

# THE NEXT GENERATION

## MCS FLEX MULTI CHANNEL SPECTROMETER

Redesigned MCS type spectrometer with special alloy housing, featuring reduced straylight and weight, available in various wavelength ranges and diode array types.

- **MCS FLEX PDA**  
With NMOS photodiode array  
High dynamic range
- **MCS FLEX CCD**  
With UV-sensitive CCD array  
High sensitivity and QE



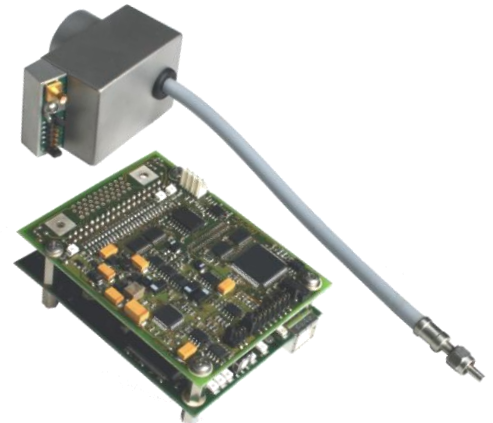
## ULTRAFAST MMS SPECTROMETER

Taking advantage of new tec5 electronics technology, faster and more accurate readout of the Spectral Sensor modules is now possible.

Reduction of the array pixel number results in faster readout and higher module sensitivity for the new version of Carl Zeiss MMS spectral sensor.

- **MMS-128 preliminary data:**  
Pixel dispersion: 6.6 nm approx.  
Optical resolution: 20 nm (Raleigh)  
Sensitivity: improved by factor 2  
Readout rate: up to > 5,000 spectra / s\*

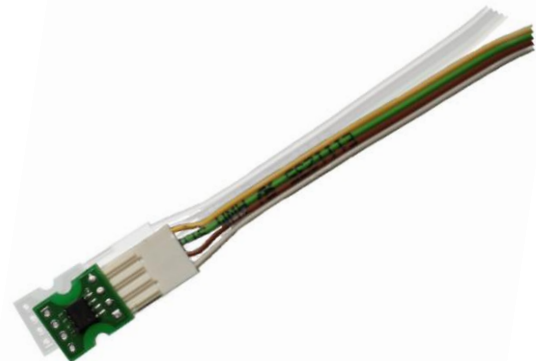
\* Using tec5 DZA-MMS 1M and FEE-1M



## TEMPERATURE SENSOR

Monitoring air or component temperature within an instrument allows to issue warnings in case of overheating conditions due to e.g. excess ambient temperature or system fan failure. Alternatively, temperature compensation algorithms may take advantage of sensor data.

- **IIO-T1** cascadable temperature sensor module for I<sup>2</sup>C connection in USB or Ethernet based configurations



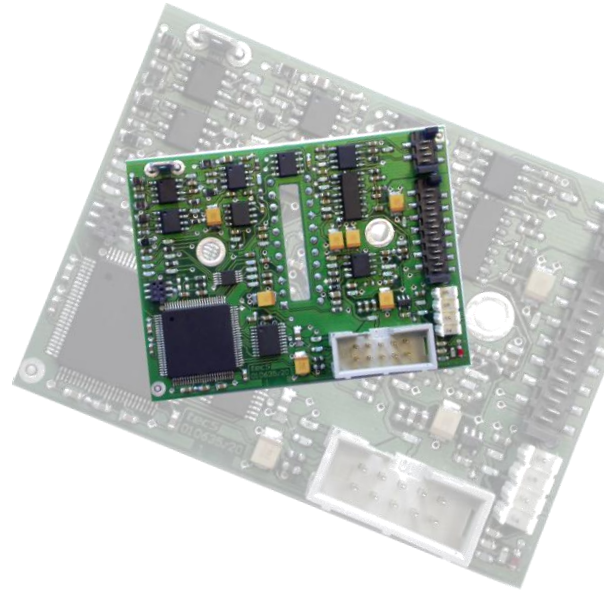
# NEW OEM COMPONENTS

## HIGH SPEED PREAMPLIFIERS

New sensor electronics, supporting Hamamatsu's S9840 CCD with 2080 x 20 pixels, high quantum efficiency and UV sensitivity.

High dynamic range operation of Carl Zeiss Spectral Sensors type MMS at 1 Mpixel/s readout rate with the new preamplifier board.

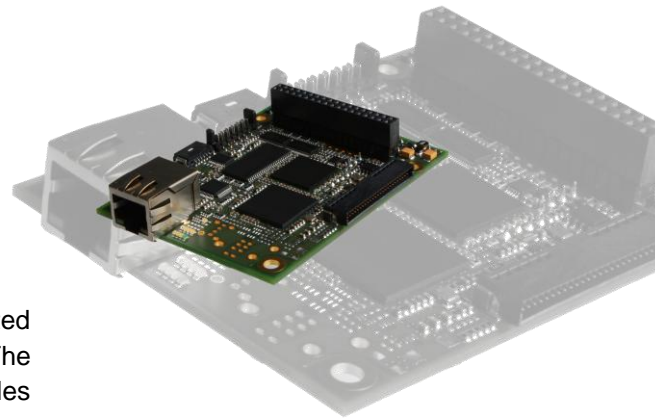
- **DZA-MMS 1M** for Carl Zeiss MMS Spectral Sensors 16 bit fast readout up to > 5,000 spectra per second with FEE-1M NMOS-1
- **DZA-S9840** for Hamamatsu back-thinned, back-illuminated CCD type S9840, 16 bit fast readout up to 300 spectra per second with FEE-1M /CCD-8



## FRONT END ELECTRONICS

For operation of the CCD type S9840, a dedicated version of the FEE-1M allows to fully exploit speed and dynamic range available from this detector array.

- **FEE-1M /CCD-8** for CCD S9804, 16 bit A/D conversion, readout time 2.5 ms (binned)



## INTERFACE ELECTRONICS

A new interface board for operation of all supported sensor types in Ethernet network environments. The reliable wiring and networking standard enables remote spectral data acquisition and advanced or distributed multi-sensor operation.

- **PD-ETH01** for Ethernet connectivity, supporting all current tec5 FEE and preamplifier electronics, customizable with on-board data processing capabilities

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