

ELITE SERIES N TOPCON TECHNOLOGY

BiN-11-670 to BiN-11-700

Framed Glass Transparent Backsheet Bifacial module

WAAREE[®]

One with the Sun



Highest reliability & enhanced crack tolerance MBB module



Sustain heavy snow & wind loads (5400 Pa & 2400 Pa)



Best in class thermal coefficients



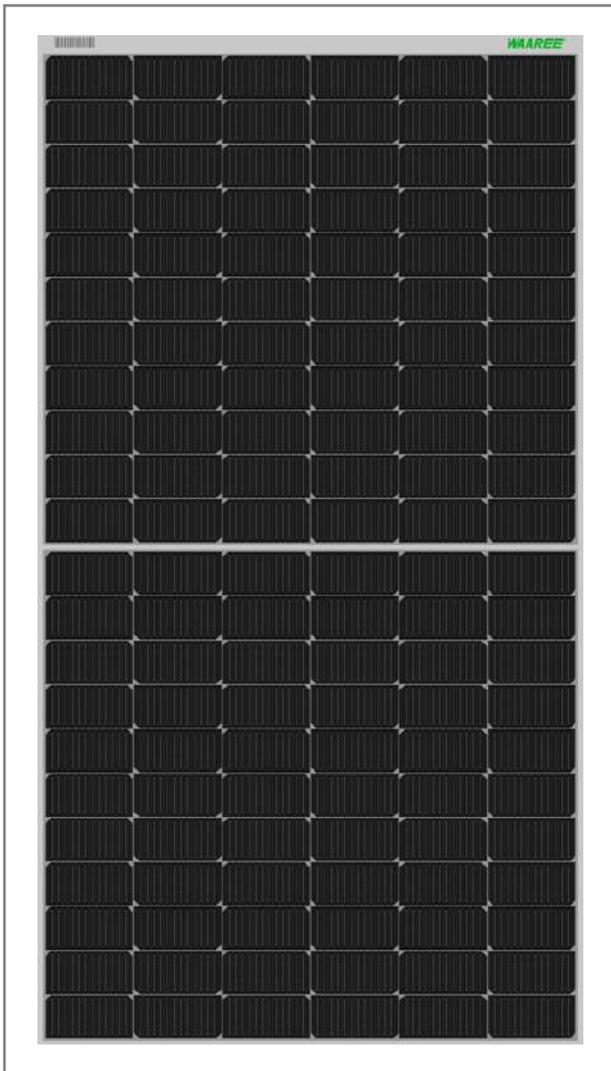
Highest commercial gains, lower LCOE



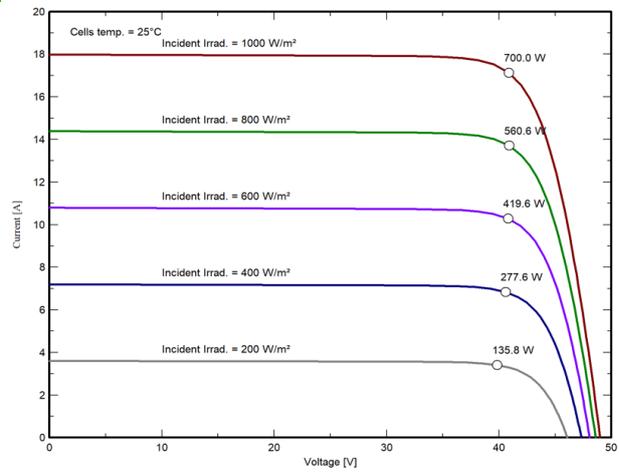
Better weak light performance



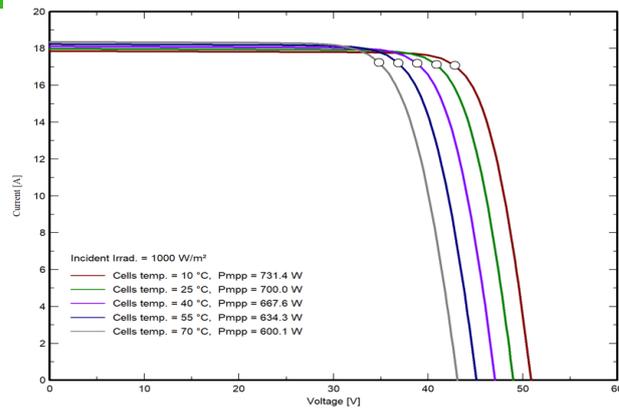
Excellent PID resistance



I-V VARIATION WITH IRRADIANCE



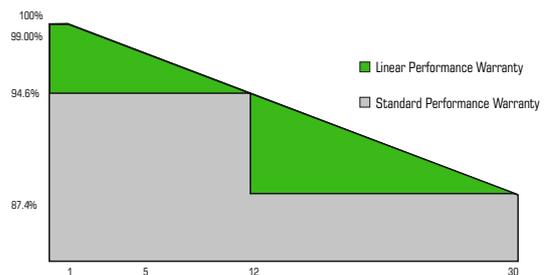
I-V VARIATION WITH TEMPERATURE



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



IEC 61215, IEC 61730
UL 61730-1, UL 61730-2



ISO 9001:2015 | ISO 14001:2015 | 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	
BiN-11-670	670	507.9	38.64	36.21	17.34	13.98	18.34	14.78	46.44	44.35	21.44
BiN-11-675	675	511.7	38.84	36.39	17.38	14.01	18.38	14.81	46.64	44.54	21.60
BiN-11-680	680	515.4	39.04	36.58	17.42	14.04	18.42	14.85	46.84	44.73	21.76
BiN-11-685	685	519.2	39.24	36.77	17.46	14.07	18.46	14.88	47.04	44.92	21.92
BiN-11-690	690	523.0	39.43	36.95	17.50	14.11	18.50	14.91	47.23	45.10	22.08
BiN-11-695	695	526.8	39.63	37.13	17.54	14.14	18.54	14.94	47.43	45.30	22.24
BiN-11-700	700	530.6	39.82	37.31	17.58	14.17	18.58	14.98	47.62	45.48	22.40

*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%.

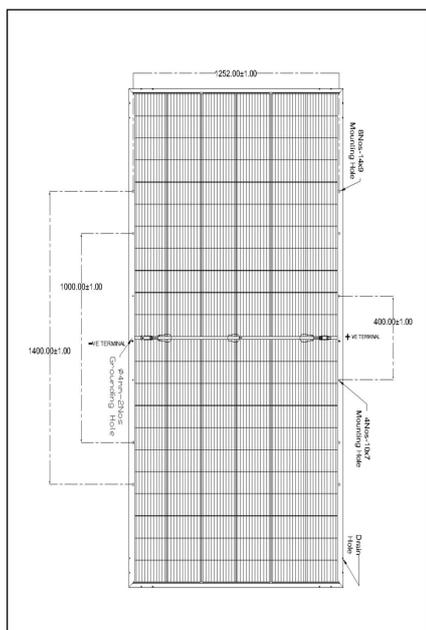
System Voltage	1500 V	Series Fuse Rating	30 A
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BI-FACIAL OUTPUT - BACKSIDE POWER GAIN*

		BiN-11-670	BiN-11-675	BiN-11-680	BiN-11-685	BiN-11-690	BiN-11-695	BiN-11-700
15%	Power Output (W)	770	776	782	788	793	799	805
	Module Efficiency (%)	24.66%	24.84%	25.02%	25.21%	25.39%	25.58%	25.76%
20%	Power Output (W)	804	810	816	822	828	834	840
	Module Efficiency (%)	25.73%	25.92%	26.11%	26.30%	26.50%	26.69%	26.88%
25%	Power Output (W)	837	844	850	856	862	868	875
	Module Efficiency (%)	26.80%	27.00%	27.20%	27.40%	27.60%	27.80%	28.00%
30%	Power Output (W)	871	877	884	890	897	903	910
	Module Efficiency (%)	27.87%	28.08%	28.29%	28.50%	28.70%	28.91%	29.12%

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

DESIGN SPECIFICATIONS



THERMAL CHARACTERISTICS

Temperature coefficient of Current (Isc), α (%/°C)	0.046
Temperature coefficient of Voltage (Voc), β (%/°C)	-0.26
Temperature coefficient of Power (Pm), γ (%/°C)	-0.31
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	34.5 kgs
Solar Cells per Module (Units) / Arrangement	132 cells / (11x6 11x6)
Solar Cell Type & Size	TOPCon N-type Mono Bifacial, 105x210mm
Front Glass (Material / Thickness)	3.2 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 12 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 350+ 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.

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