WAAREE
One with the Sun

WS – 100 / 12V

100 Wp SPV MODULE

Electrical Characteristics*

Nominal Maximum Power (P_m) in Watts	100
Power tolerance	0 / + 5 W
Open Circuit Voltage (V_{oc}) in Volts	21.97
Short Circuit Current (I_{sc}) in Amps	6.07
Voltage at Maximum Power (V_{mp}) in Volts	17.46
Current at Maximum Power (I_{mp}) in Amps	5.73
Maximum System Voltage in Volts	1000
Module Efficiency (%)	12.88
Maximum Series Fuse Rating (A)	15

*Under Standard Test Conditions (STC) of 1000 W/m² irradiance, AM 1.5 spectrum and 25°C cell temperature.

Mechanical Characteristics

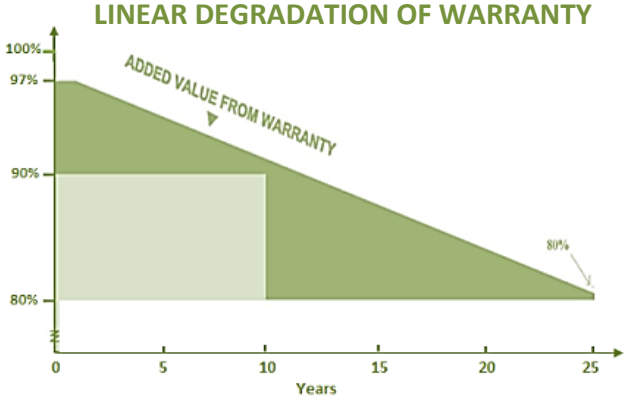
Length x Width x Thickness (L x W x T) - mm	1150 x 675 x 35
Mounting Holes Pitch (Y) – mm	575
Mounting Holes Pitch (X) – mm	633
Weight (kg)	10.15
Solar Cells per Module (Units) / Arrangement	36 / (9 x 4)
Solar Cell Type	Multi Crystalline Silicon
Front Cover (Material / Thickness)	Tempered & Low Iron Glass / 3.2mm / 4mm
Encapsulate	Ethylene Vinyl Acetate
Frame Material	Anodized Aluminum Alloy
Junction Box (Material / Type)	Weatherproof PPO / IP67 enclosure with bypass diodes
Connector (Protection degree / Type)	IP67 rated / MC4 compatible
Cable cross-section	4 mm²

- Positive tolerance Modules
- Excellent generation performance with reasonable cost
- Undergoes rigorous quality control and in-house testing
- 100% Electroluminescence test to ensure error free Modules
- Heavy duty anodized Aluminum frames with pre-drilled holes for quick installation
- Salt mist corrosion resistance and Ammonia corrosion resistance
- Long lasting and high efficiency modules
- Withstands hail, snow and ice storms

Warranty

- 10 years Limited Product Warranty
- 25 years Limited Power output Warranty:
  - Minimum 90% at the end of 10 years
  - Minimum 80% at the end of 25 years

LINEAR DEGRADATION OF WARRANTY



Certifications

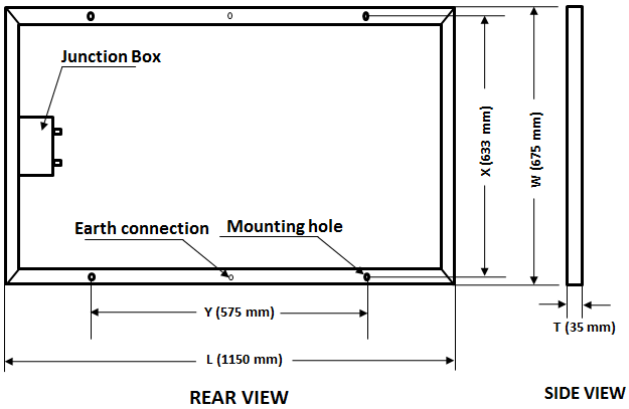
IEC 61215 | IEC 61730-1 & 2 | IEC 61701 | IEC 62716 | ISO 9001:2008 | ISO 14001:2004 | OHSAS 18001:2007

WAAREE®
One with the Sun

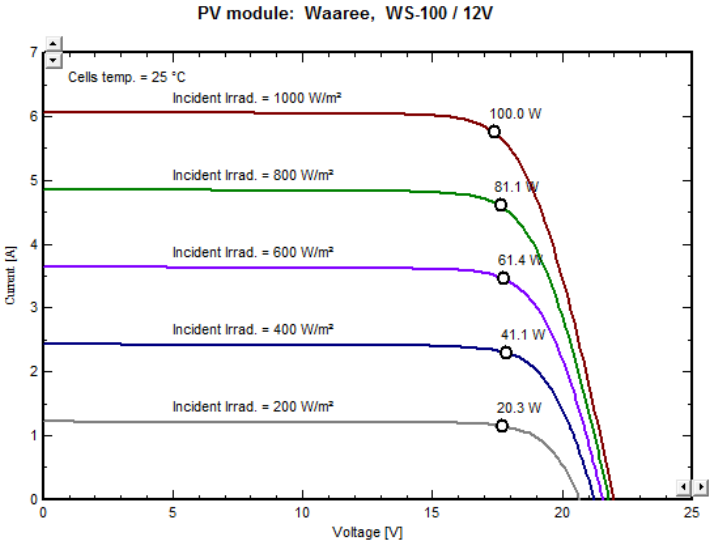
WS – 100 / 12V

Design specifications

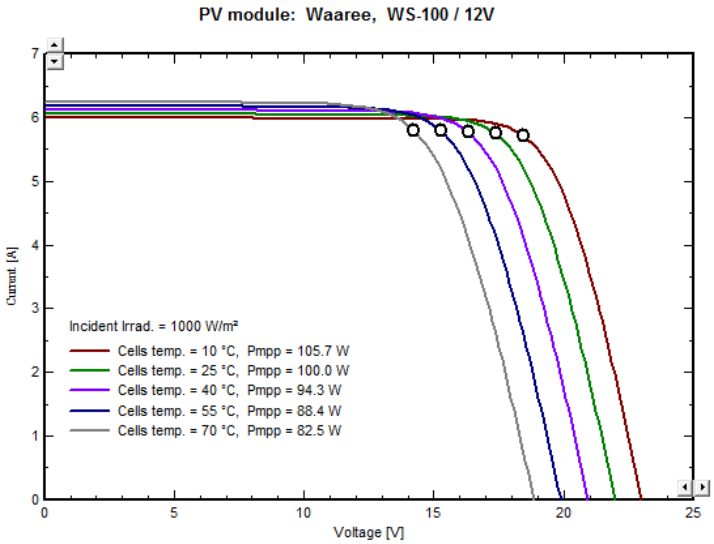
Thermal Characteristics	
Temperature coefficient of Current (I_{sc}), α (%/°C)	0.0681
Temperature coefficient of Voltage (V_{oc}), ß (%/°C)	-0.2941
Temperature coefficient of Power (P_m), γ (%/°C)	-0.3845
NOCT (°C)	46 ± 2
Operating temperature range (°C)	-40 to 85



I-V Curve Variation with Irradiance



I-V Curve Variation with Temperature



About Waaree:

WAAREE is one of India's leading multi-technology companies, headquartered at Mumbai. Founded in 1989, WAAREE successfully developed cutting edge technologies to become one of the most preferred brands in the field of Instrumentation. The company has transformed itself from a single business into a multi-technology organization, diversifying into exciting areas of Solar Energy, Industrial Valves, Petroleum Equipment's and Process control Instrumentation. WAAREE has a presence in over 68 countries, serviced through its 20 sales offices in India & Dubai, and more than 105 global channel partners. WAAREE has a huge list of satisfied customers over the years. WAAREE is committed to supply the best quality products & technology to its customers. WAAREE's products are manufactured at its state-of-the-art manufacturing facilities and is committed to excel in providing the society with world class quality products.

Contact: **WAAREE ENERGIES LIMITED**
602, Western Edge-I, Off. Western Express Highway,
Borivali (E), Mumbai 400066, Maharashtra
Ph.: +91-22-66444444, Fax: +91-22-66444400, Email: *waaree@waaree.com*

- The specifications in this datasheet are subject to change without prior notice.