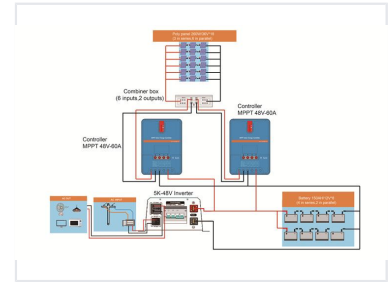


5kW Off-Grid Solar Power System

This system utilizes solar panels to convert sunlight into electricity for homes and small businesses. The system includes a solar panel array, inverter, charge controller, and battery for reliable off-grid power.

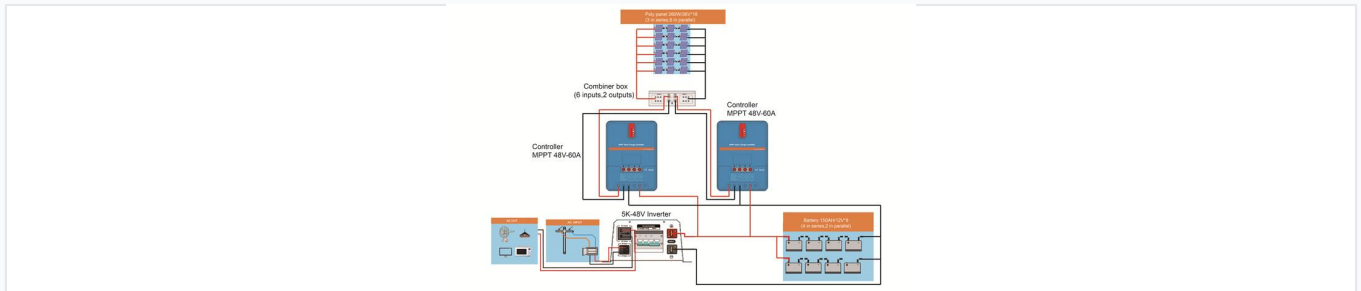


Overview

Reliable 5kW Off-Grid Solar Solution

This 5kW off-grid solar power system is designed to provide independent electricity for residential and small commercial applications. It efficiently converts solar energy into stored power, capable of running household appliances such as lights, fans, TVs, laptops, and air conditioners. The system features high-quality polycrystalline panels and MPPT technology to ensure maximum energy harvest even in varying weather conditions.

System Performance



Comprehensive system diagram showing the 18-panel array, dual MPPT controllers, 48V battery bank, and 5kW inverter configuration.

Rated Power Output

5 kW

System Capacity

Supported Applications

Lighting, Mobile Charging, Fans, TV Sets, Laptops, Air Conditioners

Solar Array

Solar Panel Specifications

| Component | Details | Configuration |
|--------------|-----------------------------------|-----------------------|
| Panel Type | Polycrystalline (Poly) 260W / 36V | 18 Panels Total |
| Array Layout | High-efficiency DC Generation | 3 Series x 6 Parallel |

Energy Storage

Battery Bank Details

- Battery Type: GEL Battery
- Individual Rating: 12V / 150AH
- Total Quantity: 8 Units
- Configuration: 4 Series x 2 Parallel (48V System)
- Includes Battery Rack and Parallel Cables

Power Conversion

Inverter & Controller

| Device | Model/Spec | Technology |
|-------------------|---------------------|---------------------------------|
| Inverter | BR-5K-48V | DC to AC Conversion |
| Charge Controller | BR48V-60A (2 Units) | MPPT (Max Power Point Tracking) |

Installation Components

Hardware & Connectivity

- PV Combiner Box: BR6-2 (6 Inputs / 2 Outputs)
- Mounting Bracket: C-shaped steel
- Connectors: MC4 standard
- PV Cables: 4mm² (Panel to Combiner Box)
- BVR Cables: 6mm² (Combiner to Controller)
- BVR Cables: 16mm² (Controller to Battery)
- Circuit Breaker: 2P 63A