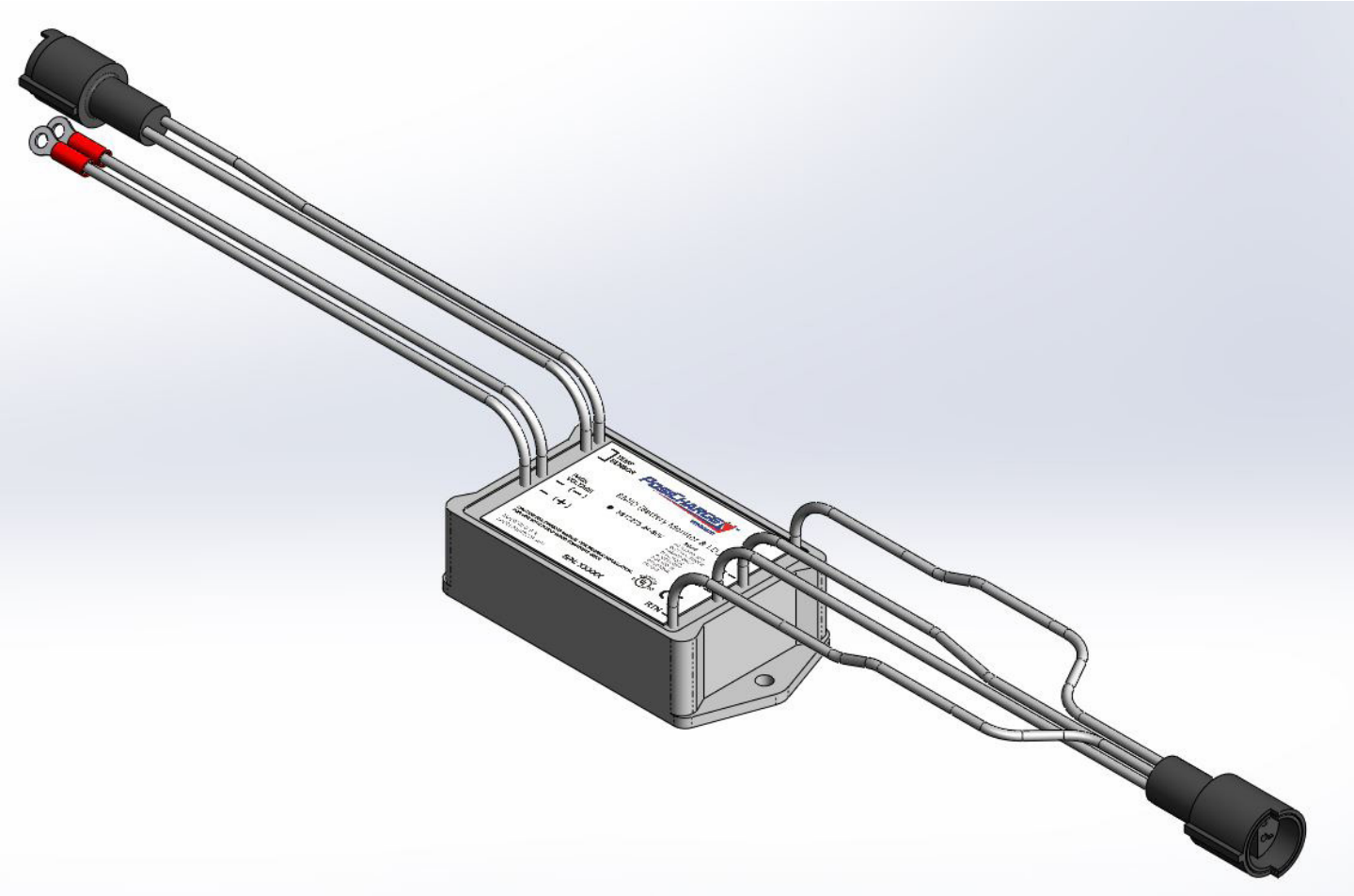
BMID I Installation Manual

Battery Management Tool



Rev February 2024

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This BMID Installation Manual includes the latest information available at the time of printing. Ampure reserves the right to make changes to this product without further notice. Changes or modifications to this product by other than an authorized service provider could void the product warranty.

FCC Information

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

This product has been designed to protect against Radio Frequency Interference (RFI). However, there are some instances where high powered radio signals or nearby RF producing equipment (i.e. digital phones, RF communications equipment, etc.) could affect operation.

If interference to your charge station is suspected, Ampure recommends the following steps be taken prior to contacting customer support for assistance.

1. Relocate nearby electrical appliances or equipment during charging.
2. Turn off nearby electrical appliances of equipment during charging.

WARNING
Changes or modifications to this product by other than an authorized service provider could void FCC compliance.

Save These Instructions

- This document is your guide to installation and use of the PosiCharge BMID products.
- The installation examples shown are for batteries in material handling and tug/tow vehicles.

CONTENTS

1 – BMID Installation

This manual describes the installation of the Battery Monitor and ID module (BMID) on a battery compatible with a Ampure PosiCharge charger. The BMID is located on the forklift battery pack to monitor the condition of the pack and to communicate the type of battery to the charger.

CAUTION
An improperly installed BMID may cause the charger to charge incorrectly and may void your battery warranty.

DANGER
Electric shock hazard. Only trained personnel should install or maintain this equipment.

CAUTION
BMIDs are installed on electrically live battery packs. Use insulated tools and DO NOT touch bare terminals of the battery with your hands.

DANGER
Hydrogen gas may be present in battery compartments. Be sure to work on equipment only in a well ventilated environment.

1.1 – BMID Installation Kits

Part Number	Description
26131	KIT, UNIVERSAL INSTALL, BATTERY MONITOR, BASIC
26132	KIT, UNIVERSAL INSTALL, BATTERY MONITOR, ANDERSON
26133	KIT, UNIVERSAL INSTALL, BATTERY MONITOR, SCHALTBAU
26134	KIT, UNIVERSAL INSTALL, BATTERY MONITOR, SEALED BATTERY
26135	KIT, UNIVERSAL INSTALL, BATTERY MONITOR, DUAL SBX
26136	KIT, UNIVERSAL INSTALL, BATTERY MONITOR, GSE BURTON
26509	KIT, UNIVERSAL INSTALL, BATTERY MONITOR, ANDERSON COMM & TEMP SENSOR

Please contact an authorized PosiCharge sales representative for kit details.

2 – Installation Procedure

First select one of the center cells in the pack as an installation location (typically the hottest cell). Secure the BMID to a nearby intercell connect with the provided polypropylene cable ties and foam tape.

2.1 – Flooded Batteries

Select one of the battery cells near the BMID where the temperature sensor will be installed. This cell should be in the center of the pack so that it will read the warmest temperature. Carefully drill a 0.5-inch hole in the center of the case of the cell. Insert the submersion type temperature probe through the case and submerge it into the electrolyte.

Figure 1 – Temperature Sensor Installation

WARNING
Use only the submersion-type temperature probe with flooded batteries. Do not use the non-submersion type, black plastic temperature sensor, as it is not designed for liquid electrolyte cells.

2.2 – Sealed Batteries

Select one of the battery cells near the BMID where the temperature sensor will be attached. It is very important to read the actual temperature of the battery. Using the non-submersible black plastic temperature sensor, slide the probe between two cells. This is the preferred method. If it does not fit between the cells, it can be placed under the battery post.

CAUTION
The temperature probe is fragile. Take extra care not to damage it during installation. Also, select a location it will not be damaged during normal operation or maintenance.

Route the voltage sensing lines to the positive (red wire) and the negative (black wire) terminals of the battery.

2.3 – Welded Battery Terminal Posts

Remove the plastic covers from the terminals. Install knurled brass inserts (Part # 06602) into the pack's positive and negative lead terminals of the battery pack – it must be the same posts which the main positive and main negative power cables attach to the pack. Drill a 0.188-inch diameter hole in the center of the lead post, between 0.290 to 0.353 inch deep (drill bit supplied in assembly kit). Press the knurled brass insert into the hole. Use the #6 screw, flat washer, and lock washer to attach the BMID voltage wires to the knurled insert. Apply a small amount of terminal protective grease to completely encapsulate the screw and ring lug of both the + red and –black terminals. Replace the plastic terminal covers.

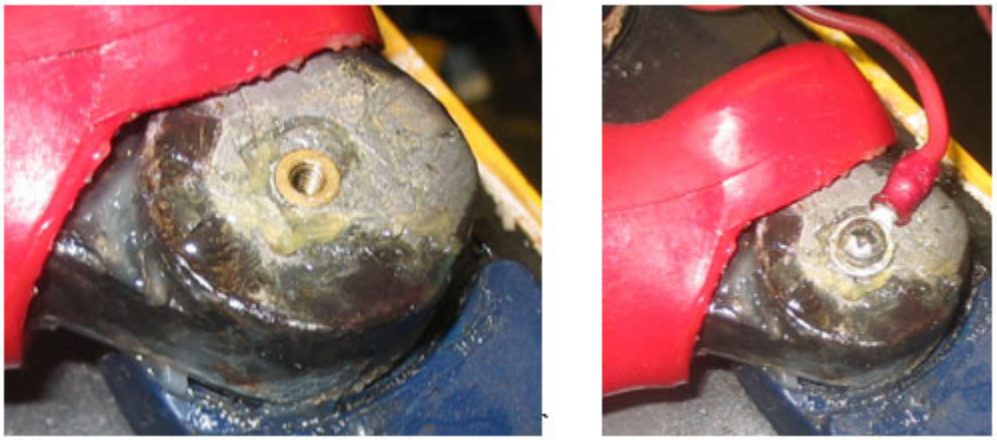

Figure 2 – Knurled Brass Insert Installation

2.4 – Bolted Battery Terminal Posts

Use the same procedure as above except install the brass insert in the center of the terminal bolt head. After applying the grease, snap the caps onto the bolt head to insulate the connection.

Figure 3 – Bolted Battery Installation

Neatly bundle any excess wire length and fasten it securely to the battery using polypropylene cable ties. Confirm all the wires are routed to prevent chafing or snagging during normal operation and maintenance. Then secure all of the BMID communication lines to intercell connects along their path with the provided cable ties. Use polypropylene cable ties only – nylon cable ties are vulnerable to sulfuric acid attack. Figure 4 shows a typical installation of the BMID in a single connector pack. Figure 5 shows a typical installation of the BMID in a double connector pack.

Connect the BMID data line receptacle to the mating plug on battery patch cable (Figure 4 & Figure 5).

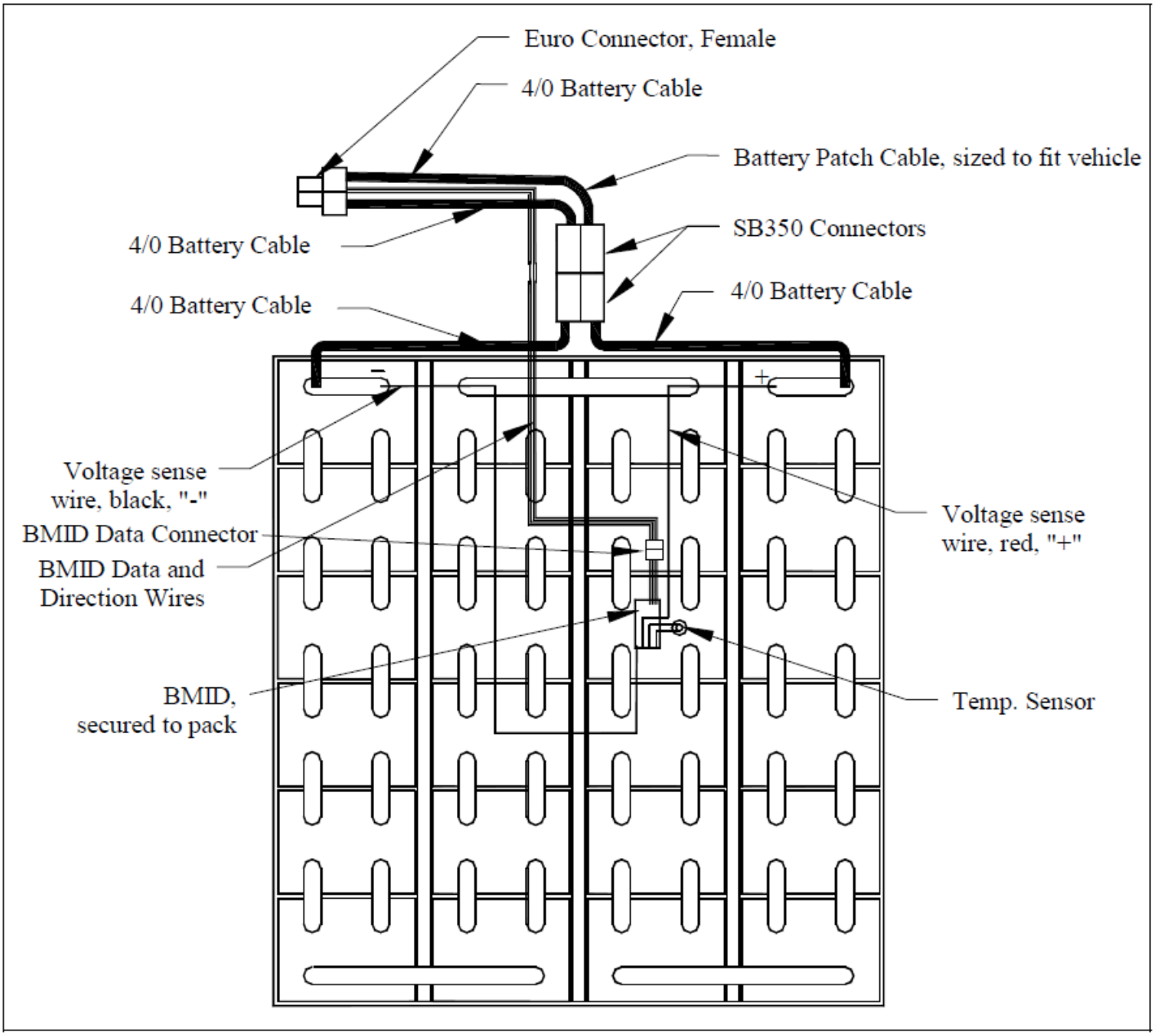

Figure 4 – Typical BMID Installation on a Single Connector Battery Pack

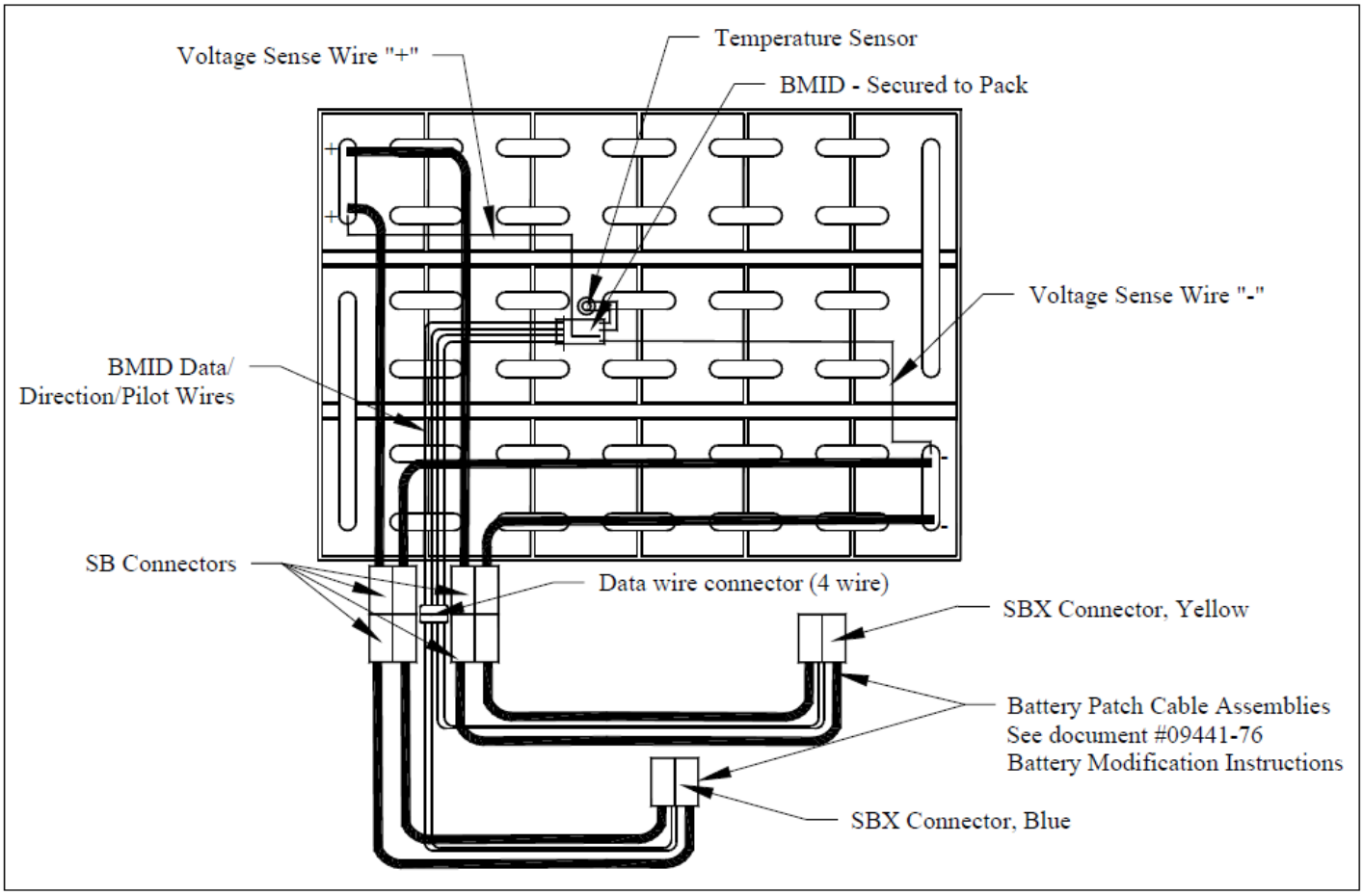

Figure 5 – Typical BMID Installation on a Dual SBX Battery Pack

3 – BMID Initialization

NOTE:
When using BMID Is with Procore chargers, skip the initialization step.

Before a battery can be charged, the BMID must be initialized and the battery parameters written to the BMID. This is done the first time the battery is connected to a PosiCharge fast charger. At a minimum, the following parameters must be entered:

1. Battery ID
2. Battery type – Choose from a list of batteries by manufacturer
3. Number of cells
4. Battery capacity in AHrs
5. Vehicle ID is optional

Equalization is scheduled for Sundays by default. Enter the EQ start and end days and times if another scheduled is required.

Use the default settings for the other parameters unless instructed otherwise by PosiCharge.

3.1 – BMID Initialization Procedure

WARNING:
This procedure deletes all warranty data and should ONLY be performed on new BMIDs when they are first placed into service.

1. Press the **Select** button until BMID Configuration is displayed, then press the **Enter** button.

2. The Enter Key Code will be displayed – enter the initial key code by pressing the **Enter** and **Down Arrow** buttons until Key Code Accepted is displayed on the screen, followed by Initialize BMID.

3. Press the **Select** button until Initialize Date is displayed.

4. Enter the secondary key code (**Up Arrow** and **Down Arrow** for 10 seconds). There will be no indication that the key code has been accepted.

5. Press the **Select** button until Initialize BMID is displayed, the press the **Enter** button.

6. “Erase all BMID data?” is displayed with Cancel flashing – press the **Up Arrow** or **Down Arrow** button to change Cancel to OK. Then press the **Enter** button.

7. “Initializing BMID – please wait…” is displayed followed by BMID Initialization OK and Battery ID.

8. The default Battery ID type is 8 alphanumeric characters. Some older PosiCharge software does not support alphanumeric and requires a 5-digit numeric Battery ID. If a 5-Digit Numeric ID is required, press the **Select** button until the Battery ID Type is displayed, then press **Enter**, and use **Up Arrow** or **Down Arrow** keys to toggle between Alphanumeric Batt ID and 5-Digit Numeric. Then press **Enter** to accept.

9. Press the **Enter** button and input the Battery ID.

NOTE:
If the Charger did not accept the secondary key code, pressing the **Enter** button at the Battery ID screen will cause Access Denied to display. Return to the Initialize Date screen, enter the secondary key code again, and proceed with step 5 above.

10. Enter the remaining BMID parameters.

NOTE:
The BMID S/N is not editable. The Initialize Date parameter is automatically set to the date configured in the charger and is not editable.

4 – Communication Wiring

4.1 – Single Anderson Euro Connector Communication Wiring, Battery Side

The communication wiring provides the safety interlock signal (called the pilot), the communication between the BMID and the charger. The communication wiring must be connected properly for the charger to initiate a charge.

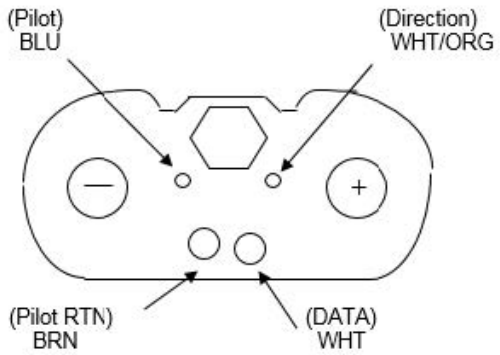

Figure 6 – Wiring for Anderson Euro A32

4.2 – Single Schaltbau Euro Connector Communication Wiring, Battery Side

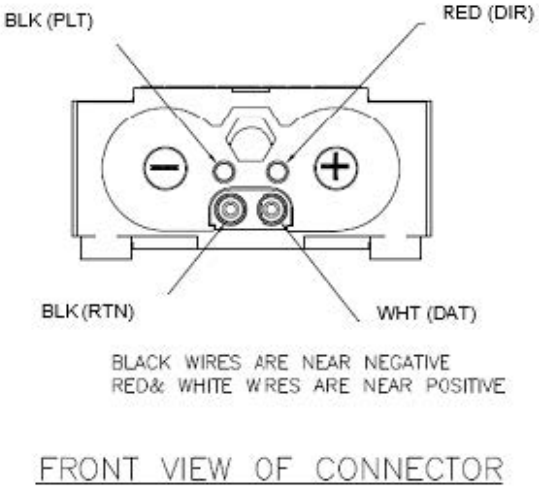

Figure 7 – Wiring for Schaltbau Euro LV320

4.3 – Dual SBX Connector Communicating Wiring, Charger and Battery Side

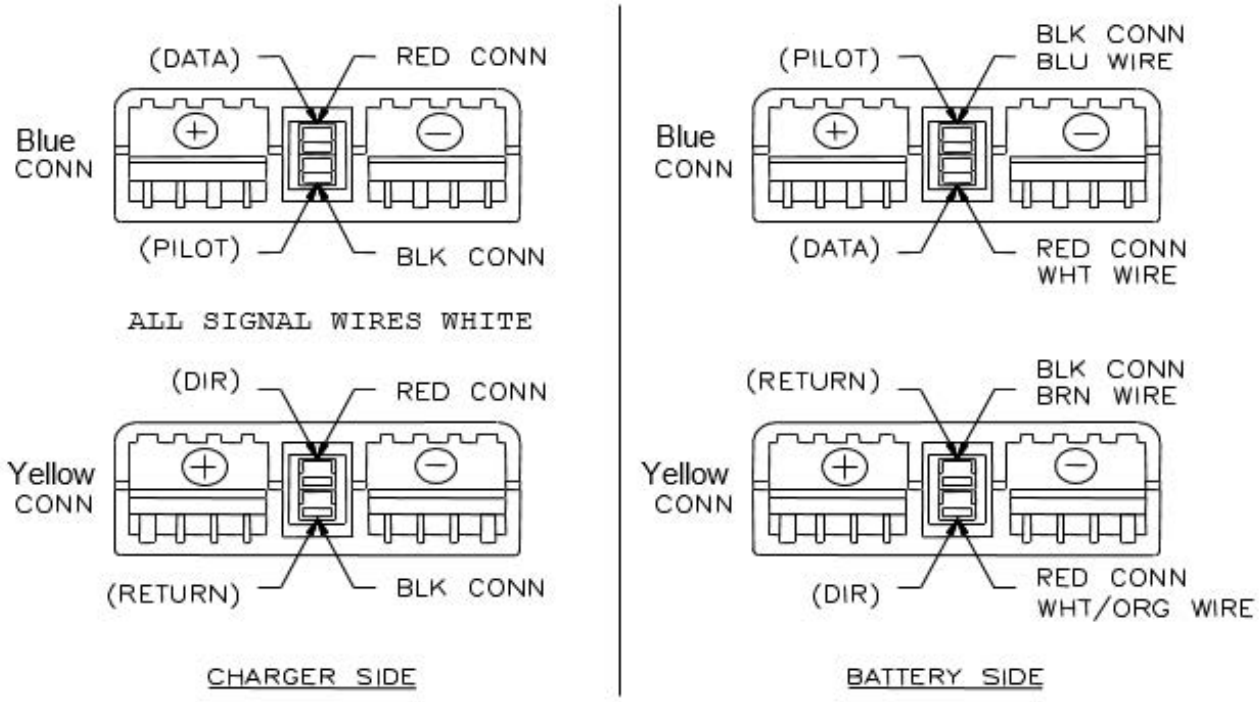

Figure 8 – Wiring for Dual SBX 320 Connector

4.4 – Dual Anderson Euro Connector Communication Wiring, Battery Side

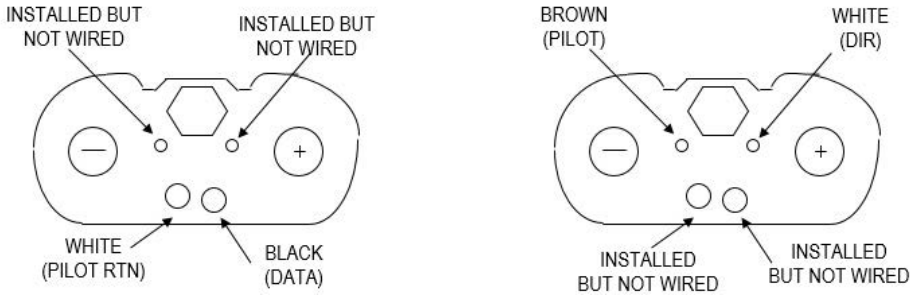

Figure 9 – Wiring for Dual Anderson Euro

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