STALWART

High Resolution NIR spectrometer
STP-873 Series

Introduction

STP-873 is an ultra-high-resolution, ultra-high-speed, short-wave infrared series micro-optic spectrometer developed by Stalwart, with a maximum working range of 900-1700nm (the actual range can be customized). It adopts a 1024-pixel InGaAs array detector, and it adopts optimization. The optical path design has an amazing resolution of 30pm.

Features

- 1024-pixel InGaAs detector;
- Ultra-high frame rate: 30 Khz;
- Maximum spectral range: 900-1700nm(customized);
- Minimum spectral resolution: 30 pm (related to the width of the incident slit);
- Integration time: 10μs - 256s;
- Power supply: DC 5V@
- Power interface: USB power supply;
- ADC depth: 16 bits;
- ADC sampling rate: 10 Mhz;
- Optical input interface: SM905 optical fiber;
- interface or free space input;
- Data output interface: USB3.0 and UART;
- 20-pin extended interface;
- Off-SMA trigger signal

Specification

Sensor	
Type	linear array InGaAs CCD Down to -20ºC
Detection spectral range	900-1700 nm
Effective Pixels	1024
Optical parameters	
Max wavelength range	900-1700nm, Different ranges can be customized
Optical resolution	30 pm ~ 2 nm (Depends on slit, spectral range)
Max dynamic range	>1400
Optical path parameters	
Optical design	f/4 Asymmetric C-T optical path
Focal length	70 mm for incidence / 150 mm for output
Incident slit width	5ˏ10ˏ25ˏ50ˏ100ˏ150ˏ200 μm Optional, other sizes can be customized
Incident light interface	SMA905 Optical fiber interface, free space

Specification

Electrical Parameters	
Integration time	10μs - 256s
Maximum frame rate	>30 Khz
Data output interface	USB 3.0
ADC depth	16bit
Power supply	5V DC±5%
Working current	<1A
Operating temperature	-20°C ~ +45°C
Storage temperature	-30°C ~ +70°C
Maximum working humidity	< 90%RH (No condensation)
Physical parameter	
Size	200×75×50 mm
Weight	1.5 kg

Application

- Monitoring of the laser wavelength;
- Optical communication wavelength monitoring;
- High-speed ion luminescence monitoring;
- Food sorting, moisture, protein, fat and fiber detection of crops;
- Paper sorting;
- Online monitoring of Chinese medicine production;
- Solar panel inspection;

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