

DIAMOND SERIES

144 Half Cut MonoPERC

540 - 560 Wp
MONOFACIAL

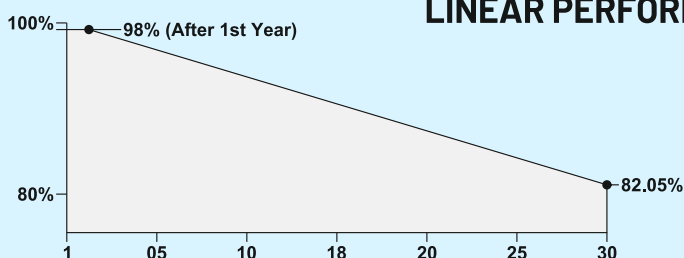
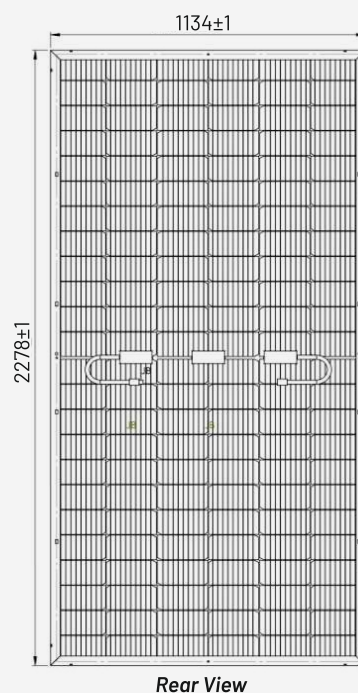
540 Wp | 545 Wp | 550 Wp
555 Wp | 560 Wp
INA-144MHC-WF-XXX (XXX = 540-560 Wp)



APPLICATION : RESIDENTIAL | COMMERCIAL | INDUSTRIAL
SOLAR PUMP | SOLAR PARK

KEY FEATURES

1. LCOE is reduced with lower BOS costs, improving the product's value proposition and ensuring a competitive ROI.
2. Two peak performance periods for the optimal utilization of bifacial generation.
3. Hassle-free installation with the ability to be mounted vertically in the East-West direction, offering improved resistance to soiling.
4. Lower internal resistance boosts module power, helping to minimize power loss.
5. Excellent PID performance guarantees limited power degradation.
6. Reliable quality ensures better sustainability even in harsh environments such as deserts, farms, and coastlines with ammonia exposure.
7. Cylindrical tabbing wire is used to minimize shading on the cell's active area.
8. A higher number of busbars makes PV modules less prone to efficiency loss and increases tolerance to microcracks.
9. Positive Power Tolerance.



12-Year Product Warranty on Materials and Workmanship*



30-Year Warranty for Linear Performance*

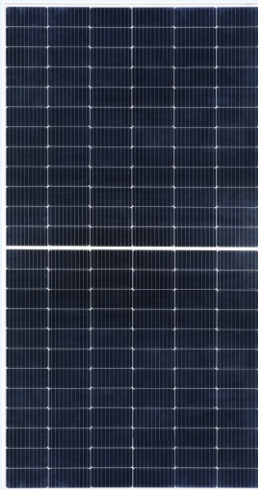
CERTIFICATIONS & STANDARDS:

IS: 14286/IEC 61215, IEC 61730-1 and IEC 61730-2, IEC 62716, IEC 62804, IEC 60068-2-68, IEC 61853, IEC 61701

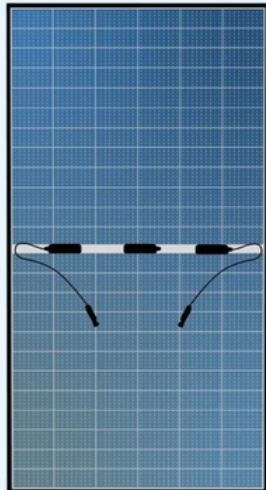
IS 14286: 2010/IEC 61215: 2005
IS/IEC 61730 (PART 1): 2004
IS/IEC 61730 (PART 2): 2004



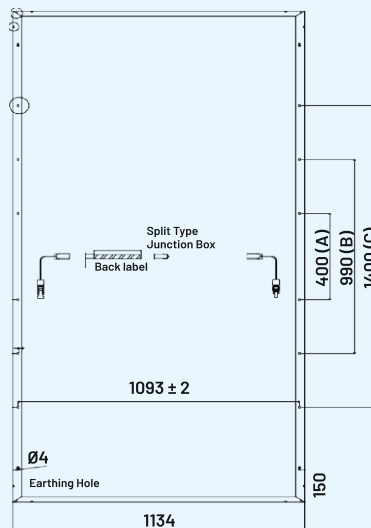
Caution: Please read safety and installation instructions before using the product. *Warranty: Linear performance warranty for 30 years, with degradation up to 2% in 1st year and 0.55 %/year from year 2 to year 30. Please read Insolation Energy Ltd. warranty documents thoroughly.



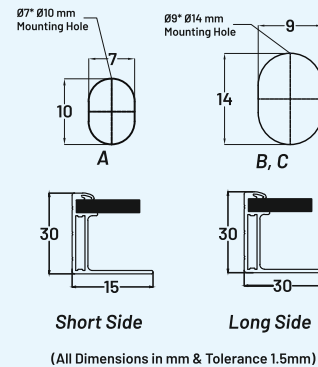
Front View



Rear View



Side View



Short Side

Long Side

(All Dimensions in mm & Tolerance 1.5mm)

TECHNICAL DATA

*STC: Irradiance 1000 W/m² module temperature 25°C, Am=1.5;

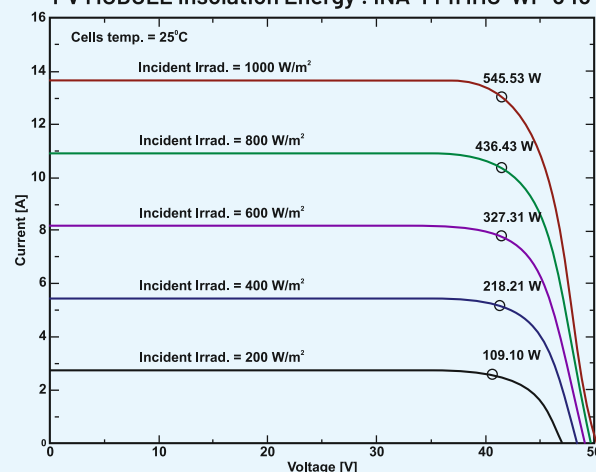
*NOCT: Irradiance 800 W/m², ambient temperature 20°C, Am=1.5, Wind speed 1m/sec. Average power reduction of 4.5% at 200 W/m² as per IEC 60904-1. Measuring Uncertainty 0~3%

Module Type	Unit	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Peak Power - Pmax	Wp	540	405.0	545	408.8	550	410.96	555	413.81	560	416.67
Maximum voltage (Vmpp)	V	41.81	38.79	41.90	38.80	41.93	38.92	42.05	39.04	41.77	38.80
Maximum current (Impp)	A	12.92	10.46	13.02	10.46	13.12	10.56	13.20	10.59	13.41	10.62
Open circuit voltage (Voc)	V	49.81	46.54	49.76	46.56	49.90	46.95	50.01	46.56	50.45	46.56
Short circuit current (Isc)	A	13.51	10.98	13.90	11.08	13.98	11.09	14.05	11.16	14.15	11.08
Module Efficiency	%	20.92		21.12		21.29		21.48		21.98	
Operating Temperature range (°C)	-40°C to +85°C		Power Tolerance						Positive Power Tolerance		
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 ± 0.01		Application						Class - A		
Temperature coefficients of Pmax (γ)	-0.32%/°C ± 0.02		Safety Class						Class - II		
Temperature coefficients of Voc (β)	-0.28%/°C ± 0.02										

MECHANICAL SPECIFICATIONS

Cell Type	144 half -Cut MonoPERC cells
Dimensions	2278X1134X30mm (LxWxH) ± 2 mm
Weight	28.00 kgs ± 0.5 kg
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 White Back sheet
Junction Box	IP68 Split type Junction box with individual bypass diodes
Solar Cable	4sqmm, 300 mm length x 2 Nos.
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

I-V CHARACTERISTICS AT DIFFERENT IRRADIANCE PV MODULE Insolation Energy : INA-144MHC-WF-545



CAUTION: READ SAFETY AND DETAIL INSTALLATION MANUAL BEFORE USING THE PRODUCT (Refer to our Website).

Note: • The specifications included in this datasheet are subject to change without notice.

- The electrical data given here is for reference purpose only.
- Please confirm your exact requirements with the sales representative while placing your order. All models sold will be as per INA QAP.

**** Warranty:** Please read INA solar warranty documents thoroughly.

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