

## High Resolution NIR Spectrometer

# ATP8730

### Description:

ATP8730 is an ultra-high-resolution, ultra-high-speed, short-wave infrared series micro-optic spectrometer developed by Optosky, 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.

At the same time, Optosky specially customized the ultra-low noise CCD signal-related dual sampling processing circuit for ATP8730, with a minimum quantization noise of less than 25 counts, which greatly reduces the noise of the sensor and obtains an excellent signal-to-noise ratio (about two times higher than similar competitors), and The measurement reliability of ATP8730 is improved, and the measurement results do not change with ambient temperature.

ATP8730 can receive SMA905 fiber input light or free space light, and output the measured spectral data through the USB2.0/USB3.0 or UART port.

### 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: 10  $\mu$ s - 256s;
- Power supply: DC 5V@<1A;
- 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;

### 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;



## 1. Performance parameters

Sensor	
Type	linear array InGaAs CCD, Down to -20° C
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	5、10、25、50、100、150、200 μm Optional, other sizes can be customized
Incident light interface	SMA905 Optical fiber interface, free space
Electrical parameters	
Integration time	10 μs - 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

## 2. Dimensions

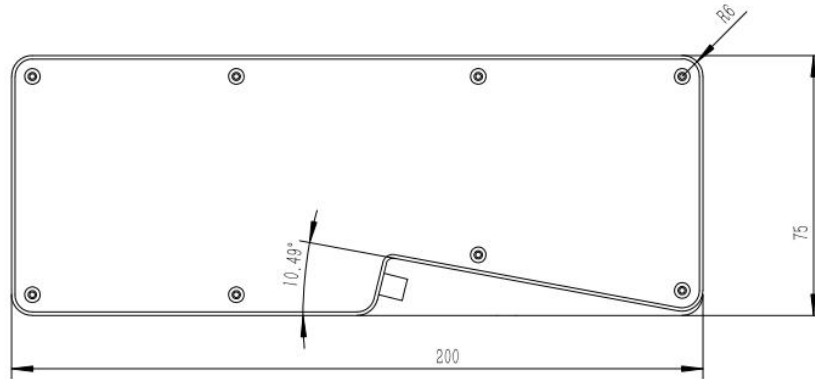


Figure 1 Dimensions of ATP8730 (front)

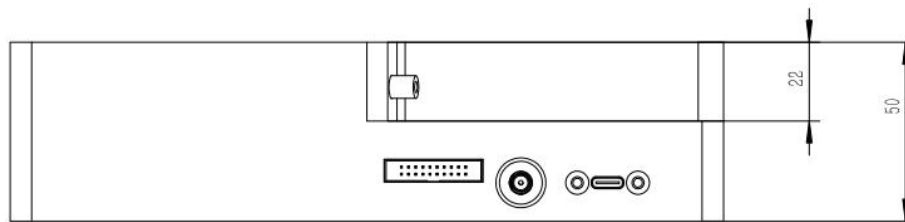


Figure 2 Dimensions of ATP8730 (side)

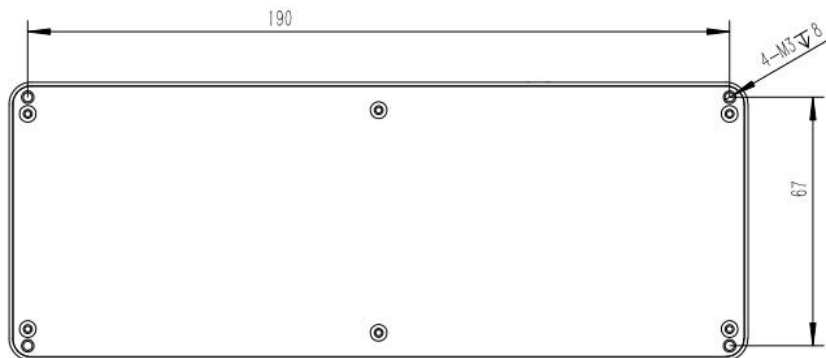


Figure 3 Location hole map of ATP8730

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Product data information is current as of publication data. Products conform to specifications per the terms of Optosky Standard warranty.