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MR CARTOOL S311

MR CARTOOL EV Charger 32A Type 2 Smart Home Charging Station S311 User Manual

Model: S311

1. INTRODUCTION

This manual provides essential instructions for the safe and efficient operation, installation, and maintenance of your MR CARTOOL EV Charger 32A Type 2 Smart Home Charging Station, Model S311. Please read this manual thoroughly before using the product and retain it for future reference.



Image 1.1: MR CARTOOL EV Charger S311. This image displays the main unit of the EV charger, its attached Type 2 charging cable, an RFID card for access, and a close-up of the LCD touchscreen interface showing scheduled charging options. The internal wiring is also visible.

2. SAFETY INFORMATION

Always adhere to the following safety guidelines to prevent injury or damage to the product:

- Ensure professional installation by a qualified electrician.
- Do not attempt to open or modify the charging station unless specifically instructed in this manual.
- Keep the charging station and cable away from water, flammable materials, and extreme temperatures.
- In case of emergency, press the red emergency stop button immediately.
- Regularly inspect the charging cable and connector for any signs of damage. Do not use if damaged.
- This device is designed for charging electric vehicles only.

3. PRODUCT OVERVIEW

3.1 Key Features

- **Type 2 EV Standard:** Complies with European standards for electric vehicle charging.
- **32A Charging Capacity:** Provides efficient charging for compatible electric vehicles.
- **8m (26ft) Charging Cable:** Offers extended reach for various parking situations.
- **LCD Touchscreen Display:** Real-time data monitoring and intuitive control.
- **Multiple Access Methods:** Supports RFID card, password entry, and plug-and-charge.
- **Scheduled Charging:** Allows users to set specific charging times.
- **IP65 Waterproof Rating:** Ensures durability and operation in various weather conditions.
- **Multiple Safety Protections:** Includes overvoltage, leakage, and short-circuit protection.



Image 3.1: Overview of MR CARTOOL S311 EV Charger features. This graphic highlights the main functionalities of the charging station, including scheduled charging, touchscreen display, data monitoring, multiple safety protections, swipe charging, and waterproof design.

3.2 Components

- **Main Charging Unit:** Houses the control electronics and display.
- **LCD Touchscreen:** For interaction and data display.

- **Type 2 Charging Cable:** 8-meter cable with vehicle connector.
- **Charging Gun Socket:** Receptacle for the charging cable connector when not in use.
- **Charging Gun Protective Cover:** Keeps the charging gun clean.
- **Emergency Stop Button:** Red button for immediate power cut-off.
- **Sturdy Back Bracket:** For secure wall mounting.
- **RFID Card Reader:** For card swipe access.



Image 3.2: Key components of the MR CARTOOL EV Charger S311. This image illustrates the physical features of the charging station, such as the robust mounting bracket, the prominent emergency stop button, the dedicated socket for the charging gun, and its protective cover.

4. SETUP AND INSTALLATION

Installation should only be performed by a certified electrician to ensure compliance with local electrical codes and safety standards.

4.1 Mounting the Charging Station

1. Select a suitable location for installation, ensuring it is protected from direct impact and accessible for

charging.

2. Use the sturdy back bracket to securely mount the charging station to a wall or suitable structure.

4.2 Electrical Wiring

The charging station requires a 220V AC power input. Follow the wiring diagram carefully.



Image 4.1: Power Supply Wiring Diagram. This diagram illustrates how to connect the MR CARTOOL EV Charger S311 to the main power supply via a circuit breaker, detailing the Neutral (N), Live (L), and Protective Earth (PE) wire connections.

1. Connect the three wires (Neutral, Live, Protective Earth) at the input end of the charging station to the respective terminals on the circuit breaker.
2. Connect the circuit breaker to the main power supply.
3. Ensure all input and output cables adhere to the national standard 6-square copper core wire specifications.

4.3 Cable Management

The 8-meter (26ft) charging cable provides flexibility. Ensure it is routed safely and does not pose a tripping hazard.

SCHEDULED CHARGING

Use Scheduled Charging to specify a time in which you want to start charging.



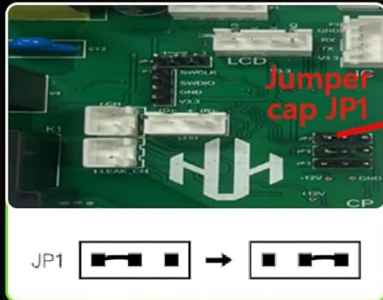
Image 4.2: The 26ft (8m) charging cable in use. This image demonstrates the length of the charging cable, connecting the S311 charger to an electric vehicle, and indicates its TÜV approval for quality and safety.

5. OPERATING INSTRUCTIONS

5.1 Charging Access Methods

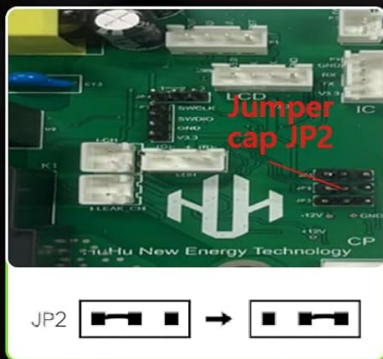
The S311 offers three methods to initiate charging:

1. METHOD TO CHARGE WHEN THE SCREEN IS NOT FUNCTIONING



- ▶ Turn off the power and open the charging station's outer shell.
- ▶ Adjust the jumper cap (JP1) into pin 2 and pin 3 can switch to "Plug and Charge" mode.
- ▶ Reinstall the charging station's outer shell.
- ▶ After powering on, plug in the charger gun to immediately start to charge.

2. CURRENT SWITCHING (16A/32A) METHOD



- ▶ The S311 charging station has a rated current capacity of up to 32A. It intelligently adapts its input current to match the specific power requirements of the vehicle, within the range of 0-32A.
- ▶ If the power supply source cannot offer the full 7KW (32A) output, you can adjust the jumper cap (JP2) into pin 2 and pin 3. Then, the maximum power output becomes 3.5KW for the EV charging station.

Image 5.1: Three Access Options for Charging. This graphic details the methods to start charging: using an RFID card, entering a customizable password on the touchscreen, or simply plugging in the charging gun for immediate charging.

1. **Card Swipe Access:** Unlock the device by swiping a registered RFID card. This prevents unauthorized usage.
2. **Password Entry:** Enter a customizable password on the touchscreen display at startup to unlock the charger.
3. **Plug-and-Charge:** For immediate charging, simply connect the charging gun to your vehicle without needing to unlock the device.

5.2 Scheduled Charging

You can program the charger to start at a specific time.

26FT CHARGING CABLE

With a robust and durable 26FT charging cable, it's perfect for all sorts of parking spaces, especially for home use.



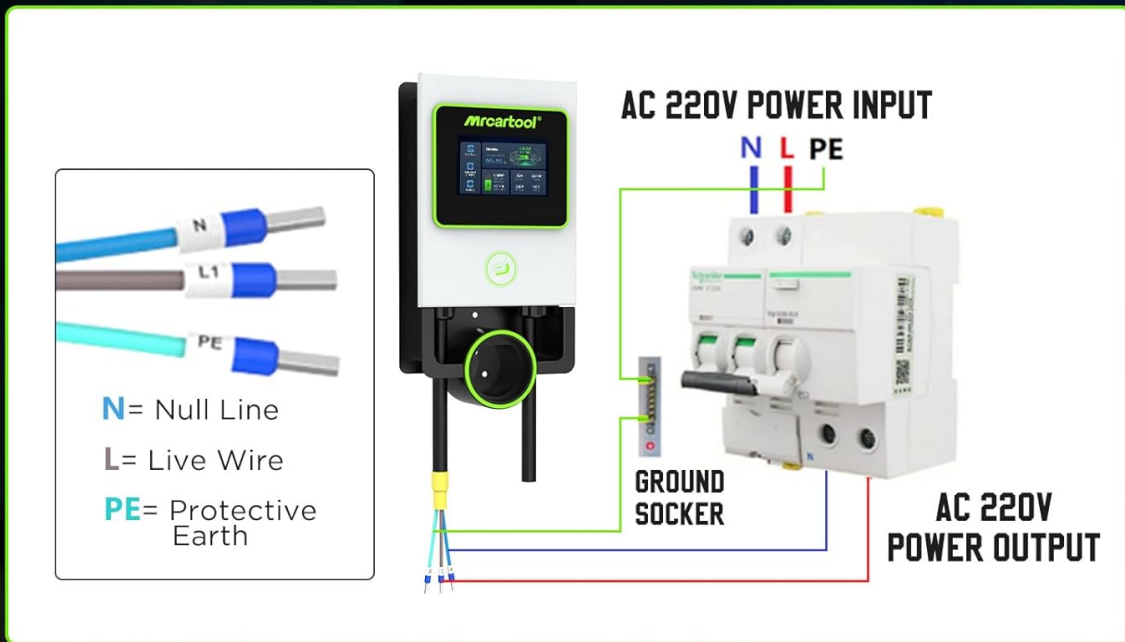
Image 5.2: Scheduled Charging Interface. This image displays the touchscreen menu for setting a specific start time for charging, allowing users to plan charging operations according to their needs.

1. Access the 'Scheduled Charging' option on the LCD touchscreen.
2. Set the desired start time (hour, minute, second).
3. Confirm your selection. The charger will begin charging at the programmed time.

5.3 Real-time Data Monitoring

The LCD touchscreen provides real-time charging data.

POWER SUPPLY WIRING DIAGRAM



1. Connect the 3 wires at the input end of the charging station to the respective terminals on the circuit breaker.

2. Connect the circuit breaker to the main power supply.

The input and output cables adhere to the national standard 6-square copper core wire specifications.

Image 5.3: Real-time Data Monitoring. This image shows the detailed information displayed on the touchscreen during a charging session, including charging duration, energy consumption, estimated range, current, power, voltage, and internal temperature.

During charging, the display shows:

- Charging Duration
- Energy Consumed (kWh)
- Estimated Range Added (km)
- Current (A)
- Power (kW)
- Voltage (V)
- Temperature (C)

5.4 Emergency Stop

In case of any malfunction or emergency during charging, press the red emergency stop button located on the side of the charging station to immediately halt the charging process.

6. MAINTENANCE


Regular maintenance ensures the longevity and safe operation of your EV charger.

- **Cleaning:** Wipe the exterior of the charging station with a soft, damp cloth. Do not use abrasive cleaners or solvents. Ensure the charging gun protective cover is in place when not in use.
- **Cable Inspection:** Periodically inspect the charging cable and connector for any cuts, fraying, or damage. If any damage is found, discontinue use and contact customer support.
- **Environmental Conditions:** While the unit is IP65 rated, avoid prolonged exposure to extreme weather conditions if possible.

7. TROUBLESHOOTING

This section addresses common issues and their solutions.

THREE ACCESS OPTIONS OF CHARGING





CARD SWIPE ACCESS

Unlock by swiping a card to start the device; effectively prevents unauthorized usage.

PASSWORD ENTRY

Enter a password at startup to unlock; the password can be customized.





PLUG-AND-CHARGE

No need to unlock upon startup; just connect the charging gun to begin charging.

Image 7.1: Internal Jumper Cap Settings for Troubleshooting. This image illustrates the location and function of jumper caps JP1 and JP2 inside the S311 charger, used for enabling charging when the screen is non-functional and for adjusting the charging current.

7.1 Screen Not Functioning

If the LCD screen is not working, you can still initiate charging:

1. Turn off the power to the charging station.
2. Carefully open the charging station's outer shell.
3. Adjust the jumper cap **JP1** into pin 2 and pin 3. This will switch the charger to 'Plug and Charge' mode.
4. Reinstall the charging station's outer shell.
5. After powering on, plug in the charger gun to immediately start charging.

7.2 Current Switching (16A/32A)

The S311 charging station has a rated current capacity of up to 32A. It intelligently adapts its input current to match the specific power requirements of the vehicle, within the range of 0-32A.

If your power supply source cannot offer the full 7KW (32A) output, you can manually adjust the maximum power output:

1. Turn off the power to the charging station.
2. Carefully open the charging station's outer shell.
3. Adjust the jumper cap **JP2** into pin 2 and pin 3. This will set the maximum power output to 3.5KW (16A) for the EV charging station.
4. Reinstall the charging station's outer shell.

7.3 Other Issues

For any other issues not covered here, please refer to the warranty and support section for assistance.

8. SPECIFICATIONS

Feature	Specification
Brand	MR CARTOOL
Model Number	S311
Charging Current	32A (Adjustable to 16A)
Cable Length	8 meters (26 feet)
Connector Type	Type 2
Ingress Protection (Station)	IP65
Ingress Protection (Charging Gun)	IP55
Operating Temperature	-20 °C ~ +80 °C
Voltage	220V
Display Type	LCD Touchscreen
Certifications	CE, TUV

9. WARRANTY AND SUPPORT

MR CARTOOL offers a **24-month quality support** and **7x24H customer service** for the S311 EV Charger. If you require further assistance, have questions, or need to claim warranty service, please contact MR CARTOOL customer support through the official channels provided at the time of purchase or on the MR CARTOOL website.