NEXOS™ BENCH ONLY

TECHNICAL DATA

SPECIFICATIONS

	NEXOS™ 2K	NEXOS™ 4K
Optical Bench	Symmetrical Czerny-Turner design, 75 mm focal length; NEXOS™ Spectrometer bench	
Wavelength range	190 - 1100 nm	
Stray light	0.1 - 1% (typical value 300l/mm, blaze 300 nm < 0.3%)	
Detector	HAM S11639, CMOS linear array, 2048 pixels (14x200 µm)	HAM S13496, CMOS linear array, 4096 pixels (7x200µm)
Dimensions, weight	105 x 80 x 20 mm, 277,5 grams	
Temperature range	5-55 °C	
Interface	Direct interfacing to connector via ZIF and coax cable	

GRATINGS

Use	Useable range (nm)	Spectral range (nm)	Lines/mm	Blaze (nm)	Order code
UV/VIS/NIR	190-1160**	910**	300	300	MN0300-0.30
UV/VIS	190-850	544-540*	600	300	MN0600-0.30
UV	190-750	261-256*	1200	250	MN1200-0.25
UV	190-650	168-152*	1800	UV	MN1800-0.25
UV	190-580	121-103*	2400	UV	MN2400-0.25
UV	190-400	72-57*	3600	UV	MN3600-0.25
UV/VIS	250-850	536-532*	600	400	MN0600-0.40
VIS/NIR	300-1160**	800**	300	500	MN0300-0.50
VIS	360-1000	529-519*	600	500	MN0600-0.50
VIS	300-800	247-216*	1200	500	MN1200-0.50
VIS	350-750	147-121*	1800	500	MN1800-0.50
VIS	350-640	96-89*	2400	VIS	MN2400-0.50
NIR	500-1050	515-506*	600	750	MN0600-0.75
NIR	500-1050	210-204*	1200	750	MN1200-0.75
NIR	600-1160	339-300*	830	800	MN0830-0.80
NIR	600-1160**	500**	300	1000	MN0300-1.00
NIR	600-1160	500	600	1000	MN0600-1.00

Note: a selection of starting wavelength is possible, contact us for available configurations.
* Depends on the starting wavelength of the grating; the higher the wavelength, the bigger the dispersion and smaller the range to select
** Please note that not all pixels will be used for the useable range

MORE DATA ON THE NEXT PAGE >

RESOLUTION NEXOS™ 2K

Slit size (µm)	10	25	50	100	200	500
300 lines/mm grating	1.0	1.4	2.25	4.8	9.2	21.3
600 lines/mm grating	0.40-0.53*	0.7	1.2	2.4	4.6	10.8
830 lines/mm grating	0.32	0.48	0.93	1.7	3.4	8.5
1200 lines/mm grating	0.20-0.28*	0.27-0.38*	0.52-0.66*	1.1	2.3	5.4
1800 lines/mm grating	0.10-0.18*	0.20-0.29*	0.34-0.42*	0.8	1.6	3.6
2400 lines/mm grating	0.09-0.13*	0.13-0.17*	0.26-0.34*	0.44-0.64*	1.1	2.7
3600 lines/mm grating	0.06-0.08*	0.10	0.19	0.4	0.8	1.8

*Depends on the starting wavelength of the grating; the higher the wavelength, the bigger the dispersion and the higher the resolution.

RESOLUTION NEXOS™ 4K

Slit size (µm)	10	25	50	100	200	500
300 lines/mm grating	0.50-0.70	1.4	2.25	4.8	9.2	21.3
600 lines/mm grating	0.30-0.36*	0.7	1.2	2.4	4.6	10.8
830 lines/mm grating	0.25	0.48	0.93	1.7	3.4	8.5
1200 lines/mm grating	0.14-0.18*	0.27-0.38*	0.52-0.66*	1.1	2.3	5.4
1800 lines/mm grating	0.09-0.11*	0.20-0.29*	0.34-0.42*	0.8	1.6	3.6
2400 lines/mm grating	0.07-0.09*	0.13-0.17*	0.26-0.34*	0.44-0.64*	1.1	2.7
3600 lines/mm grating	0.05-0.06*	0.10	0.19	0.4	0.8	1.8

*Depends on the starting wavelength of the grating; the higher the wavelength, the bigger the dispersion and the higher the resolution.

ORDERING INFORMATION

Order code	Ordering information
AvaBench-75-NXS2048CL-U3	OEM NEXOS™ fiber-optic spectrometer bench, 75 mm focal length, 2048 pixel CMOS detector, needs DCL, second order suppressing, fixed slit
AvaBench-75-NXS4096CL-U3	OEM NEXOS™ fiber-optic spectrometer bench, 75 mm focal length, 4096 pixel CMOS detector, needs DCL, second order suppressing, fixed slit

CONFIGURATION DEPENDANT PARAMETERS

Order code	Parameter information
SLIT-XX-P	Fixed Slit for NEXOS™ Spectrometer. Slit size, please specify XX = 10, 25, 50, 100, 200, 500 µm
OSC	Order sorting coating for grating MN 0600-0.50
OSC-UA	Order sorting coating for grating MN 0300-0.30 / MN 0300-0.50
OSC-UB	Order sorting coating for grating MN 0600-0.50
OSF-YYY-3	Order sorting filter for reduction of second-order effects, possible: YYY = 305, 395, 457, 515, 550, or 600 nm, depending on range
DCL	Detector Collection Lens. To be included

Avantes will select needed second order suppression based on desired configuration.

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We reserve the right to make changes without prior notice. While every effort has been made to ensure all information in this document is accurate, Avantes accepts no liability for any inaccuracies.

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NEXOS™ LINK

TECHNICAL DATA

SPECIFICATIONS

	NEXOS™ 2K	NEXOS™ 4K
Optical Bench	Symmetrical Czerny-Turner design, 75 mm focal length; NEXOS™ spectrometer bench	
Wavelength range	190 - 1100 nm	
Stray light	0.1 - 1% (typical value 300l/mm, blaze 300 nm < 0.3%)	
Detector	HAM S11639, CMOS linear array, 2048 pixels (14x200 µm)	HAM S13496, CMOS linear array, 4096 pixels (7x200µm)
Signal/Noise	375:1	365:1
Dynamic Range	4500	
Dark noise	15 cnts	
AD converter	16-bit, 6 MHz	
Integration time	9 µs – 30 s	
Interface	RS232 or SPI pigtailed with separate power connection	
Data transfer speed	TBD ms /scan	TBD ms /scan
Digital I/O	5 bidirectional programmable I/O; 1 Analog out, 1 Analog in, 1x5V	
Dimensions, weight	105 x 80 x 20 mm, 277,5 grams	
Power supply	Separate	
Temperature range	5-55 °C	

GRATINGS

Use	Useable range (nm)	Spectral range (nm)	Lines/mm	Blaze (nm)	Order code
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VIS	300-800	247-216*	1200	500	MN1200-0.50
VIS	350-750	147-121*	1800	500	MN1800-0.50
VIS	350-640	96-89*	2400	VIS	MN2400-0.50
NIR	500-1050	515-506*	600	750	MN0600-0.75
NIR	500-1050	210-204*	1200	750	MN1200-0.75
NIR	600-1160	339-300*	830	800	MN0830-0.80
NIR	600-1160**	500**	300	1000	MN0300-1.00
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*Depends on the starting wavelength of the grating; the higher the wavelength, the bigger the dispersion and the higher the resolution.

ORDERING INFORMATION

Order code	Ordering information
AvaSpec-NXS2048CL-RS232	OEM NEXOS™ fiber-optic spectrometer, 75 mm focal length, 2048 pixel CMOS detector, RS232 communication, power connection, needs DCL, second order suppressing, fixed slit
AvaSpec-NXS4096CL-RS232	OEM NEXOS™ fiber-optic spectrometer, 75 mm focal length, 4096 pixel CMOS detector, RS232 communication, power connection, needs DCL, second order suppressing, fixed slit
AvaSpec-NXS2048CL-SPI	OEM NEXOS™ fiber-optic spectrometer, 75 mm focal length, 2048 pixel CMOS detector, SPI communication, power connection, needs DCL, second order suppressing, fixed slit
AvaSpec-NXS4096CL-SPI	OEM NEXOS™ fiber-optic spectrometer, 75 mm focal length, 4096 pixel CMOS detector, SPI communication, power connection, needs DCL, second order suppressing, fixed slit

CONFIGURATION DEPENDANT PARAMETERS

Order code	Options information
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OSF-YYY-3	Order sorting filter for reduction of second-order effects, possible: YYY = 305, 395, 457, 515, 550, or 600 nm, depending on range
DCL	Detector Collection Lens. To be included

Avantes will select needed second order suppression based on desired configuration.

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