OPTOSKY
Spectroscopy Solutions

Datasheet

UV Visible Infrared Spectrometer

ATP7820

Features

- 0.2-13.0μm band range;
- 5 different waveband ranges
- High SNR and dynamic range;
- TEC deep cooling detector
- Built-in chopper and filter (OPTIONAL);
- Power supply: DC 12V@<3A (max);
- ADC bit depth: 24 bits;
- SM905 optical fiber interface or free space input;
- Multiple types of detectors;
- Adopt rotating concave grating design;
- USB2.0 and UART;
- 15-pin expansion interface, external trigger signal;
- A variety of accessories are available;

Application

- Absorption, reflection and transmission spectrum
- Spectral analysis of high-temperature objects (tail flame)
- Spectrum of ground objects
- Infrared spectrum

Description

ATP7820 is a wide-band range, high-resolution spectrometer launched by 0ptosky with 20 years of experience in spectrometer development. After 5 years of research and development, ATP7820 uses software control to rotate the grating and perform wavelength scanning to obtain highly accurate spectral measurement results.

The ATP7820 system utilizes a simulation-optimized optical system to ensure high resolution. The ATP7820 series has a variety of inputs, and can use either single point detectors or various array cameras.

ATP7820 has a variety of models with different waveband ranges: 0.2~1.7μm, 0.2~2.5μm, 0.2~5.0μm, 0.2~6.0μm, 0.2~9.0μm, 0.2~13.0μm, which can cover the range from near infrared to mid-far infrared. , just by choosing the appropriate grating, you can have more freedom in selecting wavelength and resolution.

ATP7820 can receive SMA905 optical fiber input light or free space light, and output the measured spectral data through USB2.0 or UART port.

ATP7820 only requires a +12V DC power supply, which is very easy to use. All controls can be controlled electrically through software.

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1. Parameter

Model	Spectral Range	Best Resolution/nm	Fastest Time	UV Visible Light Detector	Detector Cooling
ATP7820-25	0.2~2.5μm	5.0	3.0s	Refrigeration, -20℃	Yes, -30℃
ATP7820-50	0.2~5.0μm	5.0	5.0s	Refrigeration, -20℃	Yes, -30℃
ATP7820-60	0.2~6.0μm	9.0	10s	Refrigeration, -20℃	Yes, -30℃
ATP7820-90	0.2~9.0μm	13nm	13s	Refrigeration, -20℃	Yes, -30℃
ATP7820-120	0.2~12.0μm	13nm	15s	Refrigeration, -20℃	Yes, -40℃

Note:

1. Other wavelength ranges can be customized
2. The parameters in the table only represent the test results under standard configuration; if there are other parameter requirements, Optosky can provide customization.

	ATP7820-17	ATP7820-25	ATP7820-50	ATP7820-60	ATP7820-90	ATP7820-120
Optical Parameters						
Detector Type	● UV visible: Refrigeration PD, -20℃ ● Infrared: Cooled detector, the cooling temperature can reach as low as -30℃					
Maximum Spectral Range	0.2~1.7μm	0.2~2.5μm	0.2~5.0μm	0.2~6.0μm	0.2~9.0μm	0.2~12.0μm
Best Optical Resolution	1.0 nm	1.0 nm	2.0 nm	3.0nm	13nm	23nm
Maximum Number Of Bands	3000	5000	10000	15000	15000	25000
Light Path Topology	Rotating Scanning Raster					
Incident Slit Width	50μm, optional 5, 10, 25, 50, 100, 150, 200 μm					
Incident Light Interface	Free Space, SMA905 fiber optic interface					
Data output interface	USB 2.0、UART					
ADC Bit Depth	24 bit					

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Power Supply	12V DC±5%
Maximum Working Current	<3.3A
Operating Temperature	-20°C ~ +45°C
Storage Temperature	-30°C ~ +70°C
Maximum Working Humidity	< 90%RH (No condensation)
Physical Parameters	
Dimensions/mm	169×112×88
Weight	1200±200g

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