

# High-speed Spectroscopic Ellipsometer [UNECS Series]

UNECS series is a kind of spectroscopic ellipsometers to measure the refractive index and thickness of the thin film quickly and accurately. It adopts an unique measurement method, and realizes the compact size and high-speed measurement. It has a strong products line, such as the portable type, the automatic stage type, and the built-in type etc.



UNECS-Portable



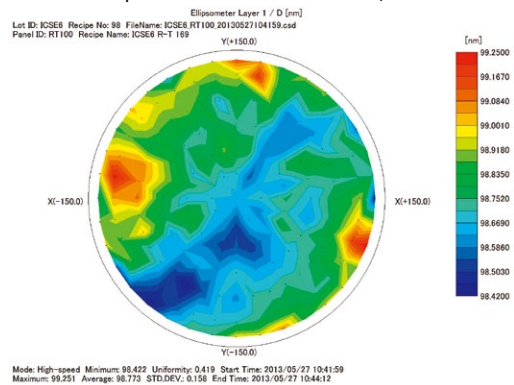
UNECS-3000A

## Features

- ▶ **High-speed Measurement :**  
The snapshot measurement method is realized and the high-speed measurement is 20ms per point.
- ▶ **Visible Spectral Range :**  
The spectral wavelength range can be selected. The standard type is 530nm-750nm and the visible spectral type is 380nm-760nm.
- ▶ **Compact Sensor Unit :**  
The sensor unit is light-weighted and very compact. It consists of an optical element that does not have any rotating mechanism. In addition, there is no need for any periodic maintenance.
- ▶ **Strong Product-line :**  
There is a strong products line with the portable type, the manual/automatic stage type, the built-in type and the large substrate type etc.

## Applications

- ▶ Measurement for transparent or semi-transparent thin films thickness(D), reflective index(N) and extinction coefficient(K). (Oxide film, nitride film, photo-resist film, ITO film, etc.)



< UNECS-3000A 2D Color Map >  
 SiO<sub>2</sub> film on 300mm Wafer  
 Measurement Time : 133sec/169points

## ▶ UNECS-1500A/2000A/3000A(Auto Mapping Stage)

UNECS-1500A/2000A

UNECS-3000A

### Automatic Stage Type with Mapping Function

#### Features

3 models are available for 150, 200 and 300mm samples. Auto mapping R-stage and auto focus function make it possible to measure film thickness of entire sample surface and display film thickness distribution by color map.

#### Specifications

Model	1500A	2000A	3000A
Wavelength Range	530-750nm or 380-760nm		
Spot Size	1mm or 0.3mm		
Angle of Incidence	70°		
Film Thickness Repeatability	1σ = 0.1nm		
Film Thickness Measurement Range	1nm-2μm		
Measurement Time	Sampling: 20ms-3000ms Analyzing: 300ms		
Sample Stage	150mm	200mm	300mm
Maximum Automatic Measurable Points	200	200	2,000
Control PC	Laptop PC including analysis software		

#### Configuration

- ▶ Measurement unit.
- ▶ Control unit.
- ▶ Control PC (Laptop type) and operation manual (CD).

## ▶ UNECS-1M(Integration)



Sensor of Built-in Type

### Built-in Type for System Integration

#### Features

The light-weighted and compact design make it possible to be integrated into various equipments. It is suitable for both of vacuum and atmospheric pressure environments.

#### Specifications

Wavelength Range	530-750nm or 380-760nm
Spot Size	1mm or 0.3mm
Angle of Incidence	70°
Film Thickness Repeatability	1σ = 0.1nm
Film Thickness Measurement Range	1nm-2μm
Measurement Time	Sampling: 20ms-3000ms Analyzing: 300ms
Installation Environment	Atmosphere or vacuum

#### Configuration

- ▶ Measurement unit.
- ▶ Control box.
- ▶ Light source unit.
- ▶ Operation manual (CD).
- ▶ Analysis software (CD).

【For large size substrate】In addition to these standard models, the model for large size substrate (G6) is available. Please contact us for more information.

# High-speed Spectroscopic Ellipsometer [UNECS Series]

## ▶ UNECS-Portable(Portable)



### Compact Light-weighted Portable Type

#### Features

The weight of the measurement unit is only 2.2kg. It is easy to be carried for vacuum equipments site acceptance test and can measure large size samples by detaching its sample stage and putting it directly on samples.

#### Specifications

Wavelength Range	530~750nm or 380~760nm
Spot Size	1mm or 0.3mm
Angle of Incidence	70 °
Film Thickness Repeatability	1 = 0.1nm
Film Thickness Measurement Range	1nm~2µm
Measurement Time	Sampling: 20ms~3000ms Analyzing time: 300ms
Sample Stage	Fixed Stage (< 150mm, detachable)
Control PC	Laptop PC including analysis software

#### Configuration

- ▶ Measurement unit (including fixed stage).
- ▶ Control box.
- ▶ Light source unit.
- ▶ Control PC (Laptop type) and operation manual (CD).

## ▶ UNECS-1500M(Manual Stage)



### Manual Stage Type for 150mm Samples

#### Features

It is easy to locate measurement points by the easy-to-use manual R- stage.

#### Specifications

Wavelength Range	530~750nm or 380~760nm
Spot Size	1mm or 0.3mm
Angle of Incidence	70 °
Film Thickness Repeatability	1 = 0.1nm
Film Thickness Measurement Range	1nm~2µm
Measurement Time	Sampling: 20ms~3000ms Analyzing: 300ms
Sample Stage	Manual R- stage for 150mm sample
Control PC	Laptop PC including analysis software

#### Configuration

- ▶ Measurement unit (including manual stage and Control box).
- ▶ Light source unit.
- ▶ Control PC (Laptop type) and operation manual (CD).