

Lightbar Installation Guide for ICE AiO DCFC (60/120/180)	Topics Covered	Date Revised	Revision Number
	<ul style="list-style-type: none"> <li>▪ Light Bar Mounting</li> <li>▪ Wiring</li> </ul>	3/28/2024	2

**Tools Needed:**

- Phillips head screwdriver
- 1/8" (3mm) flathead screwdriver (for connecting to Phoenix Connector)

**Safety Precautions:**

Whenever working on an EVSE or other electrical equipment safety is the number one priority, make sure that the charger is de-energized and safe to begin work on. If the work site requires it, ensure a second person is available as a safety observer until the work is complete.

**Required Safety Equipment:**

- Safety Glasses
- Safety Gloves
- Safety Boots

**Prerequisites:**

- Charger Upper Controller firmware must be at least Version: N5.1T7 and Pilot controller must be at least Version 8u45A10.
- The EVSE must have the top square cover on the closest right side of the roof (looking from the front door of the EVSE). See the first image in section one.
- Determine whether the light bar is being installed on a new or old style EVSE. If the EVSE has the first image in section 3, then it is the new style. If not, then follow the old style wiring method.

**Table of Contents**

1.) Top cover removal/Light Bar exterior wiring..... 2

2.) ICE 60/120/180 Wiring (Older Style)..... 4

3.) ICE 60/120/180 Wiring (New Style) ..... 6

## 1.) Top Cover Removal/Light Bar exterior wiring



- Power off the EVSE and LOTO
- Remove the four Phillips head screws that hold the cover in place, to reveal a hole that allows for the wire to enter the EVSE.



- Run the supplied cable harness through the gland nut and out the bottom of the new top cover.



- Feed the wire harness through the top hole and install the new hole cover that has a gland nut on the top of the EVSE. Make sure the gland nut is pointing to the left (orientation is based on looking at the EVSE from the front screen).



- Flip the light bar upside down and insert the 8 bolts that secure the light bar to the bracket.



- Place the light bar on top of the charger and connect the two connectors.

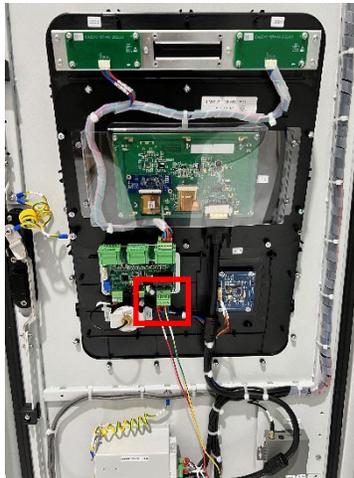


- Carefully lay the light bar in line with the holes at the top rim of the charger and screw the four Phillips head screws into place (Two on each side) (**DO NOT SECURE WITH THE PLASTIC SCREWS THAT COME ON THE EVSE TO SECURE THE LIGHT BAR**). Please note that the wires should not be pinched by the bracket (the wire harness should be tucked within the bracket).

## 2.) ICE 60/120/180 Wiring (Older Style)



- Make sure that the cable on the inside of the charger is on the inner left side, near the green filters. While doing this, Hide the cable as much as possible and run with existing wire bundles.



- Locate the PCB behind the screen.



- Locate the phoenix connector port on the bottom right of the PCB, labeled **LU1-J1-DN**.
- Find the red wire labeled **LU1-J1-2/12v+** and fix it into the first terminal from the left. Locate the green and yellow wire labelled **LU1-J1-3/GND** and fix it to the third terminal from the left.



- Locate the **Upper Controller** box on the EVSE door.



- On the right-hand side of the Upper Controller, there will be two phoenix connectors. Locate the connector labeled **15-J13-DN (Down)**.
- Locate the White and Black wires labeled **MU-J13-5/485-A** and **MU-J13-7/485-B** respectively. Insert the Black wire into terminal 7 of the J13 down connector. Insert the White wire into terminal 5 of the J13 down connector.
- Make sure the new wires added are secured properly throughout the wire's pathway to installation points.
- Once the EVSE is turned on, make sure the Upper Controller firmware is at least (Version: N5.1T7) and Pilot Controller must be at least (Version 8u45A10).

### 3.) ICE 60/120/180 Wiring (New Style)



- After running the light bar wire harness through the top of the EVSE, locate the connector at the top right corner of the machine.



- Connect the following wires on the phoenix connector as shown below.
  - Terminal 1: Connect Blue to Yellow/Green (Ground)
  - Terminal 2: Connect Red to Red
  - Terminal 3: Connect Black to Black
  - Terminal 4: Connect Brown to White
- Clean up the remaining slack of the wire harness and conceal it as much as possible.



- Locate the J4 connection point shown above.

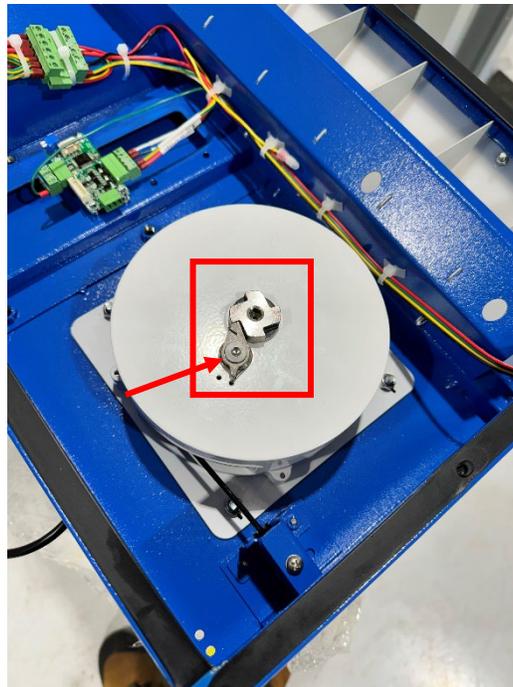


- Make sure terminal 5 has the blue wire connected in and terminal 6 has the red wire connected in. If the wiring is not as shown above, then it needs to be corrected. If it is not corrected, then the light bar will not work.
- Once the EVSE is turned on, make sure the Upper Controller firmware is at least Version: N5.1T7 and Pilot Controller must be at least Version 8u45A10.

#### 4.) Retractor Tension Adjustment



- Remove all the screws from the top cover of the light bar retractor.



- To adjust the cable retractor for different cables, use a 6mm Hex wrench and use your thumb to release the buckle on the left side of the adjustment nut **(Please use caution when adjusting and wear appropriate PPE. Once the tension starts building up, the risk of an accident increases)**. Adjust the tension by turning clockwise to increase tension and counterclockwise for decreasing tension. Each turn will be 90 degrees to adjust the setting by one (One rotation).



- To access the other retractor adjustment point. Remove the 4 screws that hold the blue mounting plate in place. Flip over and adjust tension as needed.
- The table below shows the comparison of rotations and torque, as well as recommended settings. However, please increase or decrease the tension as desired.
- Checking the cable's tension involves two indicators: If the cable descends on its own, it lacks sufficient tension. However, if excessive force is needed to extend it, there's too much tension. The optimal adjustment involves effortlessly extending the cable by pulling on the retractor, ensuring smooth retraction without excessive resistance.

Setting #	Rotation angle (Degrees)	Number of rotations	Torque (N·M)
1	-900	-10	3
2	-810	-9	3.5
3	-720	-8	3.9
4	-630	-7	4.2
5	-540	-6	4.4
6	-450	-5	4.5
7	-360	-4	4.7
8	-270	-3	4.9
9	-180	-2	5.2
10	-90	-1	5.4

11	0	0	5.5
12	90	1	5.8
13	180	2	6.1
14	270	3	6.3
15	360	4	6.6
16	450	5	6.8
17	540	6	7
18	630	7	7.2
19	720	8	7.5
20	810	9	7.8

- When securing the cover back onto the light bar, be sure to secure the cover properly. Under tightening will lead to water and other debris entering the light bar and damaging the electrical components. Over tightening will lead to a damaged seal that may result in electrical component damage.
- After adjustments, test the cable retraction. Pull down the charging cable to reel out the retractor. When you reach a desired distance, stop and the retractor will latch in place and keep the cable at the current distance. To reel the cable back towards the retractor, pull the charging cable slightly and it will release the hold and allow it to retract.
- Please note that the user cannot let go of the charging cable and allow the retractor to snap back. This will lead to damage to the retractor cable.