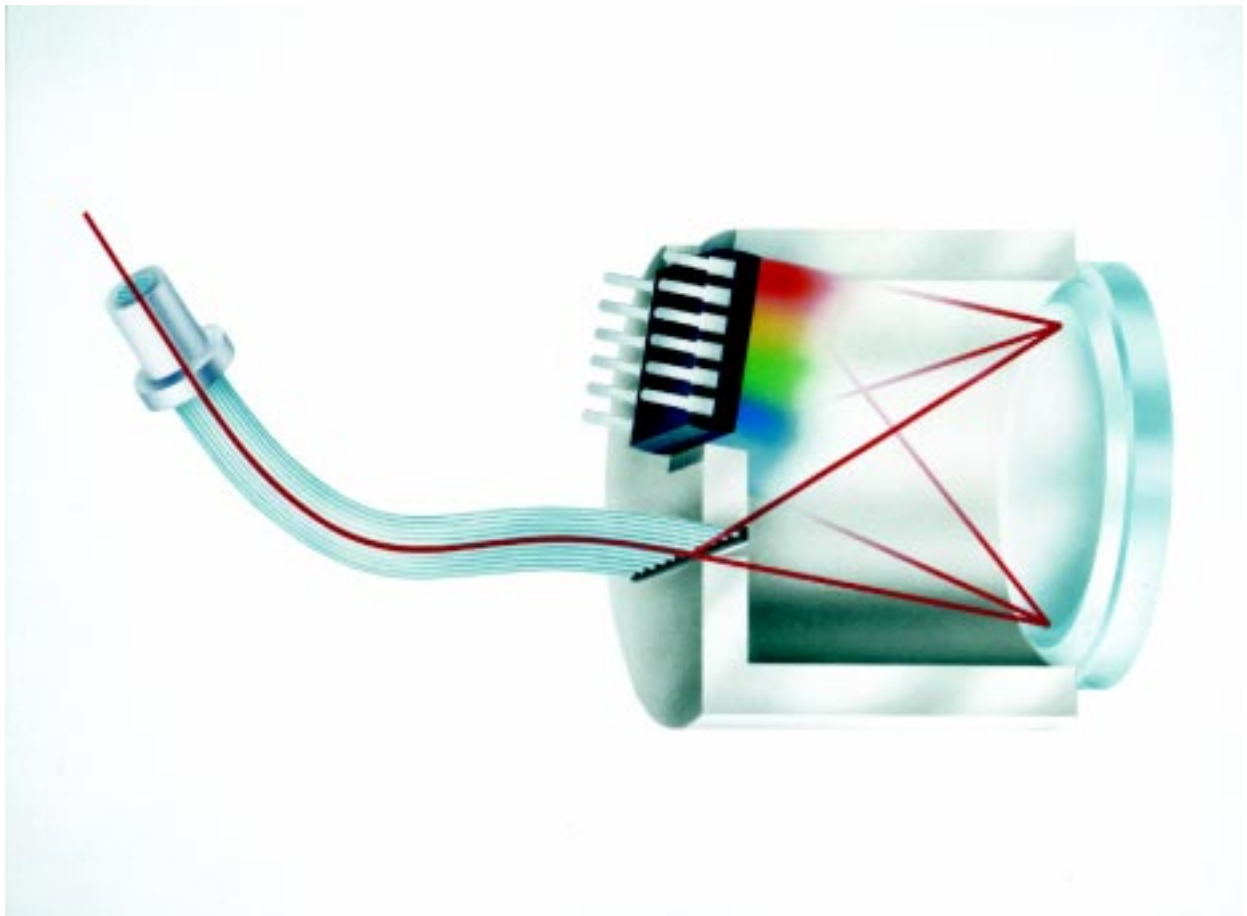


Product Information

MMS UV-VIS

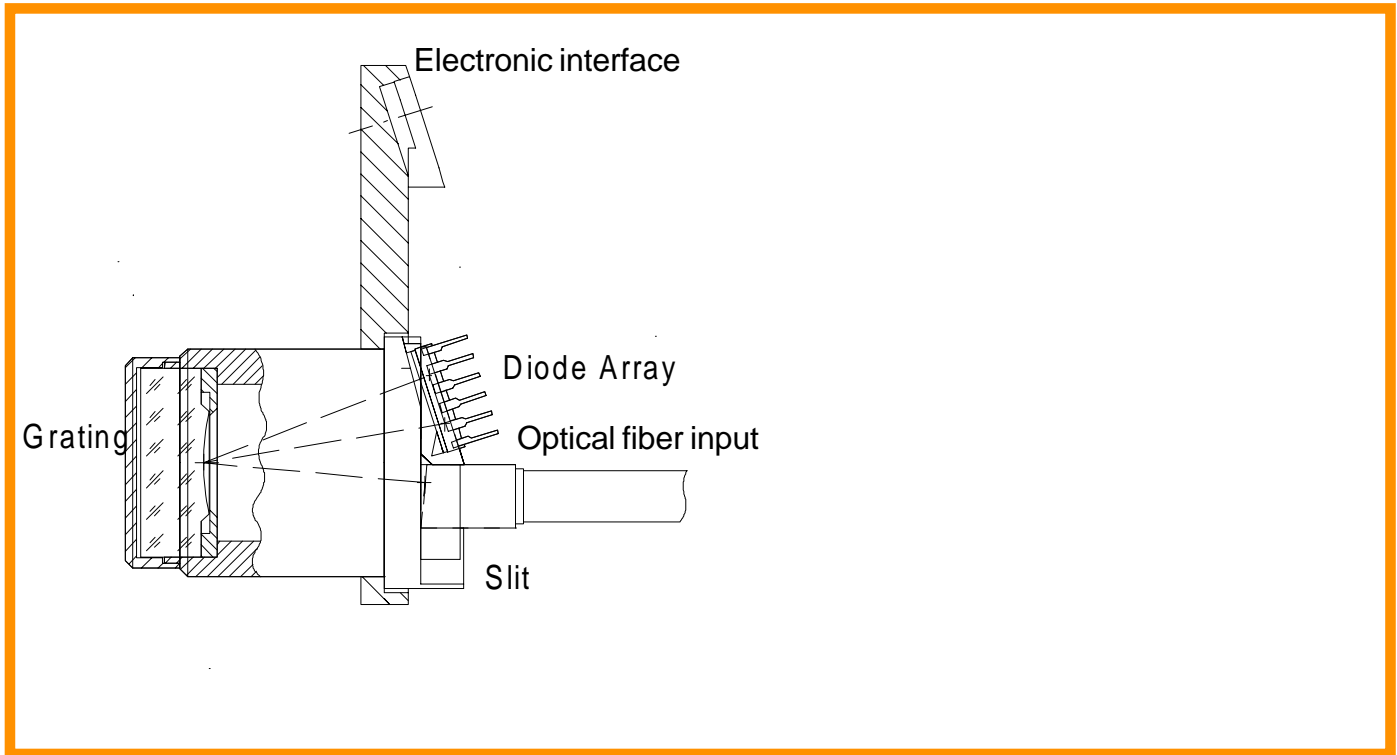
Monolithic Miniature - Spectrometer



Construction

The module consists of a spectrometer body made of titanium with an aberration corrected grating, a cross section converter as optical entrance, or a tube with a mechanical slit and a diode array.

Cross section converter and diode array are fixed to the titanium body.



Benefits

- Use for diverse measuring tasks
- Compact, permanently aligned
- Robust and thermally stable
- Small
- High sensitivity

Specifications

Optical entrance:	CSC-version:	Fiber cable consisting of approx. 30 quartz glass fibers with 70 μm core diameter each, designed as cross section converter. Fiber bundle input round: diameter: 0.5mm NA = 0.2 mounted in SMA-coupling
	Slit version	mechanical tubus, centric to the optical axis (quartz window) diameter outside: 25 mm diameter inside: 16 mm NA = 0.2
	Entrance slit:	70 μm x 2500 μm
Grating		Flat-field, 366 l/mm (center) blazed for approx. 220nm
Spectral range:		190 nm ... 735 nm specifications for the range 220 nm... 735 nm
Wavelength accuracy absolute:		0.2 nm (CSC version)
Temperature - induced drift:		< 0.006 nm / K (CSC version)
Spectral distance of pixel:		$\Delta\lambda_{\text{pixel}} \approx 2.2 \text{ nm}$
Resolution (Rayleigh-criterion):		$\Delta\lambda_{\text{Rayleigh}} \approx 7 \text{ nm}$
Sensitivity:		$\approx 10^{12}$ - 10^{13} Counts/Ws (with 14-Bit conversion)
Straylight:		0.08 % Deuterium lamp Signal by 240 nm with NaJ -solution (10g/l)
Dimensions:	total (with case): cross section converter: (external length)	70 x 60 x 40 mm ³ , 24 cm standard, up to 1m available.
Options		Cross section converter version Slit version

Diode array

Producer:	Hamamatsu
Typ:	S 3904 - 256Q in a special housing
Number of pixels:	256
Dimensions of pixels:	25 x 2500 μm^2
Maximum clock - rate:	2 MHz

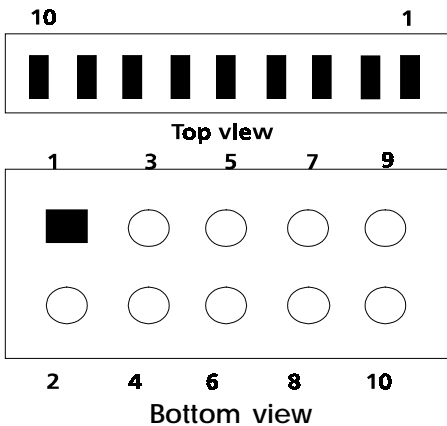
Blocking filter for the second order is directly coated on the diode array.

Preamplifier

Output:	3 V (full modulation)
Sensitivity:	40 $\mu\text{A/V}$
Rise time:	35 V/ms
Frequency range:	< 400 KHz
Power consumption:	50 mW

Interface

Video - Output:	SMB - socket
Diode array:	Micromodul - connection MICS - D 10
Connector assignment:	Pin 1,3,5,7,9: 0 V - digital ground
	Pin 2: start
	Pin 4: Phi 2 - clock rate
	Pin 6: EOS - End of Scan
	Pin 8: - 5 V
	Pin 10: + 5 V



System data

Realised with:	14 - Bit - AD - conversion, integration time 10 ms
Dynamic range:	clock - rate 28 KHz and 20 - cycles averaging
Noise:	2^{14}
	1 count standard deviation



Carl Zeiss
OEM - Spektroskopik
Tatzendpromenade 1 a
D - 07740 Jena
Telefon 0 3641 64 2838
Fax 0 3641 64 2485