



TerraSpec⁴ HI-RES

Fast, precise mineral exploration

A mainstay in the geological research community, the TerraSpec[®] line of mineral analyzers is already recognized as the de facto technology for mineralogical analysis. Highly portable and rugged with expanded wireless capabilities, the TerraSpec 4 Hi-Res mineral analyzer, with 6 nm resolution, helps vector to mineral exploration targets faster than ever before. With enhanced performance in the SWIR 1 and 2 regions, enjoy even faster, more accurate spectral data collection, especially for samples with darker mineral features.

- Enhanced optics provide more precise spectral results for superior spectrum clarity and definition.
- Double the performance in the SWIR 1/SWIR 2 regions for better alteration mineral analysis.
- Wide range of optional optical probes designed to improve workflow for a variety of sample types.
- Non-destructive measurement means fast field scans.

For mining exploration geologists, these improvements translate into faster data capture and improved data quality. This equates to better field accuracy in determining important vector mineralogies such as kaolinite, smectite and illite group minerals. The enhancements also allow accurate assessment of low-concentration and low-reflectance minerals, like iron-containing minerals such as serpentines and chlorites, which were previously difficult to measure.

Unique applications:

- Mineral exploration
- Deposit mapping
- Mineral assemblage identification
- Drill cuttings analysis
- Core logging
- Determining geochemical gradients
- Clay species delineation
- Faster vectoring to ore body



Optional TerraSpec 4 spectrometer accessories

ASD offers a comprehensive variety of spectroscopy accessories to meet a multitude of application requirements. The following accessories are those most commonly requested by geologists interested in mineral identification:

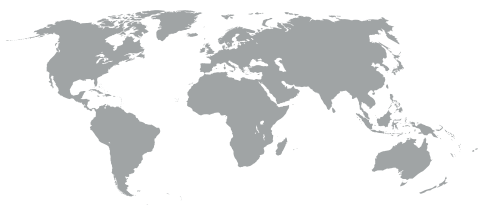
- Rapid analysis probe for powders and chips. This probe is specially designed for speedy spectral collection of fine grained materials like powders and can be used with quantitative predictive models.
- Small diameter reflectance probe for vugs and grain-specific mineralogy.
- For increased portability, a specially designed backpack is available for collecting direct field measurements.

TerraSpec 4 Hi-Res specifications

Performance	
Wavelength range	350 - 2500 nm
Spectral resolution	3 nm @ 700 nm and 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
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, two stage TE Cooled
Certification and approvals	
CE certified	EN61010-1:2001 2nd Edition
EU Directive	2006/95/EC, 2004/108/EC
ISTA®	Transit tested
Traceability	NIST traceable
Communications	
Wired	10/100 Base T Ethernet port with Ethernet cross-over cable
Wireless	802.11g/n

Physical & Environmental	
Height x width x depth	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 and 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)
Additional details	
Software	RS ³ spectral acquisition software, compatibility with The Spectral Geologist and SpecMin, seamless interface with ENVI®, ASD ViewSpec Pro for post processing, Indico® Pro spectral acquisition software
Portability	Rugged instrument transportation case; optional customized backpack with soft-sided travel bag
Warranty	One year full warranty including expert customer support
Computer	Windows® 7 64-bit laptop (instrument controller)

Global and near



ASD Inc.,
a PANalytical company
2555 55th Street, Suite 100
Boulder, CO 80301
United States of America
T +1 (303) 444-6522
F +1 (303) 444-6825
NIR.info@panalytical.com
www.asdi.com

PANalytical B.V.
Lelyweg 1, 7602 EA Almelo
P.O. Box 13, 7600 AA Almelo
The Netherlands
T +31 (0) 546 534 444
F +31 (0) 546 534 598
info@panalytical.com
www.panalytical.com