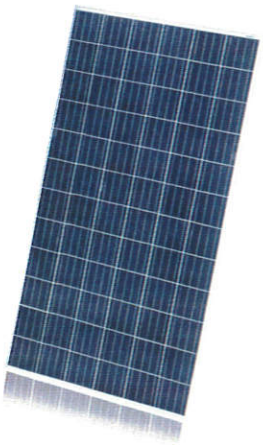
Renewable Energy: Photovoltaic Modules

EKARAT

305,310,315,320,325,330 Watts

Surpass Performance Multi (Poly) - crystalline PV module

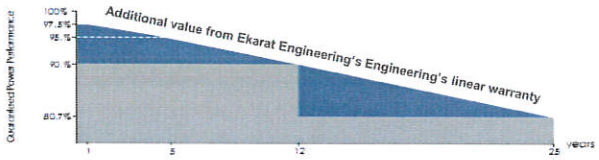


Ekarat Engineering's 305-330 Watts PV module is produced under a stage of the art automatic assembly machines to ensure a consistency and reliability of production quality. The 305-330 Watts PV module is commonly used for wide range applications such as commercial building, solar power plant, telecommunication station, particularly with grid-connected systems.

High efficiency module 15.7 -17.18%, is a result of solar cell's superior power out put, which has been developed by our own solar cell factory. Moreover, other component materials are also selected to comply with international standards such as IEC. These create a customer's confidence ensured with a manufacturing based 25 years limited warranty*.

- Low iron tempered glass allows a high light transmission rate with a great robustness.
- EVA encapsulate sheet, back-sheet, and clear anodized aluminum frame are technically equipped to protect the module against all weather condition.
- Junction box with IP67 to ensure water proof and prolong lifetime operation.
- Special cable with connectors is offered as option for easy interconnection in grid-connected systems as well as stand-alone systems.
- Bypass diode included in promptly provided junction box is to prevent the power dropped by partial shading.
- Square Cell 156×156mm (6 inches)

LINEAR PERFORMANCE WARRANTY



12 YEARS Guarantee on product material and workmanship

25 YEARS Linear power output warranty

Electrical Characteristics

Model No.	EE2305	EE2310	EE2315	EE2320	EE2325	EE2330
Maximum power (Pmax)	305 W	310 W	315 W	320 W	325 W	330 W
Power tolerance	0,+3%	0,+3%	0,+3%	0,+3%	0,+3%	0,+3%
No. of connected cells	72	72	72	72	72	72
Voltage of Pmax (Vmp)	36.1 V	37.55 V	37.68 V	37.85 V	38.02 V	38.16 V
Current at Pmax (Imp)	8.47 A	8.26 A	8.36 A	8.46 A	8.55 A	8.65 A
Short - Circuit current (Isc)	9.05 A	8.84 A	8.95 A	9.05 A	9.15 A	9.25 A
Open - Circuit voltage (Voc)	44.6 V	46.19 V	46.35 V	46.56 V	46.76 V	46.94 V
Module Efficiency STC(%)	15.7%	16.14%	16.40%	16.66%	16.92%	17.18%
Temperature Coefficient of Voc	-0.33 % / °C	-0.33 % / °C	-0.33 % / °C	-0.33 % / °C	-0.33 % / °C	-0.33 % / °C
Temperature Coefficient of Isc	+0.03 % / °C	+0.03 % / °C	+0.03 % / °C	+0.03 % / °C	+0.03 % / °C	+0.03 % / °C
Temperature Coefficient of power	-0.41 % / °C	-0.41 % / °C	-0.41 % / °C	-0.41 % / °C	-0.41 % / °C	-0.41 % / °C
Maximum series fuse rating	15 A	15 A	15 A	15 A	15 A	15 A
Maximum voltage system	1,000 V	1,000 V	1,000 V	1,000 V	1,000 V	1,000 V
Operating Temperature	-40°C ~ +85°C	-40°C ~ +85°C	-40°C ~ +85°C	-40°C ~ +85°C	-40°C ~ +85°C	-40°C ~ +85°C

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Mechanical Characteristics

Dimension	1956 x 992 x 40 mm.
Weight	24.5 kg.
Dimension tolerance	± 1 mm.
Junction Box	Degree of protection: IP67 and compatibility with 2.5 - 4.0 mm cross section cable size.
Connector	MC4 Compatible
Diode	Silicon or Schottky By - pass diode for every 24 cells connection
Frame	Anodized Aluminum.
Construction structure	Front: High light transmission tempered glass with 3.20 mm thickness. Back: Weather proof back sheet material. Laminated Material: EVA.

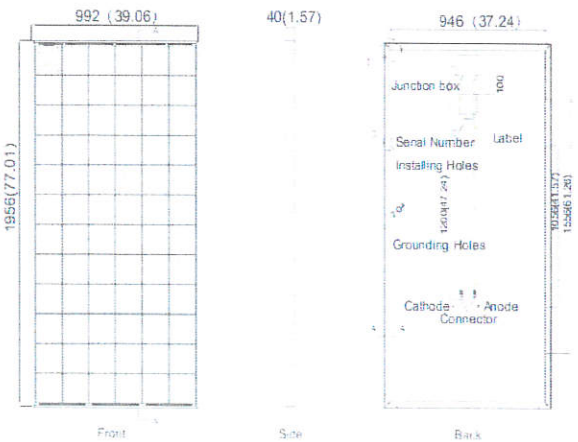
Qualification and testing

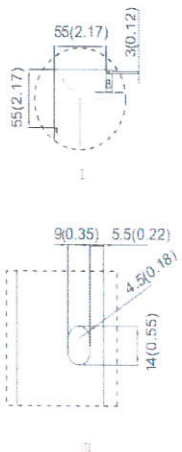
ISO 9001,ISO14001,OHSAS18001,ISO50001 for qualify management system.
IEC 61215 : Crystalline silicon terrestrial PV modules— Design qualification and type approval.
IEC 61730 : PV module safety qualification. To ensure a safety for users and installing operator of our products.
TIS 1843 : Thailand Industrial Standard equivalents to IEC 61215.
TIS 2580 : Thailand Industrial Standard equivalents to IEC 61730.

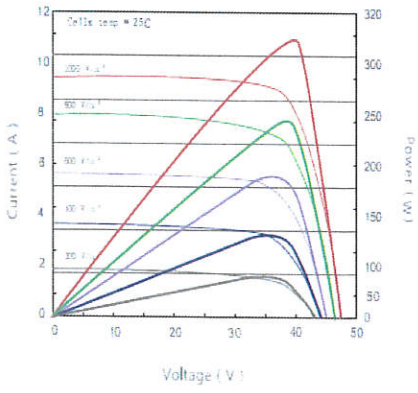
Module drawing diagram

TIS-1843-2553
TIS-2580-2555

IV - curves
Irradiance
1,000 W/m², 800 W/m², 600 W/m², 400 W/m² ,200 W/m²







These data represent the performance of typical modules as measured at their out put terminals, and do not include the effect of such additional equipment as diodes or cables. The data are based on measurements made in accordance with ASTME1036-85 corrected to SRC (Standard Reporting Conditions, also known as STC or Standard Test Conditions), which are:

- Illumination of 1kW/m² (1sun) at spectral distribution of AM1.5 (ASTME892-87 global spectral irradiance);
- Cell temperature of 25°C.

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