

W3 THREE PHASE INVERTER

4 KW TO 20 KW

WAAREE®



Built-in Wi-Fi & DC Switch



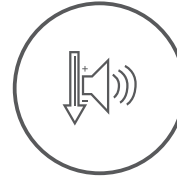
Super large 5-inch LCD



Multiple monitoring and communication



45° C full-load output



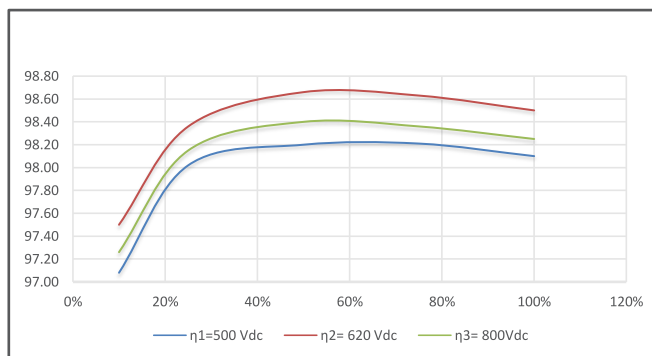
Fanless low noise design



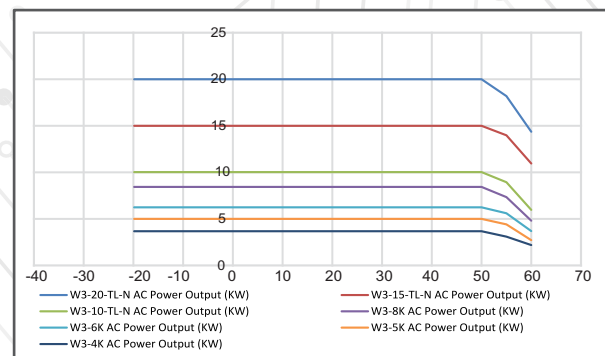
IP 65 dust-proof and water-proof



EFFICIENCY CURVE



USE EFFICIENCY & TEMPERATURE CURVE OF W3- 4 KW TO 20 KW



WiFi/GPRS solution for remote monitoring
Multiple user access



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W3 THREE PHASE INVERTER

4 KW TO 20 KW



Technical Data	W3-4 K	W3-5 K	W3-6 K	W3-8 K	W3-10 K	W3-15 K	W3-20 K
PV String Input Data							
Max. DC Input Power (W)	5200	6500	7800	9600	12000	19500	26000
Max. DC Input Voltage (V)	1000						
MPPT Range (V)	200~800			200~850			200~950
Start-up Voltage (V)	180						
MPPT Range for Full Load (V)	195~800	240~800	285~800	380~850	480~850	480~850	460~860
Nominal DC Input Voltage (V)	620						600
Max. Input Current (A)							22/22
Max. Short Current (A)	13.8					27.6/13.8	27.6/27.6
No. of MPP Trackers	2						
No. of Input Strings per Tracker	1/1					2/1	2/2
AC Output Data							
Nominal Output Power (W)	4000	5000	6000	8000	10000	15000	20000
Max. Output Apparent Power (VA)	4000	5000	6000	8000	10000	16500	22000
Nominal Output Voltage (V)	400, 3L/N/PE						
Nominal Output Frequency (Hz)	50/60						
Max. Output Current (A)	8.5	8.5	10	12.1	15.2	24	31.9
Output Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)						
Output THDi (@Nominal Output)	<2%						<3%
Efficiency							
Max. Efficiency	98.00%			98.30%			98.60%
Euro Efficiency	97.50%			98.00%			98.10%
Protection							
PV String Current Monitoring	Integrated						
Anti-islanding Protection	Integrated						
Input Reverse Polarity Protection	Integrated						
Insulation Resistor Detection	Integrated						
Residual Current Monitoring Unit	Integrated						
DC SPD Protection	Type II						
AC SPD Protection	Type II						
Output Over Current Protection	Integrated						
Output Short Protection	Integrated						
Output Over Voltage Protection	Integrated						
General Data							
Operating Temperature Range (°C)	-25~60						
Relative Humidity	0~100%						
Operating Altitude (m)	≤4000						
Cooling	Natural Convection						Fan Cooling
Noise (dB)	<30			<40			<45
User Interface	LCD & LED						
Communication	RS485 / WiFi						
Weight (kg)	24					26	
Size (Width*Height*Depth mm)	516*455*192						516*455*220
Protection Degree	IP65						
Night Self Consumption (W)	<1						
Topology	Transformerless						
Certifications & Standards							
Grid Regulation	IEC 61727						
Safety Regulation	IEC62109-1&2						
EMC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4						

AHNAY SERIES

Bi-55-520 to Bi-55-550

Framed Dual Glass Bifacial Module

WAAREE®

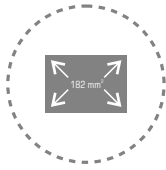
One with the Sun



Highest reliability & enhanced crack tolerant MBB module



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



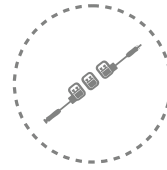
Highly efficient Mono PERC M10 cells



Best in class thermal coefficients



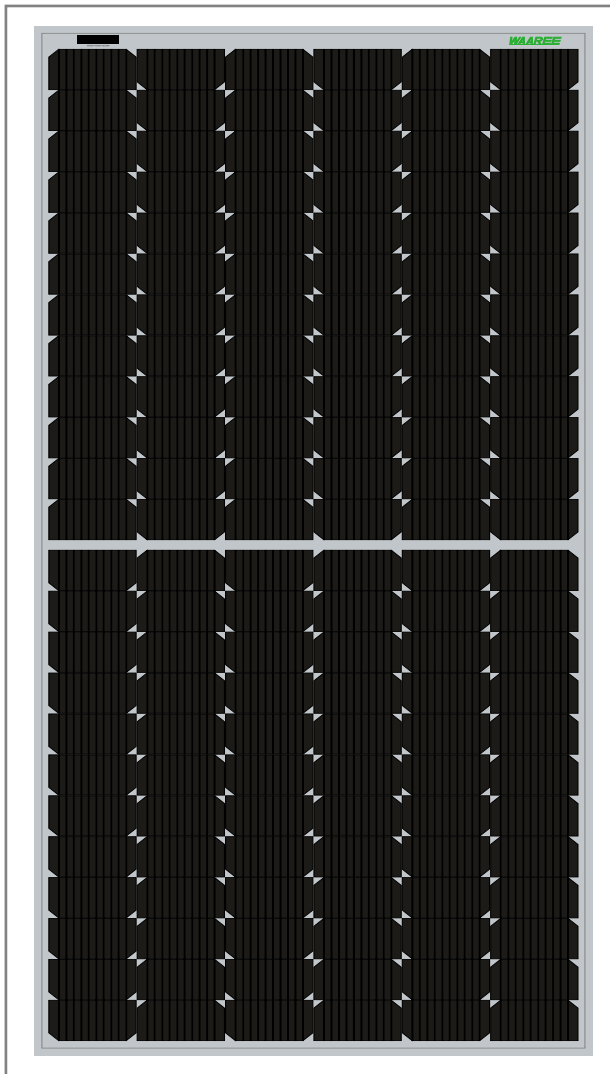
Highest commercial gains, lower LCOE



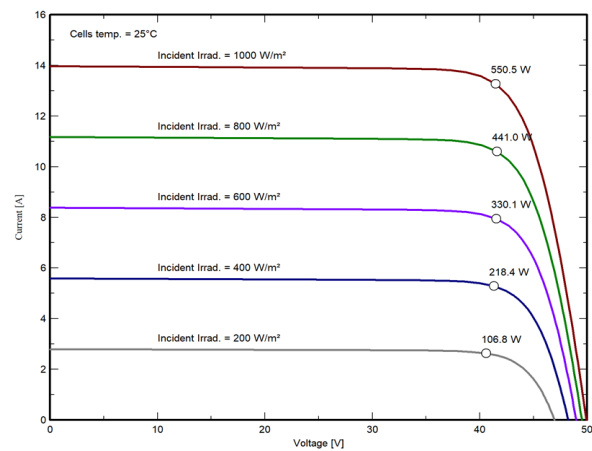
Split junction box improve heat dissipation



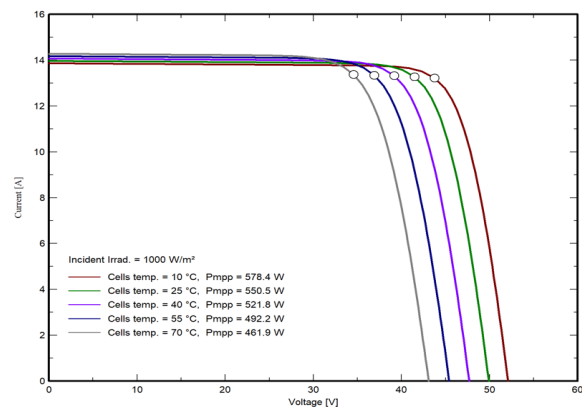
Increase shade tolerance



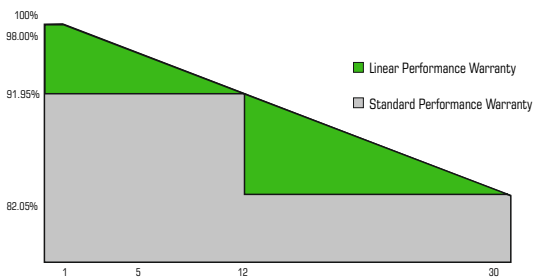
I-V VARIATION WITH IRRADIANCE



I-V VARIATION WITH TEMPERATURE



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



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

AHNAY SERIES

Bi-55-520 to Bi-55-550

Framed Dual Glass Bifacial Module



One with the Sun

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-55-520	520	391.9	41.14	37.70	12.65	10.34	13.55	10.94	49.01	46.00	20.20
Bi-55-525	525	395.6	41.29	37.90	12.73	10.40	13.63	11.00	49.16	46.10	20.39
Bi-55-530	530	399.2	41.45	38.00	12.80	10.45	13.69	11.05	49.31	46.20	20.59
Bi-55-535	535	403.1	41.60	38.20	12.88	10.51	13.76	11.11	49.46	46.40	20.78
Bi-55-540	540	406.7	41.75	38.40	12.95	10.56	13.83	11.16	49.61	46.50	20.98
Bi-55-545	545	410.4	41.90	38.50	13.02	10.62	13.90	11.22	49.76	46.70	21.17
Bi-55-550	550	414.1	42.03	38.80	13.08	10.68	13.96	11.27	49.91	46.80	21.36

*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%.

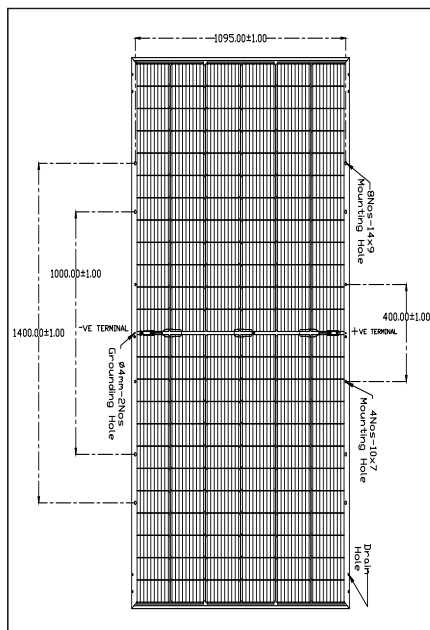
System Voltage	1500 V	Series Fuse Rating	25 A
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BI-FACIAL OUTPUT - BACKSIDE POWER GAIN*

		Bi-55-520	Bi-55-525	Bi-55-530	Bi-55-535	Bi-55-540	Bi-55-545	Bi-55-550
15%	Power Output (W)	598	604	610	615	621	627	632
	Module Efficiency (%)	23.23%	23.45%	23.68%	23.90%	24.12%	24.35%	24.56%
20%	Power Output (W)	624	630	636	642	648	654	660
	Module Efficiency (%)	24.24%	24.47%	24.71%	24.94%	25.17%	25.41%	25.63%
25%	Power Output (W)	650	656	663	669	675	681	687
	Module Efficiency (%)	25.25%	25.49%	25.74%	25.98%	26.22%	26.46%	26.70%
30%	Power Output (W)	676	683	689	696	702	709	715
	Module Efficiency (%)	26.26%	26.51%	26.77%	27.02%	27.27%	27.52%	27.77%

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

DESIGN SPECIFICATIONS



THERMAL CHARACTERISTICS

Temperature coefficient of Current (Isc), α (%/°C)	0.05
Temperature coefficient of Voltage (Voc), β (%/°C)	-0.25
Temperature coefficient of Power (Pm), γ (%/°C)	-0.34
NOCT (°C)	43 ± 2
Operating temperature range (°C)	-40 to 85
Bifaciality Factor (%)	70 ± 5

MECHANICAL CHARACTERISTICS

Length x Width x Thickness (L x W x T)	2272 mm (L) x 1133 mm (W) x 35 mm (T)
Weight	32.5 kgs
Solar Cells per Module (Units) / Arrangement	144 cells / (12x6 12x6)
Solar Cell Type & Size	Mono PERC Bifacial, 91 x 182 mm
Front / Back Glass (Material / Thickness)	2.0 mm Low Iron 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

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.z