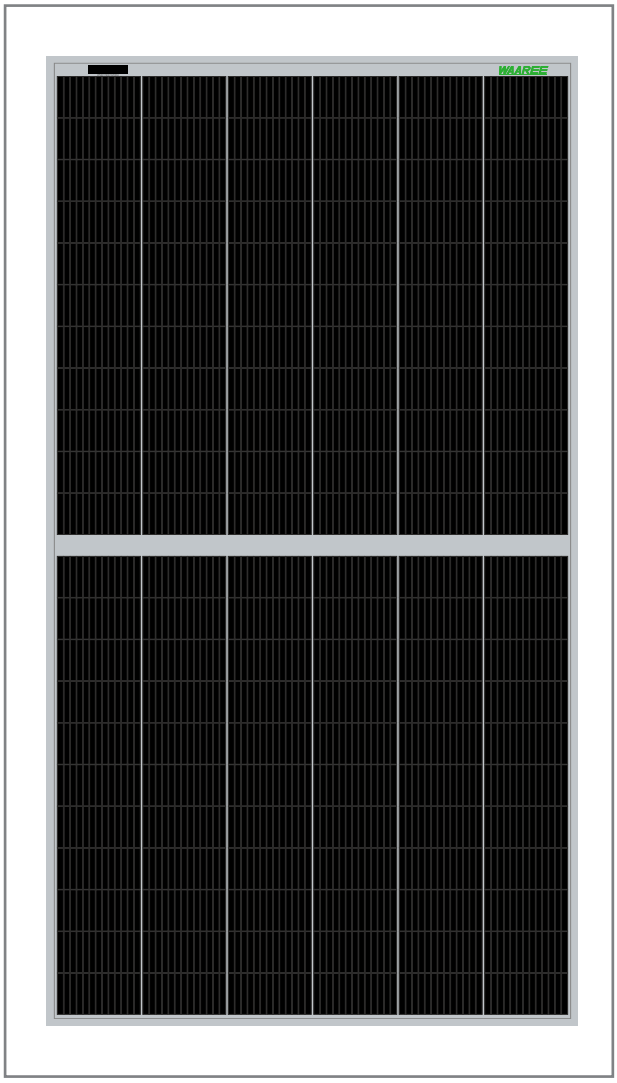
AHNAY SERIES

Bi-68-645 to Bi-68-665

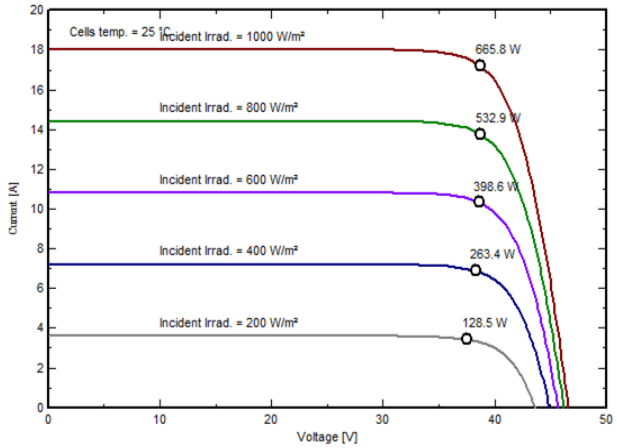
Framed Dual Glass Bifacial module

WAAREE®
One *with the* Sun

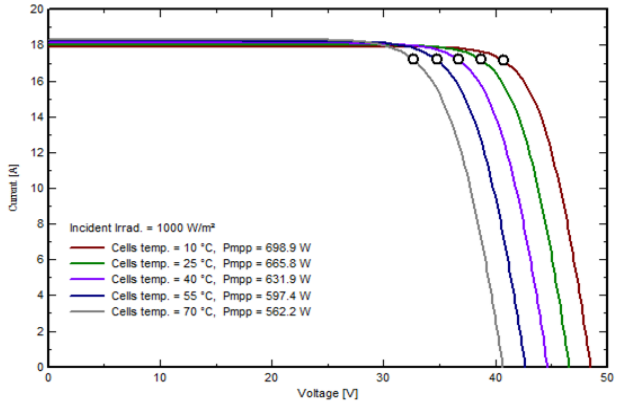
- Highest reliability & enhanced crack tolerant 12BB module
- Full square Mono PERC M12 cells
- Best in class thermal coefficients
- Highest commercial gains, lower LCOE
- Split junction box improve heat dissipation & lower risk of hotspot
- Increase shade tolerance



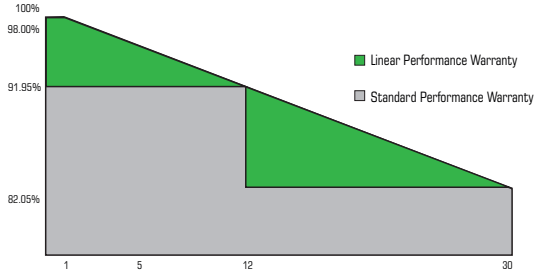
I-V VARIATION WITH IRRADIANCE



I-V VARIATION WITH TEMPERATURE



The Graphs are for reference purpose only. Please consult Waaree technical team for further clarifications.



ISO 9001:2015 I ISO 14001:2015 I ISO 45001:2018
Independent assessment of factories by BLACK & VEATCH

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ELECTRICAL CHARACTERISTICS

Models	Pmax (W)		Vmp (V)		Imp (A)		Isc (A)		Voc (V)		Module Eff. (%)
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	
Bi-68-645	645	485.2	37.87	35.70	17.04	13.58	17.78	14.33	45.94	43.20	20.65
Bi-68-650	650	489.5	37.91	35.90	17.16	13.63	17.84	14.37	46.09	43.40	20.82
Bi-68-655	655	494.2	37.94	36.10	17.29	13.69	17.90	14.42	46.26	43.50	20.99
Bi-68-660	660	497.3	38.06	36.20	17.35	13.75	17.98	14.49	46.40	43.60	21.13
Bi-68-665	665	501.7	38.10	36.40	17.46	13.79	18.03	14.53	46.58	43.80	21.29

*Standard Test Conditions (STC) - 1000 W/m2 irradiance, Air Mass 1.5 and 25°C cell temperature. Nominal Operating Cell Temperature (NOCT) - 800 W/m2 irradiance, Air Mass 1.5, Ambient temperature 20°C and Wind speed 1 m/s. Average power reduction of 4.5% at 200 W/m2 as per IEC 60904-1. Measuring Uncertainty ± 3%.

System Voltage	1500 V

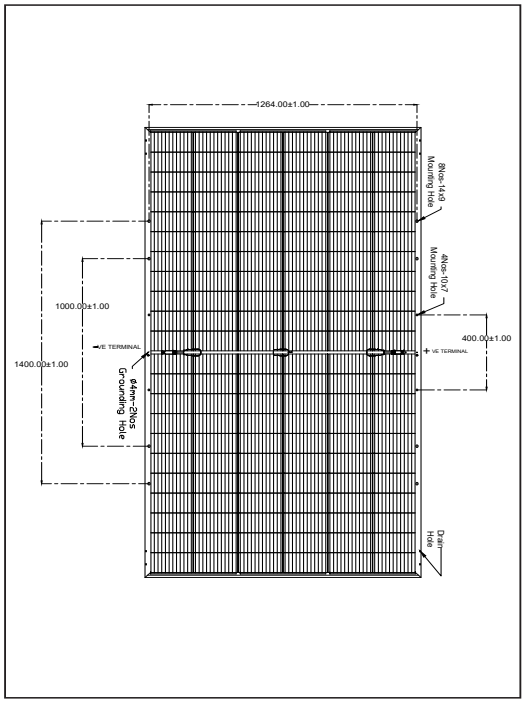
Series Fuse Rating	30 A

BI-FACIAL OUTPUT - BACKSIDE POWER GAIN*

		Bi-68-645	Bi-68-650	Bi-68-655	Bi-68-660	Bi-68-665
15%	Power Output (W)	742	748	753	759	765
	Module Efficiency (%)	23.74%	23.94%	24.13%	24.30%	24.49%
20%	Power Output (W)	774	780	786	792	798
	Module Efficiency (%)	24.78%	24.98%	25.18%	25.35%	25.55%
25%	Power Output (W)	806	813	819	825	831
	Module Efficiency (%)	25.81%	26.02%	26.23%	26.41%	26.62%
30%	Power Output (W)	839	845	852	858	865
	Module Efficiency (%)	26.84%	27.07%	27.28%	27.46%	27.68%

*The bifacial gains are dependant on the power plant design and location

DESIGN SPECIFICATIONS



THERMAL CHARACTERISTICS

Temperature coefficient of Current (Isc), α (%/°C)	0.04
Temperature coefficient of Voltage (Voc), ß (%/°C)	-0.25
Temperature coefficient of Power (Pm), γ (%/°C)	-0.34
NOCT (°C)	43 ± 2
Operating temperature range (°C)	-40 to 85

MECHANICAL CHARACTERISTICS

Length x Width x Thickness (L x W x T)	2400 mm (L) x 1302 mm (W) x 35 mm (T)
Weight	39 kgs
Solar Cells per Module (Units) / Arrangement	132 cells / (11x6 | | 11x6)
Solar Cell Type & Size	Mono PERC Bifacial, 105 x 210 mm
Front / Back Glass (Material / Thickness)	2.0 mm Low Iron and Tempered glass
Encapsulate	PID Free & UV Resistant
Junction Box (Protection degree / Material)	IP68 / Weatherproof PPO
Cable & Connector (Protection degree / Type)	IP68 rated / MC4 compatible
Cable cross - section & Length	4 mm^2 & 500mm
Frame	Anodized Aluminium Alloy

Waaree Energies Ltd. is amongst the top Solar Energy Companies and has the country's largest Solar PV Module manufacturing capacity of 5 GW. In addition, it is committed to provide top notch EPC services, project development, rooftop solutions, solar water pumps and also in an Independent Power Producer. Waaree has its presence in over 325+ locations nationally and 68 countries globally.

12 Years Product Warranty • 30 Years Power Output Warranty

- The electrical data given here is for reference purpose only.
- Please confirm your exact requirements with the sales representative while placing your order.
- Refer installation Manual instructions & Waaree warranty statement for terms & conditions.
- Waaree Reserves the right to change the specifications without prior notice.z

WEL/E&PD/645-665/132/MPB/HC/05/17.11.2021