



HyperFine HN Series Spectrometer

for High Intensity Sources

Compact picometer resolution in the Vis and NIR

The HN series of spectrometers are designed for characterizing high intensity sources such as laser spectra, the HN Series spectrometers from LightMachinery are capable of picometer resolution. These spectrometers achieve the resolution of large grating spectrometers while covering a larger wavelength range in a compact overall package. Simple PC based software allows the user to review spectra in real time and save or export for more analysis. Labview drivers and C# named pipe commands enable the Hornet spectrometer to be integrated into automated experimental setups.

Features

- Simple to use
- Picometer resolution
- Fiber optic input
- Quick data acquisition and export
- Simple USB interface
- LabView Drivers - C# named pipe commands
- No moving parts (single shot laser spectrum analysis)

Benefits

- Range - resolution ratio up to 10,000
- Fast
- Ultra-Compact
- Can measure spectra from cw and pulsed sources
- Fast real-time measurements
- Ultra-reliable
- LightMachinery's legendary customer support

Applications

- Light source characterization
 - Lasers
 - Diode Lasers
 - Super luminescent diodes
- Monitoring laser modes in real time
- Passive components (Filters, Etalons, Fiber Bragg gratings) characterization to the 25pm level
- Checking the spectral / mode purity of lasers
- Classic undergraduate and graduate experiments

Spectroscopy

- Resolution: 1pm at 532nm (resolving power > 500,000)
- Accuracy: < 200pm for fixed grating units, <20pm for all others following calibration, an external calibration source is required
- Dynamic Range: 100:1 to 500:1 in a single shot measurement, up to 50dB with exposure bracketing
- Wavelength range: Visible to near IR (260nm to 1080nm*)
- Simultaneous range / resolution: >10,000 at 532nm
- Acquisition and processing speed: >10 Hz

Form factors

- A: 8 x 8 x 3.6 inches
B: 10 x 24 x 6 inches
C: 22 x 13 x 6 inches
D: 8 x 8 x 5 inches
E: 5 x 6 x 2 inches
F: 28 x 15 x 6 inches

HN Series (for bright sources)

| Model number | Form factor | Total range (nm) | Simultaneous range (nm) without grating rotation | Resolution (pm) |
|---------------|-------------|--|---|-----------------|
| HN-9332 | E | 425- 700 | 375 | 15 - 30 |
| HN-8989-1 | B | 400 - 500 | 15 | 1.7 |
| HN-8989-2 | C | 500 - 600 | 15 | 1.6 |
| HN-8989-3 | B | 600- 700 | 15 | 1.6 |
| HN-9353 | A | 700 - 1050 | 350 | 25 - 40 |
| HN-8995-1 | C | 700 - 800 | 25 | 1.9 |
| HN-8991-3 | B | 800 - 950 | 20 | 2.0 |
| HN-8995-2 | B | 950 - 1100 | 20 | 2.5 |
| HN-8995-2-0.8 | F | 1030 - 1080 | 20 | 0.8 |
| HN-9352 | A | YAG, (532 and 1064) +/- (5nm and 10nm) | 5 , 10 | 10 |
| HN-9354 | A | 1um lasers (1010nm - 1080nm) | 70 | 10 |

Accessories

| Model | | Specifications |
|----------|-----------------------------------|---|
| HF-11463 | Motorized Grating Rotation Option | For grating rotation to change the wavelength range of the spectrometer |
| HF-11446 | Neon Calibration Source | Fiber output to spectrometer for calibration |