

# HiNA N High-Flux Near-Infrared Spectrometer

## Product Introduction

The HiNA N series from Goptica is a high-performance near-infrared spectrometer featuring a unique high numerical aperture optical design. In the same physical size, the HiNA N spectrometer offers higher light output and sensitivity compared to other options. Combined with a 512-pixel linear near-infrared detector, the HiNA N is well-suited for a wide range of near-infrared spectroscopy applications.



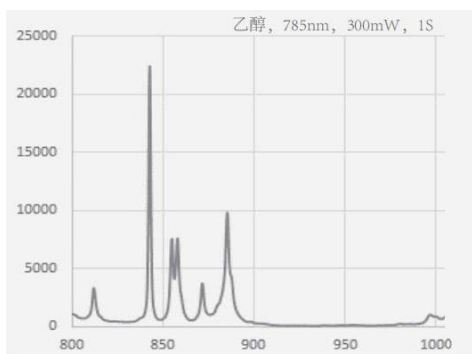
## Characteristics

- Larger aperture: F/2
- High luminous flux and sensitivity
- InGaAs detection with a cooling system
- Pixel count: 512
- Refrigeration temperature: TBD

## Application

- Sugar detection
- Alcohol and water detection
- Plastic sorting
- Fat or lubricant detection
- Laser performance testing

## Improved consistency in performance control



For classic C-T optical path-based micro spectrometers, resolution and sensitivity are often significant trade-offs.

The Goptica's HiNA N high-flux near-infrared spectrometer utilizes a high numerical aperture optical path design. This design ensures high resolution while also fully coupling light from 0.22NA fiber and being compatible with larger numerical aperture special fibers or spatially coupled light paths, significantly increasing light output.

## Optical performance

| Figures                            | Standard           | Unit |
|------------------------------------|--------------------|------|
| Optical platform design            | F/2 optical design | -    |
| Wavelength range                   | 900~1700           | nm   |
| Wavelength resolution <sup>1</sup> | 0.9~15             | nm   |
| Diffuse light <sup>2</sup>         | <0.3%              | -    |
| Linearity after correction         | >99.5%             | -    |

Note: 1. Wavelength resolution, 2. Scattered light: dependent on the selection of the aperture.

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## Electrical parameters

| Figures                | Standard       | Unit    |
|------------------------|----------------|---------|
| Signal-to-noise ratio  | 1500: 1        | -       |
| Image resolution (A/D) | 16             | bit     |
| Integration time       | 40 $\mu$ s~1s  | -       |
| Energy consumption     | 5V DC@3A       | -       |
| Output method          | 10pin 2.54     | -       |
| Trigger mode           | 4              | Species |
| Computer interface     | USB 2.0, USB-B | -       |

## Structure

| Figures     | Standard             | Unit    |
|-------------|----------------------|---------|
| Dimensions  | 110*166*65           | mm      |
| Weight      | 1500                 | g       |
| Pixel       | 512                  | -       |
| Statue size | 12.5*500             | $\mu$ m |
| Pixel depth | 43.5 Me <sup>-</sup> | -       |
| Sensitivity | ~40 Me <sup>-</sup>  | -       |

## Available specifications

| Spectrometer model    | 10 $\mu$ m | 25 $\mu$ m | 50 $\mu$ m | 100 $\mu$ m | 200 $\mu$ m | Optional grating available | Waves                                |
|-----------------------|------------|------------|------------|-------------|-------------|----------------------------|--------------------------------------|
| HiNA/1064-1300 512pix | /          | 0.8nm      | 1.5nm      | 3nm         | 6nm         | 830/1200nm                 | 1064~1300nm<br>~1700cm <sup>-1</sup> |
| HiNA/900-1700 512pix  | /          | 3nm        | 5nm        | 10nm        | 20nm        | 300/1200nm                 | 900~1700nm<br>512pix                 |
| HiNA/900-2200 256pix  | /          | /          | 10nm       | 16nm        | 32nm        | 200/1550nm                 | 900~2200nm<br>256pix                 |
| HiNA/900-2200 512pix  | /          | 5nm        | 8nm        | 16nm        | 32nm        | 200/1550nm                 | 900~2200nm<br>512pix                 |
| HiNA/900-2500 512pix  | /          | 6nm        | 9nm        | 18nm        | 36nm        | 150/2000nm                 | 900~2500nm<br>512pix                 |