

# Datasheet

## Crystalline PV Module CHSM5612M (BL) Series

180 185 190 195 200

### ELECTRICAL SPECIFICATIONS

|                                               |            |                             |          |          |          |
|-----------------------------------------------|------------|-----------------------------|----------|----------|----------|
| STC rated output ( $P_{mpp}$ )*               | 180 Wp     | 185 Wp                      | 190 Wp   | 195 Wp   | 200 Wp   |
| PTC rated output ( $P_{mpp}$ )**              | 159.7 Wp   | 164.3 Wp                    | 168.9 Wp | 173.5 Wp | 178.0 Wp |
| Standard sorted output                        | -0/+5 Wp   |                             |          |          |          |
| Warranted power output STC ( $P_{mpp\ min}$ ) | 180 Wp     | 185 Wp                      | 190 Wp   | 195 Wp   | 200 Wp   |
| Rated voltage ( $V_{mpp}$ ) at STC            | 36.02 V    | 36.38 V                     | 36.74 V  | 37.10 V  | 37.46 V  |
| Rated current ( $I_{mpp}$ ) at STC            | 5.00 A     | 5.09 A                      | 5.17 A   | 5.25 A   | 5.34 A   |
| Open circuit voltage ( $V_{oc}$ ) at STC      | 44.88 V    | 45.12 V                     | 45.37 V  | 45.62 V  | 45.87 V  |
| Short circuit current ( $I_{sc}$ ) at STC     | 5.31 A     | 5.39 A                      | 5.47 A   | 5.55 A   | 5.63 A   |
| Module efficiency                             | 14.1%      | 14.5%                       | 14.9%    | 15.3%    | 15.7%    |
| Rated output ( $P_{mpp}$ ) at NOCT            | 119.7 Wp   | 123.0 Wp                    | 126.3 Wp | 129.6 Wp | 133.0 Wp |
| Rated voltage ( $V_{mpp}$ ) at NOCT           | 32.12 V    | 32.43 V                     | 32.79 V  | 33.15 V  | 33.41 V  |
| Rated current ( $I_{mpp}$ ) at NOCT           | 3.73 A     | 3.79 A                      | 3.85 A   | 3.91 A   | 3.98 A   |
| Open circuit voltage ( $V_{oc}$ ) at NOCT     | 40.24 V    | 40.46 V                     | 40.68 V  | 40.91 V  | 41.13 V  |
| Short circuit current ( $I_{sc}$ ) at NOCT    | 4.03 A     | 4.09 A                      | 4.15 A   | 4.22 A   | 4.28 A   |
| Temperature coefficient ( $P_{mpp}$ )         | - 0.480%/K | Maximum system voltage SCII |          |          |          |
| Temperature coefficient ( $I_{sc}$ )          | +0.062%/K  | Maximum system voltage NEC  |          |          |          |
| Temperature coefficient ( $I_{mpp}$ )         | - 0.022%/K | Number of diodes            |          |          |          |
| Temperature coefficient ( $V_{mpp}$ )         | - 0.462%/K | Maximum series fuse rating  |          |          |          |
| Temperature coefficient ( $V_{oc}$ )          | - 0.355%/K |                             |          |          |          |
| Normal operating cell temperature (NOCT)      | 48±2°C     |                             |          |          |          |

\* Measurement tolerance +/- 3%

\*\* Estimated



## QUALIFICATION AND WARRANTIES

|                                                    |                            |
|----------------------------------------------------|----------------------------|
| Product standard                                   | IEC 61215, 61730 / UL 1703 |
| Extended product warranty                          | 10 years                   |
| Output warranty of 90% performance $P_{mpp}$ (STC) | 10 years                   |
| Output warranty of 80% performance $P_{mpp}$ (STC) | 25 years                   |
| MunichRe Warranty                                  | 25 years                   |

## MECHANICAL SPECIFICATIONS

|                               |                                               |
|-------------------------------|-----------------------------------------------|
| Outer dimensions (L x W x H)  | 1580 x 808 x 45 mm<br>62.20 x 31.81 x 1.77 in |
| Frame technology              | Aluminum, black anodized                      |
| Module composition            | Glass / EVA / Backsheet (black)               |
| Weight (module only)          | 15.5 kg / 34.1 lbs                            |
| Front glass thickness         | 3.2 mm / 0.13 in                              |
| Junction box IP rating        | IP 65                                         |
| Cable length / diameter (UL)  | 1000 mm / 39.37 in / 12 AWG                   |
| Cable length / diameter (IEC) | 1000 mm / 39.37 in / 4 mm <sup>2</sup>        |
| Maximum load capacity         | 5400 Pa                                       |
| Fire class                    | C                                             |
| Connector type (UL)           | Multi Contact type 4                          |
| Connector type (TUV)          | MC type 4 compatible                          |

## CELL TECHNOLOGY

|                                    |                 |
|------------------------------------|-----------------|
| Cell type                          | monocrystalline |
| Number of cells / cell arrangement | 72 / 6 x 12     |
| Cells dimension                    | 5"              |

## MISCELLANEOUS

|                        |                  |
|------------------------|------------------|
| Packing unit           | 22 modules       |
| Weight of packing unit | 390 kg / 858 lbs |

## ARTICLE NUMBER (per panel)-CHSM5612M (BL)Series

| Model             | ArticleNo. (IEC) | ArticleNo. (UL) |
|-------------------|------------------|-----------------|
| CHSM5612M(BL)-180 | 100082           | 100110          |
| CHSM5612M(BL)-185 | 100083           | 100111          |
| CHSM5612M(BL)-190 | 100084           | 100112          |
| CHSM5612M(BL)-195 | 100085           | 100113          |
| CHSM5612M(BL)-200 | 100236           | 100235          |

※ UL: black-white backsheet ※ IEC: black-white backsheet

## MODULE DIMENSION DETAILS

| Front view | Side view | Rear view | Frame cross section |
|------------|-----------|-----------|---------------------|
|            |           |           |                     |

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