

# NWS6800

## Spectrometer



### Features

- Multiple near-infrared bands are available.
- Two-stage cooling
- InGaAs detector
- Low noise
- High signal-to-noise ratio
- Low temperature drift characteristics

### Application

- Water analysis
- Fruit detection
- Crop detection
- Laser wavelength detection
- Online component analysis
- Chemical concentration online detection
- Raman spectroscopy
- Life science instruments
- Scientific experiments
- Environmental detection
- Infrared light source detection

### Description

Achieve unparalleled NIR analysis with the NW6800 series of miniature fiber-optic spectrometers. Equipped with a two-stage cooled InGaAs detector, these spectrometers deliver high-speed, accurate results in the 900-2500nm range. Ideal for demanding industrial online monitoring and precise agricultural analysis.

### Resolution

| Wavelength Range | Wavelength Resolution (nm) | 30 $\mu$ m slit | 40 $\mu$ m slit | 50 $\mu$ m slit | 60 $\mu$ m slit | 70 $\mu$ m slit | 100 $\mu$ m slit | 150 $\mu$ m slit | 200 $\mu$ m slit |
|------------------|----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|
| 900-1700nm       | 2.81                       | 6.50            | 7.00            | 8.00            | 9.00            | 10.00           | 11.00            | 12.50            | 14.00            |
| 1430-1750nm      | 1.41                       | 3.20            | 3.50            | 4.00            | 4.50            | 5.00            | 5.50             | 6.30             | 7.00             |
| 900-2500nm       | 6.37                       | 15.00           | 16.00           | 17.00           | 18.00           | 19.00           | 22.00            | 24.50            | 27.00            |

## Specification

|                                   |                                                                     |
|-----------------------------------|---------------------------------------------------------------------|
| Spectral Range                    | 900~2500nm                                                          |
| Spectral Resolution               | Maximum 1.25 nmWHM                                                  |
| Optical Resolution                | Maximum 3.20nm FWHM                                                 |
| Higher-Order Diffraction          | Add high-order diffraction filter (optional)                        |
| Stray Light                       | <0.1%                                                               |
| <b>Detector</b>                   |                                                                     |
| Detector Model                    | InGaAs detector (optional)                                          |
| Spectral Detection Range          | 900 - 2500nm (optional)                                             |
| Pixel                             | 256, 512, 1024pixels, optional                                      |
| Pixel Size                        | 100*100um                                                           |
| High Sensitivity                  | 10.5uV/e-                                                           |
| Fastest Speed                     | 1M                                                                  |
| <b>Optical Specification</b>      |                                                                     |
| Optical Path                      | F/4, symmetrical crossed Czerny-Turner optical path                 |
| Focal Length                      | 100mm; 110mm                                                        |
| Incident Slit                     | Standard 200um (optional)                                           |
| Optical Fiber                     | Near-infrared SMA9050.22NA                                          |
| <b>Electronical Specification</b> |                                                                     |
| Signal-to-Noise Ratio             | 3500:1                                                              |
| Linearity                         | >99%                                                                |
| Integration Time                  | 0.4ms~1000ms                                                        |
| Dynamic Range                     | 10,000:1                                                            |
| A/D Converter                     | No distortion 16-bit                                                |
| Testy Speed                       | 2.8 ms + integration time                                           |
| Communication Interface           | USB 2.0                                                             |
| Expansion Interface               | 16-pin external expansion interface; with external trigger function |
| Power Consumption                 | 450 mA @ 5V DC                                                      |
| Cooling                           | 4A@5V DC                                                            |
| Support System                    | Windows, Android, Linux, Wince                                      |
| Dimensions                        | 182 x 110 x 50 mm                                                   |
| Weight                            | 1500g                                                               |
| Fixed                             | 3-direction standard installation holes                             |