

Process Monitoring Near Infrared Spectroscopy Analyzer

IR2120

Features

- Stable optical system for harsh environments.
- Multi-probe setup for versatile testing.
- Long-distance measurement for process monitoring.
- High-speed data acquisition (over 40Hz).
- Advanced software with calibration modeling.
- Customizable communication options(TCP/Modbus).
- Cost-effective, easy installation, explosion-proof options.

Description

Nowadays, spectral analysis has become a very important technology for online process monitoring and optimization. Probes connected via optical fibers can directly monitor the production process with no time delay.

The IR2120 can perform direct measurements in process reactors and pipelines, allowing you to better understand and control the production process. Its innovative technology provides consistent high-quality results, reduces downtime, and enables direct method transfer.

Application

- **Petrochemical Refining:** Testing hydrogenation, cracking, and benzene levels.
- **Biopharmaceuticals:** Testing glucose, glycerol, etc.
- **Scientific Research:** Confirming reaction conditions and product yield.

Model	Spectral Range
IR2120	900nm-1700nm
IR2120-17TC	900nm-1700nm
IR2120-25TC	900nm-2500nm
IR2120-11	600nm-1100nm



Figure 1: IR2120 Process Monitoring Near Infrared Spectroscopy Analyzer

1. Working Principle

The system utilizes the characteristic near-infrared absorption of materials and can be configured with diffuse reflection, transflection, or liquid transmission probes. Different materials like stainless steel, Hastelloy, or ceramics can be chosen based on the material properties.

2. Parameter

Parameter					
Instrument Model		IR2120	IR2120-17TC	IR2120-25TC	IR2120-11
Spectral Range		900nm-1700nm	900nm-1700nm	900nm-2500nm	600nm-1100nm
3	Product Applications	Chemistry, Chemical Engineering, Biopharma			
4	Analyzed Parameters	Petrochemical Refining: Tesing hydrogenation,cracking,and benzene levels; Biopharmaceuticals :Testing glucose,glycerol,etc; Scientific Research: Confirming reaction conditions and yield.			
5	Analysis Method	Non-contact, online scanning			
6	Spot Size	Approximately 100mm in diameter			
Optical Parameters					
11	Reference Standard	Built-in Calibration Light Source		Built-in Calibration Light Source	Built-in Calibration Light Source
15	Light Source Lifetime	No less than 10,000 hours			
Installation Environment					
16	Operating Temperature/Humidity	Temperature: -10℃ ~ 50℃, Humidity: 10% ~ 90%			
17	Operating Mode	Immersion Measurement			
18	Installation Method	Production Line Installation			
Software Features					
19	Result display, record query, data statistics, model creation and import, probe management, system settings, etc.				
General Parameters					
20	Operating System	Windows			
21	Protection Level	IP65			
22	Material	Food-grade Stainless Steel			
23	Communication Interface	Network Port			
24	Explosion-Proof Rating	EX_TD_A21_IP65_T80			
25	Power Supply	DC 24V, 2A			
26	Cooling Method	Compressed Air, Water Cooling Connector Size:6mm quick connect; Pressure: 0.1MPa~0.4MPa, Flow Rate: 30L/min~60L/min			
27	Dimensions	approximately210mm×380mm×180mm			
28	Weight	approximately 8kg			

3. Selection Guide

Model	Description
IR2100pro	900nm-1700nm Range: For measuring fruits like bayberries and others
IR2100pro-17TC	900-1700nm, Cooling Spectrometer: Can detect chemicals like ethanol
IR2100pro-25TC	1700-2500nm Range, Cooling: For analyzing complex samples and components
IR2100pro-11	600-1100nm Range: For measuring components like protein in grains and fruits

4. Accessories

Accessories	
1	Optical Fiber
2	Light Source