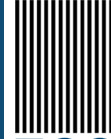


DATASHEET

ECOSUN PLUS - LED SUN SIMULATOR IN A+A+A++ CLASS

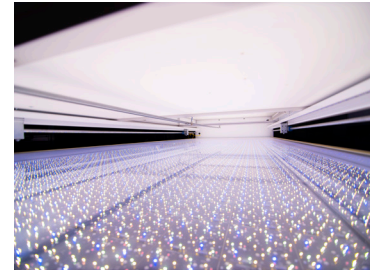


ECOPROGETTI



IEC 60904-9 ED.3
COMPLIANT

A+A+A++ CLASS
UNIFORMITY
STABILITY
SPECTRUM



CHARACTERISTICS

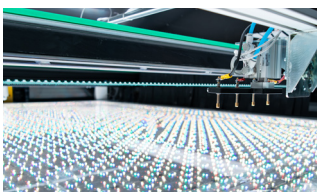
- LED SOURCE MORE THAN 50 MILLION PULSES
- NO RECHARGING TIME BETWEEN TESTS
- CLASS A+A+A++, CERTIFIED TÜV INTERCERT
- PRECISE ELECTRONIC LOAD
- COMPACT DIMENSIONS
- LOW MAINTENANCE COSTS
- SQL DATABASE FOR DATA STORAGE
- MAX PANEL SIZE: 1450 X 2200 mm
- 18 DIFFERENT LED TYPES

SUITABLE FOR
THIN-FILM
BACK CONTACT
POLY/MONO
PERC, HIT
BIFACIAL



OPTIONALS

AUTOMATIC CONTACTING
AUTOMATIC LOAD/UNLOAD



CUSTOM SIZE FOR
ILLUMINATED AREA

LIGHT SOAKING CAPABILITIES
Longer LED pulses for higher soaking.

BYPASS DIODE TESTING
(MANUAL)

AUTOMATIC TRACEABILITY



Images for illustrative purposes only

Rev_08.2021



TESTING CAPABILITIES

TYPE OF MODULE	Mono, Poly, PERC, HJT, Bi-Facial, Thin-Film and Glass to Glass
BI-FACIAL MODULE TESTING	We can offer Double sided LED Light Source (top & Bottom) for testing Bifacial Modules
MAX MODULE SIZE	1400mm X 2200mm (Customisation available)
ACTIVE AREA	1600 x 2600 mm
RECOGNITION	Certified by TUV Intercert Lab

LIGHT SOURCE

TYPE OF LIGHT SOURCE	LED (18 Different Types)
SUN SIMULATOR CLASS (CERTIFIED BY TUV)	Class A+A+A++
NON-UNIFORMITY	< ±1% (Class A+)
SHORT TERM INSTABILITY (STI)	< ±0.125% (Class A++)
LONG TERM INSTABILITY (LTI)	< ±0.125% (Class A++)
REPEATABILITY	< ±0.2%
SPECTRUM	±8% (Class A+)
SPECTRAL RANGE	300 - 1200 nm
STANDARD PULSE DURATION	100ms - 200ms
"LONG PULSE CAPABILITIES (FOR REDUCING CAPACITVE EFFECT, CAPABLE TO TEST HIGH EFFICIENCY MODULE, SUITABLE FOR THIN FILM MODULES)"	3 - 5 sec
LIGHT SOURCE LIFETIME	> 50 Million Pulses
TIME BETWEEN 2 TESTS	No recharging time required between 2 consecutive test
IRRADIANCE RANGE	200 - 1200 W/m2

ELECTRONIC LOAD

VOLTAGE	18V - 120V (Other ranges available on request)
CURRENT	12A - 120A (Other ranges available on request)
MEASUREMENT READING	4 Wire Kelvin Measurement connection
MEASUREMENT ACCURACY	± 0.2%
REPEATABILITY	Better than 99.80%
CALIBRATION	Traceable to accredited Lab
TEMPERATURE SENSORS	"Machine consist of 2 sensors: 1. One sensor to measure the Ambient temperature 2. IR Sensor to measure the Module temperature"

COMPUTER HARDWARE / SOFTWARE

PROCESSOR	Intel i3 (Customizable)
STORAGE	Customizable
DATABASE	SQL
OPERATING SYSTEM	Customizable
INTEGRATION TO MES	Optional

OPTIONAL SERVICES

Calibration Module / Golden Module	We offer Golden Module to the customer with thermocouple installed at the backside of the module for better temp. reading. This module will be calibrated from one of the renowned lab in the world like Fraunhofer, Germany
Mode of Operation	Manual / Automatic
Heating Chamber/Temperature Control Retrofit	Upgrade possibility to retrofit temperature control (15-75 °C)

* Available also with different voltages, according to criteria of the place of installation. To be defined at order if with implementation of transformers or with modification of the electrical board of the machine.

UTILITY SPECIFICATIONS

ELECTRICAL CHARACTERISTICS	
LINE	3P+N+E *
VOLTAGE	400 V*
FREQUENCY	50/60 Hz*
PEAK POWER	18 kW
POWER CONSUMPTION	3 kW
MAX CURRENT	25A
PRE FUSE	32 A
DIMENSIONS	
HEIGHT	1350 mm
LENGHT	2000 mm
WIDTH	2655 mm
CE WEIGHT	1560 kg