## EDECOA EG-422B

# EDECOA Hybrid Inverter 4200W User Manual

**Model:** EG-422B | **Brand:** EDECOA

## 1. Product Overview

The EDECOA 4200W 24V 230V Hybrid Inverter is a versatile power solution that integrates an inverter, a solar charger, and a battery charger into a single unit. It features a 120A MPPT solar charge controller and operates with a pure sine wave output, making it suitable for various off-grid applications. This inverter is designed to provide reliable power and efficient energy management for your home or system.


Figure 1: Front view of the EDECOA EG-422B Hybrid Inverter, showcasing its display and compact design.

## Key Features:

- **MPPT Solar Charge Mode:** Features a 120A MPPT controller for maximum power point tracking, optimizing solar panel efficiency and battery performance.
- **Wide PV Input Range:** Supports 60-500 Vdc PV input, allowing compatibility with various solar panel configurations and systems.

- **4200W Pure Sine Wave Inverter:** Provides stable 230V AC output from 24V DC, suitable for sensitive electronics.
- **Integrated Battery Charger:** Includes a 100A AC charger and is compatible with FLD, AGM, Gel, and LiFePo4 battery types, configurable via the LCD screen.
- **Multiple Protection Functions:** Equipped with overload, over-temperature, and short-circuit protection, along with auto-restart and cold start functions for enhanced safety and reliability.
- **UPS Priority (Uninterruptible Power Supply):** Automatically switches to inverter power within 10ms during grid or generator failure, ensuring continuous power supply.
- **ECO Mode:** Features a low power consumption mode (< 15W) to reduce battery drain when the inverter is not under heavy load.
- **WiFi Compatible:** Supports WiFi connectivity for intelligent monitoring and control (WiFi module sold separately).


Figure 2: The EDECOA Hybrid Inverter combines an AC Charger (100A), MPPT (120A), and Inverter (4200W) into one integrated unit.

## 2. Setup and Installation

The EDECOA Hybrid Inverter is designed for lightweight handling and easy installation. Proper setup is crucial for optimal performance and safety.

## 2.1. Site Selection:

- Choose a cool, dry, and well-ventilated area.
- Ensure the mounting surface is sturdy enough to support the inverter's weight (8 kg).
- Avoid direct sunlight, heat sources, and moisture.

## 2.2. Physical Dimensions:

Consider the dimensions for proper placement and ventilation clearance.

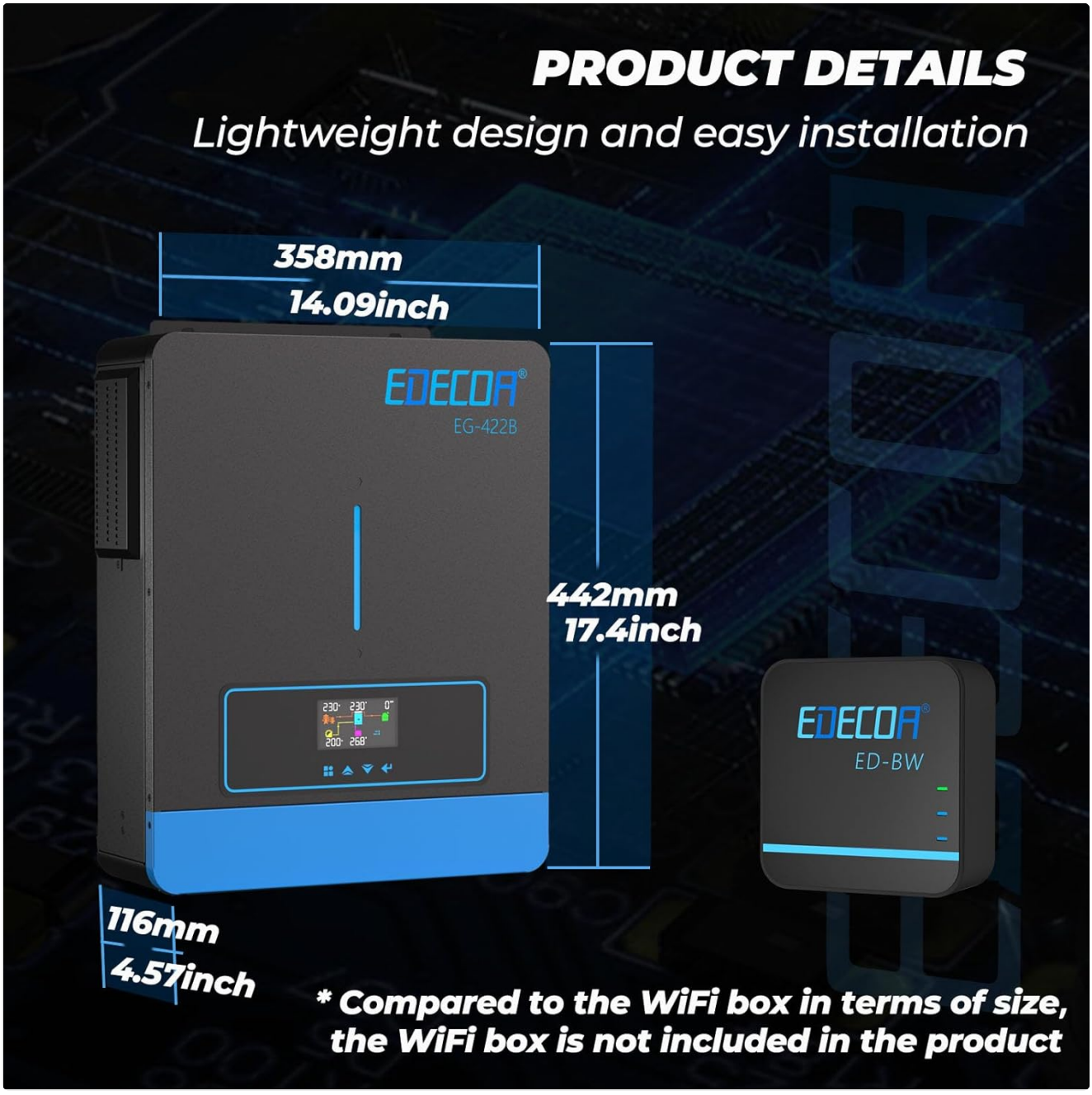


Figure 3: Product dimensions: 442mm (17.4 inches) height, 358mm (14.09 inches) width, and 116mm (4.57 inches) depth. Note: The WiFi box shown is not included with the product.

## 2.3. Electrical Connections:

- Connect solar panels to the PV input terminals, ensuring voltage is within the 60-500 Vdc range.
- Connect the battery bank (24V) to the designated battery terminals. Ensure correct polarity.
- Connect the AC input (grid or generator) to the AC input terminals.
- Connect your loads to the AC output terminals.
- Always ensure all connections are secure and properly insulated before powering on the unit.

## 3. Operating Instructions

### 3.1. Powering On/Off:

- Ensure all connections are correct before powering on.
- Follow the specific power-up sequence outlined in the full manual (typically battery first, then PV, then AC input).
- To power off, reverse the sequence.

### 3.2. LCD Display and Settings:

The inverter features an LCD display for monitoring system status and configuring settings. You can adjust parameters such as battery type (FLD, AGM, Gel, LiFePo4), charge current, and output priority.


Figure 4: The inverter's display processes signals with greater stability and accuracy due to on-device AI processing, showing various system parameters.

### 3.3. MPPT Solar Charging:

The integrated 120A MPPT controller continuously tracks the maximum power point of your solar array, ensuring optimal energy harvest. This leads to higher power output and improved battery charging efficiency.

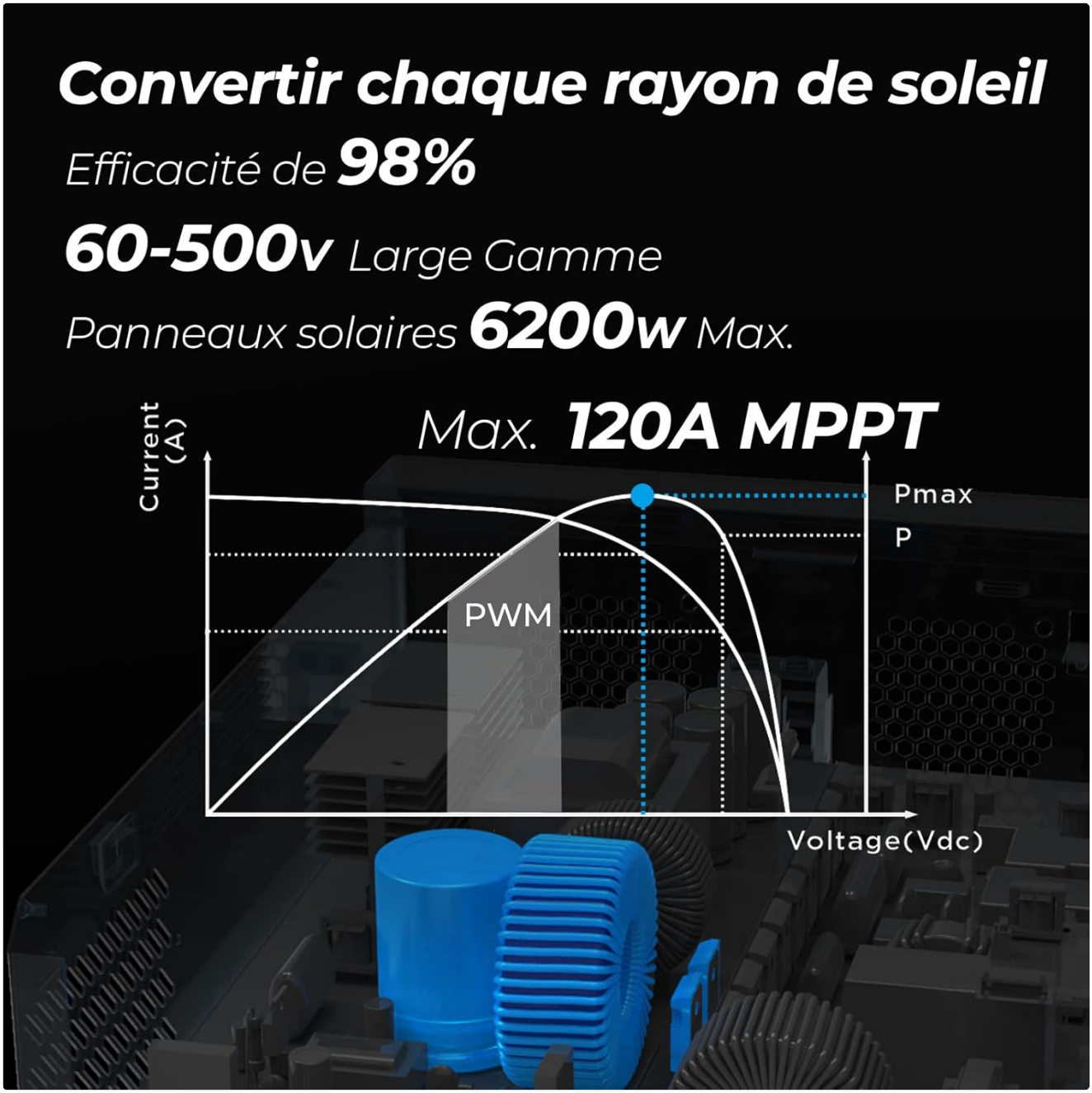


Figure 5: MPPT (Maximum Power Point Tracking) ensures up to 98% efficiency in converting solar energy, supporting a wide range of 60-500V and up to 6200W from solar panels.

### 3.4. AC Charging and Battery Management:

The inverter includes a 100A AC charger for efficient battery charging from the grid or a generator. It supports a 6-phase charging process (Soft Start, Bulk, Absorption, Float, Equalize, Float) for extended battery life.

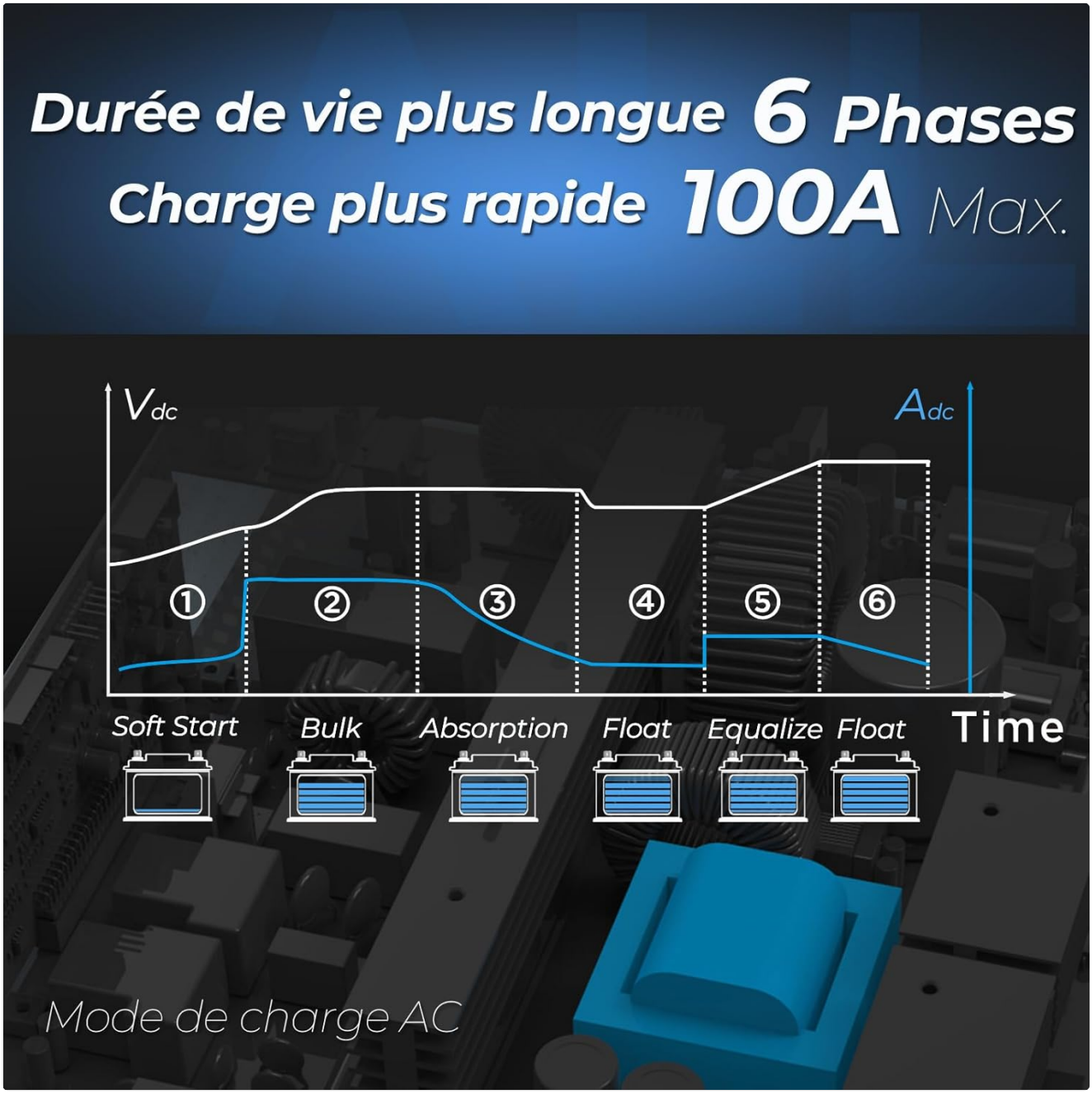


Figure 6: The 6-phase AC charge mode ensures longer battery life and faster charging up to 100A Max.

### 3.5. UPS Functionality:

In UPS (Uninterruptible Power Supply) mode, the inverter acts as a backup power source. If the main power source (grid or generator) fails, the inverter automatically switches to battery power within 10 milliseconds, ensuring your connected appliances remain operational without interruption.

### 3.6. ECO Mode:

Activate ECO mode to reduce the inverter's idle power consumption to less than 15W. This feature helps conserve battery power when the inverter is not actively supplying a significant load.

### 3.7. Smart Control with EDECOA App:

For enhanced control and monitoring, the EDECOA inverter is compatible with a dedicated mobile application (requires optional WiFi module). The app allows you to:

- Personalize and control settings remotely.
- Monitor real-time system sensor data.

- Access records and analyze system sensor data.
- Receive directives for system errors.


Figure 7: The EDECOA application provides intelligent control and monitoring capabilities for your inverter system.

## 4. Maintenance

Regular maintenance ensures the longevity and optimal performance of your EDECOA Hybrid Inverter.

- **Cleaning:** Periodically clean the exterior of the inverter with a soft, dry cloth. Ensure ventilation openings are free from dust and debris.
- **Connection Checks:** Regularly inspect all electrical connections (PV, battery, AC input/output) to ensure they are tight and free from corrosion.
- **Environmental Check:** Verify that the installation environment remains cool, dry, and well-ventilated.
- **Battery Health:** Monitor your battery bank's health according to the battery manufacturer's guidelines.

## 5. Troubleshooting

The EDECOA Hybrid Inverter is equipped with multiple protection features to ensure safe and reliable operation. If you encounter issues, refer to the following common scenarios:

- **No Output Power:** Check all input connections (PV, battery, AC grid). Ensure the inverter is powered on and not in a fault state. Verify battery voltage is within the operational range.
- **Overload Protection:** If the inverter shuts down due to overload, reduce the connected load. The inverter features automatic restart once the AC input recovers.
- **Over-temperature Protection:** Ensure adequate ventilation around the inverter. Clear any obstructions from the cooling vents. The unit will automatically restart once it cools down.
- **Short-Circuit Protection:** If a short circuit is detected on the output, the inverter will shut down to prevent damage. Identify and resolve the short circuit before attempting to restart.
- **System Errors:** The LCD display will show error codes. Refer to the full user manual for a comprehensive list of error codes and their corresponding solutions. The EDECOA app can also provide directives for system errors.
- **Cold Start Function:** The inverter supports cold start, allowing it to power on directly from batteries without an AC input, useful in off-grid scenarios.

For persistent issues or complex problems, please contact EDECOA customer support.

## 6. Technical Specifications

| Feature | Specification |
|---|---|
| Brand | EDECOA |
| Model | EG-422B |
| Power (Rated) | 4200 Watts / 4200 VA |
| Peak Power Output | 8400 Watts |
| Voltage | 240 Volts (AC Output) |
| Output Waveform | Pure Sine Wave |
| Solar Charge Mode | MPPT |
| Max PV Array Power | 6200 W |
| MPPT Charge Current | 120 A |
| AC Charge Current (Max) | 100 A |
| PV Input Voltage Range | 60-500 Vdc |
| Recommended Use | Home |
| Power Source | Solar and Battery Powered |

| Feature | Specification |
| --- | --- |
| Product Dimensions | 44L x 35W x 11H cm |
| Item Weight | 8 Kilograms |

## 7. Warranty Information

The EDECOA Hybrid Inverter 4200W comes with a**2-year manufacturer's warranty**. This warranty covers defects in materials and workmanship under normal use.

Please retain your proof of purchase for warranty claims. For detailed terms and conditions, refer to the official warranty documentation included with your product or contact EDECOA customer support.

## 8. Customer Support

For technical assistance, troubleshooting, or warranty inquiries, please contact EDECOA customer support.

You can also visit the official EDECOA brand store for more information and resources:

Visit EDECOA Store



### Related Documents - EG-422B

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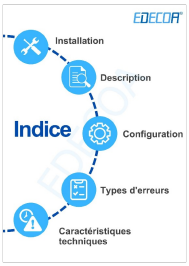
|  | Manuel Utilisateur Onduleur Solaire Hybride EDECOA EM-624A<br>Guide complet pour l'installation, la configuration et l'utilisation de l'onduleur solaire hybride EDECOA EM-624A, incluant les spécifications techniques, la résolution des problèmes et les descriptions des modes de fonctionnement. |
|  | Manuel d'utilisation Onduleur Photovoltaïque EDECOA EM-352A / EM-654A<br>Guide complet pour l'installation, le fonctionnement et le dépannage des onduleurs photovoltaïques EDECOA. Ce manuel détaille les caractéristiques, les modes de fonctionnement, les spécifications techniques et les procédures de dépannage pour les modèles EM-352A et EM-654A. |

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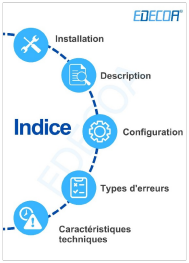
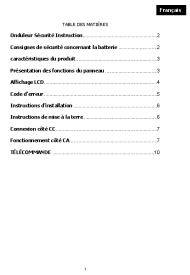
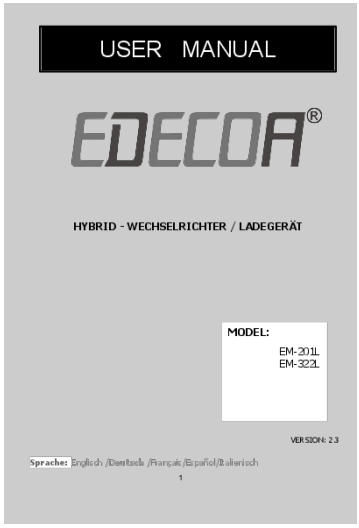
|  | [EDECOA EM-302A 3000W Onduleur Hybride Manuel d'Utilisation et Spécifications Techniques]<br>Manuel complet pour l'onduleur hybride EDECOA EM-302A 3000W, couvrant l'installation, la configuration, les modes de fonctionnement, la résolution des problèmes, les types d'erreurs et les spécifications techniques détaillées. |
|  | [EDECOA Sincore 2-201D Pro : Manuel d'utilisation et Spécifications Techniques]<br>Manuel complet pour l'onduleur EDECOA Sincore 2-201D Pro, couvrant les instructions de sécurité, les caractéristiques du produit, l'installation, le fonctionnement, les paramètres techniques et la télécommande. Inclut les modèles Sincore 2-121D Pro, 2-122D Pro, et 2-202D Pro. |
|  | [EDECOA EG-624B EG-422B Hybrid Wechselrichter / Ladegerät Benutzerhandbuch]<br>Umfassendes Benutzerhandbuch für den EDECOA EG-624B und EG-422B Hybrid Wechselrichter/Ladegerät. Enthält Anleitungen zur Installation, Bedienung, Fehlerbehebung, technische Daten und Sicherheitshinweise. |
|  | [EDECOA EG-624B EG-422B Hybrid Inverter/Charger User Manual]<br>User manual for the EDECOA EG-624B and EG-422B hybrid inverter/charger, detailing installation, operation, features, technical specifications, and troubleshooting. |

Documents - EDECOA – EG-422B

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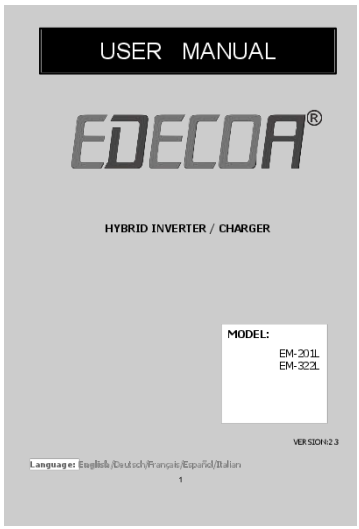


[pdf] User Manual Instructions

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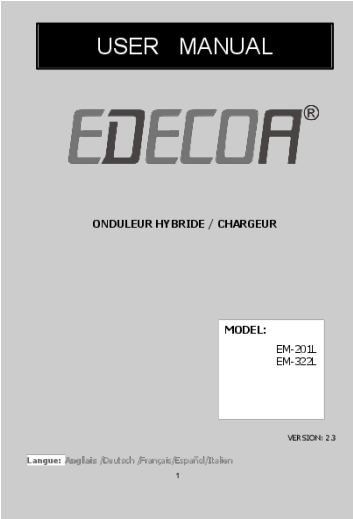


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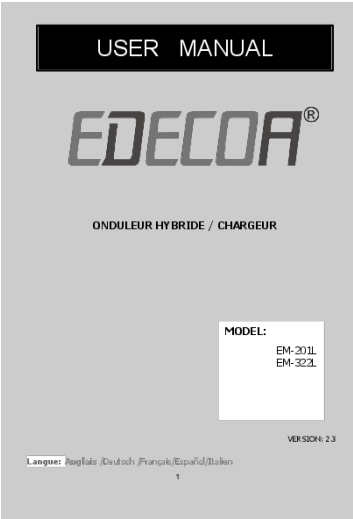


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