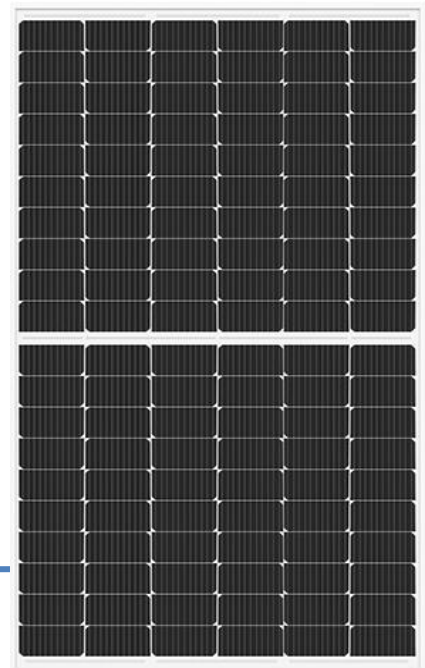




# HW-M10/120H(440-460)

## High Efficiency Mono Solar Module



### Introduction

MBB and high-density interconnect technology improves power output and module efficiency.

Deploying advanced non-destructive cutting and half-cut technology, the Module features excellent Mechanical performance.



#### Excellent power generation performance

0/+5W positive power tolerance  
Improved low light irradiance performance and low degradation



#### Advanced production process

Optimized MBB design  
Cell efficiency >23.0%



#### Stable mechanical performance

Passed rigorous hail test  
Withstands 5400Pa snow and 2400Pa wind loads



#### Superior quality control

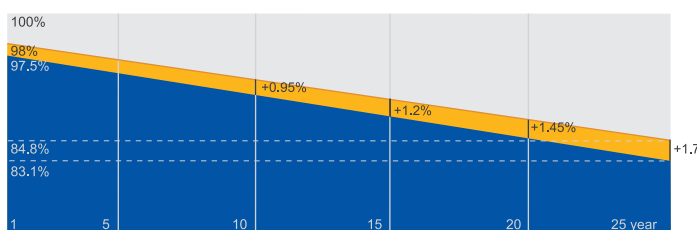
Full automatic production line  
100% three times EL and appearance inspection

### Certificate

TUV: EN IEC 61215, EN IEC 61730  
GB/T 19001-2016/ISO 9001:2015  
GB/T 24001-2016/ISO 14001:2015  
GB/T 45001-2020/ISO 45001:2018



### Warranty



■ New linear power warranty ■ Standard module linear power warranty

## Hiwatt Solar Limited

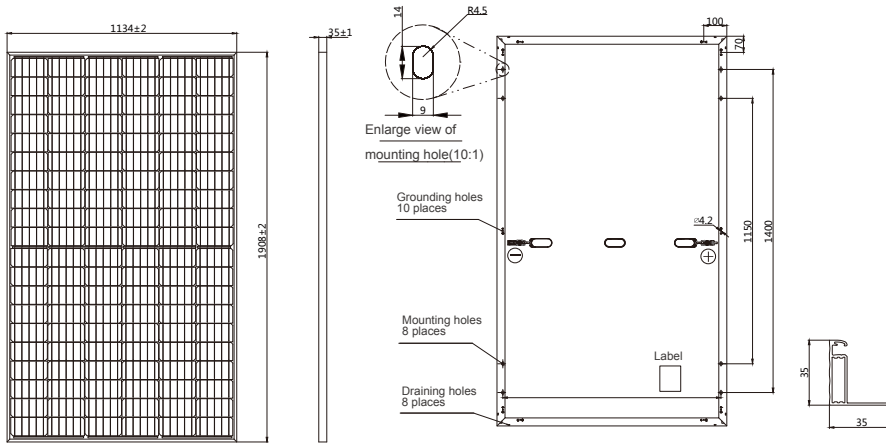
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## MECHANICAL DIAGRAMS



## SPECIFICATIONS

|              |                    |
|--------------|--------------------|
| Solar Cells  | Monocrystalline    |
| No. Of Cells | 120(6x20)          |
| Dimensions   | 1908x1134x35mm     |
| Weight       | 25.0kgs            |
| Junction Box | IP 68, 3 Diodes    |
| Cables       | 4.0mm <sup>2</sup> |
| Connectors   | QC 4.10-35(1500V)  |

## ELECTRICAL DATA (STC)

|                                 |       |       |        |       |       |
|---------------------------------|-------|-------|--------|-------|-------|
| Peak Power Watts-PMAX (Wp)      | 440   | 445   | 450    | 455   | 460   |
| Power Tolerance-PMAX (W)        |       |       | 0 ~ +5 |       |       |
| Maximum Power Voltage -VMPP (V) | 33.72 | 33.82 | 33.91  | 34.06 | 34.20 |
| Maximum Power Current -IMPP (A) | 13.05 | 13.16 | 13.27  | 13.36 | 13.45 |
| Open Circuit Voltage -VOC (V)   | 41.02 | 41.10 | 41.18  | 41.33 | 41.48 |
| Short Circuit Current -ISC (A)  | 13.73 | 13.79 | 13.85  | 13.93 | 14.01 |
| Module Efficiency (%)           | 20.3  | 20.5  | 20.8   | 21.0  | 21.2  |

STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5.

## ELECTRICAL DATA (NOCT)

|                                 |       |       |       |       |       |
|---------------------------------|-------|-------|-------|-------|-------|
| Maximum Power-PMAX (Wp)         | 330   | 333   | 337   | 341   | 345   |
| Maximum Power Voltage -VMPP (V) | 32.10 | 32.24 | 32.38 | 32.52 | 32.66 |
| Maximum Power Current -IMPP (A) | 10.28 | 10.33 | 10.41 | 10.48 | 10.56 |
| Open Circuit Voltage -VOC (V)   | 39.01 | 39.09 | 39.18 | 39.26 | 39.35 |
| Short Circuit Current -ISC (A)  | 11.15 | 11.20 | 11.24 | 11.29 | 11.33 |

NOCT: Irradiance at 800W/m<sup>2</sup>, Ambient Temperature 20°C, Wind Speed 1m/s.

## TEMPERATURE RATINGS

|  |             |
|--|-------------|
| NOCT(Nominal Operating Cell Temperature) | 43°C (±2°C) |
| Temperature Coe-cient of PMAX            | - 0.34%/°C  |
| Temperature Coe-cient of VOC             | - 0.25%/°C  |
| Temperature Coe-cient of ISC             | 0.04%/°C    |

## MAXIMUM RATINGS

|                         |                |
|-------------------------|----------------|
| Operational Temperature | -40~+85°C      |
| Maximum System Voltage  | 1500V DC (IEC) |
| Max Series Fuse Rating  | 30A            |

## PACKAGING

|                            |            |
|----------------------------|------------|
| Modules per box:           | 31 pieces  |
| Modules per 40' container: | 744 pieces |

## WARRANTY

- 12 year Product Workmanship Warranty
- 25 year Power Warranty
- 0.55% Annual Power Attenuation
- 2% first year degradation

## CHARACTERISTICS

