AvaSpec-Mini:
Small and powerful OEM spectrometer

Looking for a very small spectrometer with a resolution of up to 0.1 nm? Then the AvaSpec-Mini is an ideal choice. It's only the size of a deck of cards, yet delivers a dynamic range of 2000:1, stray-light levels lower than 0.17% and weighs only 174 grams. Easy to take anywhere you like.

The AvaSpec-Mini finds its way into many areas of research, such as light analysis, chemical research and Raman spectroscopy. Or use it as a tiny OEM-spectrometer in your application. The possibilities are endless.

Of course, the AvaSpec-Mini works seamlessly with Avantes spectroscopy software and the Windows and Linux libraries.

Technical Data

Name	AvaSpec-Mini 2048	AvaSpec-Mini 2048L	AvaSpec-Mini 3648
Optical Bench	Symmetrical Czerny-Turner, 75 mm focal length		
Wavelength range	220-1000 nm		
Stray-light	<0.2%		
Sensitivity	Similar to ULS2048 (no DCL)	Similar to ULS2048 (no DCL)	Similar to ULS3648 (no DCL)
Detector	Sony CCD linear array, 2048 pixels	Sony CCD linear array, 2048 (Large) pixels	Toshiba CCD linear array, 3648 pixels
Signal/Noise	200:1	300:1	350:1
AD converter	16-bit, 2 MHz		
Integration time	1.05ms - 10 minutes		10μs - 10 minutes
Interface	USB 2.0 (480 Mbps) / RS-232(115200 bps)		
Sample speed with on-board averaging	3.0 ms/scan		7.4 ms/scan
Data transfer speed	4.6 ms/scan		7.4 ms/scan
I/O	6 bidirectional programmable I/O; 2 analog out; 2 analog in		
Dimensions, weight	95 x 68 x 20 mm, 174 grams		
Power supply	Default USB power, 250 mA; external 5-15Vdc (Rs232)		
Temperature range	0-55⁰C		

Grating selection table for AvaSpec-Mini

Use	Useable range (nm)	Spectral range (nm)	Lines/mm	Blaze (nm)	Order code
2048(L)					
UV	200-400	167	1800	250	MN 1800-0.25
VIS	330-900	530	600	500	MN 600-0.50
NIR	550-1100	520	600	1000	MN 600-1.00
3648					
UV	200-400	170	1800	250	MN 1800-0.25
VIS	330-900	535	600	500	MN 600-0.50
NIR	550-1100	525	600	1000	MN 600-1.00

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

Grating (lines/mm)	Slit size (µm)					
	10	25	50	100	200	500
2048 (L)						
600	0.40-0.53	0.70	1.20	2.40	4.60	10.80
1800	0.10-0.18	0.20-0.29	0.34-0.42	0.80	1.60	3.60
3648						
600	0.30-0.36	0.58-0.60	1.17	2.20	4.50	10.00
1800	0.09-0.11	0.18	0.36-0.40	0.78	1.50	3.70

Typical values. Small deviations are possible.

Ordering Information

AvaSpec-Mini2048	• Mini Fiber-optic Spectrometer, 75 mm focal length, 2048 pixel CCD detector, USB 2 powered interface
AvaSpec-Mini2048L	• Mini Fiber-optic Spectrometer, 75 mm focal length, 2048L pixel CCD detector, USB 2 powered interface
AvaSpec-Mini3648	• Mini Fiber-optic Spectrometer, 75 mm focal length, 3648 pixel CCD detector, USB 2 powered interface

Specify grating, wavelength range and options.

Options

-DUV	• Deep UV detector coating (start wavelength <350nm)
SLIT-XX	• Slit size, please specify XX = 10, 25, 50, 100, 200 or 500 µm
-FCPC	• FC/PC fiber-optic entrance
OSC	• Order sorting coating for grating MN 600-0.50, recommended with OSF-305
OSF-YYY	• Order-sorting filter for reduction of 2nd order effects, please specify YYY= 550 or 600 nm, depends on range

For non-OEM users a set of preconfigured models are available