

YSM-8102-02 Series VIS-NIR High Resolution Spectrometer

Description

YSM-8102-02 series spectrometer adopts high resolution opto-mechanical structure with Hamamatsu S11639 CMOS. The resolution is up to 0.06nm. You can choose different gratings to make different resolution and wavelength range. The dynamic range is enhanced to 10000:1, the minimum integration time is reduced to 0.5ms and the S/N is improved to 600:1. RS232, Trigger modes, SDK and Deep customization are available for industrial or scientific applications.



Feature

- High optical resolution up to 0.06nm with good sensitivity
- Cross asymmetric C-T optical structure
- Eliminate 2nd order diffraction
- SMA905 connector, easy to work with other devices through optical fiber
- Selectable wavelength range and optical resolution
- USB 2.0 for data transfer and power supply
- RS232, Trigger modes, SDK and Deep customization is available
- Enhanced lens is optional to improve the sensitivity
- Automatically read peak wavelength and FWHM

Model List

| Model | Wavelength Range | Sub Model | Resolution | Slit | Grating | Filter | Lens |
|----------------|------------------|----------------|------------|------|------------------|--------|------|
| YSM-8102-02-01 | 200-420nm | 16S03L00F00G14 | ~ 0.3nm | 25μm | 1200g/mm, 250nm | -- | -- |
| YSM-8102-02-02 | 200-1000nm | 16S01L00F06G11 | ~ 0.6nm | 5μm | 333g/mm, 600nm | F06 | -- |
| YSM-8102-02-03 | 380-900nm | 16S02L00F05G12 | ~ 0.4nm | 10μm | 500g/mm, 560nm | F05 | -- |
| YSM-8102-02-04 | 305-595nm | 16S02L00F00G23 | ~ 0.3nm | 10μm | 900g/mm, 550nm | -- | -- |
| YSM-8102-02-05 | 900-1000nm | 16S02L00F08G08 | ~ 0.1nm | 10μm | 1760g/mm, 500nm | F08 | -- |
| | | 16S02L01F08G08 | ~ 0.1nm | 10μm | 1760g/mm, 500nm | F08 | L01 |
| | | 16S03L01F08G08 | ~ 0.3nm | 25μm | 1760g/mm, 500nm | F08 | L01 |
| YSM-8102-02-06 | 600-1100nm | 16S01L00F08G26 | ~ 0.3nm | 5μm | 500g/mm, 770nm | F08 | -- |
| YSM-8102-02-07 | 330-770nm | 16S02L00F05G25 | ~ 0.3nm | 10μm | 600g/mm, 500nm | F05 | -- |
| YSM-8102-02-08 | 500-720nm | 16S02L00F00G10 | ~ 0.2nm | 10μm | 1200g/mm, 500nm | -- | -- |
| YSM-8102-02-09 | 800-1000nm | 16S01L01F08G27 | ~ 0.2nm | 5μm | 1200g/mm, 1000nm | F08 | L01 |
| YSM-8102-02-10 | 250-400nm | 16S02L00F00G08 | ~ 0.1nm | 10μm | 1760g/mm, 500nm | -- | -- |
| YSM-8102-02-11 | 390-610nm | 16S02L00F00G10 | ~ 0.2nm | 10μm | 1200g/mm, 500nm | -- | -- |
| YSM-8102-02-12 | 300-1100nm | 16S01L00F06G11 | ~ 0.6nm | 5μm | 333g/mm, 600nm | F06 | -- |
| YSM-8102-02-13 | 340-850nm | 16S02L00F05G12 | ~ 0.5nm | 10μm | 500g/mm, 560nm | F05 | -- |
| YSM-8102-02-14 | 795-905nm | 16S01L01F08G08 | ~ 0.1nm | 5μm | 1760g/mm, 500nm | F08 | L01 |
| YSM-8102-02-15 | 1005-1080nm | 16S02L01F08G08 | ~ 0.1nm | 10μm | 1760g/mm, 500nm | F08 | L01 |
| YSM-8102-02-16 | 750-870nm | 16S02L00F08G08 | ~ 0.1nm | 10μm | 1760g/mm, 500nm | F08 | -- |
| YSM-8102-02-17 | 250-350nm | 16S02L00F00G30 | ~ 0.1nm | 10μm | 2400g/mm, 300nm | -- | -- |
| YSM-8102-02-18 | 350-450nm | 16S02L00F00G30 | ~ 0.1nm | 10μm | 2400g/mm, 300nm | -- | -- |
| YSM-8102-02-19 | 660-734nm | 16S01L01F08G30 | ~ 0.1nm | 5μm | 2400g/mm, 300nm | F08 | L01 |
| YSM-8102-02-20 | 180-400nm | 16S03L00F00G14 | ~ 0.3nm | 25μm | 1200g/mm, 250nm | -- | -- |

*Other wavelength ranges and resolutions can be customized.

*Cylinder lenses can be added to some models to increase the sensitivity.

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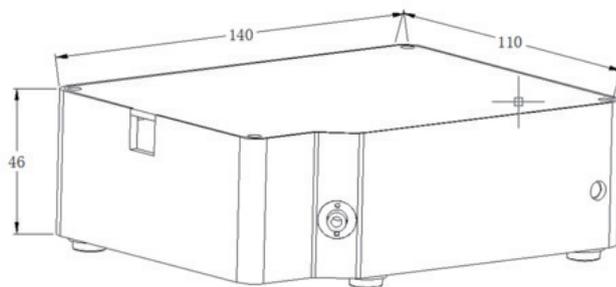
Specification

| | |
|-----------------------|---|
| Model | YSM-8102-02 |
| Dimension | 140mm x 110mm x 46mm |
| Weight | 0.7 Kg |
| Wavelength range | 180nm - 1100nm |
| Optical resolution | ~0.06nm-0.6nm |
| Fiber connector | SMA905 |
| Detector | Hamamatsu S11639 2048 Linear CCD |
| Pixel | 3648 pixels, size 14 μ m \times 200 μ m |
| Signal to noise ratio | 600:1 at full signal |
| Linearity | >99% |
| Stray light | <0.1% (600nm, 435nm) |
| A/D resolution | 16 bit |
| Integration time | 0.5ms - 10s |
| Dynamic range | 300:1 |
| Trigger mode | Software, hardware, synchronization |
| Power consumption | 250 mA, 5 VDC |
| Operating temperature | 5°C -35°C (25°C) |
| Computer interface | USB2.0 (12Mbps) RS232 (115200bps) |
| Operating system | Win XP, Win7, Win8, Win10 |
| Power supply mode | USB or 5VDC |

Application

Laser's CWL and FWHM
Absorption, Transmittance and Reflectivity
LED's CWL, FWHM and Color
Solar spectrum
Fluorescence
Color Measurement

Dimension



Packing List

1EA spectrometer, 1EA USB data cable, 1EA CD with software and manual, 1EA calibration report and 1EA Handbook.



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