



WALMER ENERGY

# Jordan Off-Grid Solar Container Bidirectional Charging





## Overview

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What is solar-powered bidirectional OBC based on bhgc?

The solar-powered bidirectional OBC based on the coupled-inductor high gain converter with grid-to-vehicle (G2 V) and vehicle-to-grid (V2 G) operations is shown in Fig. 1 and schematic diagram of LEV charging scheme with BHGC is depicted in Fig. 2.

What is a DC bidirectional EV charger?

On the EV charging side, the DC bidirectional charger will be available in two sizes: a smaller 12.5kW unit or a large 25kW unit designed to be used with a 3-phase AC supply. However, the true innovation lies in the DC power bus, which enables direct DC charging from solar.

What is a bidirectional charger?

A bidirectional charger enables Vehicle-to-Grid (V2G) functionality, allowing EVs to feed energy back into the grid during times of high electricity demand, such as the peak evening period. This concept is a form of decentralised energy generation that can transform the operation of our power grids. Learn more about vehicle-to-grid (V2G) [here](#).

Can BLDC drive be used for a solar-powered on-board charging system?

The designed system also presents a soft-starting of BLDC drive for propulsion mode of operation. This work proposes an efficient configuration for a solar-powered on-board charging system utilizing a coupled inductor high-gain converter with Grid-to-Vehicle (G2 V) and Vehicle-to-Grid (V2 G) operations.



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### SOLAR BASED BI-DIRECTIONAL V2H CHARGING SYSTEM

May 15, 2023 · Abstract - The increasing adoption of electric vehicles (EVs) has prompted the development of efficient charging infrastructure and innovative vehicle-to-home (V2H) ...

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### Off-Grid EV Charging Stations: A Comprehensive Guide to ...

Nov 24, 2025 · Discover how to design, deploy, and benefit from off-grid EV charging stations with solar panels, battery storage, and smart controls for reliable, sustainable charging.

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### Impact of EV charging strategies on solar-powered

While bidirectional EV setups enhance self-consumption and reduce dependence on the external grid, they face financial challenges, including higher initial costs and a lower net present value ...

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### EV Charging Jordan: Solar Homes, Costs, e TOU Impact

This highlights a crucial point the researchers make: for bidirectional charging to really take off and contribute to a smarter, greener grid in places like Jordan, supportive policies and ...

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### Impact of EV charging strategies on solar-powered

May 15, 2025 · However, a key challenge in bidirectional charging adoption is its financial viability, especially in regions with dynamic electricity pricing such as Jordan. There is little research on ...

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### Off-Grid Solar EV Battery Charging System Using Triple ...

Jul 31, 2024 · Multi-port bidirectional converter facilitates bidirectional power flow control, with high power density, and superior efficiency. The application of these converters is in interfacing ...

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### Impact of EV charging strategies on solar-powered ...

This study reveals that the bidirectional EV charging improves energy efficiency and reduces CO2 emissions by optimizing PV energy utilization in Jordan to charge EVs, however, its increased ...

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### Solar powered on-board charging system utilizing coupled ...

Jul 1, 2025 · The solar-powered bidirectional OBC based on the coupled-inductor high gain converter with grid-to-vehicle (G2 V) and vehicle-to-grid (V2 G) operations is shown in Fig. 1 ...

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### Bidirectional EV Chargers Review

Jun 25, 2025 · Bidirectional EV chargers are sophisticated EV chargers capable of two-way charging, which allow an EV to discharge energy back into the grid, known as Vehicle-to-Grid ...

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### Off-Grid EV Charging Stations: A ...

Nov 24, 2025 · Discover how to design, deploy, and benefit from off-grid EV charging stations



with solar panels, battery storage, and smart controls for ...

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