

# N-TYPE TOPCon PANELS



## 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.



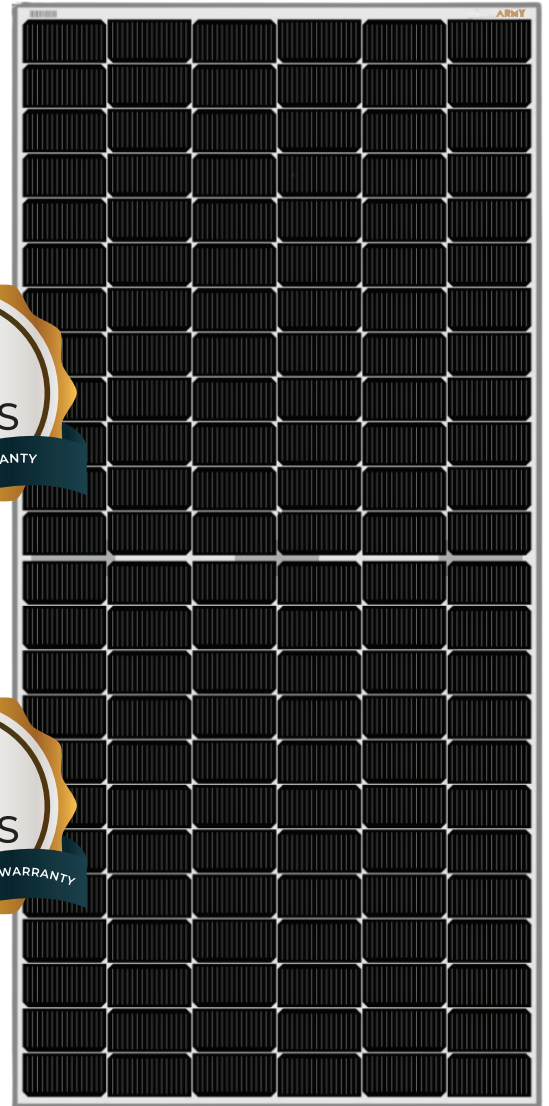
**Excellent PID Resistance**  
Long-term protection against potential-induced degradation



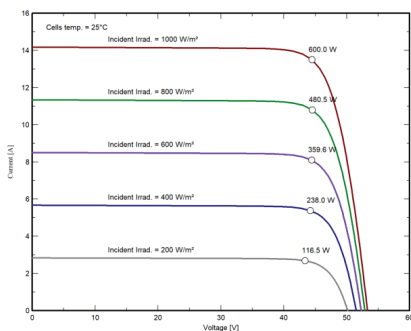
**Enhanced Crack Tolerance**  
Multi-busbar (MBB) design for greater reliability.



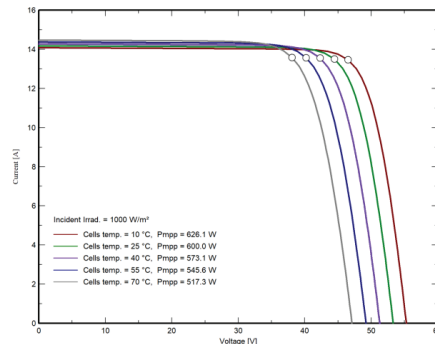
**Superior Mechanical Strength**  
Withstands snow loads (5400 Pa) & wind loads (2400 Pa)



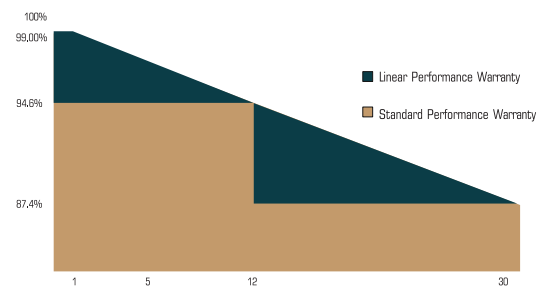
I-V VARIATION WITH IRRADIANCE



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

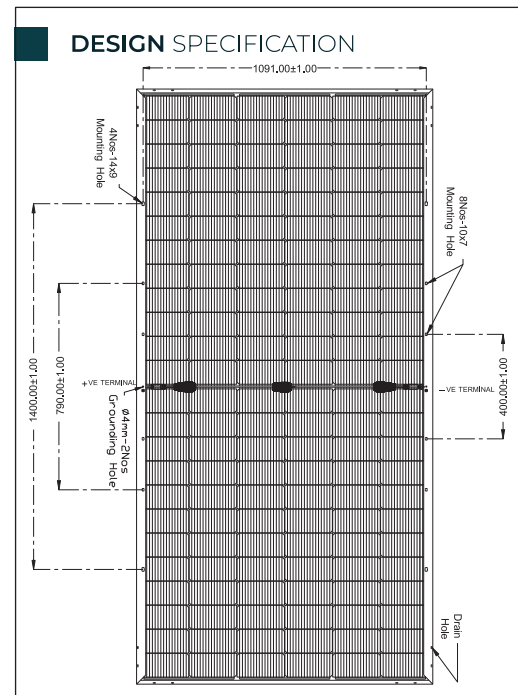


## THERMAL CHARACTERISTICS

Temperature coefficient of Current ( $I_{sc}$ ), $\alpha$ (%/°C)	0.046
Temperature coefficient of Voltage ( $V_{oc}$ ), $\beta$ (%/°C)	-0.26
Temperature coefficient of Power ( $P_m$ ), $\gamma$ (%/°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 33 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
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 <sup>2</sup> & 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/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
----------------	--------

SERIES FUSE RATING	30 A
--------------------	------

## 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

- THE ELECTRICAL DATA GIVEN HERE IS FOR REFERENCE PURPOSES ONLY.
- PLEASE CONFIRM YOUR EXACT REQUIREMENTS WITH THE SALES REPRESENTATIVE WHILE PLACING YOUR ORDER.
- REFER TO THE INSTALLATION MANUAL, INSTRUCTIONS, AND ARMY SOLAR WARRANTY STATEMENT FOR TERMS & CONDITIONS.
- ARMY SOLAR RESERVES THE RIGHT TO CHANGE THE SPECIFICATIONS WITHOUT PRIOR NOTICE.