

tecSpec® USB3: Diode Array Spectrometer for High Speed Applications



High performance integrated spectrometer unit with USB3 SuperSpeed interface. Various CMOS-based spectral sensors are available with high-speed, 16 bit read-out. The unit is ideal for use in laboratories for applications requiring acquisition rates of up to 15,000 acquisitions per second. An FSMA fiber connector as optical input allows easy connection of fiber-based probes or measurement assemblies. The unit is compatible with current Windows Operating Systems and comes with a kernel mode driver and the AdminTool software.

[Features]

- Selectable wavelength coverage in the UV-VIS range [200 – 1100 nm]
- High measurement rates and accurate timing
- Precise trigger capabilities
- High spectral resolution and high dynamic range sensors available
- USB3 SuperSpeed interface
- Various synchronous and asynchronous modes of operation including burst acquisition
- Flash trigger output
- Includes MultiSpec® Pro II Basic Software
- Customization Options: real-time preprocessing, custom modes and software

[Applications]

- Laboratory research
- Light source characterization
- Scanning and screening spectral measurements
- Sorting and quality inspection
- End point detection
- Reaction monitoring



[Spectrometer Unit tecSpec® USB3]

The integrated spectrometer module tecSpec® USB3 contains a CMOS based spectral sensor with fast readout capabilities and electronics designed by tec5 for the specific requirements of high-speed diode array spectroscopy. It features a USB3 PC interface with SuperSpeed or HiSpeed communication, depending on the connected PC port.

With a choice of supported sensors based on high spectral resolution or high dynamic range CMOS photodiode arrays, the unit is ideal for fast and precise acquisition of spectra,

connecting directly to a controller / evaluation computer by a convenient USB connection. It features a low latency external trigger input, a flash trigger output and programmable digital inputs and outputs for accurate measurement synchronization. The built-in firmware supports a variety of synchronous and asynchronous modes of operation. For the host PC, the application programs AdminTool and MultiSpec® Pro II basic are included. In addition, software development kits are offered for efficient customer programming of special software.

[Technical Data]

tecSpec® USB3 [various wavelength ranges within 190 – 1100 nm]

tec5 Art. ID 11-0148300-xxx	
Wavelength Range	UV-VIS-NIR: 190 – 1100 nm
Pixel Count	512, 1024, 2048 or 4096
Data Acquisition	16 bit, 10 Mpixel / second
Measurement Rate	up to 15k spectra per second in burst mode
Optical Input	FSMA Fiber Connector
Output Interface	USB3 [SuperSpeed and HiSpeed modes]
Dimensions	120 x 115 x 175 [mm]
Weight	1.4 kg approx.
Supply	100 / 240 V 50 / 60 Hz AC [external supply] or 7 - 28 V wide-range DC
Operating Temperature	+5°C - +35°C

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Headquarters

tec5 AG | In der Au 27
 61440 Oberursel, Germany
 T. +49.[0]6171.97 58-0
sales@tec5.com | www.tec5.com