

KXH Battery Test Procedure

Before you start these are the items you will need

- Electrical Function Checklist
- A self made short-Circuit wire (thin wire is about AWG 22)
- Multimeter
- Pin Diagram

BEFORE YOU PROCEED

*If you uncomfortable performing **any** of the following tests consult you UBCO dealer.*

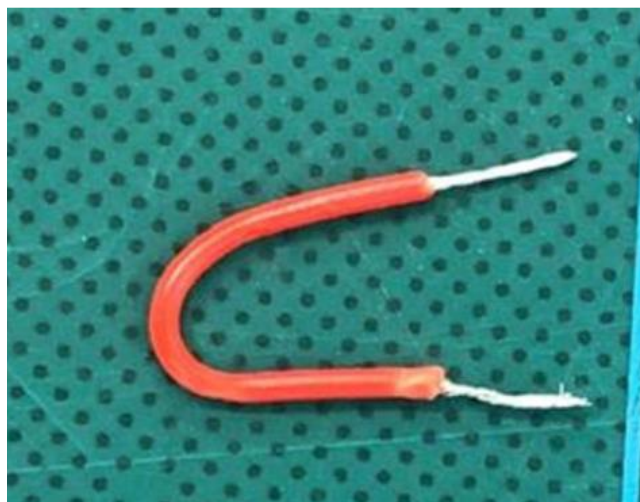
Read and understand all steps of this procedure before testing the voltage of your KXH power supply.

Testing procedure

STEP 1:

A self-made temporary short circuit wire is needed to simulate the status signal after the male end is connected to the protection board. It is best to tin the edges with solder if using stranded wire or use a solid gage.

Requires shorting wire loop as below.



Cut a piece of AWG 22 wire to approximately 40mm or about 1.5"

Strip the wire casing off of each end to expose the inner copper, approximately 7mm or about .25"

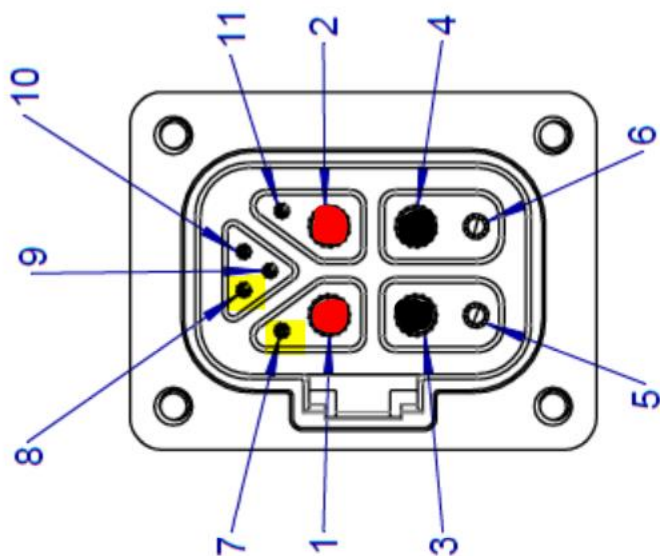
If using stranded wire, twist the ends to ensure they don't unravel. If you have access to a soldering iron we recommend tinning the ends of the wire to keep the strands together, or you could also use a solid wire.

Leave a bit of insulation to grab onto in the middle and bend the wire in half as shown.

STEP 2:

Short-circuit the pins 7 and 8 on the charging socket. After connection, a voltage of 50 Volts will energize the BMS switch, making the BMS enter the discharge state. This step enables output power and energizes the pins we will test to determine the voltage of the battery pack.

KXH PIN DIAGRAM- BATTERY DISCHARGE SOCKET



Insert the temporary wire to bridge pins 7 & 8 like shown below.



STEP 3:

Use the negative pole (black) of the multimeter to connect to No. 3 pin of the battery discharge socket, and the positive pole (red) to connect to No. 1 pin of the battery discharge socket. At this time, the multimeter should have a degree of 50V. If there is no voltage, please confirm the steps 1 and 2. If the measurement on your multimeter is negative (-50V), it means that the positive and negative probes of your multimeter are backwards. Reverse them and measure again. Record your measurements.

MULTIMETER PROBES IN PINS 1 & 3



Normal KXH operation, **39.2V-59V**.

Fault when voltage is **below 32V** or **above 59.65V**

The maximum battery voltage when fully charged is 59V (58.8+/-0.2V). Anything above 59.65V indicates a fault.

BMS stop battery discharge once the voltage is ~39.2V. Anything below 32V indicates a fault.

STEP 4:

Use the negative pole (black) of the multimeter to connect to No. 4 pin of the battery discharge socket, and the positive pole (red) to the No. 2 pin of the battery discharge socket. At this time, the multimeter should have a degree of 50V. If the measurement on your multimeter is negative (-50V), it means that the positive and negative probes of your multimeter are backwards. Reverse them and measure again. Record your measurements.



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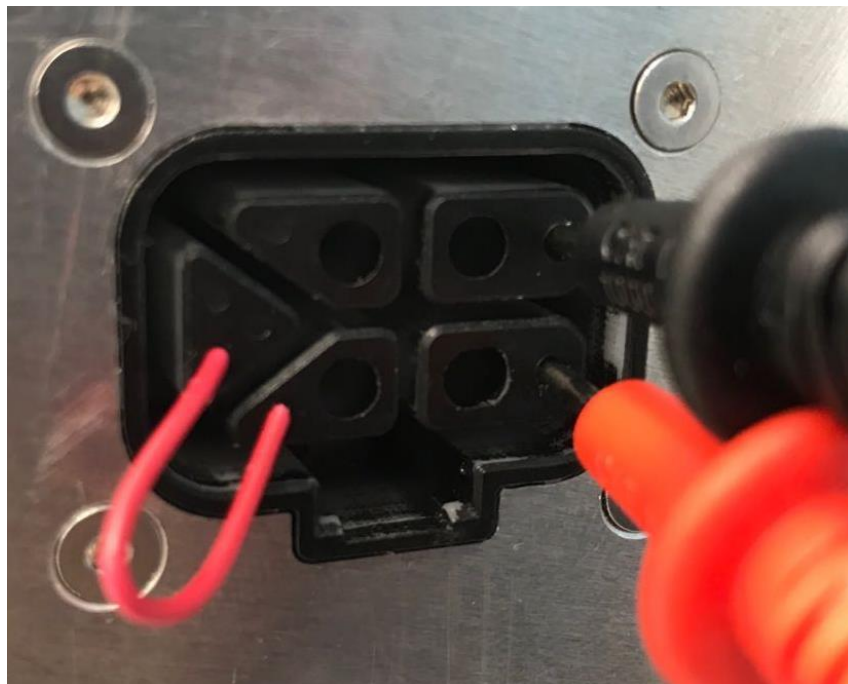
The maximum battery voltage when fully charged is 59V (58.8+/-0.2V). Anything above 59.65V indicates a fault.

BMS stop battery discharge once the voltage is ~39.2V. Anything below 32V indicates a fault.

STEP 5:

Use the negative (black) of the multimeter to connect to the No. 6 pin of the battery discharge socket, and the positive (red) to connect to the No. 5 pin of the battery discharge socket.

At this time, the multimeter should have a degree of 12V. If the degree is negative (-12V) it means that the positive and negative probes of your multimeter are backwards. Reverse them and measure again. Record your measurements.



If your results indicate that there is a voltage present outside of the 12V range it could indicate that your BMS has an issue. Consult UBCO Bikes or your Authorized Dealer for support.

STEP 6:

Connect a multimeter negative (black) to No. 9 pin and connect positive (red) to No. 10 pin of the battery socket. Multimeter should measure between 1.0V-1.5V. If voltage reading shows a negative sign (-1.5V) then your multimeter probes are reversed.



STEP 7:

Connect a multimeter negative (black) to No. 9 pin and connect positive (red) to No. 11 pin of battery socket. Multimeter should measure between 2.0V-2.5V. If voltage reading shows a negative sign (-2.5V) then your multimeter probes are reversed.

