HANCHU ESS Battery Storage System - **User Guide**

How Do I Add an RFID Card to My EV Charger? – Web-Portal

Infinity Innovations | HANCHU ESS

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1. Introduction

Your Hanchu ESS EV charger supports RFID (Radio Frequency Identification) card technology, which allows you to control access to your charger and manage charging sessions using dedicated RFID cards. This guide explains what RFID cards are, why you might want to use them, and provides step-by-step instructions on how to add RFID cards to your charger through the Hanchu ESS monitoring portal.
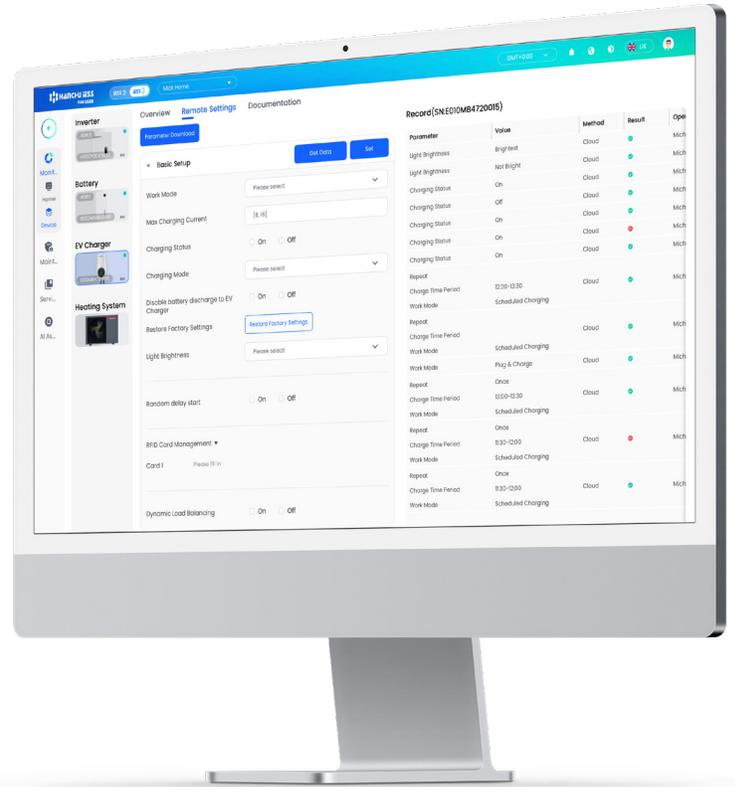
2. Understanding RFID Cards

RFID cards are small, contactless cards that contain a unique identification number. When presented to an RFID reader on your EV charger, they transmit this identification wirelessly, allowing the charger to recognize and authenticate the card holder. This technology enables convenient, secure access control to your charging equipment.

3. What Are RFID Cards and How Do They Work?

RFID cards use radio frequency technology to communicate with your EV charger's RFID reader. Here's how the process works:

RFID Technology Basics

Card Composition: RFID cards contain a small microchip and antenna embedded within the card material. This allows them to transmit data wirelessly without requiring any physical contact with the reader.

Wireless Communication: When you present an RFID card near the RFID reader on your charger, the card transmits its unique identification number to the reader.

Authentication: The charger's system checks the transmitted ID against its database of authorized cards. If the card is recognized and authorized, the charger allows the charging session to proceed.

No Physical Contact Required: Unlike traditional magnetic stripe cards, RFID cards don't require physical contact with the reader. You simply need to hold the card near the reader for a moment.

4. Why Use RFID Cards for Your EV Charger?

There are several practical reasons why you might want to add RFID cards to your EV charger:

4.1 Access Control and Security

The Benefit: RFID cards allow you to control who can use your charger. Only authorized users with registered RFID cards can initiate charging sessions.

How It Works: You can add specific RFID cards to your charger's system, and only those cards will be able to start charging. This prevents unauthorized use of your charger.

Practical Application: If you have a shared driveway or allow family members to charge their vehicles, RFID cards ensure that only authorized people can use your charger.

4.2 Multi-User Management

The Benefit: If multiple people need access to your charger (family members, employees, guests), RFID cards allow you to manage each user separately.

How It Works: Each person can have their own RFID card, and you can track which card was used for each charging session.

Practical Application: In a household with multiple drivers, each family member can have their own card, making it easy to track who charged their vehicle and when.

4.3 Convenience and Speed

The Benefit: RFID cards provide a quick and convenient way to start charging without needing to access the monitoring portal or use a mobile app.

How It Works: Simply present your RFID card to the reader on the charger, and the charging session begins automatically.

Practical Application: When you arrive home or at a charging location, you can quickly start charging by tapping your RFID card, without any additional steps.

4.4 Guest Access Management

The Benefit: You can easily grant temporary access to guests or service personnel without giving them access to your monitoring portal.

How It Works: Add a temporary RFID card for a guest, and remove it after they no longer need access.

Practical Application: If a friend visits and needs to charge their vehicle, you can quickly add a temporary RFID card for them without sharing your portal login credentials.

4.   Why Use RFID Cards for Your EV Charger?

4.5   Workplace Charging Management

The Benefit: For businesses with company vehicles or employee charging programs, RFID cards provide an efficient way to manage charging access and track usage.

How It Works: Each employee can have an RFID card, and the system tracks which employee used the charger and when.

Practical Application: A company fleet can use RFID cards to ensure that only authorized drivers can charge company vehicles, and to track charging patterns for billing or maintenance purposes.

4.6   Simplified Charging Initiation

The Benefit: RFID cards eliminate the need to remember passwords or navigate through menus to start charging.

How It Works: One tap of the RFID card initiates the charging process immediately.

Practical Application: Especially useful for family members who may not be comfortable using the monitoring portal or mobile app.

4.7   Audit Trail and Accountability

The Benefit: When RFID cards are used, the system can track which card was used for each charging session, creating an audit trail.

How It Works: The charger logs which RFID card initiated each charging session, along with the date and time.

Practical Application: In a shared charging environment, this helps track usage patterns and ensure accountability for charging costs.

5.   Step-by-Step Guide to Adding RFID Cards

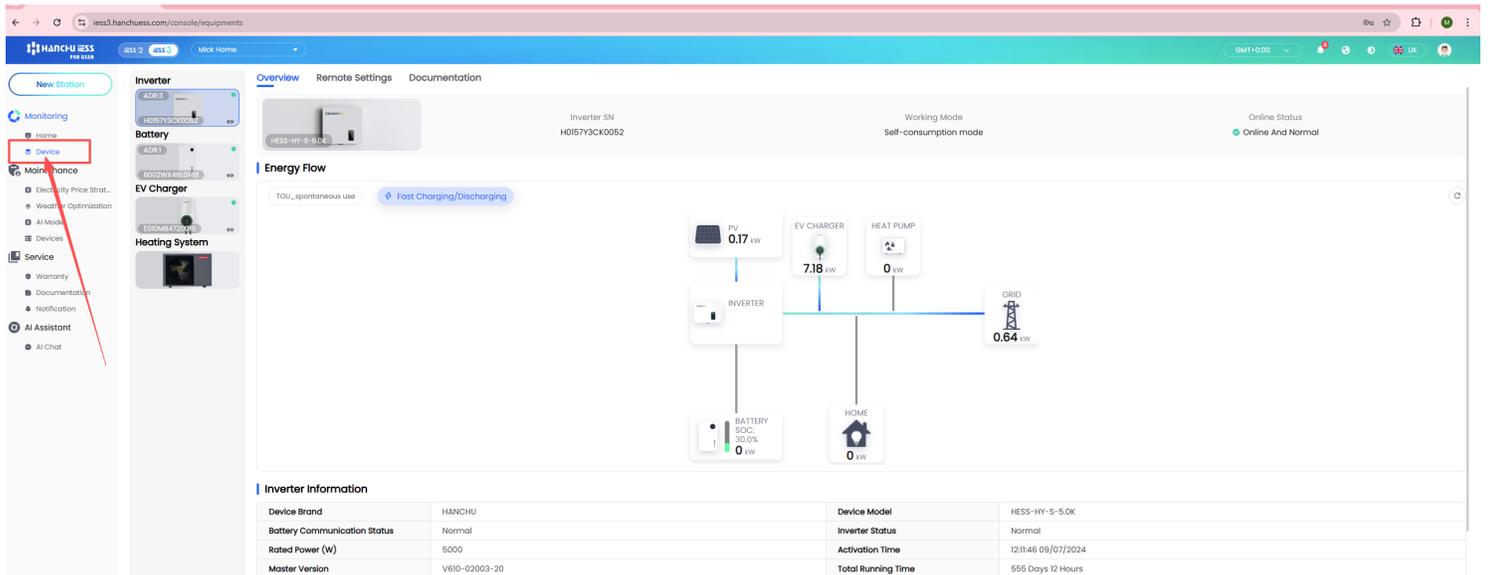### 5.1   Step 1: Log In to the Hanchu ESS Portal

Begin by accessing the Hanchu ESS web portal. Open your web browser and navigate to the portal URL. You will be presented with the login screen. Enter your Account (username) and Password, then click the Sign In button.

5. Step-by-Step Guide to Adding RFID Cards

5.2 Step 2: Navigate to Devices

From the main dashboard, locate the Device option in the left-hand sidebar menu. Click on Device to view a list of all components in your Hanchu ESS system.The page will display various configuration options.
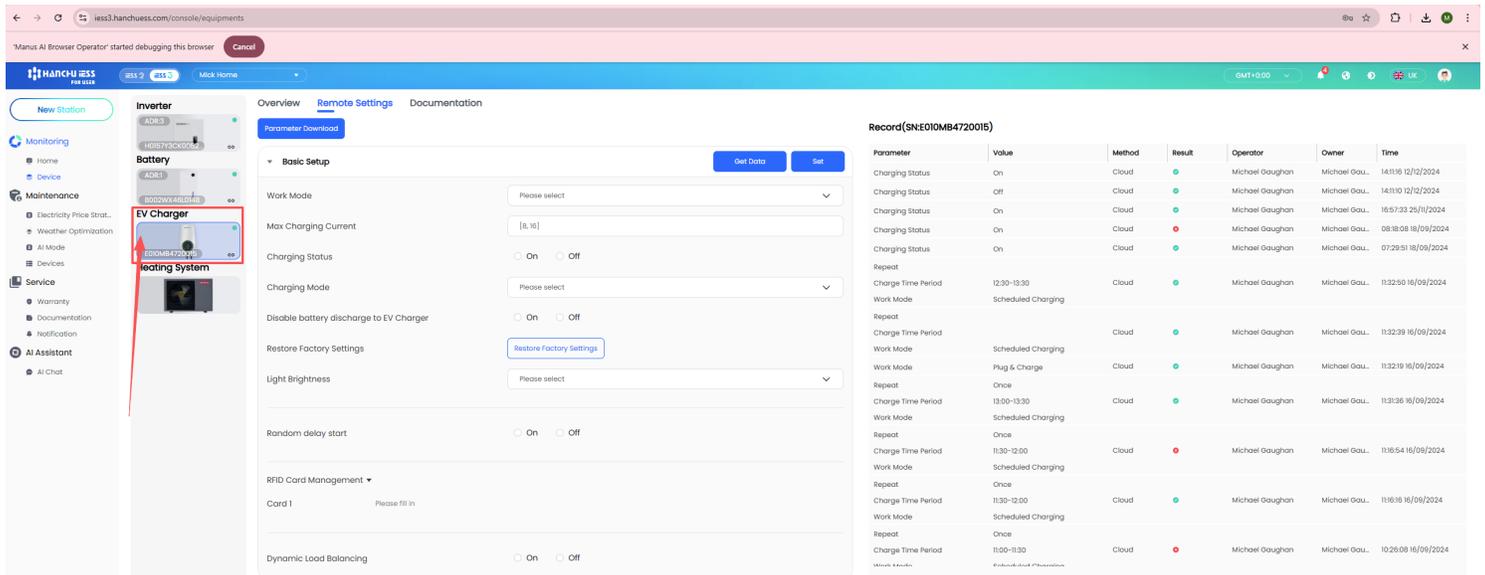
5. Step-by-Step Guide to Adding RFID Cards

5.3 Step 3: Select Your EV Charger

On the devices page, you will see a list of your installed Hanchu ESS components. Click on the EV Charger section to select it and view its specific details and settings.
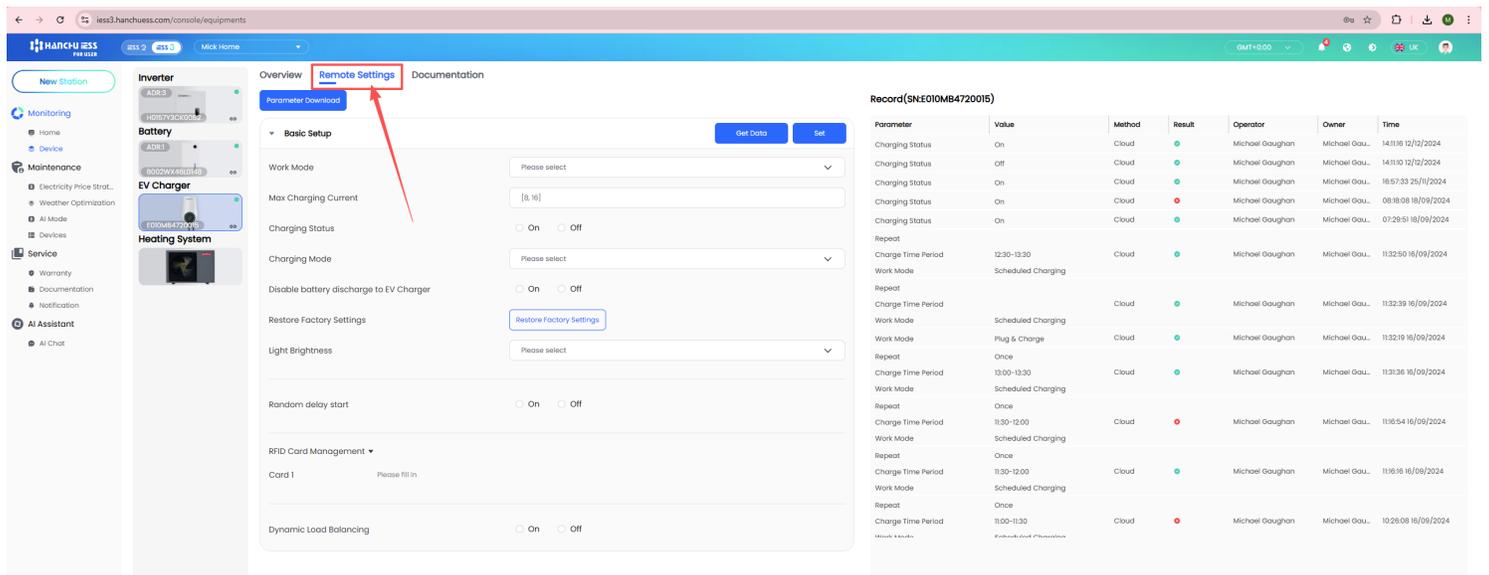
5. Step-by-Step Guide to Adding RFID Cards

5.4 Step 4: Access Remote Settings

At the top of the EV Charger's detail page, click on the Remote Settings tab. This will take you to the remote configuration interface for your EV charger.

5. Step-by-Step Guide to Adding RFID Cards

5.5 Step 5: Locate RFID Card Management

On the Remote Settings page, look for the RFID Card Management section. This section contains all the tools you need to add, view, and manage RFID cards for your charger. The RFID Card Management section typically includes fields for adding new cards and a list of currently registered cards.
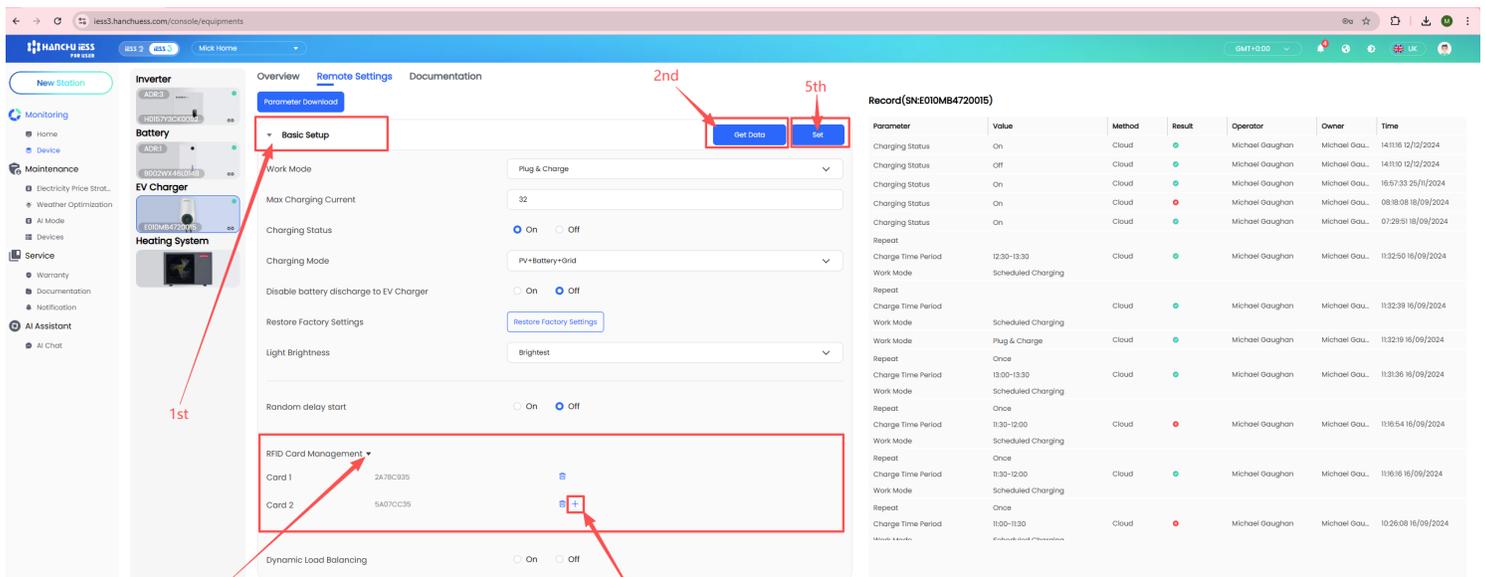
Example: Setting Times for Expensive Tariffs

If your electricity provider offers expensive rates from 5:00 PM to 7:00 PM, you would set:

Field	Value
Start time	17:00
End time	19:00

5. Step-by-Step Guide to Adding RFID Cards

5.6 Step 6: Add a New RFID Card

To add a new RFID card to your charger, follow these steps in order:

1. **Get Data**: First, click the **Get Data** button to retrieve the latest settings from the EV charger.
2. **Open RFID Card Management:** The RFID Card Management section should be visible. If not, click on it to expand it.
3. **Locate the Add Card Field:** Find the input field labeled **Card Number** or **RFID Card ID**. This is where you'll enter the RFID card's identification number.
4. **Enter the Card Number:** You need to obtain the RFID card's unique identification number. This can be found on the back of the physical RFID card (usually printed as a number), on the packaging or

documentation that came with the card, by scanning the card with a compatible RFID reader (if you have one), or by contacting the card manufacturer or supplier.

5. **Enter the Card Information:** Click on the Card Number field and enter the unique identification number of the RFID card you want to add.
6. **Add Optional Information:** Some systems allow you to add additional information about the card, such as a Card Name or Label (e.g., "John's Card," "Guest Card," "Employee Card"), User Name (the name of the person who will use the card), or Description (any additional notes about the card or its intended use).
7. **Set:** Click the **Set** or **Add Card** button to register the RFID card with your charger. A confirmation message will appear indicating that the card has been successfully added.

Example: Setting Times for Expensive Tariffs

If your electricity provider offers expensive rates from 5:00 PM to 7:00 PM, you would set:

Field	Value
Start time	17:00
End time	19:00

5. Step-by-Step Guide to Adding RFID Cards

5.7 Step 7: Verify the Card Registration

After adding the RFID card, you should see it listed in the RFID Card Management section. The card should appear in the list of registered cards with its ID number and any additional information you provided.

Setting	Description
Charging power maximum (W)	The maximum power at which your battery will charge (default: 5000W)
Maximum Charge SOC (%)	The maximum state of charge your battery will reach (default: 100%)
Minimum Discharge SOC (%)	The minimum state of discharge before your battery stops discharging (default: 5%)

6. Understanding RFID Card Management

6.1 Card Registration Process

When you add an RFID card to your charger, the system creates a record linking that card's unique ID to your charger. This allows the charger to recognize the card when it's presented to the RFID reader.

6.2 Multiple Cards

You can add multiple RFID cards to your charger. Each card must have a unique identification number. The system will recognize any of the registered cards when presented to the reader.

6.3 Card Removal

If you need to remove a card from your charger (for example, if a guest no longer needs access), you can delete it from the RFID Card Management section. Once removed, that card will no longer be able to initiate charging sessions on your charger.

6.4 Card Limits

Most EV chargers have a maximum number of RFID cards that can be registered. Check your charger's specifications or contact your installer to determine the maximum number of cards your system supports.

7. Important Information

7.1 Obtaining RFID Cards

Where to Get Cards: RFID cards can be obtained from your charger manufacturer or installer, specialized RFID card suppliers, electronics retailers that carry RFID products, or online retailers specializing in RFID technology.

Card Types: Ensure that the RFID cards you purchase are compatible with your specific Hanchu ESS charger model. Different chargers may support different RFID frequencies or card types.

7.2 Card Identification Numbers

Finding the Card ID: The unique identification number for an RFID card is typically printed on the back of the card, provided in the packaging or documentation, readable by an RFID reader device, or sometimes available from the card manufacturer.

Format: Card ID numbers are usually numeric or alphanumeric codes. Enter them exactly as they appear, without spaces or special characters (unless the system specifically requires them).

7.3 Immediate Effect

Changes to your RFID card registrations take effect immediately after you click the **Set** or **Add Card** button. The newly registered card can be used to initiate charging sessions right away.

7.4 Card Security

Keep Cards Safe: Treat your RFID cards like you would treat physical keys. Keep them in a safe place and don't share them with unauthorized users.

Card Replacement: If an RFID card is lost or damaged, you can remove it from your charger's system and add a new card.

Access Control: Only register RFID cards for people you trust to use your charger.

7.5 Testing New Cards

After adding an RFID card, test it by presenting it to the RFID reader on your charger to ensure it's working correctly. The charger should recognize the card and allow you to initiate a charging session.

8. Practical Scenarios

8.1 Scenario 1: Family Household with Multiple Drivers

Situation: You have a household with multiple family members who each have their own vehicle and need to charge at home.

Solution: Add an RFID card for each family member to your charger.

Benefit: Each family member can quickly start charging by tapping their card, and you can track which family member used the charger and when.

8.2 Scenario 2: Guest Access

Situation: A friend or family member is visiting and needs to charge their vehicle while staying with you.

Solution: Add a temporary RFID card for the guest, and remove it after they leave.

Benefit: Your guest can easily charge their vehicle without needing to access your monitoring portal or remember complicated procedures.

8.3 Scenario 3: Shared Driveway

Situation: You share a driveway with a neighbor, and you've agreed to allow them to use your charger occasionally.

Solution: Add an RFID card for your neighbor to your charger.

Benefit: Your neighbor can charge their vehicle conveniently, while you maintain control over who can use your charger.

8.4 Scenario 4: Employee Charging Program

Situation: Your business has a company vehicle or employee charging program, and you want to track which employees use the charger.

Solution: Add RFID cards for each employee who is authorized to use the charger.

Benefit: You can track charging usage by employee, manage access to company charging infrastructure, and ensure accountability.

8.5 Scenario 5: Service Personnel

Situation: A technician or service provider needs temporary access to charge a service vehicle at your location.

Solution: Add a temporary RFID card for the service personnel.

Benefit: You can grant access without sharing your portal credentials, and easily revoke access when the service is complete.

9. Troubleshooting RFID Card Issues

9.1 Card Not Recognized

Issue: You've added an RFID card, but the charger doesn't recognize it when you present it to the reader.

Solution: Verify that you entered the card ID number correctly. Check for any typos or extra spaces. Ensure the card is compatible with your charger model. Try presenting the card at different angles or distances from the reader. Contact your installer to verify that the RFID reader on your charger is functioning properly.

9.2 Card ID Not Found

Issue: You can't find the card ID number on your RFID card.

Solution: Check the back of the card for a printed number. Look in the packaging or documentation that came with the card. Contact the card manufacturer or supplier for the card ID. If you have access to an RFID reader, use it to read the card's ID.

9.3 Cannot Add Card to System

Issue: You're trying to add a card, but the system won't allow it.

Solution: Verify that you clicked the Set or Add Card button to confirm the addition. Check that you haven't exceeded the maximum number of cards your charger supports. Ensure the card ID is in the correct format for your system. Try refreshing the page and attempting again. Contact your installer for technical support.

9.4 Card Stops Working

Issue: A previously working RFID card no longer initiates charging sessions.

Solution: Verify that the card hasn't been accidentally removed from the system. Check that the card hasn't been damaged or demagnetized. Try removing and re-adding the card to the system. Contact your installer if the problem persists.

9. Troubleshooting RFID Card Issues

9.5 Important Notes

- Card Compatibility: Ensure that any RFID cards you purchase are compatible with your specific Hanchu ESS charger model.

- Unique IDs: Each RFID card must have a unique identification number. Don't try to register the same card ID twice.

- Accurate Entry: When entering card IDs, be precise. Even small typos will prevent the card from being recognized.

- Regular Review: Periodically review your list of registered RFID cards and remove any that are no longer needed.

- Security Awareness: Treat RFID cards as you would treat physical keys. Keep them secure and don't share them with unauthorized users.

- Card Testing: After adding a new card, always test it at the charger to ensure it's working correctly.

10. Need Help?

If you have questions about adding RFID cards to your charger, or if you're experiencing issueswith RFID card registration or functionality, please contact your installation company for technical support. They can provide guidance on obtaining compatible RFID cards, help you troubleshoot card recognition issues, and assist with any other RFID-related questions.