

IR Grating Spectrometer

ATP7810

Features

- Ultra-wide band range, up to 26.0 μm
- Six selectable wavelength ranges available, with other wavelength ranges optional
- High signal-to-noise ratio and high dynamic range
- TEC deep cooling detector, no need to add liquid nitrogen
- Built-in chopper and filter (if required)
- Power supply: DC 12V@<2A (max)
- ADC bit depth: 24 bits
- Various optical input interfaces: SM905 optical fiber interface or free space input
- Various types of detectors are available
- Designed with rotating concave grating
- Data output interface: USB2.0 and UART
- 15-pin extension interface, external trigger signal

Application

- Absorption, reflection, transmission spectra
- Surface Spectrum
- IR

Description

ATP7810 is a wide-band range and high-resolution spectrometer launched by Optosky with 20 years of experience in spectrometer development. After 5 years of research and development, ATP7810 rotates the grating through software control and performs wavelength scanning to obtain high-precision spectral measurement results.

The ATP7810 system utilizes a simulation-optimized optical system to ensure high resolution. The ATP7810 series has a variety of input and output options. Both single-point detectors and various array cameras can be used.

ATP7810 has a variety of models with different wavelength ranges: 0.8~2.5 μm , 1.0~5.0 μm , 1.0~12.0 μm , 1.0~15.0 μm , 1.0~26.0 μm , which can cover the range from near-infrared to mid-to-far infrared.

ATP7810 can receive SMA905 fiber input light or free space light, and output the measured spectral data through USB2.0 or UART port.

Model	Description
ATP7810	Standard Version
ATP7810H	High-Speed Version, Reduced Spectral Acquisition Time



Figure 1 ATP7810

1. Selection

Model	Spectral range	Best resolution/nm	Fastest scoring time	Detector Cooling
ATP7810-25	0.8~2.5μm	10nm	40s	Yes, -30°C
ATP7810-50	1.0~5.0μm	15nm	50s	Yes, -30°C
ATP7810H-50	1.0~5.0μm	15nm	10s	Yes, -30°C
ATP7810-120	1.0~12.0μm	40nm	120s	Yes, -40°C
ATP7810-150	1.0~15.0μm	40nm	120s	Yes, -40°C
ATP7810-260	1.0~26.0μm	60nm	250s	Yes, -20°C

Note:

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

2. Parameter

Parameter	ATP7810-25	ATP7810-50	ATP7810-120	ATP7810-150	ATP7810-260
Optical parameters					
Spectral Range	0.8~2.5μm	1.0~5.0μm	1.0~12.0μm	1.0~15.0μm	1.0~26.0μm
Optical path topology	Rotate Scan Raster				
Entrance slit width	50μm, optional 5、10、25、50、100、150、200 μm				
Incident light interface	SMA905 Fiber optic interface or free space				
Electrical Specifications					
Data output interface	USB 2.0				
ADC bit depth	24bit				
Power supply	12V DC±5%				
Working current	<3.3A				
Physical parameters					
Operating temperature	-20°C ~ +45°C				
Storage temperature	-30°C ~ +70°C				
Working humidity	< 90%RH (no condensation)				
Weight	1200±200g				
Note:					
1. Other wavelength ranges can be customized					
The parameters in the table only represent the test results under the standard configuration; if there are other parameter requirements, Optosky can provide customization. 供定制。					

3. Accessories

Standard Accessories	
1	ATP7810 Grating Spectrometer
2	12V Power Adapter
3	National Standard Three-Prong Power Cable
4	USB 2.0 Data Cable
5	USB Flash Drive (includes software)

4. Physical map of ATP7810



Figure 2 Physical Image of ATP7810

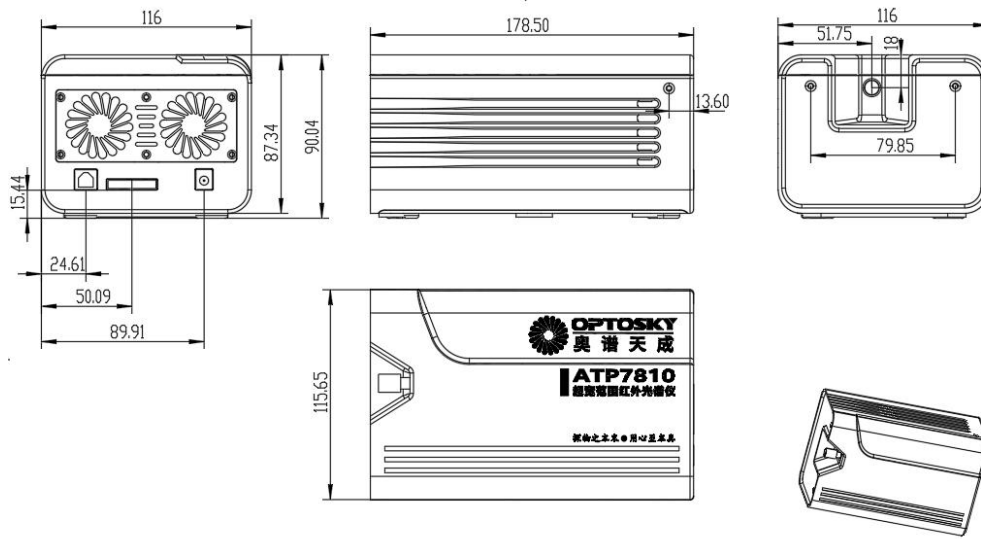


Figure 3 Dimensional Drawing of ATP7810

5. Measured Data

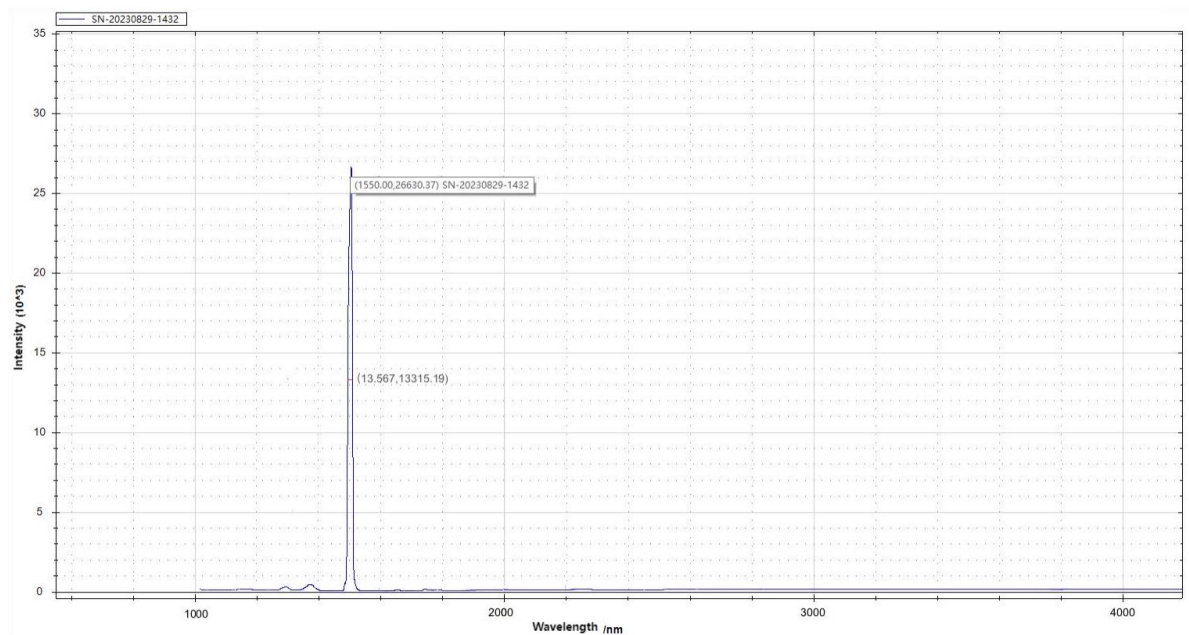


Figure 4 ATP7810-25 Test Spectrum of 1550nm Laser

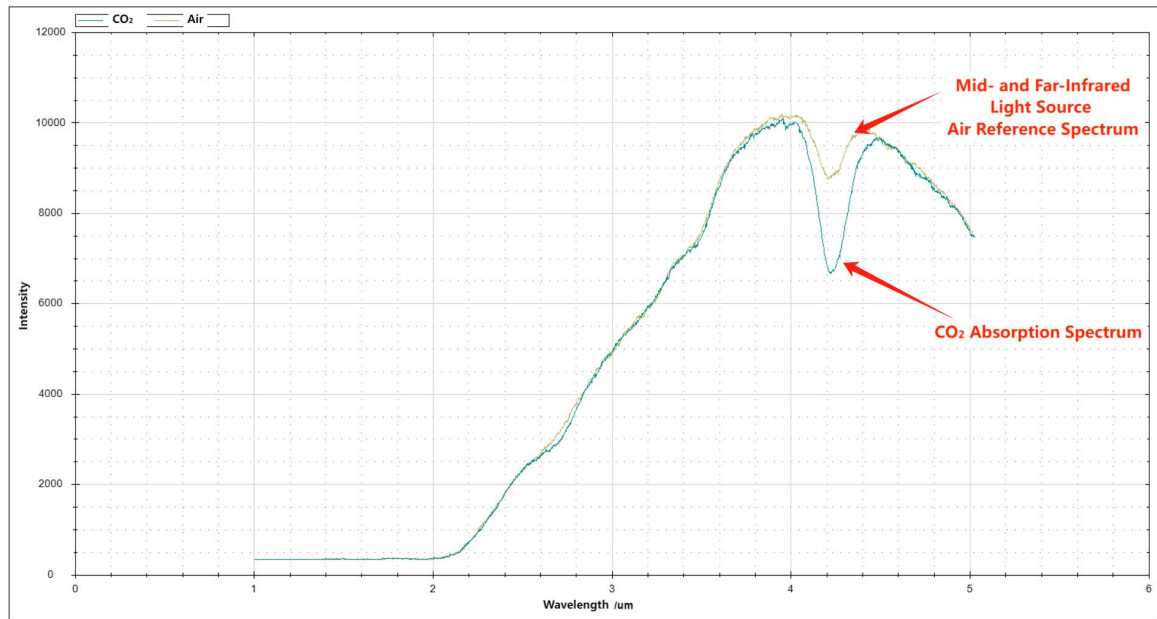


Figure 5 ATP7810-260 Test Spectrum of CO₂ Absorption