

# ARKA SERIES

WSMD-420 to WSMD-455

# WAAREE®

One with the Sun



Highest reliability & enhanced crack tolerant 9BB module



Better performance under all climatic conditions



Split junction box



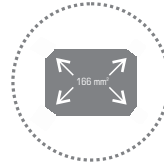
Reduced power losses up to 1/4 times



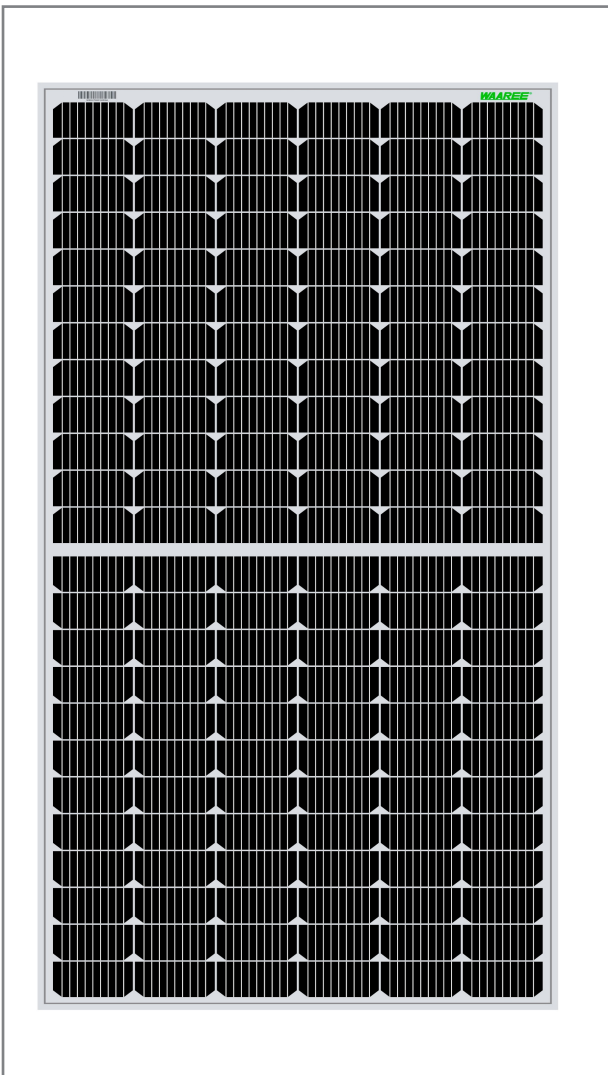
PID resistant with long term reliability



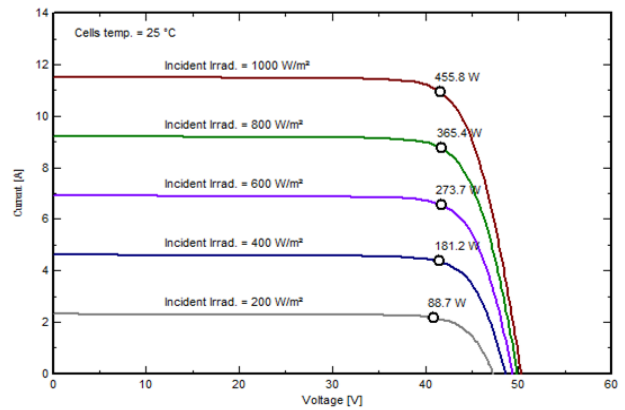
Sustain heavy wind & snow loads (2400 pa & 5400 pa)



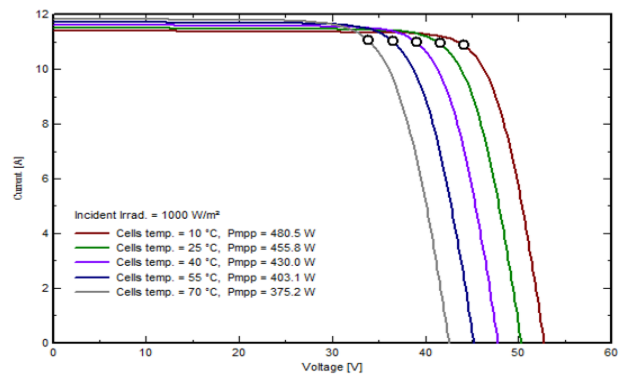
M6 Mono PERC cells



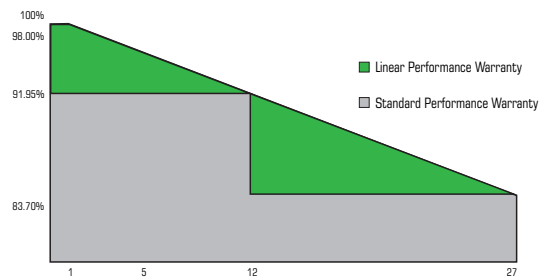
## I-V VARIATION WITH IRRADIANCE



## I-V VARIATION WITH TEMPERATURE



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



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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	
WSMD-420	420	314.7	40.61	37.40	10.35	8.42	11.04	8.93	49.01	45.70	19.32
WSMD-425	425	318.4	40.81	37.60	10.42	8.47	11.11	8.99	49.19	45.80	19.55
WSMD-430	430	322.2	41.01	37.70	10.49	8.55	11.19	9.05	49.39	46.00	19.78
WSMD-435	435	326.0	41.21	37.90	10.56	8.60	11.25	9.10	49.59	46.20	20.01
WSMD-440	440	329.8	41.41	38.10	10.63	8.65	11.34	9.17	49.69	46.30	20.24
WSMD-445	445	333.3	41.61	38.20	10.70	8.72	11.41	9.23	49.89	46.50	20.47
WSMD-450	450	336.8	41.81	38.50	10.77	8.75	11.46	9.27	50.10	46.70	20.70
WSMD-455	455	340.5	42.02	38.70	10.84	8.80	11.53	9.32	50.30	46.80	20.93

\*Standard Test Conditions (STC) - 1000 W/m<sup>2</sup> irradiance, Air Mass 1.5 and 25°C cell temperature. Nominal Operating Cell Temperature (NOCT) - 800 W/m<sup>2</sup> irradiance, Air Mass 1.5, Ambient temperature 20°C and Wind speed 1 m/s. Average power reduction of 4.5% at 200 W/m<sup>2</sup> as per IEC 60904-1. Measuring Uncertainty ± 3%.

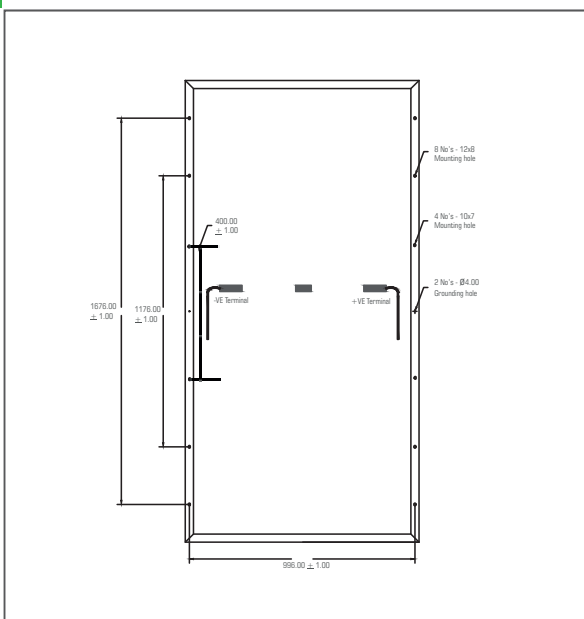
System Voltage	1500 V
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Series Fuse Rating	20 A
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## MECHANICAL CHARACTERISTICS

Length x Width x Thickness (L x W x T)	2094 mm (L) x 1038 mm (W) x 35 mm (T)
Weight	23.5 kgs
Solar Cells per Module (Units) / Arrangement	144 cells / (12x6    12x6)
Solar Cell Type & Size	Mono PERC, 83 x 166 mm
Front Glass	3.2 mm Low Iron and Tempered glass with ARC coating
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 <sup>2</sup> & 500mm
Frame	Anodized Aluminium Alloy

## DESIGN SPECIFICATIONS



12 Years Product Warranty • 27 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.

## THERMAL CHARACTERISTICS

Temperature coefficient of Current (Isc), $\alpha$ (%/°C)	0.055
Temperature coefficient of Voltage (Voc), $\beta$ (%/°C)	-0.285
Temperature coefficient of Power (Pm), $\gamma$ (%/°C)	-0.365
NOCT (°C)	43 ± 2
Operating temperature range (°C)	-40 to 85

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.

\*If you need specific product certificates, and if module installations are to deviate from our guidance specified in our installation manual, please contact your local Waaree sales and technical representatives.