INSION®
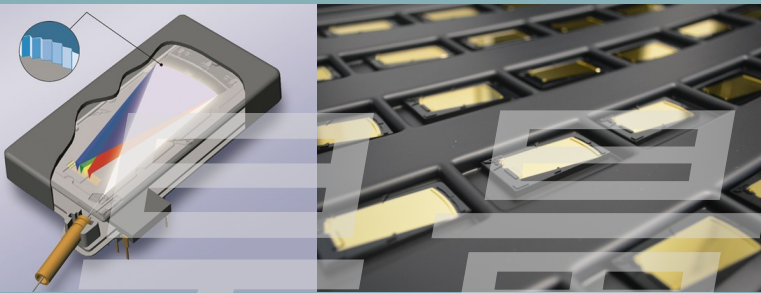
integrated spectral solutions

aMSM NIR NT 256 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

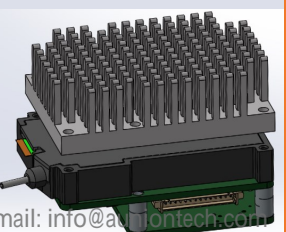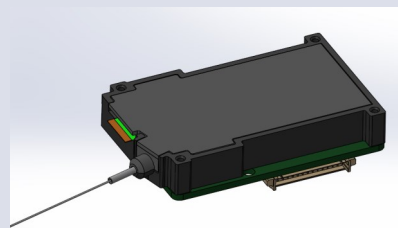» designed for high volume automated production

A new generation of NIR-Systems designed by INSION. A high grade of robustness due to an improved monolithic design, brilliant optical characteristics as well as the small dimen- sions open up possibilities in various new and also common applications.

They are ideal for the use in analytic and diagnostic handheld devices and highly cost efficient because of the excellent inter instrument agreement. Typical applica- tions range from instrumental analysis, biological and clinical systems to ma- terial identification and analysis of agricultural and nutrition products.

aMSM compact

aMSM NIR NT 256/S

aMSM NIR 256 TEC

Entrance slit	60 µm x 300 µm
Spectral range	900 - 1700 n m / optional1050—1850 nm
Spectral resolution [FWHM]	Typ. 10 nm$_{FWHM}$ / 4.1 nm$_{Pixel}$
Spectral accuracy	2 n m (typ.)
Blazed grating	g = 5.7 µm / d = 0.8µm
Reproducibility	≤ 0.1 nm
Sensitivity	> 150 E12 cts x nm/Ws @1500 nm
Signal to noise ratio (with 16 bit ADC)	≥ 5,000 at T$_{INTEGRATION}$ = 2 ms
Thermal wavelength stability	< 0.05 nm/K
Dispersion	4.1 nm/Pixel
Integration time	0.01 - 60,000 ms
Stray light attenuation	> 20dB $_{LWP\ 1200\ ;\ SWP\ 1900}$, (30 dB using SC30T)
Operating temperature	5°C to 45°C
Storage temperature	-40°C to 60°C
Humidity	0% - 90% noncondensing
Detector array	InGaAs, 256 pixels
Detector temperature regulation	None/ optional TEC
Fiber connector	SMA 905; IS-02 or customized

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	400 mm; ± 25 mm / 15.7'' ± 1 in	400 mm; ± 25 mm / 15.7'' ± 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, 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	3.3V	Via USB or external 5V
Power consumption	66 mW (typ.)	1.5 W (typ.)