# Datasheet

# (0.9-25.0μm) ultra-wide range infrared grating spectrometer series

# ATP7810

## Features

- Ultra-wide band range, up to 25.0μm;
- High signal-to-noise ratio, high dynamic range;
- TEC deep cooling detector, no need to add liquid nitrogen;
- Built-in chopper and filter (if required);
- Various types of detectors are available
- Adopt rotating concave grating design;
- The internal structure is all automatically controlled by the computer, and one-click spectrum formation;
- 15-pin extension interface, external trigger signal;
- A variety of accessories are optional;

## Application

- Absorption, reflection, transmission spectra
- Surface Spectrum
- IR

## Description

ATP7810 is Optosky's 20 years of spectrometer development experience. After 5 years of research and development, it launched a wide-band range and high-resolution spectrometer. 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, providing researchers with endless possibilities, scalability and diversity. Both single-point detectors and various array cameras can be used.

ATP7810 has a variety of models with different wavelength ranges: 0.8~2.5μm, 1.0~6.0μm, 1.0~9.0μm, 1.0~12.0μm, 1.0~25.0μm, which can cover the range from near-infrared to mid-to-far infrared, just choose the right one The grating can have more freedom in the choice of wavelength and resolution.


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



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# 1. Performance

| Model | Spectral range | Best resolution/nm | Fastest scoring time | Detector Cooling |
|---|---|---|---|---|
| ATP7810-25 | 0.8~2.5μm | 5nm | 3.0s | Yes, -30°C |
| ATP7810-60 | 1.0~6.0μm | 9nm | 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, -30°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, Optosky can provide customization.

| | ATP7810-25 | ATP7810-60 | ATP7810-90 | ATP7810-120 |
|---|---|---|---|---|
| Optical parameters | | | | |
| Detector type | Refrigerated detector, the cooling temperature can be as low as -30ºC | | | |
| Maximum Spectral Range | 0.8~2.5μm | 1.0~6.0μm | 1.0~9.0μm | 1.0~12.0μm |
| Best optical resolution/nm | 5 | 9 | 13nm | 13nm |
| Maximum number of bands | 5000 | 10000 | 15000 | 15000 |
| 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 | | | |
| ADC bit depth | 24bit | | | |
| Power supply | 12VDC±5% | | | |
| Maximum working current | <3.3A | | | |
| Operating temperature | -20°C~+45°C | | | |
| Storage temperature | -30°C~+70°C | | | |
| Maximum working | < 90%RH (no condensation) | | | |



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| | |
|---|---|
| humidity | |
| Physical parameters | |
| Size/mm | 139x102x88 |
| Weight | 1200±200g |

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