ULSi : Integrated Miniature Spectrometer

The same quality Avantes is well-known for, now in an easy-to-install package: the ULSi is the ideal choice for any system integrator. Fiber optic spectrometers have been integrated into many end-user systems in almost all areas of research and detection. Avantes has the completely integrated spectrometer: one housing including the optimum Ultra Low Straylight optical bench and a miniaturized version of our flexible AS5216 electronics board.

The ULSi is available with the four best-selling detectors Avantes offers: the Sony ILX554B with 2048 pixels, the Sony ILX511 with 2048 high pixels for extra sensitivity, the Toshiba TCD1304 high resolution 3648 pixels and the Hamamatsu CMOS detector with 2048 pixels. The same wide range of slits, gratings and other options available in the mainline spectroscopy lineup are also available for the ULSi.

Technical Data

Microprocessor	Coldfire, 5216, 32 bit, 64 MHz
Memory	512 KB Flash Memory, 64KB RAM
A/D converter	16 bit, 2 channels for video signal
Integration time	2 µs - 10 minutes (detector dependent)
Data Transfer speed	Detector dependent 1-5 ms
USB interface	2.0 high speed, 480 Mbps
RS-232 interface	Baudrate 115200 bps
Digital IO	36 pin Samtec connector, 2 Analog in, 2 Analog out, 3 Digital in, 12 Digital out, trigger, synchronization
Power supply	Default USB power, 350 mA 12 VDC, reverse polarity protection, 350 mA
Temperature range	0 - 55 ºC
Dimensions, weight	90 x 120 x 35 mm, 580 gr.

Note: For optical specifications see AvaSpec-ULS3648 and AvaSpec-ULS2048(L) /(CL)

Ordering Information

AvaSpec-ULSi2048-USB2	• OEM integrated ultra-low stray-light optical bench, 75 mm focal length, 2048 pixel CCD detector, specify grating, wavelength range and options
AvaSpec-ULSi3648-USB2	• OEM integrated ultra-low stray-light optical bench, 75 mm focal length, 3648 pixel CCD detector, specify grating, wavelength range and options
AvaSpec-ULSi2048L-USB2	• OEM integrated ultra-low stray-light optical bench, 75 mm focal length, 2048 large pixel CCD detector, specify grating, wavelength range and options
AvaSpec-ULSi2048CL-USB2	• OEM integrated ultra-low stray-light optical bench, 75 mm focal length, 2048 large pixel CMOS detector, specify grating, wavelength range and options

Options

DCL-UV/VIS-200	• Detector collection lens for AvaSpec-2048L/3648/2048CL for >200 µm fibers , to enhance sensitivity, quartz, 200-1100 nm
Slit-XX	• Slit size, please specify XX = 10, 25, 50, 100, 200, 500 µm
GRAT-UNA-DB	• Dual blazed grating 300/1000 nm, 300 lines/mm for AvaSpec-ULS2048(L)/3648/2048CL
OSF-YYY	• Order sorting filter for reduction of second order effects (1 mm < 2%), please specify YY=305, 395, 475, 515, 550, 600nm
OSC	• Order sorting coating with 600 nm pass filter for VA, BB and VB gratings in AvaSpec-ULS2048(L)/3648/2048CL
OSC-UA	• Order sorting coating with 350 and 600 nm pass filter for UA gratings in AvaSpec-ULS2048(L)/3648/2048CL
OSC-UB	• Order sorting coating with 350 and 600 nm pass filter for UB and BB gratings starting < 350 nm in AvaSpec-ULS2048(L)/3648/2048CL
-FC/PC	• FC/PC entrance connector on AvaSpec instead of SMA