

144 HALFCUT TOPCON M10R CELLS

Bifacial Glass-to-Glass design,
Power Output Range: 565–600 Wp



Best-in-Class Thermal Coefficients
Maintains efficiency in high temperatures.



Higher Yields, Lower LCOE
Maximizes commercial returns with reduced cost per kWh



Better Weak Light Performance
Generates reliable power in cloudy or dim conditions.



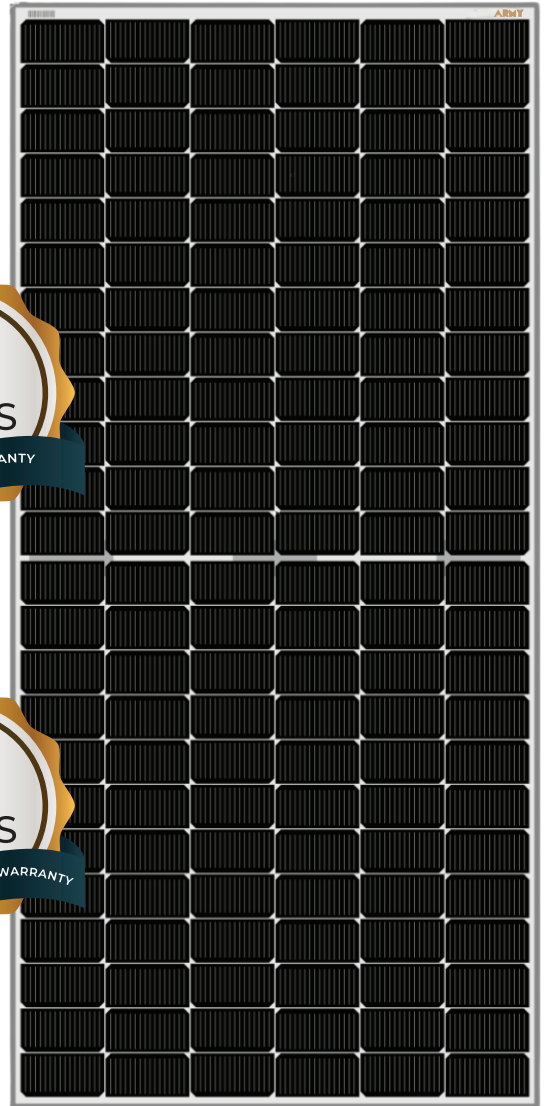
Excellent PID Resistance
Long-term protection against potential-induced degradation



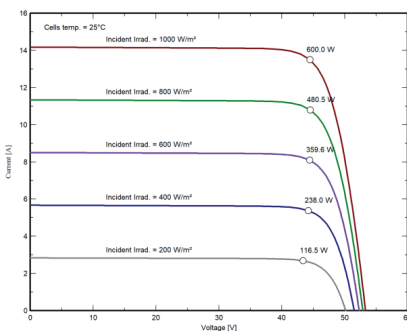
Enhanced Crack Tolerance
Multi-busbar (MBB) design for greater reliability.



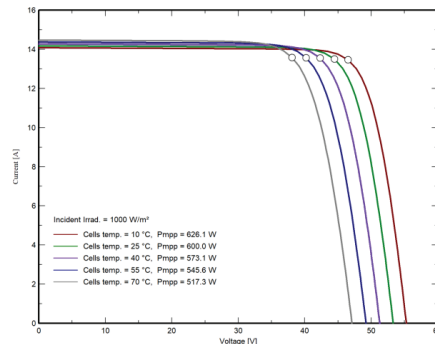
Superior Mechanical Strength
Withstands snow loads (5400 Pa) & wind loads (2400 Pa).



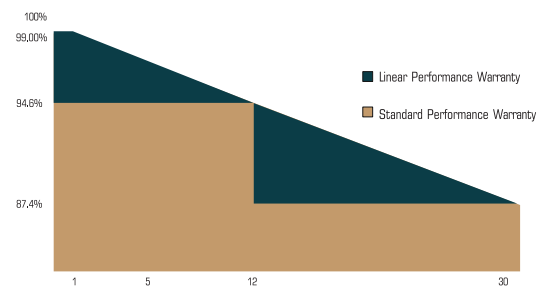
I-V VARIATION WITH IRRADIANCE



I-V VARIATION WITH TEMPERATURE



LINEAR PERFORMANCE WARRANTY



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

N-TYPE TOPCon PANELS

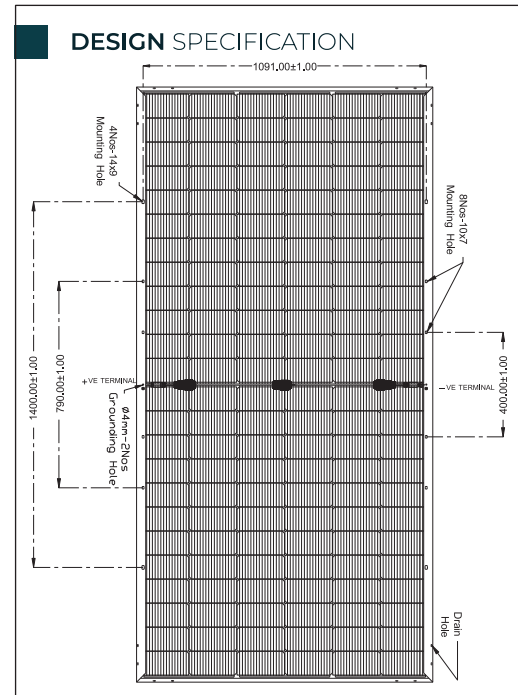


THERMAL CHARACTERISTICS

Temperature coefficient of Current (I_{sc}), α (%/°C)	0.046
Temperature coefficient of Voltage (V_{oc}), β (%/°C)	-0.26
Temperature coefficient of Power (P_m), γ (%/°C)	-0.30
NOCT (°C)	43 ± 2
Operating temperature range (°C)	-40 to 85
Bifaciality Factor (%)	80 ± 10%

MECHANICAL CHARACTERISTICS

Length x Width x Thickness (L x W x T)	2278 mm (L) x 1134 mm (W) x 35 mm (T)
Weight	32.5 kgs
Solar Cells per Module (Units) /	144 cells / (12x6 12x6)
Solar Cell Type & Size	M10/M10R N-type TOPCon Bifacial, 16 BB
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
Cable & Connector (Protection degree / Type)	IP68 rated / MC4 compatible
Cable cross-section & Length	4 mm ² & 500mm



ELECTRICAL - CHARACTERISTICS

	Pmax (W)		Vmp (V)		Imp (A)		Isc (A)		Voc (V)		Module Eff. (%)
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	
AS-144TG-565	565	426.60	43.56	40.60	12.97	10.48	13.75	11.10	51.90	49.31	21.87
AS-144TG-570	570	430.40	43.71	40.74	13.04	10.54	13.81	11.14	52.10	49.50	22.07
AS-144TG-575	575	434.10	43.86	40.88	13.11	10.59	13.87	11.19	52.30	49.69	22.26
AS-144TG-580	580	437.90	44.01	41.01	13.18	10.65	13.93	11.24	52.50	49.88	22.45
AS-144TG-585	585	441.70	44.15	41.15	13.25	10.71	13.99	11.29	52.70	50.07	22.65
AS-144TG-590	590	445.50	44.29	41.28	13.32	10.76	14.05	11.34	52.90	50.26	22.84
AS-144TG-595	595	449.20	44.44	41.41	13.39	10.82	14.11	11.39	53.10	50.45	23.03
AS-144TG-600	600	453.00	44.61	41.65	13.45	10.88	14.17	11.44	53.30	50.64	23.23

*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	30 A
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BI-FACIAL OUTPUT - BACKSIDE POWER GAIN*

		AS-144TG-565	AS-144TG-570	AS-144TG-575	AS-144TG-580	AS-144TG-585	AS-144TG-590	AS-144TG-595	AS-144TG-600
15%	Power Output	650	656	661	667	673	679	684	690
	Module Efficiency	25.15%	25.38	25.60	25.82	26.05	26.27	26.48	26.71
20%	Power Output	678	684	690	696	702	708	714	720
	Module Efficiency	26.24%	26.48	26.71	26.94	27.18	27.41	27.64	27.88
25%	Power Output	706	713	719	725	731	738	744	750
	Module Efficiency	27.34%	27.5	27.83	28.06	28.31	28.55	28.79	29.04
30%	Power Output	735	741	748	754	761	767	774	780
	Module Efficiency	28.43	28.69	28.94	29.19	29.45	29.69	29.94	30.20

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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