

## Transmission Module

## IR1000-M

### Features

- Spectral Range: 12500 - 4000  $\text{cm}^{-1}$  (800 - 2500nm)
- Spectral Resolution  $\leq 2 \text{ cm}^{-1}$
- Detector: High sensitivity InGaAs 2-stage TE-cooled
- Optical fiber terfac: SMA 905 connector
- The heating module mix liquid sample well
- One button & fast scan within 1 minute
- Qualitative & Quantitative measure several built modeling components percentage at the same time

### Application

hydroxyl value, saponification value, acid value, iodine value

### Description

IR1000-M is a Liquid transmission measurement with the external temperature module heating up to  $150^{\circ}\text{C}$ , specially designed for routine liquid transmission analysis in laboratories. With S-Seq software, it can quickly analyze and detect liquid samples. The host also includes an external transmission temperature control module M-Cube, which is used for heating, temperature control and sampling of liquid samples. Liquid samples are added directly to the sample tube or cuvettes with different optical path lengths using a dropper. Samples that need to be heated and melted can also use the heating function of M-Cube. After the sample becomes a uniform liquid sample, the spectrum is collected.



## Parameter

Items	Parameters
Spectral Resolution	$\leq 2 \text{ cm}^{-1}$
Spectral Range	12500 - 4000 $\text{cm}^{-1}$ (800 - 2500nm)
Light Source	High Performance NIR light source
Detector	High sensitivity InGaAs 2-stage TE-cooled
Laser	Solid laser 10 year warranty
Beamsplitter	CaF <sub>2</sub>
Wavenumber Precision	$\leq 0.02 \text{ cm}^{-1}$
Interferometer	High stability Cube corner interferometer
Software interface	Window 7/10
Operating temperature / humidity	5 to 35°C / non condensing
Storage temperature	-10 to 60°C

## Contactless probe for solids

## IR1000-D

### Features

- Spectral Range: 11500 - 4000 cm<sup>-1</sup> (800 - 2500nm)
- Spectral Resolution  $\leq 2$  cm<sup>-1</sup>
- Detector: High sensitivity InGaAs 2-stage TE-cooled
- Communication interface: Ethernet or adaptor to USB2.0
- Optical fiber terfac: SMA 905 connector
- works with a noncontact reflection probe (Dual-Eye) to collect the reflection spectrum of the solid sample.
- Probe size (Dual-Eye) : 154mm (height) \* 144mm (diameter) \*
- Focus distance (Dual-Eye) : 90mm

### Application

- Tobacco industry
- Raw coal production
- Feed industry

### Description

IR1000-D is a Non-contact Diffuse Reflection measurement of powder samples For laboratory and online process. The reflected spectral signal is converged into the detector through the optical system inside Dual-Eye, which greatly improves the spectral collection efficiency and signal to noise ratio.

IR1000-D is very suitable for non-contact analysis of solid samples, such as the detection of tobacco leaves on conveyor belts in the tobacco industry, the detection of raw coal on coal preparation production lines, the detection of raw material content in the feed industry, etc.; it is also suitable for large, irregular and uneven samples, large areas Illumination sampling can improve the representativeness of the sample



## Parameter

Items	Parameters
Spectral Resolution	$\leq 2 \text{ cm}^{-1}$
Spectral Range	11500 - 4000 $\text{cm}^{-1}$ (800 - 2500nm)
Light Source	High Performance NIR light source
Detector	High sensitivity InGaAs 2-stage TE-cooled
Laser	Solid laser 10 year warranty
Beamsplitter	CaF <sub>2</sub>
Wavenumber Precision	$\leq 0.02 \text{ cm}^{-1}$
Interferometer	High stability Cube corner interferometer
Software interface	Window 7/10
Operating temperature / humidity	5 to 35°C / non condensing
Storage temperature	-10 to 60°C
Communication interface	Ethernet or adaptor to USB2.0
Optical fiber terfac	SMA 905 connector
Probe size (Dual-Eye)	154mm (height) * 144mm (diameter)
Focus distance (Dual-Eye)	90mm

## Handheld probe for solids

## IR1000-F

### Features

- Spectral Range: 11500 - 4000  $\text{cm}^{-1}$  (800 - 2500nm)
- Spectral Resolution  $\leq 2 \text{ cm}^{-1}$
- Detector: High sensitivity InGaAs 2-stage TE-cooled
- Communication interface: Ethernet or adaptor to USB2.0
- Optical fiber terfac: SMA 905 connector

### Application

- pharmaceutical industry for the direct measurement of tablet/powder raw materials
- carry out spectral analysis of various solid samples through the packaging bag/glass bottle or direct hand contact

### Description

IR1000-F is a Reflection measurement for solid samples with Handheld reflection probe, equipped with a handheld solids probe and bracket. Spectral sampling of solid samples can be easily completed, and it is convenient to take and place. The probe is composed of hundreds of 200um fiber bundles, which are connected to the spectrometer through connector. Button on the probe is used for sampling control. This set configuration can be used in the pharmaceutical industry for the direct measurement of tablets/powder raw materials, spectra can be performed through packaging bags/glass bottles, etc. It can also be directly hand-held contact with a variety of solid samples for reflection measurement.



## Parameter

tems	Parameters
Spectral Resolution	$\leq 2 \text{ cm}^{-1}$
Spectral Range	12500 - 4000 $\text{cm}^{-1}$ (800 - 2500nm)
Light Source	High Performance NIR light source
Detector	High sensitivity InGaAs 2-stage TE-cooled
Laser	Solid laser 10 year warranty
Beamsplitter	Exclusive NIR Beamsplitter
Wavenumber Precision	$\leq 0.02 \text{ cm}^{-1}$
Interferometer	High stability Cube corner interferometer
Software interface	Window 7/10
Operating temperature / humidity	5 to 35°C / non condensing
Storage temperature	-10 to 60°C
Communication interface	Ethernet or adaptor to USB2.0
Optical fiber input	SMA 905 connector

## Integrating Sphere

## IR1000-S

### Features

- Spectral Range: 12500 - 4000 cm<sup>-1</sup> (800 - 2500nm)
- Spectral Resolution  $\leq 2$  cm<sup>-1</sup>
- High sensitivity InGaAs 2-stage TE-cooled Detector
- Inner gold-plated integrating sphere integrated for reliable measurements
- Auto rotated sample cups available in big and small size for uneven particles
- OEM and customized products and accessories are available

### Application

Analysis of solid products such as feed, dairy, food and textile

### Description

IR1000-S is a reliable solid diffuse reflection measurements with integrating sphere high with a full wavelength range. It is suitable for the analysis of solid products such as feed, dairy, food and textile and equipped with a Gold-plate integrating sphere.

It is specially designed to meet the needs of laboratories for measuring various forms of solid samples. The integrated structure makes installation and measurement very simple. The integrating sphere has a built-in gold-plated background, which can automatically subtract the background during measurement.



## Parameter

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Spectral Resolution	$\leq 2 \text{ cm}^{-1}$
Spectral Range	12500 - 4000 $\text{cm}^{-1}$ (800 - 2500nm)
Light Source	High Performance NIR light source
Detector	High sensitivity InGaAs 2-stage TE-cooled
Laser	Solid laser 10 year warranty
Beamsplitter	CaF <sub>2</sub>
Wavenumber Precision	$\leq 0.02 \text{ cm}^{-1}$
Interferometer	High stability Cube corner interferometer
Software interface	Window 7/10
Operating temperature / humidity	5 to 35°C / non condensing
Storage temperature	-10 to 60°C
Communication interface	Ethernet or adaptor to USB2.0
Optical fiber input	SMA 905 connector
Rotating sample cups	Sapphire