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BESST Tool Section

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BESST Tool

BESST BOX

First version
Support UART system

Third version
Support UART and CAN system
CAN system has high priority

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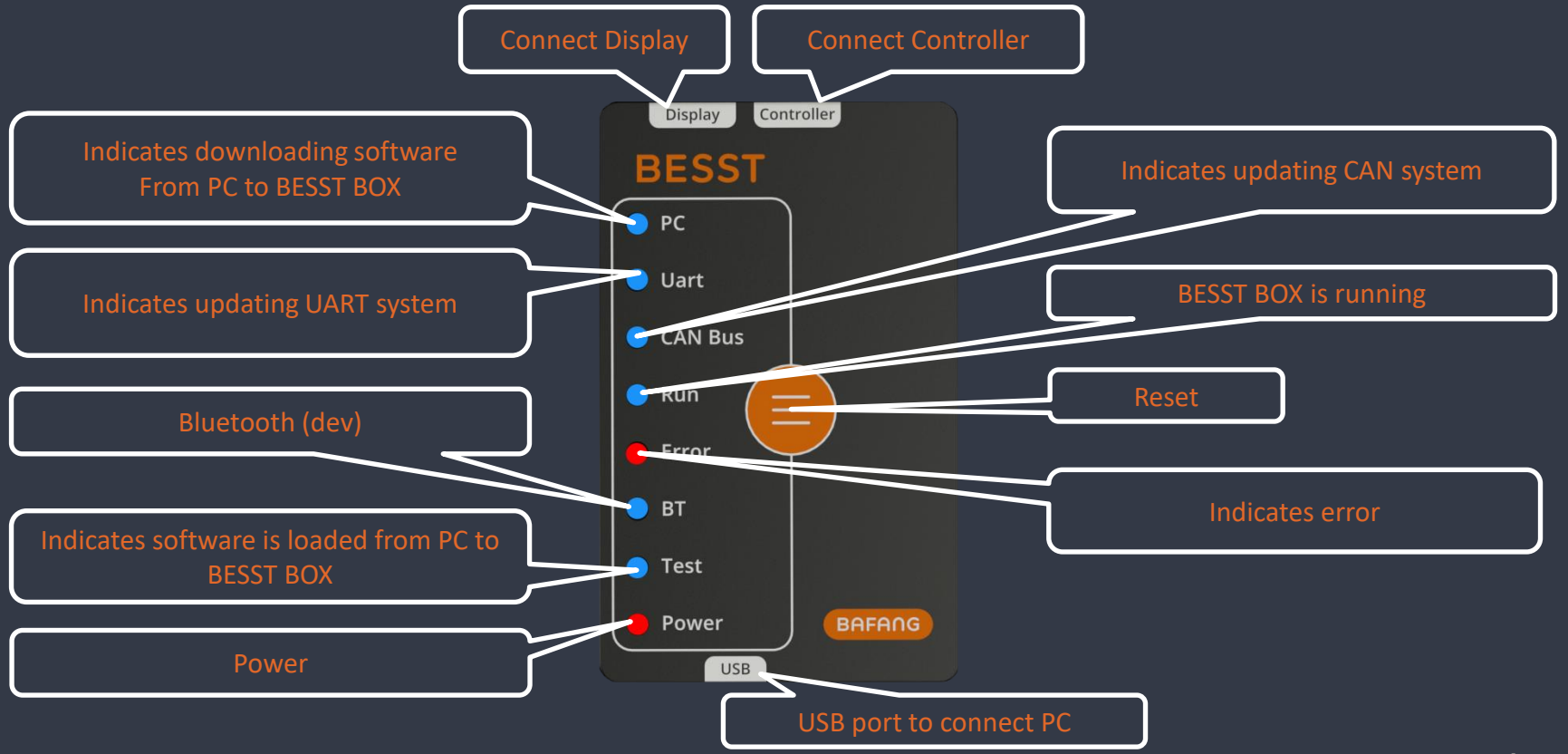
Explain the light and button of BESST BOX



Tool Section to use BESST box to build the connection between components and PC.

	First version	Second version	Third version
Connect Method	Through COM port of computer	Through COM port of computer	Through USB port of computer
Connection	Connect manually	Connect manually	Connect automatically
Reset function	Clear status at every time	Clear status at every time	Clear status when read data. Disable when update.
Disconnection	Disconnect from PC	Disconnect from PC	Disconnect when plug HMI to read. Reset when read.
Update	Special Software	Through BESST	Through BESST
UART Light	Always turn on	Always turn on	Turn on when update UART system
Speaker	No	Yes	Yes

HMI Information and configuration

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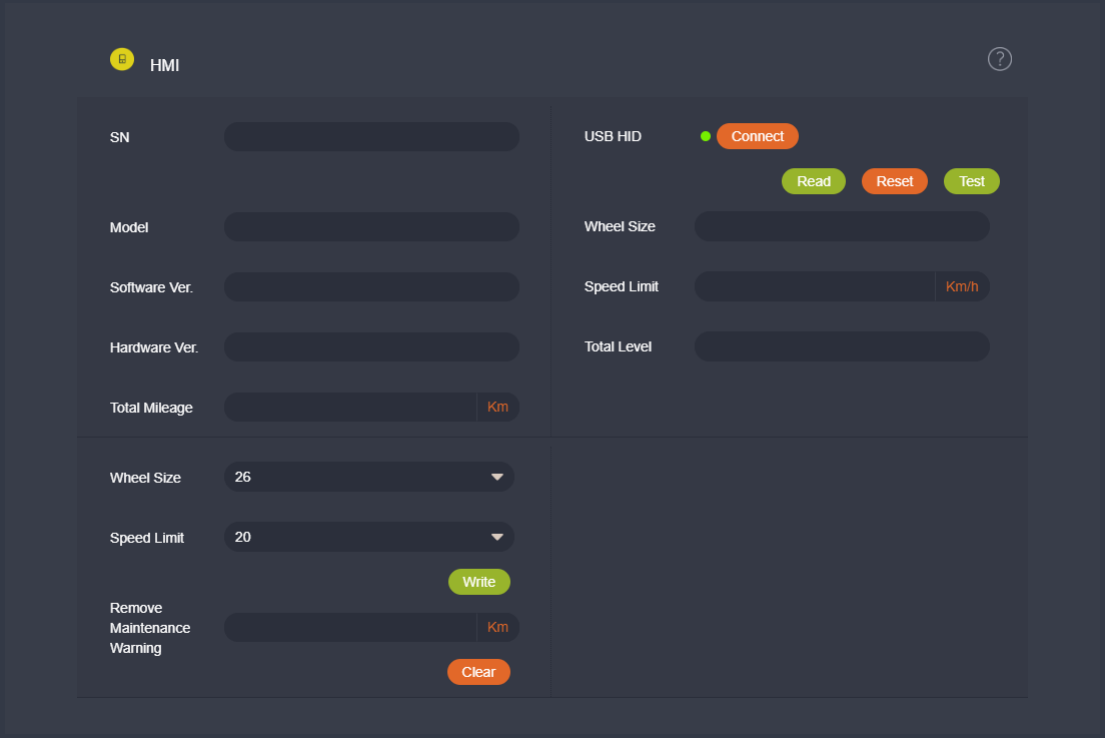
1. Update HMI configuration

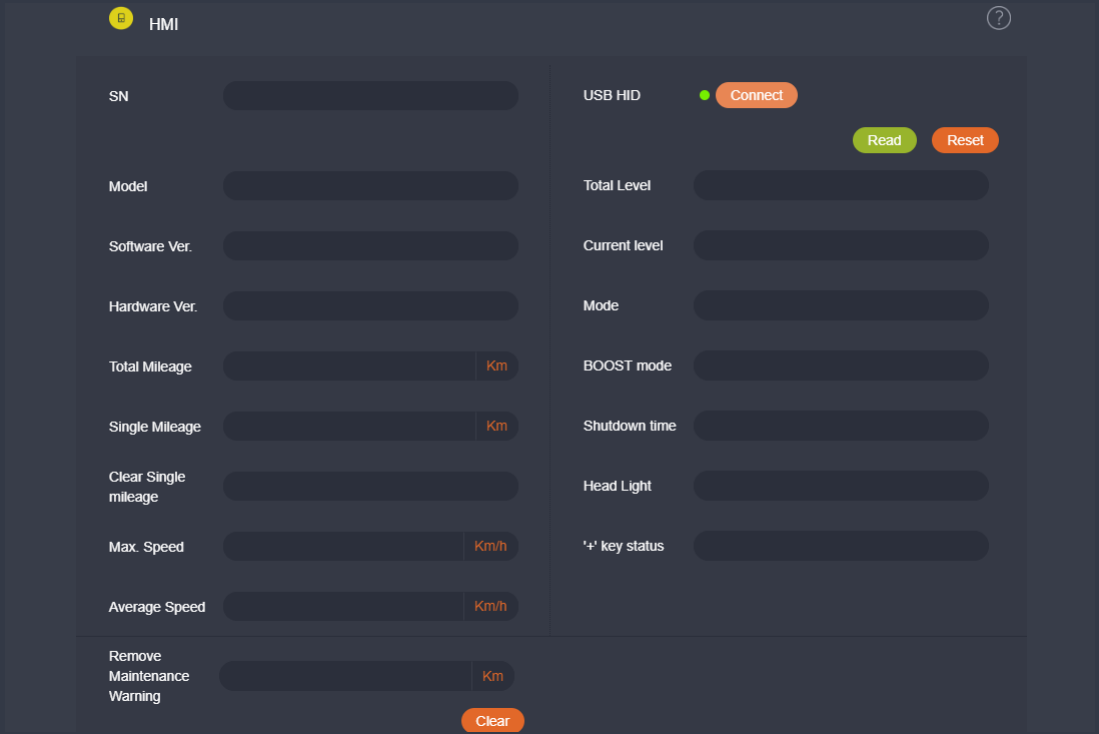
1.1 You need connect BESST box to computer and plug the HMI. Connect and read data.

Use USB Connection - UART



Please read first then write Wheel Size and Speed Limit.
If the read value of speed Limit is 25km/h, then the maximum speed limit is 25km/h.
If the read value of speed limit is above 25km/h, the maximum is what read from HMI.

Use USB Connection - CAN



More Information to show. You could do some test like “Head Light”

Remove Maintenance Warning is available when the value is above 5000km. There is an wrench icon on display screen.

Controller Information and configuration

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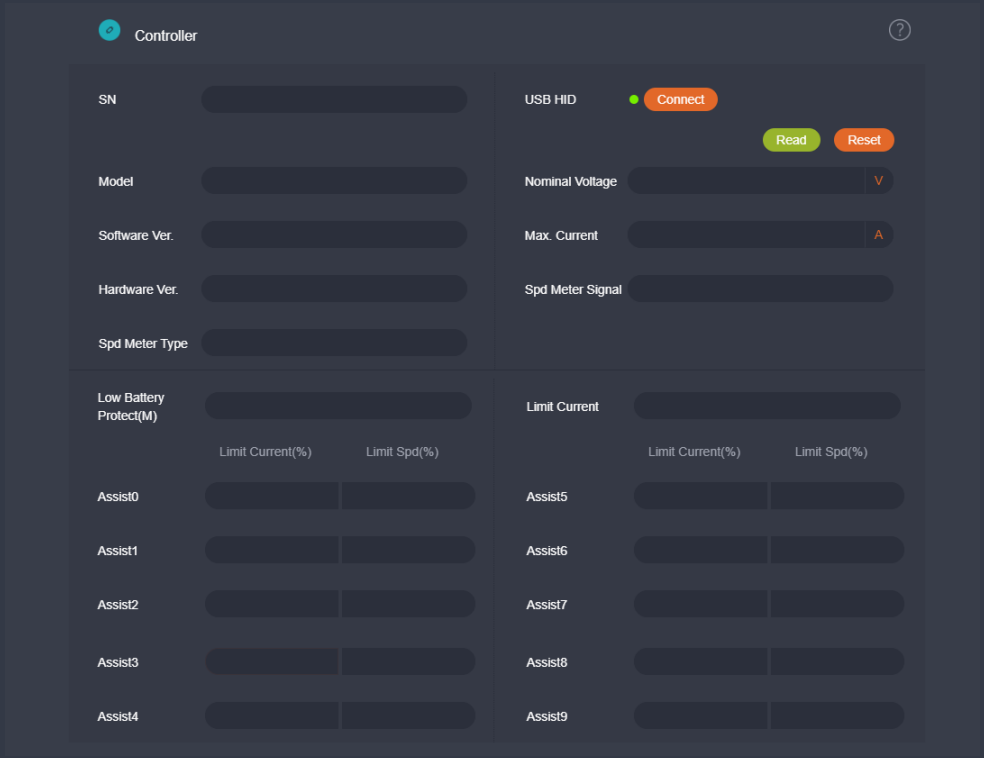
2. Update Controller configuration

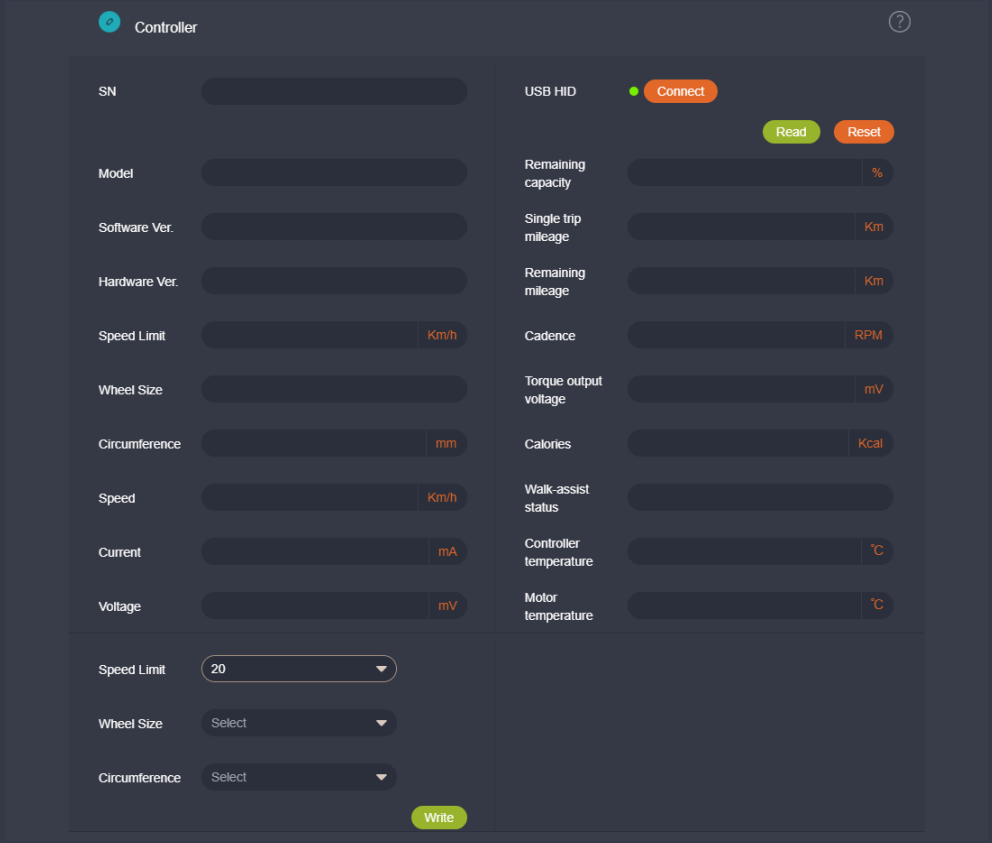
2.1 You need connect BESST box to computer and plug the Controller. Click connect and read data.

Use USB Connection - UART



More detail of assist level.

Use USB Connection - CAN



Please read first then write Wheel Size， Circumference and Speed Limit.
If the read speed Limit is 25km/h, then the maximum speed limit is 25km/h.
If the read speed limit is above 25km/h, the maximum is what read from HMI.

The support wheel size and circumference value range

Wheel Size	Max Circumference (mm)	Min Circumference(mm)
7 - 10	590	520
12-14	1300	910
16-18	1600	1208
20-23	1880	1290
24	2200	1290
25	2200	1880
26-29	2510	1880
32	2652	2200
27.5	2510	1880
400	1600	1208
450	1600	1208
600	2200	1600
650	2200	1600
700	2510	1880

Battery Information

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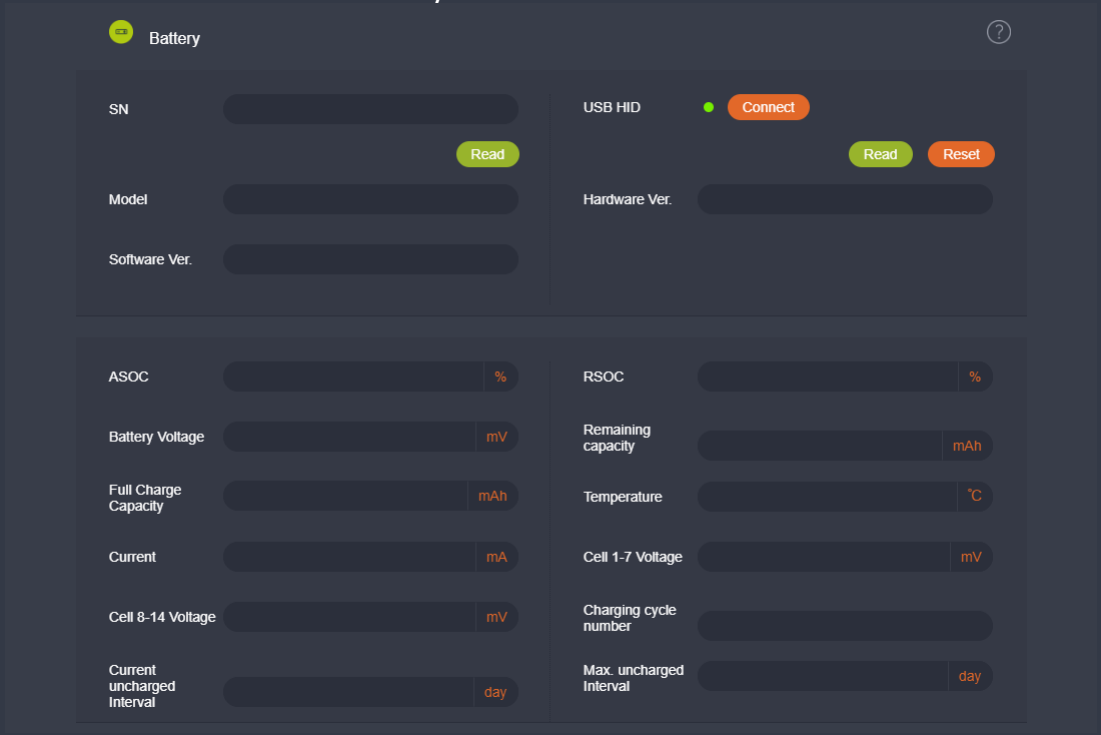
3. Update Battery configuration

3.1 You need connect BESST box to computer and plug the Battery. Connect and read data.

Use USB Connection – UART/ CAN



More real time information

Sensor Information

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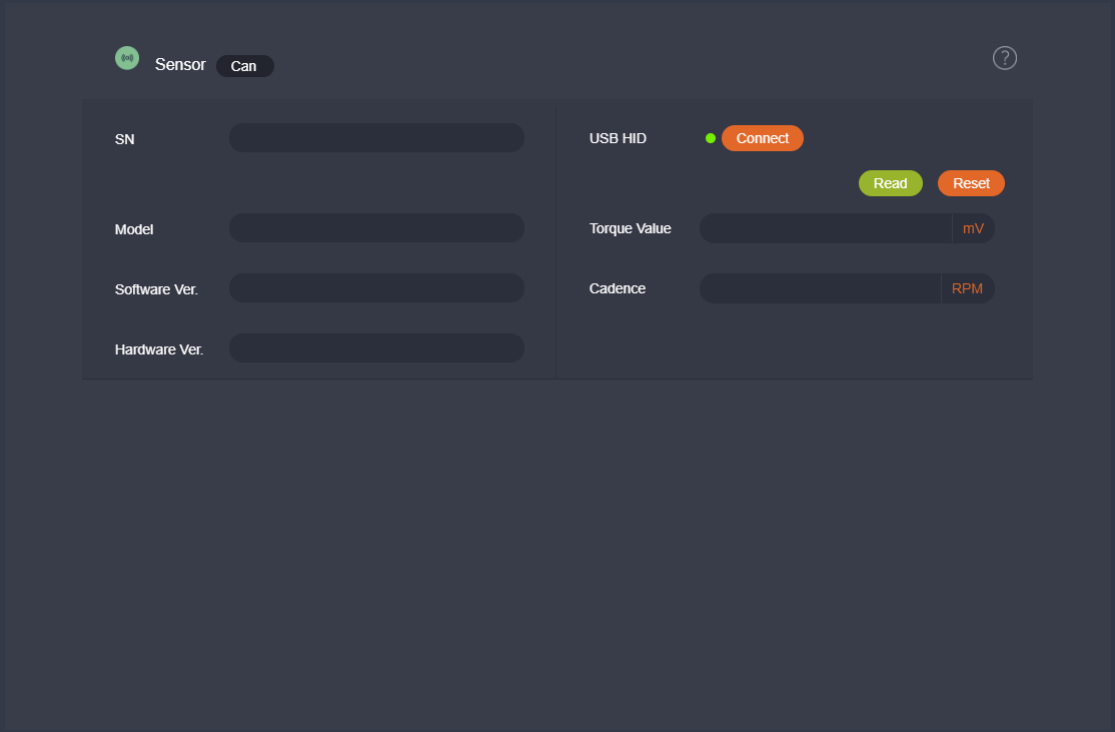
4. Sensor configuration

4.1 You need connect BESST box to computer and plug the Sensor. Connect and read data.

Use USB Connection –CAN



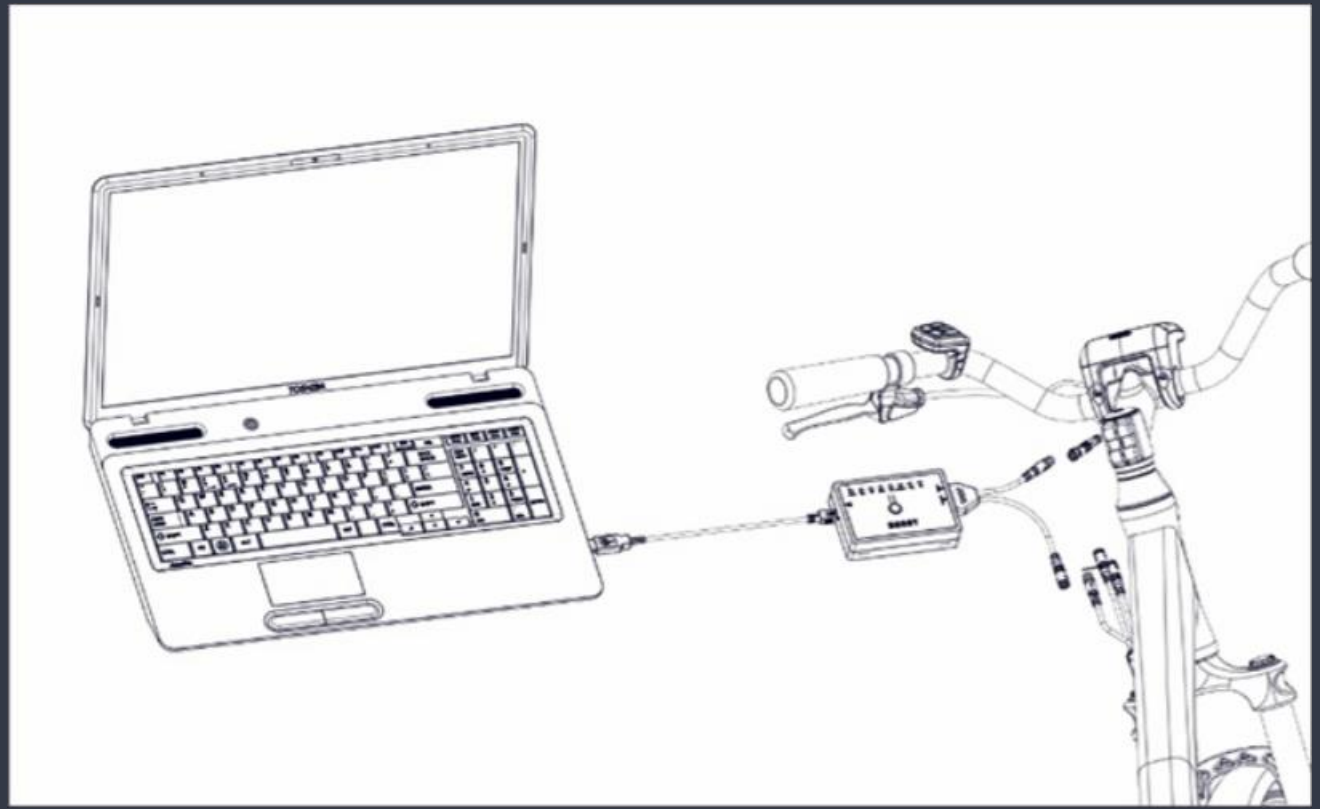
BESST Update Instruction

Two Steps:

1. Download software form BESST on PC to BESST Box
2. BESST BOX updates software to components or BESST Box itself

5. Update HMI Software

5.1 You need connect the BESST Box to the computer. And plug the HMI now.



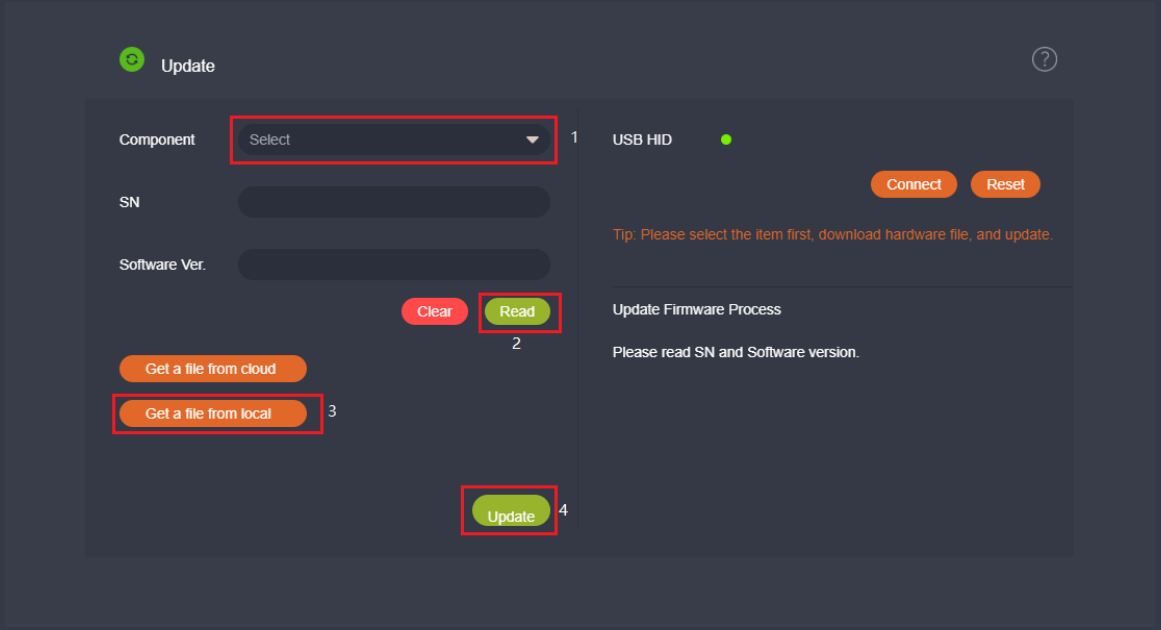
5.2 Go to “Update” section on BESST.

Step 1, Select Component as HMI

Step 2, Turn on display,, then click read to get SN, turn off the display;

Step 3, Select the new software file ended with “bin” from local if no version from cloud;

Step 4, Click “Update” button to proceed. Then you will see a progress bar. If success, there is a note about that.



The Update Firmware Process:

1.Please read SN and Software version;

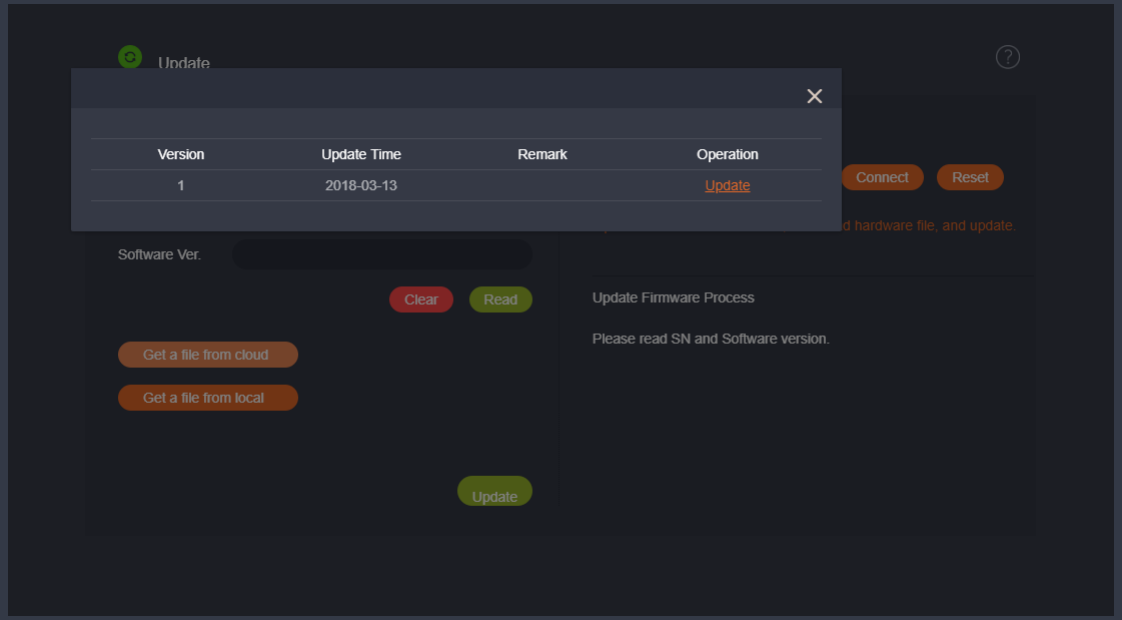
2.Please select bin file from local or get file online;

3.Wait for plugging component;

4.BESST box update HMI;

Update is finished.

During Step 2, if there is a history list, click “Update” button to download the software you need. Then you will see progress bar. If success, there is a note about that.



During the process, you will see BESST box “PC” LED blinking. After writing successfully, you will see PC LED turns off. Please wait to do next step until PC LED turns off.

For Third Version, Uart LED would not be on always.

5.3, Turn on the HMI, you will see Uart LED blinks. It means that BESST box are writing software to HMI. After Uart LED stops blinking , HMI has been updated with new
Software. And Test LED on BESST box will turn on.
The writing state would continue untill you click “reset ” button or reset on BOX.

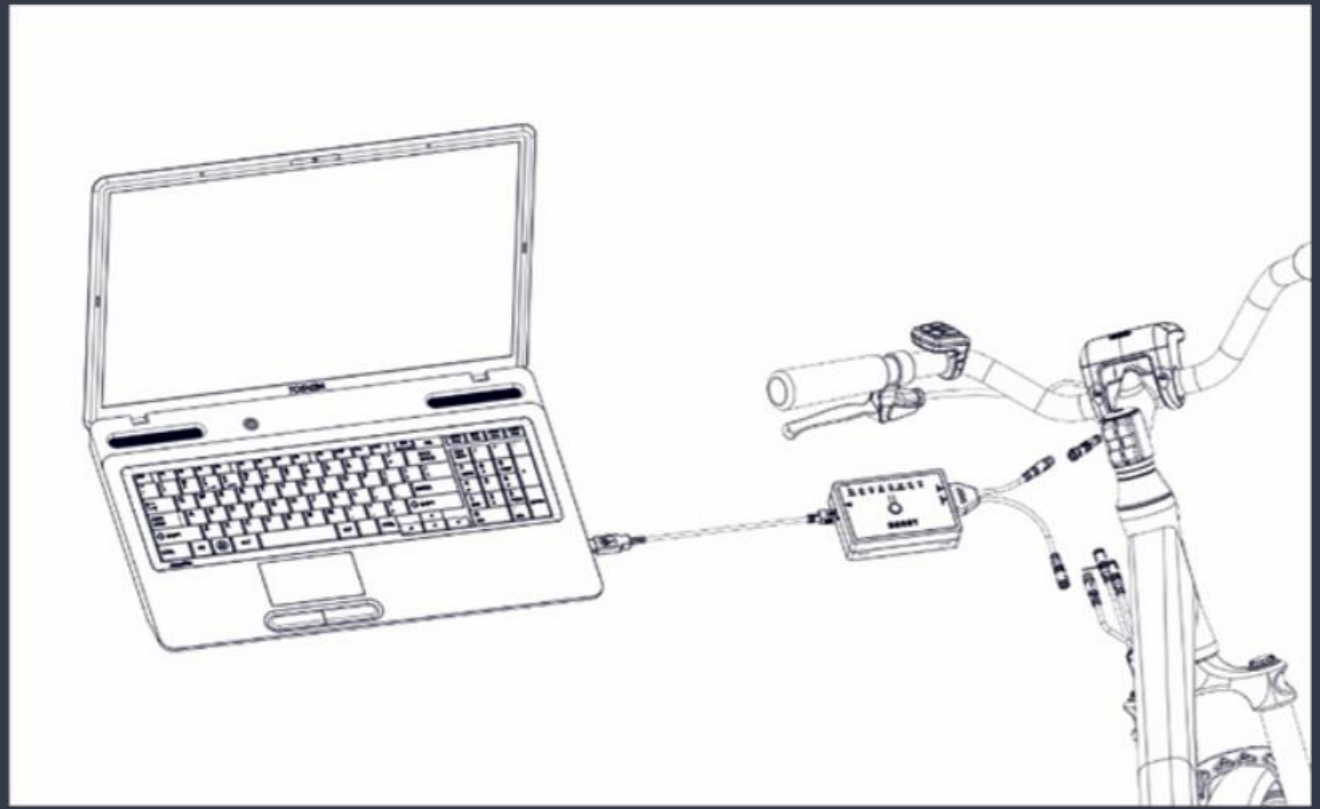
For third version BESST box, the reset button on BOX is disabled while you update software.

During this process, LCD HMI and LED HMI have different display behavior.
For LCD HMI, the screen will be on until update success.

For LED HMI, the first level LED turns on and the second level LED blinks. If update success, these two LEDs would turn off.

6，Update Controller – Battery - Sensor Software

6.1 You need connect the BESST Box to the computer. And plug the controller now.



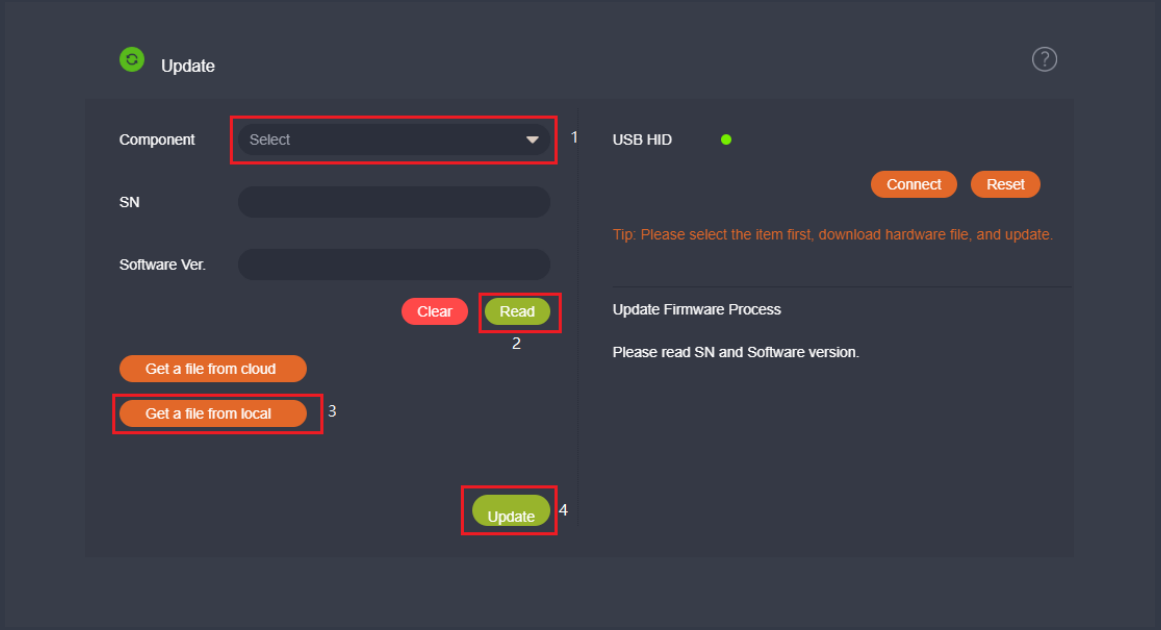
6.2 Go to “Update” section on BESST.

Step 1, Select Component as Controller;

Step 2, Read SN, unplug the controller;

Step 3, Select the new software file ended with “bin” from local if no version from cloud;

Step 4, Click “Update” button to proceed. Then you will see progress bar. If success, there is a note about that.



The Update Firmware Process:

1.Please read SN and Software version;

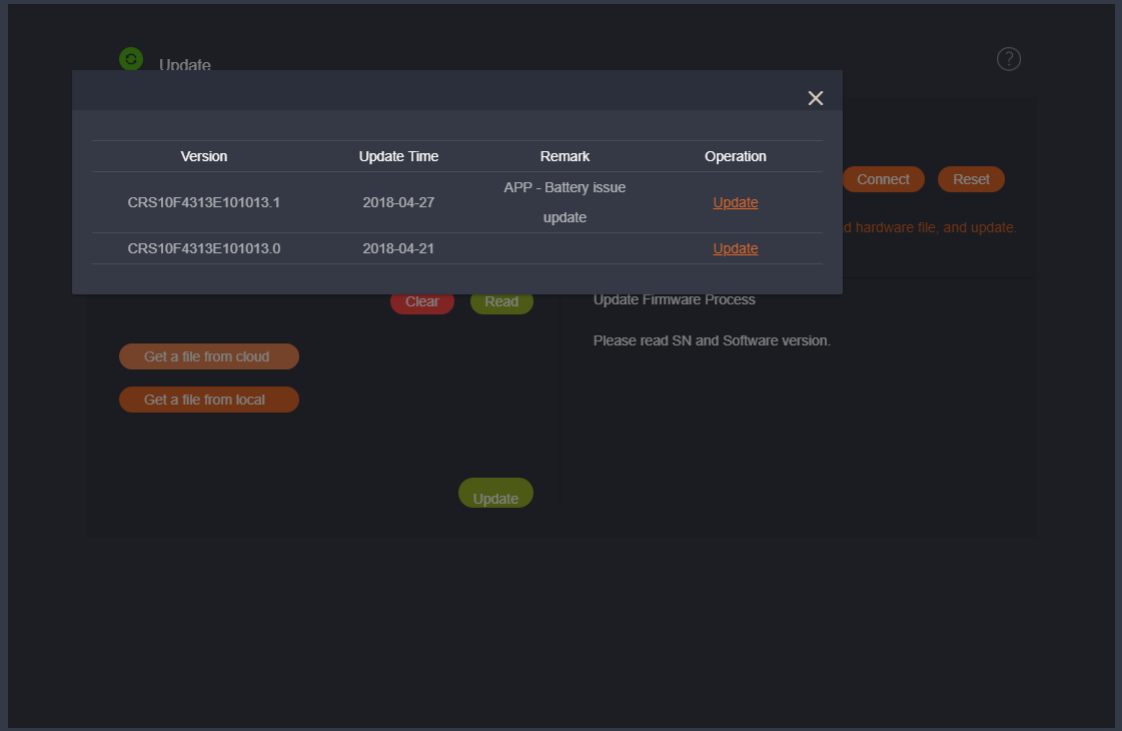
2.Please select bin file from local or get file online;

3.Wait for plugging component;

4.BESST box update Controller;

Update is finished.

During Step 2, if there is a history list, click “Update” button to download the software you need. Then you will see progress bar. If success, there will be a note about that.



During the process, you will see BESST box “PC” light blinking. After write successfully, you will see PC LED off.

For Third Version, Uart led would not be on always.

6.3 Now you need plug the Controller to BESST box. Then you see Uart LED blinks. It means that BESST box are writing software to Controller. After Uart LED stops blinking , Controller has been updated with new Software. And Test LED on BESST box turns on.
The writing state would continue untill you click “reset ” button or reset on BOX.

For third version BESST box, the reset button on BOX is disabled while you update software.

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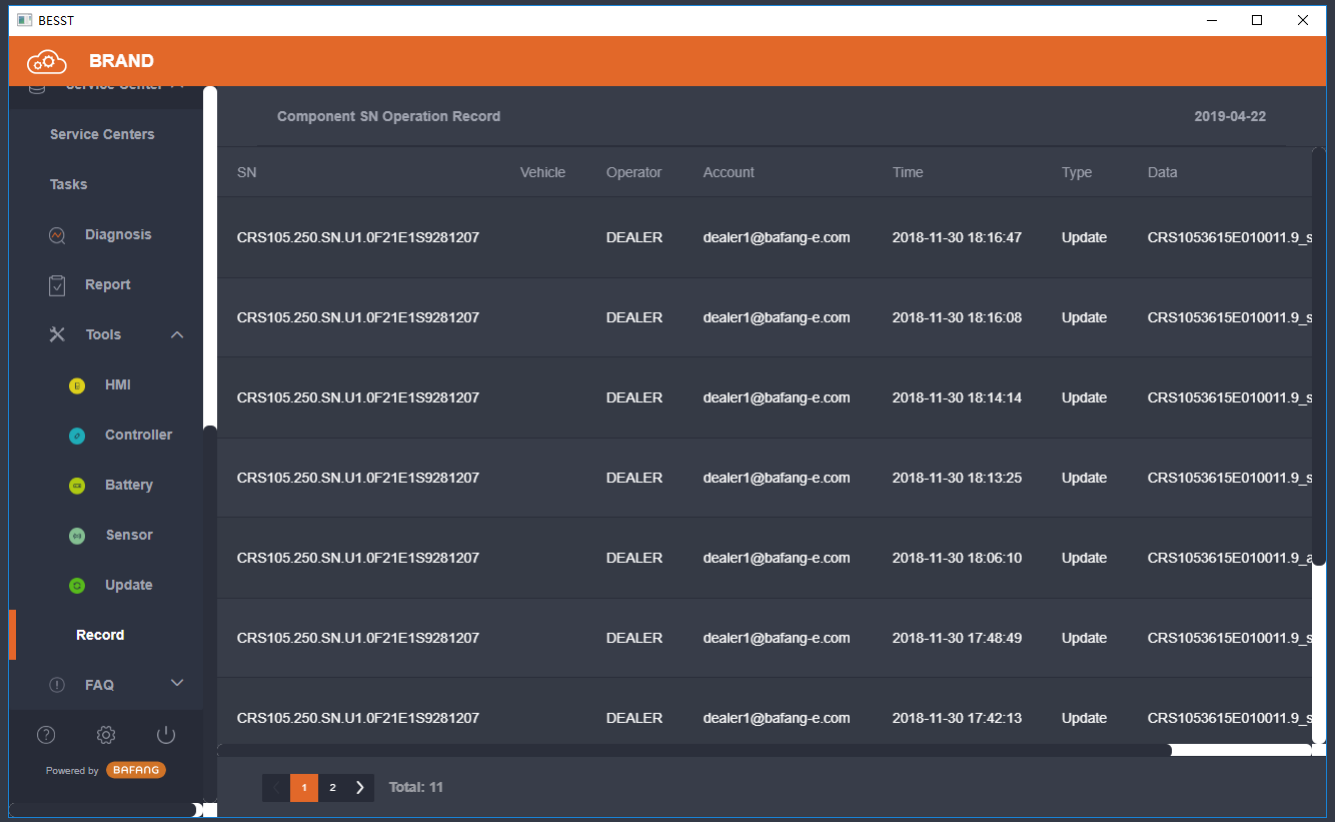
7.1Record



All the component operation is recorded in BESST.

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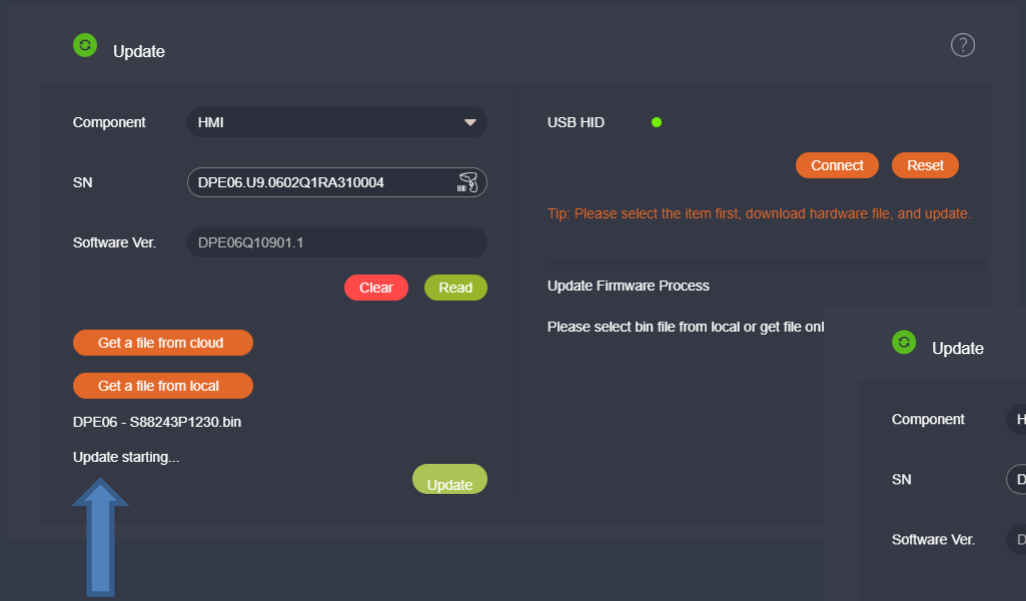
8. New Version Updates.



Tip

Progress bar indicates the process of Box update components

8.1 CAN Controller notes

After updating the software of controller, please detach the battery to power off the controller and repower again.