INSION ®
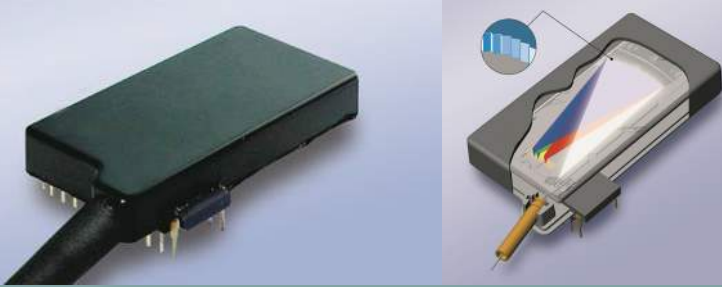
integrated spectral solutions

NIR NT micro spectrometer

Monolithic micro spectrometer for spectral sensing applications

Product features:

» no moving parts

» excellent robustness in harsh environmental conditions

» unsurpassed price-performance ratio

» small dimensions, light weight

» low power consumption for mobile applications

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 dimensions 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 applications range from instrumental analysis, biological and clinical systems to material identification and analysis of agricultural and nutrition products.

NIR NT /S

NIR NT /H

Entrance slit	60 µm x 300 µm
Spectral range	900 - 1700 nm
Spectral resolution [$\Delta\lambda_{FWHM}$]	< 16 nm$_{FWHM}$ / 8.2 nm$_{Pixel}$
Spectral accuracy	2 nm (typ.)
Blazed grating	g = 5.7 µm
Reproducibility	≤ 0.1 nm
Sensitivity	> 100 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	8.2 nm/Pixel
Integration time	2 - 40,000 ms
Stray light attenuation	> 20dB $_{LWP\ 1200\ ;\ SWP\ 1290}$, (30 dB using SC30)
Operating temperature	0°C to +40°C
Storage temperature	-40°C to +60°C
Humidity	0% - 90% noncondensing
Detector array	InGaAs, 128 elements
Detector temperature regulation	None

Versions:	NIR NT/S micro spectrometer OEM system	NIR NT /H micro spectrometer
Dimensions (LxWxH)	57 x 42 x 22 mm / 2.24" x 1.65" x 0.87" in	69.3 x 39.6 x 13.6 mm / 2.73" x 1.56" x 0.54" in
Weight	46 g / 0.1 lb (including fiber and SMA connector)	45 g / 0.1 lb
Fiber length	450 mm; ± 25 mm / 17.7" ± 1 in	-
Optical interface	Fiber 300/330 µm; NA = 0.22; low OH- / SMA 905**	SMA 905 socket
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	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	USB Full Speed, UART
Connectors	USB 2.0 (micro B socket)	USB 2.0 (micro B socket)
Accessories	Test Report, Product Manual, SPECview spectroscopy software, SPECcon Interface DLL	Test Report, Product Manual, SPECview spectroscopy software , SPECcon Interface DLL
Options		
Power requirements	Via USB or external 5V	Via USB or external 5V
Power consumption	1.5 W	1.5 W

* Depending on calibration
** Customizing on request

All data are subject to chance without prior notice