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# **EnergyPal**

## **Solar Panel Guide Specification Data Sheet**

**Waaree Energies Ltd  
Merlin WM-310-330\_BR  
WM-315\_BR**

Also available on the web at  
[EnergyPal.com/waaree-energies-ltd-solar-panels/wm-315\\_br](http://EnergyPal.com/waaree-energies-ltd-solar-panels/wm-315_br)

## WM-330-BR

### WEL MERLIN MONO SERIES

72-CELLS – WITH BACK RAIL

Waaree Energies introduces the first energy efficient modules in India which are designed to protect against vibration induced damages and increase the power performance through strengthened solar cell by sandwiching the fragile Silicon cell between two copper grids, and by collecting current in a distributed fashion which eliminates the electrical impact of cell crack which in turn improves the power performance and long life reliability. WM series panels are made with high quality Waaree Merlin mono crystalline solar cells.



### KEY FEATURES

- Seventy-two (72) series connected, highly efficient, Merlin solar cells optimize panel performance
- Multi bus-bar is swapped by ultra thin copper grids
- Higher open circuit voltage
- Better current distribution results in low series resistance
- Eliminate bottom tabbing ribbons by using cell orientation to complete the interconnect
- Enhanced fill factor of > 79% compared to conventional fill factor.
- Lifetime high interconnect service
- By pass diodes allow for maximum performance under shadow condition
- Crack tolerance because of the grid that holds the solar cells
- Longer life than conventional module due to ruggedness of merlin solar panel makes it more tangible
- Superior low light and low sun angle performance
- Maintains module integrity and power performance
- Modules built and tested to UL and IEC Standard
- 12 Years limited and conditional product warranty\*\*
- 25-year limited and conditional warranty for power output\* \*
- Two variants available: Conventional and Back Rails

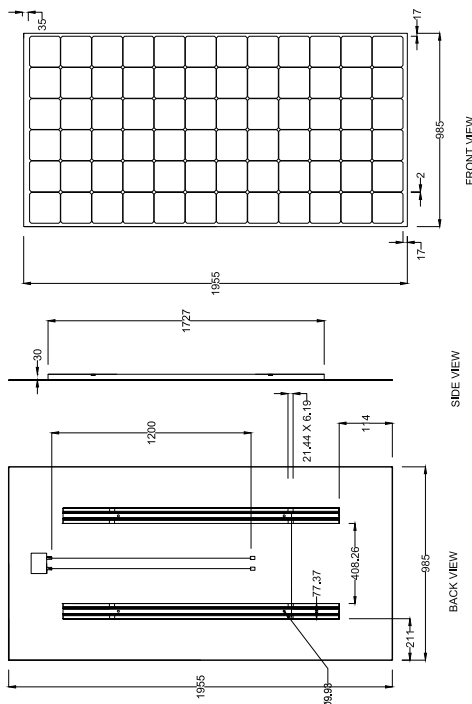
## MECHANICAL PROPERTIES

Solar Cells per Module / Arrangement	72 / 6x12
Cell Dimensions	156.75 x 156.75(mm)
Cell Type	Mono-crystalline
Module Dimensions with Frame (L x W x H)	1960 x 990 x 40(in mm)
Module Dimensions with Back Rail (L x W x H)	1955 x 985 x 30(mm)
Junction Box	IP 67 rated with 3 bypass diodes
Connector Type	MC4 or MC4 Compatible
Cable Spec./Length	1C x 4 SQMM/ 1200 mm Long
Glass (L x W x H)	High Transmissivity tempered ARC Glass 1635x985x3.2mm
Weight	22 ± 0.5 Kg
Frame	Anodized Aluminum Alloy

## CERTIFICATION AND WARRANTY

Certifications	IIEC-61215:2005, IEC 61730-1:2004, IEC61730-2:2004, IEC 61701-Ed.2, IEC 62716-Ed.1:2014, IEC62804-Ed1:2015
Fire Safety Class	Class-A
Product Warranty	12 Years
Output Power Warranty	25 Years

## MODULE DIMENSIONS



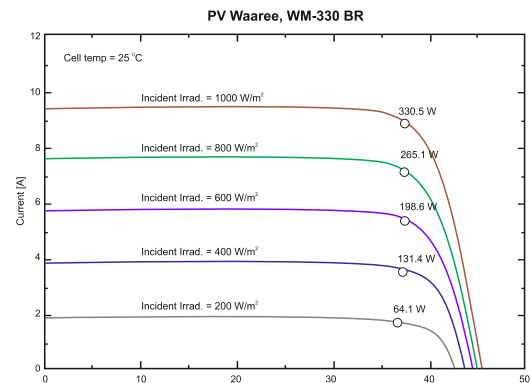
## ELECTRICAL PROPERTIES (STC\*)

Model Number	WM-310-BR	WM-315-BR	WM-320-BR	WM-325-BR	WM-330-BR
Rated Power (P max) (Watt)	310	315	320	325	330
Cells in Series (numbers)	72	72	72	72	72
Max Peak Voltage (Vmp) (Volt)	36.1	36.3	36.5	36.7	37.0
Max Peak Current (Imp)(Amp)	8.58	8.67	8.77	8.87	8.94
Open Circuit Voltage (Voc) (Volt)	45.4	45.65	45.75	45.8	46.00
Short Circuit Current (Isc) (Amp)	8.8	8.85	8.95	9.05	9.12
Module Efficiency (%)	16.10	16.35	16.62	16.88	17.14
Max System Voltage(V dc) (Volt)	1000	1000	1000	1000	1000
Power Tolerance (%)	+3%	+3%	+3%	+3%	+3%
Maximum Series fuse Rating (Amp)	15	15	15	15	15
Fill Factor (%)	>79	>79	>79	>79	>79
Operating Temperature	-40°C to 85°C				

## TEMPERATURE COEFFICIENT

Voc	-2.108 mV/K
Isc	4.48 mA/K
FF	-0.1203 %/K
Power	-0.432 %/K

## Characteristic Curves



For contact & support:- [www.waaree.com](http://www.waaree.com)

Designed in USA; Manufactured in India by Waaree Energies Limited

Registered Corporates - 602, Western edge-1,

Off Western Express Highway, Borivali (E), Mumbai-400066.

☐ 022 66 44 44 44, ☐ 022 66 44 44 00.

Toll-free : 1800 2121 321

☐ Email: [waaree@waaree.com](mailto:waaree@waaree.com)

NOTE: STC STANDS FOR STANDARD TEST CONDITION: 1000W/M<sup>2</sup> INTENSITY, A.M 1.5, 25°C CELL TEMPERATURE. AT STC, THE ELECTRICAL CHARACTERISTICS IS WITHIN ±10% UNLESS SPECIFIED OTHERWISE. \* INDICATED AS PER IEC TESTING DATA, IT MAY BE CHANGED ACCORDINGLY.

\*\*REFER TO WAAREE'S WARRANTY DOCUMENT FOR FURTHER TERMS AND CONDITIONS.