

# FieldSpec<sup>®</sup>4

STANDARD-RES



## The New Standard in Field Spectroscopy

Ideally suited to meet the needs of today's researcher, the FieldSpec<sup>®</sup> 4 Standard-Res spectroradiometer offers dramatically improved speed, performance and portability over previous models. This full-range Vis/NIR (350-2500 nm) instrument features enhanced capabilities in the SWIR 1 and 2 regions, as well as double the signal-to-noise performance, allowing you to cover twice the ground in half the time without any loss of data quality.

- Improvements in the SWIR 1 and 2 regions allow researchers to cover twice the area in half the time as the FieldSpec 3.
- New spectrometer configuration provides double the signal-to-noise ratio performance as previous models.
- New ruggedized fiber optic cable and a compact, impact-resistant case make the FieldSpec 4 Standard-Res field ready and highly portable.

### UNIQUE APPLICATIONS:

- Crops and Soils Research
- Landscape Ecology and Ecology Research
- Ground Truthing
- Spectral Remote Sensing
- Ice and Snow Research
- Spectroradiometry and Radiometric Calibration



ASD is a Malvern Panalytical brand



The FieldSpec 4 Standard-Res, with a 10 nm resolution, comes in a mobile package with a small, lightweight, impact-resistant case and a convenient backpack travel cover. A new ruggedized cable protects the fiber optics, nearly eliminating fiber breakage. An expanded wireless range adds flexibility by helping users capture spectra farther from the instrument controller.

The FieldSpec 4 is ideal for a wide range of applications, including hyperspectral image interpretation, crops and soils research and radiometric calibration.

## FieldSpec 4 Standard-Res Specifications

### PERFORMANCE

|                                  |   |
|----------------------------------|---|
| Wavelength range                 | 350-2500 nm   |
| Resolution                       | 3 nm @ 700 nm and<br>10 nm @ 1400/2100 nm                                       |
| Scanning time                    | 100 milliseconds  |
| NEdL (Noise Equivalent Radiance) |   |
| VNIR                             | 1.0 X10 <sup>-9</sup> W/cm <sup>2</sup> /nm/sr @ 700 nm                         |
| SWIR 1                           | 1.2 X10 <sup>-9</sup> W/cm <sup>2</sup> /nm/sr @ 1400 nm                        |
| SWIR 2                           | 1.9 X10 <sup>-9</sup> W/cm <sup>2</sup> /nm/sr @ 2100 nm                        |
| Stray light                      | VNIR 0.02%<br>SWIR 1 & 2 0.01%  |
| Wavelength reproducibility       | 0.1 nm  |
| Wavelength accuracy              | 0.5 nm  |
| Maximum radiance                 | VNIR 2X Solar, SWIR 10X Solar   |
| Channels                         | 2151  |
| VNIR detector                    | (350-1000 nm) 512 element silicone array  |
| SWIR 1 & 2 detectors             | (1000-1800 nm) & (1800-2500 nm)<br>Graded Index InGaAs Photodiode,<br>TE Cooled |

### CERTIFICATION AND APPROVALS

|                            |                            |
|----------------------------|----------------------------|
| CE certified               | EN61010-1:2001 2nd Edition |
| EU Directive               | 2006/95/EC, 2004/108/EC    |
| NIST traceable calibration |                            |
| WEEE Compliance            |                            |

### 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)   |
| NiMH battery weight    | 1.2 kg (2.7 lbs)   |
| NiMH battery run time  | Approximately 6 hours<br>(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<br>12V 9Ah NiMH battery pack |
| AC                     | input 90-240 VAC, 50/60 Hz                                     |
| DC                     | input 12 VDC, 60 W   |
| Auxiliary port power   | Output, +12 VDC, 27 Watt (max)                                 |

### ADDITIONAL DETAILS

|             |   |
|-------------|---|
| Software    | RS <sup>3</sup> ™ spectral acquisition software,<br>Seamless interface with ENVI®, ASD<br>ViewSpec™ Pro for post processing<br>Optional Indico™ Pro |
| Portability | Waterproof customized backpack with<br>soft-sided travel bag; Rugged instrument<br>transportation case  |
| Warranty    | One year full warranty including expert<br>customer support   |
| Computer    | Windows® 7 64-bit laptop<br>(instrument controller)   |
| GPS         | Optional  |

Manufactured by Malvern Panalytical,  
distributed in the UK and Ireland by **analytik**.