

	Topics Covered	Date Revised	Revision Number
<b>Light Bar Retractor (For Older Units) Installation</b>	<ul style="list-style-type: none"> <li>▪ Light Bar Hole Drilling</li> <li>▪ Light Bar Mounting</li> <li>▪ Light Bar Wiring</li> </ul>	04/17/2024	1

**Equipment and Tools Needed:**

- Phillips head screwdriver
- 1/8" (3mm) flathead screwdriver (for connecting to Phoenix Connector)
- Uni Drill Bit (7/8in)
- Latex Paint (Gray)
- 1/2" Nylon Liquid Tight Fitting Type B
- Four 1/2" self-tapping screws

**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).

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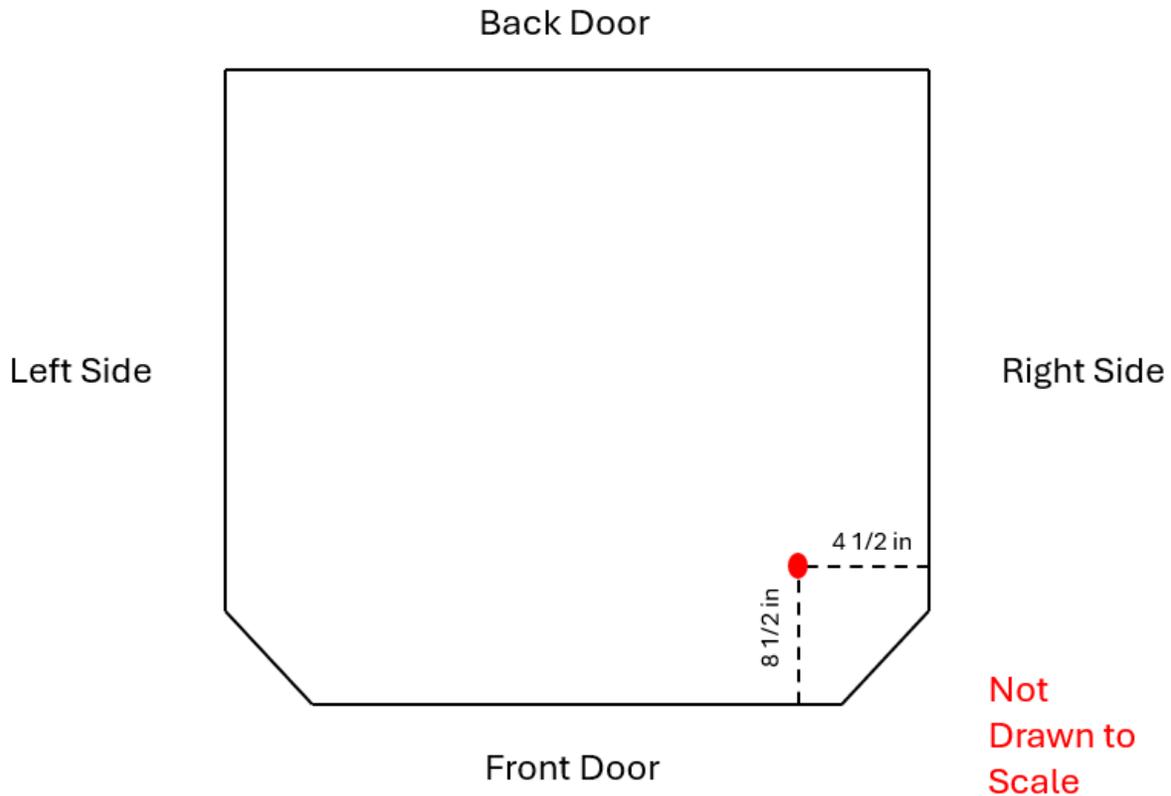
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## 1.) Measuring and Marking the Pass-Through Hole

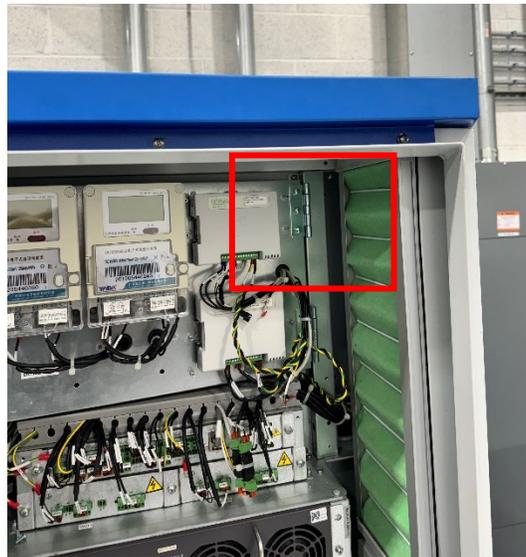
- Before working on the Charger, LOTO then begin the procedure.



- Above is an image showing where to mark the hole of the pass through on the ICE 60/120/180 (Top View).



- Once you measure out the location of where the hole will be drilled out. Mark it on the top blue roof of the charger.



- Prior to drilling the roof hole for this procedure. You must place a catch for the debris that will form while drilling in the location marked by the red square.

## 2.) Drilling and Sealing the Pass-Through Hole

- At the center point of your marked hole, Drill a pilot hole straight down.



- Use a 7/8in Uni Bit to drill all the way through where the pilot hole was made.



- After drilling the pass-through hole. Remove the blue cover and clean up all metal debris that may still be there.

- Thoroughly clean all debris within the charger. **It is important to do so to prevent any electrical hazards from occurring once the charger is powered back up at the end of the process.**
- Take the Latex Paint and paint the exposed metal that the drilled hole exposed.
- Wait for the paint to dry, then proceed to the next steps.

### 3.) Top Cover Installation



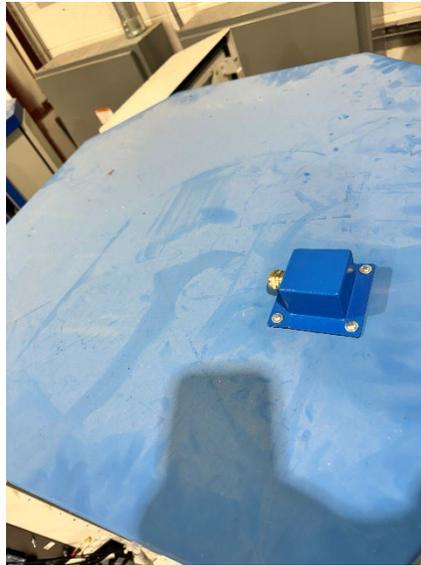
- Run the supplied cable harness through the gland nut and out the bottom of the new top cover.



- Take the ½" Nylon Liquid Tight Fitting Type B and install it in the orientation shown in the pictures above. Tighten the seal nut from inside of the charger.



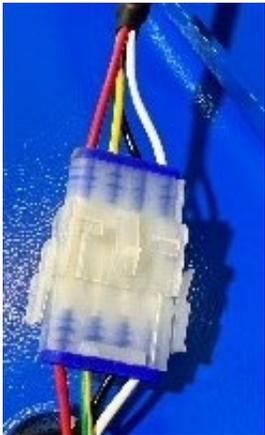
- Reinstall the blue cover onto the charger.



- Feed the wire harness through the drilled out 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).
- Once the wire harness and top cover are in place, use ½" self-tap screws to attach the new top cover into place.



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



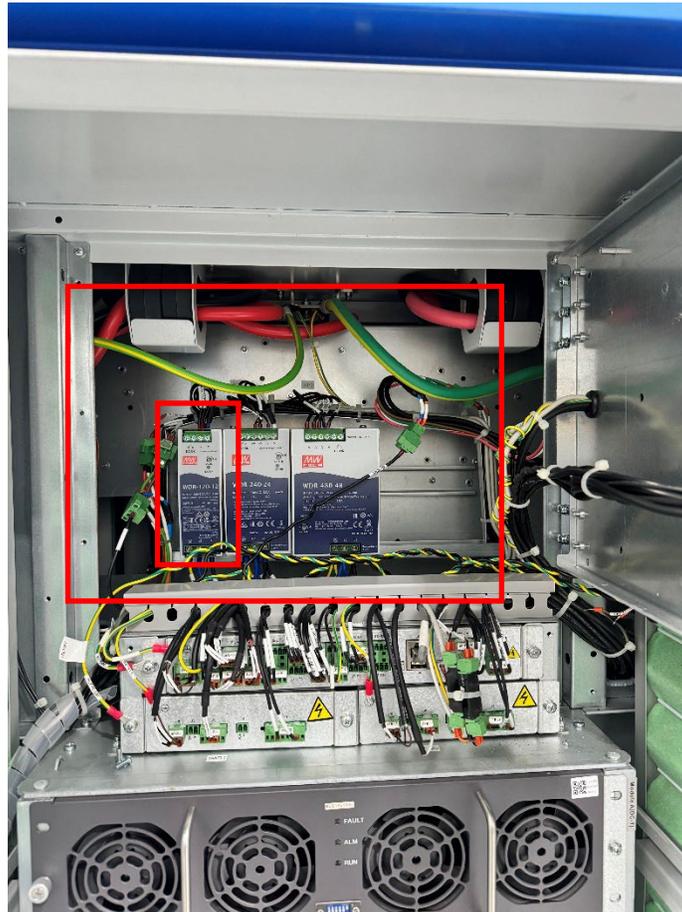
- Place the light bar on top of the charger and connect the two connectors.



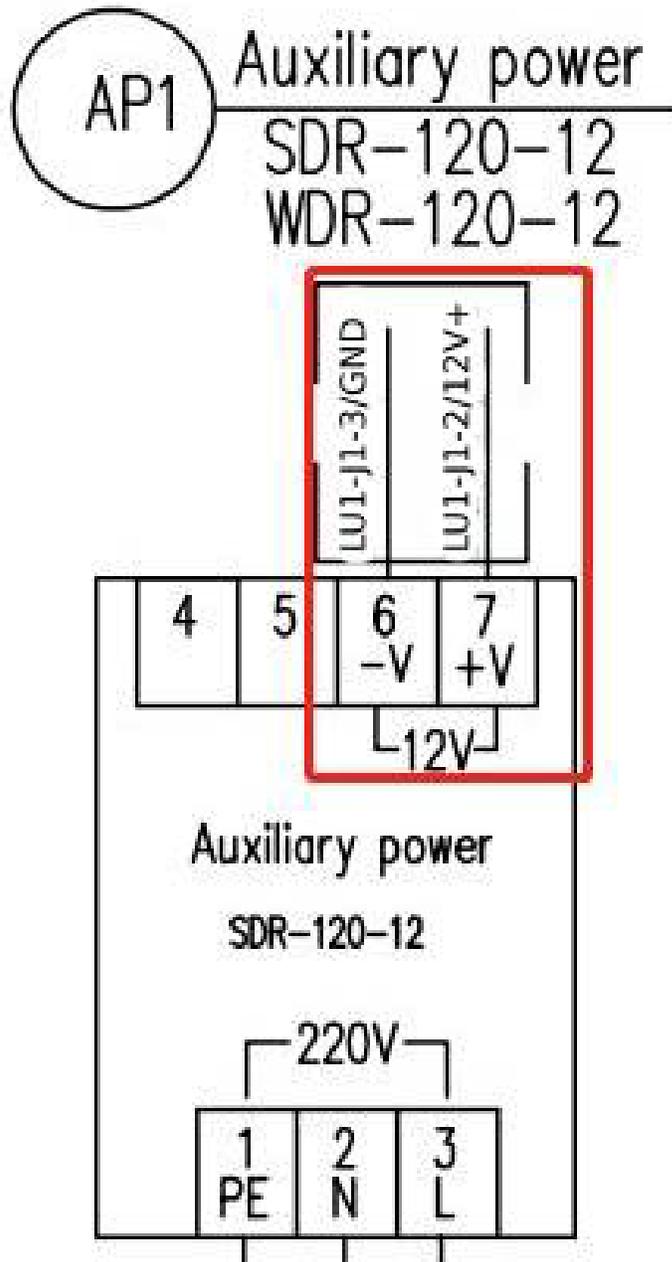
- Carefully lay the light bar in line with the holes at the top rim of the charger and screw the four provided Phillips head screws into place (Two on each side) (**DO NOT SECURE WITH THE PLASTIC SCREWS THAT COME ON THE EVSE TO SECURE THE LIGHT BAR**). Please note that the wires should not be pinched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

#### 4.) Wire Harness Installation

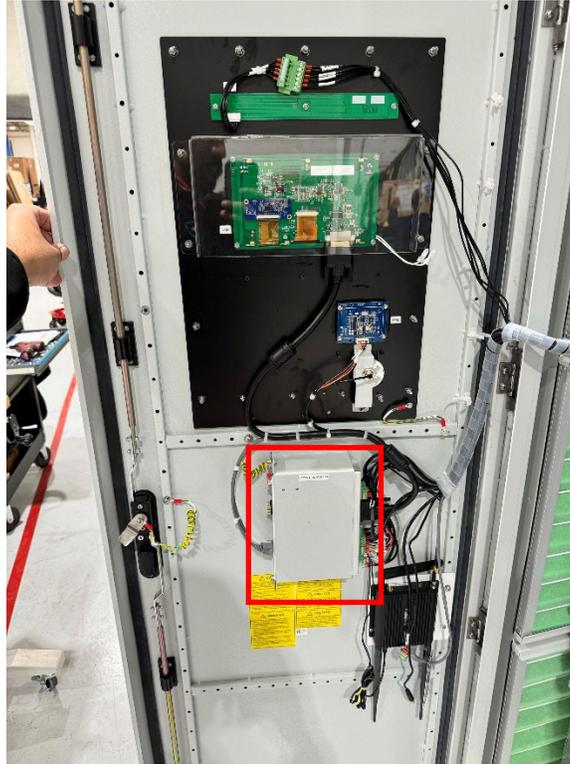
- Splice the main wire harness to give the Power cables a further reach. This is due to the power and communication landing points being at two different locations on the charger.



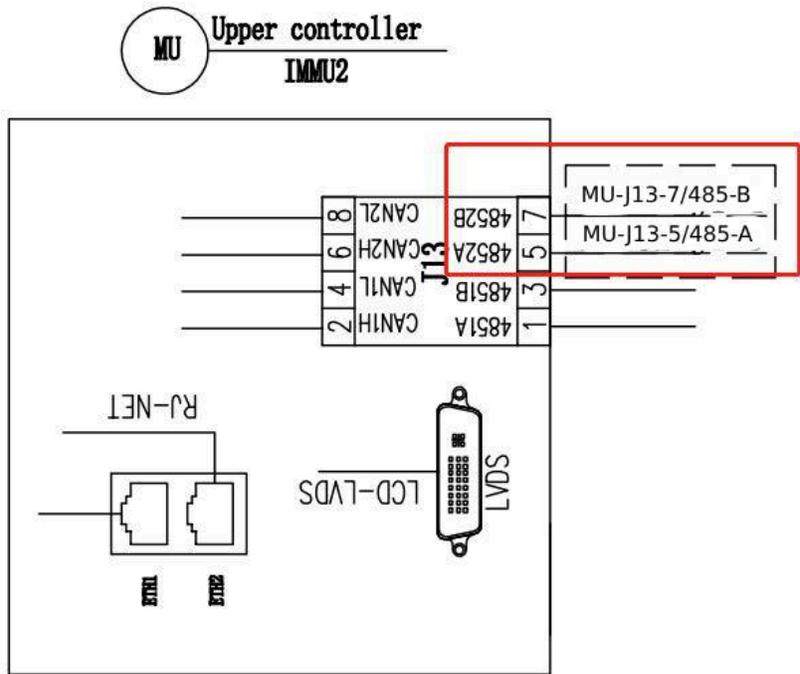
- After splicing the main wire harness, Run the Red (LU-J1-2/12V+) and Green/Yellow (LU1-J1-3/GND) wires behind the small upper door shown in the image to land in the 12V Auxiliary power shown above.



- Connect the Red (LU1-J1-2/12V+) and Green/Yellow (LU1-J1-3/GND) wires as shown in the diagram above. The Red wire lands in the 7<sup>th</sup> port (V+) and the Green/Yellow wire lands in the 6<sup>th</sup> port (V-).



- Run the Black (MU-J13-7/485-B) and White (MU-J13-5/485-A) wires to the IMMU2 Located on the front door.



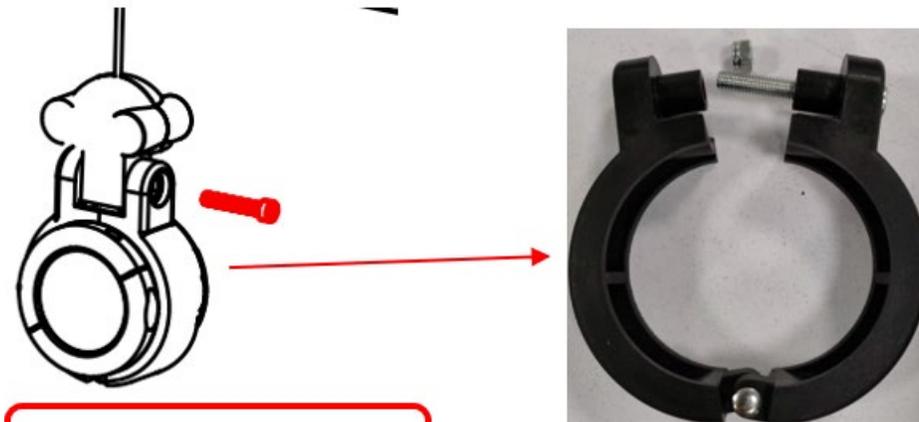
- On J13 Down, Land the Black (MU-J13-7/485-B) wire to the 7<sup>th</sup> port on the phoenix connector, and White (MU-J13-5/485-A) wire to the 5<sup>th</sup> port on the phoenix connector.
- Be sure to run wires with existing wire bundles for proper organization.

## 5.) Cable Clamp Placement and Installation

- From the point of which the cable exits the EVSE, measure 8 feet and 2 inches, and place the inner part of the cable clamp at the measurement.



- Then secure the inner part of the cable clamp in place by using the 4 screws provided in the small bag.

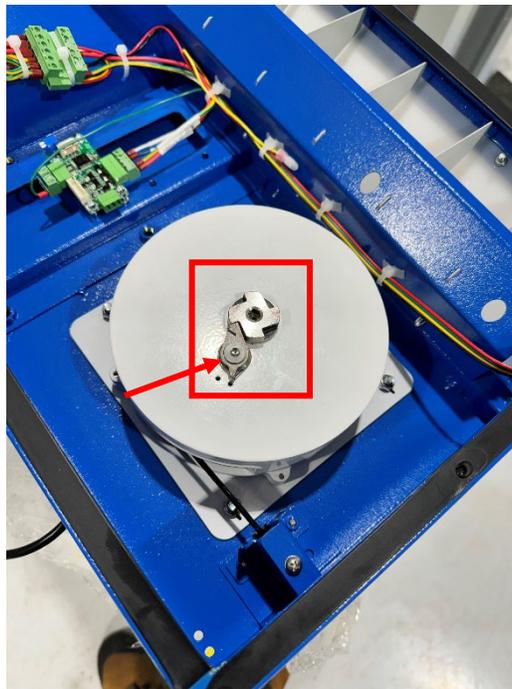


- Secure the outer part of the clam onto the cable where the inner part of the clamp was secured. Attach using the one screw shown above.

## 6.) Cable Retractor 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.