



Intelligent Battery Organizing System

Installation Manual

Charger-Splitter™

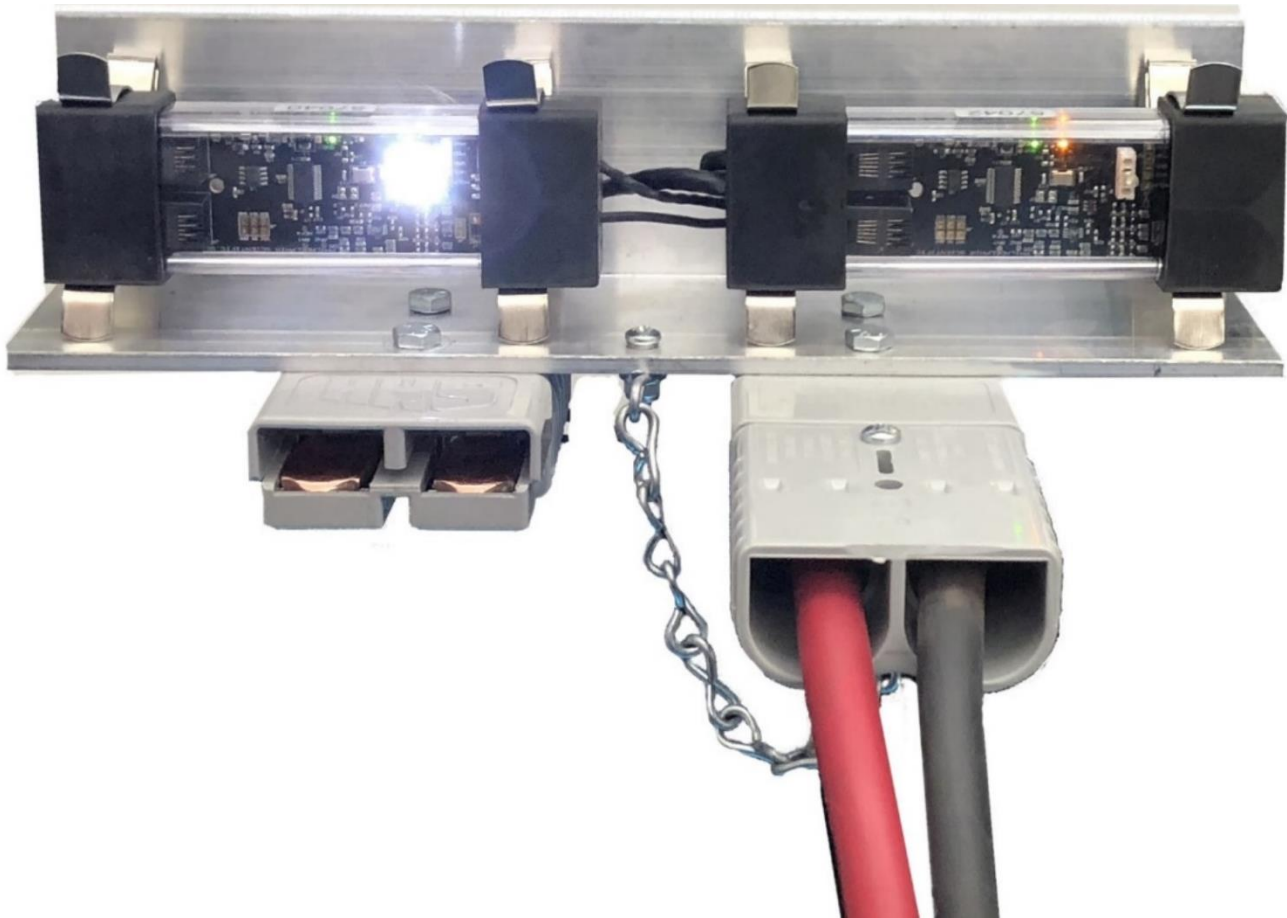


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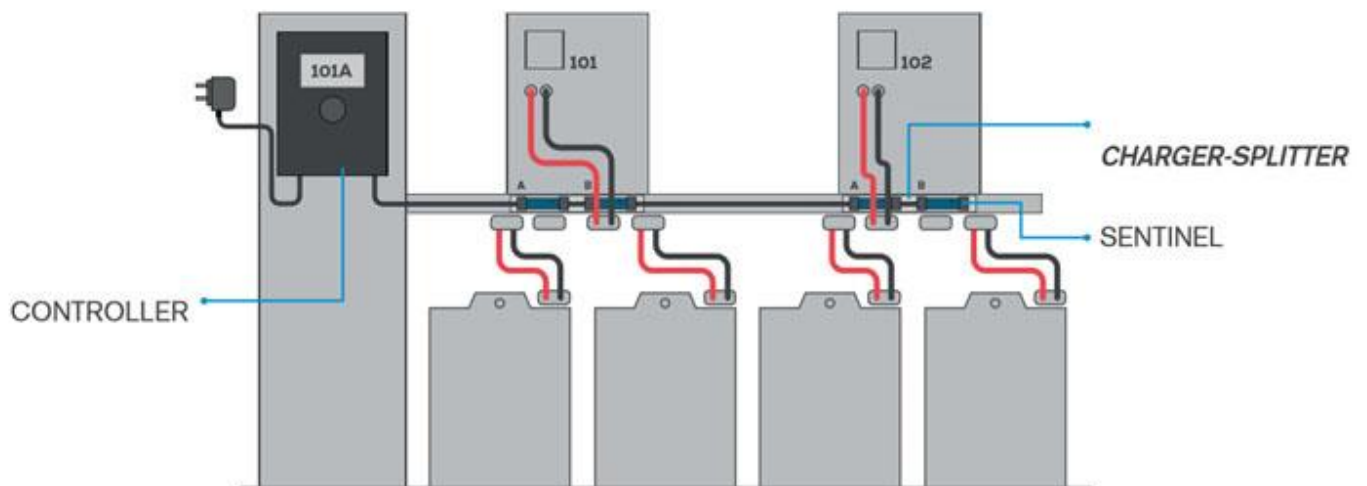
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1. Introduction

This manual will provide information needed to install the Charger-Splitter™. The Charger-Splitter™ is to be used in conjunction with the iBOS® battery room management system.

1.1. System Overview

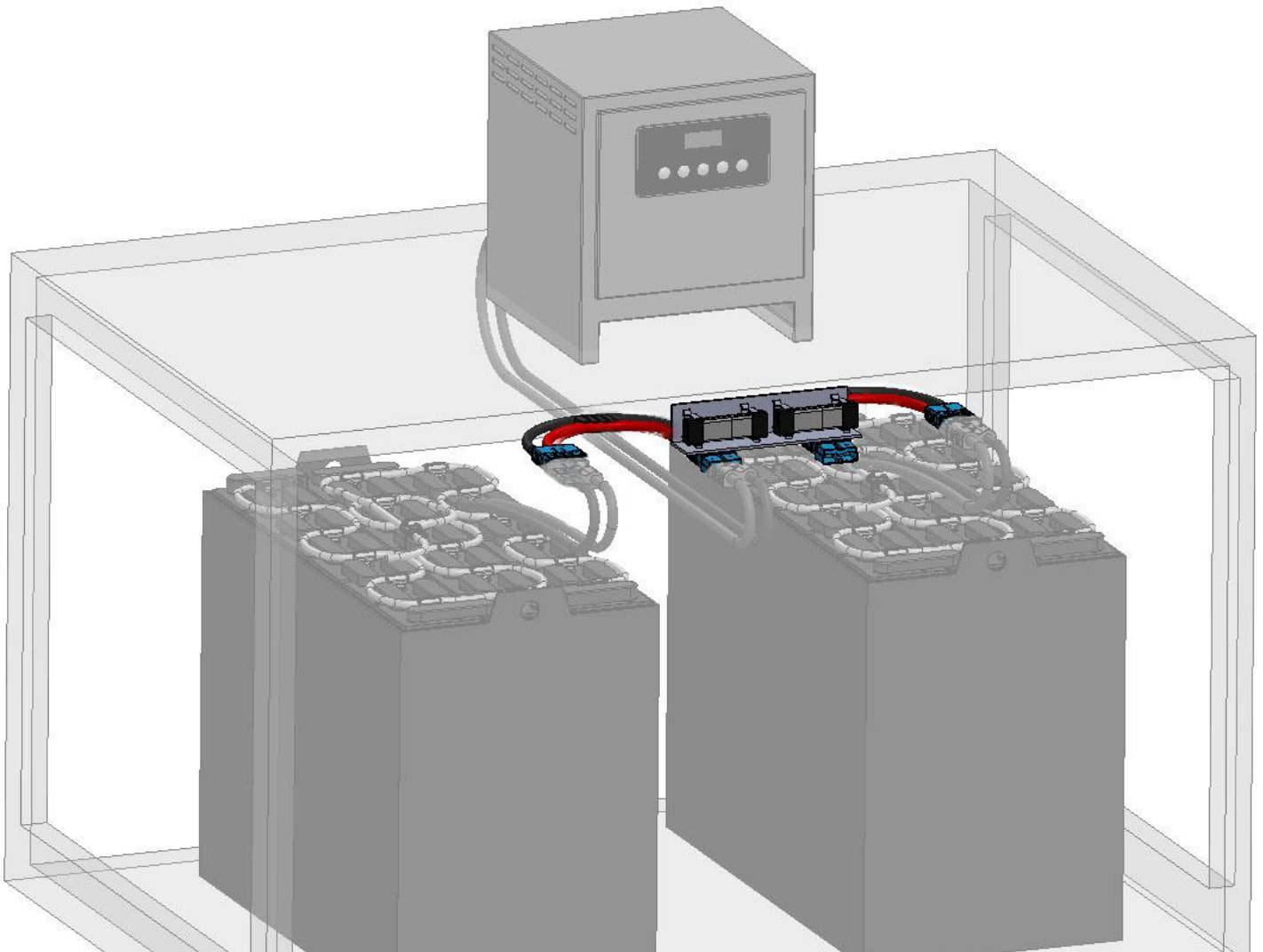
The Charger-Splitter™ add-on feature enables a site to reduce the number of chargers needed in half. With the Charger-Splitter™ add-on, two battery positions are paired to a single charger. When the first battery is fully charged, the iBOS® battery room management system will alert the operator with a white flashing LED to switch the charger to begin charging the second battery.



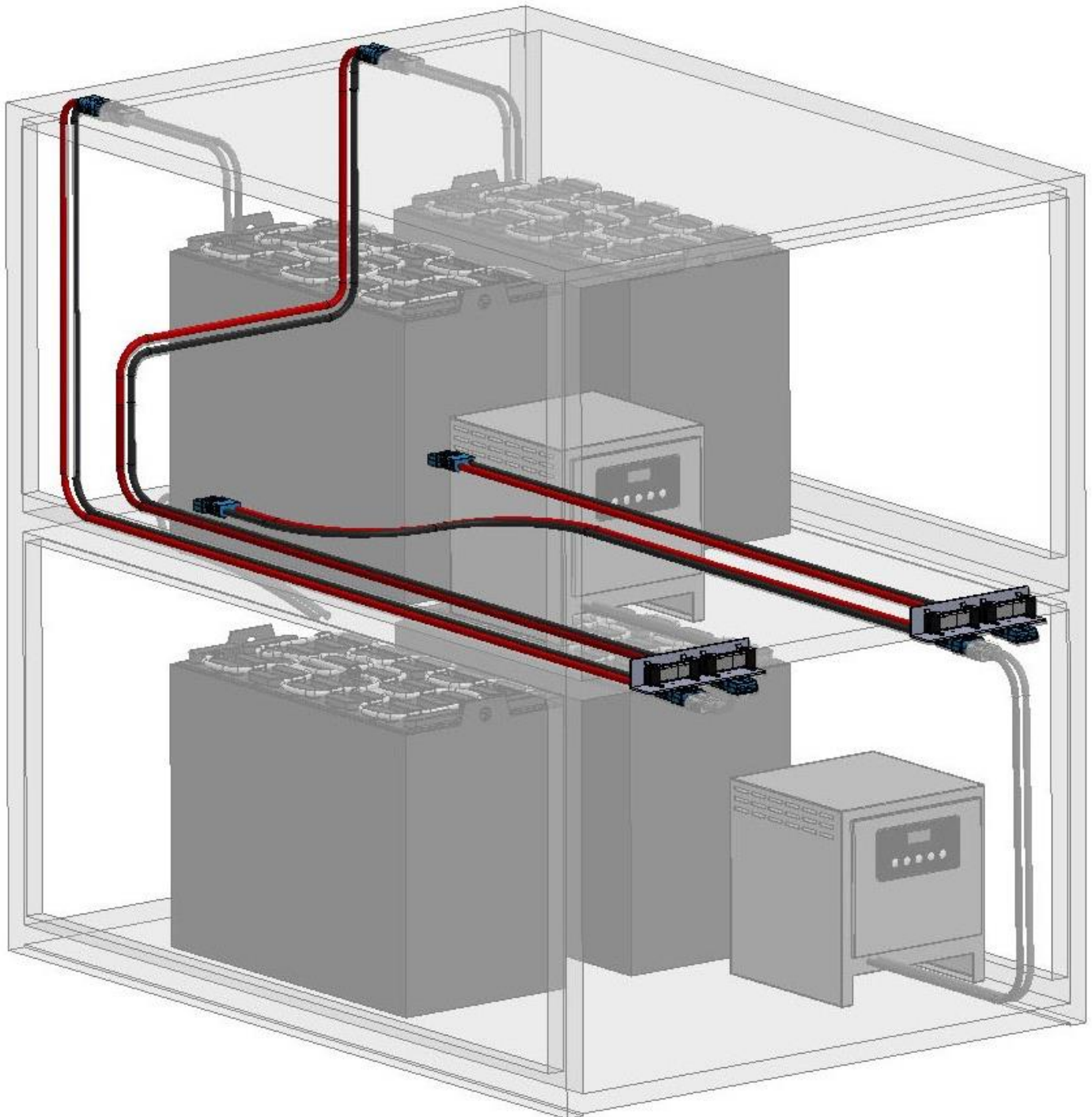
1.2. Typical Battery Room Layouts and Configurations

The iBOS[®] Charger-Splitter™ is a modular system that has been designed to operate in various battery room layouts. Although several different battery room configurations exist, this section will provide examples of the more common ones.

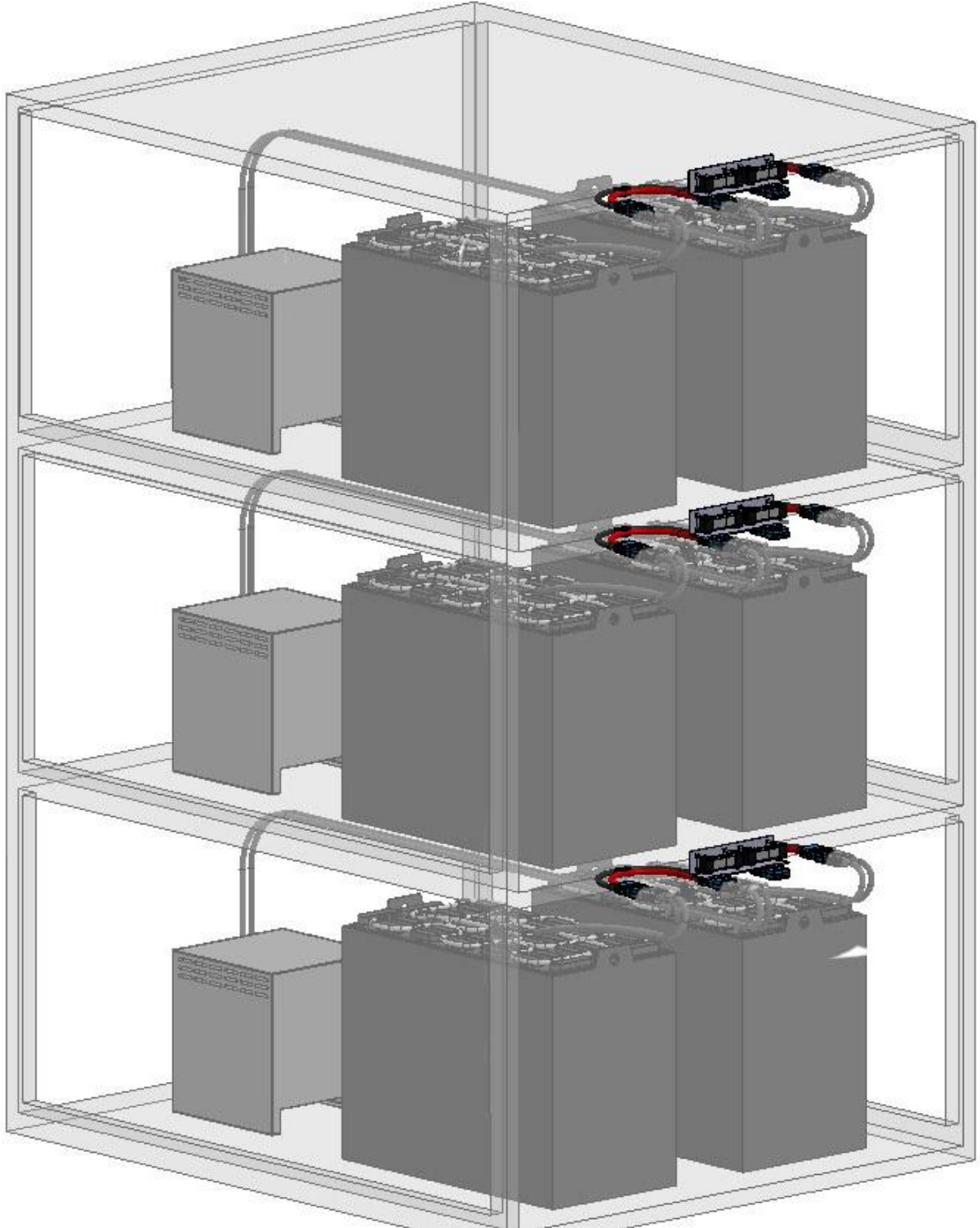
1.2.1. Single Level Rack with Front-Mounted Splitter Bracket



1.2.2. Multi-Level Rack with Rear-Mounted Splitter Bracket



1.2.3. Multi-Level Rack with Front-Mounted Splitter Bracket



2. System Components

2.1. Charger-Splitter™ Kit

Each Charger-Splitter Bracket Kit includes:



Charger Splitter Bracket and Retaining Chain



Splitter Enabled Sentinel



**1x 7ft. (2.13 m) Data Cable
1x 1ft. (30.48 cm) Data Cable**

 **Battery cables, connectors and Unistrut[®] or similar metal framing channel are not included with the Charger-Splitter[™] kit and must be supplied by the customer.**

2.2. Battery Extension Cable

One battery extension cable is required per battery position. A battery extension cable consists of one positive and one negative cable with crimped-on connectors.



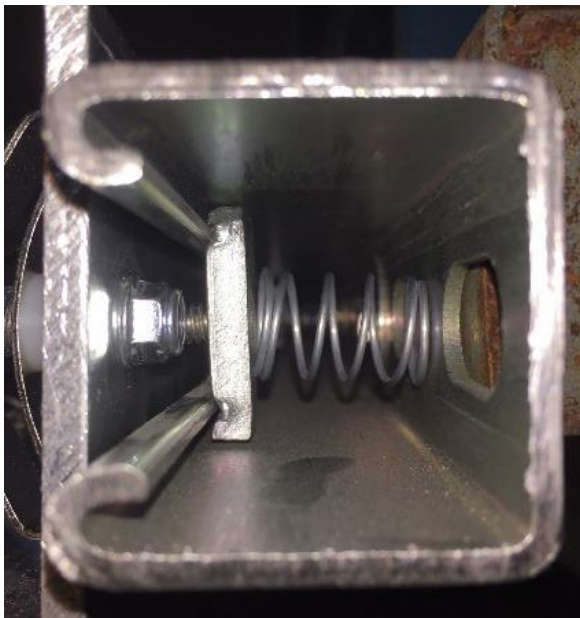
Positive and Negative cables



SB Connectors

2.3. Unistrut[®] or Similar Metal Framing Channel

Unistrut[®] or similar metal framing channel is used to mount the Charger-Splitter bracket to the battery racks. It is cut to length to mount to the rack supports.



3. Required Tools

The following tools are recommended for installation:

Drill



Anchors



Phillips Head Screw Driver



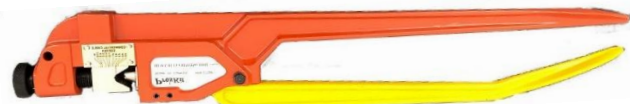
7/16 Wrench



Battery Cable Cutter



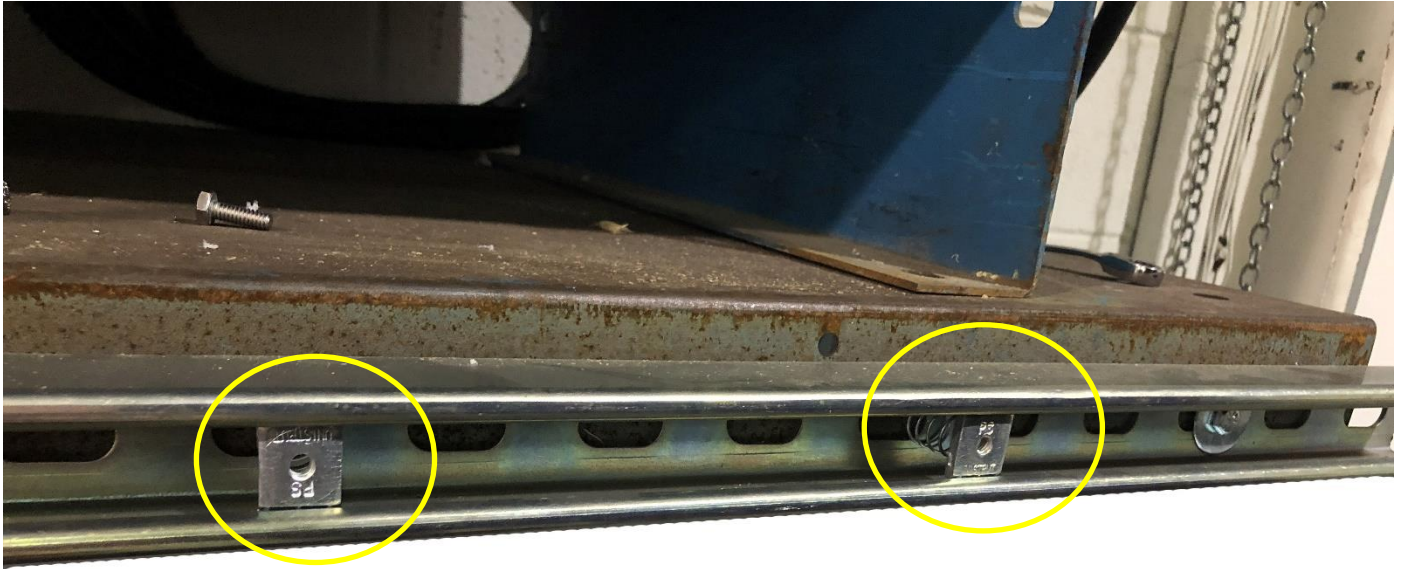
Battery Cable Crimper



4. Installation

4.1. Charger-Splitter™ Bracket Installation

1. Slide **two (2)** Spring Nuts into the channel about 10" apart.



2. Using the Spring Nuts as a guide, fasten the Charger-Splitter bracket to the Unistrut or metal framing channel with the included hex bolts.



3. Hand-tighten both sides.

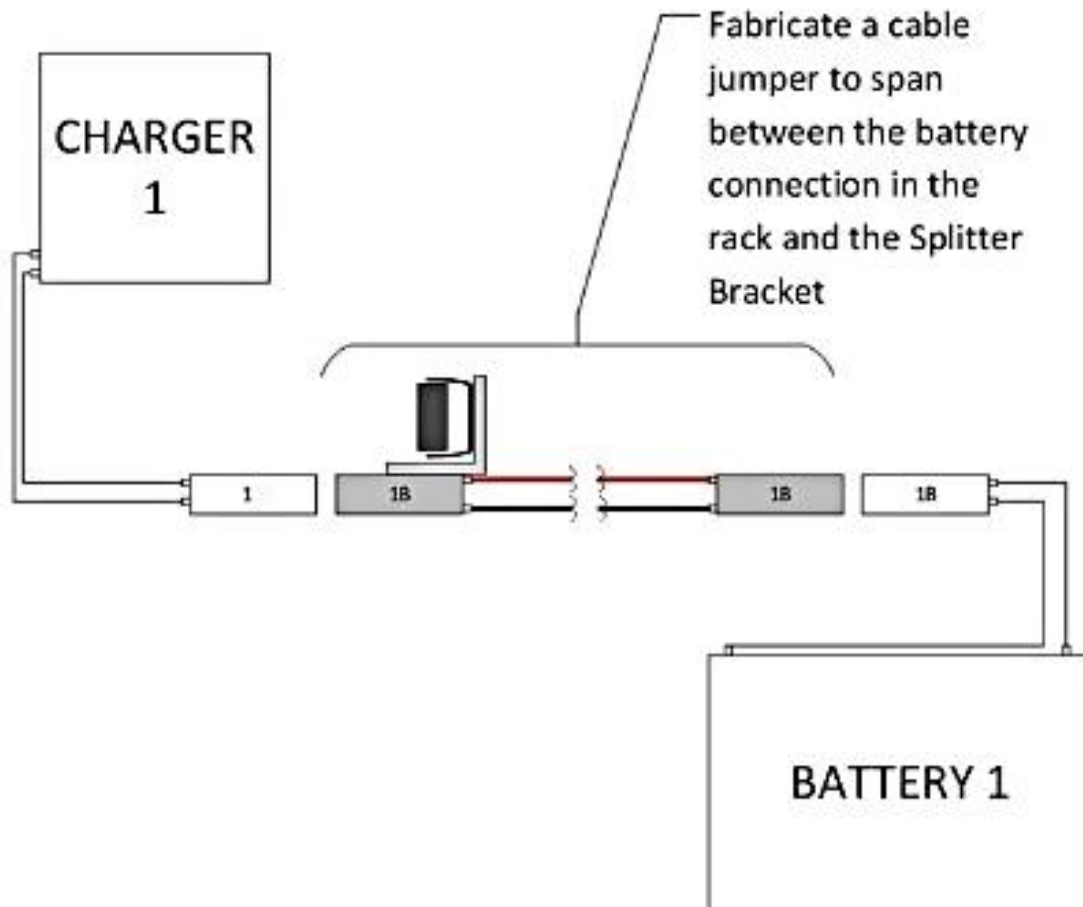


The Retaining Chain should hang below the bracket.

4. Tighten the bolts using a 7/16 wrench.

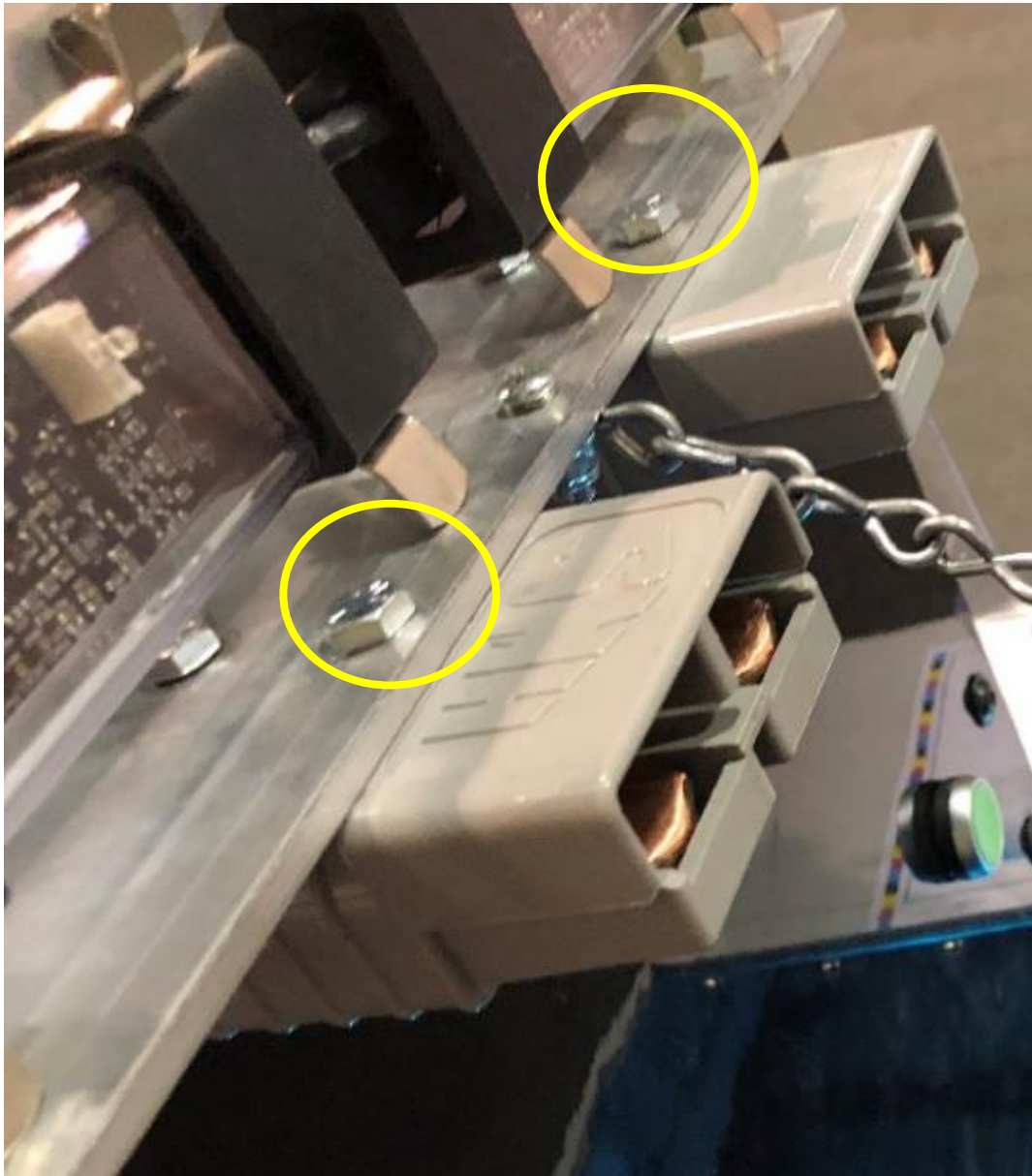


4.2. Battery Extension Cable



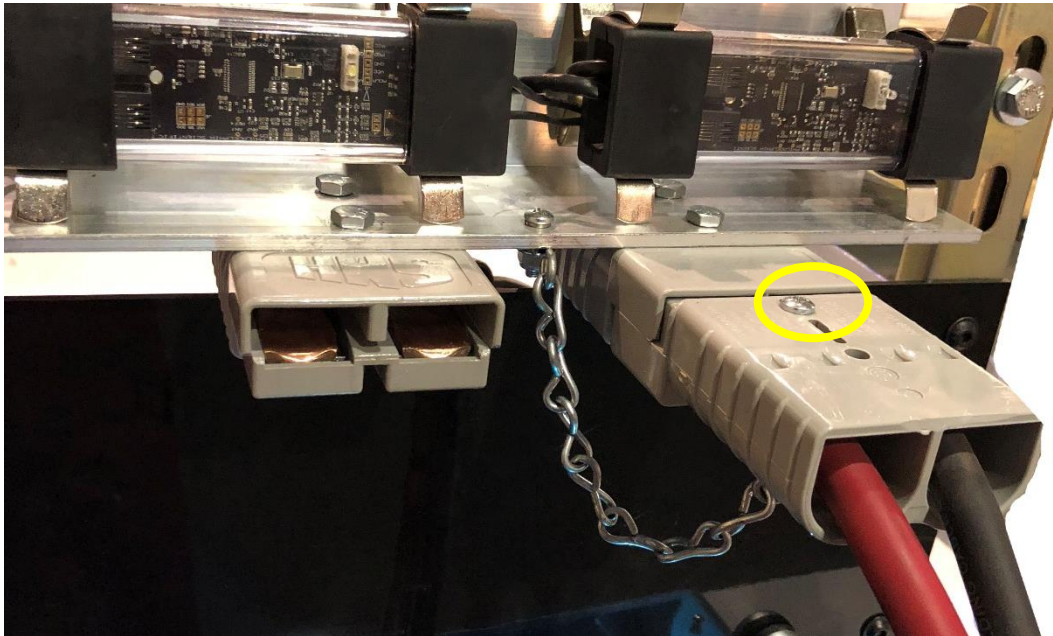
Assemble the battery extension cables according to local electrical code.

Fasten the SB Connectors to the bottom of the Charger-Splitter bracket using the attached hex bolts and nuts.



4.3. Retaining Chain

Connect the chain to the charger connector using the attached screw and lock nut. Insert the screw through the top side of the charger connector so that the chain hangs under the assembly.



The retaining chain must remain in place during operation to avoid incorrectly pairing with the wrong battery.

4.4. Connect Sentinels™



Refer to the iBOS® Installation Manual for instructions on connecting the Sentinels.

5. Charger-Splitter™ Setup

5.1. Adding Chargers for the Charger-Splitter™ Configuration

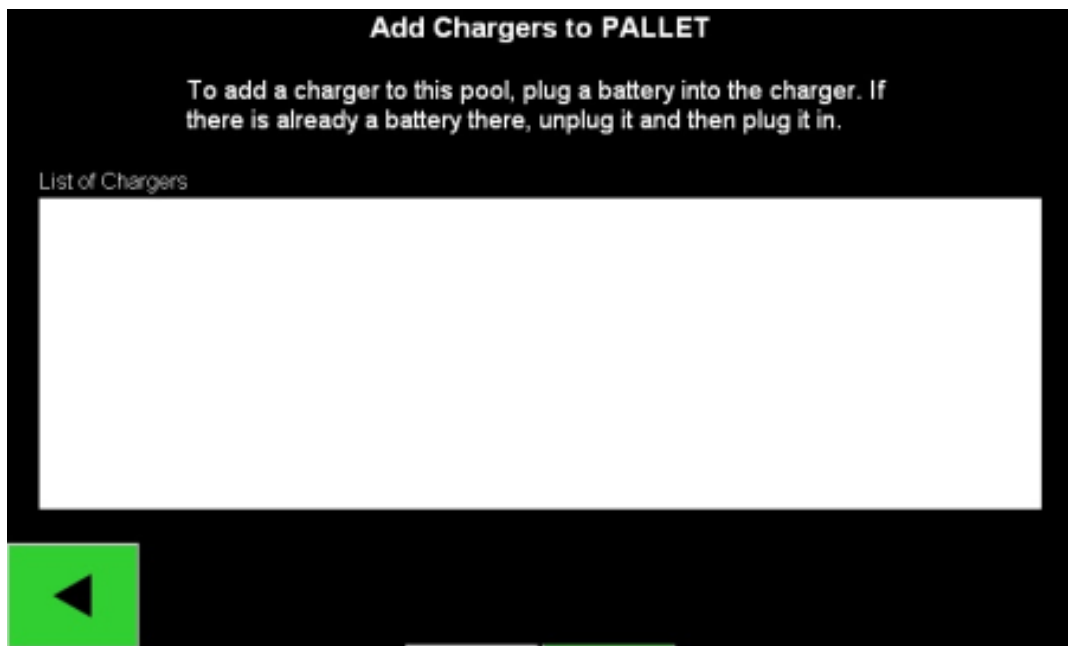


Refer to the iBOS® Installation Manual for “Configuring Pools and Chargers” instructions.



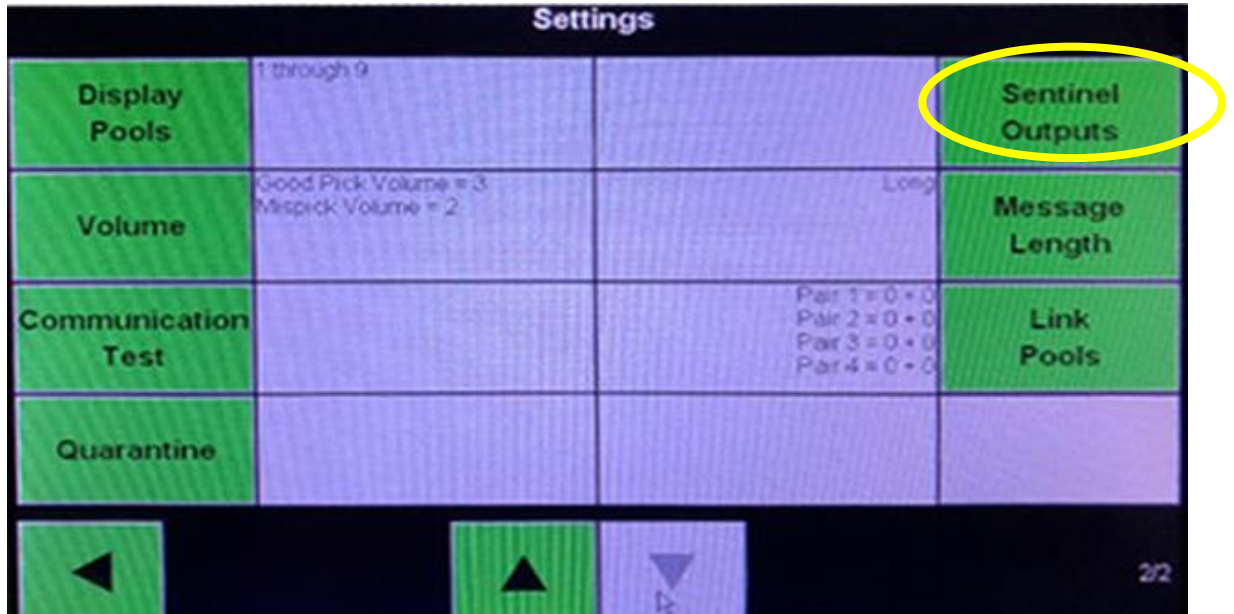
The following instructions are specific to the Charger-Splitter configuration.



For each charger, enter the desired charger ID followed by an “A” or “B” (no spaces between the charger ID and A or B). Repeat the steps for the remainder of batteries and chargers in the pool.

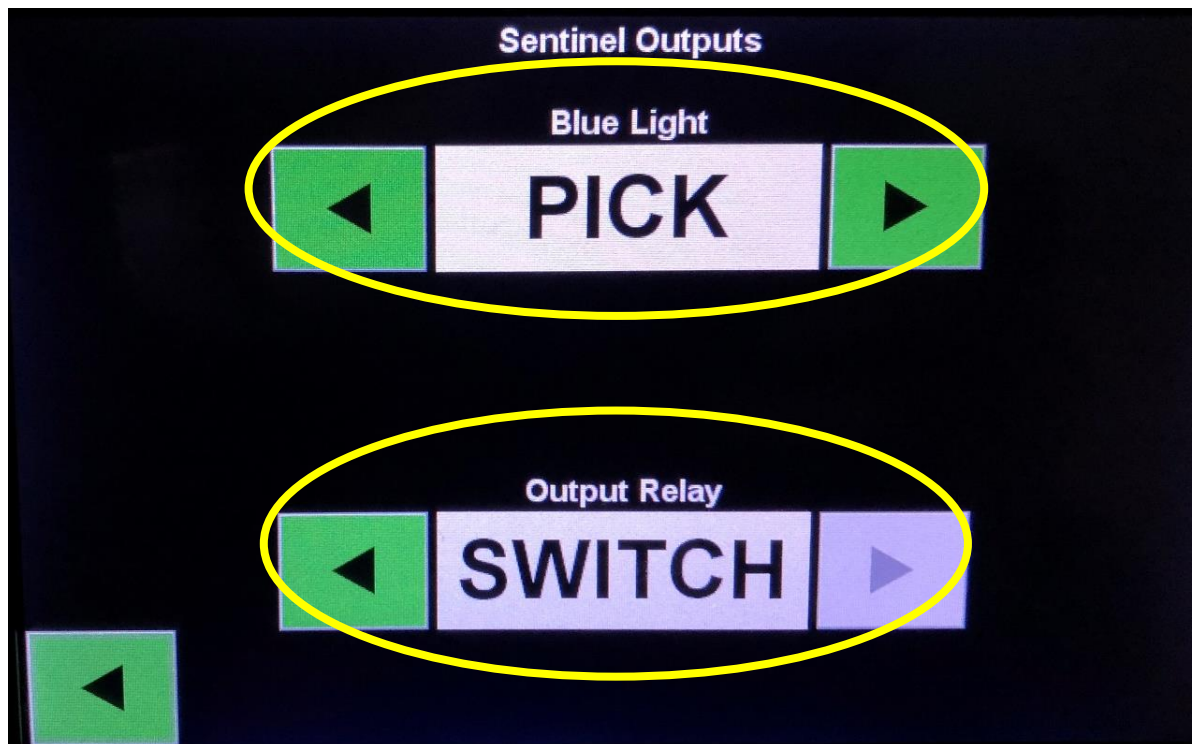


5.2. Sentinel™ Outputs

1. Press the **Sentinel Outputs** button from the Settings menu.



2. The **Sentinel™ Outputs** screen will appear. Use the   buttons to select “**Pick**” for the **Blue Light** and “**Switch**” for the **Output Relay (white LED)**. The system will automatically save the settings.





3. Press the  button to return to the **Home** screen.

6. Final Inspection and Testing

Task	Status
Battery cable connectors are secured to the bracket.	<input type="checkbox"/>
Unistrut [®] or metal framing channel is secured to mounting surface.	<input type="checkbox"/>
Verify there is sufficient cable to reach both the A and B sides of the Charger.	<input type="checkbox"/>
Reset the Maintenance screen to the default password (“11111”) or Settings screen to the default password (“919191”) when leaving the box if it was changed during installation.	<input type="checkbox"/>
Close the control box and fasten the screws (locking is optional).	<input type="checkbox"/>

7. Troubleshooting

Use the following chart to help identify solutions to the most common issues.

Issue	Possible Solution
<p>No White Light</p>	<ul style="list-style-type: none"> • The white LED on a Sentinel™ flashes to alert the operator to disconnect a charger from a battery and plug it into a paired battery. If both batteries are charged, no white light will be on. • Check the Sentinel™ Outputs screen to ensure that the Output Relay is set to “Switch”. • Use the   buttons to scroll through the options under Output Relay. • Select the “Switch” option.
<p>Power and Data Connection Issues</p>	<p>Green LED – Communication status</p> <ul style="list-style-type: none"> • Off – No power to the Sentinel™. • Solid – Sentinel™ is communicating properly with Controller. • Flashing – Sentinel™ is not communicating properly with the Controller. <p>Amber LED – Charging status</p> <ul style="list-style-type: none"> • Off – No battery connected. • Solid – Battery is connected. • Solid – No battery connected. Check the charger for a voltage leak to the DC cables. <p>Blue LED – Termination status</p> <ul style="list-style-type: none"> • Off – Battery is not at the top of the queue. • Bright with Momentary Flashing – This is the correct battery to pick next.
<p>White Light is on for a long time</p>	<ul style="list-style-type: none"> • During normal operation, the white light will go off after connection and charge start. <ul style="list-style-type: none"> ○ If the charger is still charging, leave it connected. ○ Troubleshoot charger if there is a charger fault.

8. Contact Information



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