
SWIR 2	4,000:1 @ 2100 nm
Photometric noise	
VNIR	4.8 x 10 ⁻⁵ AU or 48 μAU @ 700 nm
SWIR 1	4.8 x 10 ⁻⁵ AU or 48 μAU @ 1400 nm
SWIR 2	1.1 x 10 ⁻⁴ AU or 110 μAU @ 2100 nm
Stray light	VNIR: 5000:1 (0.02%) NIR: 10,000:1 (0.01%)
Wavelength reproducibility	0.1 nm
Wavelength accuracy	0.5 nm
Channels	2151
VNIR detector	(350-1000 nm) 512 element silicon array
SWIR 1 & 2 detectors	(1001-1800 nm) & (1801-2500 nm) Graded Index InGaAs Photodiode, TE Cooled

CERTIFICATION AND APPROVALS

CE certified	EN61010-1:2001 2nd Edition EN61326-1:2006
EU Directive	2006/95/EC, 2004/108/EC
NIST traceable calibration	
21 CFR, Part 11	Installed per customer request
USP 1119	Installed per customer request and purchase of applicable USP Standards

COMMUNICATIONS

Wired	10/100 Base T Ethernet port with Ethernet cross-over cable
Wireless	802.11g wireless card

PHYSICAL & ENVIRONMENTAL

Dimensions (H x W x D)	12.7 x 36.8 x 29.2 cm (5 x 14.5 x 11.5 in)
Weight	5.44 kg (12 lbs)
Battery weight	1.2 kg (2.7 lbs)
Battery run time	Approximately 6 hours (without lamps or accessories)
Operating temperature	0 to 40° C (32 to 104° F)
Storage temperature	-15 to 45° C (5 to 113° F)
Input power	AC/DC switching power supply or a sealed lead-acid gel cell battery
AC input	90-240 VAC, 50/60 Hz
DC input	12 VDC, 60 W
Auxiliary port power	Output, +12 VDC, 27 Watt (max)

LABSPEC® 4 HI-RES *i* (optional)

Integral light source	Lamp 10 VDC, 50 W
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ADDITIONAL DETAILS

Software compatibility	Indico® Pro, GRAMS spectroscopy software suite by Thermo Scientific, The Unscrambler® by Camo Software
Portability	Rugged instrument transportation case
Warranty	One year full warranty including expert customer support
Computer	Windows® 7 64-bit laptop (instrument controller)

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