



POWERBAY EV CHARGER

# INSTALLATION GUIDE & USER MANUAL



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## IMPORTANT INFORMATION

### About this manual

This manual provides product information as well as installation and operating guidelines for AC electric vehicle chargers. It explains the features, installation requirements, and operation of the equipment. Please read this manual carefully before installation and use, and keep it in a safe and accessible place for future reference.

Power Bay Pty Ltd reserves the right to modify this manual without prior notice.

### Validity

This manual is valid for the following of EV Charger Models:

- Single Phase 7kW: PB-AS32-07K-4G, PB-A32-EVC7
- Three Phase 11kW: PB-AT16-11K-4G, PB-A16-EVC11
- Three Phase 22kW: PB-AT32-22K-4G, PB-A32-EVC22

### EV Charger Component Overview



## **SAFETY WARNING**

### **Precautions for Use**

This product must be installed by a licensed and qualified electrician. Installation and use of the equipment must comply with all applicable regulations and safety requirements to ensure the safety of personnel and the protection of the equipment.



### **Charging Safety**

1. Before operating the equipment, ensure the EV Charger is correctly earthed to prevent electric shock.
2. Any exposed metal parts of tools used during installation or maintenance must be properly insulated to prevent contact with the enclosure and avoid short circuits.
3. Do not modify, alter, or add any components to the equipment under any circumstances.
4. To ensure safe and reliable operation, install and operate the equipment in a clean, dry environment with stable temperature and humidity. The equipment must not be used in environments containing flammable, explosive, or volatile gases.
5. Before energising the equipment, confirm that the input voltage, frequency, protective devices (including circuit breakers or fuses), and all other electrical parameters comply with the specified requirements.
6. In the event of an emergency during charging, immediately press the emergency stop button.
7. In the event of a fire involving the EV Charger, immediately isolate the main power supply. Use only a carbon dioxide (CO<sub>2</sub>) fire extinguisher to extinguish the fire. If the fire cannot be safely controlled, evacuate the area immediately.
8. Do not touch the charging plug pins or the vehicle inlet socket with bare hands during operation.
9. The use of extension cords or adaptors is strictly prohibited.

## **PACKAGING AND TRANSPORTATION**

### **Packaging**

The product must be packed in a fully enclosed carton designed to protect it from moisture, dust, and mechanical damage during storage, handling, and transportation.

### **Transportation**

During transportation, the product must be handled with care and kept in its original packaging. Avoid impacts, drops, excessive vibration, and exposure to moisture or corrosive substances. The product must be secured to prevent movement during transit and must not be stacked or loaded in a manner that could cause damage.

## PRODUCT INTRODUCTION

### Certification

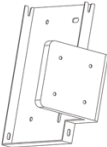
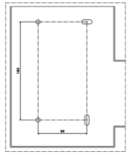
|                         |                                                                                                                                                                                                                          |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IEC 61851-1:2017        | Electric vehicle conductive charging systems.                                                                                                                                                                            |
| IEC 61851-21-1:2017     | Electric vehicle conductive charging systems, Part 21-1: EMC requirements for on-board chargers connected to AC/DC power supplies.                                                                                       |
| IEC 61851-21-2:2018     | Electric vehicle conductive charging systems, Part 21-1: EMC requirements for on-board chargers connected to AC/DC power supplies.                                                                                       |
| IEC 62196-1:2014        | Plugs, socket-outlets, vehicle connectors and vehicle inlets for conductive charging of electric vehicles, Part 1: General requirement.                                                                                  |
| IEC 62196-2:2016        | Plugs, socket-outlets, vehicle connectors and vehicle inlets for conductive charging of electric vehicles, Part 2: Dimensional compatibility and interchangeability requirements for AC pin and contact-tube accessories |
| IEC 61000-4-2:2008      | Electromagnetic compatibility (EMC), Part 4-2: Electrostatic discharge immunity test                                                                                                                                     |
| IEC 61000-3 (All Parts) | Electromagnetic compatibility (EMC), Part 3: Limits                                                                                                                                                                      |

This product has been designed, manufactured, and tested to comply with the above standards. Compliance confirms that the product meets applicable safety, performance, and electromagnetic compatibility requirements for electric vehicle charging equipment, subject to correct installation, operation, and maintenance in accordance with this manual and applicable regulations.

### Product Technical Characteristics

| Product parameters        | Specifications                                                                                                                                                                                           |               |               |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|
| Power                     | 7kW                                                                                                                                                                                                      | 11kW          | 22kW          |
| Phases/lines              | L1、N、PE                                                                                                                                                                                                  | L1、L2、L3、N、PE | L1、L2、L3、N、PE |
| AC input voltage          | 230V±10%                                                                                                                                                                                                 | 400V±10%      | 400V±10%      |
| AC input frequency        | 50Hz~60Hz                                                                                                                                                                                                | 50Hz~60Hz     | 50Hz~60Hz     |
| Output voltage            | 230V±10%                                                                                                                                                                                                 | 400V±10%      | 400V±10%      |
| Output current            | 32A                                                                                                                                                                                                      | 16A           | 32A           |
| Protection design         | Over-voltage protection, under-voltage protection, overload protection, short circuit protection, grounding protection, over temperature protection, surge protection, input PE line disconnection alarm |               |               |
| Ingress protection rating | IP54                                                                                                                                                                                                     |               |               |
| Working temperature       | -30°C~+55°C                                                                                                                                                                                              |               |               |
| Relative humidity         | 5%~95%                                                                                                                                                                                                   |               |               |
| Altitude                  | ≤2000m                                                                                                                                                                                                   |               |               |
| Body size                 | Length * width * height: 385mm * 265mm * 135mm                                                                                                                                                           |               |               |
| Net Weight                | 6.09kg                                                                                                                                                                                                   |               |               |
| Cable Length              | 6m                                                                                                                                                                                                       |               |               |
| Installation              | Wall-mount/Floor-stand                                                                                                                                                                                   |               |               |

ACCESSORIES & PACKING LIST

| PACKING LIST |                                  |          |                                                                                       |
|--------------|----------------------------------|----------|---------------------------------------------------------------------------------------|
| NO.          | Item Description                 | Quantity | Picture                                                                               |
| 1            | EV Charger Unit                  | 1        |    |
| 2            | RFID Charging Tags               | 2        |    |
| 3            | Charger Holder                   | 1        |    |
| 4            | Mounting Bracket Rear Plate      | 1        |   |
| 5            | Bracket Mounting Template        | 1        |  |
| 6            | M8 x 60 Expansion Bolts          | 8        |  |
| 7            | M4 Combination Screws            | 6        |  |
| 8            | Installation Guide & User Manual | 1        |  |



Note: To disable RFID access, hold the RFID tag on the reader area for 15 seconds. To re-enable RFID access, repeat the same action.

## INSTALLATION INSTRUCTIONS

### Pre-Installation Checklist

Before installation, ensure the following requirements are met:

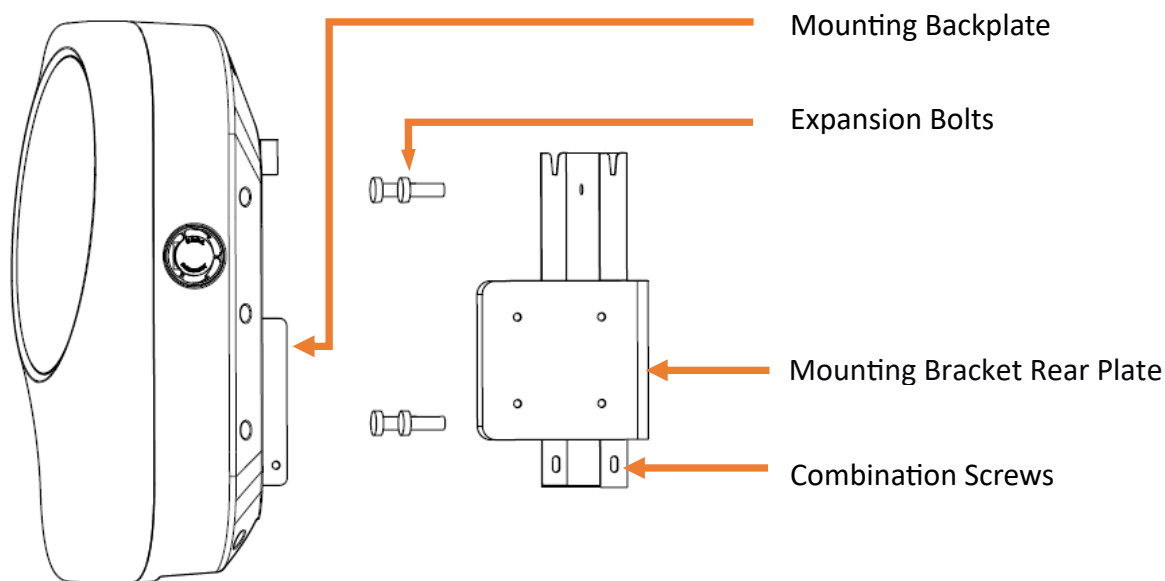
- Installation is carried out by a **licensed and qualified electrician**.
- The wall surface is solid, level, and capable of supporting the weight of the EV charger.
- The installation location is dry, well-ventilated, and protected from direct weather exposure.
- Ensure the charger is installed in a location where the 6 metre charging cable can comfortably reach the vehicle charging inlet.
- Adequate clearance is available around the charger for safe operation and maintenance.
- Electrical supply capacity, protective devices, and earthing arrangements comply with **AS/NZS 3000** and all local regulations.

|                          |                      |                                          |                      |
|--------------------------|----------------------|------------------------------------------|----------------------|
| Installation Environment | Indoor or Outdoor    | Charger Vertical Alignment               | $\leq 5^\circ$       |
| Maximum Altitude         | $\leq 2000\text{m}$  | Minimum Mounting Height (Bottom of Unit) | $\geq 1200\text{mm}$ |
| Wall Inclination         | $\leq 5^\circ$       | Minimum Side Clearance                   | $\geq 500\text{mm}$  |
| Wall Flatness Tolerance  | $\leq 0.25\text{mm}$ | Wall Load Capacity                       | $\geq 10\text{kg}$   |

### Tools Required

- Multimeter
- Torque Screwdriver
- Power Drill and Drill Bits
- Socket Set
- Laser Level
- Spirit Level
- Wire Strippers
- Tape Measure

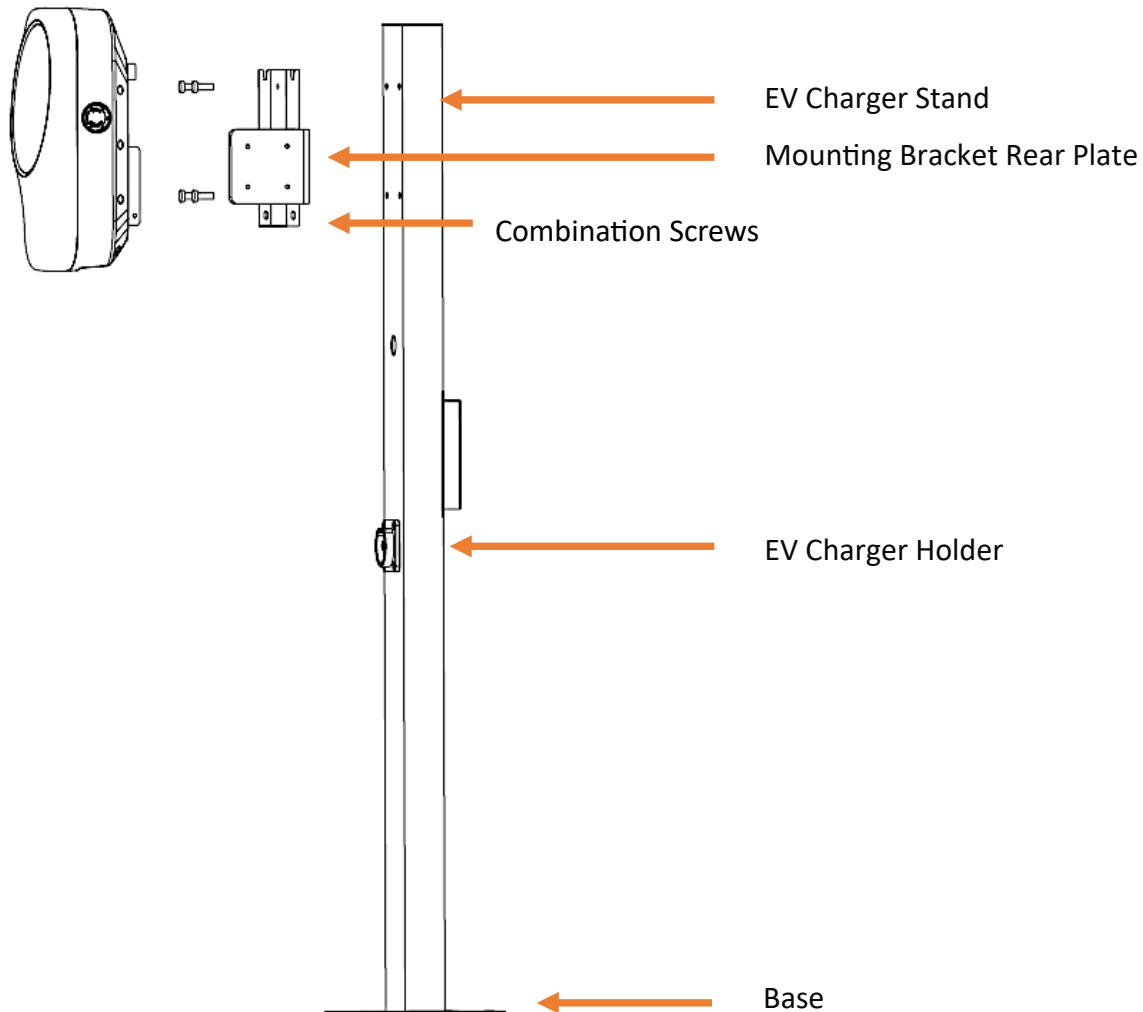
## Wall-Mounted Installation



1. Remove the mounting bracket rear plate from the charger.
2. Use the supplied bracket mounting template to mark hole positions at the installation location. Drill holes suitable for M8 x 60 expansion bolts.
3. Align the charger's mounting plate with the mounting bracket rear plate and secure on both sides using M4 combination screws.
4. Install the AC circuit breaker. Drill holes according to the marked positions and fix it securely in place using appropriate fasteners.
5. Using a screwdriver, connect the Active (L), Neutral (N) and Earth (PE) conductors to the corresponding terminals.
6. Connect the EV Charger to the mains power supply in accordance with applicable electrical standards.
7. Verify all electrical connections are secure and correctly installed before energising the system.

## Floor-Mounted Installation

The EV Charger Stand is an optional accessory and is available for separate purchase.

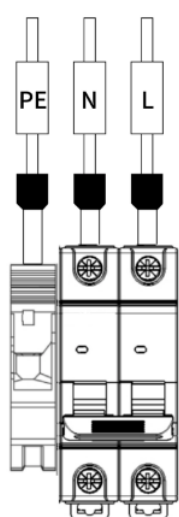


1. Secure the base of the EV Charger stand using expansion bolts, drill holes suitable for 12 mm expansion bolts, and fix them in the required position.
2. Remove the mounting bracket rear plate.
3. Align the charger mounting bracket rear plate with the stand and secure using M8 x 60 bolts.
4. Attach the charger to the bracket using M4 screws.
5. Install the AC circuit breaker. Drill holes according to the marked positions and fix it securely in place using appropriate fasteners.
6. Using a screwdriver, connect the Active (L), Neutral (N) and Earth (PE) conductors to the corresponding terminals.
7. Connect the EV Charger to the mains power supply in accordance with applicable electrical standards.
8. Verify all electrical connections are secure and correctly installed before energising the system.

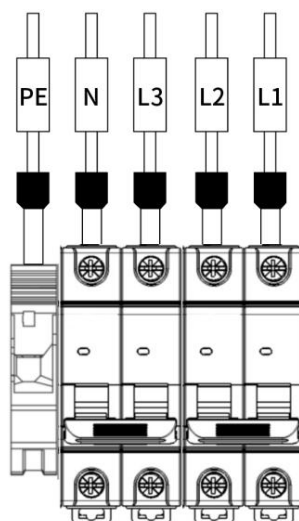
## WIRING INSTRUCTIONS

| Cables            | Power supply requirements | Wiring method | Incoming cable diameter |
|-------------------|---------------------------|---------------|-------------------------|
| 7kW Power cables  | 230V                      | L/N/PE        | 3*6mm <sup>2</sup>      |
| 11kW Power cables | 400V                      | L1/L2/L3/N/PE | 5*2.5mm <sup>2</sup>    |
| 22kW Power cables | 400V                      | L1/L2/L3/N/PE | 5*6mm <sup>2</sup>      |

| Cables    | Color           |
|-----------|-----------------|
| L1        | Brown           |
| L2 (400V) | Grey            |
| L3 (400V) | Black           |
| N         | Blue            |
| PE        | Yellowish-green |



Single Phase – 7kW



Three Phase – 11kW / 22kW

### Installation Requirements and Checks

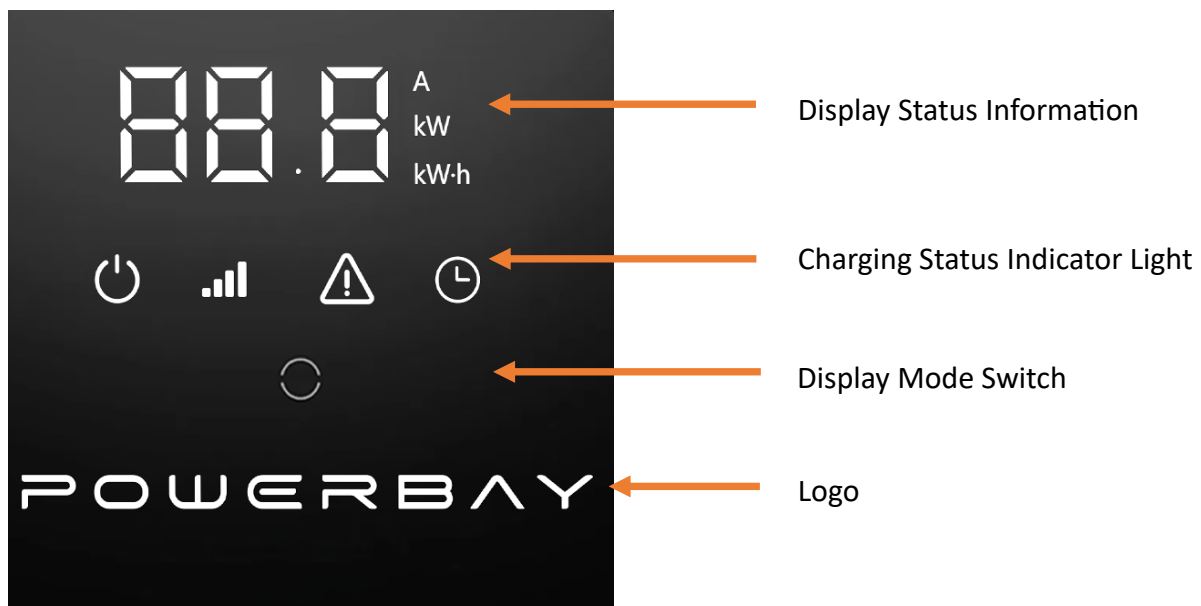
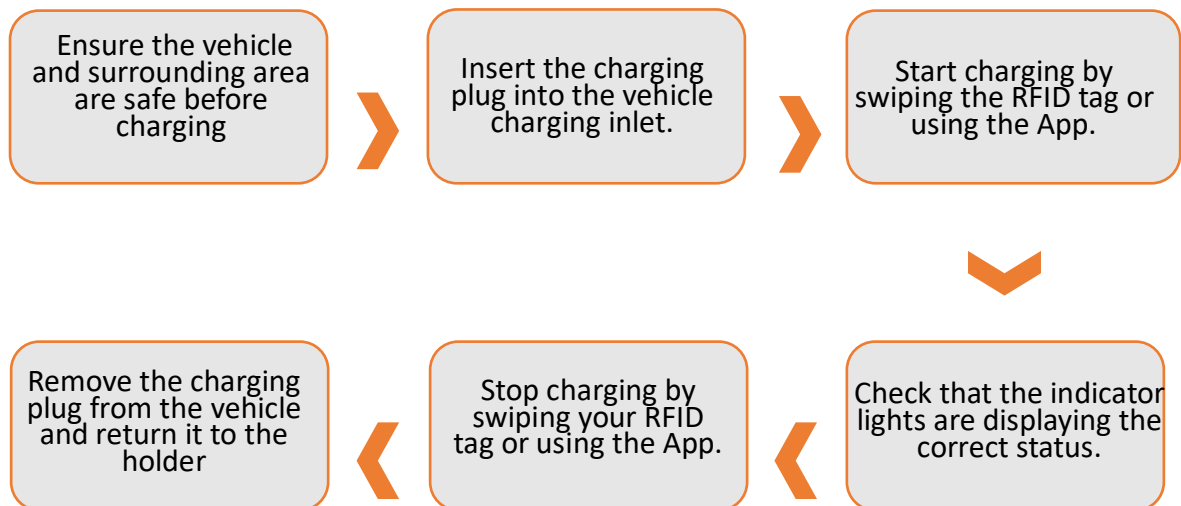
- Ensure the supply cable size is not smaller than the incoming cable size.
- Inspect all installation connections. Verify that all on-site electrical connections are correct and securely fastened.
- Confirm that all cable sizes meet the specified requirements.
- Ensure all terminals are properly tightened and secure.
- Where an RCD (safety switch) is installed upstream, verify the correct line and load connections.
- Confirm the correct phase sequence (for three-phase systems).
- To prevent electric shock, ensure the protective earth (PE) conductor is securely connected to a reliable earth.

## USER MANUAL

### Indicator Status Description

| Display                                   | Status                              |
|-------------------------------------------|-------------------------------------|
| Digital LED off                           | Standby                             |
| Digital LED Illuminated                   | Charging plug inserted into vehicle |
| Digital LED displays energy consumption   | Charging in progress                |
| Digital LED displays total charged energy | Charging completed                  |
| Digital LED displays an error code        | Fault                               |

### Charging Operation Process



**TROUBLESHOOTING**

| Error code | Fault Description         | Cause / Corrective Action                                                                                                                        |
|------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| E01        | PE (Earthing) Fault       | Check that the earthing conductor is correctly connected and functioning properly.                                                               |
| E02        | Overcurrent fault         | Overcurrent protection has been activated. Disconnect the charger from the power supply to reset.                                                |
| E03        | Low voltage fault         | Supply voltage is below the allowable range. Charging will automatically resume once normal voltage is restored.                                 |
| E04        | High voltage fault        | Supply voltage is above the allowable range. Charging will automatically resume once normal voltage is restored.                                 |
| E05        | Relay malfunction         | Internal relay malfunction. Service inspection required.                                                                                         |
| E07        | Overtemperature Warning   | Charging stops when device temperature exceeds <b>75 °C</b> and resumes automatically when temperature falls below <b>65 °C</b> .                |
| E09        | Emergency stop activation | Emergency stop button has been pressed. Reset by turning or releasing the emergency stop button until it pops out.                               |
| E10        | Hardware failure          | Internal hardware damage detected. The fault cannot be reset; contact authorised service support.                                                |
| E11        | CP (Control Pilot) Fault  | Charging plug or cable malfunction detected. Inspect the charging connector and cable.                                                           |
| E12        | Relay open circuit fault  | Internal relay malfunction. Service inspection required.                                                                                         |
| E16        | Wiring malfunction        | Wiring error detected. All electrical connections and wiring integrity must only be inspected and rectified by a licensed electrical contractor. |
| E23        | Over temperature warning  | Output power is reduced when device temperature exceeds <b>65 °C</b> . Normal operation resumes when temperature falls below <b>65 °C</b> .      |
| E24        | Temperature Sensor Fault  | Temperature sensor malfunction detected. Inspection and servicing must only be carried out by a licensed electrical contractor.                  |

Any installation, inspection, or servicing activities referenced must be carried out by a **licensed electrical contractor**.

## APP MANUAL

1. Download **Powerbay EV Charger** App from Google Play or Apple App Store to your mobile phone.
2. Open the App, tap **Create Account**, enter email address, create password, tap **Get Code**, a verification code will be sent to your email address, enter the verification code, tap **Login**. If you already have an account, simply log in using your registered email address and password.

### 3. Connect EV Charger to App

Method 1:

- Tap **Adding EV Charger** in the App
- A prompt will appear asking for camera permissions; select **Allow**
- Scan the QR code on the side of the EV Charger next to the nameplate to complete connection.

Method 2:

- Tap **Adding EV Charger** in the App
- Tap **Manual Input** and enter the serial number as shown on the nameplate to complete connection.

### 4. Managing Devices

Adding a New Device

- Open the App and tap the device drop-down menu at the top left of the screen.
- Tap **Add New Device**
- Scan the QR code or manually enter the charger code to connect a new EV Charger

Switching Devices

- Open the App and tap the drop-down menu at the top left of the screen.
- Tap on another device from the list.
- You can now view and manage the functions of the selected charger.

Remove a Device

- Open the App and tap the menu icon at the top right of the main device screen.
- Tap **Remove Device**.
- Once successfully unbound, the screen will switch back to the initial interface.

### 5. Charging Functions

Start/Stop Charging

- Ensure the device is online and plugged into the vehicle. Tap the **Start** button to begin charging. The real-time power, voltage, and current values will be displayed during the

charging process.

- Tap the **Stop** button to end the charging session.

#### Scheduled Charging

- Ensure the device is online and plugged into the vehicle.
- Toggle the **Planned charging** switch to turn it on.
- Tap the **Planned time period** section. Select your desired Start Time and End Time (hours and minutes).
- Once set successfully, the APP will return to the main device screen. Charging will automatically begin at your scheduled start time.

#### Adjust Charging Current

- Ensure the device is connected and online. By default, the **Adjust Charging Current** function is inactive.
- Tap the menu icon at the top right of the screen, then toggle the **Adjust Charging Current** switch to turn it on.
- Toggle the slider left or right to adjust the charging current limit.

### 6. Account & History

- Charging Calendar & History
- Ensure your device is connected and online.
- Tap the **Account** module at the bottom right corner of the App.
- You can select specific date in the Charging Calendar to view the charging records for that day.
- Tap **More** under Charging History to view detailed past charging sessions.

## WARRANTY POLICY

Power Bay Pty Ltd warrants to the purchaser that the EV Charger will be free from defects in materials for a period of three years from the date of purchase. This warranty is valid for purchasers located in Australia and New Zealand only.

In the event of a performance failure after purchase, the product may be repaired or replaced free of charge within the applicable warranty period. When requesting a replacement, customers must provide a valid purchase invoice and return the product with all original accessories.

The warranty period commences on the purchase date shown on the invoice. If a valid purchase invoice cannot be provided, or if the information on the warranty documentation is inconsistent, altered, or illegible, the warranty period will be determined by the ex-factory date shown on the product nameplate. If a valid ex-factory date cannot be verified, free warranty service cannot be provided.

Products repaired by Power Bay Pty Ltd will continue to be covered for the remainder of the original warranty period.

Any faulty parts or products replaced during warranty service become the property of Power Bay Pty Ltd

### **Warranty Exclusions**

This warranty does not cover faults or damage resulting from:

- A. Deliberate damage, misuse, or transportation damage
- B. Products that have been disassembled, modified, or repaired by the user or by unauthorised service providers
- C. Cosmetic or appearance damage caused by unauthorised opening, tampering, or improper use
- D. Failure or damage resulting from operation outside the specified operating conditions, including exceeding the rated working load
- E. Failure or damage caused by improper storage by the user

**For detailed warranty information please go to Powerbay EV Charger product page on Powerbay website [www.powerbay.com.au](http://www.powerbay.com.au)**

### **Contact information**

Company name: Power Bay Pty Ltd  
Company website: [www.powerbay.com.au](http://www.powerbay.com.au)  
Email: [service@powerbay.com.au](mailto:service@powerbay.com.au)  
Phone: 1800 95 95 09



POWERBAY

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