

AVASPEC

Near Infrared Spectrometers

NIRLINE

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with our invisible side



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AvaSpec NIRLine

The AvaSpec NIRLine instruments are high performance, near-infrared spectrometers which are optimized for the demands of measuring long wavelengths. This line provides leading-edge performance for dispersive NIR instruments with toroidal focusing mirrors and dynamic dark correction for enhanced stability. The NIRline is comprised of both thermo-electrically cooled and uncooled instruments. AvaSpec-NIR256-1.7 features an uncooled 256 pixel InGaAs detector. All other instruments in the NIRline feature thermo-electric, peltier-cooled InGaAs detectors which support cooling down to -25°C.



AvaSpec NIRLine instruments are fully compatible with our AvaSpec StarLine and SensLine spectrometers. Avantas' AvaSpec NIRLine instruments are available as laboratory instruments or OEM modules. AvaSpec NIRLine instruments

are available with a number of premium options such as USB2 or USB3/Ethernet communication, irradiance/intensity calibration, and non-linearity calibration.

The AvaSpec NIRLine of instruments are designed to perform in a variety of applications such as:

- Moisture content measurement of liquids, solids and powders for inline and quality control purposes
- Quantitative and qualitative measurement of volatile organics such as ethanol and methanol
- Plastic characterization and material identification
- Irradiance measurements such as solar monitoring
- Qualitative measurements of feed and food



AvaSpec NIRLine Instruments

AvaSpec-NIR256-1.7

Uncooled NIR instrument with impressive stability and sensitivity, ideal for plastic characterization and in-line moisture content monitoring.

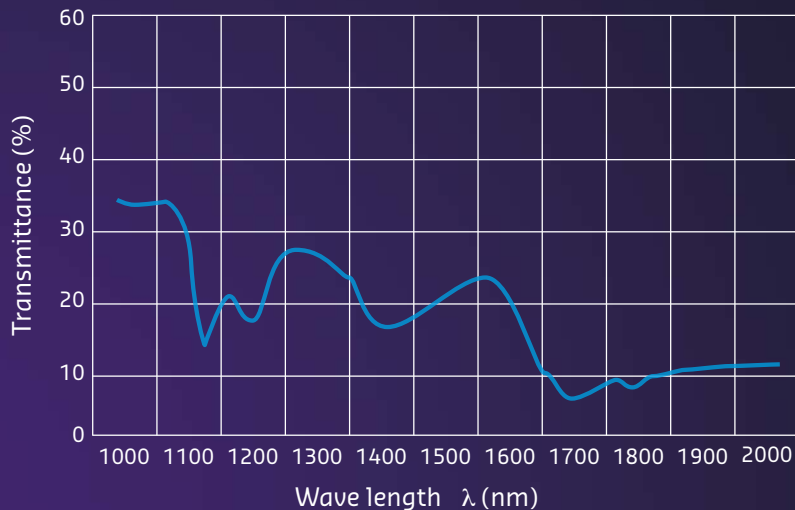
AvaSpec-NIR256-1.7TEC & AvaSpec-NIR512-1.7TEC

Provides higher resolution and greater dynamic range with 1-stage thermo-electrical cooling. Regulated detector temperature provides higher stability. Suitable for food and feed applications.

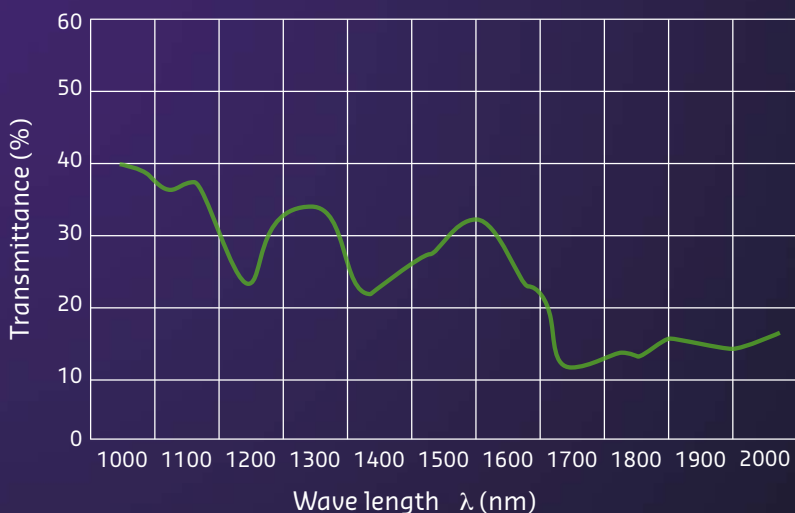
AvaSpec-NIR256-2.0TEC, AvaSpec-NIR256-2.2TEC, AvaSpec-NIR512-2.2TEC, AvaSpec-NIR256-2.5-HSC-EVO & AvaSpec-NIR512-2.5-HSC-EVO

Featuring extended InGaAs array technology to measure up to 2500 nm. Integrated two stage peltier cooling technology to provide low dark noise levels and enhanced dynamic range. Suitable for solar applications.

Polycarbonaat (PC)



High-density polyethylene (HDPE)



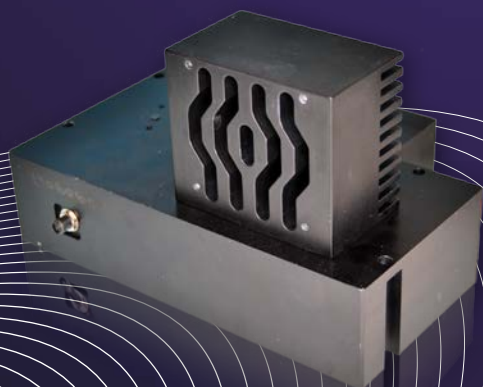
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enlightening spectroscopy

AvaSpec NIRLine

Specification	AvaSpec-NIR256-1.7	AvaSpec-NIR256-1.7TEC	AvaSpec-NIR512-1.7TEC	AvaSpec-NIR256-2.0TEC	AvaSpec-NIR256-2.2TEC	AvaSpec-NIR512-2.2TEC	AvaSpec-NIR256-2.5-HSC-EVO	AvaSpec-512-2.5-HSC-EVO
Optical bench	Symmetrical Czerny-Turner, 50 mm focal length							
Wavelength Range	900-1750 nm	900-1750 nm	900-1750 nm	1000-2000 nm	1000-2200 nm	1000-2200 nm	1000-2500 nm	1000-2500 nm
Resolution (FWHM)	2.0-50 nm	2.0-50 nm	1.5-50 nm	10-60 nm	10-60 nm	6-60 nm	4.4-85nm	2.6-85nm
Stray Light	< 1%	< 0.5%	< 0.5%	< 1%	< 1%	< 1%	< 1%	< 1%
Sensitivity*	1,300,000 (1000-1750)	2,700,000 (1000-1750)	1,385,000 (1000-1750)	70,000 (1000-2000)	77,000 (1200-2200)	38,500 (1200-2200)	70,000 (1000-2500)	32,500 (1000-2500)
Detector	InGaAs Linear array, 256 pixels	InGaAs Linear array, 256 pixels; 1 stage TE cooling	InGaAs Linear array, 512 pixels; 1 stage TE cooling	InGaAs Linear array, 256 pixels; 2 stage TE cooling	InGaAs Linear array, 256 pixels; 2 stage TE cooling	InGaAs Linear array, 512 pixels; 2 stage TE cooling	InGaAs Linear array, 256 pixels; 2 stage TE cooling	InGaAs Linear array, 215 pixels; 2 stage
Pixel Size (WxH)	50 x 500 μ m	50 x 500 μ m	25 x 500 μ m	50 x 250 μ m	50 x 500 μ m	25 x 500 μ m	50 x 250 μ m	25 x 250 μ m
Signal/Noise (LN)	6000:1	3600:1	3600:1	6000:1	3600:1	3600:1	3800:1	3700:1
Integration Time Minimum	0.01 ms	0.02 ms	0.02 ms	0.01 ms	0.02 ms	0.02 ms	0.01 ms	0.01 ms
AD Converter	16 bit, 500KHz	16 bit, 2.4MHz	16 bit, 2.4MHz	16 bit, 500KHz	16 bit, 2.4MHz	16 bit, 2.4MHz	16 bit, 500KHz	16 bit, 500KHz
OEM Module	Avabench-50-NIR256-1.7 & AS5216 (optional)	Avabench-50-NIR256-1.7TEC & AS5216 (optional)	Avabench-50-NIR512-1.7TEC & AS5216 (optional)	Avabench-50-NIR256-2.0TEC & AS5216 (optional)	Avabench-50-NIR256-2.2TEC & AS5216 (optional)	Avabench-50-NIR512-2.2TEC & AS5216 (optional)	Avabench-50-NIR256-2.5TEC & AS7010 (optional)	Avabench-50-NIR512-2.5TEC & AS7010 (optional)

Available premium options: wireless communication, multi-channel housings, non-linearity calibration

*Halogen source, 8 μ m fiber in counts/uW per ms integration time, HS-mode



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