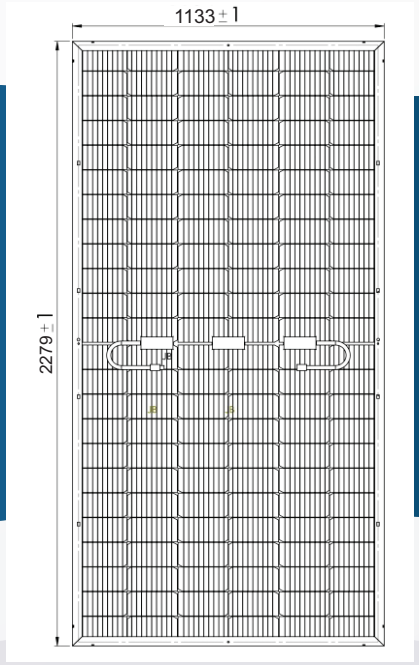
Bifacial - MONO PERC - 144 Cells

525Wp | 530Wp | 535Wp
540Wp | 545Wp
INA-144MHC-TF-xxx (xxx = 525-545 Wp)



APPLICATION

- On-grid large scale utility systems
- On-grid rooftop industrial and commercial systems
- Rooftop residential systems

KEY FEATURES

1. Additional Power yield with 27 YEARS OF PRODUCT LIFETIME with 0.5% annual power degradation

2. LCOE IS CUT BACK with LESS BOS COST which improves value proposition of the product with competitive ROI

3. TWO PEAK PERFORMANCE TIME, for optimum utilization of dual facial Generation

4.Hassle-free installation with ability to INSTALL VERTICALLY IN EAST WEST DIRECTION, with improved soiling resistant

5. LOWER INTERNAL RESISTANCE boosts module power helping to achieve minimal power loss

6.Excellent PID performance guarantee limited power degradation.

7. Reliable quality leads to a better sustainability even in harsh environment like desert, farm and coastline, ammonia.

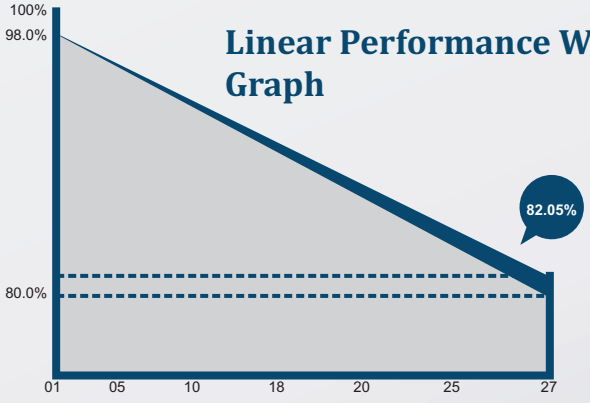
8. CYLINDRICAL TABBING WIRE is used to reduce the shadow on cell active area

9. HIGHER NUMBER OF BUSBAR makes the PV modules less prone to loss in efficiency and increase tolerance to micro cracks

Linear Performance Warranty

* Product workmanship (Material and Processing) Warranty 12 years
* Performance Linear Power Warranty for 27 years with 2.5% for 1st year degradation and 0.55% from year 2 to year 27

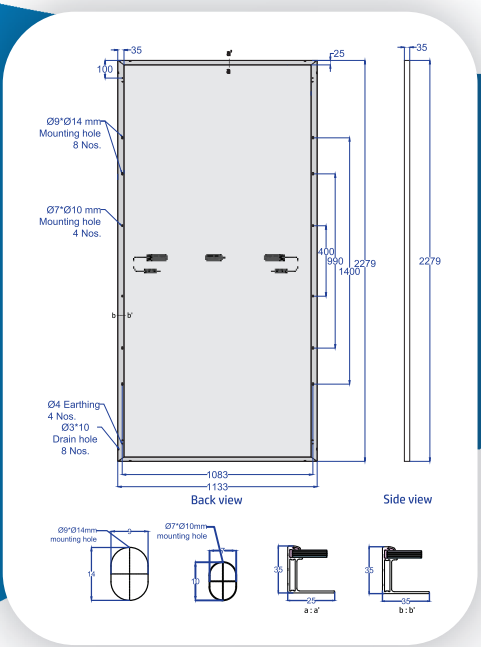
Linear Performance Warranty Graph

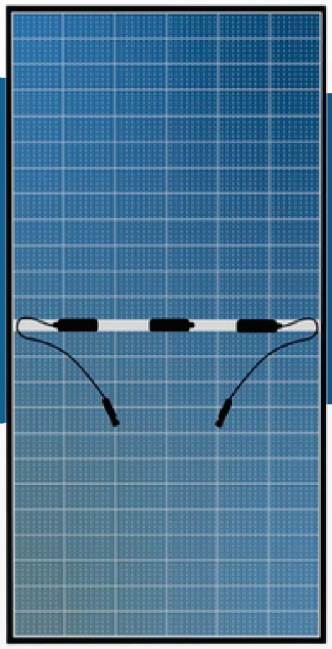


Certifications & Standards:

IEC 61215 , IEC 61730-1 , IEC 61730-2 , IS:14286 , IEC 62716 ,IEC 62804 , IEC 60068-2-68 , IEC 61853

*certifications are under Process





Electrical Data Performance

Electrical Parameters	Unit	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Peak Power -Pmax	Wp	525	393.2	530	397.5	535	401.3	540	405.0	545	408.8
Maximum voltage (Vmpp)	V	41.12	38.29	41.39	38.48	41.61	38.68	41.81	38.79	42.02	38.80
Maximum current (Impp)	A	12.77	10.27	12.82	10.33	12.86	10.39	12.92	10.46	12.98	10.46
Open circuit voltage (Voc)	V	48.82	45.94	49.15	46.17	49.48	46.41	49.81	46.54	50.14	46.56
Short circuit current (Isc)	A	13.39	10.78	13.43	10.85	13.47	10.91	13.51	10.98	13.55	11.08
Module Efficiency	**%**	**20.33**		**20.53**		**20.73**		**20.92**		**21.12**	

Operating Temperature range (°C)	-40 ~+85°C	Power Tolerance	0~+2%
Maximum system voltage	1500 VDC	Nominal operating cell temperature (NOCT)	45 ± 2 °C
Maximum series fuse rating	25A	Fire Safety	Class-C (Type 1)
Temperature coefficients of Isc (α)	0.048%/°C	Application	Class-A
Temperature coefficients of Pmax (γ)	-0.35%/°C	Safety Class	Class II
Temperature coefficients of Voc (β)	-0.28%/°C		

Bifacial Gain	Measurement	Unit	525	530	535	540	545
5%	Maximum Power(Pmax)	Wp	550	555	560	565	570
	Module Efficiency	%	21.29	21.48	21.68	21.87	22.07
10%	Maximum Power(Pmax	Wp	575	580	585	590	595
	Module Efficiency	%	22.26	22.45	22.65	22.84	23.03
15%	Maximum Power(Pmax	Wp	600	605	610	615	620
	Module Efficiency	%	23.23	23.42	23.61	23.81	24.00

***STC: Irradiance 1000 W/m2 module temperature 25* °C, Am=1.5; NOCT: Irradiance 800 W/m2, ambient teperature 20°C, Am=1.5, Wind speed 1m/s. Average power reduction of 4.5% at 200 W/m2 as per IEC 60904-1. Measuring Uncertainty +/- 3%*

***Power gain from rear side depends upon the ground reflectance (Albedo) 8 Bifaciality factor.*

MODULE MECHANICAL DATA

SPECIFICATION	DATA
Cell Type	Type 72 Mono PERC (144 half-cells) P-Type Bifacial solar cells
Dimensions	2279X1133X35mm (LxWxH) ± 1 mm
Weight	28.00 kgs
Front Cover	3.2 mm High Transmission, Low iron, Tempered Glass, AR coated
Cell Encapsulant	EVA (Ethylene Vinyl Acetate) -FC/UFC
Back sheet	Composite Film Transparent Back sheet
J-Box	IP68 Split type Junction box with individual bypass diodes
Cable	300mmx2nos solar cable, 4mm2
Connectors	MC4 Compatible Connector IEC/UL Certified
Frame Material	Silver Anodized Aluminium frame with twin wall profile
Mechanical Load Test	5400 Pa (Snow load), 2400 Pa (Wind load)
Hail resistance	Max. diameter of 25 mm with velocity 23 m/s
Standard Packaging	30Pieces/Pallet
Module Pieces per Container	600 pieces (40Feet HQ)

I-V CHARACTERISTICS AT DIFFERENT IRRIDANCE
PV MODULE Insolation Energy – INA-144 MHC-TF - 545