

# MT5-Pro

## 630-650W

N-type TOPCon Solar Module

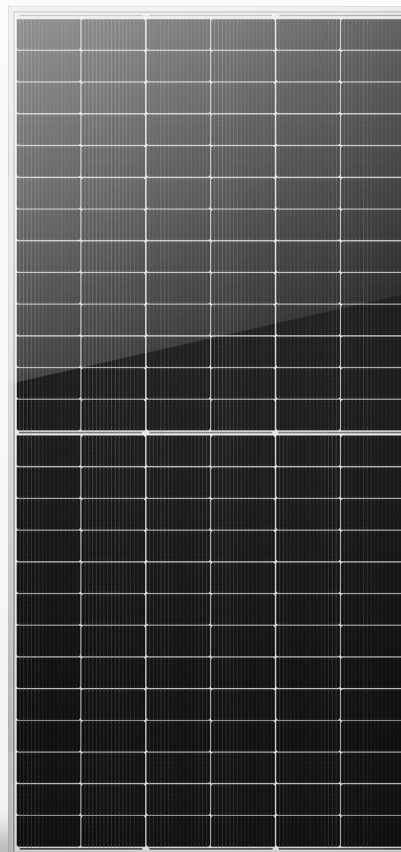
### Qualidade Garantida

**25-Year** Warranty for Materials and Processing

**30-Year** Warranty for Extra Linear Power Output

23.25%

Max. Module Efficiency



MS-78H

### 10-30% Additional Power Generation

30 years lifespan brings 10-30% additional power generation comparing with conventional P-type module.

### ZERO LID (Light Induced Degradation)

N-type solar cell has no LID naturally which can increase power generation.

### Higher Reliability

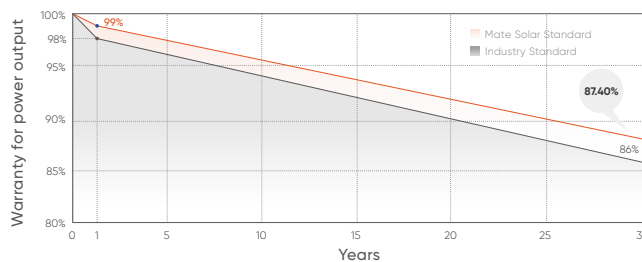
Adopted Mate Solar latest S-TOPCo 2.0 technology,  
No polysilicon wrap around, Full electrical isolation,  
Zero leakage current; Much Safer for roof.

### Better Weak Illumination Response

Higher power output even under low-light environments like on cloudy or foggy days.

### Better Temperature Coefficient

Higher power generation under working conditions, thanks to passivating contact cell technology.



\* Please refer to Mate Solar standard warranty for details

### Quality Management System And Product Certification

IEC61215/61730, IEC62804(PID), IEC61701(Salt).

IEC62716 (Ammonia), IEC60068-2-68(Sand).

ISO 9001:2015/quality management system.

ISO 14001:2015/environmental management system.

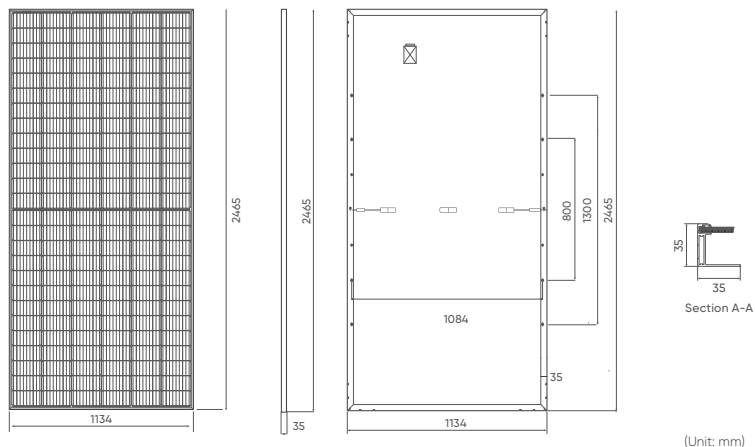
ISO 45001:2018/occupation health safety management system

ISO 50001:2011/energy management system.

IEC TS 62941-2016/PV industry quality management system .



## Drawings



## Mechanical Parameters

|                      |                                                                    |
|----------------------|--------------------------------------------------------------------|
| Solar Cells          | N-type Mono                                                        |
| No. of Cells         | 156 (6×26)                                                         |
| Dimensions           | 2465 × 1134 × 30mm                                                 |
| Weight               | 30.0kg                                                             |
| Front Glass          | 3.2mm coated tempered glass                                        |
| Frame                | Anodized aluminium alloy                                           |
| Junction Box         | Ip68 rated (3 by pass diodes)                                      |
| Output Cables        | 4mm <sup>2</sup> , 300mm (+) / 300mm (-), Length can be customized |
| Connectors           | Mc4 compatible                                                     |
| Mechanical load test | 5400Pa                                                             |
| Packaging            | 36pcs/box, 144pcs/20'GP, 576pcs/40'HQ                              |

## Electrical Characteristics (STC\*)

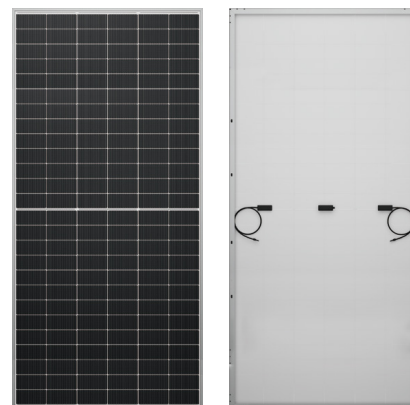
|                                   |       |       |       |       |       |
|-----------------------------------|-------|-------|-------|-------|-------|
| Module Type: <b>MS-78H</b>        | 630   | 635   | 640   | 645   | 650   |
| Maximum power (Pmax/W)            | 630   | 635   | 640   | 645   | 650   |
| Open Circuit Voltage (Voc/V)      | 56.70 | 56.85 | 57.00 | 57.15 | 57.30 |
| Short Circuit Current (Isc/A)     | 13.98 | 14.04 | 14.10 | 14.16 | 14.22 |
| Voltage at Maximum power (Vmpp/V) | 47.30 | 47.46 | 47.62 | 47.78 | 47.94 |
| Current Maximum Power (Imp/A)     | 13.32 | 13.38 | 13.44 | 13.50 | 13.56 |
| MODULE EFFICIENCY (%)             | 22.54 | 22.72 | 22.90 | 23.07 | 23.25 |

## Electrical Characteristics (NMOT\*)

|                                   |       |       |       |       |       |
|-----------------------------------|-------|-------|-------|-------|-------|
| Maximum Power: Pmax [W]           | 475   | 479   | 483   | 487   | 491   |
| Open Circuit Voltage: Voc [V]     | 53.86 | 54.00 | 54.14 | 54.28 | 54.41 |
| Short Circuit Current: Isc [A]    | 11.28 | 11.33 | 11.38 | 11.43 | 11.48 |
| Voltage at Maximum Power: Vmp [V] | 44.29 | 44.43 | 44.64 | 44.81 | 44.97 |
| Current at Maximum Power: Imp [A] | 10.72 | 10.77 | 10.82 | 10.87 | 10.92 |

- Standard Test Conditions [STC]: irradiance 1000W/m<sup>2</sup>; AM 1.5; ambient temperature 25°C according to EN 60904-3;
- Nominal Module Operating Temperature (NMOT): Irradiance 800W/m<sup>2</sup>; wind speed 1m/s, ambient temperature 20°C.
- Tolerance of Pm: 0~+5W, Measuring uncertainty of power: ±3%. Performance deviation of Voc [V], Isc [A], Vm [V] and Im [A]: ±3%.

## Product Image



## Operating Characteristics

|                              |                |
|------------------------------|----------------|
| Operating Module Temperature | -40°C to +85°C |
| Maximum System Voltage       | 1500 DC (IEC)  |
| Maximum Series Fuse Rating   | 25A            |
| Power Tolerance              | 0/+5W          |

## Temperature Characteristics

|                                      |            |
|--------------------------------------|------------|
| Nominal Operating Temperature (NMOT) | 45±2°C     |
| Temperature Coefficient of Pmax      | -0.30%/°C  |
| Temperature Coefficient of Voc       | -0.25%/°C  |
| Temperature Coefficient of Isc       | +0.046%/°C |

## I-V CURVE

