



# OMEGA SERIES

N-TOPCon 144

550Wp-600Wp

## Warranty



Product Warranty: 12 Years: Materials & Workmanship  
Linear Performance Warranty: 30 Years  
First Year Degradation: Up to 1.0%  
Annual Degradation (Years 2-30): 0.40%

## KEY FEATURES



Higher power output with N-Type cells.



Guaranteed consistent performance.



Better energy in low-light conditions.



Improved high-temp energy yield ( $-0.30\%/^{\circ}\text{C}$ ).



Up to 23.12% efficiency, 10-30% higher than P-type.



Enhanced performance with MBB (16BB) N-TOPCon design.



Durable under 2400 Pa wind and 5400 Pa snow load.



100% defect-free through rigorous testing.



Increased energy with  $80\pm 5\%$  bifaciality.

## CERTIFICATIONS



IEC 61215 || IEC 61730 || IEC 61701 || IS 14286 ||  
IEC 62716 || IEC 62804 || IEC 61853



## Bifacial Dual Glass

Performance under standard test conditions (1000w/m<sup>2</sup>, AM 1.5, 25 °C)

### OMEGA SERIES 144 N-TOPCon Bi-Facial Gain @Different Albedo (%)

|            | Pm<br>(Wp)    | Voc<br>(V) | Vm<br>(V) | Isc<br>(A) | Im<br>(A) | Efficiency<br>(%) | Pm<br>(Wp)    | Voc<br>(V) | Vm<br>(V) | Isc<br>(A) | Im<br>(A) | Efficiency<br>(%) | Pm<br>(Wp)    | Voc<br>(V) | Vm<br>(V) | Isc<br>(A) | Im<br>(A) | Efficiency<br>(%) | Pm<br>(Wp)    | Voc<br>(V) | Vm<br>(V) | Isc<br>(A) | Im<br>(A) | Efficiency<br>(%) |
|------------|---------------|------------|-----------|------------|-----------|-------------------|---------------|------------|-----------|------------|-----------|-------------------|---------------|------------|-----------|------------|-----------|-------------------|---------------|------------|-----------|------------|-----------|-------------------|
| Front @STC | <b>550</b>    | 50.28      | 41.63     | 13.99      | 13.21     | 21.29             | <b>555</b>    | 50.49      | 41.78     | 14.06      | 13.28     | 21.48             | <b>560</b>    | 50.67      | 41.95     | 14.13      | 13.35     | 21.67             | <b>565</b>    | 50.87      | 42.14     | 14.19      | 13.41     | 21.86             |
| 5%         | <b>577.43</b> | 50.28      | 41.63     | 14.69      | 13.87     | 22.35             | <b>582.58</b> | 50.49      | 41.78     | 14.76      | 13.94     | 22.55             | <b>588.03</b> | 50.67      | 41.95     | 14.84      | 14.02     | 22.76             | <b>593.35</b> | 50.87      | 42.14     | 14.90      | 14.08     | 22.97             |
| 10%        | <b>604.93</b> | 50.28      | 41.63     | 15.39      | 14.53     | 23.42             | <b>610.32</b> | 50.49      | 41.78     | 15.47      | 14.61     | 23.63             | <b>614.04</b> | 50.67      | 41.95     | 15.54      | 14.69     | 23.85             | <b>621.61</b> | 50.87      | 42.14     | 15.61      | 14.75     | 24.06             |
| 20%        | <b>659.92</b> | 50.28      | 41.63     | 16.79      | 15.85     | 25.55             | <b>665.81</b> | 50.49      | 41.78     | 16.87      | 15.94     | 25.77             | <b>672.04</b> | 50.67      | 41.95     | 16.96      | 16.02     | 26.02             | <b>678.12</b> | 50.87      | 42.14     | 17.03      | 16.09     | 26.25             |
| Front @STC | <b>570</b>    | 51.07      | 42.29     | 14.25      | 13.48     | 22.06             | <b>575</b>    | 51.27      | 42.44     | 14.31      | 13.55     | 22.25             | <b>580</b>    | 51.47      | 42.59     | 14.37      | 13.62     | 22.44             | <b>585</b>    | 51.50      | 43.27     | 14.36      | 13.52     | 22.6              |
| 5%         | <b>598.57</b> | 51.07      | 42.29     | 14.96      | 14.15     | 23.17             | <b>603.82</b> | 51.27      | 42.44     | 15.03      | 14.23     | 23.37             | <b>609.08</b> | 51.47      | 42.59     | 15.09      | 14.30     | 23.58             | <b>614.26</b> | 51.50      | 43.27     | 15.08      | 14.20     | 23.78             |
| 10%        | <b>627.08</b> | 51.07      | 42.29     | 15.68      | 14.83     | 24.27             | <b>632.57</b> | 51.27      | 42.44     | 15.74      | 14.91     | 24.49             | <b>638.08</b> | 51.47      | 42.59     | 15.81      | 14.98     | 24.70             | <b>643.51</b> | 51.50      | 43.27     | 15.80      | 14.87     | 24.91             |
| 20%        | <b>684.08</b> | 51.07      | 42.29     | 17.10      | 16.18     | 26.48             | <b>690.07</b> | 51.27      | 42.44     | 17.17      | 16.26     | 26.71             | <b>696.09</b> | 51.47      | 42.59     | 17.24      | 16.34     | 26.95             | <b>702.01</b> | 51.50      | 43.27     | 17.23      | 16.22     | 27.18             |
| Front @STC | <b>590</b>    | 51.70      | 43.45     | 14.45      | 13.58     | 22.8              | <b>595</b>    | 51.90      | 43.61     | 14.53      | 13.64     | 23.02             | <b>600</b>    | 52.10      | 43.78     | 14.61      | 13.71     | 23.22             |               |            |           |            |           |                   |
| 5%         | <b>619.55</b> | 51.70      | 43.48     | 15.17      | 14.26     | 23.98             | <b>624.58</b> | 51.90      | 43.61     | 15.26      | 14.32     | 24.18             | <b>630.23</b> | 52.10      | 43.78     | 15.34      | 14.40     | 24.40             |               |            |           |            |           |                   |
| 10%        | <b>649.06</b> | 51.70      | 43.45     | 15.90      | 14.94     | 25.13             | <b>654.32</b> | 51.90      | 43.61     | 15.98      | 15.00     | 25.33             | <b>660.25</b> | 52.10      | 43.78     | 16.07      | 15.08     | 25.56             |               |            |           |            |           |                   |
| 20%        | <b>708.06</b> | 51.70      | 43.45     | 17.34      | 16.30     | 27.41             | <b>713.81</b> | 51.90      | 43.61     | 17.44      | 16.37     | 27.63             | <b>720.27</b> | 52.10      | 43.78     | 17.53      | 16.45     | 27.88             |               |            |           |            |           |                   |

## ELECTRICAL DATA PERFORMANCE

| NOCT (Wp) at 45 ± 2 °C @800 W/m <sup>2</sup> | IBMPH-550 | IBMPH-555 | IBMPH-560 | IBMPH-565 | IBMPH-570 | IBMPH-575 | IBMPH-580 | IBMPH-585 | IBMPH-590 | IBMPH-595 | IBMPH-600 |
|----------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Nominal Maximum Power (Pmax)                 | 409.72    | 413.37    | 417.24    | 421.02    | 424.72    | 428.44    | 432.18    | 435.85    | 439.61    | 443.18    | 447.19    |
| Optimum Operating Voltage (Vmp)              | 38.08     | 38.22     | 38.38     | 38.55     | 38.69     | 38.82     | 38.96     | 39.58     | 39.75     | 39.89     | 40.05     |
| Optimum Operating Current (Imp)              | 10.75     | 10.81     | 10.87     | 10.92     | 10.97     | 11.03     | 11.09     | 11.00     | 11.05     | 11.10     | 11.16     |
| Open Circuit Voltage (Voc)                   | 46.77     | 46.96     | 47.13     | 47.32     | 47.50     | 47.69     | 47.87     | 47.90     | 48.09     | 48.27     | 48.46     |
| Short Circuit Current (Isc)                  | 11.43     | 11.49     | 11.55     | 11.60     | 11.65     | 11.70     | 11.74     | 11.74     | 11.81     | 11.88     | 11.94     |

### Cell Temperature Coefficient

|                          |              |
|--------------------------|--------------|
| Short Circuit Current(α) | 0.0442 %/°C  |
| Open Circuit Voltage(β)  | -0.2370 %/°C |
| Peak Power(δ)            | -0.3090 %/°C |

### Operating Conditions

|                            |                |
|----------------------------|----------------|
| Maximum System Voltage     | 1500V DC (IEC) |
| Power Tolerance            | 0~+5w          |
| Operating Temperature      | -40°C~+85°C    |
| Maximum Series Fuse Rating | 30A            |
| Mechanical Load Front Rear | 5400Pa         |
| Mechanical Load Back Rear  | 2400Pa         |
| Bifaciality                | 80+5%          |
| Rh Value                   | ≤85%           |

- Test uncertainty for Pmax ± 3%
- Bi-facial gain subject to mounting structure specifications and albedo % of ground

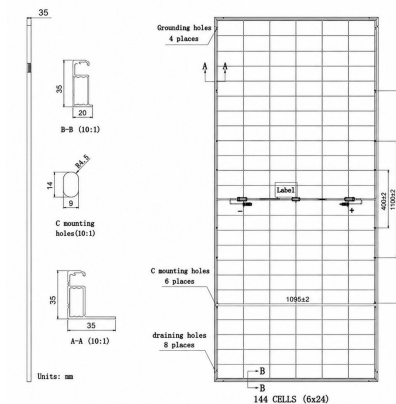
### MODULE MECHANICAL DATA

#### SPECIFICATION DATA

|                |                                                     |
|----------------|-----------------------------------------------------|
| Cell Type      | N-TOPCon, 144 Cells                                 |
| Dimensions     | 2278x1134x35 mm                                     |
| Weight         | 28 Kgs                                              |
| Front Cover    | 3.2 mm Low Iron and Tempered Glass with Arc Coating |
| Rear Cover     | Transparent Backsheet                               |
| Frame Material | Anodized Aluminum Alloy,                            |
| J-Box          | IP68, 3 diodes                                      |
| Cable          | 300 mm, 4 mm <sup>2</sup>                           |
| Connectors     | Mc4 Compatible Connector                            |

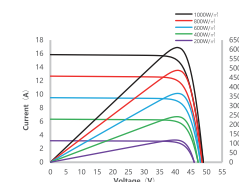
- Please confirm your exact requirements with the sales representative while placing your order
- Refer installation Manual instructions & IB Solar warranty statement for terms & conditions

### Engineering Design



### Characteristics

I-V Curve of PV module 600Wp



I-V Curve Cell temperature sensitivity chart are for 600WP

