

Black Panther

Overview

A fully certified, premium quality and high efficiency module made with A Grade materials. Guaranteed positive tolerance of up to 5W, providing a higher output compared to our leading competitors.

Key Benefits



Certified by Independent **Engineering Bodies**



Product Liability Insurance





15 Years Limited **Product Warranty**



Anti-PID Technology



Low Carbon Footprint





Guaranteed mechanical resistance to severe weather conditions



Guaranteed Positive Tolerance up to 5W

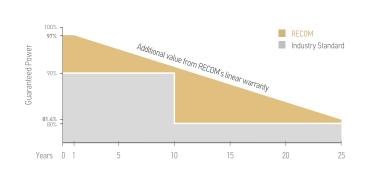


100 % electroluminescence tested

Tests. Certifications and Warranties

| Standard Tests | IEC 61215, IEC 61730 |
|--------------------------------|---|
| Factory Quality Tests | ISO 9001: 2008, ISO 14001: 2004 |
| Certifications | Conformity to CE, PV CYCLE |
| Insurance | Product liability insurance provided by Allianz |
| Wind and Snow Loads Testing | Module certified to withstand extreme wind (2400 Pascal) and snow loads (5400 Pascal) |
| Positive Tolerance | Guaranteed positive tolerance of up to 5W |
| Junction Box | IP67 Rated, 3 diodes |
| Warranties | 15-year limited product warranty 15-year manufacturer warranty on 88.55% of the nominal performance 25-year transferable linear power output warranty |

Linear Performance Warranty



First Year Output

≥ 97%

2-24 Year Decline

≤ 0.65%

25 Year Output

≥ 81.4%















Electrical Characteristics

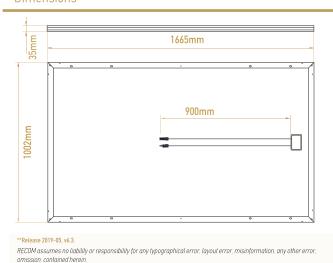
| Rated Power | 310W | 315W | 320W | 325W |
|-----------------------------|---|--------------|--------|--------|
| Power Tolerance | $0 \sim +5W$ | $0 \sim +5W$ | 0~+5W | 0~+5W |
| Maximum Power Voltage (Vmp) | 33.00V | 33.20V | 33.40V | 33.60V |
| Maximum Power Current (Imp) | 9.40A | 9.49A | 9.59A | 9.68A |
| Open Circuit Voltage (Voc) | 40.30V | 40.50V | 40.70V | 40.90V |
| Short Circuit Current (Isc) | 9.89A | 9.98A | 10.07A | 10.16A |
| Module Efficiency | 18.58% | 18.88% | 19.18% | 19.48% |
| Maximum Series Fuse | 16A | 16A | 16A | 16A |
| Maximum System Voltage | 1.000 VDC (IEC) - 1.000 VDC (UL) / 1.500 VDC (upon request) | | | |

Tested at Standard Test Conditions. Measurement tolerances: \pm 3%

Mechanical Data

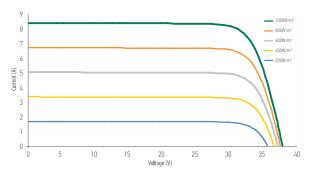
| Dimensions | 1665mm x 1002mm x 35mm |
|---------------|--|
| Weight | 19.0 Kg |
| Frame | Anodized aluminum |
| Front Glass | 3.2mm ARC, low iron, tempered glass |
| Output Cables | TUV (2Pfg1169:2007), UL 4703, UL44 4.0mm ² (0.006 in ²), symmetrical lengths (-) 900mm and (+) 900mm, MC4 type connectors |

Dimensions



I-V Curve

The module relative power loss at low light irradiance of 200W/ m^2 is less than 3%.



Temperature Characteristics

| Pmax Temperature Coefficient | -0.37% / ºC |
|---|--------------|
| Voc Temperature Coefficient | -0.28% / °C |
| Isc Temperature Coefficient | +0.048% / °C |
| Operating Temperature | -40~+85°C |
| Nominal Operating Cell Temperature (NOCT) | 45 ± 2 °C |

Packing Configuration

| Container | 40"HC |
|-----------------------|-------|
| Pieces per Pallet | 30 |
| Pallets per Container | 28 |
| Pieces per Container | 8/10 |

recom-solar.com