dcbel™ FAQ

1 Availability

1.1 When will the dcbel™ r16 be available in my location?

The dcbel™ r16 will be available in California in the second half of 2021. We will expand to New York State later this year and to additional markets based on demand. If you'd like to use dcbel™ in your area, please complete the pre-order form. After completing the form you'll be added to our waitlist and receive updates on availability in your region.

1.2 How much does the dcbel™ r16 cost?

The standard dcbel™ r16 unit costs $4,999. Additional costs are based on the number and type of electric vehicle connectors you select and the Blackout Power option.

1.3 How can I become a dcbel™ reseller or installer?

dcbel™ is always interested in partnering with qualified resellers and installers.

If you're interested in becoming a dcbel™ partner, please complete the Partner Form on our website. Someone from our Partnerships team will respond with further instructions.

2 Features & Compatibility

2.1 Where can I find more information about dcbel™ r16's compatibility?

We're glad you asked! You can start off with the following resources:

- Full dcbel r16™ Specifications
- dcbel™ Solar Guide

2.2 How is dcbel's bidirectional power unique?

dcbel's bidirectional power flow feature (Blackout Power) is built on an award-winning power electronics innovation called the PUC5, short for 5 Level Packed U Cell Inverter Topology. It is recognized as the Best New Approach to Electrical Engineering by the Institute of Electrical and Electronics Engineers (IEEE) professional association.

To learn more about our unique technology visit the Technology page.

2.3 What electric vehicles are compatible with dcbel™ r16 chargers?

Any electric vehicle that has an SAE J1772, CHAdeMO or CCS1 charging port can be charged by the dcbel™ r16. Note: the SAE J1772 charger type cannot benefit from dcbel™'s Power Boost functionality as the protocol only allows for AC charging which is limited by the vehicle's onboard converter. Additional charging types, including Tesla's, can be charged with a dcbel™ charger using a SAE J1772, CHAdeMO or CCS1-to-Tesla adapter.

2.4 What electric vehicles are compatible with Blackout Power?

In the event of a power outage, dcbel™ uses the energy stored in your electric vehicle's battery to power your home. This is the dcbel Blackout Power feature, which is also known as bidirectional charging, two-way power flow, V2H (vehicle-to-home integration) or power discharge.

Compatibility with dcbel™'s Blackout Power feature is based on the technical capability of your electric vehicle and on the manufacturer's policies.

1. **Can this electric vehicle communicate with a power source and allow for bidirectional power flow?**

There are two major global DC charging standards: CHAdeMO and CCS. All electric vehicles built to the CHAdeMO standard, including the Nissan Leaf and Mitsubishi Outlander, are currently compatible with the Blackout Power feature. As a rule, pre-2021 CCS vehicles like the Chevrolet Bolt are not supported.

The CCS standards may be revised to allow electric vehicles built to these standards to support bidirectional power flow. The dcbel™ unit would adapt to the CCS protocol update and support Blackout Power using CCS through a software upgrade.

2. **Does the electric vehicle manufacturer support bidirectionality?**

Your electric vehicle's warranty may not cover bidirectional charging or become void as a result. Only a few manufacturers allow an electric vehicle owner to discharge their battery to power external devices. The manufacturers who do support this functionality may specify conditions or equipment certifications that must be observed. dcbel™ is currently working with electric vehicle manufacturers to provide Blackout Power as a standard feature of their products.

2.5 Is the dcbel™ r16 compatible with my Tesla?

A Tesla equipped with the corresponding Tesla-J1772 and Tesla/CHAdeMO adapters is compatible with dcbel™ J1772 AC Level 2 and CHAdeMO DC Level 3 charging as well as solar

charging capabilities. A Tesla is not compatible with the “Blackout Power” feature and its use would void the warranty of the Tesla battery and cause technical issues with the vehicle.

2.6 Does power flow back into the grid when Blackout Power is enabled?

No, an automatic transfer switch (ATS) is initiated to prevent any power to flow back to the grid. This is a precaution to ensure the safety of utility personnel who may be working on the grid during an outage.

2.7 Why should I use my electric vehicle as a backup power source instead of a stationary battery?

The average electric vehicle battery can provide 5 to 10 times the power of an average stationary battery. This equates to about 2-4 days[1] of power for an average North American single-family home. If you don't have an electric vehicle or require extra backup capacity when your EV isn't available, dcbel™ can also integrate a stationary battery. You'll be able to create a stable, less expensive energy supply when you use our software to optimize your solar panels, storing power produced during the day for periods of peak electricity pricing.

2.8 Is dcbel™ a backup power system?

dcbel™ uses your electric vehicle’s battery or a separate stationary battery as a backup power source by acting as a battery charger or inverter. It requires a separate stationary battery or electric vehicle with bidirectional charging capabilities.

2.9 Will utilities allow your system to be used?

dcbel™ was designed to work with utilities like PG&E. We are currently in the process of seeking official approval from additional utilities in California. As dcbel™ technology is UL 1741 SA and Rule 21 compliant we do not anticipate approval issues with local utilities.

2.10 What stationary batteries are compatible with the dcbel r16 ?

dcbel™ is compatible with all batteries that have a 400V DC nominal voltage like the LG Chem RESU.

2.11 Can dcbel™ use a Tesla Powerwall as a stationary battery?

dcbel™ does not currently support integration with the Tesla Powerwall.

2.12 Do I need to have an electric vehicle to benefit from dcbel’s technology?

While having an electric vehicle unlocks additional features of our product, dcbel™ is also a powerful 15.2 kW MPPT solar inverter with two separate 7.6 kW solar array inputs and a

[1] Based on the annual electricity use of 6,570 kwh for the average Californian home which extrapolates to 18 kWh / day.

stationary battery charger. Many of our customers purchase it as a solar and power storage system. When it's time to buy a new electric vehicle, their home will be ready.

2.13 Can I generate and consume power generated from my solar panels during a utility grid blackout?

In order to generate and consume power during an outage, you'll need a charged electric vehicle or stationary battery in addition to solar panels. The EV or battery will provide the necessary voltage and frequency references for the solar inverter.

2.14 Does the dcbel™ r16 make noise?

dcbel™ has a low hum of around **50** db, similar to the noise level of a standard appliance. Since dcbel™ is typically installed in the garage or on an exterior wall, the level of noise should be negligible.

The unit may be louder in regions with warm temperatures, as most of the noise is produced by the cooling fans.

Please note that the average electric vehicle hums at around 90 db while charging at high capacity. The noise from the vehicle may be more noticeable than that of the dcbel™ unit.

2.15 How much energy does the dcbel™ r16 use when idle?

In idle mode dcbel™ functions in a monitoring capacity, collecting and displaying data. Monitoring mode uses approximately 35 to 40 watts of power which is equivalent to a single incandescent lightbulb.

3 Installation

3.1 Can I install dcbel™ r16 in a multi-unit dwelling or in a series?

No, dcbel™ was designed for a single-family home with a single electrical service entrance. It should not be installed in a multi-unit dwelling or in a series.

3.2 If we want to benefit from the Blackout Power feature how many breakers are required?

To benefit from the Blackout Power feature, only one 125A/2P and one 40A/2P breaker can be installed in the main panel. A 15A/1P must be installed in the sub-panel and can be dedicated to a wall socket. The 125A breaker is the addition of the breaker capacity dedicated to AC1 (40A), AC2 (40A) and the backup load (40A).

Please view the 'AC Connection: Breaker Size Recommendation' of the full dcbel™ specifications.

3.3 What is the maximum load that dcbel™ r16 can backup?

The present maximum load that dcbel can backup is 7.6kW (32A at 240V).

3.4 Is it possible to operate dcbel™ in an off-grid capacity?

No, the first generation of the dcbel™ r16 has been designed to work with grid-connected homes.

3.5 I already have solar panels and want to install dcbel™ r16. Will it be compatible with my current system?

Your solar panels have been sized to work with your existing inverters which may have specifications that are different from the dcbel unit. In retrofit situations, we must review your unique installation to determine if the panel array configuration and wiring is compatible with our technology.

- We encourage you to read the dcbel™ Solar Guide for more information on dcbel™'s solar inverter functionality.

3.6 Is dcbel™ r16 compatible with my existing solar inverter?

dcbel™ includes a solar inverter and is not compatible with other inverters. It can, however, run in parallel to your existing solar inverter and used for its dual vehicle charging and blackout power functionality. We encourage you to read the dcbel™ Solar Guide for more information on dcbel™'s solar inverter function.

3.7 What size of breaker panel is required?

Breaker panels should be sized as a function of your current or expected home energy load. As a rule, a 200A panel is appropriate for most North American single-family homes.

3.8 How much does a dcbel™ r16 cost to install?

Please contact a local installer to evaluate the cost of installation, as it varies based on your home's unique energy needs, rooftop surface area and current electrical infrastructure.