

SG Spectrometer

Scanning Grating Spectrometers

Modern MOEMS technology arises the possibility to use single crystalline silicon scanner mirror chips with structured surface as scanning grating chips. Thus a Scanning Grating Spectrometer was realized featuring a single detector.



Features

- Scanning Grating Technology
- Low cost NIR system
- Single InGaAs detector
- Various wavelength ranges possible
- Compact and portable

This robust, small-footprint cost effective scanning grating spectrometer is perfect for applications that require sensitivity in the near-infrared region such as laser wavelength characterization, emission spectroscopy, industrial process control and general NIR spectroscopy.

Functional Principle

The incident light from e.g. a fibre is focused onto the scanning grating chip. By moving this component the spectrally separated 1st order diffraction is sequentially projected onto and registered by the system's single-element InGaAs detector.

Customer Evaluation Kit

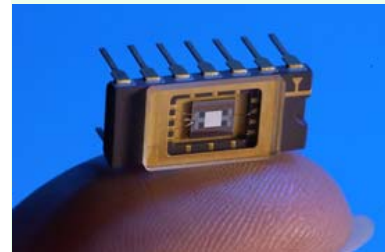
Now available from CTR AG is the SG spectrometer evaluation kit. Each demonstrator consists of the spectrometer with integrated electronic, that features the grating control and the interface to the host PC or Laptop via USB. Software is provided for the use of the spectrometer with MS Windows Win ME, Win 2000 or Win XP.

For customer specific requirements and /or additional information please contact:

Heimo Müller
CTR AG, Europastraße 4/1, A-9524 Villach
Tel: +43 (0)4242 56300-213
heimo.mueller@ctr.at

Near Infrared Spectrometers

MEMS Grating



Grating area: 3x3mm
Line density: 500/mm
Osc. Frequency: 500 Hz
Ang. Movement: $\pm 7^\circ$

CTR MST Development

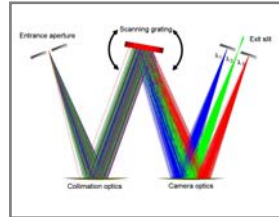
- Conception
- Design & Simulation
- Feasibility
- Product development

SG Spectrometer

Scanning Grating Spectrometers

Scanning Grating powered by
IPMS MEMS technology

SG Spectrometers are compact, low-cost NIR systems that use a MEMS scanning grating and feature a single-element InGaAs detector.



Technical Specifications

Spectral Range	1.2 – 1.9 μm (optional 2.5 μm)
Optical Resolution	~10 nm @ 50 μm entrance aperture
Wavelength Accuracy	$\pm 0,5\text{nm}$ @ Average of 10 Scans; @ 21°C
Photometric Stability	0,3% @ Average of 10 Scans; @ 21°C
Stray Light	0,015%
Measurement time	<10 ms (single scan)
Detector	Single InGaAs (optional 2 stage TE cooler)
Input fibre	low OH fiber with SMA-905 connector
Entrance aperture	optical fiber acting as entrance aperture
System Size	100x80x75 mm ³ (3.9x3.1x2.9")
Weight	0.8 Kg (1.8 lb.)
Hardware Interface	mini USB
Power supply	12V / 1A
Power consumption	0.7A @ 8VDC
Software	SpectraCon, Acquisition & Visualization
Operating Systems	MS Windows Me, 2000 & XP
Operating Temp. Range	15 to 35°C
Storage Temp. Range	-20 to 50°C

Customer Evaluation Kit

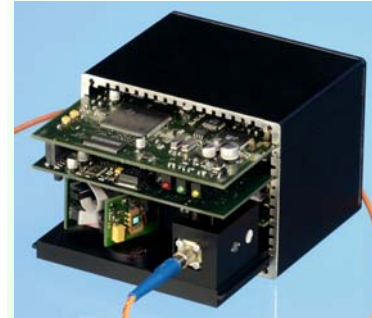
Each evaluation kit includes a Spectrometer, power supply, software CD, mini USB cable and user manual.

⊗ Optical fiber is not included

System Options

For customer specific requirements (e.g. other wavelength ranges) please contact CTR AG

System design



Carinthian Tech Research AG

CTR AG
Europastraße 4/1
A 9524 Villach
www.ctr.at

Contact:
Heimo Müller
Tel: +43-4242-56300-213
heimo.mueller@ctr.at



CTR AG reserves the right to change products and specifications without prior notice.

All rights reserved