

ATP3000

High Resolution Micro Spectrometer

ATP3000/ATP3040

Features

- High resolution, better sensitivity
- Light path: Cross C-T
- Max range: 180-1150nm
- Resolution: 0.05-2.5 nm
- Detector: 2048 or 4096 pixel CMOS
- Integration time: 0.1ms - 60s
- Power: DC 5V±10% or USB power
- ADC: 16 bit
- Sample rate: 2 MHz
- Output: USB 2.0 or UART
- USB connector: USB Type-A;

Applications:

- Plasma luminescence detection;
- LIBS, Raman spectrum detection;
- Wavelength monitoring, laser, LED, etc
- Water quality analyzer
- Ultraviolet flue gas analyzer
- LED sorter and color detection;
- Micro and fast spectrophotometer;
- Spectrum analysis, radiation spectrophotometry and spectrophotometry

描述

ATP3000 & ATP3040 is a high resolution micro spectrometer developed by Optosky based on cross C-T light path. The highest resolution can reach 0.05nm, which is suitable for all kinds of high-resolution applications. At the same time, it has the characteristics of high reliability, ultra-high speed, low cost, high cost performance and so on. It can be used in various environmental applications such as online testing.

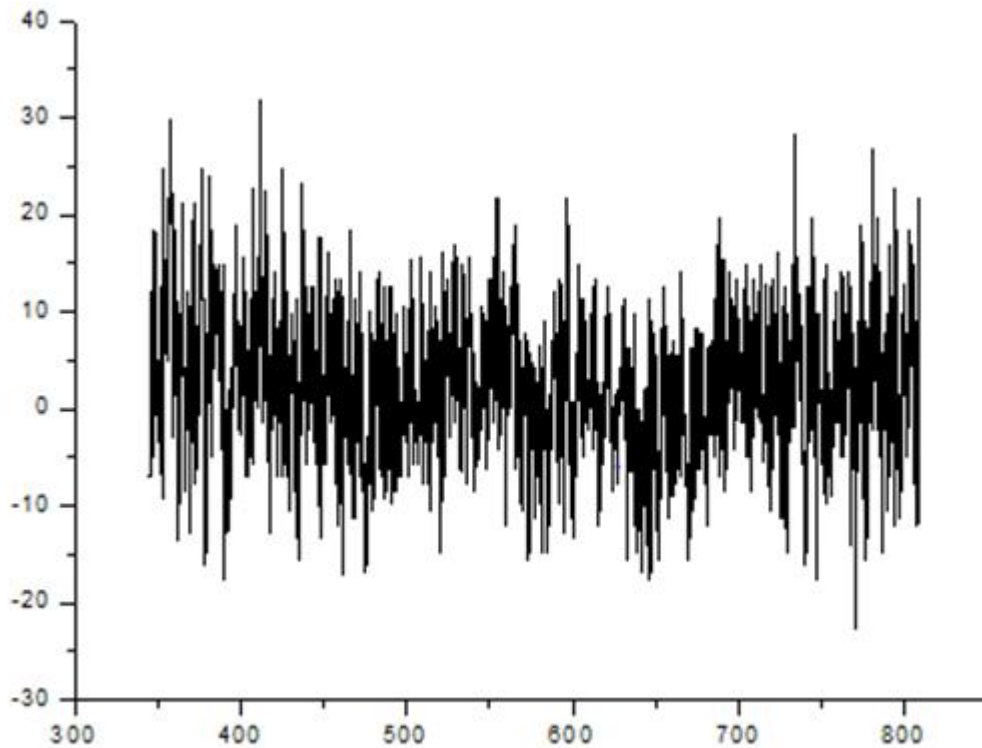
ATP3000/3040 operates with a single +5V DC supply supplied from USB or PIN and output the spectrum data via USB 2.0 or UART.

PN	Detector Pixel	Cooled
ATP3000	2048	NO
ATP3040	4096	NO



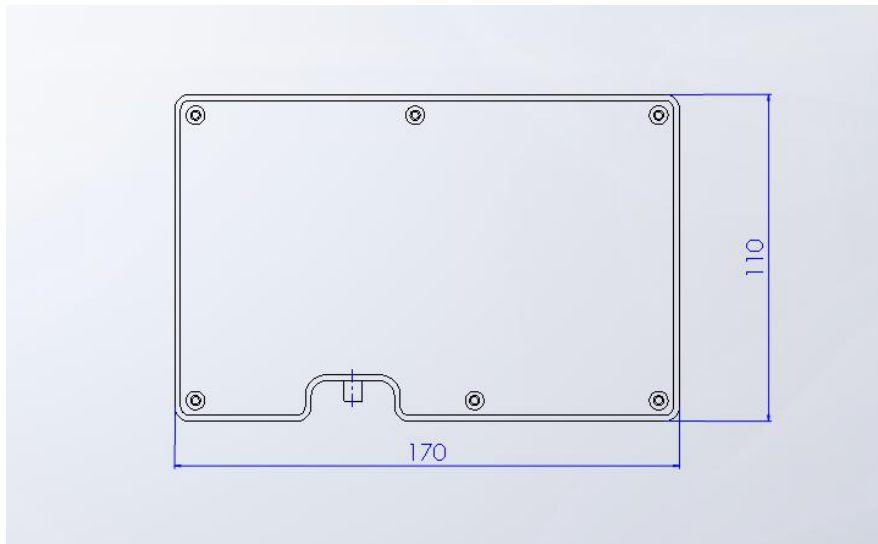
性能参数

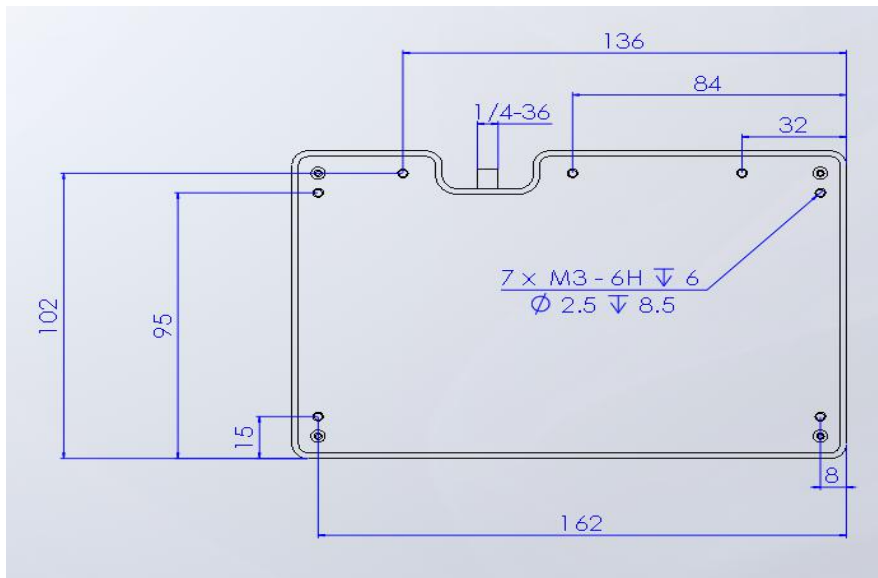
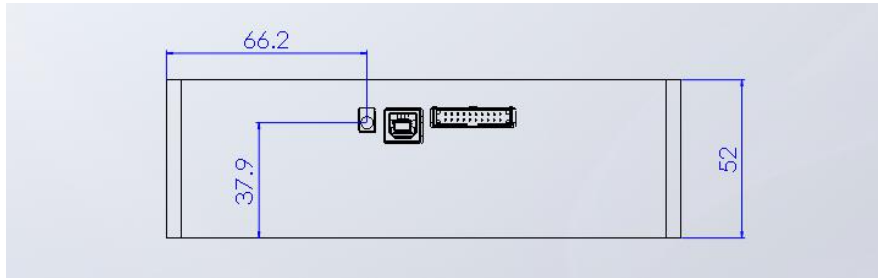
Detector	
Type	Linear array detector
Detectable range	180 - 1150 nm
Effective pixel	2048 or 4096 pixels
Pixel dimension	14 μ m \times 200 μ m
Sensitivity	1300 V/(lx·s)
Dark noise	13 RMS @ 13 °C
Optical Parameter	
Max wavelength range	180 - 1150 nm
Optical resolution	0.05 - 2.5 nm
Signal-to-noise	>600:1
Dynamic range	8.5 x 10 ⁷ (system); 2000:1 for a single acquisition
Optical Configuration	
Light path	F/4 Cross C-T
Focus length	97 mm for incidence / 112 mm for output
Incidence slit	5、10、25、50、100、150、200 μ m are optional
Incident Interface	SMA905 or Free space
Electrical Parameter	
Integration time	0.1 ms - 60 second
Data interface	USB 2.0 or UART
Connector	USB Type-C
A/D conversion resolution	16 bit
Supply voltage	DC4.5 to 5.5 V (type @5V)
Operating current	170mA@Typ.
Physics Parameter	
Dimension	170 \times 110 \times 52 mm ³
weight	800 g
Storage temperature	-30 to +70 °C
Operating temperature	-25 - 50 °C



ATP3000 暗噪声

机械尺寸





Electrical Pin Fan-out

Parameter	Min	Typ	Max	Unit
Power Supply				
Operating voltage range	4.5	5	5.5	V
Operating current	100	200	600	mA
Logic Inputs(3.3V LVTTTL, Five-volt tolerant)				
High level input voltage	1.7		3.6	V
Low level input voltage	-0.3		1.0	V
Logic Output(3.3V LVTTTL)				
High level output voltage	2.4			V
Low level output voltage			0.4	V

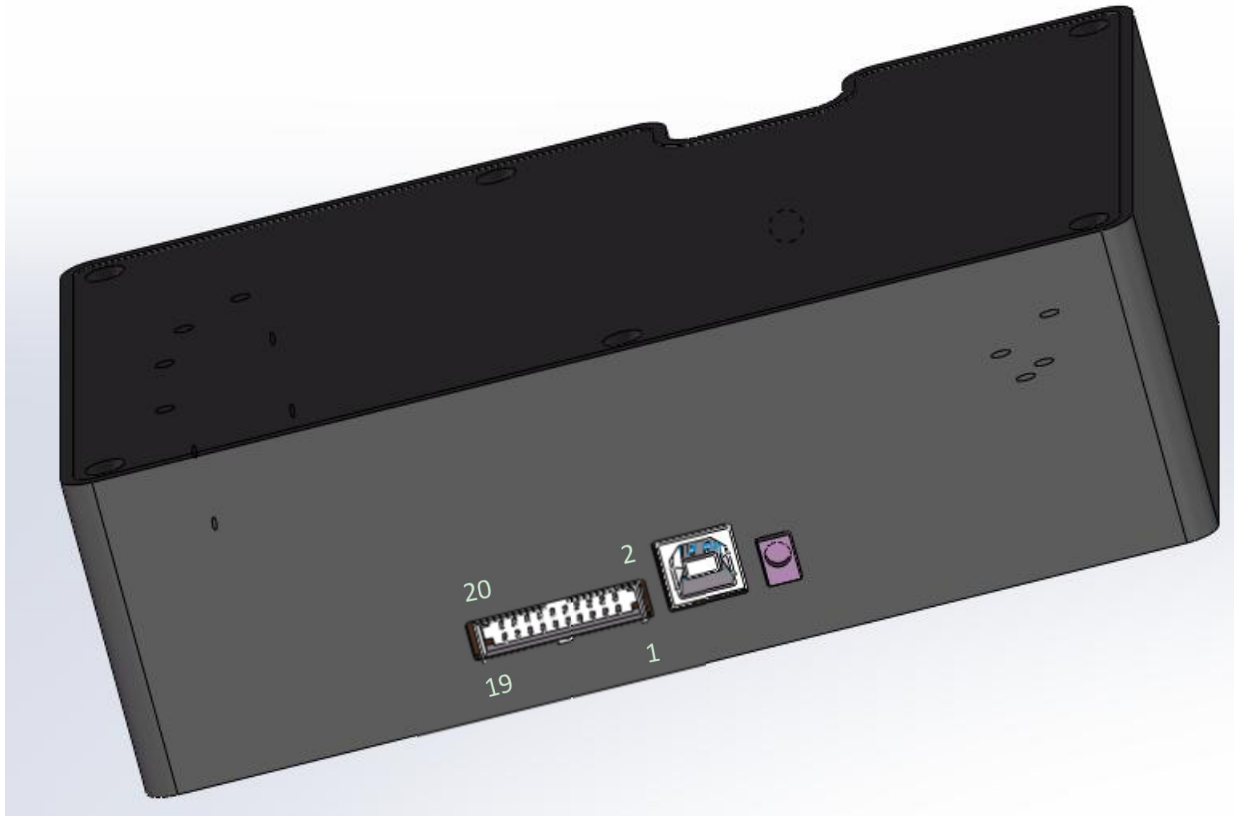


Table 2 Electrical Pin-Out

Pin#	Description	I/O	Function Description
1	VCC	/	Power Supply, $5V \pm 0.5$,
2	VCC	/	Power Supply, $5V \pm 0.5$,
3	GND	/	Ground
4	GND	/	Ground
5	LD_TX	Output	UART Transmit signal LVTTTL Logic for LD
6	LD_RX	Input	UART Receive signal LVTTTL Logic for LD
7	LD_trigger	Input	LVTTTL output trigger signal for LD
8	LD_EN	Output	LVTTTL output enable signal.for LD
9	NC	/	
10	NC	/	
11	GPIO0	Input /Output	General Purpose Software Programmable Digital Inputs/Outputs, LVTTTL Logic.
12	GPIO1	Input /Output	General Purpose Software Programmable Digital Inputs/Outputs, LVTTTL Logic.
13	GPIO2	Input /Output	General Purpose Software Programmable Digital Inputs/Outputs, LVTTTL Logic.
14	GPIO3	Input /Output	General Purpose Software Programmable Digital Inputs/Outputs, LVTTTL Logic.

15	GPIO4	Input /Output	General Purpose Software Programmable Digital Inputs/Outputs, LVTTTL Logic.
16	GPIO5	Input /Output	General Purpose Software Programmable Digital Inputs/Outputs, LVTTTL Logic.
17	VCC	/	3.3V Power Output
18	GND	/	Ground
19	EXT_TX	Output	EXT UART Transmit signal LVTTTL Logic
20	EXT_RX	Input	EXT UART Receive signal LVTTTL Logic

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