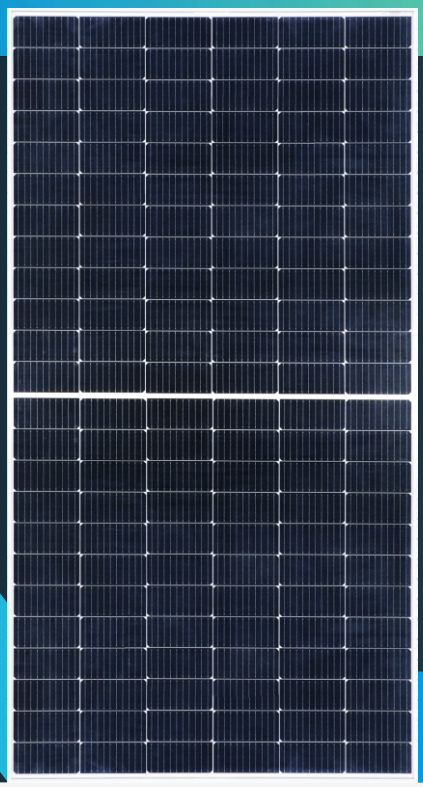
BSE SME
STOCK CODE : 543620

INA SOLAR
TOGETHERWESHINE



# PLATINUM SERIES

**High Efficiency N-type TOPCon**
**Glass to Glass Module**

## 580 - 600 Wp

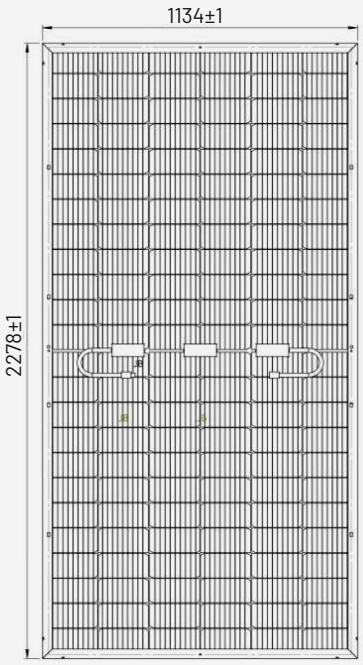
580 Wp | 585 Wp | 590 Wp
595 Wp | 600 Wp
INA-144THC-GGF-XXX (XXX = 580-600 Wp)

APPROVED ALMM | BIS | IEC APPROVED

APPLICATION : RESIDENTIAL | COMMERCIAL | INDUSTRIAL | SOLAR PARK

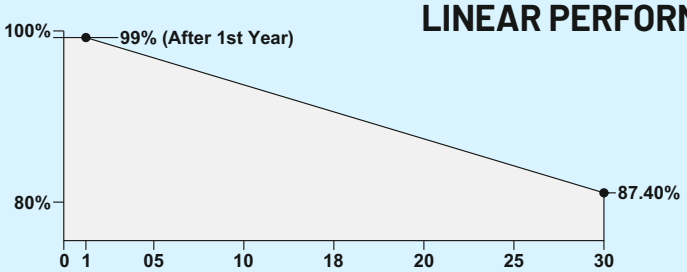
## KEY FEATURES

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.



*Rear View*

## LINEAR PERFORMANCE WARRANTY




- 12-Year Product Warranty on Materials and Workmanship*
- 30-Year Warranty for Linear Performance*

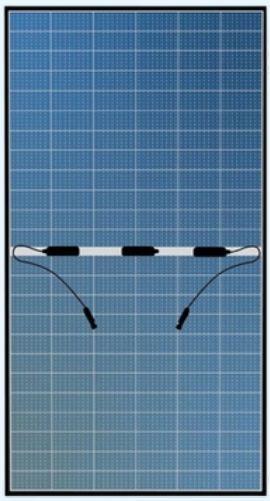
## CERTIFICATIONS & STANDARDS:

IS:14286/IEC 61215, IS/IEC 61730-1, IS/IEC 61730-2, IEC 62716, IEC 62804,IEC 60068-2-68, IEC 61853, IEC 61701, IEC TS 63342, IEC TS 63209-1

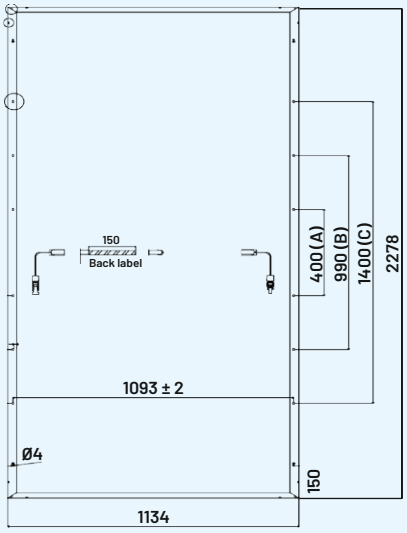
IS 14286: 2010/IEC 61215: 2005
IS/IEC 61730 (PART 1): 2004
IS/IEC 61730 (PART 2): 2004
www.bis.gov.in

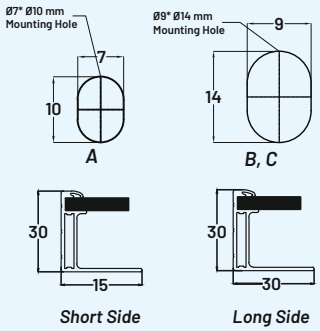
Caution: Please read safety and installation instructions before using the product. *Warranty: Linear performance warranty for 30 years, with degradation up to 1% in 1st year and 0.4 %/year from year 2 to year 30. Please read Insolation Energy Ltd. warranty documents thoroughly.

Front View



Rear View




(All Dimensions in mm & Tolerance 2 mm)

## TECHNICAL DATA

***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/sec. Average power reduction of 4.5% at 200 W/m². Measuring Uncertainty 0~3%**

| Module Type | Unit | STC | NOCT | STC | NOCT | STC | NOCT | STC | NOCT | STC | NOCT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Peak Power - Pmax | Wp | 580 | 436 | 585 | 440 | 590 | 445 | 595 | 449 | 600 | 453 |
| Maximum voltage (Vmpp) | V | 42.94 | 40.73 | 43.07 | 40.86 | 43.20 | 40.99 | 43.31 | 41.10 | 43.44 | 41.23 |
| Maximum current (Impp) | A | 13.52 | 10.70 | 13.60 | 10.78 | 13.67 | 10.85 | 13.75 | 10.93 | 13.82 | 10.99 |
| Open circuit voltage (Voc) | V | 51.41 | 48.77 | 51.57 | 48.93 | 51.80 | 49.16 | 51.94 | 49.30 | 52.12 | 49.48 |
| Short circuit current (Isc) | A | 14.19 | 11.45 | 14.24 | 11.50 | 14.33 | 11.56 | 14.42 | 11.64 | 14.50 | 11.72 |
| **Module Efficiency** | % | **22.45** | | **22.65** | | **22.84** | | **23.02** | | **23.23** | |

| | | | |
|---|---|---|---|
| Operating Temperature range (°C) | -40 to +85°C | Power Tolerance | Positive Power Tolerance |
| Maximum system voltage | DC1500V (IEC) | Nominal operating cell temperature (NOCT) | 45 ± 2 °C |
| Maximum series fuse rating | 30A | Application | Class - A |
| Temperature coefficients of Isc (α) | 0.044%/°C | Safety Class | Class - II |
| Temperature coefficients of Pmax (γ) | -0.30%/°C | Application Rating | Class - A |
| Temperature coefficients of Voc (β) | -0.25%/°C | | |

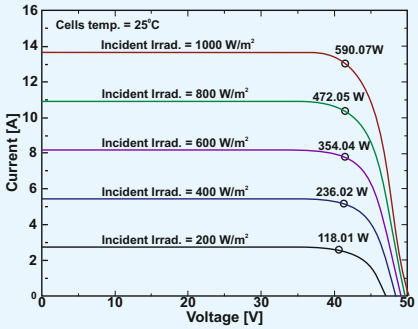
***BIFACIAL OUTPUT – BACKSIDE POWER GAIN @STC* [Bifaciality Factor: 80% ± 10%]**
**[Note: The bifacial gain depends on the power plant design and site conditions. Electrical component ratings should be selected as per actual Bifacial gain at site (module currents indicated below)]**
****Power gain from rear side depends upon the ground reflectance (Albedo) 8 Bifaciality factor.**

| Bifacial Gain | Measurement | Unit | 580 | 585 | 590 | 595 | 600 |
|---|---|---|---|---|---|---|---|
| 5% | Maximum Power (Pmax) | Wp | 609 | 614.25 | 619.5 | 624.75 | 630 |
| | Module Efficiency | % | 23.58 | 23.79 | 23.98 | 24.17 | 24.36 |
| 10% | Maximum Power (Pmax) | WP | 638 | 644 | 649 | 654 | 659 |
| | Module Efficiency | % | 24.7 | 24.95 | 25.13 | 25.31 | 25.49 |
| 25% | Maximum Power (Pmax) | WP | 725 | 731 | 737.5 | 744 | 750.5 |
| | Module Efficiency | % | 28.07 | 28.32 | 28.55 | 28.78 | 29.01 |

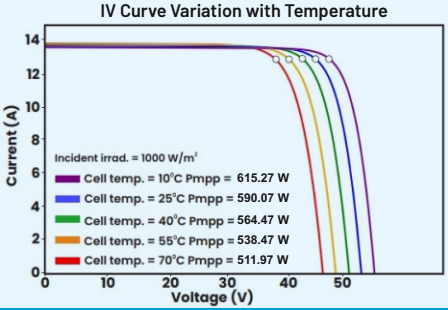
## MECHANICAL SPECIFICATIONS

| | |
|---|---|
| Cell type / No Of Cell | 144 Half-cut N-type TOPCon Bifacial Solar cells |
| Dimensions | 2278(L) x 1134(W) x 30(H) |
| Weight (Kg) | 32±0.5 Kg |
| Front Glass | 2.0mm AR-coating heat-strengthened glass |
| Encapsulate | PID resistant and UV resistant polymeric film |
| Rear Glass | 2.0mm heat-strengthened glass |
| Junction Box | 30A Split Junction Box (3 nos. with individual Bypass Diode) – Weatherproof (IP68) |
| Solar Cable | 4 sqmm, 300 mm length x 2 Nos. |
| Connectors | MC4 Compatible Connectors IEC/UL Certified |
| Frame Material | Anodized aluminum alloy, silver color |
| Mechanical Load Test | 5400 Pa (Snow load), 2400 Pa (Wind load) |
| Hail Test | Max. diameter of 25 mm with velocity 23 m/s |

I-V CHARACTERISTICS AT DIFFERENT IRRIDANCE
MODEL NO. : INA-144THC-GGF-590




IV Curve Variation with Temperature




⚠ **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 betas per INA QAP.

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


# INSOLATION ENERGY LTD.

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