

AvaSpec-Mini-NIR

Small and Powerful OEM NIR Spectrometer

AvaSpec-Mini-NIR256-1.7



The latest addition to our CompactLine: the AvaSpec-Mini-NIR!

The AvaSpec-Mini-NIR is a compact near-infrared spectrometer, based on a combination of our popular AvaSpec-NIR256-1.7 and Mini-series.

This NIR spectrometer might not be as sensitive as our bigger NIR spectrometers, but this loss in sensitivity is greatly compensated by its size and robustness.

Like our other CompactLine spectrometers, this device is only the size of a deck of cards

and USB powered, which makes it easy to integrate into other devices, including but not limited to OEM handheld applications.

This versatile miniature near-infrared spectrometer is well suited for various applications, including food analysis and the recycling industry.

Of course, the AvaSpec-Mini-NIR works seamlessly with our AvaSoft software and the Windows and Linux libraries we have available.

Technical Data

Optical bench	Symmetrical Czerny-Turner, 75 mm focal length, MK II
Wavelength range	900-1750 nm
Stray light	1%
Sensitivity HS in counts/μW per ms	665,000 (integral 1000-1750 nm)
Dynamic range HS	4750:1
Integration time HS	10 μs – 300 ms
Signal/noise HS	1900:1
Dark noise HS	14 counts
Sensitivity LN in counts/μW per ms	38,000 (integral 1000-1750 nm)
Dynamic range LN	7500:1
Integration time LN	10 μs – 5 seconds
Signal/noise LN	5000:1
Dark noise LN	9 counts
Detector	InGaAs array, 256 pixels
AD converter	16-bit, 500 kHz
Interface	USB2.0 (480 Mbps)/pigtailed (40 cm) USB-A
Sample speed with store to RAM	0.53 ms/scan
Data transfer speed	1.2 ms/scan
I/O	5 bidirectional programmable I/O: 1 analog out, 1 analog in, 1 x 5V
Power supply	Default USB power, 500 mA
Dimensions, weight	95 x 68 x 20 mm, 185 g
Temperature range	0-55°C

Grating selection table for AvaSpec-Mini-NIR

Use	Useable range (nm)	Spectral range (nm)	Lines/mm	Blaze (nm)	Order code
NIR	900-1750	725	200	1550	NIR200-1.6
NIR	900-1495	330-320	400	1210	NIR400-1.2
NIR	1250-1700	315-310	400	1600	NIR400-1.6
NIR	900-1450	210-195	600	1280	NIR600-1.3
NIR	1350-1735	185-170	600	1669	NIR600-1.7

Resolution table (FWHM in nm) for AvaSpec-Mini-NIR*

Grating (lines/mm)	Slit size (μm)			
	50	100	200	500
200	6	12	24	50
400	3	6	12	25
600	2	4	8	18

* Typical values. Small deviations are possible.

Ordering information

AvaSpec-Mini-NIR256-1.7

• Miniature NIR fiber-optic spectrometer, 75 mm focal length, 256 pixel InGaAs detector, USB2 powered interface

Specify grating, wavelength range and options. Other gratings are possible on request.

Options

SLIT-XX

• Slit size, please specify XX = 50, 100, 200 or 500 μm

For non-OEM users, a preconfigured model will be available upon release