

### FEATURES

- Built-in Pulsed Xenon Driver
- Fiber input, Signal Output line at one side for better integration
- Detector: Linear CMOS
- Pixel size: 2048pixels
- Max spectral range: 180-1180 nm
- Spectral resolution: 0.01-2 nm
- Optical Path: crossed CT
- Integration times: 2ms-130s
- Supply voltage: DC 5V (USB Power)
- 16 bit, 2MHz A/D Converter
- Interface: USB2.0 (High speed)
- 20-pin, double-row, programmable, extendable connector

### APPLICATIONS

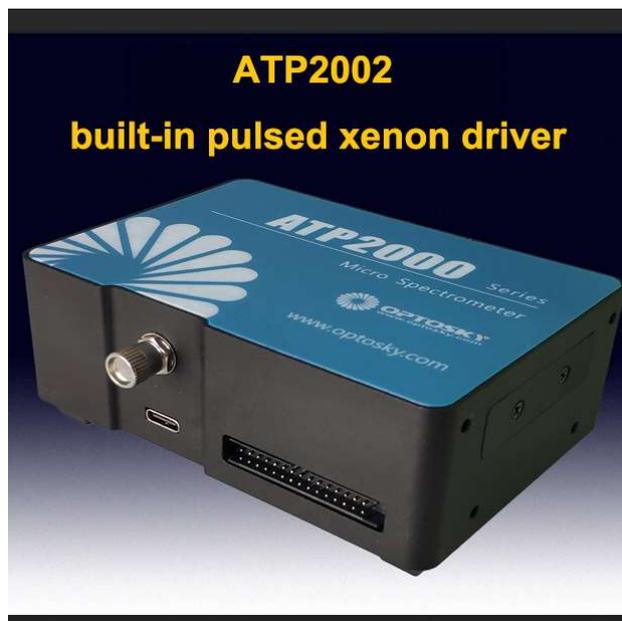
- Spectrophotometer
- Environment Instrument (exhaust gas and water quality)
- Transmittance, reflectance detection
- Spectral analysis/radiation spectrophotometry analysis
- laser wavelength measure

### GENERAL DESCRIPTION

ATP2002 micro spectrometer is a low noise high-performance, miniature fiber-optic Spectrometer. Its sensor is a 2048 pixel CCD which responds from 200-1100 nm.

ATP2002 is perfect for fast detection attribute to its high A/D converter frequency and the high speed data transmission. In ATP2000P memory chip, some algorithms to improve the performance are programmed solidly, such as wavelength calibration coefficients, linearity coefficients. It output the spectrum data to PC through USB 2.0 or RS232 interface.

ATP2002 operates with a single +5VDC supply supplied from USB or duo-pin interface



## Specifications

Detector	
Type	Linear array detector
Detectable range	200-1100 nm
Effective pixel	2048
Pixel dimension	14μm×200μm
Sensitivity	1300 V/(lx·s)
Dark noise	13 RMS @ 13 ℃
Optical Parameter	
Wavelength range	200-1100 nm
Optical resolution	0.2-5 nm
Signal-to-noise	>1800:1
Dynamic range	8.5 x 10 <sup>7</sup> (system); 2000:1 for a single acquisition
Stray light	<0.05% at 600 nm; <0.09% at 435 nm
Working temperature	-25-50 ℃
Working humidity	< 90%RH
Optical Configuration	
Optical Design	f/4 crossed asymmetrical Czerny-Turner
Focal Distance	40 mm for incidence / 60 mm for output
Incidence slit	50 μm (25, 100 um are optional)
Incident Interface	SMA905 connector
Electrical Parameter	
Integration time	0.1 ms - 256 second
Interfaces	USB 2.0
A/D conversion resolution	16 bit
Supply voltage	DC4.5 to 5.5 V (type @5V)
<b>Operating current</b>	<b>170mA@Typ.</b>
Storage temperature	-30℃ to +70℃
Operating temperature	-25-50 ℃
Physics Parameter	
Dimension	102×72×34 mm <sup>3</sup>
weight	0.2 kg
Sealing	Anti-sweat