ELITE R SERIES
N-TYPE

BiN-21-600 to BiN-21-635
Framed Dual Glass Bifacial module

WAAREE® SOLAR AMERICAS INC

Highest reliability & enhanced crack tolerance MBB module

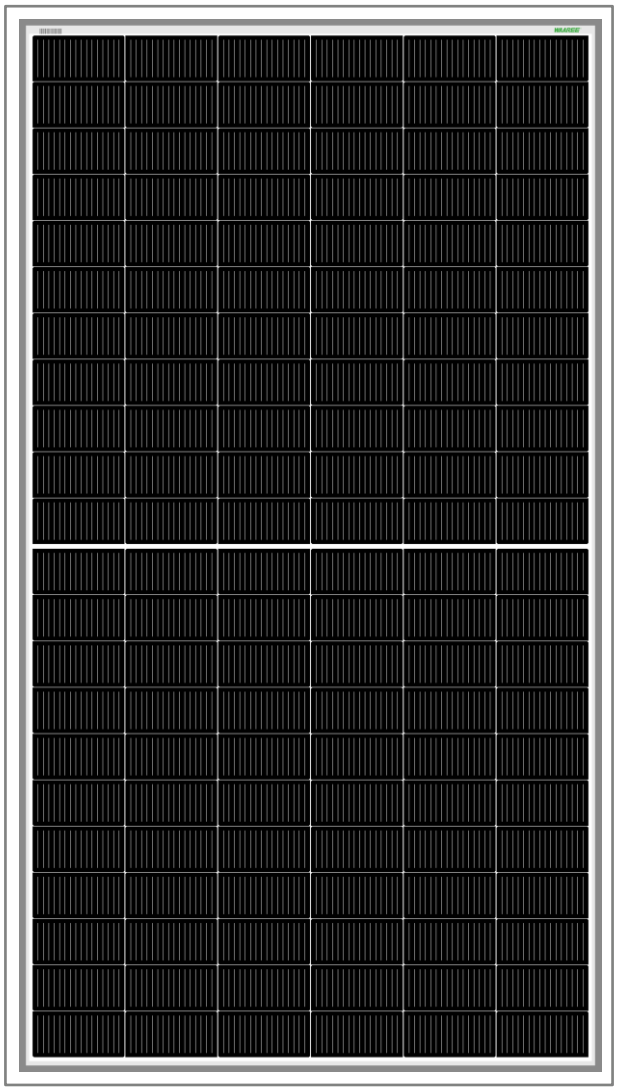
Sustain heavy snow & wind loads (5400 Pa & 2400 Pa)

Best in class thermal coef cients

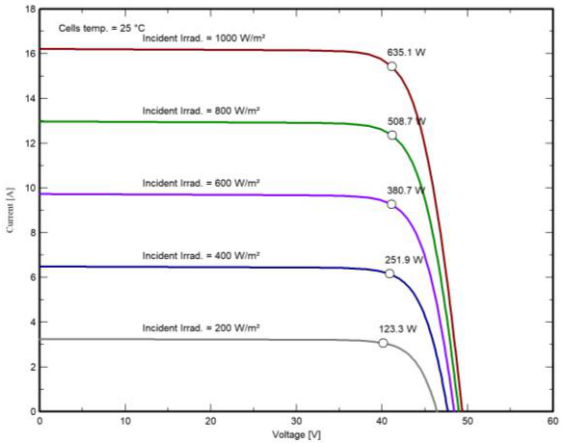
Highest commercial gains, lower LCOE

Better weak light performance

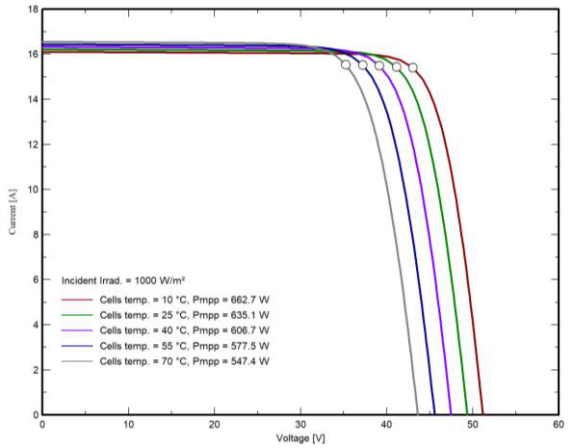
Excellent PID resistance



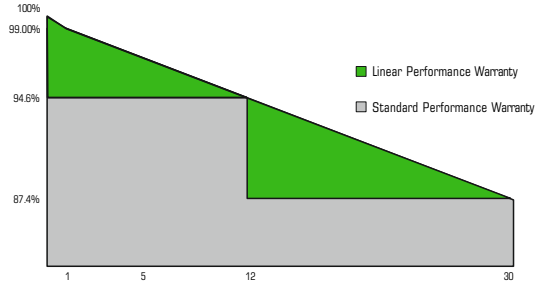
I-V VARIATION WITH IRRADIANCE



I-V VARIATION WITH TEMPERATURE



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



TIER 1 Bloomberg NEW ENERGY FINANCE

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

ELITE R SERIES
N-TYPE

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Framed Dual Glass Bifacial module

WAAREE® SOLAR AMERICAS INC

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-21-600	600	453	40.23	37.49	14.91	12.02	15.87	12.79	47.95	45.56	22.21
BiN-21-605	605	457	40.38	37.63	14.98	12.08	15.91	12.82	48.15	45.75	22.40
BiN-21-610	610	461	40.52	37.76	15.06	12.14	15.96	12.86	48.35	45.94	22.58
BiN-21-615	615	464	40.65	37.89	15.13	12.19	16.01	12.90	48.55	46.13	22.77
BiN-21-620	620	468	40.79	38.02	15.20	12.25	16.06	12.94	48.75	46.32	22.95
BiN-21-625	625	472	40.92	38.14	15.28	12.31	16.11	12.98	48.95	46.51	23.14
BiN-21-630	630	476	41.05	38.26	15.35	12.37	16.16	13.02	49.15	46.70	23.32
BiN-21-635	635	479	41.19	38.39	15.42	12.43	16.21	13.06	49.35	46.89	23.51

*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

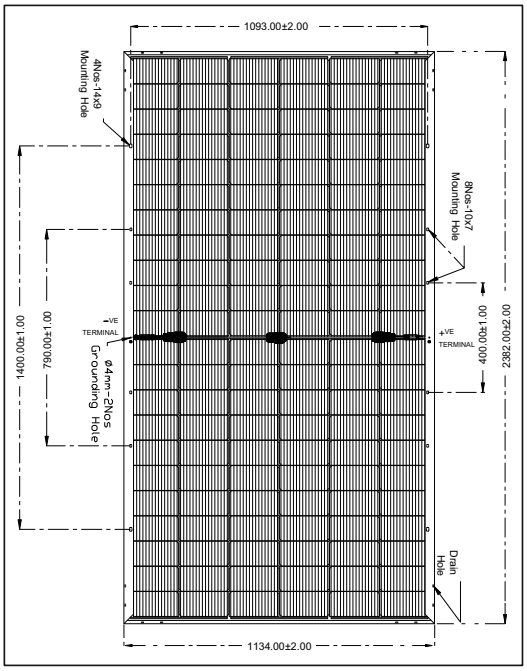
Series Fuse Rating	30 A

BI-FACIAL OUTPUT - BACKSIDE POWER GAIN*

		BiN-21-600	BiN-21-605	BiN-21-610	BiN-21-615	BiN-21-620	BiN-21-625	BiN-21-630	BiN-21-635
15%	Power Output (W)	690	696	702	707	713	719	725	730
	Module Ef ciency (%)	25.54	25.76	25.97	26.19	26.39	26.61	26.82	27.04
20%	Power Output (W)	720	726	732	738	744	750	756	762
	Module Ef ciency (%)	26.65	26.88	27.10	27.32	27.54	27.77	27.98	28.21
25%	Power Output (W)	750	756	763	769	775	781	788	794
	Module Ef ciency (%)	27.76	28.00	28.23	28.46	28.69	28.93	29.15	29.39
30%	Power Output (W)	780	787	793	800	806	813	819	826
	Module Ef ciency (%)	28.87	29.12	29.35	29.60	29.84	30.08	30.32	30.56

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

DESIGN SPECIFICATIONS



THERMAL CHARACTERISTICS

Temperature coef cient of Current (Isc), α (%/°C)	0.046
Temperature coef cient of Voltage (Voc), ß (%/°C)	-0.26
Temperature coef cient of Power (Pm), γ (%/°C)	-0.30
NOCT (°C)	43 ± 2
Operating temperature range (°C)	-40 to 85
Bifaciality	80 ± 10

MECHANICAL CHARACTERISTICS

Length x Width x Thickness (L x W x T)	2382 mm (L) x 1134 mm (W) x 30 mm (T)
Weight	34 kgs
Solar Cells per Module (Units) / Arrangement	132 cells / (11x6 || 11x6)
Solar Cell Type & Size	G12R N-type Bifacial
Front Glass (Material / Thickness)	2 mm Low Iron HTAR semi-tempered glass
Back Glass (Material / Thickness)	2 mm Low Iron Printed semi-tempered glass
Encapsulate	PID Free & UV Resistant
Junction Box (Protection degree / Material)	IP68 / Weatherproof PPO, 3 Diodes
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 con rm 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 speci cations without prior notice.

www.waaree.com/usa/