

P-type Mono PERC Panels



144 HALFCUT MONO PERC M10 CELLS

Bifacial Glass-to-Glass design,
Power Output Range: 520–550 Wp



High Efficiency

Reliable energy output with advanced Mono-PERC cells.



Bifacial Gains

Generates extra power from the rear side for improved ROI.



Durable Dual Glass Design

Enhanced protection against harsh environments.



Superior Mechanical Strength

Withstands snow, wind, and environmental stress.



PID-Free & UV Resistant

Long-term reliability with minimal degradation.

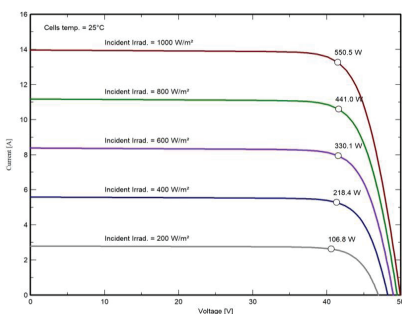


Excellent Low-Light Performance

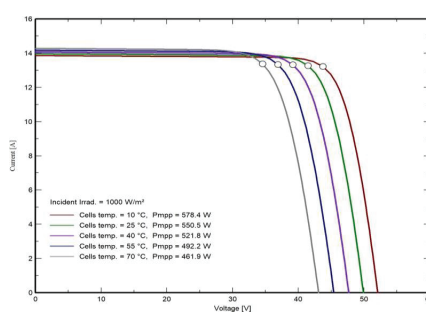
Consistent output even during cloudy conditions.



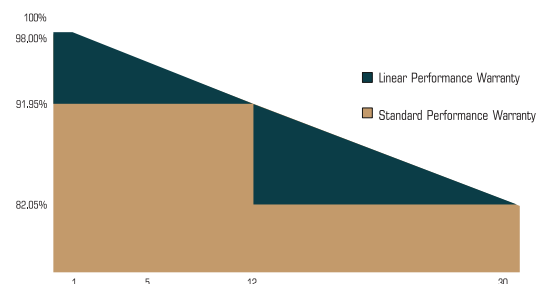
I-V VARIATION WITH IRRADIANCE



I-V VARIATION WITH TEMPERATURE



LINEAR PERFORMANCE WARRANTY



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

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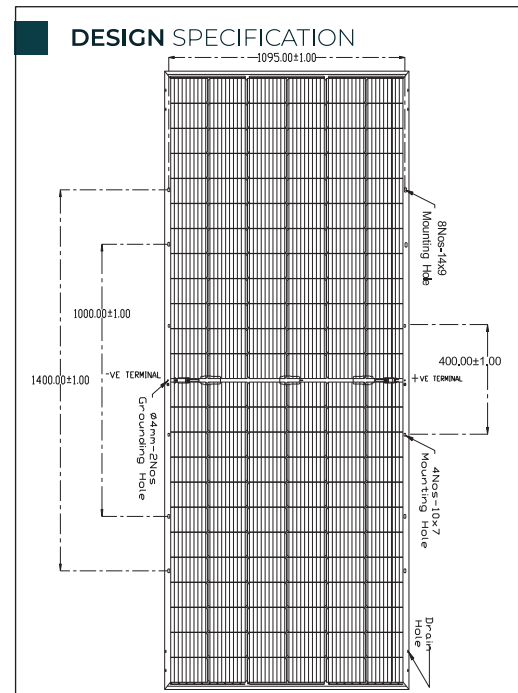


THERMAL CHARACTERISTICS

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 ± 10%

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) /	144 cells / (12x6 12x6)
Solar Cell Type & Size	Mono PERC Bifacial, 91 x 182 mm
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 /	IP68 / Weatherproof PPO
Cable & Connector (Protection	IP68 rated / MC4 compatible
Cable cross - section & Length	4 mm ² & 500mm



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	
AS-144MG-520	520	391.9	41.14	37.70	12.65	10.34	13.55	10.94	49.01	46.00	20.20
AS-144MG-525	525	395.6	41.29	37.90	12.73	10.40	13.63	11.00	49.16	46.10	20.39
AS-144MG-530	530	399.2	41.45	38.00	12.80	10.45	13.69	11.05	49.31	46.20	20.59
AS-144MG-535	535	403.1	41.60	38.20	12.88	10.51	13.76	11.11	49.46	46.40	20.78
AS-144MG-540	540	406.7	41.75	38.40	12.95	10.56	13.83	11.16	49.61	46.50	20.98
AS-144MG-545	545	410.4	41.90	38.50	13.02	10.62	13.90	11.22	49.76	46.70	21.17
AS-144MG-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
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SERIES FUSE RATING	25 A
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BI-FACIAL OUTPUT - BACKSIDE POWER GAIN*

		AS-144MG-520	AS-144MG-525	AS-144MG-530	AS-144MG-535	AS-144MG-540	AS-144MG-545	AS-144MG-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%

CERTIFICATIONS



BIS | IEC 61730 (PART 1 & 2, CL 4.6) | IEC 61215 | IEC 61853 (PAN FILE) | IEC 61701 (SALT MIST - SEVERITY 6) | IEC 62804 (PID) | IEC 62716 (AMMONIA) | ISO 9001:2015 | ISO 14001:2015 | ISO 45001:2018

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