# Portable Solar Simulator (PEC-L01)

## Overviews

■ PEC-L01 is a handy type solar simulator equipped with Air Mass 1.5G filter for measuring solar cells in laboratory research.

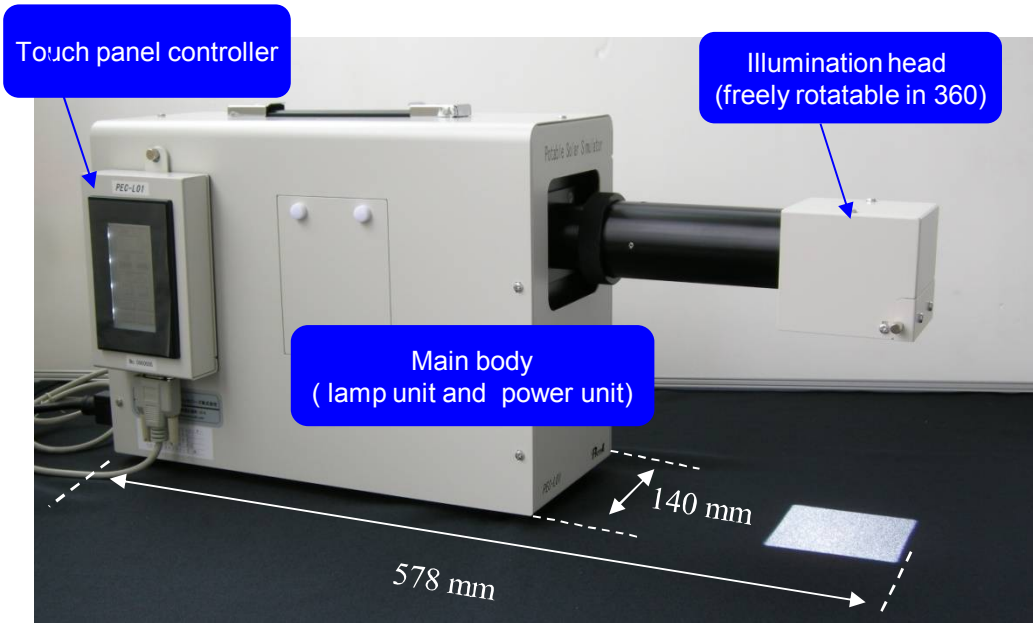
## Features

A Light weight・Compact・Handy type solar simulator is achieved by a unique optical arrangement.

Effective Illumination area ・・・40×40(mm)
Spectral match ・・・≤ ±25% (JIS C 8912 Class A)
Uniformity ・・・≤ ±2% (JIS C 8912 Class A)
Temporal Stability ・・・≤ ±1% (JIS C 8912 Class A)
Irradiance ・・・ 100 mW/cm$^2$ (in the illumination area)

Small foot-print Lamp House with considering Usability and Safety

Easily set a input power voltage 100-120V and 200-240V by a switch
Easily change a setting of the equipment, such as a lamp current, shutter timer by the touch panel controller.
An Illumination head is freely rotatable in 360°.
Light shielding shutter is moved by a pulse motor not by a conventional solenoid coil. The pulse motor is a low-noise one, and opens/closes a shutter without rebound.
Optical Filters can be set in the illumination head by a very easily way.
A double shell housing provides lower surface temperatures than 45°C.
A thermostat controller avoiding heat is equipped.
A main body consists of a lamp unit and a power unit in a one-body.



## Components

**1. Main body**

Lamp unit and power unit

**2. Controller**

Touch panel controller

**3.Irradiance unit**

**4.Cable**

Power cable, Serial cable


Touch panel controller

## Specifications

**Main body**

| | | |
|---|---|---|
| Dimensions | : | W140 ×D578 ×H250 mm |
| Weight | : | ca. 8 Kg |

**Optical Specifications**

| | | |
|---|---|---|
| Xe lamp | : | 150 W short-arc Xe lamp |
| mirror unit | : | 45° all wavelength reflection aluminum mirror |
| Air Mass filter | : | A.M. 1.5 G |

**Electric Specifications**

| | | |
|---|---|---|
| Input power | : | AC 90-120 V or AC 200-240 V (Changeable)<br>Single phase 50/60 Hz |
| Output voltage | : | DC 20 V( Depending on lamp bulb) |
| Output current | : | DC 8 A (Changeable 4 to 8A by 0.1A ) |

Other

| | | |
|---|---|---|
| Light shielding shutter | : | Pulse motor movement |
| Lamp alignment | : | XYZ triaxial stage |

## Function of irradiance

| | | | |
|---|---|---|---|
| 1. | Irradiance | : | 100 mW $cm^{-2}$ (1.0 sun) and higher<br>(A.M. 1.5G, Effective illumination area) |
| 2. | Effective illumination area | : | 40 mm square (Effective illumination area) |
| 3. | Spectra much | : | ≤±25% (JIS C 8912 or JIS C 8933 Class A) |
| 4. | Illumination distance | : | 80-100 mm (From the illumination head) |
| 5. | Uniformity | : | ≤±2% (JIS C8912 Class A) |
| 6. | Temporal stability | : | 1%/h MAX (JIS C 8912 Class A) |