INSION®

integrated spectral solutions

aMSM UV VIS SENS   micro spectrometer

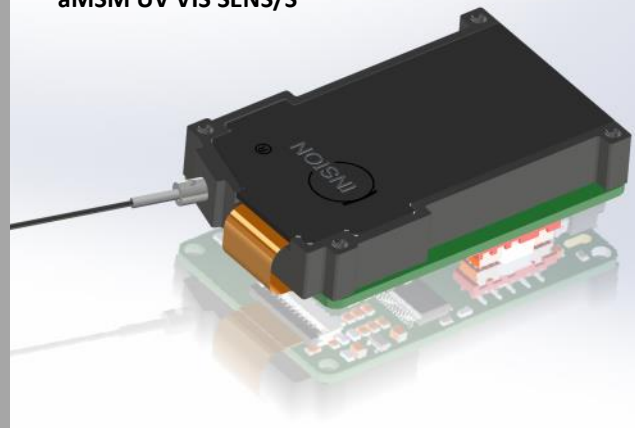Monolithic micro spectrometer for spectral sensing applications

Product features:

» no moving parts

» excellent mechanical, optical and thermal stability

» unsurpassed price-performance ratio

» small dimensions, light weight

» designed for high volume automated production

Excellent optical performance and inter instrument agreement due to a microinjection molded hollow cavity waveguide design.

The INSION spectrometers are designed for battery powered handheld analytic and diagnostic devices. The devices are used in biological and medical diagnostics, instrumental analysis, process control, environmental monitoring, analysis of agricultural and nutrition products, metrology and gemology. The high sensitive spectrometer excels in fluorescence detection and SERS detection.

aMSM UV VIS SENS/S

aMSM compact

Entrance fiber	300/330 µm; NA = 0.22; Low OH-
Entrance slit	50 µm (HR version: 15µm)
Spectral range (specified)	350 - 850 nm
Spectral range (accessible)	270 – 1070 nm
Spectral resolution	Typ. 8 nm$_{FWHM}$ (HR: typ. 3 - 4 nm$_{FWHM}$)
Pixel dispersion	1.96 nm/pixel (HR: 0.98 nm/pixel)
Spectral accuracy	typ. 1nm
Reproducibility	≤ 0.1 nm
Blazed wavelength	420 nm
Stray light attenuation	> 17dB with GG495 at 470 nm (30 dB using SC30)
Dark noise	< 10 cts (16 bit ADC)
Sensitivity at 650 nm (with 16 bit ADC)	> 19 E 15 (HR: >2.5 E 15) cts*nm / Ws
Signal to noise ratio (with 16 bit ADC)	>1000 at T $_{Integration}$ = 0.25 ms
Thermal wavelength stability	< 0.05 nm/K
Integration time	0.02 - 60,000 ms
Detector array	S-CMOS
Humidity	0% - 90% non condensing
Electronics	16 bit; connector: USB, SPI and UARI
Fiber connector	SMA 905; IS-02 or customized
Operating temperature	0°C to 40°C
Storage temperature	-40°C to 60°C

Versions:	Module/M	OEM-System/S
Dimensions (LxWxH)	60 x 36 x 8.3 mm 2.36'' x 1.42'' x 0.33'' in	60 x 36 x 13.3 mm 2.36'' x 1.42'' x 0.52'' in
Weight	14g/ 0.03lb (incl. Fiber and connector)	23g/ 0.05lb (incl. Fiber and connector)
Fiber length	450 mm; ± 25 mm / 17.7'' ± 1 in	450 mm; ± 25 mm / 17.7'' ± 1 in
Optical interface	Fiber 300/330 µm; NA = 0.22; low OH-	Fiber 300/330 µm; NA = 0.22; low OH-
Triggering	-	16 bit ADC,TTL signal (e.g. to control lamps, shutter, flash lights), synchronized with measurement, adjustable delay, TTL user bit, LV-TTL lamp or shutter control output
Interfaces	-	USB Full Speed, SPI, UART
Connectors	Flex cable	USB 2.0 (micro B socket)
Accessories	Test Report, Product Manual	Test Report, Product Manual, SPECview spectroscopy software, SPECcon Interface DLL(Native C++)
Power requirements	5V	Via USB or external 5V
Power consumption	125 mW (typ.)	1.5 W (typ.)

All data are subject to change without prior notice