NovaCHARGE

Empowering The Future™

NovaCharge 8000 Series EV Charger-80A

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: _____

_____

_____

IMPORTANT SAFETY INSTRUCTIONS

This document contains instructions and warnings that must be followed when installing and using the NovaCHARGE®® 8000 Series EV Charger - 80A. Before installing or using the NC8000-80A, read this entire document as well as WARNING and CAUTION markings 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 OR EXPLOSION

CAUTION: RISK OF DAMAGE TO THE EQUIPMENT

The information provided in this manual in no way exempts the user of responsibility to follow all applicable codes or safety standards.

This document provides instructions for the NovaCHARGE® 8000 Series EV Charger - 80A and should not be used for any other product.

Repair and Maintenance Clause

Only licensed electricians can repair or maintain this equipment. It is forbidden for general users to repair or maintain it.

Turn off input power before repair or maintenance this equipment.

Federal Communication Commission Interference Statement

This equipment complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This equipment may not cause harmful interference, and (2) this equipment must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- **Reorient or relocate the receiving antenna.**
- **Increase the separation between the equipment and receiver.**
- **Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.**
- **Consult the dealer or an experienced radio/TV technician for help.**

Changes or modifications not covered in this Guide must be approved in writing by the manufacturer's Regulatory Engineering Department. Changes or modifications made without written approval may void the user's authority to operate this equipment.

Industry Canada statement:

This equipment complies with ISED's license-exempt RSSs. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this equipment must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d' ISED applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

Radiation Exposure Statement:

This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with greater than 20cm between the radiator & your body.

Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements ISED établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé à plus de 20 cm entre le radiateur et votre corps.

WARNING: RISK OF PERSONAL INJURY

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

WARNING: RISK OF PERSONAL INJURY

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: RISK OF PERSONAL INJURY

Do not drag this equipment by input power cord.

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 equipment.**
- **This equipment should be supervised when used around children.**
- **Do not put fingers into the EV connector.**
- **Do not uses this equipment if the flexible power cord or EV cable is frayed, has broken insulation, or any other signs of damage.**
- **Do not use this equipment if the enclosure or the EV connector is broken, cracked, open, or shows any other indication of 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 ground-ed.

WARNING: RISK OF ELECTRIC SHOCK

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

WARNING: RISK OF ELECTRIC SHOCK

Do not remove cover or attempt to open the enclosure. No user serviceable parts inside. Refer servicing to qualified service personnel.

WARNING: RISK OF FIRE OR EXPLOSION

To reduce the risk of fire, replace only with same type and rating of fuse.

WARNING: RISK OF FIRE OR EXPLOSION

This equipment has internal arcing or sparking parts which should not be exposed to flammable vapors. It should not locate in a recessed area or below floor level. Automatic reset feature provided.

WARNING: RISK OF FIRE OR EXPLOSION

Do not use this device with an extension cord.

CAUTION: RISK OF DAMAGE TO THE EQUIPMENT

Do not operate this equipment in temperatures outside its operating range of -35°C to +55°C (-31°F to +131°F).

CAUTION: RISK OF DAMAGE TO THE EQUIPMENT

Store this equipment in a clean dry place in temperatures between -40°C and +80°C (-40°F to +176°F).

CAUTION: RISK OF DAMAGE TO THE EQUIPMENT

Not exceed maximum 150V to ground.

SAVE THESE INSTRUCTIONS

Contents

1. Introduction

This user manual applies to “NovaCHARGE® 8000 Series 80A Level 2 AC Charger for Plug-in Electric Vehicles (PEVs) and Battery Electric Vehicles (BEVs)”.

The NovaCHARGE® 8000 Series EV Charger with 80A capabilities will be used in North America.

It can provide a shorter charging time than the 32A and 40A NC8000.

Any unauthorized modifications will void the manufacturer’s warranty

1.1 Product View

Figure 1-1 Front view

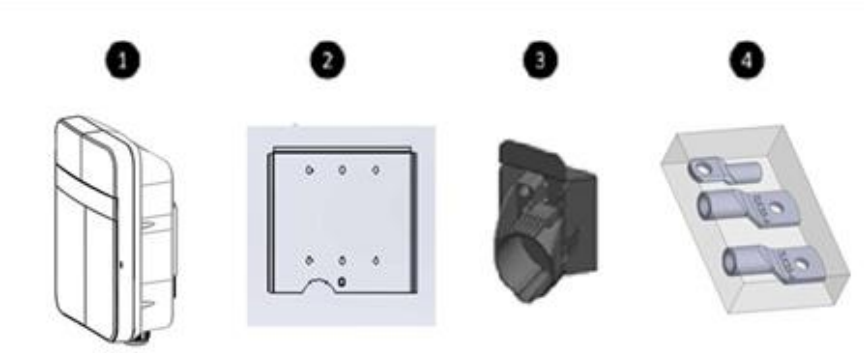

Figure 1-2 Box contents

	Description	Qty	Remark
1	NC8000 Series-80A (Hardwire)	1	
2	Mounting bracket	1	Attached to back of NC8000
3	Holster assembly	1	With Hook x1, Holster x1 & M4xL15 tapping screw x2
4	Screw bag	1	With #12L50 tapping screw x4
5	Accessories bag	1	2 AWG x2, 8 AWG x1 terminal lug and heat shrink

Table 1-1 Accessories in the box

1.1 Box Opening Process

1. Open the box and remove the EPE foam

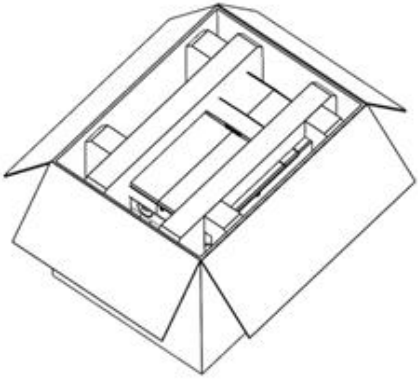

Figure 1-3 Opening the box

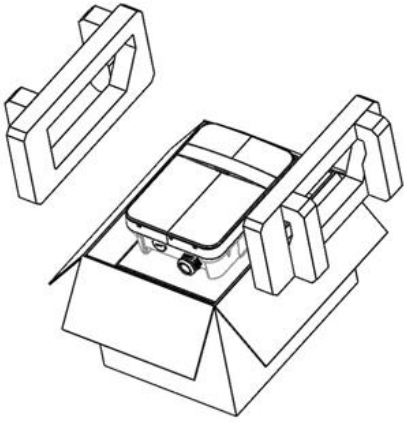

Figure 1-4 Removing the charger

2. Take out the charger and then remove the mounting bracket before installing it.

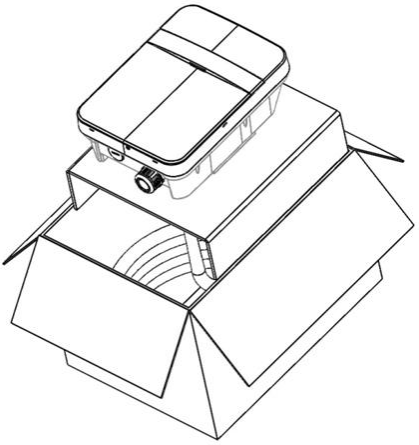

Figure 1-5 Take out the charger

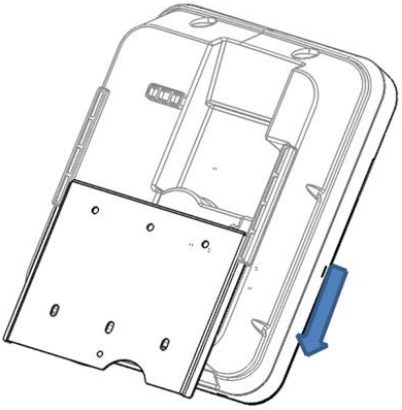

Figure 1-6 Remove the mounting bracket

2. Product Specifications

Item	Description
Application	Commercial
Voltage	208/240VAC (-20%, +15%), Single Phase
Frequency	60Hz
Current (Rms)	Max. 80A
Charging Connector	SAE J1772 Type 1
Wi-Fi	802.11 b/g/n
Ethernet	YES
Cellular	LTE CAT.M1 / CAT.NBIoT (AT&T or Verizon)
RFID	ISO 14443 A/B, ISO 15693, 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.	-35 ~ 55 ℃ (-31 to 131℉)
Storage Temp.	-40 ~ 80 ℃ (-40 to 176℉)
Mounting Type	Wall mount / Pedestal mount (optional)
Wiring Type	Hardwire
Enclosure Level	NEMA 3R
Impact Resistance	IK10
Dimension (HxWxD, inch)	14.1”x10.5”x5.5”
Web Portal Management	YES
Console Management	YES
Certification	UL 1998/2231/2594 FCC Part 15B, 22/24/27 FCC Part 15.225 (RFID 13.56MHz) FCC Part 15.247 (WLAN 2.4GHz) Energy Star

Table 2-1 Product Specifications

3. Installation

3.1 Before Installation

3.1.1 Safety Check

- Check for transport damages.
- Before connecting the product to the power supply, check that the power supply voltage and current rating corresponds with the power supply details shown on the product rating label.

CAUTION: Disconnect the power supply before installing or repairing the charge point. Failure to do so may result in physical injury or damage to the power supply system and the charge point.

CAUTION: Avoid touching or pressing the OLED screen all times, as this may result in damage to the OLED screen.

DANGER: RISK OF SUFFOCATION

Keep any packing materials away from children – these materials are a potential source of danger, e.g. suffocation.

CAUTION: Cord extension sets are not allowed to be used.

The charge point must be installed only by a licensed electrician in accordance with the provisions of the local electrical industry construction and should comply with national electrical codes and standards.

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

Appropriate protection is required when connecting to a main switchboard. The tools and parts used as outlined in the section “Tools & parts required for installation”.

3.1.2 Grounding Instructions

The charge point must be implemented equipment grounding through a permanent wiring system or an equipment grounding conductor. Use a wire with a dedicated grounding wire and a ring terminal and connected to the equipment ground terminal block for grounding.

3.2 Tools & Parts Required

Tool	Qty	Size	Supplier	Remark
Mounting Bracket	1	222x173x9 mm	All Product Model	Fasten NC8000 To Wall
Holster Assembly	1	58x58x70 mm	Model Accessories	Hold EV Charging Plug
Screw	4	Tapping: #12	Commercially Available	Fasten Mounting Bracket & Hook
		Mechanical: M6		
	1	Mechanical: M6	Model Accessories	Fasten NC8000 & Mount Bracket
Wire, Copper	2	2 AWG	Commercially Available	For L1, L2
	1	8 AWG		For Ground
Heat Shrink Tube	2	For 2 AWG wire	Model Accessories	Protect wire and terminals
	1	For 8 AWG wire		
Terminal	2	For 2 AWG wire	Model Accessories	Connect input wires to the terminal block
	1	For 8 AWG wire		
Conduit	1	1”	Commercially Available	Protect Power Cable
Phillips Screwdriver	1	PH3		
Torx Screwdriver	1	T20		
Hexagon Socket	1	5/16”		
Torque Wrench	1	40 kgf-cm min		

Table 3-1 Tools & Parts Required

3.3 NC8000 Hardware Installation

1. Disassemble top cover.

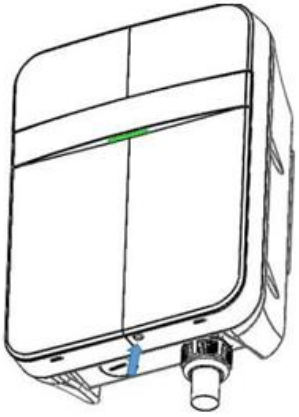

Figure 3-1 Loosen bottom M4 screw

2. Use flat tip screw driver to push snap, then open front cover.

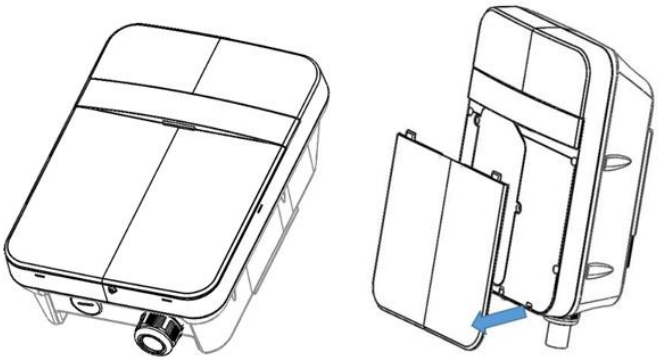

Figure 3-2 Opening front cover

3. Loosen 5 pcs M4 screw then open Install cover.

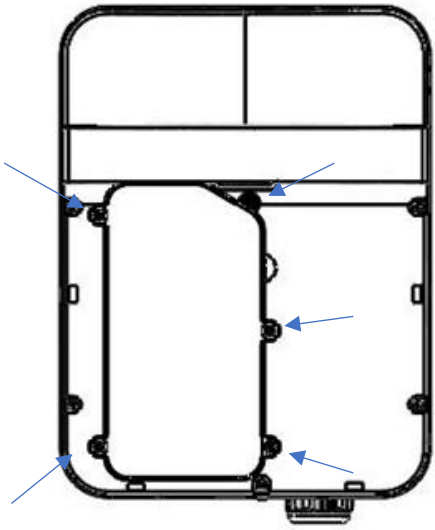

Figure 3-3 Open install cover

4. Secure the main body mounting bracket to the wall with appropriate screw.
    a. Follow applicable accessibility requirements for the mounting position. The unit shall be stored or located at a sufficient height. For indoor site, it is not lower than 18” (450 mm) and not higher than 4” (1.2m). For outdoor site, it is not lower than 24” (600 mm) and not higher than 4” (1.2m). Refer to Article 625, NEC.
    b. The mounting bracket has ten screw holes. If only two screws be used to fasten the mounting bracket, the screws should pass through the middle two screw holes of the mounting bracket. The other screw holes are reserved for the user.

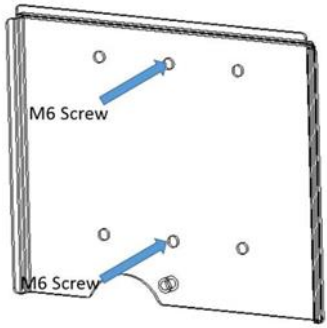

Figure 3-4 Fasten Mounting Bracket

Screw sizing suggestion:

- For masonry walls, use M6 mechanical screws.
- For finished walls supported by wood studs, use #12 tapping screws.
- 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

Table 3-2 Mounting Bracket Screw Torque

5. Fasten NC8000 onto mounting bracket.
    a. Put the charge point on the mounting bracket.
    b. Fasten charge point on mounting bracket by tightening M6 screw.
    c. Please refer to the following torque.

Screw	Torque	
M6	30 kgf.cm	25.6 lb/in

Table 3-3 NC8000 Mounting Screw Torque

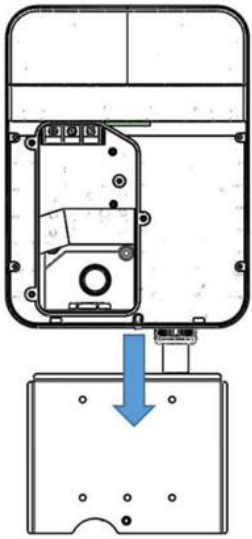

Figure 3-5 NC8000 and mounting bracket

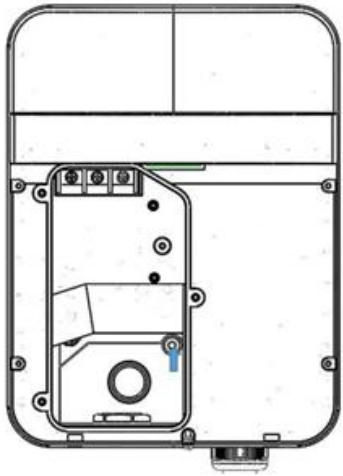

Figure 3-6 Tighten M6 Screw

3.4 Power Cord Installation

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

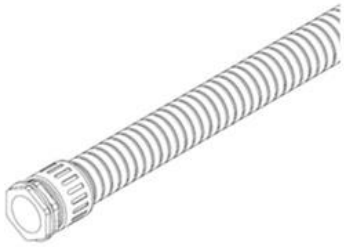

Figure 3-7 Conduit

2. Clamp copper terminal to connect copper wire. The clamp point is covered by heat shrink tube for protecting.
    a. Refer to the following wire specification. Use conductor type other than RHH, RHW and RHW-2 with outer covering.

Model	Terminal	Conductor	Rating
NC8000 80A	L1, L2	2 AWG	90C copper wire
	G	8 AWG	

Table 3-4 Wire Specification

Table 3-5 Copper terminal, heat shrink tube and copper wire

3.4.1 Electrical wiring to the NC8000.

1. Fold the wire end to pass through the conduit and insert them into the input hole (choose input direction and open cap).

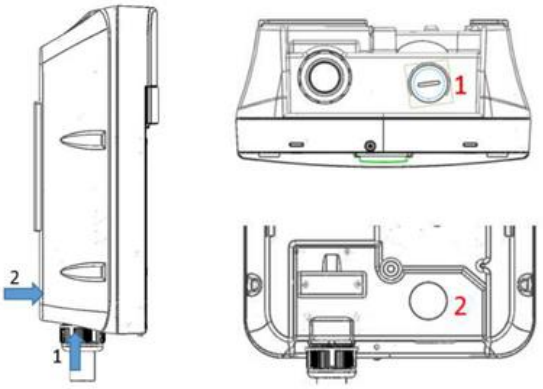

Table 3-6 Cable input position

2. Fasten the copper wire on the corresponding terminal block. The wiring instruction is printed in front of the terminal block (L1/L2/G).

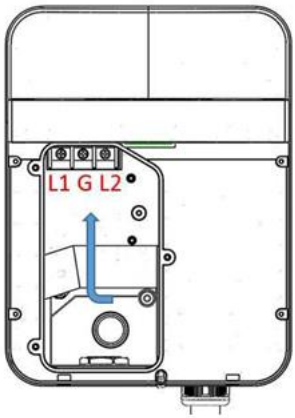

Table 3-7 Input wiring position

3. Use the following torque to connect the wire terminal to the terminal block.

Screw	Torque	
M6	30 kgf.cm	25.6 lb-in

Table 3-8 Terminal block torque

⚠ **CAUTION: To reduce the risk of fire, connect only to a circuit provided with 100 amperes maximum branch circuit overcurrent protection in accordance with the National Electrical Code, ANSI/NFPA 70, and the Canadian Electrical Code, Part I, C22.2.**

⚠ **CAUTION: If this unit is installed outdoors, the outlet must be rated for outdoor installation. The outlet must be installed properly to maintain the proper NEMA rating of the enclosure.**

4. Lock the conduit on the enclosure. Please refer to the following torque.

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

Table 3-9 Conduit torque

5. Reassemble Instant cover and Front cover then Fasten M4 screw.

Screw	Torque	
M4	15 kgf.cm	12 lb-in

Table 3-10 Front cover screw torque

3.5 Holster Installation

1. Separate the holster from the hook.

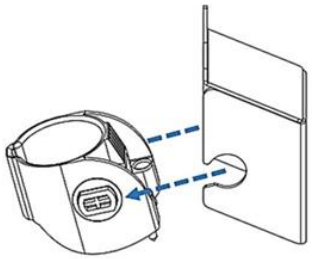

Figure 3-8 Separate the holster

2. Fasten the hook on the wall with appropriate screws.
    a. For finished walls supported by wood studs, use 2PCS screws (#12 tapping or M6).
    b. The recommend torque is 25 kgf.cm (21.7 lb-in).

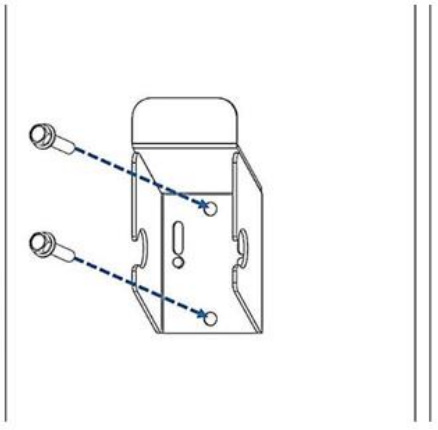

Figure 3-9 Secure the hook

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

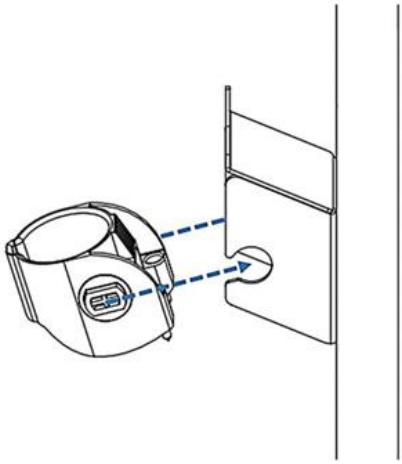

Figure 3-10 Secure the holster

4. Rotate the holster down totally.

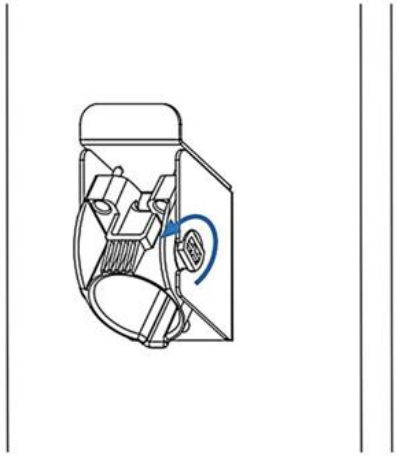

Figure 3-11 Rotate the holster

5. Keep the holster in this state and tighten screws completely.
    a. The recommend torque is 6 kgf.cm (5.2 lb-in). The screws make the combination firm.

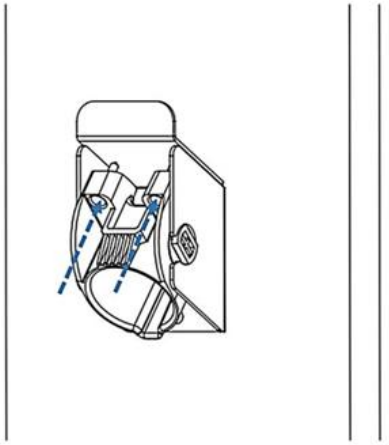

Figure 3-12 Tighten screws

6. Wrap cable and place EV charging plug on the holster.

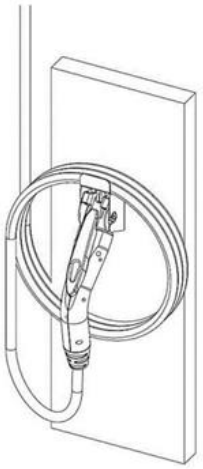

Figure 3-13 Place EV charging plug

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

4. Operations

4.1 Charging Status Indicators

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

Table 4-1 Charging Status Indicators

4.2 General Care

The exterior of the charge point is designed to be waterproof and dust proof. To ensure proper maintenance of the charge point, follow these guidelines:

- Despite the water resistance of the enclosure, when cleaning it is preferred to not direct streams of water at the unit. Clean with a soft, damp cloth.
- Make sure the charging plug is put back in the holster after charging to avoid damage.
- Ensure the power cable is stored on the charge point after use to avoid damage.
- If the power cable or the charging plug is damaged, please contact Customer Support.

4.3 Customer Support

Please contact your reseller directly for technical support or Contact the NovaCHARGE® support team at 866-417-9995 or support@NovaCHARGE®.net.

— NOTES —

— NOTES —

US Toll Free: (866) 417-9995 • 1 (813) 333-1119

www.NovaCHARGE®.net