

Moisture Content Analyzer

LC300

Features

- **Easy Installation:** Compact and lightweight, making it convenient to install in the field.
- **Powerful Functionality:** Equipped with modules such as an infrared spectral detector, performs comprehensive analysis of forest moisture content, fuel type, surrounding snow cover, and grass growth.
- **High Accuracy:** The measurement error for moisture content in forest litter and grassland is less than 5%.
- **Safety and Environmental Friendliness:** The instrument is powered by solar energy, ensuring safe operation without producing any pollutants harmful to forest and grassland environments.
- **IoT Technology:** Utilizing IoT and other information technologies, transmits measurement results to monitoring stations, providing early warning for forest fire prevention and grassland fire safety.

Description

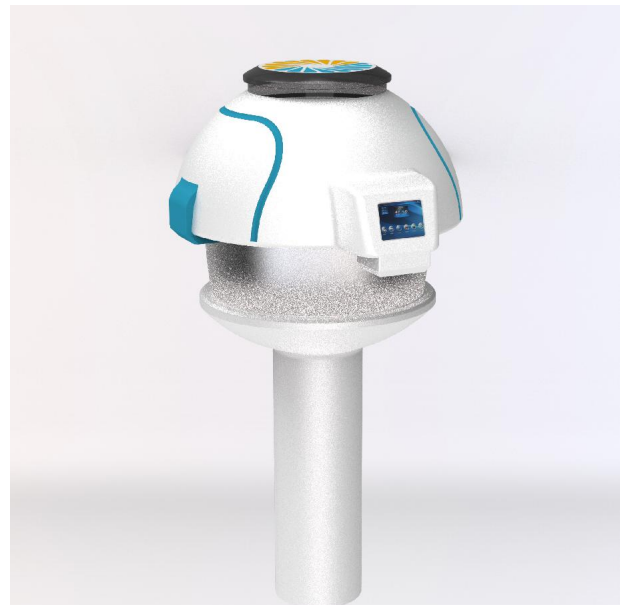
The LC300, developed and designed by Optosky, is a specialized instrument for moisture content monitoring in forest and grassland fuels. This device integrates the measurement of fuel type, surrounding snow cover, and other critical parameters, making it an essential tool in environmental monitoring.

Building on years of technical expertise, Optosky has designed the LC300 specifically for forestry management and grassland management applications. This comprehensive fuel moisture measurement instrument is ideal for use in forests, grasslands, and municipal parks. The LC300 is easy to install, ensuring safe and environmentally friendly operations.

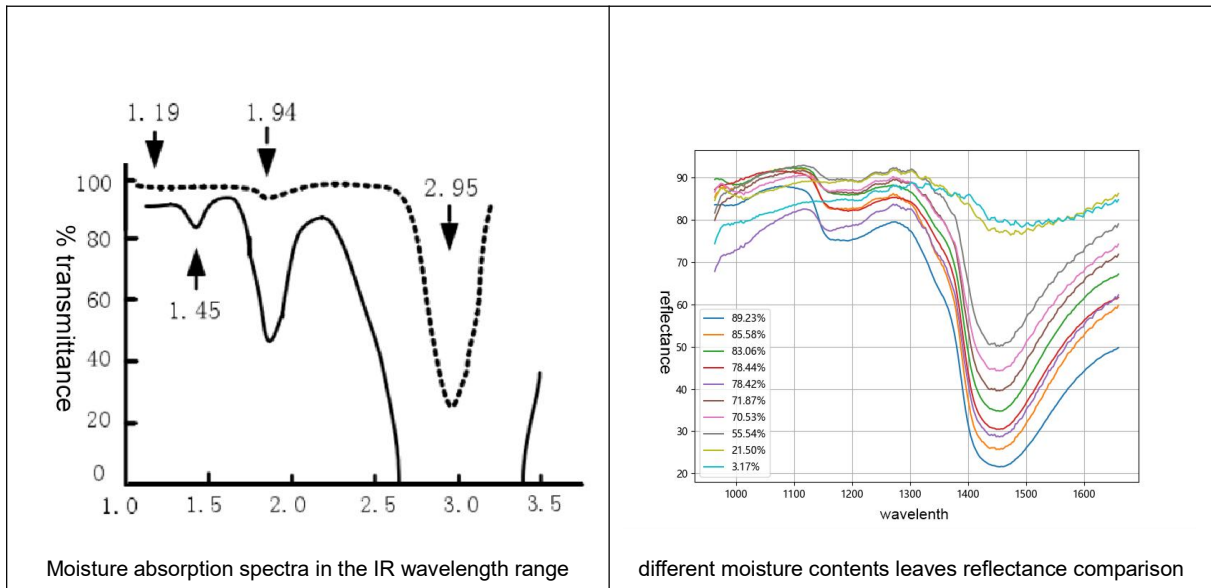
The LC300 is widely applicable for rapid moisture content measurement in forest fire prevention and grassland fire safety. By utilizing IoT and remote sensing technology, it guarantees precision and real-time data analysis, contributing significantly to wildfire risk assessment.

Application

- Forest fire prevention
- Forest leaf litter moisture content monitoring
- Grassland fire safety
- Grassland moisture content monitoring
- Environmental monitoring
- Municipal projects
- Vegetation leaf litter moisture content research
- Field moisture content monitoring



1. Principle



Water exhibits strong absorption characteristics at certain infrared wavelengths. By actively emitting light, when these specific wavelengths of infrared light illuminate a material, the water within the material absorbs some of the infrared energy. The more water present, the greater the absorption. Therefore, the reduction in reflected light can be used to calculate the moisture content of the material. By passively receiving light, the absorption characteristics of water change with variations in moisture content. The spectrometer measures these changes in moisture content by detecting the electromagnetic wave energy reflected or emitted back from the material.

2. Parameter

Measurement Parameters	Moisture content, fuel type, surrounding snow cover, grass growth, etc.
Wavelength Range	900 nm - 1700 nm
Measurement Accuracy	< 5%
Data Transmission	4G
Instrument Dimensions	Detection head Ø200 mm, pole height: 600 mm
Weight	Approximately 3 kg
Operating Temperature	-20 – 50 °C
Optional Accessories	Optional microwave module and white light module