

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 |
|------------|--------------------|---------------------|----------|------------|-------------|
| 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 |
|-------------------------|---|
| 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 |
|------------|--|
| 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.