salzer

AC EV CHARGER MANUAL

Please read this manual carefully before installation and operation.
Keep this manual for further reference.

Version 1.0 | 2025

ABOUT SALZER ELECTRONICS LTD

Salzer Electronics Limited, an ISO 9001/14001/45001 & IATF Certified Company, operates seven state-of-the-art manufacturing facilities, supported by a robust R&D center recognized by the Ministry of Science & Technology, Government of India. These facilities are equipped with a comprehensive testing laboratory to ensure the production of high quality, value-added products that meet international standards, including UL, CSA, IEC, and CE certifications. Salzer offers an extensive range of electrical products, including rotary switches, load break switches, relays, contactors, MP- CBs, MCBs, plug and sockets, transformers, wires and cables, modular switches, limit / foot switches, Panel Accessories etc. These products are globally recognized for their quality and durability.

Salzer Electronics Limited is a prominent player in India's electrical and electronics sector, Salzer has made a significant entry into the electric vehicle (EV) charging sector. This strategic move aligns with the growing demand for EV infrastructure as India accelerates its shift toward sustainable mobility. By venturing into EV chargers, Salzer aims to diversify its product offerings and capitalize on the rising adoption of electric vehicles. The company is positioning itself to contribute to India's evolving electric mobility ecosystem while capitalizing on the expanding opportunities in the green technology space.

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1. PREFACE

Welcome to the user manual for the **Salzer EV Charger**. This preface serves as an introduction to the document, helping you navigate its contents effectively. Here is what you will find in this preface.

About This Manual:

This manual provides detailed instructions for installing, operating and maintaining the Salzer EV Charger. Whether you are a new EV owner or an experienced user, this guide will help you get the most from your charging station.

Intended Audience:

This manual is intended for EV owners, electricians, and technicians responsible for installing and maintaining EV chargers. Whether you are setting up a home charging station or managing a commercial installation, you will find the valuable information here.

Safety First:

Always follow safety guidelines outlined in this manual. If you are unsure about any step, consult a qualified electrician. Safety precautions include proper grounding, avoiding modifications to plugs, and adhering to local electrical codes.

Text Conventions:

We use bold for important terms and instructions. Italics indicate user input.

Acknowledgements:

We extend our gratitude to the engineers, technical writers, and reviewers who contributed to this manual.

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2. PRODUCT DESCRIPTION

This charging station is an electrical appliance that supplies electric energy to charge plug-in electric vehicles for indoor areas. When installing and using the charging station, ensure that you comply with local regulations.

The intended use of the equipment includes, in all cases, the environmental conditions established for the equipment.

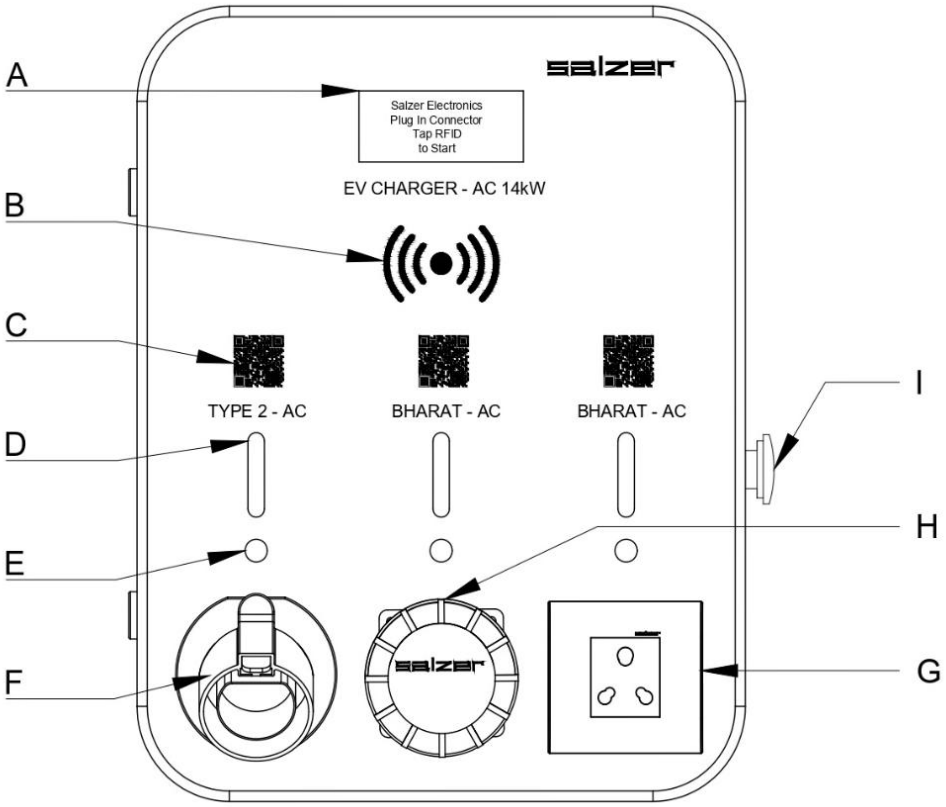


Fig. 14 kW AC EV Charger (Hybrid Model)

A	LCD Display (For 3.3 kW - 1.3" OLED Display)
B	RFID Reader
C	QR Code
D	Indication LED
E	Push Button (Available only in 3.3kW, 10 kW and 14 kW Chargers)
F	CCS Type 2 Dummy Holder (Available only in 7.4 kW, 14 kW, 15 kW and 22 kW Chargers)
G	16A Socket (Available in 3.3 kW, 10 kW and 14 kW Chargers) **
H	Industrial Socket (Available in 3.3 kW, 10 kW and 14 kW Chargers) **
I	Emergency Push Button

**Connector availability may vary depending on the ordering code.

3. SAFETY MEASURES AND INSTRUCTIONS

Read all the instructions before using the electric vehicle (EV) charger. Failure to follow these instructions can result in electric shock, fire, or serious injury.

3.1. GENERAL SAFETY PRECAUTIONS

Authorized Use: This EV Charger is intended for residential use/ commercial use. Only individuals or the vehicle owner should use it as per the manufacturer's instructions.

Compatibility: Ensure that the charger is compatible with your vehicle's charging system before use. Refer to your vehicle's manual for specific details.

Children & Pets: Keep children and pets away from the charger while it is in operation.

Unattended Charging: Avoid leaving the charging vehicle unattended for extended periods. Always monitor charging progress when possible.

Outdoor Use: If used outdoors, make sure the charger is placed in a location where it is protected from direct water exposure (rain, snow, etc.).

3.2. ELECTRICAL SAFETY

Voltage and Power Supply: Use only with a properly grounded outlet. Ensure the electrical outlet matches the specified input power for the charger.

Surge Protection: The charger must be connected to a circuit equipped with surge protection to prevent damage from electrical surges.

Damaged Equipment: Do not use the charger if the cable, plug, or connector appear damaged. An authorized technician should replace any damaged parts.

Wet Conditions: Never touch the charger or plug with wet hands or use the charger in wet or damp conditions. Moisture can lead to electric shock.

Cable Management: Keep the charging cable neatly organized to avoid tripping hazards. Never drive over the charging cable or expose it to sharp objects.

3.3. OPERATION INSTRUCTIONS

Proper Connection: Always connect the charger to the vehicle before switching on the power. Disconnect power before unplugging the charger from the vehicle.

Charging Status: Follow the vehicle's display or charger LED indicators to monitor charging status. Stop charging if any error indicators light up.

Plug and Unplug Safely: Always pull by the plug, not the cord, to disconnect. Never forcibly, remove the plug from the vehicle charging port.

Ambient Temperature: Avoid charging in extremely high or low temperatures. The charger operates best between 0^0C to 70^0C.

3.4. MAINTENANCE AND CLEANING

Regular Inspection: Periodically inspect the charger, cables, and connectors for signs of wear or damage. If found, cease use immediately and contact a qualified technician.

Cleaning: Clean the charger and cable with a dry or slightly damp cloth. Avoid using abrasive cleaners or solvents. Never immerse any part of the charger in water.

Storage: When not in use, store the charger in a dry, cool place away from direct sunlight, moisture, or sources of heat.

3.5. EMERGENCY PROCEDURES

Electrical Fire: In case of an electrical fire, immediately **Press Emergency Stop/ Turn of the MCB** *(Charger Input Supply)* and then unplug the charger from the power source, if safe to do so, and contact emergency services. Use a Class C fire extinguisher on electrical fires-do not use water.
Shock Prevention: If someone is experiencing an electric shock, do not touch the charger directly. Cut off the input power immediately and seek medical assistance.

Symbol	***Content***
	**Electrical Hazard** 1. The equipment must be installed, commissioned, serviced and maintained only by qualified personnel. 2. The installation should be complied with existing standards and local regulations. **Electrical Hazard/ Fire Hazard** 1. The charging station, the cable and the connector must be regularly checked by to detect any potential damage (visual inspection). 2. In case the charging station is damaged, it must be immediately turned off and replaced. 3. Do not perform any maintenance work on the equipment. 4. Do not open or modify the charging station. 5. Do not remove signs such as safety symbols, warnings, nameplates, signs or markings. 6. Do not use any extension cable to connect the charging station to the electric vehicle. 7. Do not bend, squeeze or tilt the connector so that, it is mechanically damaged. Prevent the connector to be in contact with the heat source, dirt or water. **Failure to follow safety instructions can result in death, injury, and equipment damage.**
	**Warning** Never clean the charging point by spraying it with water (Hose for garden watering, high-pressure cleaners, etc.)

4. CHARACTERISTICS

4.1 GENERAL DATA

1. Rated Voltage (depending on model):
    - For 3.3kW and 7.4kW: 210~250 V AC, 50 Hz
    - For 10kW, 14kW, 15kW and 22kW: 370~450 V AC, 50 Hz
2. Rated Charging Current (depending on model):
    - 16 A Bharat AC for 3.3 kW
    - 32 A CCS Type-2 for 7.4 kW
    - 16 A Bharat AC*3 for 10 kW
    - 32 A CCS Type-2 and 16 A Bharat AC for 14 kW
    - 32 A CCS Type-2*2 for 15 kW
    - 32 A CCS Type-2 for 22 kW
3. Display:
    - 1.3" OLED Display for 3.3 kW
    - 20*4 LCD Display for 7.4 kW, 10 kW, 14 kW, 15 kW and 22 kW
4. Accuracy of current, voltage and power measurement: 1%
5. Wi-Fi Feature 2.4 GHz
    - Operating Frequency Bands: 2412MHz-2472MHz
    - Maximal RF Output Power: less than 20 dBm (18.25dBm)
6. 4G LTE GSM (4G LTE fallback to 2G)
7. OCPP 1.6J Complaint
8. Operating Temperature: 0^0C to 70^0C (32^0F to 158^0F)
9. Storage Temperature: 0^0C to 70^0C (32^0F to 158^0F)
10. Relative Humidity: 5-95%
11. Ingress Protection Rating: According to IEC 60529
12. Impact Protection Rating: IK10 (IEC 62262)
13. Charge Connector with (5 Meter Length) attached Cable according to IEC 62196-2 (Available only in 7.4 kW, 14 kW, 15 kW and 22 kW Charger models)
14. Red, Blue, Green LED indication for presence of input supply, Errors and State of charge
15. Auto Network Switching mechanism (Wi-Fi to 4G/ 4G to Wi-Fi)
16. Charge using QR code scan (Mobile App users only)
17. Charger Pre-Book (Mobile App users only)
18. RFID Authentication
19. Three different mode operations:
    a. OCPP (Online Mobile App), **b.** Plug and Play, **c.** Offline RFID

4.2 SAFETY SPECIFICATIONS

1. Configurable over current and under current limit
2. Over voltage and under voltage cut-off supported
3. Earth Fault Detection
4. Emergency Stop Charging
5. Surge Protection
6. Encrypted user privacy

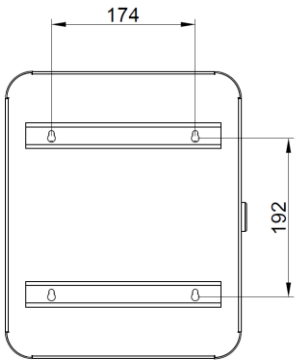
5. INSTALLING THE CHARGING STATION

⚠ WARNING

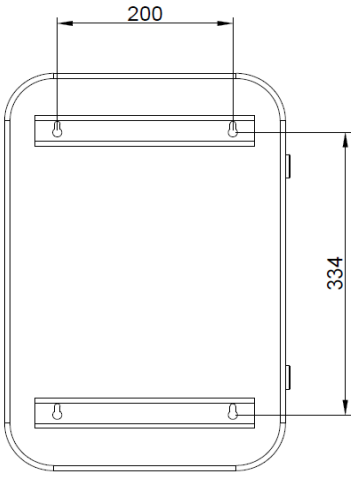
RISK OF DAMAGING THE CHARGING STATION

1. Protect the charging station from dust and water while fixing the bracket.
2. Attach the charging station to a flat surface.
3. Use screws, washers and wall plugs suitable for the wall material.

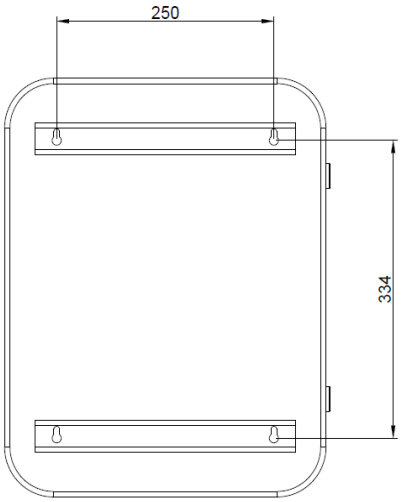
Failure to follow these instructions can result in death, serious injury, or equipment damage.



3.3 kW



7.4 kW



10 kW, 14 kW, 15 kW and 22 kW

1. Check the installation area before marking it on the wall. It is recommended to place the top of the charging station between 1.5 to 1.6 m / 4.92 to 5.25 ft. above the ground.
2. Place a drilling template at a suitable height and mark the support screws on the wall with a pencil or marker. Mount on a flat surface using suitable screws and plugs.
3. Ensure you allow sufficient space around the charging station to access the Emergency Stop (left-hand side) and Charger open keyhole (right-hand side).

6. CONNECTION TO THE GRID

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

1. Disconnect the mains power supply before working on the charging station.
2. Use a Voltage Tester for appropriate rating.
3. Do not turn on the charging station if the earth resistance measured is higher than the threshold defined in the enforceable regulations.

Failure to follow these instructions will result in death or serious injury.

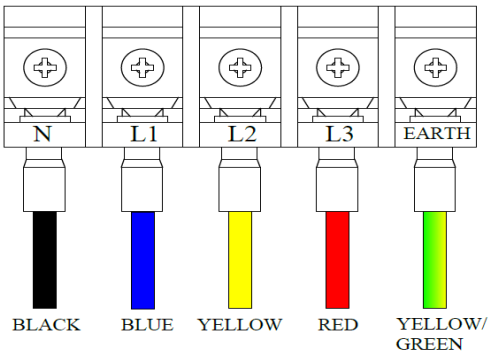


Fig.5.1. 3 Phase With Neutral 5 Wire System

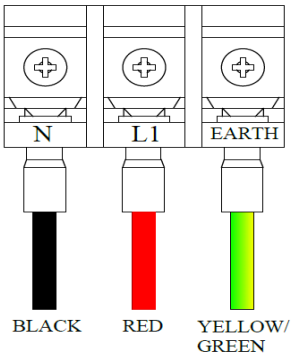


Fig.5.2. Single Phase 3 Wire System

Charging Station Input Cable Details			
Charger Model	**Conductor Specifications (Copper)**	**Cable Cores (International Std)**	**Cable Cores (Indian Std)**
3.3 kW	Nominal Voltage: 300/500 V AC, 14 SWG	3G2.5mm^2	3C2.5mm^2
7.4 kW	Nominal Voltage: 1.1 kV AC, 10 SWG	3G6mm^2	3C6mm^2
10 kW	Nominal Voltage: 1.1 kV AC, 10 SWG	5G4mm^2	5C4mm^2
14 kW	Nominal Voltage: 1.1 kV AC, 10 SWG	5G6mm^2	5C6mm^2
15 kW	Nominal Voltage: 1.1 kV AC, 10 SWG	5G6mm^2	5C6mm^2
22 kW	Nominal Voltage: 1.1 kV AC, 10 SWG	5G6mm^2	5C6mm^2

RCBO used at the charger input	
Charger Model	**RCBO Specifications**
3.3 kW	20A, SPN, 10kA, 30mA
7.4 kW	40A, SPN, 10kA, 30mA
10 kW	20A, TPN, 10kA, 30mA
14 kW	40A, TPN, 10kA, 30mA
15 kW	40A, TPN, 10kA, 30mA
22 kW	40A, TPN, 10kA, 30mA

*SPN – Single Pole and Neutral, TPN – Triple Pole and Neutral

7. FINAL INSTALLATION INSPECTION

⚠ WARNING
HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH Wear suitable Personal Protective Equipment (PPE) and follow all safety procedures. **Failure to follow these instructions will result in death or serious injury.**

1. Check that the inspection hatch is screwed correctly.
2. Ensure that the crimping collar on the charging station as well as in the power grid securely fastens the power cable.
3. Check that the door of the charging station is intact and has not suffered any obvious mechanical damage or deformation.
4. Check that the charging station is securely fastened to the wall or on the stand.
5. Check that nothing is impeding the connection of the charging cable to the charging station socket.

8. CHARGING STATION COMMISSIONING

Commissioning of an EV charger involves several important steps to ensure it's properly integrated and functional. These include the following:

1. System Configuration: Set up the software to match the specific hardware and network requirements of the EV Charging Station.
2. Network Integration: Ensure the charger is connected to the appropriate network for communication and data transfer.
3. Testing and Validation: Conduct tests to verify that the software is correctly communicating with the charger and the network, and that all functionalities are working as expected.
4. User Interface Setup: Configure the user interface, including any apps or dashboards that will be used to monitor and control the charger.
5. Documentation and Training: Document the setup process and provide training for end-users or maintenance personnel.

Commissioning of the charging station was only done by Salzer Professionals. Please contact our customer service support at evcsupport@salzergroup.net. For more information visit our official website at www.salzergroup.net .

9. HOW TO USE THE CHARGING STATION?

Download, Sign-In/Sign-Up in the Salzer EV App

GET IT ON Google Play

Download on the App Store

App Logo

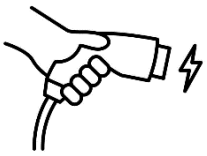
For **New User/ Existing User:**
You can easily Sign-Up/ Sign-In using any of the following methods,

1. Google ID
2. Apple ID
3. Mobile Number
4. E-Mail ID

After Sign-In/ Sign-Up please follow the on-screen instructions. And start your charging journey with Salzer Electronics.

9.1 CHARGING THE ELECTRIC VEHICLE USING THE CHARGING STATION

Connect the charging cable's connector into the Electric Vehicle's inlet.



The charger's indication LED will change from blinking Blue to Constant Blue. (Applicable only for 7.4 kW, 14 kW, 15 kW and 22 kW). You should see a message as "Vehicle Plugged In".

9.2 CHARGING USING SALZER EV APP

You can start charging by two methods.

Option 1: Tap the RFID Tag in the Taping point (*and then long press the push button to start the charging)

Option 2: 1. Scan the desired QR code and confirms the charging possibilities through the App. Click on START to charge the Electric Vehicle.

9.3 DISCONNECTING THE ELECTRIC VEHICLE

You can start the charging by two methods.

1. ***Option 1:*** Tap the RFID Tag (*if available, then long press the push button to stop the charging)
2. ***Option 2:*** Scan the QR Code using Salzer EV Mobile App to stop the charging. You should get a Payment Invoice after the charging completion/ stopped.
3. Unplug the charging station's connector from the Electric Vehicle's inlet.
4. Roll the charging cable around the Electric Vehicle Charging stations nearby cable holder and plug the gun to the charging station Dummy gun holder.

Note: After disconnect the EV from the charger there should be a minimum time interval of 2 minutes needed to start the next charging transaction.

Please start the next charging transaction after two minutes to avoid cloud traffic.

10. CHARGING STATION STATUS INDICATORS

LED color	LED status	Charging Station Status
RGB (Red, Green, Blue)	RGB LEDs running	Charger Booting Up
Red	Solid Red	Waiting for network/ Error
Red	Blinking Red	Waiting for server
Blue	Blinking Blue	Charger Available for use
Blue	Solid Blue	Preparing to charge the EV
Green	Solid Green	Charging EV
Green	Blinking Green	Finishing the EV charging

Note: Faults occur due to either by emergency stop, under voltage, over voltage, under current, over current, etc.

For troubleshooting, please read the Basic Troubleshooting steps in this document.

11. BASIC TROUBLESHOOTING

Troubleshooting of error messages displayed in LCD.

Error Message	Explanation	Solution
Not Authorized try different Card	RFID card not registered with the CPO	Contact the Charge Point Operator
	Wallet balance is too low	Recharge your wallet
Under Voltage	Voltage is below its rated preset limit	Contact the technician/ service provider if it occurs frequently
Over Voltage	Voltage is above its rated preset limit	Contact the technician/ service provider if it occurs frequently
Under Current	It may occur by the following scenarios: 1. Vehicle not properly connected 2. Vehicle's battery full 3. Vehicle's onboard charger malfunction	1. Connect the charger properly 2. Check the battery power percentage 3. For onboard charger malfunction, please contact vehicle manufacturer support
Over Current	The vehicle demands excessive current above its rated preset limit	Check for vehicle battery charge requirement
Emergency Stop/ E-Stop	Emergency Stop button pressed	Release the emergency push button by rotating it
Earth Fault	Issue with the grounding	Verify grounding connections are secure and not corroded

12. RECYCLE

1. The packaging materials from this equipment can be recycled.
2. The product and all accessories marked with this symbol are electrical and electronic components that must be disposed of separately from household waste.
3. Please help the environment by disposing waste in appropriate containers.
4. Thank you for helping to protect the environment.

13. DISPOSAL

1. This device is used to charge electric vehicles and is subject to the EU directive 2012/19/EU on waste electrical and electronic equipment (WEEE).
2. Disposal must be according to national and regional regulations for electrical and electronic equipment respectively.
3. Old devices and batteries must not be disposed of with household waste or bulky waste. Before the device being disposed of should it be rendered in operable or not.
4. Dispose of the packaging material in the region's usual collection container for cardboard, paper and plastics.

Salzer Electronics Limited
Samichettipalayam, Coimbatore - 641 047.
India

Ph.: +91-422-4233600
Fax: +91-422-269270
Email: salzer@salzergroup.com

Customer Care:
Ph.: +91-422-4233636
E-mail: service@salzergroup.com