

Micro-area thin film measuring instrument and reflectance photometer

Overview

Goptica's micro-area thin film measuring instrument and reflectance photometer are used for rapid measurement of the optical reflectance of micrometer-level surface dimensions, film thickness and optical parameters (n&k) of film layer materials. The thickness of a single-layer film and the optical parameters of the material can be obtained simultaneously within 0.1 seconds. This instrument can be used in various environments, such as laboratories, factory production lines and real-time measurements in the field.



Features

- **Small spot:** The measured spot diameter ranges from 5 μm to 100 μm
- **Fast speed measurement:** The single-point measurement time is less than 0.1 seconds
- **High precision:** Reflectivity accuracy 0.3%, film thickness accuracy 0.2nm
- **Wavelength range:** 350nm to 1000nm, 1000nm to 1700nm
- **Compact and portable:** Weighs 2.8 kilograms, connects to a computer via USB, and the software is easy to learn and use

Application

- **Optical coating:** Measurement of anti-reflection coating, high reflection coating and beam splitting coating for lenses
- **Medical devices:** Measurement of reflectance of endoscope lenses, cohesive para-xylene protective layers, and surface coatings of medical devices
- **Semiconductor manufacturing:** silicon dioxide (SiO_2), silicon nitride (Si_3N_4), ITO(indium tin oxide), organic light-emitting layer, polyimide (PI), photoresist thickness measurement
- **Solar cells:** Measurement of silicon nitride anti-reflection film and aluminum oxide passivation layer

Parameters

Parameters	Technical indicators
Measurement content	Reflectance, film thickness and optical constants(n&k)
Spot size	5 μm , 10 μm , 50 μm , 80 μm , 100 μm
Film thickness range	15 nm to 100 μm , accuracy is 0.2 nm
Measurement time	The single-point measurement time is less than 0.1 seconds
Spectral range	350nm-1000nm, 1000nm-1700nm
Sample size	1 mm-100 mm
Instrument weight	2.8kg
Instrument dimensions	29 x 23 x 25 cm
Data processing	USB data transmission, with supporting software Film_Analyzer
Operating system	Windows 10 and above systems
Power supply	100-240 VAC, 50/60 Hz, 0.4 A