SOLAR'S MOST TRUSTED

REC

# REC ALPHα BLACK SERIES

375 WP POWER

REC 25 YEAR ProTrust WARRANTY

PRODUCT · PERFORMANCE · LABOR

ELIGIBLE

inter solar award 2020 WINNER

EXPERIENCE α PERFORMANCE

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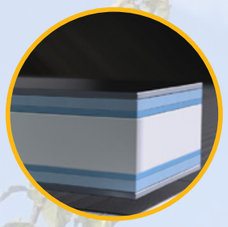
REC ALPHA BLACK SERIES > FACTSHEET

# GROUND-BREAKING TECHNOLOGY FOR MAXIMIZING POWER DENSITY

# OVER 20% MORE POWER MAKES THE MOST OF ROOFTOP SPACE

**The REC Alpha Black Series is a revolutionary hybrid solar panel which unites the leading cell technologies to create a powerful and reliable 60-cell panel:**

- High power density maximizes energy generation from limited spaces - up to 19.9 W/ft²
- The most advanced cell structure for high efficiency performance
- Over 20% more power than conventional panels
- More savings from your roof

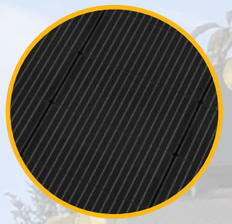


### Heterojunction cells

- Combine the best of crystalline and thin-film technologies
- Highly efficient bifacial cell architecture for high performance

### N-type technology = more power

- No LID protects panel from initial power loss
- You get the power you pay for



### Unique Advanced Cell Connections

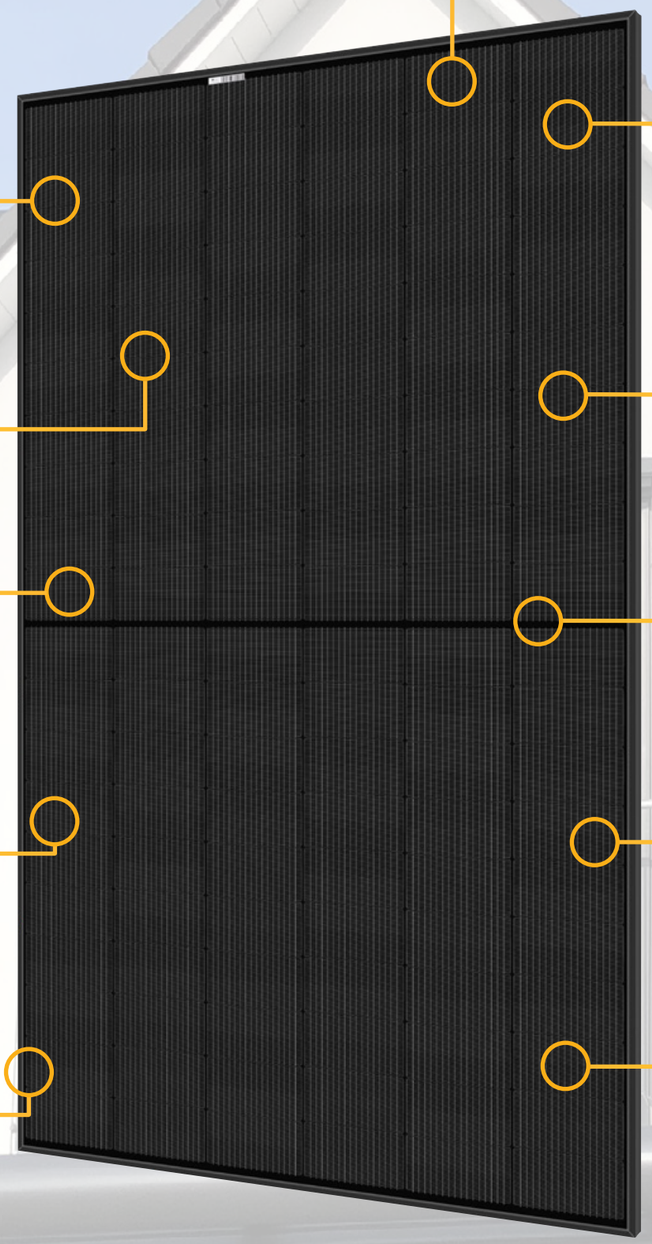
- Eliminates invasive soldering for better build quality
- Reduces thermal stress on the cells for long-term durability
- Great aesthetics

### Higher light transmission

- Special anti-reflective glass increases light transmission for higher power
- Inherently bifacial cells can produce energy from both sides of the panel

### Guaranteed better durability

- Super-strong frame withstands up to 146 lbs/sq ft
- Better protection against harsh weather
- Improves cell life for long-lasting high power



### Stunning appearance

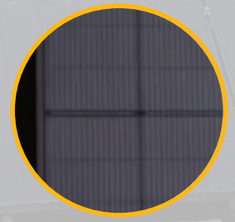
- Full-black design for a seamless appearance on your roof
- Practically-invisible connections for the best choice for your home

### High power density of 19.9 W/ft²

- High power density on a 60-cell panel
- Pack in more power in limited or restricted spaces
- Generate more clean energy

### Higher efficiency at the hottest times

- Leading temperature coefficient for more production when the sun shines strongest
- Better performance in hot climates



### REC's iconic Twin Design

- Reduces internal resistance for more power and reliability
- Improved output when shaded

### Environmentally-friendly

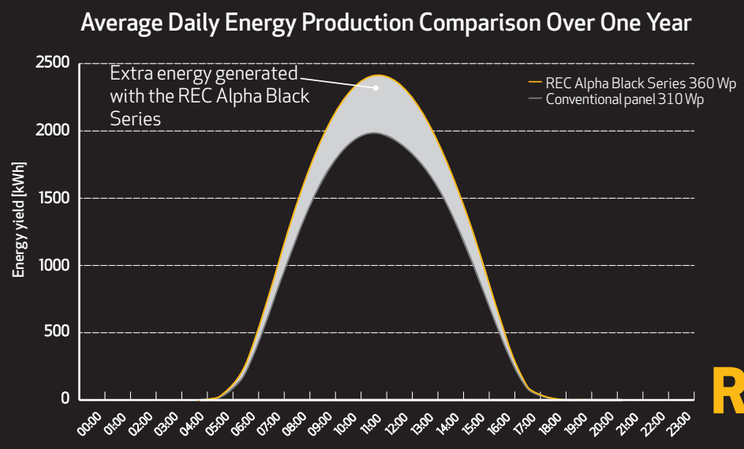
- Energy-efficient manufacturing processes minimize carbon footprint
- Colossal 81% reduced lead content, only 0.02% by weight

### Exceptional quality

- Made in REC's state of the art, energy efficient facility in Singapore
- Highly automated production improves efficiency and reliability
- Consistently one of the lowest warranty claims rate in solar

# GREATER YIELDS
# FROM DAWN TO DUSK

The REC Alpha Black Series packs in more energy than ever before. With no LID, a leading temperature coefficient and its high power density, it is ideal for increasing energy yields and making the most of available rooftop space.



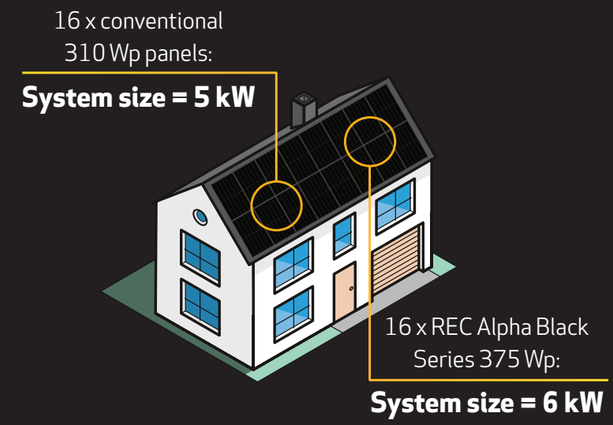

Calculations based on simulation results for full calendar year, based on an 8 kWp system in Palm Springs, CA, USA. Peak REC Alpha Black Series energy yield difference at midday: +21%, with an overall greater annual yield of 17%. Performance may vary dependent on location.

**+20% MORE**

**WITH THE REC ALPHA BLACK!**

# MAXIMIZE SYSTEM POWER
# FOR MAXIMUM SAVINGS

Optimum use of rooftop space is key to a good solar installation. The REC Alpha Black Series allows you to pack in as much power generation as possible, generating more energy and more savings on your bills.




The comparison is clear: even in a regular residential installation, the REC Alpha Black Series gives you 1 kW more power than conventional panels for more energy and more savings.

# 15% MORE WARRANTED
# POWER AFTER 25 YEARS

REC's consistently low claims rate justifies outstanding warranty terms. Our warranty offering reflects this leadership and supports our premium product quality.


Exclusively offered by REC Certified Solar Professionals, the REC ProTrust Warranty gives enhanced product and labor coverage*, ensuring peace of mind and a lifetime of high power generation:

- 25 years performance warranty
- 25 years product warranty
- Up to 25 year labor warranty*

*Conditions apply. See www.recgroup.com/protrust for more details

# MAKE MAJOR REDUCTIONS
# TO YOUR $CO_2$ FOOTPRINT

A 6 kW REC Alpha Black Series installation generates over 7,200 kWh of clean energy per year, cutting the $CO_2$ emissions of a home by 4.7 tons per year*, equivalent to:

**84** trees planted and grown over 10 years

$CO_2$ sequestered by **6 acres** of forest per year

**1.8 tons** of waste recycled instead of entering landfill

**12,500 miles** in a family car

Charging a phone **650,000** times

**2.5 tons** of coal burnt for power

*Values may vary dependent on location

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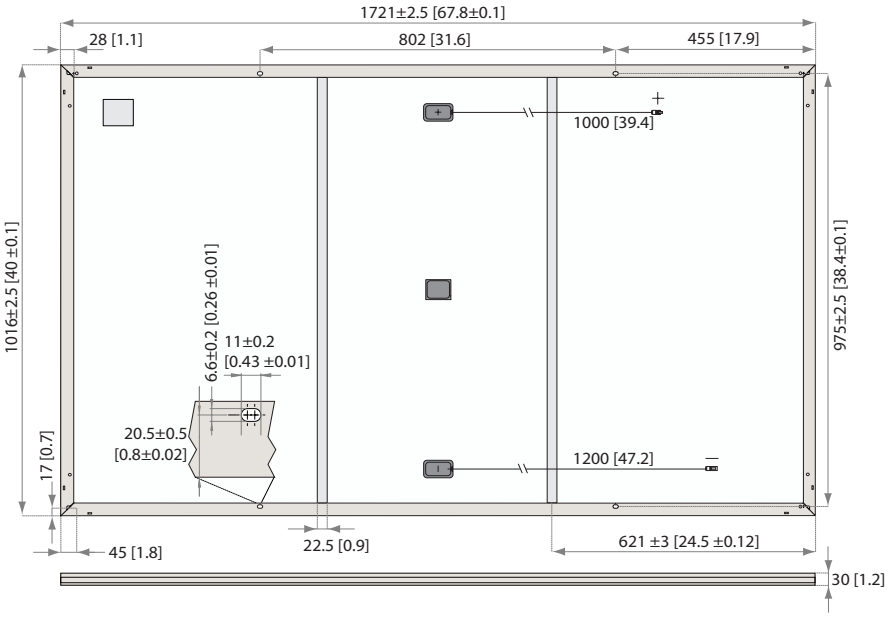
# PRODUCT DATASHEET

REC ALPHA BLACK SERIES > PRODUCT DATASHEET




Measurements in mm [in]

## GENERAL DATA

| | | | |
|---|---|---|---|
| Cell type: | 120 half-cut bifacial cells with REC heterojunction cell technology 6 strings of 20 cells in series | Connectors: | Stäubli MC4 PV-KBT4/KST4, 12 AWG (4 mm²) in accordance with IEC 62852 IP68 only when connected |
| Glass: | 0.13 in (3.2 mm) solar glass with anti-reflection surface treatment | Cable: | 12 AWG (4 mm²) PV wire, 39 + 47 in (1 + 1.2 m) in accordance with EN 50618 |
| Backsheet: | Highly resistant polymeric construction | Dimensions: | 67.8 x 40 x 1.2 in (1721 x 1016 x 30 mm) |
| Frame: | Anodized aluminum | Weight: | 43 lbs (19.5 kg) |
| Junction box: | 3-part, 3 bypass diodes, IP67 rated in accordance with IEC 62790 | Origin: | Made in Singapore |

## ELECTRICAL DATA

| | Product Code*: RECxxxAA Black | | | | |
|---|---|---|---|---|---|
| STC | | | | | |
| Power Output - $P_{MAX}$ (Wp) | 355 | 360 | 365 | 370 | 375 |
| Watt Class Sorting - (W) | -0/+5 | -0/+5 | -0/+5 | -0/+5 | -0/+5 |
| Nominal Power Voltage - $V_{MPP}$ (V) | 36.4 | 36.7 | 37.1 | 37.4 | 37.8 |
| Nominal Power Current - $I_{MPP}$ (A) | 9.77 | 9.82 | 9.85 | 9.90 | 9.94 |
| Open Circuit Voltage - $V_{OC}$ (V) | 43.6 | 43.9 | 44.0 | 44.1 | 44.2 |
| Short Circuit Current - $I_{SC}$ (A) | 10.47 | 10.49 | 10.52 | 10.55 | 10.58 |
| Power Density (W/sq ft) | 18.9 | 19.1 | 19.4 | 19.7 | 19.9 |
| Panel Efficiency (%) | 20.3 | 20.6 | 20.9 | 21.2 | 21.4 |
| NMOT | | | | | |
| Power Output - $P_{MAX}$ (Wp) | 271 | 274 | 278 | 282 | 286 |
| Nominal Power Voltage - $V_{MPP}$ (V) | 34.3 | 34.6 | 35.0 | 35.2 | 35.6 |
| Nominal Power Current - $I_{MPP}$ (A) | 7.89 | 7.93 | 7.96 | 8.00 | 8.03 |
| Open Circuit Voltage - $V_{OC}$ (V) | 41.1 | 41.4 | 41.5 | 41.6 | 41.6 |
| Short Circuit Current - $I_{SC}$ (A) | 8.46 | 8.47 | 8.50 | 8.52 | 8.55 |

Values at standard test conditions (STC: air mass AM 1.5, irradiance 10.75 W/sq ft (1000 W/m²), temperature 77°F (25°C), based on a production spread with a tolerance of $P_{MAX}$, $V_{OC}$ & $I_{SC}$ ±3% within one watt class. Nominal module operating temperature (NMOT: air mass AM 1.5, irradiance 800 W/m², temperature 68°F (20°C), windspeed 3.3 ft/s (1 m/s). * Where xxx indicates the nominal power class ($P_{MAX}$) at STC above. Bifaciality coefficent of up to $P_{MAX}$ ~ 4%.

## CERTIFICATIONS

| | |
|---|---|
| IEC 61215:2016, IEC 61730:2016, UL 1703, UL 61730 | |
| IEC 62804 | PID |
| IEC 61701 | Salt Mist |
| IEC 62716 | Ammonia Resistance |
| UL 1703 | Fire Type Class 2 |
| IEC 62782 | Dynamic Mechanical Load |
| IEC 61215-2:2016 | Hailstone (35mm) |
| AS4040.2 NCC 2016 | Cyclic Wind Load |
| ISO 14001:2004, ISO 9001:2015, OHSAS 18001:2007, IEC 62941 | |

## WARRANTY

| | Standard | REC ProTrust | |
|---|---|---|---|
| Installed by an REC Certified Solar Professional | No | Yes | Yes |
| System Size | All | ≤25 kW | 25-500 kW |
| Product Warranty (yrs) | 20 | 25 | 25 |
| Power Warranty (yrs) | 25 | 25 | 25 |
| Labor Warranty (yrs) | 0 | 25 | 10 |
| Power in Year 1 | 98% | 98% | 98% |
| Annual Degradation | 0.25% | 0.25% | 0.25% |
| Power in Year 25 | 92% | 92% | 92% |

See warranty documents for details. Conditions apply.

## MAXIMUM RATINGS

| | |
|---|---|
| Operational temperature: | -40 ... +85°C |
| Maximum system voltage: | 1000 V |
| Design load (+): snow<br>Maximum test load (+): | 4666 Pa (97.5 lbs/sq ft)*<br>7000 Pa (146 lbs/sq ft)* |
| Design load (-): wind<br>Maximum test load (-): | 2666 Pa (55.6 lbs/sq ft)*<br>4000 Pa (83.5 lbs/sq ft)* |
| Max series fuse rating: | 25 A |
| Max reverse current: | 25 A |

* Calculated using a safety factor of 1.5
*See installation manual for mounting instructions

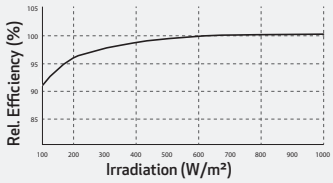
## TEMPERATURE RATINGS*

| | |
|---|---|
| Nominal Module Operating Temperature: | 44°C (±2°C) |
| Temperature coefficient of $P_{MAX}$: | -0.26 %/°C |
| Temperature coefficient of $V_{OC}$: | -0.24 %/°C |
| Temperature coefficient of $I_{SC}$: | 0.04 %/°C |

*The temperature coefficients stated are linear values

## LOW LIGHT BEHAVIOUR

Typical low irradiance performance of module at STC:




Specifications subject to change without notice.

Ref: PM-DS-12-02-Rev- E 12.20

REC Group is an international pioneering solar energy company dedicated to empowering consumers with clean, affordable solar power in order to facilitate global energy transitions. Committed to quality and innovation, REC offers photovoltaic modules with leading high quality, backed by an exceptional low warranty claims rate of less than 100ppm. Founded in Norway in 1996, REC employs 2,000 people and has an annual solar panel capacity of 1.8 GW. With over 10 GW installed worldwide, REC is empowering more than 16 million people with clean solar energy. REC Group is a Bluestar Elkem company with headquarters in Norway, operational headquarters in Singapore, and regional bases in North America, Europe, and Asia-Pacific.

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www.recgroup.com