Product Description

ATP7330 is an ultra-high-resolution spectrometer which uses an optimized optical system to ensure high resolution. This design provides the possibility of multi-fiber imaging at the same time by correcting the aberration. ATP7330 series has multiple input and output options, offering excellent scalability and diversity for researchers.

ATP7330 has four models with different focal lengths: 210, 350, 510 and 760mm. Different from prism spectrum or transmission grating, each ATP7330 can cover applications from ultraviolet to near infrared and short-wave infrared bands. Just select the appropriate grating, you can have more freedom in the selection of wavelength and resolution.

ATP7330 can receive SMA905 fiber input light or free space light and export the measured spectral data through USB2.0 or UART port.

Key Features

- Ultra-high resolution, up to 0.01nm.
- Four different lengths customized: 210, 350, 510, 760mm
- Wavelength range: 180-2500nm (Customized)
- Tower rotation grating, built-in 3 gratings, multiple gratings optional: 150, 300, 400, 500, 600, 900, 1200, 800, 2400, 3600 lines
- Power supply: DC 12V@<4A
- ADC depth: 18 bits (output 16bits)
- Multiple optical input interfaces: SM905 fiber interface or free space input.
- Dual output with two CCD configured (Si CCD & InGaAs CCD)
- Crossed C-T light path and toroidal aberration calibration design.
- The control of the instrument (such as grating conversion, wavelength scanning, etc.) is all controlled by computer
- Data output interface: USB2.0 & UART
- 15-pin expansion interface
- SMA external trigger signal
- Multiple attachment can be select

Typical Applications

- Raman Spectroscopy
- Fluorescence Spectroscopy
- Photoluminescence Spectroscopy
- Absorption, Reflection & Transmission Spectroscopy
- LIBS
- Microscope



Selection Table

PN	Focal Length	Aperture Ratio	PMT Resolution*	CCD Resolution**	Linear Dispersion
ATP7330-FL210	210mm	F/3.5	0.4 nm	0.4 nm	4.17 nm/mm
ATP7330-FL350	350mm	F/4.2	0.1 nm	0.14 nm	2.38 nm/mm
ATP7330-FL510	510mm	F/6.5	0.07	0.09	1.65nm/mm
ATP7330-FL760	760mm	F/9.7	0.04	0.05	1.03nm/mm

Notes:

1. *: with 1200 g/mm grating @ 435.8 nm and 10μm slit width and 4 mm slit height
2. **: with 1200g/mm grating @ 435.8nm 14μm pixel, 20μm slit width

1. Performance Specifications

Detector	
Model	TE Cooled CCD, TE Cooled InGaAs CCD, Cooled down to -40ºC
Wavelength Range	180-2500 nm
Effective Pixels	CCD： 2048, SWIR InGaAs CCD：512
Optical Parameter	
Wavelength Range	180-2500nm, Customized
Optical Resolution	10 pm ~ 5 nm (Depend on different focal length, slit size, spectral range)
Max. Dynamic Range	SCMOS & CCD： >1400；SWIR InGaAs：>10000
Light Path Parameter	
Optical Design	Asymmetric Cooled C-T Optical Path
Focal Length	210，350，510 & 760mm
Grating	Tower rotation grating, built-in 3 gratings, multiple gratings optional: 150,300,400,500,600,900,1200,1800,2400,3600 line;
Grating Rotation Mode	Electronic Control
Grating Rotation Angle	0.36 μrad
Input Slit Width	5,10,25,50,100,150,200μm Customized
Incident Light Interface	Support dual entry: SMA905 fiber interface, free space
Output Optical Interface	Support dual entry
Electrical Parameters	
Integration Time	10μs - 256s
Data Output Interface	USB 2.0
ADC depth	18bit (output 16bit)
Power Support	12V DC±5%
Working Current	<4A
Working Temp.	-20°C ~ +45°C
Storage Temp.	-30°C ~ +70°C
Max. Working Humidity	< 90%RH (No Condensation)
Physical Parameters	
Dimension & Weight	ATP7330-FL210 ATP7330-FL350 ATP7330-FL510 ATP7330-FL760

2. Detachable Three-stage Grating Tower Wheel

- Each tower wheel can be installed with three gratings, which can be freely selected when order in.
- The tower wheel has optical installation interface, which can be calibrated automatically after installation.
- Wavelength coverage, luminous flux and resolution can be optimized according to requirements.

3. Customized Detector

- TE-Cooled CCD, cooled down to -30℃.
- TE-Cooled and back-illuminated CCD, cooled down to -30℃.
- TE-Cooled InGaAs CCD, cooled down to -30℃.

4. Customized Accessories

- Various fibers.
- Filter runner
- Light source
- 17 kinds of gratings optional
- Wavelength calibration and intensity calibration system

