



# OMEGA SERIES

## N-TOPCon 144 Cells

### 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> | 550    | 555    | 560    | 565    | 570    | 575    | 580    | 585    | 590    | 595    | 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

|                          |              |
|--------------------------|--------------|
| Open Circuit Voltage(α)  | 0.0469 %/°C  |
| Short Circuit Current(β) | -0.2681 %/°C |
| Peak Power(δ)            | -0.3281 %/°C |

### Operating Conditions

|                            |                |
|----------------------------|----------------|
| Maximum System Voltage     | 1500V DC (IEC) |
| Power Tolerance            | 0~+3%          |
| Operating Temperature      | -40°C~+85°C    |
| Maximum Series Fuse Rating | 30A            |
| Mechanical Load Front Rear | 5400Pa         |
| Mechanical Load Back Rear  | 2400Pa         |
| Bifaciality                | 80±5%          |

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

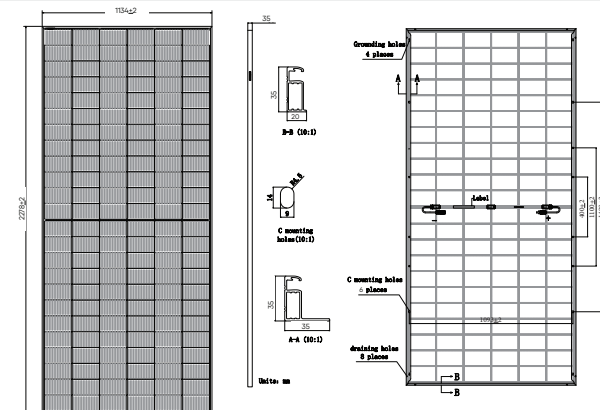
### MODULE MECHANICAL DATA

#### SPECIFICATION DATA

|                |                                    |
|----------------|------------------------------------|
| Cell Type      | N-TOPCon, 144 Cells                |
| Dimensions     | 2278x1134x35 mm                    |
| Weight         | 31.5 Kgs                           |
| Front Cover    | 2.00 mm                            |
| Rear Cover     | 2.00 mm                            |
| Frame Material | "Silver Anodized Aluminum Profile, |
| J-Box          | IP68, 3 diodes                     |
| Cable          | 300 mm, 4 mm <sup>2</sup>          |
| Connectors     | Mc4 Compatible Connector           |

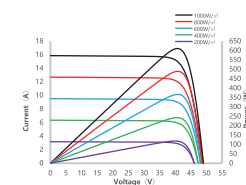
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### Engineering Design

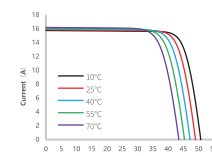


### Characteristics

I-V Curve of PV module  
600Wp



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





# OMEGA SERIES

N-TOPCon 156

605-640Wp

## 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 156 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>605</b>    | 55.17      | 45.42     | 13.95      | 13.32     | 21.63             | <b>610</b>    | 55.31      | 45.6      | 14.03      | 13.38     | 21.81             | <b>615</b>    | 55.44      | 45.77     | 14.11      | 13.44     | 21.99             | <b>620</b>    | 55.58      | 45.93     | 14.19      | 13.5      | 22.17             |
| 5%         | <b>635.24</b> | 55.17      | 45.42     | 14.65      | 13.99     | 22.72             | <b>640.63</b> | 55.31      | 45.6      | 14.73      | 14.05     | 22.91             | <b>645.91</b> | 55.44      | 45.77     | 14.82      | 14.11     | 23.10             | <b>651.06</b> | 55.58      | 45.93     | 14.90      | 14.18     | 23.28             |
| 10%        | <b>665.49</b> | 55.17      | 45.42     | 15.35      | 14.65     | 23.80             | <b>671.14</b> | 55.31      | 45.6      | 15.43      | 14.72     | 24.00             | <b>676.66</b> | 55.44      | 45.77     | 15.52      | 14.78     | 24.20             | <b>682.06</b> | 55.58      | 45.93     | 15.61      | 14.85     | 24.39             |
| 20%        | <b>725.99</b> | 55.17      | 45.42     | 16.74      | 15.98     | 25.96             | <b>732.15</b> | 55.31      | 45.6      | 16.84      | 16.06     | 26.18             | <b>738.18</b> | 55.44      | 45.77     | 16.93      | 16.13     | 26.40             | <b>744.07</b> | 55.58      | 45.93     | 17.03      | 16.20     | 26.61             |
| Front @STC | <b>625</b>    | 55.72      | 46.1      | 14.27      | 13.56     | 22.35             | <b>630</b>    | 55.86      | 46.27     | 14.35      | 13.62     | 22.53             | <b>635</b>    | 55.99      | 46.44     | 14.43      | 13.68     | 22.71             | <b>640</b>    | 56.12      | 46.65     | 14.51      | 13.72     | 22.89             |
| 5%         | <b>656.37</b> | 55.72      | 46.1      | 14.98      | 14.24     | 23.47             | <b>661.71</b> | 55.86      | 46.27     | 15.07      | 14.30     | 23.66             | <b>667.06</b> | 55.99      | 46.44     | 15.15      | 14.36     | 23.85             | <b>672.04</b> | 56.12      | 46.65     | 15.24      | 14.41     | 24.03             |
| 10%        | <b>687.63</b> | 55.72      | 46.1      | 15.70      | 14.92     | 24.59             | <b>693.22</b> | 55.86      | 46.27     | 15.79      | 14.98     | 24.79             | <b>698.83</b> | 55.99      | 46.44     | 15.87      | 15.05     | 24.99             | <b>704.04</b> | 56.12      | 46.65     | 15.96      | 15.09     | 25.18             |
| 20%        | <b>750.14</b> | 55.72      | 46.1      | 17.12      | 16.27     | 26.82             | <b>756.24</b> | 55.86      | 46.27     | 17.22      | 16.34     | 27.04             | <b>762.36</b> | 55.99      | 46.44     | 17.32      | 16.42     | 27.26             | <b>768.05</b> | 56.12      | 46.65     | 17.41      | 16.46     | 27.47             |

## ELECTRICAL DATA PERFORMANCE

| NOCT (Wp) at 45 ± 2 °C @800 W/m <sup>2</sup> | 605    | 610    | 615    | 620    | 625    | 630    | 635    | 640    |
|----------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Nominal Maximum Power (Pmax)                 | 450.74 | 454.57 | 458.31 | 461.96 | 465.73 | 469.52 | 473.32 | 476.85 |
| Optimum Operating Voltage (Vmp)              | 41.55  | 41.72  | 41.87  | 42.02  | 42.17  | 42.33  | 42.48  | 42.68  |
| Optimum Operating Current (Imp)              | 10.84  | 10.89  | 10.94  | 10.99  | 11.04  | 11.09  | 11.14  | 11.17  |
| Open Circuit Voltage (Voc)                   | 51.32  | 51.45  | 51.57  | 51.70  | 51.83  | 51.96  | 52.08  | 52.20  |
| Short Circuit Current (Isc)                  | 11.40  | 11.47  | 11.53  | 11.60  | 11.66  | 11.73  | 11.79  | 11.86  |

### Cell Temperature Coefficient

|                          |              |
|--------------------------|--------------|
| Open Circuit Voltage(α)  | 0.0469 %/°C  |
| Short Circuit Current(β) | -0.2681 %/°C |
| Peak Power(δ)            | -0.3281 %/°C |

### Operating Conditions

|                            |                |
|----------------------------|----------------|
| Maximum System Voltage     | 1500V DC (IEC) |
| Power Tolerance            | 0~+3%          |
| Operating Temperature      | -40°C~+85°C    |
| Maximum Series Fuse Rating | 30A            |
| Mechanical Load Front Rear | 5400Pa         |
| Mechanical Load Back Rear  | 2400Pa         |
| Bifaciality                | 80±5%          |

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

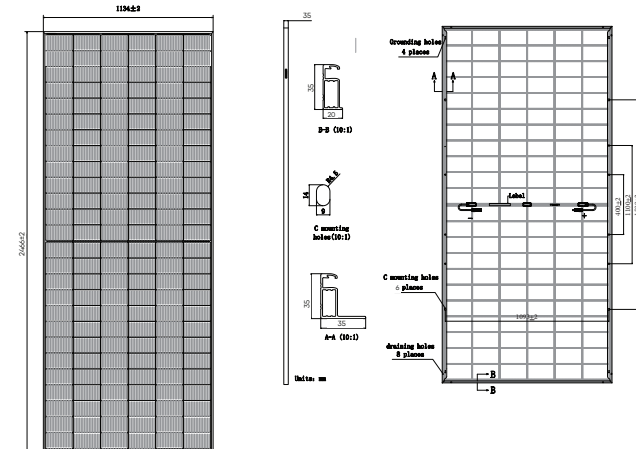
### MODULE MECHANICAL DATA

#### SPECIFICATION DATA

|                |                                    |
|----------------|------------------------------------|
| Cell Type      | N-TOPCon, 156 Cells                |
| Dimensions     | 2466x1134x35 mm                    |
| Weight         | 34.5 Kgs                           |
| Front Cover    | 2.00 mm                            |
| Rear Cover     | 2.00 mm                            |
| Frame Material | "Silver Anodized Aluminum Profile, |
| J-Box          | IP68, 3 diodes                     |
| Cable          | 300 mm, 4 mm <sup>2</sup>          |
| Connectors     | Mc4 Compatible Connector           |

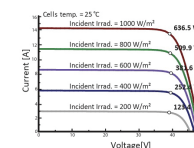
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### Engineering Design



### Characteristics

I-V Curves  
Incident irradiance sensitivity  
chart are for 635 WP



I-V Curves  
Cell temperature sensitivity chart  
are for 635WP

