

## N-TYPE MONO CRYSTALLINE HALF CUT MODULE - BACK CONTACT TECHNOLOGY - DOUBLE GLASS

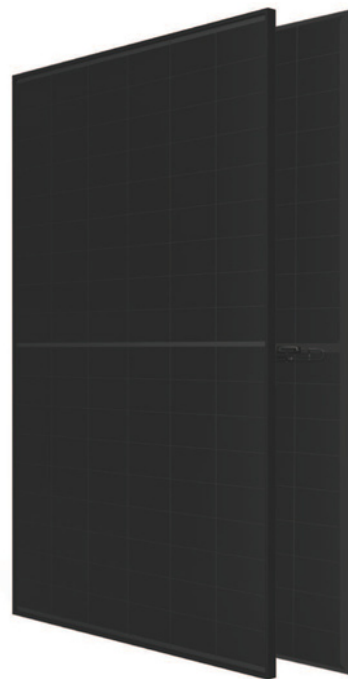
470 / 475 / 480 / 485 / 490 / 495 / 500 Watts

### BLACK TIGER SERIES



### Overview

Black Tiger modules provide numerous benefits to customers seeking a high-quality product with exceptional performance and aesthetic, captivating design. The "Black Tiger" module utilizes N-Type cell technology in conjunction with a rear connection method known as BackContact. As a result, there is 0% front grid shadow loss, which increases the PV module's yield. Due to reduced shading on the front of the cell, the module maximizes total cell area realizing higher efficiency and resulting in a fast return on investment.



Guaranteed mechanical resistance to severe weather conditions



Positive Tolerance



100 % electro-luminescence tested

### Key Benefits



Micro-Cracks Resistance



25 Years Limited Product Warranty



Partial Shading Optimization



Low Pmax Temperature Coefficient



Low LCOE

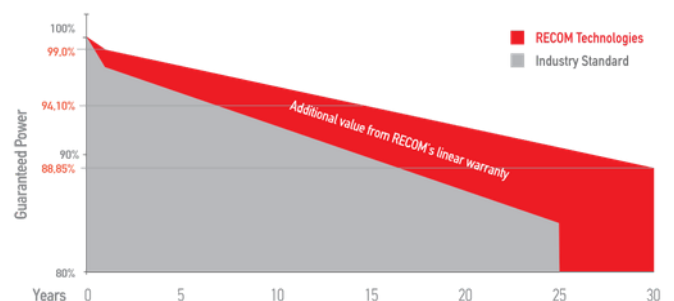


Higher Light Conversion

### 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
Wind and Snow Static Loads	Module certified to withstand extreme wind (2400 Pascal) and snow loads (5400 Pascal)
Withstanding Hail	Maximum Diameter of 25 mm with impact speed of 23 m/s
Power Tolerance	Guaranteed +0/+5W (STC condition)
Warranties	<ul style="list-style-type: none"> <li>• 25-year limited product warranty</li> <li>• 15-year manufacturer warranty on 94,10% of the nominal performance</li> <li>• 30-year transferable linear power output warranty</li> </ul>

### Linear Performance Warranty



First Year Output  $\geq 99.0\%$     2-30 Year Decline  $\leq 0.35\%$     30 Year Output  $\geq 88,85\%$

# Black Tiger

## N-TYPE MONO CRYSTALLINE HALF CUT MODULE - BACK CONTACT TECHNOLOGY- DOUBLE GLASS

RCM-xxx-7RDBRCG(XXX=470-500)

### Electrical Characteristics

POWER CLASS <sup>(1)</sup>			470		475		480		485		490		495		500	
Testing Condition			STC <sup>(2)</sup>	NMOT <sup>(3)</sup>	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power	P <sub>max</sub>	[Wp]	470	357	475	361	480	364	485	368	490	372	495	375	500	379
Maximum Power Voltage	V <sub>mp</sub>	[V]	33,64	31,92	33,74	32,01	33,84	31,11	33,94	32,20	34,04	32,30	34,14	32,40	34,24	32,49
Maximum Power Current	I <sub>mp</sub>	[A]	13,98	11,17	14,09	11,27	14,19	11,35	14,30	11,44	14,40	11,51	14,50	11,59	14,60	11,67
Open Circuit Voltage	V <sub>oc</sub>	[V]	40,50	38,42	40,63	38,55	40,76	38,67	40,89	38,80	41,02	38,92	41,15	39,04	41,28	39,16
Short Circuit Current	I <sub>sc</sub>	[A]	14,82	11,97	14,89	12,03	14,96	12,09	15,03	12,15	15,10	12,21	15,17	12,26	15,24	12,32
Module Efficiency	Eff	[%]	23,0		23,3		23,5		23,8		24,0		24,3		24,5	
Maximum Series Fuse	IR	[A]	25													
Maximum System Voltage	VSYS	[V]	1500V DC (IEC)													

(1) Measurement Tolerances: I<sub>sc</sub> & V<sub>oc</sub> (± 3%) - Power Classification 0/+5W  
 (2) STC (Standard Testing Condition): Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, AM 1.5  
 (3) NMOT (Nominal Operating Module Temperature): Irradiance 800W/m<sup>2</sup>, NMOT, Ambient Temperature 20°C, AM 1.5, Wind Speed 1m/s

### Bi Facial Output (4)

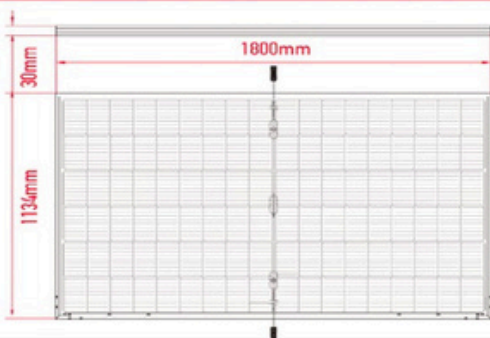
POWER CLASS			470		475		480		485		490		495		500	
			P <sub>max</sub> (Wp)	Eff (%)	P <sub>max</sub> (Wp)	Eff (%)	P <sub>max</sub> (Wp)	Eff (%)	P <sub>max</sub> (Wp)	Eff (%)	P <sub>max</sub> (Wp)	Eff (%)	P <sub>max</sub> (Wp)	Eff (%)	P <sub>max</sub> (Wp)	Eff (%)
Power with Backside Gain	+5	[%]	493,5	24,2%	498,8	24,5%	504,0	24,7%	509,3	25,0%	514,5	25,2%	519,75	25,5%	525,0	25,7%
	+10	[%]	517,0	25,3%	522,5	25,6%	528,0	25,9%	533,5	26,2%	539,0	26,4%	544,5	26,7%	550,0	26,9%
	+15	[%]	540,5	26,5%	546,3	26,8%	552,0	27,0%	557,8	27,4%	563,5	27,6%	569,25	27,9%	575,0	28,1%
	+20	[%]	564,0	27,6%	570,0	28,0%	576,0	28,2%	582,0	28,6%	588,0	28,8%	594,0	29,1%	600,0	29,4%
	+25	[%]	587,5	28,8%	593,8	29,1%	600,0	29,4%	606,3	29,8%	612,5	30,0%	618,75	30,3%	625,0	30,6%
	+30	[%]	611,0	29,9%	617,5	30,3%	624,0	30,6%	630,5	30,9%	637,0	31,2%	643,5	31,5%	650,0	31,8%

(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	1800 mm x 1134 mm x 30 mm
Weight	24,8 Kg
Cell Type	RC- N-type - 108 (2 x 54 Pcs) - M10R
Front Glass	2.0 mm Semi-tempered glass
Rear Side	2.0 mm Semi-tempered glass
Frame	Anodized Aluminum Alloy (Black)
Junction Box	IP68, 3 Bypass diodes
Connector	EVO2A
Output cable	4mm <sup>2</sup> - Length: ±1200mm

### Dimensions



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

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### Temperature Characteristics

P <sub>max</sub> Temperature Coefficient	-0.260% / °C
V <sub>oc</sub> Temperature Coefficient	-0.220% / °C
I <sub>sc</sub> Temperature Coefficient	+0.050% / °C
Operating Temperature	-40~+85 °C
Nominal Operating Module Temperature (NMOT)	45 ± 2 °C

### Packing Configuration

Container	40'HC
Pieces per Pallet	37
Pallets per Container	24
Pieces per Container	(37+37) x 12 = 888 pcs