

MONO CRYSTALLINE HALF-CUT MODULE

650 / 655 / 660 / 665 Watts





Overview

Ground breaking technology; higher power output, improved system performance - the ideal solution for end users who want a fast turnaround on their investments. A fully certified premium quality and high efficiency module made with A Grade materials.

Key Benefits



Certified by Independent Engineering Bodies



Ultra High Power Output



Low Resistive Losses



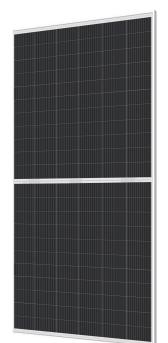
Product Liability Insurance



25 Years Limited Product Warranty



Low LCOE





Guaranteed mechanical resistance to severe weather conditions



Positive Tolerance

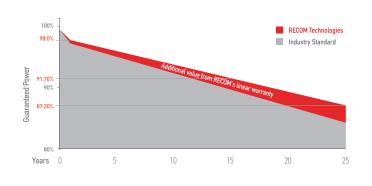


100 % electroluminescence tested

Tests, Certifications and Warranties

| Factory Quality Tests ISO 9001: 2015, ISO 14001: 2015 Certifications Conformity to CE, PV CYCLE Fire safety Class C according to UL790 Insurance Third party liability insurance provided by Liberty Mutual Wind and Snow Loads Testing Module certified to withstand extreme wind (2400 Pascal) and snow loads (5400 Pascal) Power Tolerance Guaranteed +0/+5W (STC condition) Warranties • 25-year limited product warranty • 15-year manufacturer warranty on 91.70% of the nominal performance • 25-year transferable linear power output warranty | | |
|---|-----------------------|--|
| Certifications Conformity to CE. PV CYCLE Fire safety Class C according to UL790 Insurance Third party liability insurance provided by Liberty Mutual Wind and Snow Loads Testing Module certified to withstand extreme wind (2400 Pascal) and snow loads (5400 Pascal) Power Tolerance Guaranteed +0/+5W (STC condition) Warranties • 25-year limited product warranty • 15-year manufacturer warranty on 91.70% of the nominal performance | Standard Tests | IEC 61215, IEC 61730 |
| Fire safety Class C according to UL790 Insurance Third party liability insurance provided by Liberty Mutual Wind and Snow Loads Testing Module certified to withstand extreme wind (2400 Pascal) and snow loads (5400 Pascal) Power Tolerance Guaranteed +0/+5W (STC condition) Warranties • 25-year limited product warranty • 15-year manufacturer warranty on 91.70% of the nominal performance | Factory Quality Tests | ISO 9001: 2015, ISO 14001: 2015 |
| Liberty Mutual Wind and Snow Loads Testing Module certified to withstand extreme wind (2400 Pascal) and snow loads (5400 Pascal) Power Tolerance Guaranteed +0/+5W (STC condition) Warranties • 25-year limited product warranty • 15-year manufacturer warranty on 91.70% of the nominal performance | Certifications | , |
| Testing (2400 Pascal) and snow loads (5400 Pascal) Power Tolerance Guaranteed +0/+5W (STC condition) Warranties • 25-year limited product warranty • 15-year manufacturer warranty on 91.70% of the nominal performance | Insurance | |
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| | Warranties | • 15-year manufacturer warranty on 91.70% of the nominal performance |

Linear Performance Warranty



First Year Output

≥ 98%

2-25 Year Decline

≤ 0.45%

25 Year | Output

≥ **87.20**%



Panther MONO CRYSTALLINE HALF CUT MODULE

RCM-xxx-8MM (xxx=650-665)

Electrical Characteristics

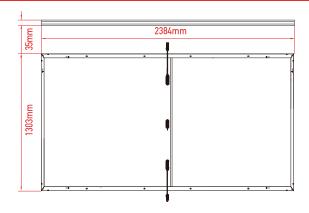
| POWER CLASS (1) | | 650 | | 50 | 655 | | 660 | | 665 | |
|------------------------|------|------|-----------|-------|-------|-------|-------|-------|-------|-------|
| Testing Condition | | | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT |
| Maximum Power | Pmax | [Wp] | 650 | 491 | 655 | 495 | 660 | 499 | 665 | 503 |
| Maximum Power Voltage | Vmp | [V] | 37,61 | 34,86 | 37,81 | 35,05 | 38,01 | 35,24 | 38,21 | 35,42 |
| Maximum Power Current | Imp | [A] | 17.28 | 14.09 | 17,32 | 14,13 | 17,36 | 14,16 | 17,40 | 14,19 |
| Open Circuit Voltage | Voc | [V] | 45,58 | 42,30 | 45,78 | 42,48 | 45,98 | 42,67 | 46,18 | 42,86 |
| Short Circuit Current | Isc | [A] | 18.16 | 14,89 | 18,21 | 14,93 | 18,26 | 14,97 | 18,31 | 15,01 |
| Module Efficiency | Eff | [%] | 20.92 | | 21,09 | | 21,25 | | 21,41 | |
| Maximum Series Fuse | IR | [A] | | | | 3 | 0 | | | |
| Maximum System Voltage | Vsys | [V] | 1500 V DC | | | | | | | |

⁽¹⁾ Measurement Tolerances: Pmax (\pm 3%), Isc & Voc (\pm 3%) - Power Classification 0/+5W

Mechanical Data

| Dimensions | 2384 mm x 1303 mm x 35 mm |
|--------------|--|
| Weight | 34 Kg |
| Cell Type | Mono Perc - 210mm x 105mm (2 x 66 Pcs) - G12 |
| Front Glass | 3.2mm Tempered and low iron glass + ARC |
| Rear Side | Anti-aging film |
| Frame | Anodized Aluminium Alloy |
| Junction Box | IP68 - 3 Bypass diodes |
| Connector | MC4 compatible |
| Output cable | 4mm² - Length = Landscape: 1500mm / Portrait: 280mm |
| | |

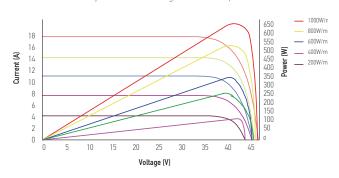
Dimensions



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I-V Curve

The module relative power loss at low light irradiance of 200W/m² is less than 3%.



Temperature Characteristics

| Pmax Temperature Coefficient | -0.36% / °C |
|---|---------------------|
| Voc Temperature Coefficient | -0.28% / °C |
| Isc Temperature Coefficient | +0.05% / °C |
| Operating Temperature | -40~+85°C |
| Nominal Operating Module Temperature (NMOT) | $42 \pm 2^{\circ}C$ |

Packing Configuration

| Container | 40'HC |
|-----------------------|-------------------|
| Pieces per Pallet | 31 |
| Pallets per Container | 18 |
| Pieces per Container | (31+31)x9=558 pcs |

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⁽²⁾ STC (Standard Testing Condition): Irrandiance 1000W/m², Cell Temperature 25°C, AM 1.5 (3) NMOT (Nominal Operating Module Temperature): Irrandiance 800W/m², NMOT, Ambient Temperature 20°C, AM 1.5, Wind Speed 1m/s