OPTOSKY Spectroscopy Solutions

Datasheet

Full Spectrum NIR Spectrometer IR2000 Pro

Features

- Unique light path design;
- 256 InGaAs linear array detector technology;
- No sample preparation required;
- Large light spot, rotating scanning;
- integrated design;
- High-definition touch screen operation;
- High life light source (more than 10,000 hours);
- Multiple data transmission interfaces;

Description

IR2000pro is a multifunctional full-spectrum near-infrared analyzer newly developed by Optosky based on InGaAs linear array detector. It is specially designed for fast and non-destructive analysis. It combines exceptional analytical accuracy with speed, ease of use and ruggedness. It is widely used and can detect moisture, protein, fat, ash, starch and other parameters in almost all solid samples.

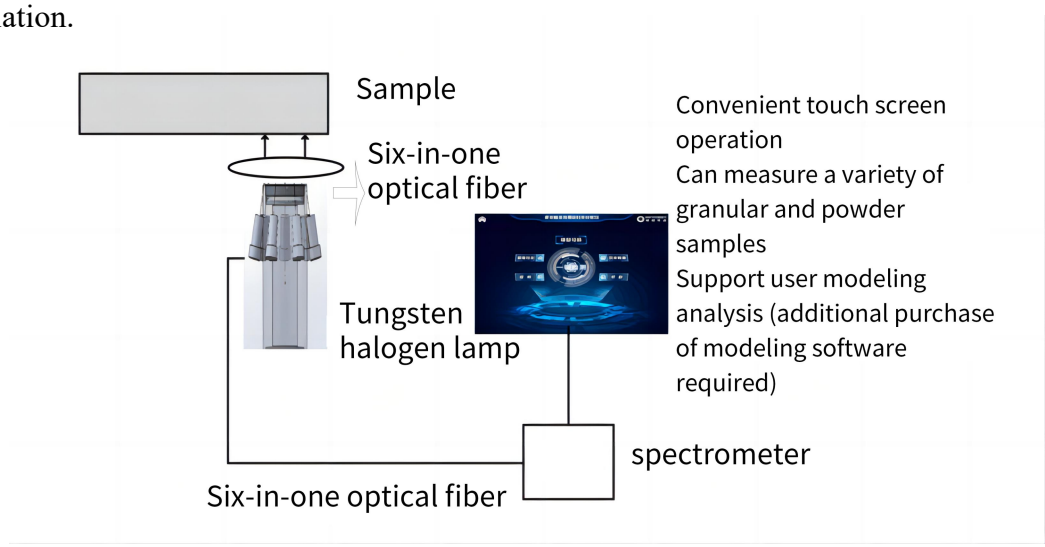
Application

Grain industry	Major cereals such as wheat, soybeans, rice, corn, rapeseed, and peanuts; Small grains such as sorghum and oats; cash crops such as flax, and cauliflower seeds.
	Measurable ingredients: Protein, fat, fiber, starch, amylose, fatty acid composition, various amino acids, gluten, hardness, sedimentation value, water absorption, etc.
Flour processing industry	Wheat, flour, bran,noodles and dough, etc.
	Measurable ingredients: Moisture, protein, fiber, sedimentation value, ash, hardness, gluten, water absorption, etc.
Meat products industry	Various meats and meat products
	Measurable ingredients: Moisture, protein, fat, ash, water activity, origin traceability, etc.
Feed industry	Semi-finished or final feed products, including pet feed.
	Measurable ingredients: Moisture, protein, fat, etc.
other industry	Grain storage, starch industry, medicine, tobacco
	Measurable ingredients: Moisture, protein, fat, etc.

1503 Bld. A04, 3rd Software Park, Jimei, Xiamen, 361005, China
Tel: +86-592-6102588

1 Working Principle

In the near-infrared spectrum region, the absorption of near-infrared light is caused by the stretching vibration of hydrogen-containing atomic groups such as N-H, O-H, and C-H with higher energy in the organic matter contained in the measured substance. This principle can be used to perform corresponding Quantitative analysis of substances.
As shown in the figure below, the instrument uses dual light sources to emit light. The light emitted by the light source is initially collimated through the lamp cup, and then the beam is incident obliquely on the sample at a certain angle. After diffuse reflection, the light is collected through the diffusion probe, and finally the light is collected through the optical fiber. The reflected light containing information enters the spectrometer for analysis and calculation.



1503 Bld. A04, 3rd Software Park, Jimei, Xiamen, 361005, China
Tel: +86-592-6102588

2 Parameter

Analysis Parameters	
Analysis time	6s~30s
Sample size	300g
Products analyzed	Solid samples such as granules, flakes, powders, and pastes
Detection area	Standard sample tray 154cm2
Optical Parameters	
Detector	256 indium gallium arsenic detector (ATP8600)
Wavelength Range	950nm-1650nm
Wavelength Accuracy	Less than 0.05nm
Spectral Bandwidth	About 7nm
Spectral Resolution	0.1nm~10nm optional
Noise	Less than 20uA
Light Source Lifespan	Not less than 10,000 hours
General Parameters	
IP Rating	IP65
Interface	USB, network port
Power S upply	110V~240V，50/60Hz
Dimension	550*400*250mm
Weight	12kg

1503 Bld. A04, 3rd Software Park, Jimei, Xiamen, 361005, China
Tel: +86-592-6102588