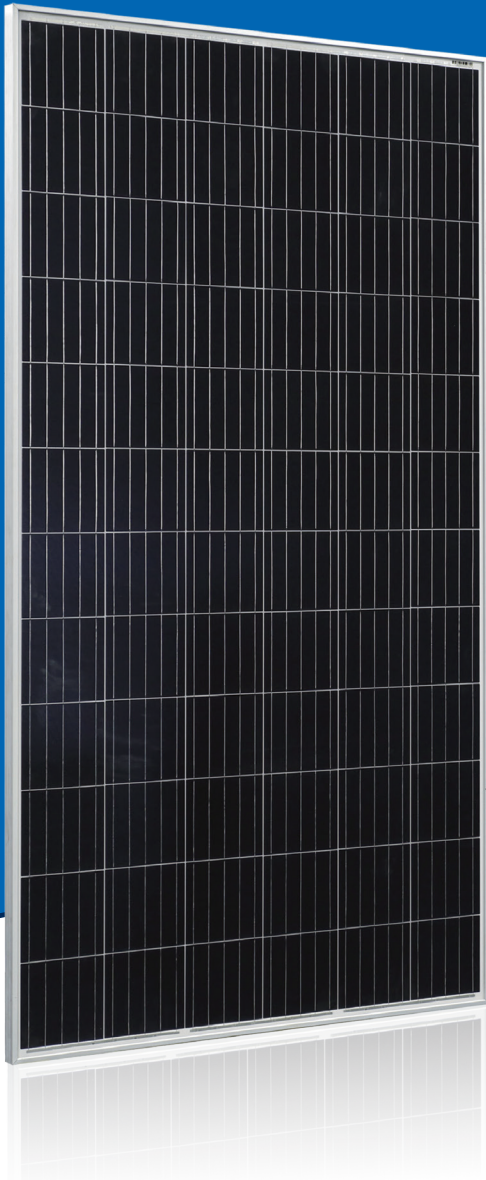


# AstroNova™

Profitable for Decades



## 310W~330W

5BB-Polycrystalline PV Module

CHSM6612P Series

CHSM6612P/HV Series

CHSM6612P max system voltage 1000V standard

CHSM6612P/HV max system voltage 1500V standard

**Tier 1**

Bloomberg

**No.1**

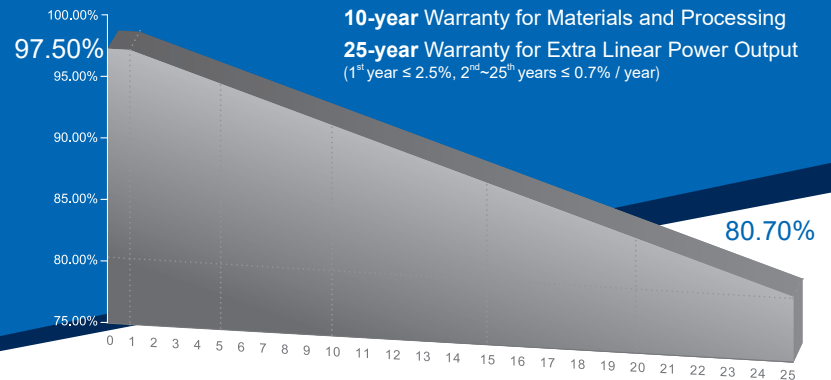
PHOTON

**MunichRe**

Insured

**DNV GL**

2018 TOP Performance



### KEY FEATURES



#### OUTPUT POSITIVE TOLERANCE

Guaranteed 0~+5W positive tolerance ensures power output reliability.



#### INNOVATIONAL 5-BUSBAR CELLS

Reduces the cell series resistance and internal stress, decreases the risk of micro-crack and improves the module output.



#### PID RESISTANCE

Excellent PID resistance at 96 hours (@85°C /85%) test, and also can be improved to meet higher standards for the particularly harsh environment.



#### EXCELLENT MECHANICAL LOAD CAPABILITY

Certified to withstand: snow load (6000 Pa) and wind load (3600 Pa).



#### HIGHER RELIABILITY AND DURABILITY

Effectively deals with harsh environments, such as sand, salt mist and ammonia resistance.



#### PASSED HAIL TEST

Certified to hail resistance: ice ball size (d=45mm) and ice ball velocity (v=30.7m/s).



#### EXCELLENT LOW-LIGHT PERFORMANCE

With the deep textured ARC glass and cell surface texturing process, achieve the excellent performance at the haze, cloudy days and other low light conditions.

### COMPREHENSIVE CERTIFICATES



First solar company which passed the TUV Nord IEC/TS 62941 certification audit.

For Global Market



**ASTRONERGY**  
A CHNT COMPANY

## ELECTRICAL SPECIFICATIONS

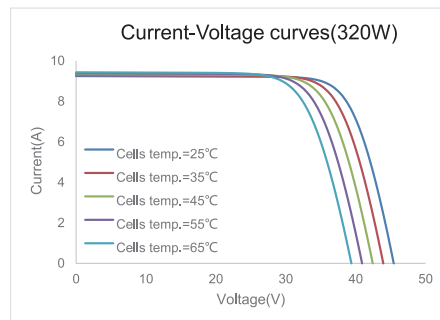
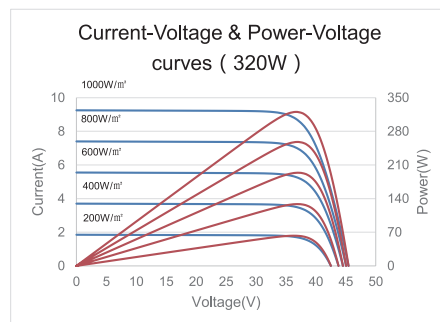
|                                            |                                            |          |          |          |          |
|--------------------------------------------|--------------------------------------------|----------|----------|----------|----------|
| STC rated output ( $P_{mpp}$ )*            | 310 Wp                                     | 315 Wp   | 320 Wp   | 325 Wp   | 330 Wp   |
| Rated voltage ( $V_{mpp}$ ) at STC         | 36.91 V                                    | 36.99 V  | 37.02 V  | 37.11 V  | 37.15 V  |
| Rated current ( $I_{mpp}$ ) at STC         | 8.40 A                                     | 8.53 A   | 8.65 A   | 8.77 A   | 8.89 A   |
| Open circuit voltage ( $V_{oc}$ ) at STC   | 45.15 V                                    | 45.30 V  | 45.45 V  | 45.67 V  | 45.86 V  |
| Short circuit current ( $I_{sc}$ ) at STC  | 8.92 A                                     | 9.04 A   | 9.25 A   | 9.48 A   | 9.52 A   |
| Module efficiency                          | 16.0%                                      | 16.3%    | 16.5%    | 16.8%    | 17.1%    |
| Rated output ( $P_{mpp}$ ) at NOCT         | 216.5 Wp                                   | 220.0 Wp | 223.5 Wp | 226.9 Wp | 230.4 Wp |
| Rated voltage ( $V_{mpp}$ ) at NOCT        | 33.71 V                                    | 33.74 V  | 33.80 V  | 33.86 V  | 33.92 V  |
| Rated current ( $I_{mpp}$ ) at NOCT        | 6.42 A                                     | 6.52 A   | 6.61 A   | 6.70 A   | 6.79 A   |
| Open circuit voltage ( $V_{oc}$ ) at NOCT  | 41.43 V                                    | 41.57 V  | 41.70 V  | 41.91 V  | 42.08 V  |
| Short circuit current ( $I_{sc}$ ) at NOCT | 6.90 A                                     | 6.99 A   | 7.15 A   | 7.33 A   | 7.37 A   |
| Temperature coefficient ( $P_{mpp}$ )      | - 0.408%/°C                                |          |          |          |          |
| Temperature coefficient ( $I_{sc}$ )       | +0.050%/°C                                 |          |          |          |          |
| Temperature coefficient ( $V_{oc}$ )       | - 0.311%/°C                                |          |          |          |          |
| Normal operating cell temperature (NOCT)   | 46±2°C                                     |          |          |          |          |
| Maximum system voltage (IEC/UL)            | 1000V <sub>DC</sub> or 1500V <sub>DC</sub> |          |          |          |          |
| Number of diodes                           | 3                                          |          |          |          |          |
| Junction box IP rating                     | IP 67                                      |          |          |          |          |
| Maximum series fuse rating                 | 15 A                                       |          |          |          |          |

\* Measurement tolerance +/- 3%

STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, AM=1.5

NOCT: Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20°C, AM=1.5, Wind Speed 1m/s

## CURVE



## MECHANICAL SPECIFICATIONS

|                                |                                               |
|--------------------------------|-----------------------------------------------|
| Outer dimensions (L x W x H)   | 1954 x 990 x 40 mm<br>76.93 x 38.98 x 1.57 in |
| Frame technology               | Aluminum, silver anodized                     |
| Module composition             | Glass / EVA / Backsheet (white)               |
| Front glass thickness          | 3.2 mm / 0.13 in                              |
| ① Cable length (IEC/UL)        | 1150 mm / 45.28 in                            |
| Cable diameter (IEC/UL)        | 4 mm <sup>2</sup> / 12 AWG                    |
| ② Maximum mechanical test load | 6000 Pa                                       |
| Fire performance (IEC/UL)      | Class C (IEC) or Type 1 (UL)                  |
| Connector type (IEC/UL)        | MC4 compatible                                |

① Option: 900(+)/600(-) mm for defined projects in advance.

② Refer to Astronergy Crystalline Silicon PV Module Installation Manual or contact technical department.  
Maximum Mechanical Test Load=1.5×Maximum Mechanical Design Load.

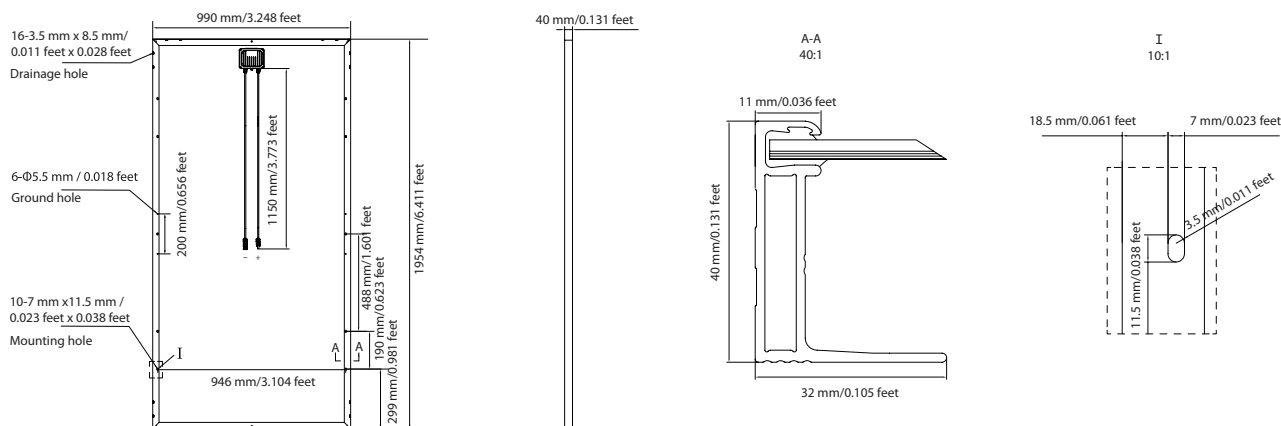
## PACKING SPECIFICATIONS

|                                              |                     |
|----------------------------------------------|---------------------|
| ① Weight (module only)                       | 21.8 kg / 48.06 lbs |
| ② Packing unit                               | 27 pcs / box        |
| Weight of packing unit (for 40'HQ container) | 634 kg / 1398 lbs   |
| Number of modules per 40'HQ container        | 648 pcs             |

① Tolerance +/- 1.0kg

② Subject to sales contract

## MODULE DIMENSION DETAILS



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