AVANTES 2021 *DEMO SALE!*

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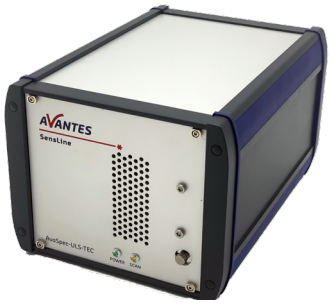

Demos for Sale	Details	Original Price	Discounted Price
Demo C05	AVASPEC-ULS2048CL-RS-USB2-INC4 S/N: 1706001U1; Grating: VA, from 300 nm to 1100 nm; Slit-25-RS, OSC; avasoft-All	~~$4,920~~	$1900
Demo 44	AVAPEC-ULS3648-RS-USB: S/N 1603088U1; Grating UB, from 200 nm to 720 nm; DUV3648-coating, DCL-UV/VIS-200, Slit-10-RS	~~$4,420~~	$1,800
Demo 45	AVAPEC-ULS3648-RS-USB: S/N 1706039U1; Grating UA, from 200 nm to 1100 nm; DUV3648-coating, DCL-UV/VIS-200, Slit-10-RS, OSC-UA, Avasoft-All	~~$4,420~~	$1,800
Demo 43	AVASPEC-ULS2048XL-USB2 : S/N 1404060U1; Grating NC, from 882 nm to 1041 nm, Slit-25, OSF-600, Full XLS IRR	~~$6,470~~	$1,625
Demo 27	AVASPEC-ULS2048L-USB2-BB-50 S/N 1612105U1; Grating BB, from 360 to 880 nm; DCL-UV/VIS-200, Slit-50, OSC; Avasoft-All	~~$3,250~~	$1,625
Demo 29	AvaSpec-ULS2048XL-RS: S/N 1302112U1; Grating UD, from 230 nm to 391 nm DCL-UV/VIS-200, Slit-25-RS; Avasoft-All	~~$6,470~~	$2300
Demo 13	AvaSpec-2048-USB2: S/N 0806094U1; Grating UC, from 180 nm to 430 nm DUV2048-coating DCL-UV/VIS, Slit-200Avasoft-All	~~$2,690~~	$1,250
Demo 31	AvaSpec-ULS2048L-RS-USB2: S/N 1304121U1; Grating UA,from 200 nm to 1100 nm DUV2048-coating, DCL-UV/VIS-200, Slit-10-RS, OSC-UA	~~$6,640~~	$2,300
Demo 32	AvaSpec-ULS2048x16-RS-USB2: S/N 1509048U1; Grating IB, from 600 nm to 1112 nm; Slit-50-RS, OSF-600; Avasoft-Full	~~$6,470~~	$2,100
AvaSpec-Mini3648-V25	S/N 1410148M1; Grating MN600-0.50, from 350 nm to 885 nm; Slit-25, OSC; Avasoft-All	~~$2,830~~	$1,400
AvaSpec-Mini2048L-INC3	S/N: 1607153M1; Grating MN300-0.30, from 200 nm to 1100 nm; Slit-50, OSC-UA, Avasoft-All	~~$2,890~~	$1,425
Demo 38	AvaSpec-Mini2048L-INC1: S/N: 1511034M1; Grating HS600-0.30, from 290 nm to 810 nm; DUV2048-coating, Slit-200, Avasoft-All	~~$2,890~~	$1,425
Demo 13	AvaSpec-2048L-USB2: S/N 6406061VD; Grating VD, from 372 nm to 518 nm Slit-10, Avasoft-All	~~$2,770~~	$1,325
AvaSpec-ULS2048x64TEC-USB2	S/N 1810349U1; Grating BB, from 380 nm to 780 nmDCL-UV/VIS-200, Slit-100, OSC	~~$8,500~~	$2,780

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	0-55°C		

AVANTES enlightening spectroscopy

AvaSpec-ULS3648 StarLine High-resolution Fiber-optic Spectrometer

When you're looking for high-resolution, then take a look at the AvaSpec-ULS3648. Featuring an electronic shutter, it can support integration times as short as 10 microseconds, making it also ideal for CW laser measurements.

Options include order-sorting filters to prevent 2nd order effects, deep-UV detector coating for better sensitivity in the deep-UV-range, and a detector collection lens to enhance overall sensitivity. Also, a wide range of slit sizes, gratings and fiber-optic entrance connectors are available.

Configurations with two to ten channel spectrometers are available. These give you the possibility for multiple simultaneous readouts or higher optical resolution in which several spectrometers are arrayed with each covering a short range with high-resolution. For more information, see pages 62 and 63.

The connection to your computer is done through USB2 at 480 Mbps. This translates into 3.7 ms per scan data transfer speed. Of course it's supplied with AvaSoft-Basic, USB cable and an extensive manual, including a quick start guide in four languages.

AvaSpec-ULS3648

Technical Data

Optical Bench	ULS Symmetrical Czerny-Turner, 75 mm focal length
Wavelength range	200 - 1100 nm
Resolution	0.05 –20 nm, depending on configuration (see table)
Stray-light	0.38-0.53%, depending on the grating
Sensitivity	160,000 counts/µW per ms integration time
Detector	CCD linear array, 3648 pixels
Signal/Noise	350:1
AD converter	16-bit, 1 MHz
Integration time	10 µs – 10 minutes
Interface	USB 2.0 high-speed, 480 Mbps RS-232, 115.200 bps
Sample speed with store to RAM	3.7 ms /scan
Data transfer speed	3.7 ms /scan (USB2) 750 ms/scan (RS-232)
Digital IO	HD-26 connector, 2 Analog in, 2 Analog out, 3 Digital in, 12 Digital out, trigger, synchronization
Power supply	Default USB power, 350 mA Or with SPU2 external 12VDC, 150 mA
Dimensions, weight	175 x 110 x 44 mm (1 channel), 716 grams

AvaSpec-ULS2048L StarLine Versatile Fiber-optic Spectrometer

AvaSpec-ULS2048L

A close cousin to the AvaSpec-ULS2048 but with larger pixels, is the AvaSpec-ULS2048L. It provides enhanced sensitivity at an affordable price. The AvaSpec-ULS2048L has pixels that are almost four times higher than those in the AvaSpec-ULS2048. It gives you a better signal to noise ratio and 40% less dark noise.

Options include a deep-UV detector coating, for better performance in the deep-UV-range, a detector collection lens to enhance sensitivity in the 200-1100 nm range and order-sorting filter to reduce 2nd order effects. Furthermore, the AvaSpec-ULS2048L is available with a wide range of slit sizes, gratings and fiber-optic entrance connectors.

The AvaSpec-2048L is also available in dual or multi-channel versions (up to 10 spectrometers), where all spectra are taken simultaneously.

Connection to your PC is handled via USB2-connection, delivering a scan every 1.8 milli-seconds. Integration time can be as short as 1.05 milliseconds up to a maximum of 10 minutes. It comes complete with AvaSoft-Basic software, USB cable and an extensive manual, including a quick start guide in four languages.

Technical Data

Optical Bench	ULS Symmetrical Czerny-Turner, 75 mm focal length
Wavelength range	200-1100 nm
Resolution	0.06 –20 nm, depending on configuration (see table)
Stray-light	0.16-0.28%, depending on the grating
Sensitivity	470,000 counts/µW per ms integration time
Detector	CCD linear array, 2048 pixels
Signal/Noise	300:1
AD converter	16-bit, 2 MHz
Integration time	1.05 ms – 10 minutes
Interface	USB 2.0 high-speed, 480 Mbps RS-232, 115.200 bps
Sample speed with store to RAM	1.05 ms /scan
Data transfer speed	1.8 ms/scan (USB2) 430 ms/scan (RS-232)
Digital IO	HD-26 connector, 2 Analog in, 2 Analog out, 3 Digital in, 12 Digital out, trigger, sync.
Power supply	Default USB power, 350 mA Or with SPU2 external 12VDC, 150 mA
Dimensions, weight	175 x 110 x 44 mm (1 channel), 716 grams

Add flexibility
to your spectrometer with
the Replaceable Slit (-RS) option

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AvaSpec-ULS2048x64TEC SensLine Thermo-Electric Cooled Fiber-optic Spectrometer

AvaSpec-ULS 2048x64TEC

The AvaSpec-ULS2048x64TEC spectrometer is one of the newest spectrometers in the SensLine.

This instrument enhances the Sensline series. With a cooled, backthinned detector. The backthinned detecor has good sensitivity in the UV and IR region. The 64 pixelheight (0.89 mm) enables catching as many photons as possible while the cooling enables long integration times up to 500 seconds with low noise values.

The instrument features our re-designed three-stage Peltier cooling device integrated into our exclusive ultra-low stray-light optical bench, which can reduce the temperature of the CCD chip by -35 °C against ambient, improving the dark baseline and PRNU level by a significant factor. The detector cooling also reduces the dark noise by a factor of 2-3.

The AvaSpec-ULS2048x64TEC-USB2 uses a special low noise version of the 2048x64 detector .

All the features mentioned above make this instrument ideally suited for measuring low light applications like for instance fluorescence.
Optimal flexibility is guaranteed with the (optional) replaceable slit making the instrument suitable for different kind of applications.

The above mentioned make the AvaSpec-ULS2048x64TEC an excellent choice for low light-level applications, such as fluorescence and Raman measurements, where integration times of more than 5 seconds may be needed.
The AvaSpec-ULS3648TEC can be delivered as 1- or 2-channel instrument and has all the standard options, gratings and specifications of the standard AvaSpec-ULS3648. The AvaSpec-ULS3648TEC is built into a newly designed housing with an integrated temperature regulator, USB2 high-speed communication, dual cooling fans and an integrated power supply.

Technical Data

Optical Bench	ULS Symmetrical Czerny-Turner, 75 mm focal length
Wavelength range	200-1160 nm
Resolution	0.09 –20 nm, depending on configuration (see table)
Stray-light	<1%, depending on the grating
Sensitivity	300,000 counts/µW per ms integration time
Detector	Backthinned CCD, 2048x64 pixels, Low Noise
Temperature cooled CCD	Max. ΔT = -35 ºC versus ambient. Optimal setting: 5 ºC
3-stage Peltier cooling internal Power supply @ ΔT=-35ºC	5VDC, 3.0A
Signal/Noise	550:1
AD converter	16-bit, 500 KHz
Integration time	9.7 ms – 500s
Interface	USB 2.0 high-speed, 480 Mbps RS-232, 115.200 bps
Sample speed with on-board averaging	9.7 ms /scan
Data transfer speed	9.7 ms /scan (USB2) 432 ms/scan (RS-232)
Digital IO	HD-26 connector, 2 Analog in, 2 Analog out, 3 Digital in, 12 Digital out, trigger, sync.
Power supply	100-240 VAC, 50W
Dimensions, weight	250 x 179 x 144 mm, 3.6 kg

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AvaSpec-ULS2048x16 Back-thinned CCD Spectrometer

The AvaSpec-ULS2048x16 is the best option when looking for a cost-effective, high sensitive spectrometer. The back-thinned Hamamatsu detector features a signal to noise ratio of 500:1 and a quantum effeciency of up to 78%.

Options include order-sorting filter to reduce 2nd order effects, purge ports for deep-UV measurements. The AvaSpec-ULS2048x16 comes with a wide range of slit sizes, gratings and may be configured with SMA or FC/PC fiber-optic entrance connectors.

The AvaSpec-ULS2048x16 is also available in dual or multi-channel versions (up to 10 spectrometers), where all spectra are acquired simultaneously.
Connection to your PC is handled via a USB2-connection, delivering a scan every 1.8 milliseconds. The instrument comes complete with AvaSoft-basic software, USB cable and an extensive manual, including a quick start guide in four languages.

Technical Data

Optical Bench	ULS, Symmetrical Czerny-Turner, 75 mm focal length
Wavelength range	200 - 1160nm
Resolution	0.09 -20 nm, depending on configuration (see table)
Stray-light	< 0.3%
Sensitivity	250,000 counts/µW per ms int. time
Quantum efficiency @ peak	78% (600nm)
Detector	Back-thinned CCD image sensor 2048x16 pixels
Signal/Noise	450:1
AD converter	16-bit, 1.33 MHz
Integration time	1.82 ms - 60 sec
Interface	USB 2.0 high speed, 480 Mbps RS-232, 115.200 bps
Sample speed with on-board averaging	1.82 ms / scan
Data transfer speed	1.82 ms / scan (USB2) 432 ms / scan (RS-232)
Digital IO	HD-26 connector, 2 Analog in, 2 Analog out, 3 Digital in, 12 Digital out, trigger, synchronization
Power supply	Default USB power, 450 mA Or with SPU2 external 12VDC, 200 mA
Dimensions, weight	175 x 110 x 44 mm(1 channel), 855 grams

Partial Grating selection table for AvaSpec-HS2048x16

Use	Useable range (nm)	Spectral range (nm)	Lines/mm	Blaze (nm)	Order code
UV/VIS/NIR	200-1160**	960**	300	300	UA
UV/VIS	200-850	520	600	300	UB
UV	200-750	250-220*	1200	250	UC
UV/VIS	250-850	520	600	400	BB
VIS	360-1000	500	600	500	VB
NIR	500-1050	500	600	750	NB
NIR	600-1160	500	600	1000	IB

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