

ELITE SERIES N TOPCON TECHNOLOGY

BiN-15-515 to BiN-15-540

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



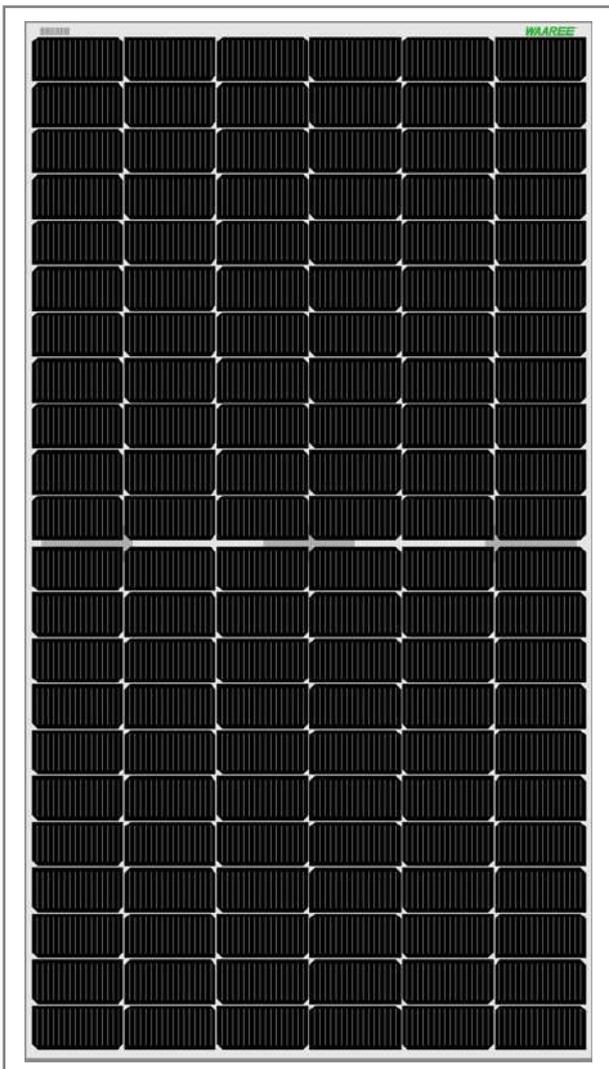
Highest commercial gains, lower LCOE



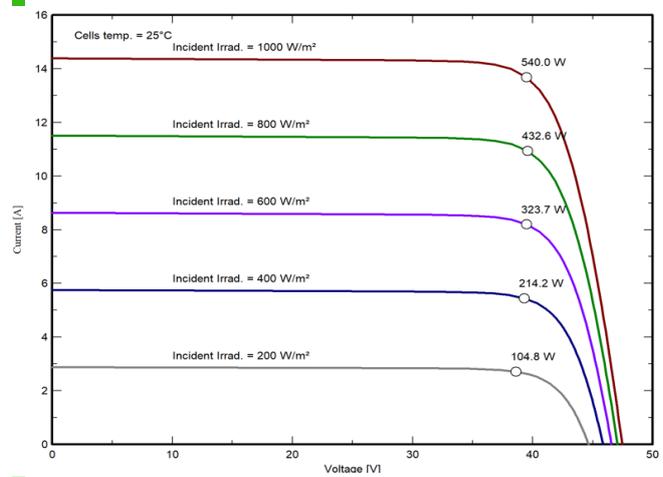
Better weak light performance



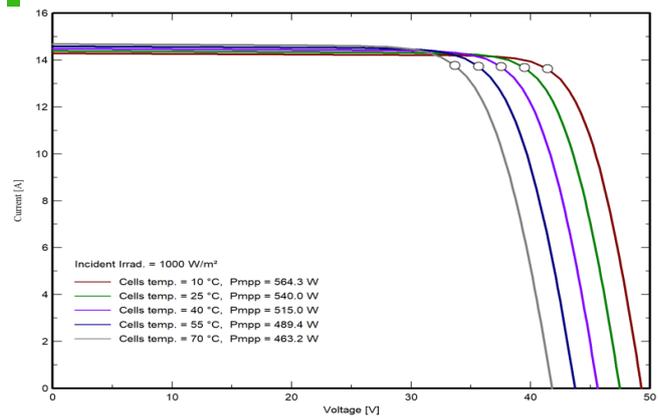
Excellent PID resistance



I-V VARIATION WITH IRRADIANCE



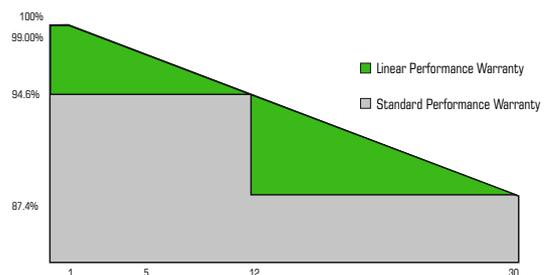
I-V VARIATION WITH TEMPERATURE



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-15-515	515	388.8	38.99	36.53	13.21	10.65	14.02	11.30	46.46	44.14	21.74
BiN-15-520	520	392.6	39.16	36.69	13.28	10.70	14.09	11.36	46.60	44.27	21.95
BiN-15-525	525	396.4	39.33	36.85	13.35	10.76	14.16	11.41	46.79	44.45	22.16
BiN-15-530	530	400.2	39.49	37.01	13.42	10.82	14.23	11.47	46.99	44.64	22.37
BiN-15-535	535	403.9	39.66	37.16	13.49	10.87	14.30	11.53	47.19	44.83	22.58
BiN-15-540	540	407.7	39.79	37.29	13.57	10.94	14.38	11.59	47.45	45.08	22.80

*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%.

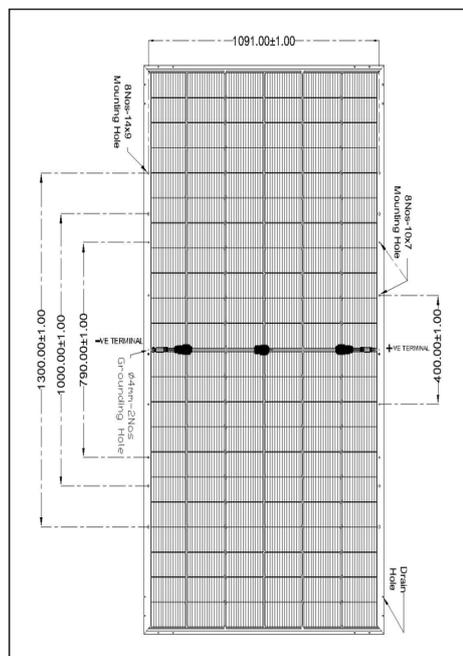
System Voltage	1500 V	Series Fuse Rating	25 A
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BI-FACIAL OUTPUT - BACKSIDE POWER GAIN*

		BiN-15-515	BiN-15-520	BiN-15-525	BiN-15-530	BiN-15-535	BiN-15-540
15%	Power Output (W)	592	598	604	610	615	621
	Module Efficiency (%)	25.02%	25.27%	25.51%	25.75%	25.99%	26.22%
20%	Power Output (W)	618	624	630	636	642	648
	Module Efficiency (%)	26.11%	26.36%	26.62%	26.87%	27.12%	27.36%
25%	Power Output (W)	644	650	656	663	669	675
	Module Efficiency (%)	27.20%	27.46%	27.73%	27.99%	28.25%	28.50%
30%	Power Output (W)	670	676	683	689	696	702
	Module Efficiency (%)	28.29%	28.56%	28.83%	29.11%	29.38%	29.64%

*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)	2089 mm (L) x 1134 mm (W) x 32 mm (T)
Weight	25.5 kgs
Solar Cells per Module (Units) / Arrangement	132 cells / (11x6 11x6)
Solar Cell Type & Size	TOPCon N-type Mono Bifacial, 91x182mm
Front / Back Glass (Material / Thickness)	3.2 mm Low Iron ARC 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 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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