



DIAMOND SERIES

144 Half Cut MONO PERC

Solar Cell Size - 182 x 182 mm

550 - 560 WP

BI-FACIAL

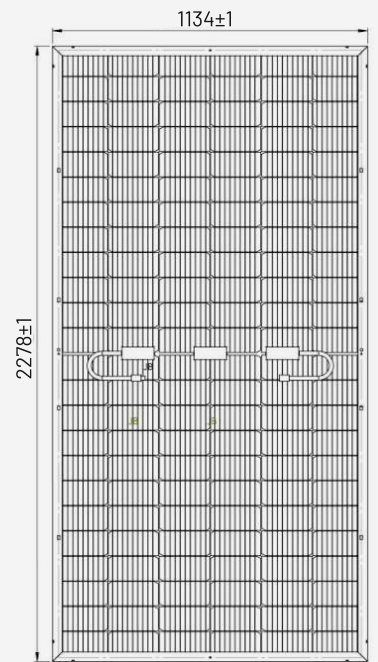
550 WP | 555 WP | 560 WP
INA-144MHC-TF-XXX (XXX = 550-560 WP)



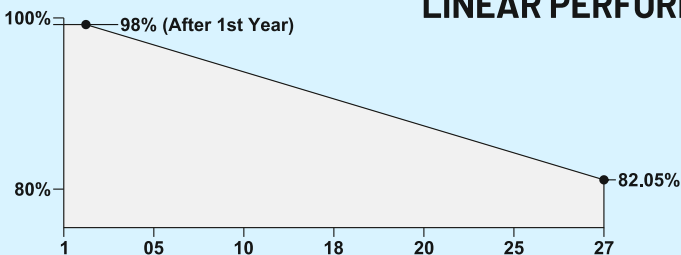
APPLICATION : RESIDENTIAL | COMMERCIAL | INDUSTRIAL
SOLAR PUMP | SOLAR PARK

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. Only Positive Power Tolerance.



LINEAR PERFORMANCE WARRANTY



12 Years Product Warranty on Materials and Workmanship*



30 Years Warranty for Linear Performance*

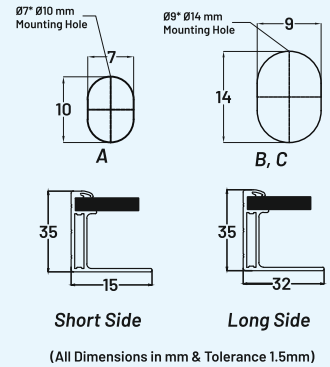
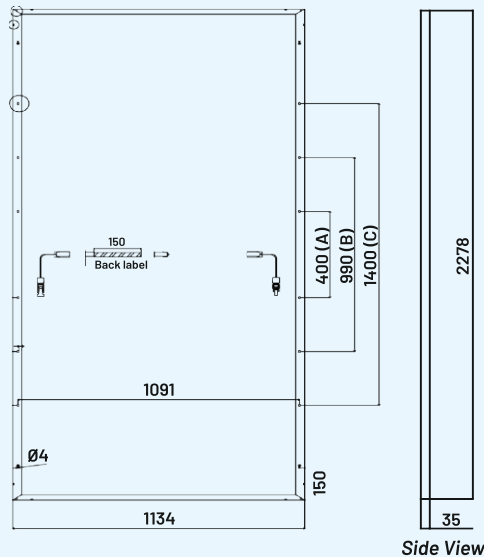
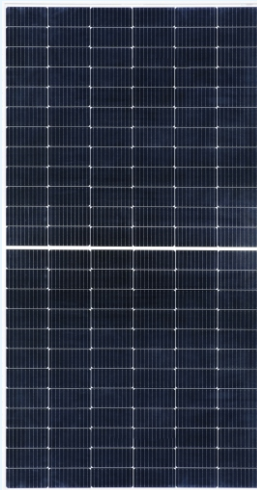
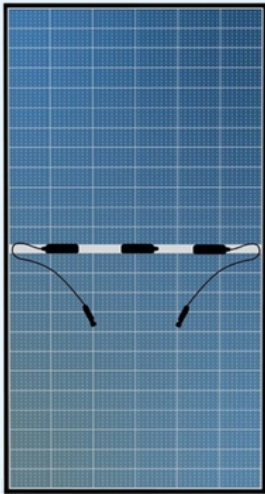
CERTIFICATIONS & STANDARDS:

IEC 61215, IEC 61730-1, IEC 61730-2, IS:14286, 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 0.6 %/year from year 2 to year 30. Please read Insolation Energy Ltd. warranty documents thoroughly.



(All Dimensions in mm & Tolerance 1.5mm)

ELECTRICAL DATA PERFORMANCE

Module Type	Unit	STC	NOCT	STC	NOCT	STC	NOCT
Peak Power -Pmax	Wp	550	410.96	555	413.81	560	416.67
Maximum voltage (Vmpp)	V	41.93	38.92	42.05	39.04	41.77	38.80
Maximum current (Impp)	A	13.12	10.56	13.20	10.59	13.41	10.46
Open circuit voltage (Voc)	V	49.90	46.95	50.01	46.56	50.45	46.56
Short circuit current (Isc)	A	13.98	11.09	14.05	11.16	14.15	11.08
Module Efficiency	%	21.29		21.48		21.98	
Operating Temperature range (°C)		-40 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					

Bifacial Gain	Measurement	Unit	550	555	560
5%	Maximum Power (Pmax)	Wp	575	580	585
	Module Efficiency	%	22.26	22.45	22.64
10%	Maximum Power (Pmax)	WP	600	605	610
	Module Efficiency	%	23.22	23.42	23.61
15%	Maximum Power (Pmax)	WP	625	630	635
	Module Efficiency	%	24.19	24.39	24.58

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

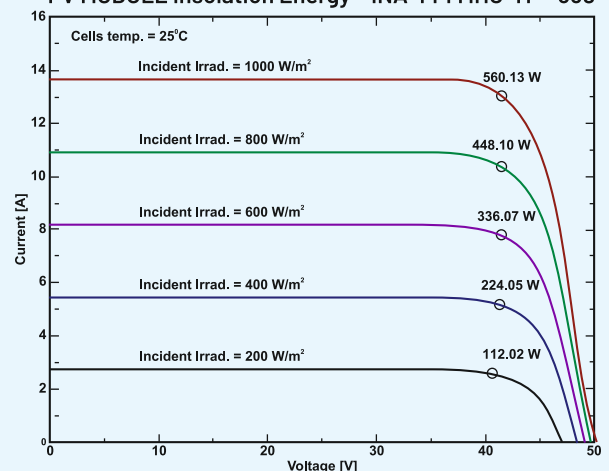
*NOCT: Irradiance 800 W/m², ambient temperature 20°C, Am=1.5, Wind speed 1m/sec. Average power reduction of 4.5% at 200 W/m² as per IEC 60904-1. Measuring Uncertainty +/- 3%

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

MODULE MECHANICAL DATA

SPECIFICATION	DATA
Cell Type	Type 72 Mono PERC (144 half cut cells)
Dimensions	2278X1134X35mm (LxWxH) ± 2 mm
Weight	28.00 ± 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 Transparent Back sheet
J-Box	IP68 Split type Junction box with individual bypass diodes
Cable	300mmx2nos solar cable, 4mm ²
Connectors	MC4 Compatible Connect or 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	31 Pieces/Pallet

I-V CHARACTERISTICS AT DIFFERENT IRRIDANCE



CAUTION: READ SAFETY AND DETAIL INSTALLATION MANUAL BEFORE USING THE PRODUCT (Refer 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 betas per INA QAP.

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

INSOLATION ENERGY LTD.

Corporate Office: Fluidcon House, C-02, New Aatish Market Extension, Jaipur - 302020 (Raj.)

For Sales Enquiries Call: +91 7240 444 666

web: www.insolationenergy.in | E-mail: enquiry@insolationenergy.in | Follow Us: [f](#) [@](#) [in](#) [X](#) [v](#)