



**SPEC NIR**  
**DATASHEET**  
**Ver. 1.2\_01/16**

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# 1. General Specifications

The SPEC NIR is based on the principle of scanning grating spectrometers. Combining an innovative, ultra-fast micro electrical-mechanical mirror and single element detectors for a high performance and affordable solution. The general features for SPEC NIR range are:

- Detection from 660 to 2400nm
- TE cooled sensors
- Fast Scan Time up to 4ms
- Robust: fully built in aluminium
- Allows the combination of Si and InGaAs detectors in one
- Best Optical Resolution in the market
- SMA 905 fiber connector, no optical alignment required
- Great solution for in-line applications
- Best Price
- Software LightScan Included

## 2. Technical Specifications

	SPEC NIR 1.7	SPEC NIR 2.1	SPEC NIR 2.4
<b>Wavelength Range (nm)</b>	660-1700	910-2100	910-2400
<b>Average Spectral Resolution</b>	~ 3nm (150um slit)	~ 4nm (150um slit)	
<b>Detectors</b>	Si and InGaAs	2 x InGaAs	
<b>TE Cooling</b>	No (Optional)	-10 °C (Optional Uncooled)	
<b>Signal / Noise</b>	7000:1	4000:1	3600:1
<b>Max Spectra Minute</b>	80		
<b>Interface</b>	USB and RS-485		
<b>Software</b>	LightScan (control, acquisition and data handling)		
<b>Operating System</b>	Win XP / Win 7 / Win 8 / Win 8.1 / Win 10		
<b>Fiber Connector</b>	SMA		
<b>Dimensions</b>	150 (W) x 100 (D) x 75 (H) mm		
<b>Weight</b>	1 Kg		
<b>Stray Light</b>	-30 dB		
<b>Wavelength Accuracy</b>	<1 nm ±0.1 nm short time jitter		
<b>Scan Time</b>	≈ M·N · 4ms (mirror) + 90ms (data transfer) + 500ms (analysis & display - PC)		
<b>Slit Width (options)</b>	300 um, 350 um, 250 um, 200 um, 150 um		
<b>Power Supply</b>	24 V		
<b>Power Consumption</b>	2.9 W (no TE) 5 W (2 TE one for each sensor)		
<b>Maximum Points per Scan</b>	1481		
<b>Order Sorting Filter</b>	Detectors are blocked individually by order sorting filters		
<b>Part Number</b>	SP-NIR-1.7	SP-NIR-2.1	SP-NIR-2.4
<b>Options</b>	SP-NIR-1.1-C (Cooled)	SP-NIR-2.1-U (Uncooled)	SP-NIR-2.4-U (Uncooled)

## Notes

- Number of measurement points per spectral bandwidth - Numerical data points can be used arbitrarily (internally ADC measurement point density varies strongly with the respective wavelength).
- Order sorting filter - each of both detectors are blocked individually by order sorting filters
- Photometric linearity - no deviation from linearity determined
- Absorbance related values will strongly depend on spectral efficiency, thus no general numbers can be given for that.

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