

Description

Renogy 320W/400W Bifacial Solar Panels are built for higher-output off-grid systems that need more power with fewer panels. By capturing sunlight from both the front and rear, they can generate up to 30% more energy than standard monofacial panels in reflective, elevated, or rear-exposed installations.

Using Grade A+ N-Type monocrystalline cells with up to 25% cell efficiency, the panels deliver strong performance in heat and low light, along with slower long-term degradation. The half-cut cell design improves output under partial shading, while pre-drilled mounting holes support faster installation for cabins, sheds, farms, and ground-mounted systems.

Key Features

■ Bifacial Boost for 30% Extra Energy

Capture reflected light from both sides to gain up to 30% more power in environments like sand, snow, or light-colored surfaces, without extra effort or repositioning.

■ Maximum Output with Next-Gen N-Type Cells

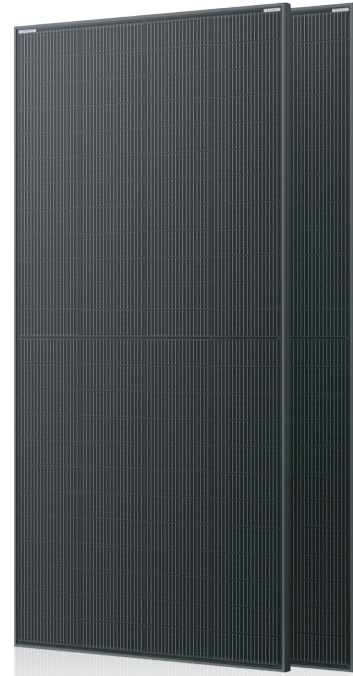
High-efficiency 16BB N-Type cells deliver more energy per square foot, helping you maximize output even when installation space is limited. Up to 25% cell efficiency delivers higher power output than traditional panels.

■ More Power with Less Setup

Achieve the same system output with fewer panels, reducing installation time, wiring, and overall system complexity.

■ Improved Performance in Partial Shading

The half-cut cell parallel design divides the panel into two independent power zones, allowing one side to keep generating power even if the other is shaded, reducing power loss in real-world conditions.



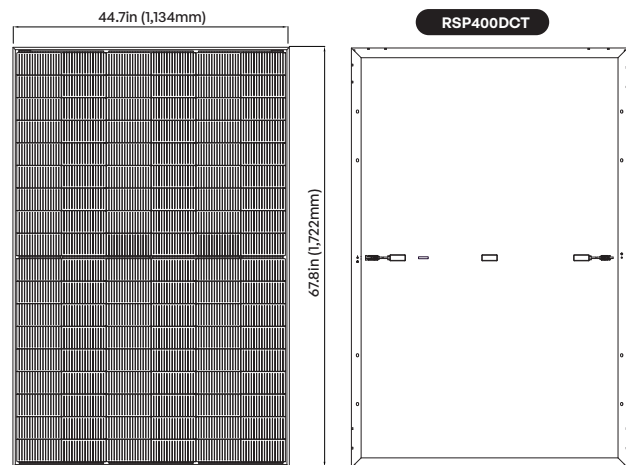
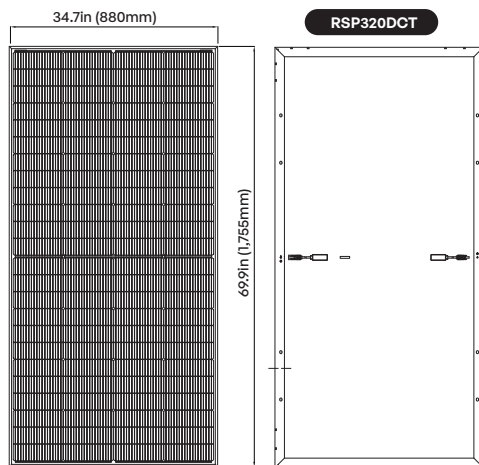
■ Stable Output in Real Conditions

Maintains consistent performance in heat, low light, and changing outdoor conditions with a lower temperature coefficient and LECO tech, so you get reliable power throughout the day.

■ Built to Deliver Reliable Power for Years

Engineered with IP68 durable materials, low-degradation N-Type cells, and a reinforced structure, this panel delivers consistent performance over time, backed by a 10-year product warranty and a long-term power output guarantee.

Module Diagram



Technical Specifications

Electrical Data

| Model | RSP320DT-BKx2-G2 | RSP400DCT-108x2 |
|---------------------------------|------------------|-----------------|
| Maximum Power at STC | 320W | 400W |
| Optimum Operating Voltage (Vmp) | 30.29V | 34.0V |
| Optimum Operating Current (Imp) | 10.57A | 11.76A |
| Open-Circuit Voltage (Voc) | 35.04V | 39.42V |
| Short-Circuit Current (Isc) | 10.94A | 13.06A |
| Module Efficiency | 20.5% | 21.5% |
| Maximum System Voltage | 1,500VDC | 1,500VDC |
| Maximum Series Fuse Rating | 25A | 25A |

Mechanical Data

| | RSP320DT-BKx2-G2 | RSP400DCT-108x2 |
|------------------|--|---|
| Solar Cell Type | Mono N-Type | Mono N-Type |
| Number of Cells | 96 (12 x 4 x 2) | 108 (9 x 6 x 2) |
| Dimensions | 69.9 x 34.7 x 1.4in / 1,755 x 880 x 35mm | 67.8 x 44.7 x 1.4in / 1,722 x 1134 x 35mm |
| Weight | 36.82 lbs / 16.7kg | 45.42 lbs / 20.6kg |
| Front Film | Tempered Glass 0.13in / 3.2mm | Tempered Glass 0.13in / 3.2mm |
| Connectors | Solar Connectors | Solar Connectors |
| Frame | Anodized Aluminum Alloy | Anodized Aluminum Alloy |
| Fire Performance | Type I | Type I |

Thermal Characteristics

| | RSP320DT-BKx2-G2 | RSP400DCT-108x2 |
|------------------------------------|--------------------------------|--------------------------------|
| Operating Temperature Range | -40°F to 185°F / -40°C to 85°C | -40°F to 185°F / -40°C to 85°C |
| Nominal Operating Cell Temperature | 45±2°C | 45±2°C |
| Temperature Coefficient of Pmax | -0.32%/°C | -0.32%/°C |
| Temperature Coefficient of Voc | -0.26%/°C | -0.26%/°C |
| Temperature Coefficient of Isc | 0.046%/°C | 0.046%/°C |

MC4 Connectors

| | RSP320DT-BKx2-G2 | RSP400DCT-108x2 |
|-------------------|--------------------------------|--------------------------------|
| Maximum Voltage | 1,500VDC | 1,500VDC |
| Rated Current | 40A | 40A |
| Temperature Range | -40°F to 185°F / -40°C to 85°C | -40°F to 185°F / -40°C to 85°C |
| IP Rating | IP68 | IP68 |

Junction

| | RSP320DT-BKx2-G2 | RSP400DCT-108x2 |
|------------------|--------------------------|--------------------------|
| IP Rating | IP68 | IP68 |
| Number of Diodes | 2 | 3 |
| Output Cables | 12 AWG 59.06in / 1,500mm | 12 AWG 66.93in / 1,700mm |

Warranty

| | RSP320DT-BKx2-G2 | RSP400DCT-108x2 |
|-----------------------------------|---------------------|---------------------|
| Power Output Warranty | 25-Year | 25-Year |
| Material and Workmanship Warranty | 10-Year | 10-Year |
| Certification | CE, RCM, TSCA, CA65 | CE, RCM, TSCA, CA65 |

All specifications and data described in this data sheet are tested under Standard Test Conditions (STC - Irradiance: 1,000W/m², Temperature: 25°C, Air Mass: 1.5) and may deviate marginally from actual values. Renogy and any of its affiliates have reserved the right to make any modifications to the information on this data sheet without notice. It is our goal to supply our customers with the most recent information regarding our products. These datasheets can be found in the downloads section of our website, www.renogy.com.