

# InfiniSolar V II

## Operation without battery



- Pure sine wave output
- Self-consumption and Feed-in to the grid
- Programmable supply priority for PV, Battery or Grid
- User-adjustable charging current and voltage
- Programmable multiple operation modes: Grid-tie, off-grid and grid-tie with backup
- Monitoring software for real-time status display and control
- Parallel operation up to 9 units only for 2KW/3KW/5KW/6KW models
- Battery Independent system

ON-GRID INVERTER WITH ENERGY STORAGE

### InfiniSolar V II On-Grid Inverter With Energy Storage Selection Guide

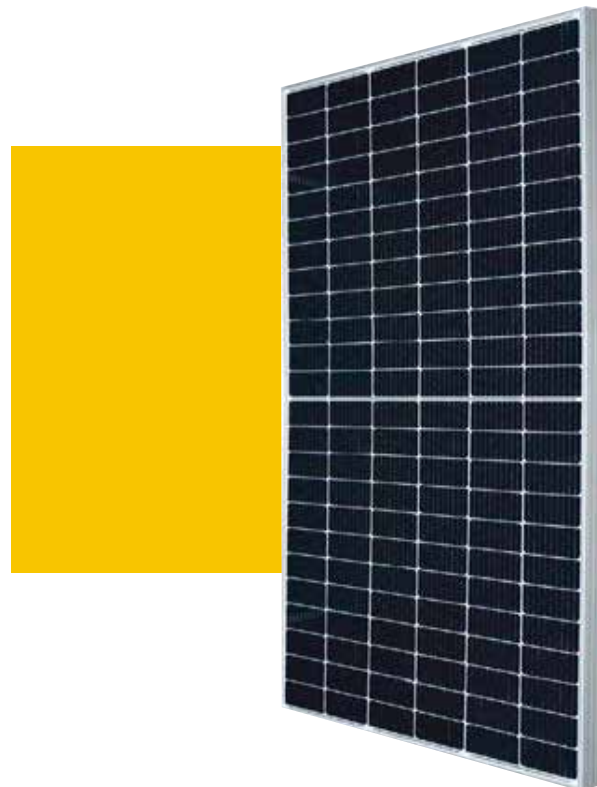
| MODEL                                          | InfiniSolar V II 1.5KW                          | InfiniSolar V II 2KW | InfiniSolar V II 3KW-24V | InfiniSolar V II 3KW-48V | InfiniSolar V II 5KW | InfiniSolar V II 6KW |
|------------------------------------------------|-------------------------------------------------|----------------------|--------------------------|--------------------------|----------------------|----------------------|
| Phase                                          | 1-phase in / 1-phase out                        |                      |                          |                          |                      |                      |
| Maximum PV Input Power                         | 2000W                                           | 3000W                | 4000W                    | 4000 W                   | 5000W                | 6000W                |
| Rated Output Power                             | 1500W                                           | 2000W                | 3000 W                   | 3000W                    | 5000W                | 6000W                |
| Maximum Charging Power                         | 2000W                                           | 2880W                | 2880W                    | 2880W                    | 5000W                | 5000W                |
| <b>GRID-TIE OPERATION</b>                      |                                                 |                      |                          |                          |                      |                      |
| <b>PV INPUT (DC)</b>                           |                                                 |                      |                          |                          |                      |                      |
| Nominal DC Voltage / Maximum DC Voltage        | 120 VDC / 400 VDC                               | 240 VDC / 450 VDC    | 360 VDC / 450 VDC        | 360 VDC / 450 VDC        | 60 VDC / 450 VDC     | 360 VDC / 500 VDC    |
| Start-up Voltage / Initial Feeding Voltage     | 130VDC / 150 VDC                                | 130VDC / 150 VDC     | 130VDC / 150 VDC         | 130VDC / 150 VDC         | 130VDC / 150 VDC     | 130VDC / 150 VDC     |
| MPP Voltage Range                              | 120 VDC ~ 380 VDC                               | 90 VDC ~ 430 VDC     | 120 VDC ~ 430 VDC        | 120 VDC ~ 430 VDC        | 120 VDC ~ 430 VDC    | 120 VDC ~ 430 VDC    |
| Number of MPP Trackers / Maximum Input Current | 1 / 18 A                                        | 1 / 18 A             | 1 / 18A                  | 1 / 18A                  | 1 / 18A              | 1 / 27A              |
| <b>GRID OUTPUT (AC)</b>                        |                                                 |                      |                          |                          |                      |                      |
| Nominal Output Voltage                         | 220/230/240 VAC                                 |                      |                          |                          |                      |                      |
| Output Voltage Range                           | 184 - 264.5 VAC or 195.5 - 253 VAC (Selectable) |                      |                          |                          |                      |                      |
| Nominal Output Current                         | 6.5A                                            | 8.7A                 | 13A                      | 13A                      | 21.7A                | 26A                  |
| Power Factor                                   | > 0.99                                          |                      |                          |                          |                      |                      |
| <b>EFFICIENCY</b>                              |                                                 |                      |                          |                          |                      |                      |
| Maximum Conversion Efficiency (DC/AC)          | 95%                                             |                      |                          |                          |                      |                      |
| <b>OFF-GRID OPERATION</b>                      |                                                 |                      |                          |                          |                      |                      |
| <b>AC INPUT</b>                                |                                                 |                      |                          |                          |                      |                      |
| AC Start-up Voltage / Auto Restart Voltage     | 120 - 140 VAC / 180 VAC                         |                      |                          |                          |                      |                      |
| Acceptable Input Voltage Range                 | 90 - 280 VAC or 170 - 280 VAC                   |                      |                          |                          |                      |                      |
| Frequency Range                                | 50 Hz/60 Hz (Auto sensing)                      |                      |                          |                          |                      |                      |
| Maximum AC Input Current                       | 30 A                                            | 30 A                 | 40 A                     | 40 A                     | 40 A                 | 40 A                 |
| <b>PV INPUT (DC)</b>                           |                                                 |                      |                          |                          |                      |                      |
| Maximum DC Voltage                             | 400 VDC                                         | 450 VDC              | 450 VDC                  | 450 VDC                  | 450 VDC              | 500 VDC              |
| MPP Voltage Range                              | 120 VDC ~ 380 VDC                               | 90 VDC ~ 430 VDC     | 120 VDC ~ 430 VDC        | 120 VDC ~ 430 VDC        | 120 VDC ~ 430 VDC    | 120 VDC ~ 430 VDC    |
| Number of MPP Trackers / Maximum Input Current | 1 / 18 A                                        | 1 / 18 A             | 1 / 18 A                 | 1 / 18 A                 | 1 / 18A              | 1 / 27A              |
| <b>BATTERY MODE OUTPUT (AC)</b>                |                                                 |                      |                          |                          |                      |                      |
| Nominal Output Voltage                         | 220/230/240 VAC                                 |                      |                          |                          |                      |                      |
| Output Waveform                                | Pure sine wave                                  |                      |                          |                          |                      |                      |
| Efficiency (DC to AC)                          | 93%                                             | 93%                  | 93%                      | 93%                      | 93%                  | 93%                  |
| <b>HYBRID OPERATION</b>                        |                                                 |                      |                          |                          |                      |                      |
| <b>PV INPUT (DC)</b>                           |                                                 |                      |                          |                          |                      |                      |
| Nominal DC Voltage / Maximum DC Voltage        | 120 VDC / 400 VDC                               | 240 VDC / 450 VDC    | 360 VDC / 450 VDC        | 360 VDC / 450 VDC        | 360 VDC / 450 VDC    | 360 VDC / 500 VDC    |
| Start-up Voltage / Initial Feeding Voltage     | 130VDC / 150 VDC                                | 130VDC / 150 VDC     | 130VDC / 150 VDC         | 130VDC / 150 VDC         | 120VDC / 150 VDC     | 130VDC / 150 VDC     |
| MPP Voltage Range                              | 120 VDC ~ 380 VDC                               | 90 VDC ~ 430 VDC     | 120 VDC ~ 430 VDC        | 120 VDC ~ 430 VDC        | 120 VDC ~ 430 VDC    | 120 VDC ~ 430 VDC    |
| Number of MPP Trackers / Maximum Input Current | 1 / 18 A                                        | 1 / 18 A             | 1 / 18A                  | 1 / 18A                  | 1 / 18A              | 1 / 27A              |
| <b>GRID OUTPUT (AC)</b>                        |                                                 |                      |                          |                          |                      |                      |
| Nominal Output Voltage                         | 220/230/240 VAC                                 |                      |                          |                          |                      |                      |
| Output Voltage Range                           | 184 - 264.5 VAC or 195.5 - 253 VAC (Selectable) |                      |                          |                          |                      |                      |
| Nominal Output Current                         | 6.5A                                            | 8.7A                 | 13A                      | 13A                      | 21.7A                | 26A                  |
| <b>AC INPUT</b>                                |                                                 |                      |                          |                          |                      |                      |
| AC Start-up Voltage / Auto Restart Voltage     | 120 - 140 VAC / 180 VAC                         |                      |                          |                          |                      |                      |
| Acceptable Input Voltage Range                 | 90 - 280 VAC or 170 - 280 VAC                   |                      |                          |                          |                      |                      |
| Maximum AC Input Current                       | 30 A                                            | 30 A                 | 40 A                     | 40 A                     | 40 A                 | 40 A                 |
| <b>BATTERY MODE OUTPUT (AC)</b>                |                                                 |                      |                          |                          |                      |                      |
| Nominal Output Voltage                         | 220/230/240 VAC                                 |                      |                          |                          |                      |                      |
| Efficiency (DC to AC)                          | 93%                                             | 93%                  | 93%                      | 93%                      | 93%                  | 93%                  |
| <b>BATTERY &amp; CHARGER</b>                   |                                                 |                      |                          |                          |                      |                      |
| Nominal DC Voltage                             | 48 VDC                                          | 48 VDC               | 24 VDC                   | 48 VDC                   | 48 VDC               | 48 VDC               |
| Maximum Solar Charging Current                 | 30A                                             | 60 A                 | 60 A                     | 60 A                     | 100 A                | 120 A                |
| Maximum AC Charging Current                    | 40A                                             | 60 A                 | 60 A                     | 60 A                     | 100 A                | 120 A                |
| Maximum Charging Current                       | 40A                                             | 60 A                 | 60 A                     | 60 A                     | 100 A                | 120 A                |
| <b>GENERAL</b>                                 |                                                 |                      |                          |                          |                      |                      |
| <b>PHYSICAL</b>                                |                                                 |                      |                          |                          |                      |                      |
| Dimension, D x W x H (mm)                      | 100 x 300 x 440                                 | 120 x 295 x 468      | 120 x 295 x 468          | 120 x 295 x 468          | 120 x 295 x 468      | 120 x 295 x 468      |
| Net Weight (kgs)                               | 8                                               | 11                   | 11                       | 11                       | 12                   | 12                   |
| <b>INTERACE</b>                                |                                                 |                      |                          |                          |                      |                      |
| Parallel Function                              | N/A                                             | Yes, 9 units         | Yes, 9 units             | Yes, 9 units             | Yes, 9 units         | Yes, 9 units         |
| Communication Port                             | USB or RS-232/Dry Contact                       |                      |                          |                          |                      |                      |
| <b>ENVIRONMENT</b>                             |                                                 |                      |                          |                          |                      |                      |
| Humidity                                       | 0 ~ 90% RH (No condensing)                      |                      |                          |                          |                      |                      |
| Operating Temperature                          | -10°C to 50°C                                   |                      |                          |                          |                      |                      |

Product specifications are subject to change without further notice.








# MSMDxxxM6-72

## 166 M6 cells half cut

# 440W-460W



## KEY FEATURES

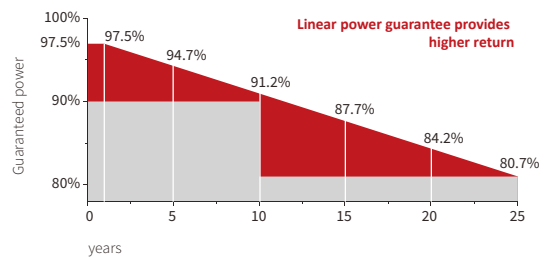
-  **Class A fire resistant (industry standard class C)**
-  **Outstanding performance in low-light conditions**
-  **Low temperature coefficient (Pmax): -0.35 % / °C**
- +5W** 0~+5W positive tolerance - to assure high output
-  **Lower internal current, lower hot spot temperature**
-  **Cell crack risk limited in small region, enhance the module reliability**
- PID FREE** Excellent anti-PID module design, TÜV SÜD certified
-  **Certified to withstand high wind loads (3600pa) and snow loads (8000pa)**
-  **Salt mist and ammonia corrosion resistant**

## PRODUCT CERTIFICATES



## WARRANTY

- Our linear power guarantee
- Standard linear power guarantee



**15 years** Enhanced product guarantee on product and workmanship

**25 years** Linear power output warranty

# MSMDxxxM6-72

## ELECTRICAL CHARACTERISTICS

| STC                             | 440              | 445     | 450     | 455     | 460    |
|---------------------------------|------------------|---------|---------|---------|--------|
| Maximum Power at STC (Pmax)     | 440 W            | 445W    | 450 W   | 455 W   | 460 W  |
| Optimum Operating Voltage (Vmp) | 41.0 V           | 41.2 V  | 41.4 V  | 41.6 V  | 41.8 V |
| Optimum Operating Current (Imp) | 10.74 A          | 10.81 A | 10.87 A | 10.94 A | 11.0 A |
| Open Circuit Voltage (Voc)      | 48.8 V           | 49.0 V  | 49.2 V  | 49.4 V  | 49.6 V |
| Short Circuit Current (Isc)     | 11.47A           | 11.54 A | 11.61 A | 11.68 A | 11.75A |
| Module Efficiency               | 19.9%            | 20.1%   | 20.3 %  | 20.5%   | 20.7%  |
| Operating Module Temperature    | -40 °C to +85 °C |         |         |         |        |
| Maximum System Voltage          | 1500 V DC        |         |         |         |        |
| Maximum Series Fuse Rating      | (IEC)            |         |         |         |        |
| Power Tolerance                 | 20 A             |         |         |         |        |

STC: Irradiance 1000 W/m<sup>2</sup>, module temperature 25 °C, AM=1.5; Tolerances of Pmax, Voc and Isc are all within +/- 5%. 0/+5W

| NMOT                            | 440     | 445     | 450     | 455     | 460    |
|---------------------------------|---------|---------|---------|---------|--------|
| Maximum Power at NMOT (Pmax)    | 331.2 W | 335.0 W | 338.2 W | 342.5 W | 346.3W |
| Optimum Operating Voltage (Vmp) | 38.3 V  | 38.5 V  | 38.7 V  | 38.9 V  | 39.1 V |
| Optimum Operating Current (Imp) | 8.65 A  | 8.59 A  | 8.74 A  | 8.80 A  | 8.86 A |
| Open Circuit Voltage (Voc)      | 46.6 V  | 46.8 V  | 47.0 V  | 47.2 V  | 47.4 V |
| Short Circuit Current (Isc)     | 9.14 A  | 9.19 A  | 9.22 A  | 9.27 A  | 9.33 A |

NMOT: Irradiance 800 W/m<sup>2</sup>, ambient temperature 20 °C, AM=1.5, wind speed 1 m/s.

## TEMPERATURE CHARACTERISTICS

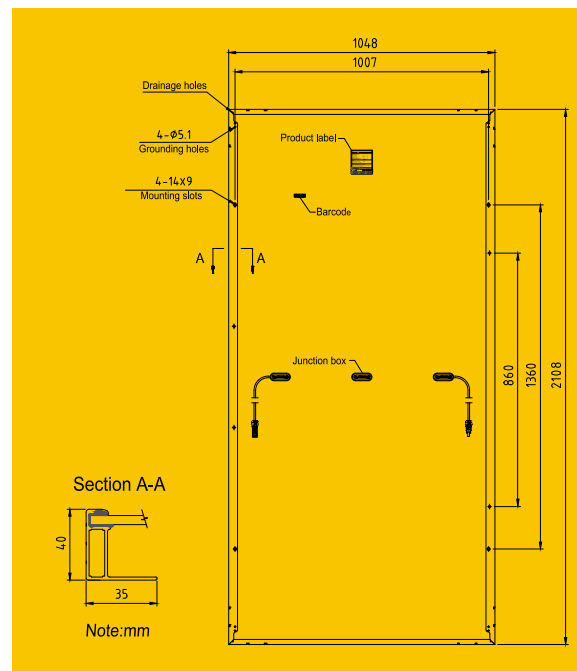
|                                             |             |
|---------------------------------------------|-------------|
| Nominal Module Operating Temperature (NMOT) | 42±2°C      |
| Temperature Coefficient of Pmax             | -0.35 %/°C  |
| Temperature Coefficient of Voc              | -0.304 %/°C |
| Temperature Coefficient of Isc              | 0.050 %/°C  |

## MECHANICAL CHARACTERISTICS

|               |                                                                       |
|---------------|-----------------------------------------------------------------------|
| Solar Cell    | Monocrystalline silicon 166 mm (9BB)                                  |
| No. of Cells  | 144 (6 × 24)                                                          |
| Dimensions    | 2108 x 1048 x 40 mm                                                   |
| Weight        | 24 kgs                                                                |
| Front Glass   | 3.2 mm tempered glass                                                 |
| Frame         | Anodized aluminium alloy                                              |
| Junction Box  | IP68 rated (3 bypass diodes)                                          |
| Output Cables | 4.0 mm <sup>2</sup> , symmetrical lengths (-) 1400 mm and (+) 1400 mm |

## PACKING CONFIGURATION

| Container             | 20' GP | 40' HC |
|-----------------------|--------|--------|
| Pieces per pallet     | 26     | 26+1   |
| Pallets per container | 5      | 22     |
| Pieces per container  | 130    | 594    |



## Current-Voltage & Power-Voltage Curve (445S)

