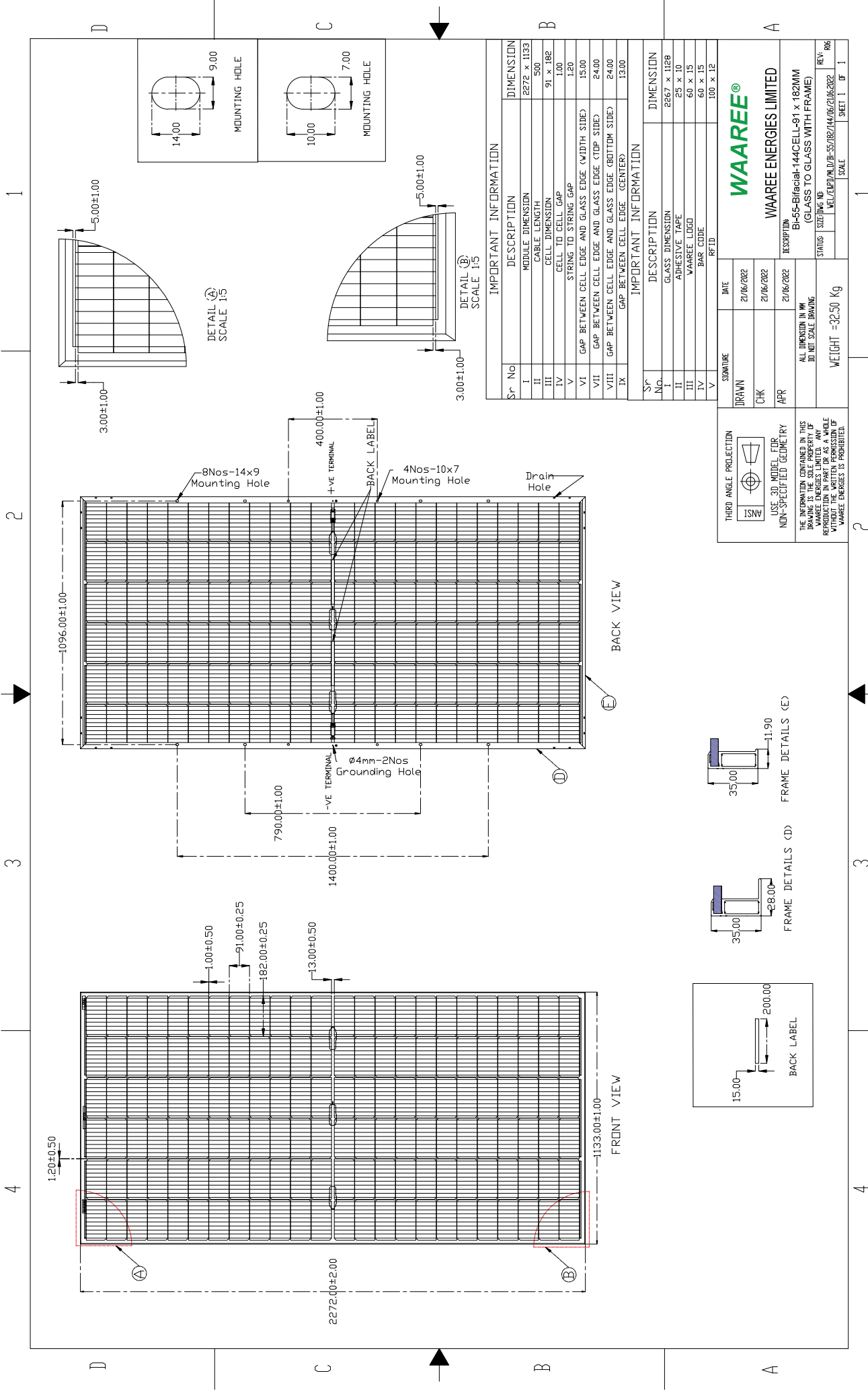


Appendix 1: Module Drawing



Appendix 2: Module Data Sheet

AHNAY SERIES

Bi-55-515 to Bi-55-545

Framed dual glass bifacial module

WAAREE®

One with the Sun



Highest reliability & enhanced crack tolerant 10BB module



Module utilizing Half cut cell for optimum performance



Highly efficient Mono PERC M10 cells



Best in class thermal coefficients



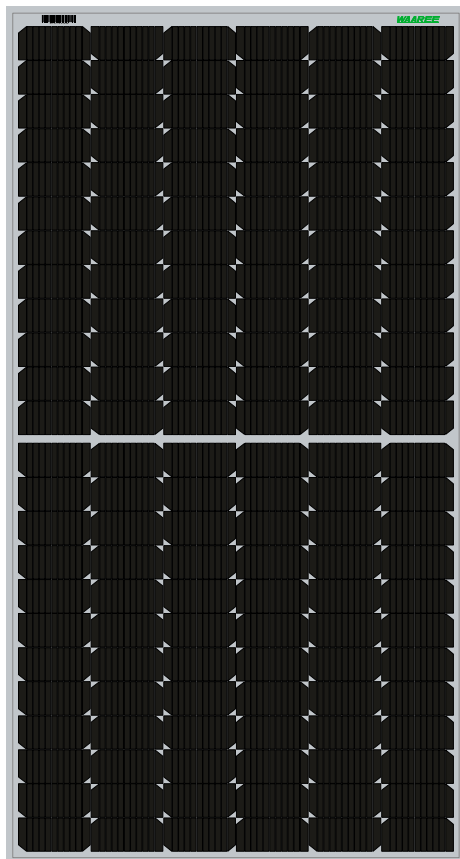
Highest commercial gains, lower LCOE



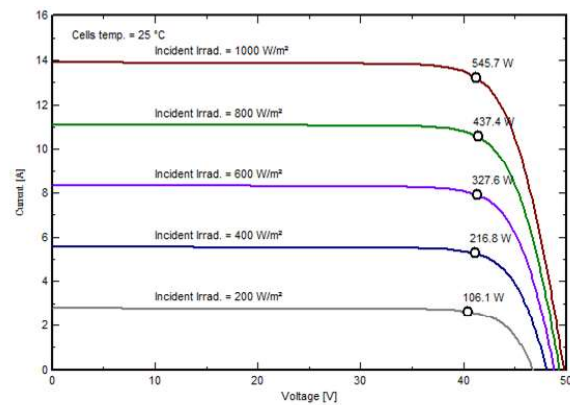
Split junction box improve heat dissipation



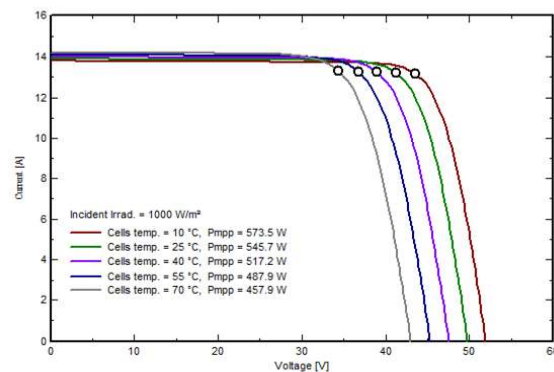
Increase shade tolerance



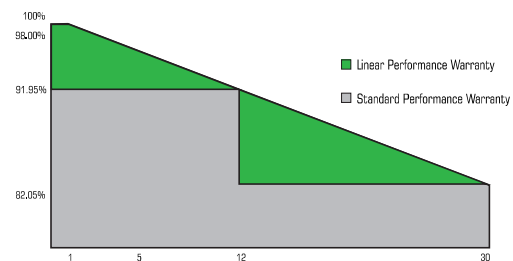
I-V VARIATION WITH IRRADIANCE



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

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AHNAY SERIES

Bi-55-515 to Bi-55-545

Framed dual glass bifacial module

ELECTRICAL CHARACTERISTICS

WAAREE®
One with the Sun

Models	Pmax (W)		Vmp (V)		Imp (A)		Isc (A)		Voc (V)		Module Eff. (%)
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	
Bi-55-515	515	388.3	40.99	37.70	12.57	10.29	13.49	10.89	48.86	45.80	20.01
Bi-55-520	520	391.9	41.14	37.90	12.65	10.34	13.55	10.94	49.01	46.00	20.20
Bi-55-525	525	395.6	41.29	38.00	12.73	10.40	13.63	11.00	49.16	46.10	20.39
Bi-55-530	530	399.2	41.45	38.20	12.80	10.45	13.69	11.05	49.31	46.20	20.59
Bi-55-535	535	403.1	41.60	38.40	12.88	10.51	13.76	11.11	49.46	46.40	20.78
Bi-55-540	540	406.7	41.75	38.50	12.95	10.56	13.83	11.16	49.61	46.50	20.98
Bi-55-545	545	410.4	41.90	38.70	13.02	10.62	13.90	11.22	49.76	46.70	21.17

*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%.

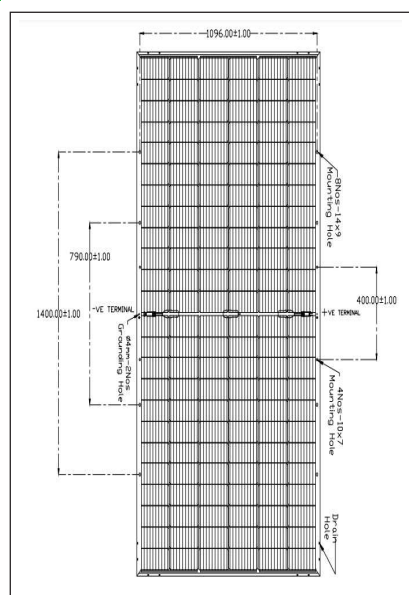
System Voltage	1500 V	Series Fuse Rating	25 A
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BI-FACIAL OUTPUT - BACKSIDE POWER GAIN*

		Bi-55-515	Bi-55-520	Bi-55-525	Bi-55-530	Bi-55-535	Bi-55-540	Bi-55-545
15%	Power Output (W)	592	598	604	610	615	621	627
	Module Efficiency (%)	23.01%	23.23%	23.45%	23.68%	23.90%	24.12%	24.35%
20%	Power Output (W)	618	624	630	636	642	648	654
	Module Efficiency (%)	24.01%	24.24%	24.47%	24.71%	24.94%	25.17%	25.41%
25%	Power Output (W)	644	650	656	663	669	675	681
	Module Efficiency (%)	25.01%	25.25%	25.49%	25.74%	25.98%	26.22%	26.46%
30%	Power Output (W)	670	676	683	689	696	702	709
	Module Efficiency (%)	26.01%	26.26%	26.51%	26.77%	27.02%	27.27%	27.52%

*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)	-0.27
Temperature coefficient of Power (Pm), γ (%/°C)	-0.35
NOCT (°C)	43 ± 2
Operating temperature range (°C)	-40 to 85

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 / QC4
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 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.

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WEL/E&PD/515-545/144/MPB/HC/09/21.06.2022

Appendix 3: Module BOM's

BOM definition is as per section 2 of Exhibit Q:

- The BOM is defined as a list of materials limited to one (1) model per one (1) constructive element for the key materials (cells, glass, encapsulating material, junction box). For the sake of clarity, for the rest of the materials, up to three models per constructive element will be allowed.

The final BOM's for the project will be created from the materials listed below:

Component	Bill of Material – BI 55 Dual Glass Bifacial		
	Supplier(s)	Material Type and Part ID	Origin (City, Country)
Glass (superstrate)	Xinyi Solar (Malaysia) Sdn. Bhd FLAT GLASS GROUP CO. LTD Borosil Renewables Ltd	2 mm, ARC	Vietnam, Malaysia, India
Encapsulant (in front of cells)	Hangzhou First Applied Material Co., Ltd	F406PS	China
Polysilicon	Sichuan YONGXIANG CO., LTD Asia Silicon (Qinghai) Co., Ltd. Wacker Chemie AG OCIM(Malaysia) Hemlock (USA) Ferrous Tianhong REC silicon materials Co., Ltd.		China, USA, India <i>Seller will not use any silicon materials which originates from the Xinjiang region of China or from a US CBP restricted region or manufacturer</i>
Silicon ingots	Chuxiong LONGi Silicon Materials Co.,Ltd. Jiangsu Huantai Group Chienchin (China-Jiangsu) Dawei (China-Jiangsu) Chengzhen (China-Jiangsu) Zhonghuan Hong Kong Holding Limited Goking(China) Baoshan Longi Silicon materials co., ltd.		<i>China except Xinjiang region</i>
Silicon wafers	Chuxiong LONGi Silicon Materials Co.,Ltd. Jiangsu Huantai Group Rietech (China-Jiangsu) GCL (China-Jiangsu) Jingyin(China-Jiangsu) Kelan(China-Jiangsu), Konga(China-Jiangsu)	182 MM x 182 MM	China except Xinjiang region