SONALI SOLAR

"ENERGY INSPIRED BY NATURE" **SS M 180 - 220 (24v) Series**

Quality Product
All manufactured modules are tested 100% by EL (Electro-luminescence) during the production process and free from micro cracks.
Our high-performance modules are highly efficient, reliable, and provide optimal output. The company manufactures solar modules in compliance with global standard including MNRE, IEC 61215, 61730-1, 61730-2, 61701, UL 1703 ISO 9001:2008 and ISO 14001:2008 and 18001:2007.

High Efficiency
Highly efficient modules, which perform at their best even in diffuse lighting conditions. We are leaders in providing our customers with maximum sunlight conversion.

Application Possibilities
Residential and commercial rooftops, carports, solar farming, balconies, awnings, street lights fences, canopies, etc.

Our Team
We have a team of qualified experts and engineers making sure that modules produce maximum power. We pride ourselves in caring for each individual customer needs with detailed attentions. Our end goal is to give a highly efficient product with exceptional customer service.

Guarantee
Our product is durable and has a 25 year performance warranty. Integrated manufacturing of cells and modules in one production line guarantee's optimum performance.

RFID
RFID is an Radio Frequency Identification Technology - enables every individual modules to be uniquely identified. We can provide RFID tag as per customer's request.

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Electrical Specifications

Nominal Maximum Power (Pmax)	180 W	185 W	190 W	195 W	200 W	210 W	215 W	220 W
Optimum Operating Voltage (Vmp)	36.02 V	36.38 V	36.74 V	37.10 V	37.46 V	37.83 V	37.65 V	37.81 V
Optimum Operating Current (Imp)	5.00 A	5.09 A	5.17 A	5.25 A	5.34 A	5.55 A	5.71 A	5.82 A
Open Circuit Voltage (Voc)	44.88 V	45.12 V	45.37 V	45.62 V	45.87 V	45.47 V	46.21 V	47.33 V
Short Circuit Current (Isc)	5.31 A	5.39 A	5.47 A	5.55 A	5.63 A	6.32 A	6.08 A	6.20 A

* Maximum System Voltage : 1000 v (IEC), 600 v (UL)
* Measurement Power Tolerance on Power 0 ~+3%
* Under Standard Test Conditions (STC) of irradiance of 1000W/m2, spectrum AM 1.5 and module temperature of 25 C
* Normal Operating cell temperature (NOCT) of irradiance of 800W/m2, spectrum AM 1.5 and ambient temperature of 45 C, $\pm$ 2 C

Mechanical Specification

Module Specifications	(1580 X 808 X 35 mm) / (62.20 X 31.81 X 1.30 inch)
Weight	15.6 kgs / 34.90 lbs
Junction	Protection Class IP65 with Bypass diodes
Cable & Connectors	Solar Cable 900mm length with 4.0mm^2 double insulated cable, multi contact connector
Cell Arrangement	72 (12 x 6)
Front Cover	3.2 mm Tempered Glass (ARC)
Encapsulate	EVA
Back Cover	Composite Sheet
Frame	Silver Matt Finished Anodized Frame, Anodizing Coating Thickness $\geq$ 16 um

Temperature coefficient

Coefficient of Current	(0.04%/ C)
Coefficient of Voltage	(-0.32 %/ C)
Coefficient of Power	(-0.43 %/ C

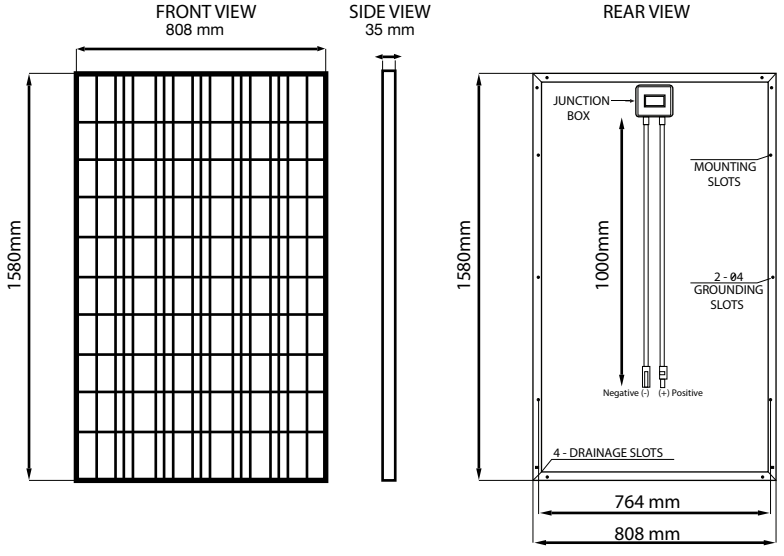
Product Guarantees

Product Warranty	10 Years
Performance Warranty	First 10 Years up to 90%, next 15 years up to 80%
Approvals & Certificates	IEC 61215, 61730-1,61730-2 & 61701 UL 1703 MCS, MNRE

Tested Operating Conditions

Temperature Cycling Range	(-40 C ~+85 C)
Humidity Freeze, Damp Heat	85% RH

Dimensions



IV CURVE

Measurment Performance

I-V Curve Variation with Irradiance