

# RS190

## Photovoltaic Module

Modules are manufactured in a state-of-the-art, automated and ISO 9001:2008 certified manufacturing facility. The modules are designed as per IEC 61215, IEC 61730 and UL 1703 standards.

### High Efficiency :

- Usage of high efficient cells
- Acid texturised solar cells
- Fine silver grid lines
- Fully covered back surface field
- Optimized anti reflective coating on cells
- One side textured, tempered glass increases light absorption & efficiency
- Tight tolerance in power  $\pm 3\%$

### Reliability Aspects :

- Maximum system voltage of 1000V
- High corrosion resistant frame
- Lower slope of module frame
- Proven Glass /EVA/Backsheet encapsulation technology
- Three layered structured backsheet
- Double sided polyurethane tape for frame fixing
- High tensile structure of frame
- Universal frame with anywhere mounting

### Safety Aspects :

- Weather proof junction box with bounced clips
- Highly reliable bypass diodes
- Lock mechanism equipped connectors
- High current rated insulated cables



TYPICAL ELECTRICAL PARAMETERS		MECHANICAL PARAMETERS	
Nominal Power at STC, P <sub>max</sub>	190W	Cell type & Size	54 Multi Crystalline Si solar cells & 156mm x 156mm
Voltage at maximum Power Point, V <sub>mp</sub>	26.3V	Module Overall Dimensions	1503mm x 997mm x 43mm
Current at maximum Power Point, I <sub>mp</sub>	7.23A	Weight	16.9 kg
Open circuit voltage, V <sub>oc</sub>	32.5V	Mounting Arrangement	Mountable across the length
Short Circuit Current, I <sub>sc</sub>	8.1A	Junction Box	IP 65 protected 4 contact rail
NOCT	47 $\pm$ 2°C	Type of Output Terminal connectors & Cable	25A/1000VDC rated, IP67, 12AWG, 1.0 mtr Long XLPO insulation cable
Maximum System Voltage	1000 VDC	Bypass-Diodes	SB1240 (12A) X 3pcs
Maximum series fuse rating	10A	Front glass	One side textured toughened glass of 3.2mm thick
Operating and Storage Temperature	-40°C to +85°C	Back sheet	Fluoropolymer, PET based composite laminate
Temperature Coefficient of P <sub>max</sub>	-0.50 %/K	Frame	Al 6063 alloy with anodisation with grounding provision
Temperature Coefficient of V <sub>oc</sub>	-0.35 %/K	Protection class	A
Temperature Coefficient of I <sub>sc</sub>	+0.07 %/K		

PERFORMANCE AT 800W/M <sup>2</sup> , NOCT, AM1.5	
Nominal Power, P <sub>max</sub>	140W
Voltage at maximum Power Point, V <sub>mp</sub>	23.06V
Current at maximum Power Point, I <sub>mp</sub>	6.08A
Open circuit voltage, V <sub>oc</sub>	30.05V
Short Circuit Current, I <sub>sc</sub>	6.44A

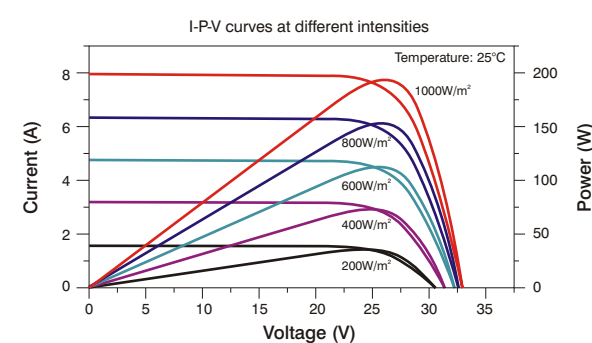
Note: The Performance of the solar modules is measured at STC : Irradiance 1000 W/m<sup>2</sup>, Module Temperature at 25°C and AM 1.5G spectrum. The tolerance in P<sub>max</sub> is  $\pm 3\%$

### WARRANTY

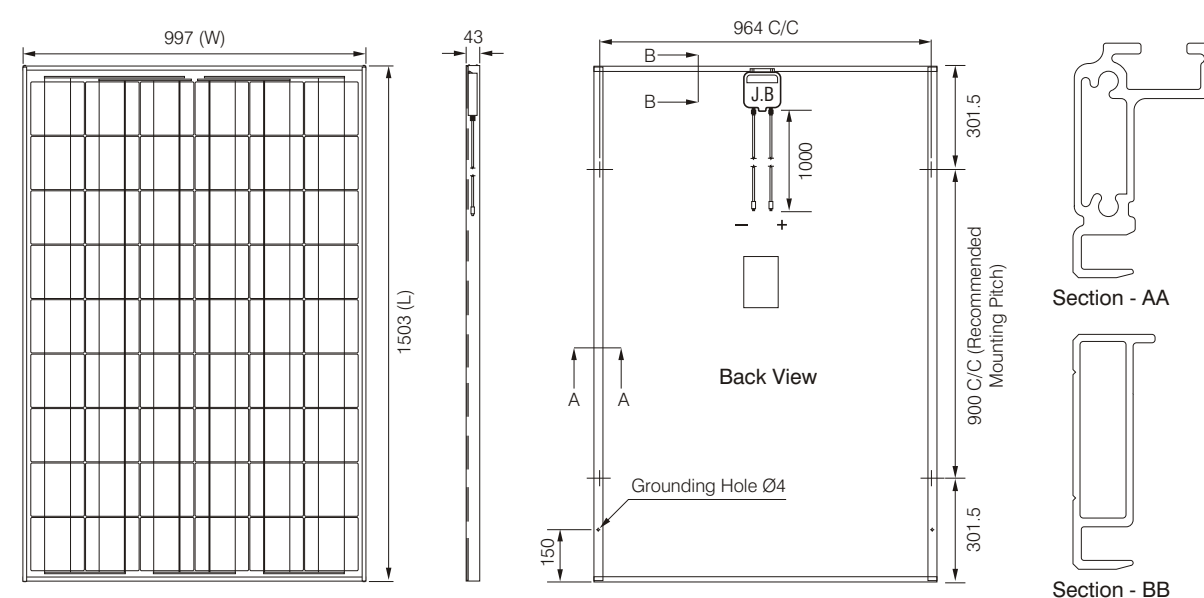
- 2 year limited product warranty\*
- 10 years limited warranty\* for minimum 90% power output
- 25 years limited warranty\* for minimum 80% power output

\* please ask for detailed warranty terms

### ELECTRICAL CHARACTERISTICS



### DRAWING AND DIMENSIONS



The modules are also available in similar configuration for 180, 185 and 195 watt of peak nominal power at STC

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