

## 6. Fault Isolation Electronic

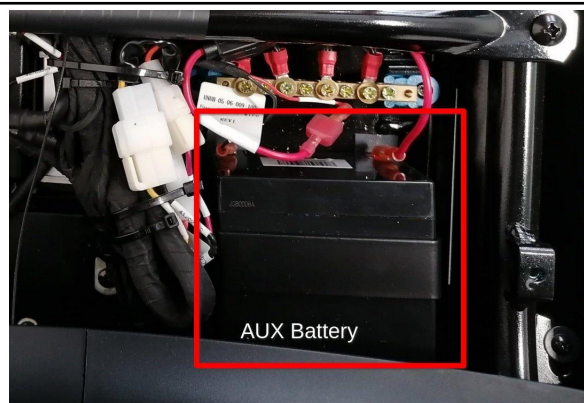
This chapter deals with troubleshooting common errors within the electronics.

**Info:** Please insert the defect in a spare part order if you replace it with the help of this chapter.

### 6.1 Scooter does not start: internal batteries

#### 6.1.1 AUX-Battery

**Info:** The following steps are intend to troubleshoot when the scooter no longer charges the Aux battery/12V battery or does not start at all. It can be seen that the unu can no longer be started after 24 hours without a main battery or that a red battery is shown in the bottom right of the display.



Initial conditions for the scooter to start the charging process for internal batteries:

1. Insert main battery.
2. Activate the main battery by closing the seat.
3. Activation on the display verification by a white border around the main battery charge indicator on the display(bottom left)

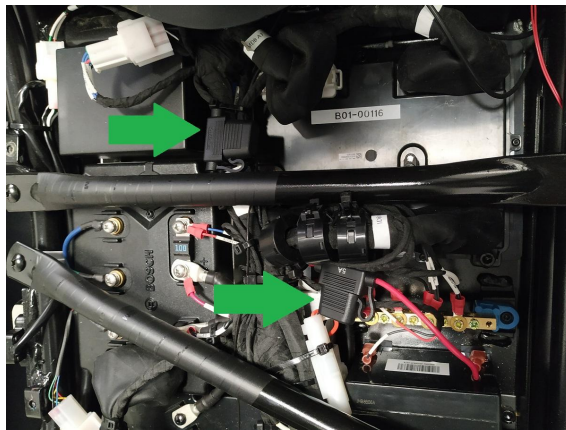
#### **Test if the unu scooter is not starting at all**

1. Measurement of the 12V battery
  - 1.1. If greater than 12V -> Perform Hard Reboot
  - 1.2. If less than 12V -> (2.2.1) Charge auxiliary battery with external charger or replacement -> Step 2
    - 1.2.1. **When removing/disconnecting the 12V battery, be sure to disconnect the DC/DC converter and the CB battery**
  - 1.3. If a 12V AUX battery is available:

- 1.3.1. Connect AUX battery (DC converter & CB battery remain disconnected)
- 1.3.2. If no green LED lights up on the display after connection or the scooter does not want to be started with the key card after waiting 5 minutes -> Go to chapter 6.2
- 1.3.3. If a green LED appears, the scooter can be started after it goes out.
- 1.3.4. Once the scooter is powered on, reconnect the CB battery.
- 1.3.5. Remove the main battery if there is one in the scooter.
- 1.3.6. Connect the DC/DC converter and reinsert the main battery and check the charge process with the following points.

## 2. Continuing measurements to check if the AUX battery is charged

- 2.1. (2.2.6.1) Check the fuses of the auxiliary battery (AUXB) -> replace the fuses

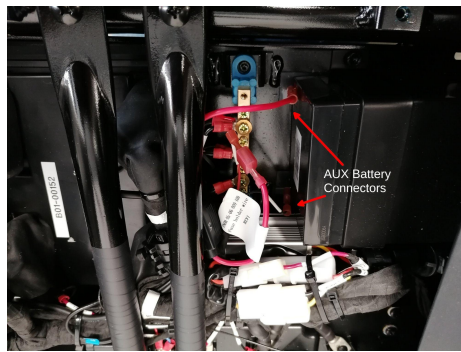


- 2.2. (2.2.6.2) Voltage measurement for the voltage between the DC converter and the 12 V system -> No voltage of 12V -13.5 V is measured at the output of the DC converter: Replace the DC converter **SP-S-05-02-001**



- 2.3. (2.2.6.3) Measurement of the charging current and voltage for charging the AUXB: Disconnect the + pole (red) of the AUX battery and measure the voltage against ground -> If no charging current or voltage are measured

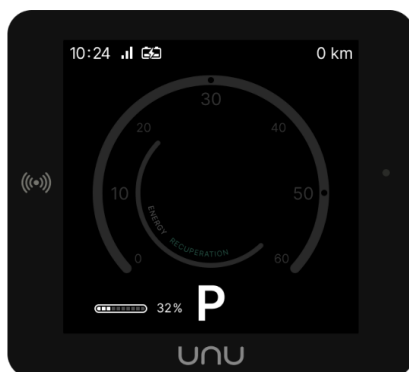
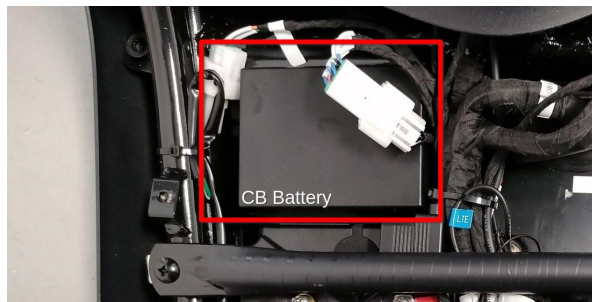
(0.5A - 1.8A; 12-14V): Replace MDBSP-S-ASM-PCBA-MDB1-01



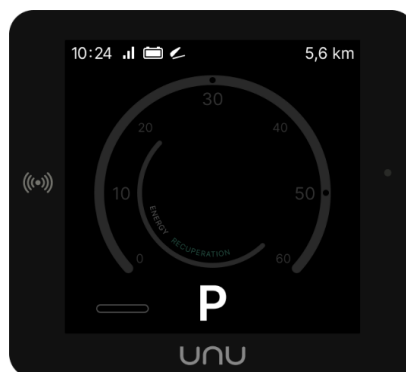
### 6.1.2 CB-Battery

**Info:** The following steps are intended to troubleshoot when the scooter stops charging the CB battery.

It can be seen that the CB battery indicator no longer shows a charging symbol.



*Flash within battery: charging*



*No Flash: no charging*

Initial conditions:

1. Insert main battery.
2. Activate the main battery by closing the seat.
3. Activation on the display verification by a white border around the main battery charge indicator on the display(bottom left)

Test:

1. 2.2.7 Checking the charge of the connectivity box battery (CBB)
2. The CB battery should be charged at 90% level.
  - 2.1. **If the charge level is below 25%, the scooter must remain switched on until the charge is over 30%. After that, it can be switched off and continues to charge when switched off. If the scooter is switched off below 25%, it switches to sleep mode and no longer charges the batteries.**
3. If the state of charge is less than 90% and it will not charge: Replace **SP-S-05-02-007**
4. After installation, check the load again: If there is still no load: Replace MDB **SP-S-ASM-PCBA-MDB1-01**