

# WAVELENGTH METER IN THE NEAR IR RANGE

## SHR-IR

The SHR-IR wavelength meter is an ideal instrument for measuring absolute wavelength value of pulse and CW lasers and diodes in the spectral range 600 nm -1800 nm with accuracy better than  $\lambda=20$  pm, as well as detecting FWHM of the analyzed line.



### FEATURES

- Accuracy better than  $\pm 20$  pm
- Spectral range 600-1800 nm
- Real-time Spectrum & FWHM analysis
- Central wavelength continuous monitoring
- Ideal in wavelength control for CW and pulsed lasers
- Compact design; no moving components
- No calibration needed
- Optical fiber input; diffuse attenuator
- Power from USB cable

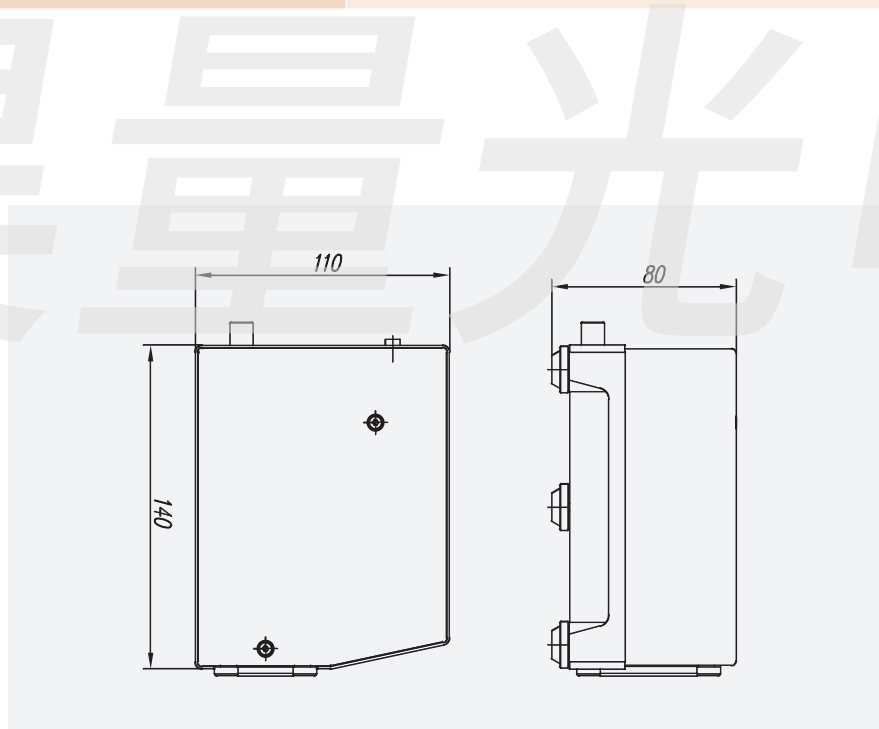
Apart from wavelength measuring the SHR-IR provides demonstration of analyzed spectra with resolution of 4 000 ( $\lambda/\Delta\lambda$ , FWHM) which constitutes 0.2 nm for 600 nm to 0.5 nm for 1800 nm. The SHR-IR also ensures on-line monitoring of the above values in the process of tuning the analyzed wavelength.

The instrument does not contain any moving elements; powering and control are performed from a computer via the Full-Speed USB interface. Analyzed light is steered to the entrance slit either via a multimode optical fiber with a diffuse attenuator (included in the delivery set) or directly, without any fibers.

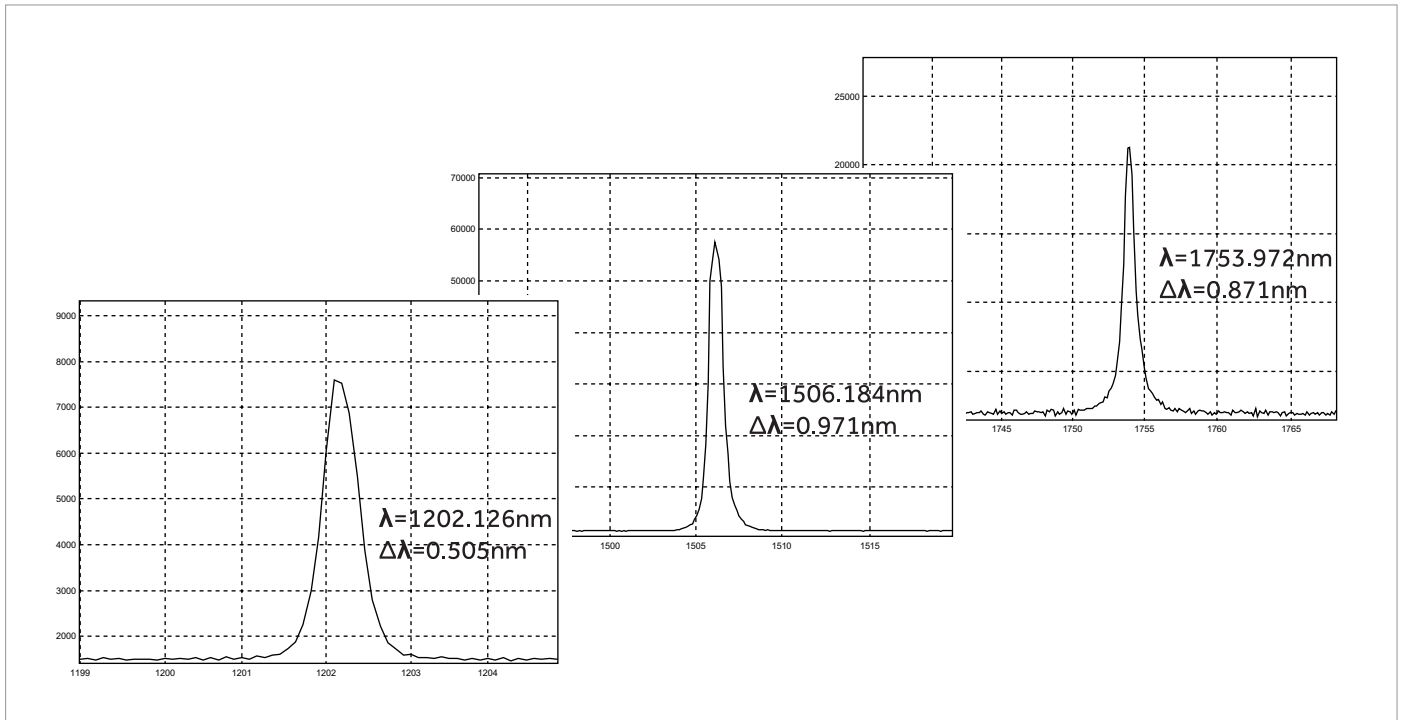
In respect of resolution and wavelength measuring precision the SHR-NIR is an alternative to a monochromator-spectrograph with focal length not less than 500 mm, equipped with an appropriate IR-detector. Unlike the monochromator, the SHR-NIR has no moving elements and provides real-time measurements without scanning. The SHR-IR is rigid, stable and accurate, ensures absolute reliability and has more reasonable price. The SHR-IR spectrometer is indispensable in the process of adjustment, alignment and testing of laser systems operating in the near IR spectrum range.

## SHR-IR SPECIFICATIONS

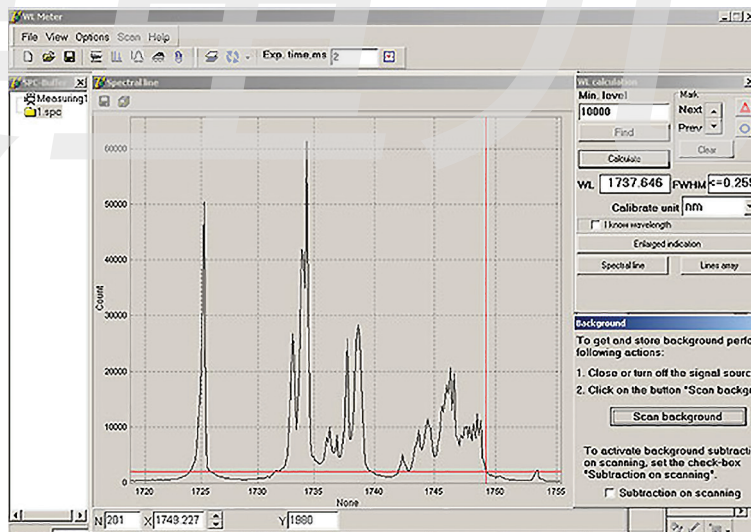
|  |   |
|--|---|
| Optical scheme   | Czerny-Turner   |
| Physical principle                                     | Echelle grating based   |
| Operating modes  | CW & Pulsed (externally triggered)  |
| Focal length, mm                                       | 150   |
| Aperture ratio   | 1:12  |
| Spectral range, nm                                     | 600-1800  |
| Wavelength detection accuracy, nm                      | $\pm 0.02$  |
| Spectral resolution ( $\lambda/\Delta\lambda_{FWHM}$ ) | 4000<br>( $\Delta\lambda_{FWHM}$ from 0.15 nm @600 nm to 0.48 nm @1800 nm)  |
| Source linewidth requirements, not above               | $\leq 125 \text{ cm}^{-1}$<br>(4 nm for $\lambda = 600 \text{ nm}$ to 40 nm for $\lambda = 1800 \text{ nm}$ )                         |
| Optical Interface                                      | - Quartz optical fiber $\varnothing 600 \mu\text{m}$ , 1m long, SMA-905 connector<br>- Diffuse attenuator FA-3 with SMA-905 connector |
| Bec, κr  | 1,2   |
| Computer Interface                                     | Full Speed USB  |
| Software   | WLMeter   |
| Dimensions, mm   | 142 x 110 x 80  |
| Weight, kg   | 1.2   |



SHR-IR dimensions.



Optical parametric oscillator (OPO) idler wave.  
Real-time measurements at tuning laser wavelength.



1725-1750 nm laser diode spectrum acquired with the SHR-IR.