

MONO CRYSTALLINE HALF-CUT BIFACIAL MODULE

430 / 435 / 440 / 445 / 450 Watts

Panther Series



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



Product Liability Insurance



Ultra High Power Output



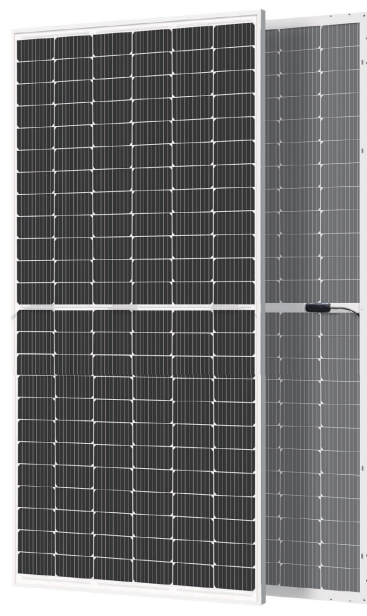
25 Years Limited Product Warranty



Low Resistive Losses



Higher Light Conversion



Guaranteed mechanical resistance to severe weather conditions



Positive Tolerance

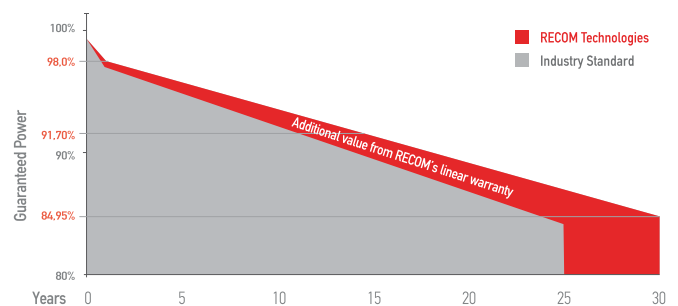


100 % electro-luminescence tested

Tests, Certifications and Warranties

| | |
|-----------------------------|---|
| Standard Tests | IEC 61215, IEC 61730 |
| 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 | <ul style="list-style-type: none"> 25-year limited product warranty 15-year manufacturer warranty on 91.70% of the nominal performance 30-year transferable linear power output warranty |

Linear Performance Warranty



First Year Output $\geq 98\%$ 2-30 Year Decline $\leq 0.45\%$ 30 Year Output $\geq 84.95\%$

Panther

MONO CRYSTALLINE HALF-CUT BIFACIAL MODULE

RCM-xxx-6BMF (xxx=430-450)

Electrical Characteristics

| POWER CLASS ⁽¹⁾ | | | 430 | | 435 | | 440 | | 445 | | 450 | |
|--|------|------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Testing Condition | | | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT |
| Maximum Power | Pmax | [Wp] | 430 | 322 | 435 | 326 | 440 | 330 | 445 | 334 | 450 | 338 |
| Maximum Power Voltage | Vmp | [V] | 40,60 | 37,70 | 40,80 | 37,90 | 41,00 | 38,10 | 41,20 | 38,20 | 41,40 | 38,30 |
| Maximum Power Current | Imp | [A] | 10,60 | 8,56 | 10,67 | 8,61 | 10,74 | 8,66 | 10,81 | 8,75 | 10,88 | 8,84 |
| Open Circuit Voltage | Voc | [V] | 49,20 | 46,10 | 49,40 | 46,30 | 49,60 | 46,50 | 49,80 | 46,70 | 50,00 | 46,90 |
| Short Circuit Current | Isc | [A] | 11,19 | 9,08 | 11,26 | 9,13 | 11,33 | 9,19 | 11,40 | 9,25 | 11,47 | 9,31 |
| Module Efficiency | Eff | [%] | 19,79 | | 20,02 | | 20,25 | | 20,48 | | 20,48 | |
| Maximum Series Fuse | Ir | [A] | 20 | | | | | | | | | |
| Maximum System Voltage | Vsys | [V] | 1500 V DC | | | | | | | | | |
| (1) Measurement Tolerances: Pmax (± 3%), Isc & Voc (± 3%) - Power Classification 0/+5W | | | | | | | | | | | | |
| (2) STC (Standard Testing Condition): Irradiance 1000W/m², Cell Temperature 25°C, AM 1.5 | | | | | | | | | | | | |
| (3) NMOT (Nominal Operating Module Temperature): Irradiance 800W/m², NMOT, Ambient Temperature 20°C, AM 1.5, Wind Speed 1m/s | | | | | | | | | | | | |

Bi Facial Output (4)

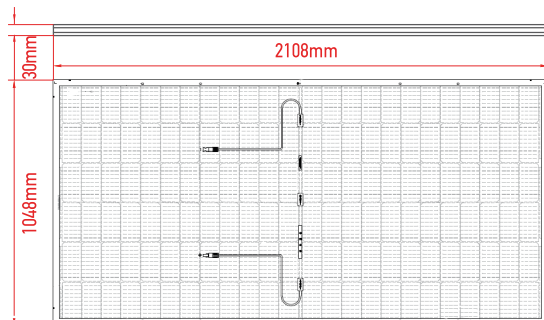
| POWER CLASS | | | 430 | | 435 | | 440 | | 445 | | 450 | |
|-----------------------------|-----|-----|-----------------------|---------|-----------------------|---------|-----------------------|---------|-----------------------|---------|-----------------------|---------|
| | | | P _{max} [Wp] | Eff [%] | P _{max} [Wp] | Eff [%] | P _{max} [Wp] | Eff [%] | P _{max} [Wp] | Eff [%] | P _{max} [Wp] | Eff [%] |
| Power with Backside Gain | +5 | [%] | 451,5 | 20,4% | 456,8 | 20,7% | 462,0 | 20,9% | 467,3 | 21,2% | 472,5 | 21,4% |
| | +10 | [%] | 473,0 | 21,4% | 478,5 | 21,7% | 484,0 | 21,9% | 489,5 | 22,2% | 495,0 | 22,4% |
| | +15 | [%] | 494,5 | 22,4% | 500,3 | 22,6% | 506,0 | 22,9% | 511,8 | 23,2% | 517,5 | 23,4% |
| | +20 | [%] | 516,0 | 23,4% | 522,0 | 23,6% | 528,0 | 23,9% | 534,0 | 24,2% | 540,0 | 24,4% |
| | +25 | [%] | 537,5 | 24,3% | 543,8 | 24,6% | 550,0 | 24,9% | 556,3 | 25,2% | 562,5 | 25,5% |
| | +30 | [%] | 559,0 | 25,3% | 565,5 | 25,6% | 572,0 | 25,9% | 578,5 | 26,2% | 585,0 | 26,5% |

(4) Bifaciality Factor > 70% - Back-side power gain depends upon the specific project albedo - Efficiency is according to the surface of the module

Mechanical Data

| | |
|--------------|--|
| Dimensions | 2108mm x 1048mm x 30mm |
| Weight | 24 Kg |
| Cell Type | Mono Perc - 166mm x 83mm (2 x 72 Pcs) -M6 |
| Front Glass | 3.2 mm Tempered and low iron glass + ARC |
| Rear Side | Anti-aging film |
| Frame | Anodized Aluminum Alloy |
| Junction Box | IP68 - 3 Bypass diodes |
| Connector | MC4 compatible |
| Output cable | 4mm ² - Landscape: (-) 1300mm / (+) 1300mm Portrait: (-) 150mm / (+) 300mm |

Dimensions

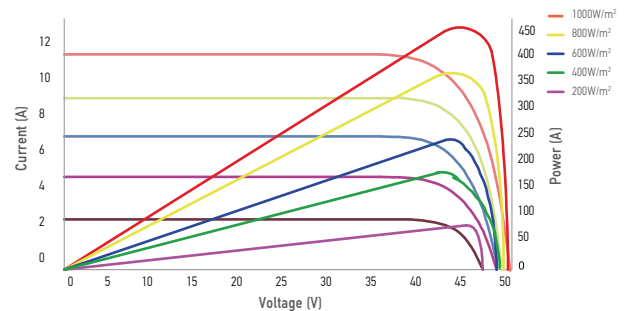


RECOM assumes no liability or responsibility for any typographical error, layout error, misinformation, any other error, omission, contained herein.

www.recom-tech.com

I-V Curve

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



Temperature Characteristics

| | |
|---|--------------|
| P _{max} Temperature Coefficient | -0.36% / °C |
| V _{oc} Temperature Coefficient | -0.28% / °C |
| I _{sc} Temperature Coefficient | +0.05% / °C |
| Operating Temperature | -40 ~ +85 °C |
| Nominal Operating Module Temperature (NMOT) | 42 ± 2 °C |

Packing Configuration

| | |
|-----------------------|----------------------|
| Container | 40' HC |
| Pieces per Pallet | 36 |
| Pallets per Container | 22 |
| Pieces per Container | (36+36+5)x11=847 pcs |

The specification and key features described in this datasheet may deviate slightly and are not guaranteed. Due to on-going innovation, research and product enhancement, RECOM Technologies reserves the right to make any adjustment to the information described herein at any time without notice. Please always obtain the most recent version of the datasheet which shall be duly incorporated into the binding contract made by the parties governing all transactions related to the purchase and sale of the products described herein. Please read the safety and installation instructions before using the modules.