NovaCHARGE
Empowering The Future™

NovaCHARGE 8000 SeriesEV Charger-32A

Installation Manual

SAVE THESE INSTRUCTIONS

Need Help?

Contact the NovaCHARGE support team at 866-417-9995 or support@novacharge.net.

Date of Purchase: _____

Installation Location: _____

_____

_____

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IMPORTANT SAFETY INSTRUCTIONS

This document contains instructions and warnings that must be followed when installing and using the NovaCHARGE 8000 Series EV Charger - 32A. Before installing or using the NC8000 - 32A, read this entire document as well as all WARNING and CAUTIONmarkings in this document.

Safety Instructions

The symbols used have the following meaning:


WARNING: RISK OF PERSONAL INJURY


WARNING: RISK OF ELECTRIC SHOCK


WARNING: RISK OF FIRE


CAUTION: RISK OF DAMAGE TO THE EQUIPMENT

- The NC8000 Series EV Charger - 32A charger must only be installed by licensed electricians.
- Make sure that all materials used during the installation procedures follow local building codes and safety standards.
- The information provided in this manual in no way exempts the user or installer of their responsibility to follow all applicable codes or safety standards.
- This document provides specific installation instructions for the NC8000 Series EV Charger - 32Acharger and should not be used for any other product.
- Before installation or use of this product, review this manual carefully and consult with a licensed contractor, licensed electrician, or trained installation expert to ensure compliance with local building codes and safety standards.

Repair and Maintenance Clause

- Only licensed electricians should repair or maintain the NC8000 Series EV Charger - 32A charger.
- Turn off the input power before performing any installation, repair or maintenance work.

FCC Declaration of Conformity

- This NC8000 Series EV Charger - 32A charger complies with part 15 of the FCC Rules. Changes or modifications to this charger not expressly approved by the manufacturer couldvoid FCC compliance.
- Operation is subject to the following conditions: (1) This charger may not cause harmful interference, and (2) This charger must accept any interference received, including interference that may cause undesired operation.

WARNING: RISK OF ELECTRIC SHOCK

Basic precautions should always be followed when using electrical products, including the following:

- Read all the instructions before using this product.
- This charger should be supervised when used around children.
- Do not put fingers into the EV connector.
- Do not use this product if the flexible power cord or EV cable is frayed, has broken insulation, or any other signs of damage.
- Do not use this product if the enclosure or EV connector are broken, cracked, open, or if they show any other damage.

WARNING: RISK OF ELECTRIC SHOCK

Improper connection of the equipment grounding conductor can result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the product is properly grounded.

WARNING: RISK OF ELECTRIC SHOCK

- Do not touch live electrical parts.
- Incorrect connections may cause electric shock.

WARNING: This equipment is intended only for charging vehicles that do not require ventilation during charging. Please refer to your vehicle owner's manual to determine ventilation requirements.

WARNING: Do not use extender cables to increase the length of the charging cable. Maximum length is limited to 25 feet by the National Fire Protection Agency.

WARNING: Do not drag the NC8000 Series EV Charger - 32A charger by the input powercord.

CONTENTS

1. Introduction

This user manual applies to “NC8000 Series EV Charger - 32A Level 2 AC Charger for Plug-in ElectricVehicles (PEVs) and Battery Electric Vehicles (BEVs)”.

With a 32A maximum capability, the NC8000 Series EV Charger - 32A can be programmed to the energyoutput required.

Any unauthorized modifications will void the manufacturer’s warranty

1.1 Product View

Different models of Charger:

NC8000 Series EV Charger - 32A Charger (Hardwired)

Figure 1-1 NC8000 Series EV Charger - 32A Charger Front view

Box Contents

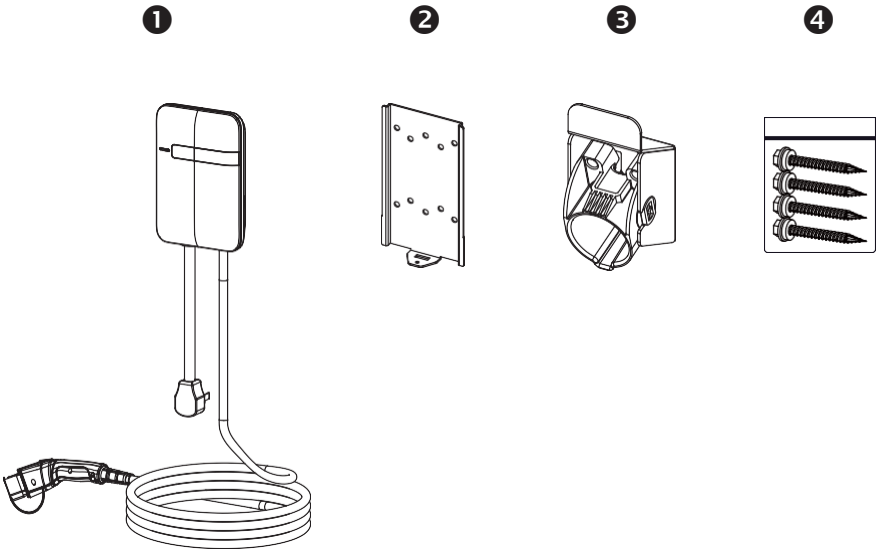

Figure 1-2 Box contents

Table 1-1 Accessories in the box

Item	Description	Qty.	Note
1	NC8000 Series (Hardwire)	1	
2	Mounting Bracket	1	Bracket is attached to back of charger with M4 Screw
3	Holster Assembly	1	Quantity 2 M4xL15 tapping screws (already installed in Holster Assembly)
4	Wall Mount Screw Bag	1	Quantity 4 Tapping #12 screws

2. Installation

2.1 Before Installation

2.1.1 Safety check

CAUTION: Disconnect the power supply before installing or repairing the charger. Failure to disconnect may result in physical injury or damage to the power supply system and the charging unit.

The NC8000 Series EV Charger - 32A charger must be installed only by a licensed electrician inaccordance with local and national electrical codes and standards.

Before installing the charger, make sure you have read all the instructions in this manual and fully understand its contents.

Appropriate protection is required when connecting to a main switchboard. Please refer to section 2.2, Tools and Parts Required for Installation.

2.1.2 Grounding Instructions

Hardwired Connected Product: Grounding Instructions for a hardwired connected product: This product must be connected to a grounded, metal, permanent wiring system; or, an equipment-grounding conductor must be run with the circuit conductors and connected to the equipment

2.2 Tools and Parts Required for Installation

Tool	Qty.	Size	Supplier	Remark
Mounting Bracket	1	194x109x9 mm	Model Accessories	Fastens NC8000 series charger to the wall
Holster Assembly	1	58x58x70 mm	Model Accessories	Holds EV charging plug
Heat Shrink Tubing	3	For 8 AWG wire	Model Accessories	Protects wires & terminals
Terminal	3	For 8 AWG wire	Model Accessories	Connects input wires to the terminal block
Screws	4	Tapping #12	Model Accessories	Fastens Mounting Bracket & Hook
		Mechanical: M6	Commercially Available	
Heat Gun	1	Standard size	Commercially Available	For heat shrink tubing
Wire, Copper	3	8 AWG	Commercially Available	UL1015 (recommended)
Conduit	1	1 inch	Commercially Available	Protects power cable
Torx Screwdriver	1	T20	Commercially Available	
Philips Screwdriver	1	PH3	Commercially Available	
Hexagon Socket	1	5/16	Commercially Available	Tightens tapping screws
Torque Wrench	1	35 kgf-cm min	Commercially Available	

2.3 Mounting the Charging Station

NOTE: If mounting onto a NovaCHARGE Universal Pedestal, please follow the instructions that accompanied the pedestal.

To prepare for mounting, remove the mounting bracket from the back of the charger by loosening the M4 screw.

2.4 NC8000 Series EV Charger - 32A Charger Installation with NEMA 6-50 Plug

1. **Secure the main body mounting bracket to the wall (or pedestal) with the appropriate screws.**

In order to meet ADA requirements, please use the following heights:

- For an indoor site, the charger should be located no lower than 18" (450 mm) and not higher than 48" (1.2m).
- For an outdoor site, it is not lower than 24" (609 mm) and not higher than 48" (1.2m). Refer to Article 625, NEC.

Standard installation requires that only two screws are used to fasten the mounting bracket, using the two middle screw holes. The additional screw holes may be used based on individual requirements.

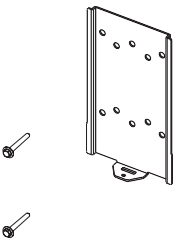

Figure 2-1 Fasten mounting bracket

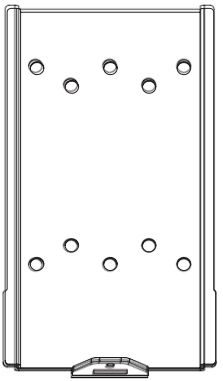

Figure 2-2 Screw holes of mounting bracket

Screw sizing suggestion:

A. For masonry walls, use M6 mechanical screws. (Commercially Available)

B. For finished walls supported by wood studs, use #12 tapping screws. (Model Accessories)

C. Please refer to the following torque. The actual torque is according to the wall material.

Screw	Torque	
M6	25 kgf.cm min	21.7 lb-in min
#12	25 kgf.cm min	21.7 lb-in min

2. **Mount the NC8000 Series EV Charger - 32A charger onto mounting bracket.**

- Slide the charging unit onto the mounting bracket.
- Fasten by tightening the M4 screw attached to mounting.

Please use the following torque.

Screw	Torque	
M4	16 kgf.cm	13.88 lb/in

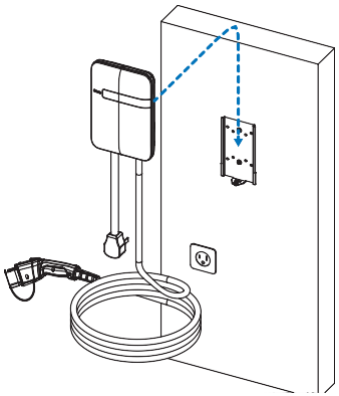

Figure 2-3 NC8000 Series EV Charger - 32A Charger and mounting bracket

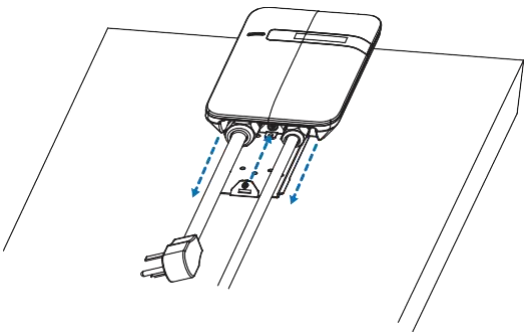

Figure 2-4 Tighten M4 screw

3. **Plug in the power cord.**

Install the NEMA 6-50 outlet so that it is located at 6 - 10 inches below the NC8000 Series EV Charger - 32A charger, as shown in the figure below.

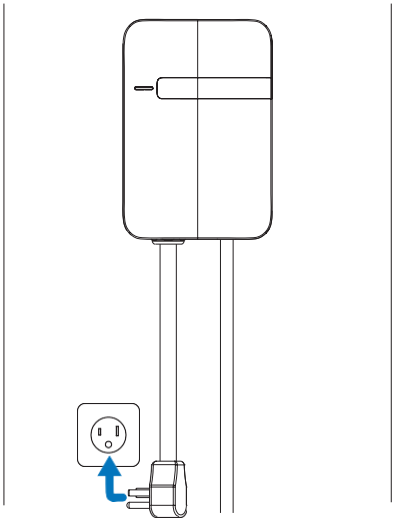

Figure 2-5 Plug in the power cord

2.5 NC8000 Series EV Charger - 32A Charger Hardwire Installation

1. Disassemble the front cover, by loosening the star screws (x5).

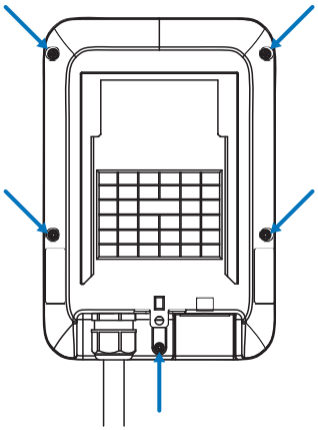

Figure 2-6 Position of five screws on Base Cover

2. Choose the appropriate conduit in accordance with all applicable state, local and national electrical codes and standards.

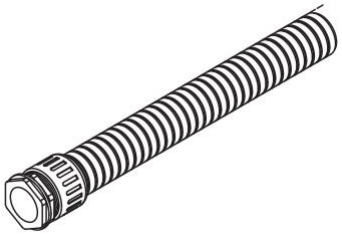

Figure 2-7 Conduit.

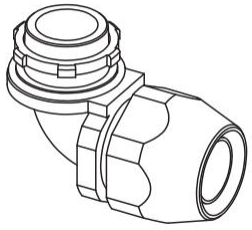

Figure 2-8 Right angle conduit

3. Clamp the copper terminals (model accessories) to copper wires. Cover the clamp point with heat shrink tube (model accessories) for protection.

3.1 Refer to the following wire specification. Use conductor type other than RHH, RHW and RHW-2 with outer covering.

3.2 Within the charger box you will find a section marked "STOP Parts Inside" in bright green. Open this section of the box to find a small clear plastic bag with three (3) terminals and three (3) pieces of heat shrink tubing.

3.3 Expose 1/2" of wire for each copper lead for L1, L2 and G. Clamp the terminals firmly onto the end of L1, L2 and G leads.

3.4 Cover the clamp with heat shrink tubing for protection, and carefully apply heat to activate the shrink material.

3.5 Attach each wire to the terminal block on the charger as shown on page 11.

Model	Terminal	Conductor	Rating
NC8000 Series	L1, L2,G	8 AWG	90C copper wire

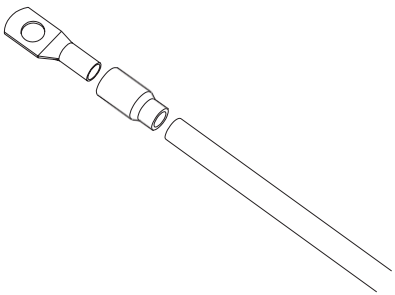

Figure 2-9 Copper terminal, heat shrink tube and copper wire.

4. Electrical wiring to the NC8000 Series EV Charger - 32A charger.

4.1 Begin with the top cover disassembled.

4.2 Use a Philips screwdriver to remove the clear plastic safety cover and remove terminal screws.

4.3 Fasten the conduit to the enclosure. Please refer to the following torque.

4.4 Insert the wire and attach to the terminal block as shown in Figure 2-10

Conduit	Torque	
1“	35 kgf.cm	30.36 lb-in

4.5 Use the following torque to connect the wire terminals to the terminal block and replace clear plastic safety cover.

Screw	Torque	
M4	16 kgf.cm	13.88 lb-in

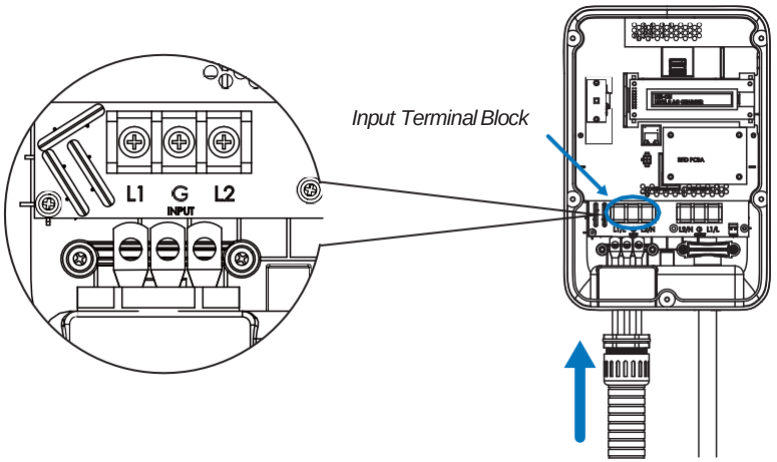

Figure 2-10 Input wiring

CAUTION: To reduce the risk of fire, connect only to a circuit provided with 40 amperes maximum branch circuit overcurrent protection in accordance with the National Electrical Code, ANSI/NFPA 70, and the Canadian Electrical Code, Part I, C22.1.

Model	Current Rating
NC7000 Series	32 A

4.6 Reassemble top cover. Please refer to the following torque. This is a critical step, as proper torqueing of these screws is necessary to ensure the front cover enables a weather and moisture resistant fit.

Screw	Torque	
M4	16 kgf.cm	13.88 lb-in

2.6 Holster Installation

NOTE: If mounting onto a NovaCHARGE Universal Pedestal, please follow the instructions that accompanied with the pedestal.

1. Separate the holster from the hook.

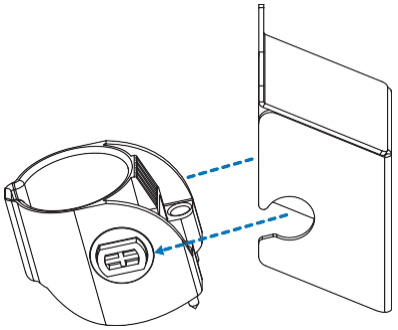

Figure 2-11 Separate the holster

2. Fasten the hook on the wall (or pedestal) with appropriate screws.
   - For finished walls supported by wood studs use #12 tapping screws (x2).
   - The recommended torque is 25 kgf.cm (21.7 lb-in).

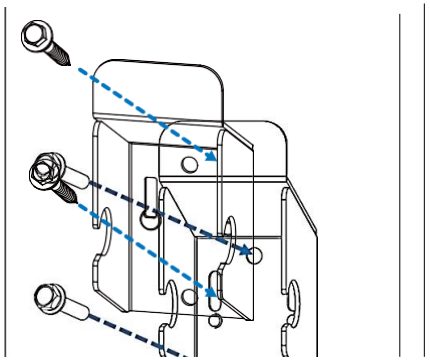

Figure 2-12 Secure the hook

3. Make the holster face up and combine with the hook.

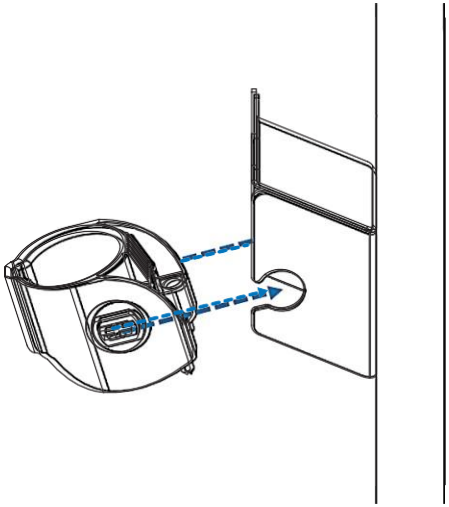

Figure 2-13 Secure the holster

4. Completely rotate the holster into place.

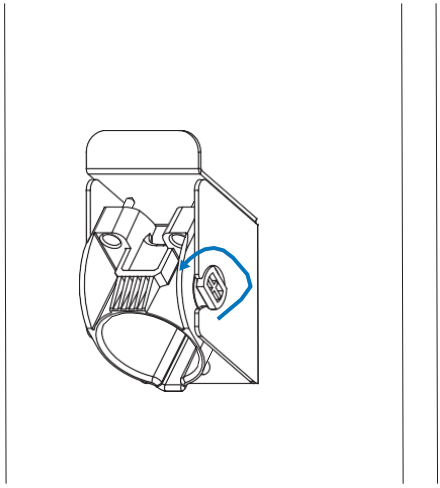

Figure 2-14 Rotate the holster

5. Keeping the holster in this state, tighten screws completely.
   - The recommended torque is 6 kgf.cm (5.2 lb-in). The screws will make the combination firm.

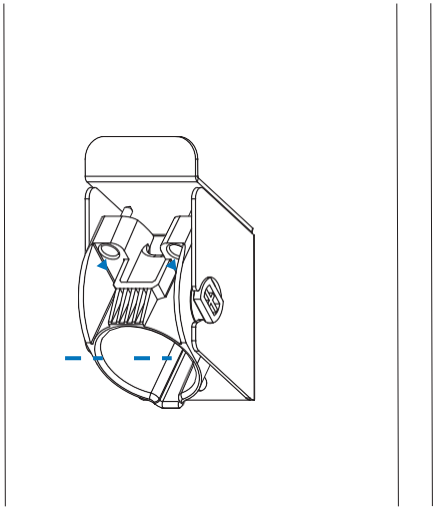

Figure 2-15 Secure the hook

6. Place the NC8000 Series EV Charger - 32A charging plug on the holster.

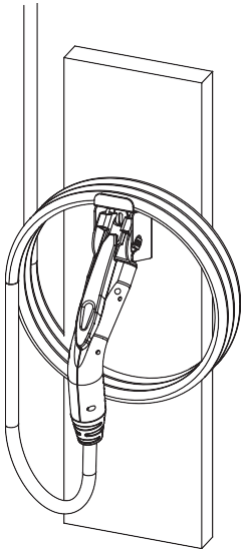

Figure 2-16 Place NC8000 Series EV Charger - 32A charging plug.

Congratulations! You have successfully completed the installation of your new NC8000 Series EV Charger-32A.

3. LED Indication

Green LED: Ready

Blue LED: Charging

Red LED: Service

4. Troubleshooting

LED State	Meaning
Yellow Steady	Power On/Device Out of Service
Yellow Flashing (Slow)	Power On/Device Booting/Not Ready
Green Steady	Power On/Device Available/Ready
Green Flashing (Fast)	Authorized/Connect Vehicle Now (State A)
Green Flashing (Slow)	Occupying (State B)
Blue Flashing (Slow)	Charging (State C)
Red Steady	Unrecoverable Fault
Red Flashing (Slow)	Recoverable Fault
	Remark
	Fast Flash: On Time 300ms, Off Time 200ms, 2Hz
	Slow Flash: On Time 1200ms, Off Time 800ms, 0.5Hz

5. Product Specifications

Item	Description
Application	Commercial
Voltage (Vac)	208/240VAC, Single Phase
Frequency (Hz)	60 Hz
Current (Rms)	32A
Charging Connector	SAE J1772 Type 1
Charging Cable Length	25 ft. (18 ft. optional)
Metering Accuracy	Embedded ± 3%
Real Time Clock	Yes
Ethernet	10/100 BaseT
Wi-Fi	802.11 b/g/n
Cellular	LTE Cat.1 (AT&T or Verizon)
RFID	ISO 14443 A/B ISO 15693 NFC NEMA Interoperability Protocol
Display	116(L)*8.5(W)*37(H)mm, 5.57mm Character Height, 5*8 Dot Matrix, OLED 20x2
Data Protocol	OCPP 1.6j
Operation Temp.	-30° to 50°C / -22°F to 122°F
Storage Temp.	-40° to 70°C / -40°F to 158°F
Mounting Type	Wall mount/Pedestal mount (optional)
Wiring Type	Hardwire
IP Performance	NEMA 4
Impact Resistance	IK10
Dimension (H x W x D, inch)	11.14" x 7.56" x 3.11"
Web Portal Management	Yes
Console Management	Yes
Certification	UL 50/991/1449/1998/2231/2594 FCC Part 15B/15.247 (Wi-Fi) / FCC Part 15.225 (RFID) FCC Part 27 (AT&T or Verizon)

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