

# N-Spectrometer

## Anzar

**N-Spectrometer is the latest model developed by the Thunder Optics team. It is a lightweight, general-use spectrometer optimized to deliver good performance for various spectroscopy applications.**

The N-Spectrometer is built on a symmetrical Czerny-Turner bench with a 75 mm focal length, featuring a high-sensitivity Sony ILX511 sensor, superior to the lower-grade Toshiba TCD1304 found in many competitors' models. Coupled with high-quality optics, it offers integration times as short as 5ms, low stray light, and a robust signal-to-noise ratio of 300:1.

Thunder Optics introduces the most affordable CCD-based spectrometer with a high-sensitivity sensor on the market with the N-Spectrometer. Thunder Optics has optimized manufacturing and secured favourable supplier deals to keep costs low, providing users with high-grade instruments that offer enhanced efficiency and precision at competitive prices.



*The N-Spectrometer combines the company's expertise, advanced technology and affordability, making it an excellent choice for those seeking high-performance spectroscopy solutions.*



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The N-Spectrometer offers versatile connectivity with USB2 communication and can be customized with four replaceable slit sizes (25, 50, 100, and 200  $\mu\text{m}$ ), a standard feature of this model. This customization allows users to adapt the spectrometer for various applications, enhancing measurement precision and flexibility. Its adaptable design ensures it meets diverse spectroscopy needs, making it a versatile tool for scientific research and educational use.

### BENEFITS

- Wide spectral range 550nm (between 300-950nm)
- High sensitivity detector
- Interchangeable slits (option)
- Compact design
- I/O communication port



The N-Spectrometer is fully compatible with all Thunder Optics light sources and accessories, allowing users to configure their setups to meet specific measurement requirements. This flexibility enables seamless integration with various components, enhancing the spectrometer's versatility and functionality for diverse spectroscopy applications. Its adaptable design supports tailored configurations, making it ideal for laboratories, research environments, and educational settings where precise and adaptable measurement solutions are crucial.



### OPTIONS

The standard slit size in the N Spectrometer is 100  $\mu\text{m}$ . Users can choose as optional upgrades from other slit sizes (25, 50, and 200  $\mu\text{m}$ ).

Alternatively, the complete slit pack, of all four sizes provides maximum flexibility for various applications.

### DELIVERY PACK

- Calibrated N-Spectrometer
- USB 2.0 Cable
- USB flash memory
- Shock resistance black zip-case

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### TTL interface-connector 1.25-10Pin, level 3-5V

<b>1 Pin</b>	5V
<b>2 Pin</b>	USB DP
<b>3 Pin</b>	USB DM
<b>4 Pin</b>	GND
<b>5 Pin</b>	UART RX
<b>6 Pin</b>	UART TX
<b>7 Pin</b>	Trigger1
<b>8 Pin</b>	Trigger 2
<b>9 Pin</b>	GPIO3
<b>10Pin</b>	GPIO4

### BENEFITS

An order-sorting filter is permanently installed inside the spectrometer to reduce second-order effects.



Wavelength range (nm)	550nm (set between 300-950nm)
Chip Type	Linear CCD Sony ILX511
Effective Pixels	2048 x 1
Pixel Size (µm)	14 x 200
Diffraction Grating (lines/mm)	600
Slit Width (µm)	100 (Standard), 25, 50 and 200 (optional)
Resolution (nm)	< 1
Acquisition time	5-10.000
Interface	USB-Type C, TTL Interface, UART Serial Port
External Trigger	TTL 3.3V Level Input
OS	Windows
Weight(gr)	180
Dimensions	105.5 x 70 x 28

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