

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

470 / 475 / 480 / 485 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.

Key Benefits

Zero Light Induced Degradation	High Power Generation
0% Front Grid Shading Loss	Low Pmax Temperature Coefficient
Low LCOE	Higher Light Conversion



Guaranteed mechanical resistance to severe weather conditions



Positive Tolerance

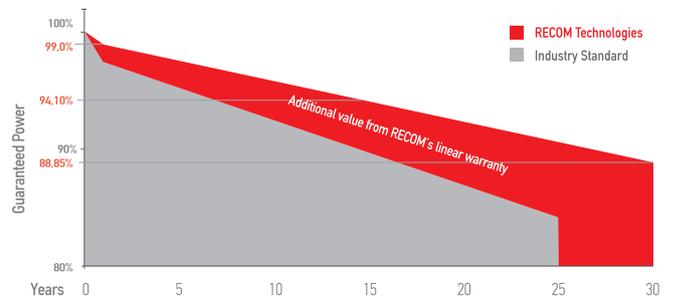


100 % electro-luminescence tested

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
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"> 25-year limited product warranty 15-year manufacturer warranty on 94,10% of the nominal performance 30-year transferable linear power output warranty

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-7DBRCG (xxx=470-485)

Electrical Characteristics

POWER CLASS ⁽¹⁾		470		475		480		485	
Testing Condition		STC ⁽²⁾	NMOT ⁽³⁾	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power	Pmax [Wp]	470	357	475	361	480	365	485	369
Maximum Power Voltage	Vmp [V]	33,29	31,6	33,40	31,71	33,51	31,82	33,62	31,93
Maximum Power Current	Imp [A]	14,13	11,3	14,23	11,39	14,33	11,48	14,43	11,56
Open Circuit Voltage	Voc [V]	40,31	38,28	40,42	38,39	40,53	38,50	40,64	38,61
Short Circuit Current	Isc [A]	14,78	11,84	14,88	11,93	14,98	12,02	15,08	12,10
Module Efficiency	Eff [%]	23,0		23,3		23,5		23,8	
Maximum Series Fuse	IR [A]	30							
Maximum System Voltage	VSYS [V]	1500V DC (IEC)							

(1) Measurement Tolerances: 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)

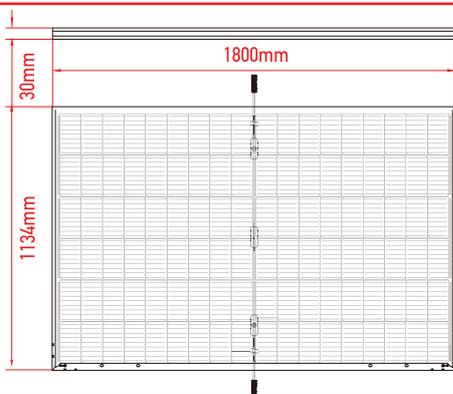
POWER CLASS		470		475		480		485	
		Pmax [Wp]	Eff [%]						
Power with Backside Gain	+5 [%]	493,5	24,2%	498,8	24,4%	504,0	24,7%	509,3	24,9%
	+10 [%]	517,0	25,3%	522,5	25,6%	528,0	25,9%	533,5	26,1%
	+15 [%]	540,5	26,5%	546,3	26,8%	552,0	27,0%	557,8	27,3%
	+20 [%]	564,0	27,6%	570,0	27,9%	576,0	28,2%	582,0	28,5%
	+25 [%]	587,5	28,8%	593,8	29,1%	600,0	29,4%	606,3	29,7%
	+30 [%]	611,0	29,9%	617,5	30,3%	624,0	30,6%	630,5	30,9%

(4) Bifaciality Factor > 80% - 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	23,5 Kg
Cell Type	RC-N-type - 108 (2 x 54 Pcs) - M11
Front Glass	2.0 mm semi-tempered glass
Rear Side	1.6 mm semi-tempered glass
Frame	Anodized Aluminium Alloy (Black)
Junction Box	IP68, 3 Bypass diodes
Connector	MC4 compatible
Output cable	4mm ² - Length: 1200 mm

Dimensions



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

Temperature Characteristics

Pmax Temperature Coefficient	-0.260% / °C
Voc Temperature Coefficient	-0.200% / °C
Isc 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	36
Pallets per Container	24
Pieces per Container	(36+36)x12=864 pcs

www.recom-tech.com

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.