RECOM TECHNOLOGIES

MONO CRYSTALLINE HALF-CUT BIFACIAL MODULE

645 / 650 / 655 / 660 / 665 Watts

Panther Series

BloombergNEF TIER 1

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.



Guaranteed mechanical resistance to severe weather conditions

Wp

Positive Tolerance

EL

100 % electro-luminescence tested

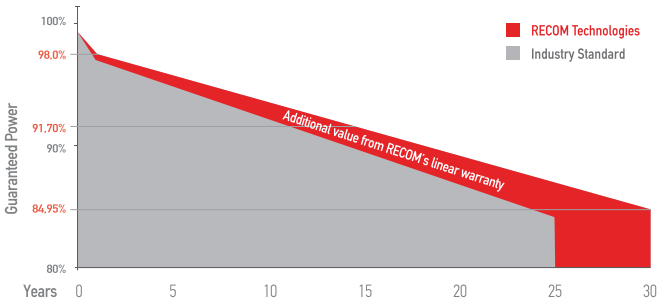
Key Benefits

- Certified by Independent Engineering Bodies
- Higher Light Conversion
- Ultra High Power Output
- 25 Years Limited Product Warranty
- Low Resistive Losses
- Low LCOE

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	• 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	≥ 98%	2-30 Year Decline	≤ 0.45%	30 Year Output	≥ 84.95%

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Panther

MONO CRYSTALLINE HALF-CUT BIFACIAL MODULE

RCM-xxx-8BMM (xxx=645-665)

Electrical Characteristics

POWER CLASS [1]			645		650		655		660		665	
Testing Condition			STC	*NMOT*	STC	*NMOT*	STC	*NMOT*	STC	*NMOT*	STC	*NMOT*
Maximum Power	Pmax	[Wp]	645	*488*	650	*491*	655	*495*	660	*499*	665	*503*
Maximum Power Voltage	Vmp	[V]	37,41	*34,68*	37,61	*34,86*	37,81	*35,05*	38,01	*35,24*	38,21	*35,42*
Maximum Power Current	Imp	[A]	17,24	*14,06*	17,28	*14,09*	17,32	*14,13*	17,36	*14,16*	17,40	*14,19*
Open Circuit Voltage	Voc	[V]	45,38	*42,11*	45,58	*42,30*	45,78	*42,48*	45,98	*42,67*	46,18	*42,86*
Short Circuit Current	Isc	[A]	18,11	*14,85*	18,16	*14,89*	18,21	*14,93*	18,26	*14,97*	18,31	*15,01*
Module Efficiency	Eff	[%]	20,76		20,92		21,09		21,25		21,41	
Maximum Series Fuse	IR	[A]	30									
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): 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

Bi Facial Output (4)

POWER CLASS			645		650		655		660		665	
			Pmax [Wp]	*Eff [%]*	Pmax [Wp]	*Eff [%]*	Pmax [Wp]	*Eff [%]*	Pmax [Wp]	*Eff [%]*	Pmax [Wp]	*Eff [%]*
Power with Backside Gain	+5	[%]	677,3	*21,8%*	682,5	*22,0%*	687,8	*22,1%*	693,0	*22,3%*	698,3	*22,5%*
	+10	[%]	709,5	*22,8%*	715,0	*23,0%*	720,5	*23,2%*	726,0	*23,4%*	731,5	*23,5%*
	+15	[%]	741,8	*23,9%*	747,5	*24,1%*	753,3	*24,2%*	759,0	*24,4%*	764,8	*24,6%*
	+20	[%]	774,0	*24,9%*	780,0	*25,1%*	786,0	*25,3%*	792,0	*25,5%*	798,0	*25,7%*
	+25	[%]	806,3	*26,0%*	812,5	*26,2%*	818,8	*26,4%*	825,0	*26,6%*	831,3	*26,8%*
	+30	[%]	838,5	*27,0%*	845,0	*27,2%*	851,5	*27,4%*	858,0	*27,6%*	864,5	*27,8%*

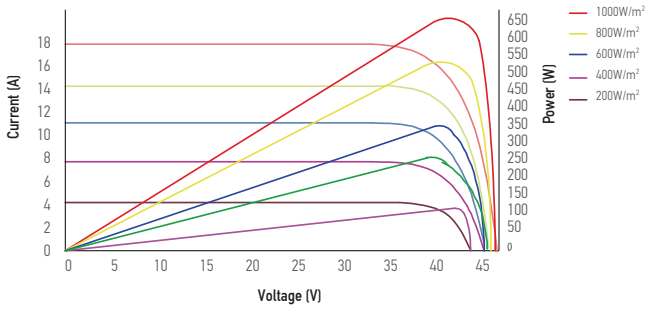
(4) Bifaciality Factor > 70% - Back-side power gain depends upon the specific project albedo - Efficiency is according to the surface of the module

Mechanical Data

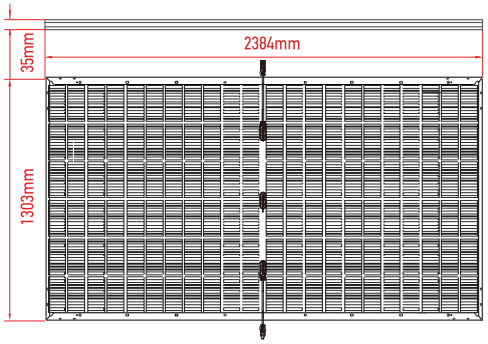
Dimensions	2384mm x 1303mm x 35mm
Weight	34 Kg
Cell Type	Mono Perc - 210mm x 105mm (2 x 66 Pcs) - G12
Front Glass	3.2mm Tempered and low iron glass + ARC
Rear Side	Anti-aging film (Clear)
Frame	Anodized Aluminium Alloy
Junction Box	IP68 - 3 Bypass diodes
Connector	MC4 compatible
Output cable	4 mm² - Length = 320mm or customized

I-V Curve

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



Dimensions



Temperature Characteristics

Pmax Temperature Coefficient	-0.34% / °C
Voc Temperature Coefficient	-0.25% / °C
Isc Temperature Coefficient	+0.04% / °C
Operating Temperature	-40~+85 °C
Nominal Operating Module Temperature (NMOT)	42 ± 2°C

Packing Configuration

Container	40'HC
Pieces per Pallet	32
Pallets per Container	18
Pieces per Container	(32+32) x 9=576 pcs

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**Release RCM-xxx-8BMM(xxx=645-665)-12-G12-35-ST-15V-002-2022-04-v3.0