

## (0.9-25.0 $\mu$ m) Ultra Wide Range Infrared Spectrometer Series

# ATP7810

### Features

- Ultra-wide band range, up to 25.0  $\mu$  m
- 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 Aopu Tiancheng 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 $\mu$ m, 1.0~6.0 $\mu$ m, 1.0~9.0 $\mu$ m, 1.0~12.0 $\mu$ m, 1.0~25.0 $\mu$ m, 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.



## 1. Selection table

Model	Spectral range	Best resolution/nm	Fastest scoring time	Detector Cooling	
ATP7810-25	0.8~2.5μm	5.0	3.0s	Yes, -30°C	
ATP7810-60	1.0~6.0μm	9.0	4.3s	Yes, -30°C	
ATP7810-90	1.0~9.0μm	13nm	13s	Yes, -30°C	
ATP7810-120	1.0~12.0μm	13nm	15s	Yes, -40°C	
ATP7810-260	1.0~26.0μm	23nm	22s	Yes, -30°C	

Note:

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

## 2. Performance parameter table

	ATP7810-25	ATP7810-60	ATP7810-90	ATP7810-120	ATP7810-260
<b>Optical parameters</b>					
Detector type	Refrigerated detector, the lowest cooling temperature can reach-30°C				
Maximum Spectral Range	0.8~2.5μm	1.0~6.0μm	1.0~9.0μm	1.0~12.0μm	1.0~26.0μm
best optical resolution/nm	5.0	9.0	13nm	13nm	23nm
Maximum number of bands	5000	10000	15000	15000	25000
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				
Data output interface	USB 2.0				
ADCbit depth	24bit				
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)				
<b>Physical parameters</b>					
Size /mm	169×112×88				
Weight	1200±200g				

Note:

1. Other wavelength ranges can be customized
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## 2. Physical map of ATP7810

