

## Miniature Fieldspec

## ATP9101

### Features

- Ultra-lightweight and highly portable
- USB and Bluetooth interfaces for easy connection to computers and mobile devices
- Number of bands: 512
- Spectral range: 400–900 nm or 200–1000 nm
- Spectral resolution: 4–7 nm @811 nm
- Wavelength accuracy:  $\pm 0.5$  nm
- Wavelength repeatability:  $\pm 0.3$  nm @ $\pm 10^{\circ}\text{C}$  temperature variation
- Signal-to-noise ratio:  $>450:1$
- Weight:  $<325$  g (entire unit)
- Power supply: Built-in lithium battery, standby time  $>6$  hours
- Waterproof rating: IP65
- Field-of-view lenses: Optional  $25^{\circ}/15^{\circ}/8^{\circ}/1^{\circ}$
- Built-in laser indicator for targeting the probe direction
- Built-in GPS, angle, altitude sensors, and temperature and humidity sensors

### Application

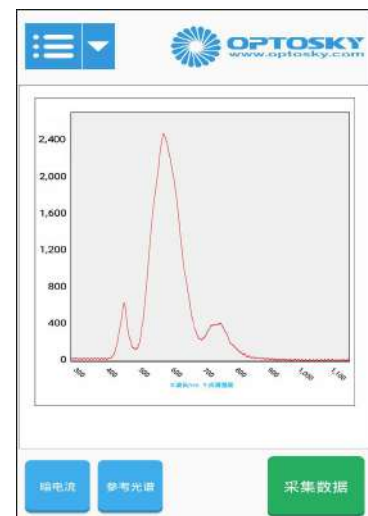
Remote sensing measurement, crop monitoring, forest research, river/lake/ocean studies, aquaculture, and scientific research and education.

### Description

The ATP9101 is a miniature ground object spectrometer featuring high reliability, ultra-high speed, low cost, and high cost-effectiveness, making it adaptable to various environmental applications such as online testing.

It enables fast, precise, non-destructive, and contactless spectral measurements, serving as a truly portable ground object spectroradiometer. With a built-in battery for easy portability, it connects effortlessly to mobile phones or computers via Bluetooth, minimizing the time required for field data collection while ensuring optimal spectral measurement quality. Whether measuring from different orientations or in diverse environments, the flexible and durable ATP9101 delivers laboratory-grade results in remote sensing and analytical applications.

| Model     | Feature                    |
|-----------|----------------------------|
| ATP9101   | Spectral range: 400~900nm  |
| ATP9101UV | Spectral range: 200~1000nm |



## 1. Parameter

| Optical Parameters         |                                                                                      |            |
|----------------------------|--------------------------------------------------------------------------------------|------------|
| Model                      | ATP9101                                                                              | ATP9101UV  |
| Detector                   | Linear CMOS Sensor                                                                   |            |
| Number of Bands            | 512 Channels                                                                         |            |
| Wavelength Accuracy        | ±0.5nm                                                                               |            |
| Spectral Resolution        | <4nm@811nm                                                                           | <7nm@811nm |
| Spectral Range             | 400~900nm                                                                            | 200~1000nm |
| Field of View              | Narrow FOV lenses, optional 1°/8°/15°/25°                                            |            |
| Laser Indicator Wavelength | 650nm                                                                                |            |
| Laser Indicator Power      | 5mW                                                                                  |            |
| Electrical Parameters      |                                                                                      |            |
| Integration Time           | 10ms~10s                                                                             |            |
| Data Output Interface      | USB 2.0, Bluetooth                                                                   |            |
| ADC Bit Depth              | 16 bit                                                                               |            |
| Sensor                     | Humidity accuracy ±2%RH, Temperature accuracy ±0.3°C, Altitude sensor accuracy ±1.5m |            |
| Power Supply               | DC 5V ± 10%                                                                          |            |
| Battery Life               | >4h                                                                                  |            |
| Operating Current          | <350mA                                                                               |            |
| Storage Temperature        | -20° C~+65° C                                                                        |            |
| Operating Temperature      | -10~45oC                                                                             |            |
| Protection Rating          | IP65                                                                                 |            |
| Operating Humidity         | < 90%RH                                                                              |            |
| Physical Parameters        |                                                                                      |            |
| Dimensions                 | 35×146.5×169mm                                                                       |            |
| Weight                     | 323g                                                                                 |            |

## 2. ATP9101 Drawing

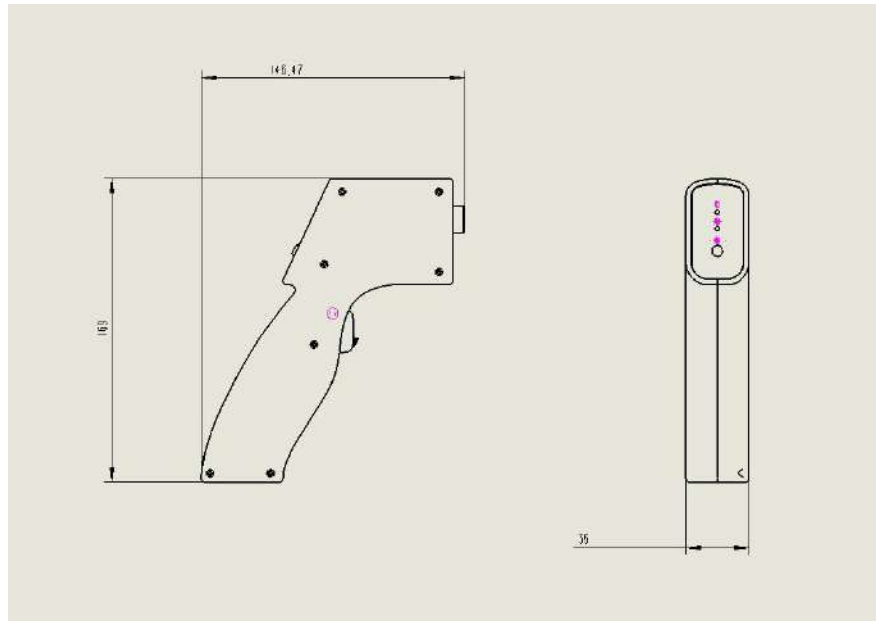


Figure 1 ATP9101 Drawing





Figure 2 ATP9101 Image

## 3. Accessory List

| NO. | Product                                 | Description  | Number |
|-----|-----------------------------------------|--------------|--------|
| 1   | Charger                                 | 5V/3A        | 1      |
| 2   | FOV Lens                                | 25°          | 1      |
| 3   | Diffuse Reflection Standard White Panel | 10*10cm, 95% | 1      |

### Optional accessory

| Picture                                                                             | Product                                            |
|-------------------------------------------------------------------------------------|----------------------------------------------------|
|  | FJ30039<br>Field of View Lens                      |
|  | FJ00024<br>Diffuse Reflection Standard White Panel |

|                                                                                   |                                               |
|-----------------------------------------------------------------------------------|-----------------------------------------------|
|  | <p>FJ30021</p> <p>Fiber Optic Patch Cable</p> |
|-----------------------------------------------------------------------------------|-----------------------------------------------|

## 4. FieldSpee Application

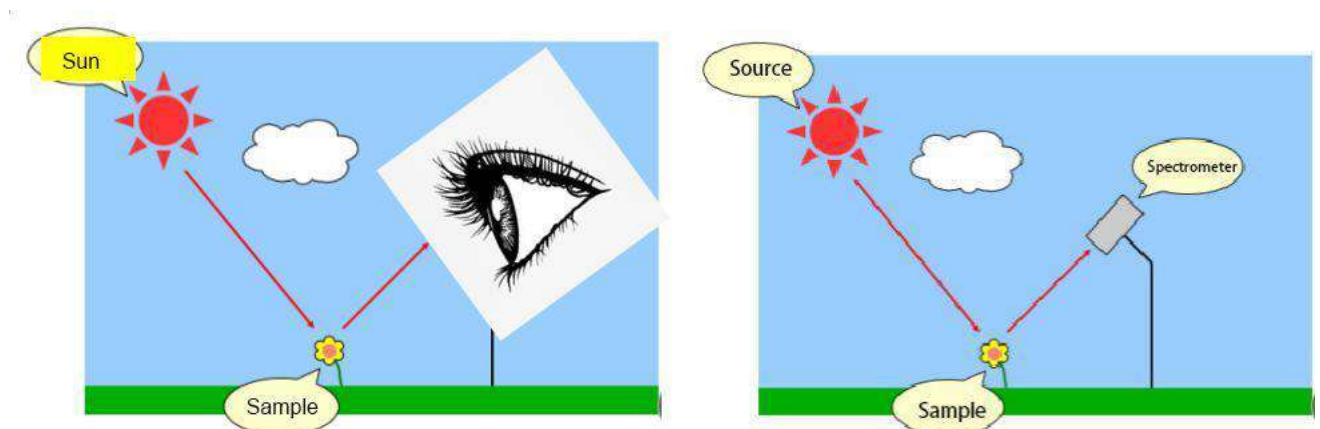


Figure 3 Field spectroradiometer working principle; Sunlight on the left; Artificial light on the right.

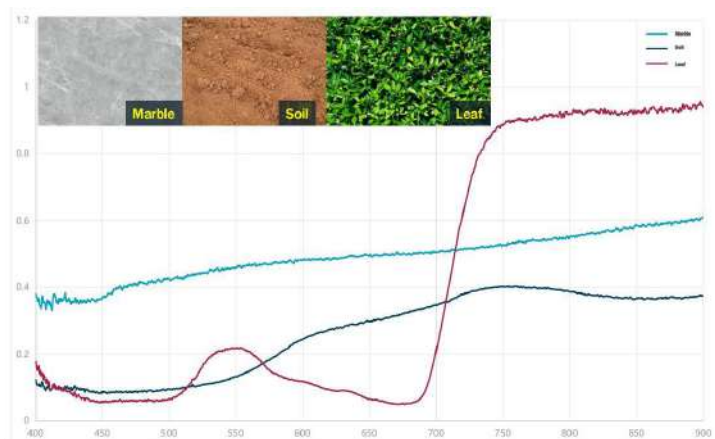


Figure 4 Spectra of marble, soil and green leaf tested by field spectroradiometer



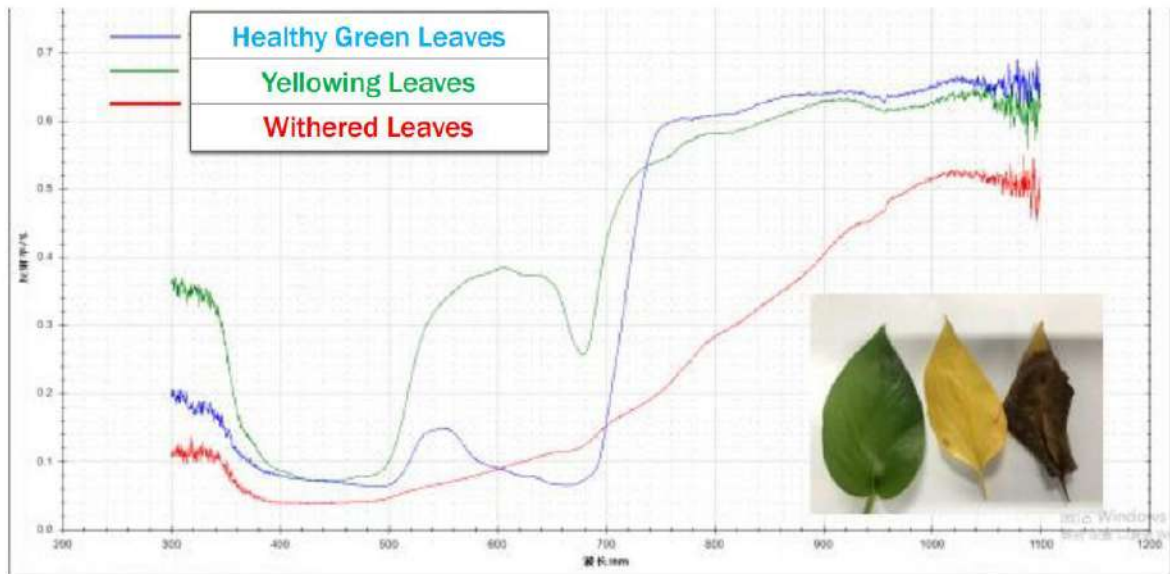


Figure 5 Spectra of different leaves tested by field spectroradiometer

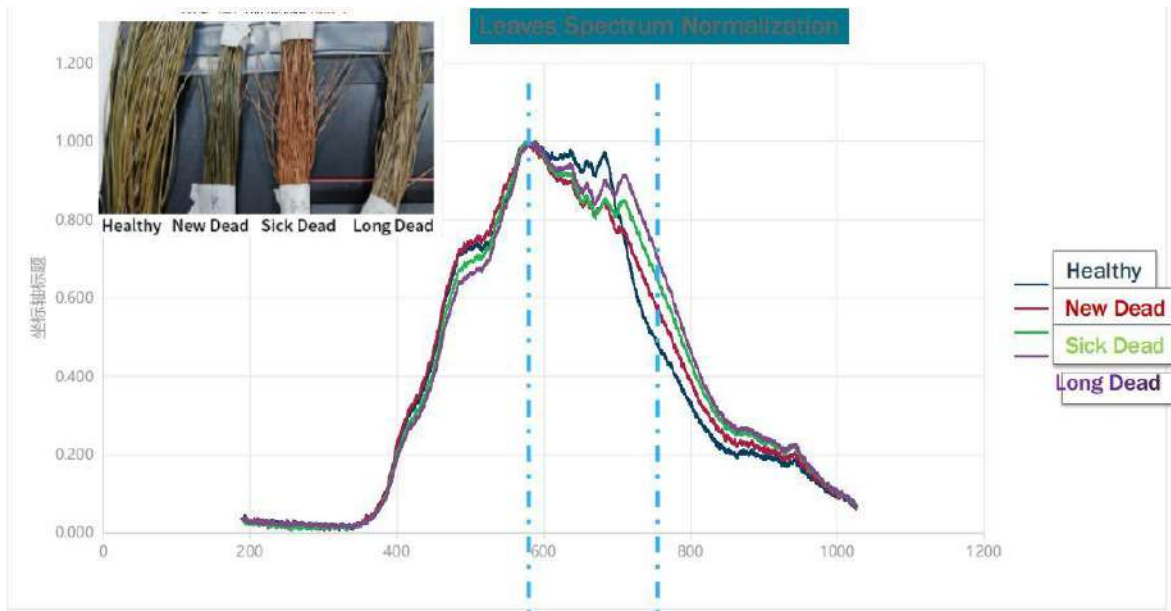


Figure 6 spectrogram of ground object spectrometer test of Castanopsis kawakamii infusion