

BESST Tool Section

BESST Tool

BESST BOX

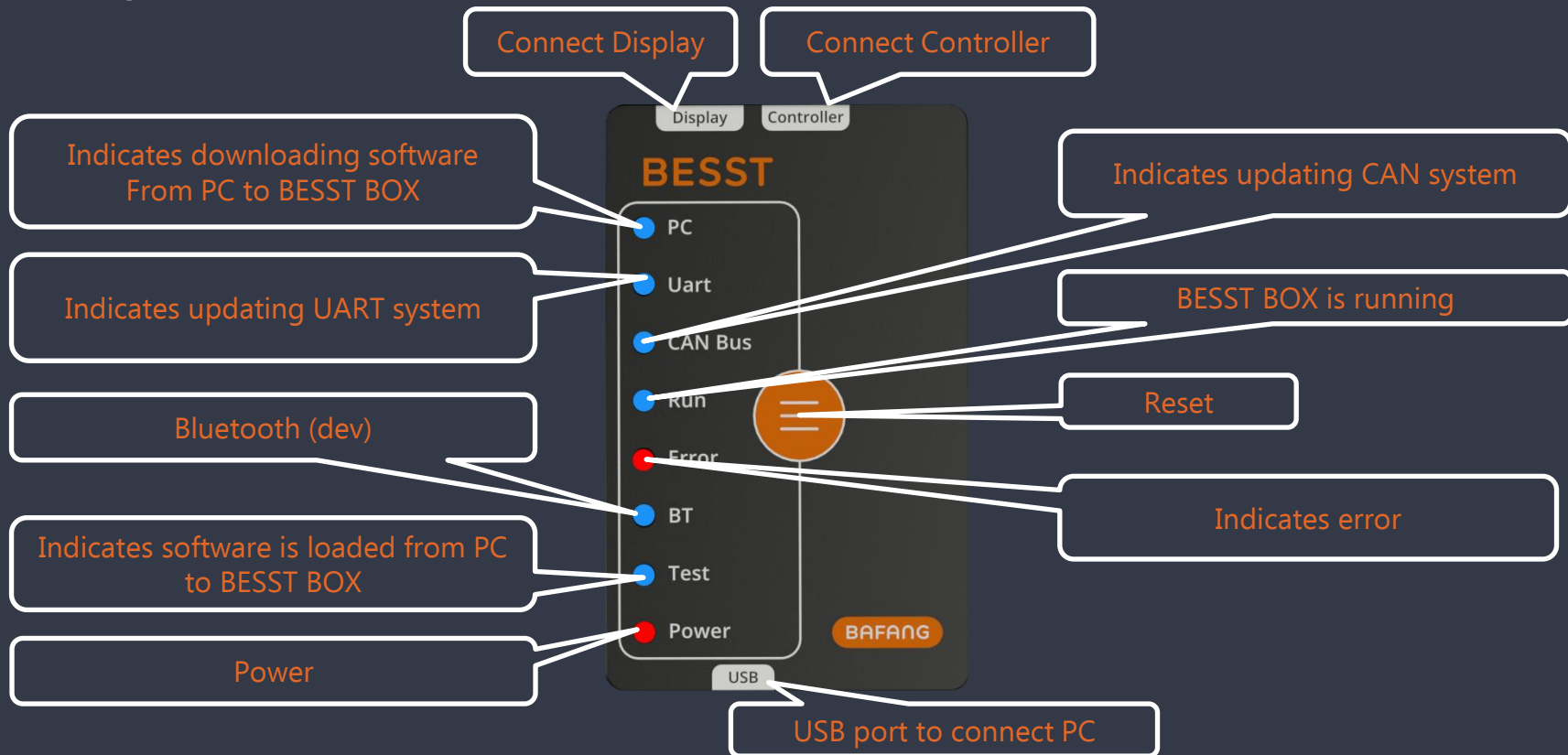


First version
Support UART system



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

Explain the light and button of BESST BOX



Tool Section need 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

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

The screenshot displays the BAFANG HMI configuration interface. At the top left, there is a yellow circle with a gear icon and the text 'HMI'. At the top right, there is a question mark icon. The interface is divided into two main sections. The left section contains fields for 'SN', 'Model', 'Software Ver.', 'Hardware Ver.', and 'Total Mileage' (with a 'Km' unit indicator). Below these are dropdown menus for 'Wheel Size' (set to 26) and 'Speed Limit' (set to 20), followed by a 'Write' button. The right section contains a 'USB HID' status with a green dot and a 'Connect' button, and buttons for 'Read', 'Reset', and 'Test'. Below this are fields for 'Wheel Size', 'Speed Limit' (with a 'Km/h' unit indicator), and 'Total Level'. At the bottom left, there is a 'Remove Maintenance Warning' field with a 'Km' unit indicator and a 'Clear' button.

Please read first and write Wheel Size 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.

Use USB Connection - CAN

HMI

SN

Model

Software Ver.

Hardware Ver.

Total Mileage

Km

Single Mileage

Km

Clear Single mileage

Max. Speed

Km/h

Average Speed

Km/h

Remove Maintenance Warning

Km

Clear

USB HID

Connect

Read

Reset

Total Level

Current level

Mode

BOOST mode

Shutdown time

Head Light

'+' key status

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

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

Controller Information and configuration

2. Update Controller configuration

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

Use USB Connection - UART

Controller

SN

Model

Software Ver.

Hardware Ver.

Spd Meter Type

USB HID

Connect

Read

Reset

Nominal Voltage

V

Max. Current

A

Spd Meter Signal

Low Battery Protect(M)

Limit Current(%)

Limit Spd(%)

Assist0

Assist1

Assist2

Assist3

Assist4

Limit Current

Limit Current(%)

Limit Spd(%)

Assist5

Assist6

Assist7

Assist8

Assist9

More detail of assist level.

Use USB Connection - CAN

Controller

?

SN	<input type="text"/>	USB HID	<div><div>Connect</div></div>
Model	<input type="text"/>		<div><div>Read</div><div>Reset</div></div>
Software Ver.	<input type="text"/>	Remaining capacity	<input type="text"/> %
Hardware Ver.	<input type="text"/>	Single trip mileage	<input type="text"/> Km
Speed Limit	<input type="text"/> Km/h	Remaining mileage	<input type="text"/> Km
Wheel Size	<input type="text"/>	Cadence	<input type="text"/> RPM
Circumference	<input type="text"/> mm	Torque output voltage	<input type="text"/> mV
Speed	<input type="text"/> Km/h	Calories	<input type="text"/> Kcal
Current	<input type="text"/> mA	Walk-assist status	<input type="text"/>
Voltage	<input type="text"/> mV	Controller temperature	<input type="text"/> °C
		Motor temperature	<input type="text"/> °C
Speed Limit	<input type="text"/> 20		
Wheel Size	<input type="text"/> Select		
Circumference	<input type="text"/> Select		
			<div>Write</div>

Please read first and 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	590	587
8	685	591
10	886	811
12	1026	935
14	1199	1048
16	1330	1208
17	1379	1208
18	1570	1380
20	1649	1451
22	1824	1692
24	1980	1791
26	2508	1913
27	2200	2145
28	2270	2078
29	2348	2292
32	2652	2452
27.5	2240	2053
400	1301	1208
450	1570	1400
600	1946	1789
650	2103	2009
700	2250	2100

Battery Information

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

Battery

SN

Read

Model

Software Ver.

USB HID

Connect

Hardware Ver.

Read

Reset

ASOC

%

Battery Voltage

mV

Full Charge Capacity

mAh

Current

mA

Cell 8-14 Voltage

mV

Current uncharged Interval

day

RSOC

%

Remaining capacity

mAh

Temperature

°C

Cell 1-7 Voltage

mV

Charging cycle number

Max. uncharged Interval

day

More real time information

Sensor Information

4. Sensor configuration

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

Use USB Connection –CAN

The screenshot displays a software interface for configuring a sensor. At the top, there are two tabs: 'Sensor' (active, indicated by a green dot) and 'Can'. A help icon (?) is located in the top right corner. The interface is divided into two main sections. The left section contains four input fields for 'SN', 'Model', 'Software Ver.', and 'Hardware Ver.'. The right section is titled 'USB HID' and features a green status dot, a 'Connect' button, and 'Read' and 'Reset' buttons. Below these are two data display rows: 'Torque Value' with a unit selector set to 'mV', and 'Cadence' with a unit selector set to 'RPM'.

Sensor		Can			
SN		USB HID	● Connect	Read	Reset
Model		Torque Value			mV
Software Ver.		Cadence			RPM
Hardware Ver.					

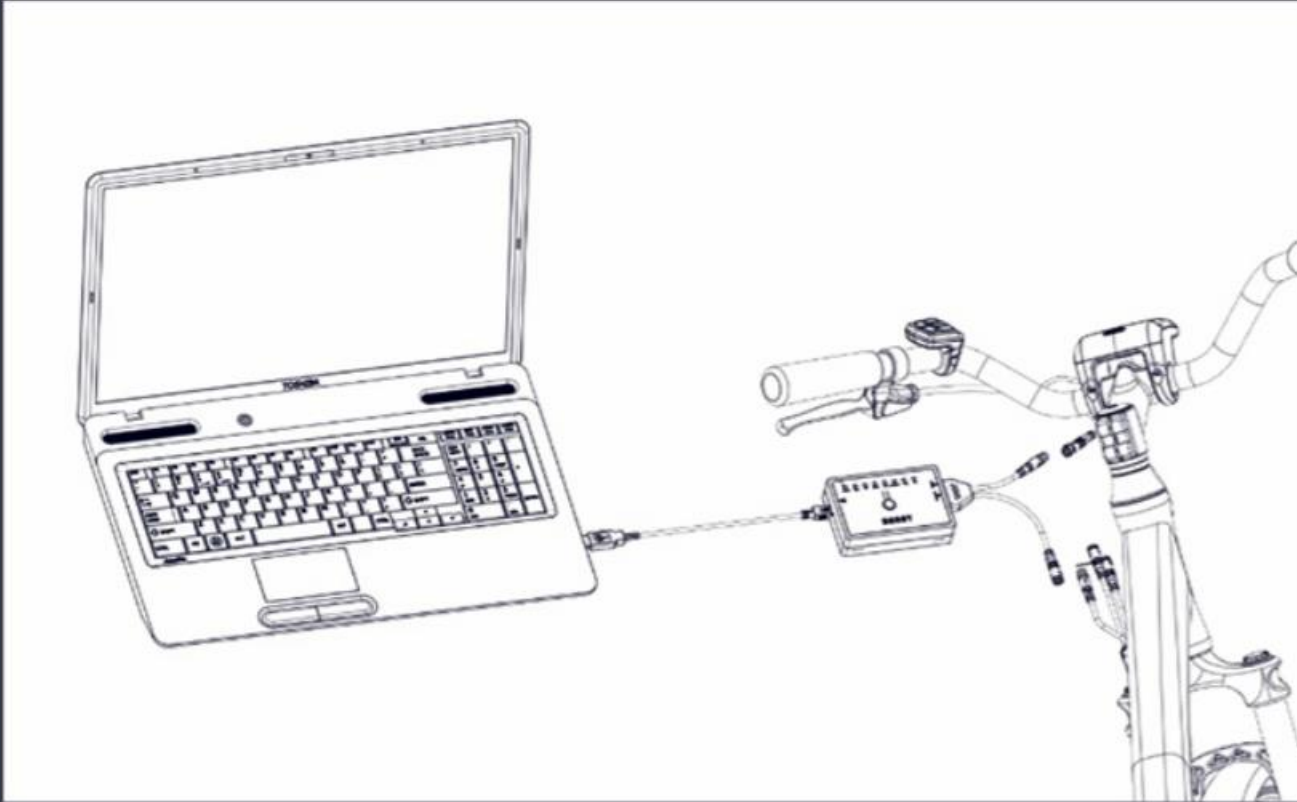
BESST Update Instruction

Two Steps:

1. Download software form BESST on PC to BESST Box
2. BESST BOX update software to component 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, Open display,, then read SN, turn off the display;

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

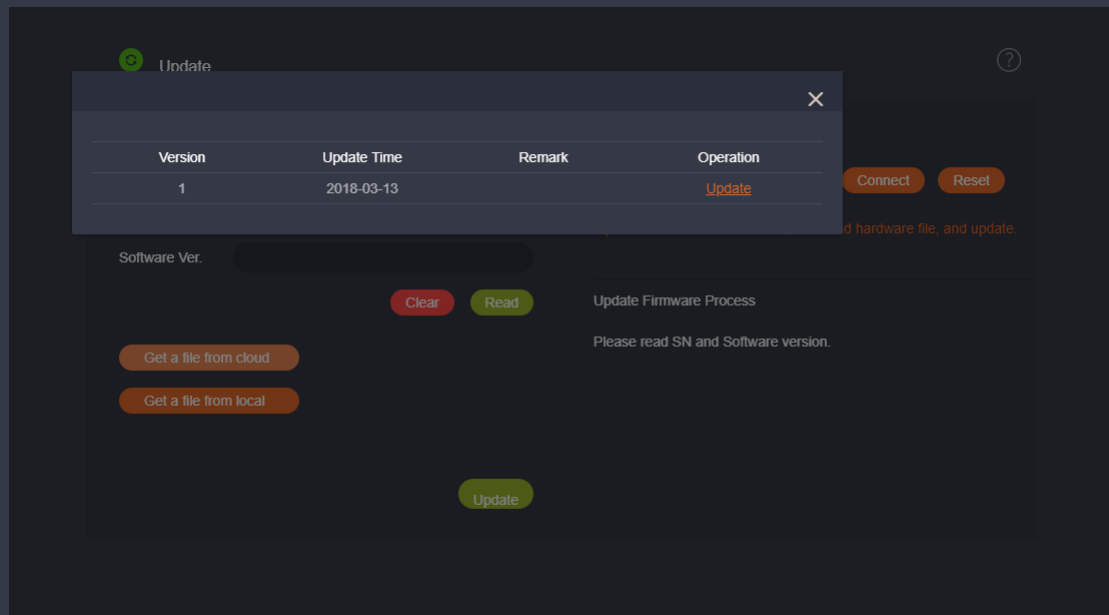
Step 4, Click "Update" button to proceed. Then you will see progress bar. If success, there is a note about that.

The screenshot shows the 'Update' section of the BESST interface. It features a left sidebar with input fields for 'Component' (a dropdown menu), 'SN', and 'Software Ver.', along with 'Clear' and 'Read' buttons. The main area on the right includes a 'USB HID' status indicator, 'Connect' and 'Reset' buttons, a tip to select an item first, and an 'Update Firmware Process' section with a progress bar and a 'Please read SN and Software version.' instruction. Red boxes and numbers 1 through 4 highlight the following steps: 1. The 'Component' dropdown menu; 2. The 'Read' button; 3. The 'Get a file from local' button; 4. The 'Update' button.

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 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 write 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 turn 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 updated with new Software. And Test LED on BESST box will turn on. The writing state would continue unless 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 turns on until update success.

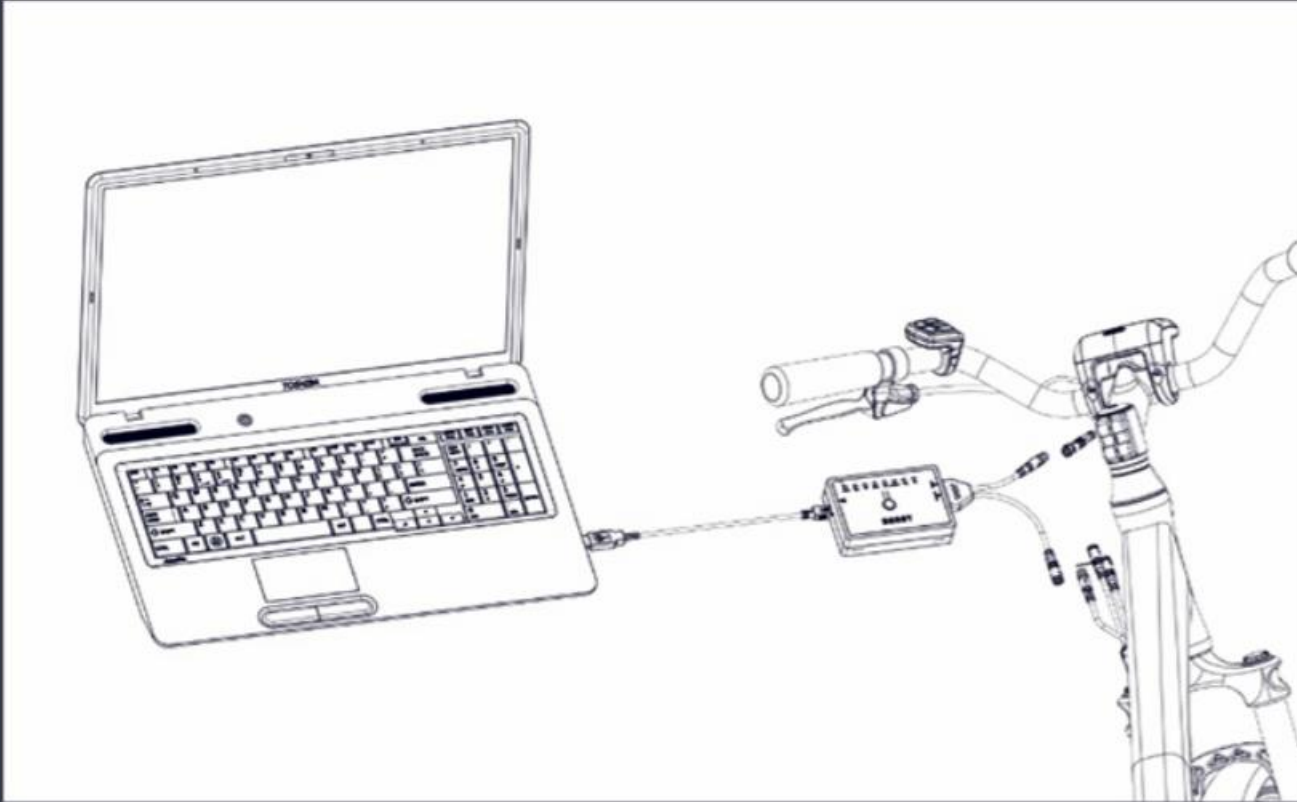


For LED HMI, the first level LED turns on and the second level LED blinks. If update success, these two LEDs would turn off.



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;

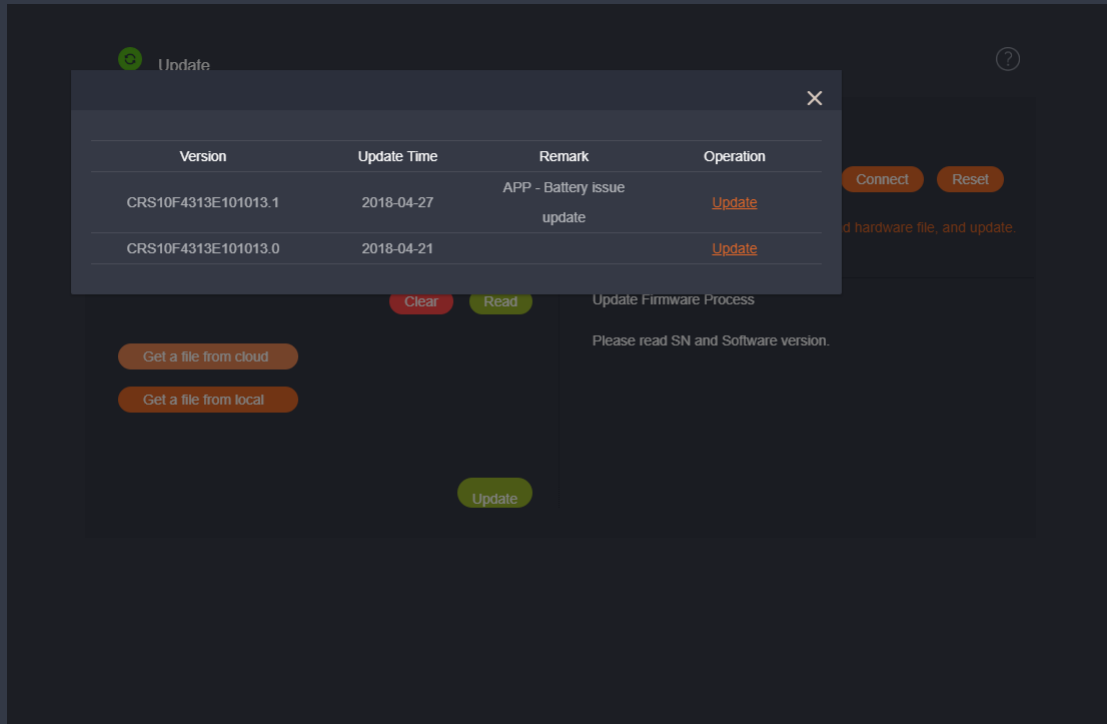
Step 4, Click "Update" button to proceed. Then you will see progress bar. If success, there is a note about that.

The screenshot shows the 'Update' section of the BESST interface. It features a form on the left and a status panel on the right. The form includes a 'Component' dropdown menu (labeled 1), 'SN' and 'Software Ver.' input fields, and buttons for 'Clear', 'Read' (labeled 2), 'Get a file from cloud', and 'Get a file from local' (labeled 3). At the bottom of the form is an 'Update' button (labeled 4). The right panel shows 'USB HID' status with a green indicator and 'Connect'/'Reset' buttons. It also contains a tip, the 'Update Firmware Process' section with instructions to read SN and Software version, and a progress bar.

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 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" light blinking. After write successfully, you will see PC LED off.



For Third Version, Uart led would not turn 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 updated with new Software. And Test LED on BESST box turns on.

The writing state would continue unless you click "reset " button or reset on BOX.



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

7.1 Record

BESST

BRAND

Service Centers

Tasks

Diagnosis

Report

Tools

HMI

Controller

Battery

Sensor

Update

Record

FAQ

Powered by BAFANG

Component SN Operation Record

2019-04-22

SN	Vehicle	Operator	Account	Time	Type	Data
CRS105.250.SN.U1.0F21E1S9281207		DEALER	dealer1@bafang-e.com	2018-11-30 18:16:47	Update	CRS1053615E010011.9_s
CRS105.250.SN.U1.0F21E1S9281207		DEALER	dealer1@bafang-e.com	2018-11-30 18:16:08	Update	CRS1053615E010011.9_s
CRS105.250.SN.U1.0F21E1S9281207		DEALER	dealer1@bafang-e.com	2018-11-30 18:14:14	Update	CRS1053615E010011.9_s
CRS105.250.SN.U1.0F21E1S9281207		DEALER	dealer1@bafang-e.com	2018-11-30 18:13:25	Update	CRS1053615E010011.9_s
CRS105.250.SN.U1.0F21E1S9281207		DEALER	dealer1@bafang-e.com	2018-11-30 18:06:10	Update	CRS1053615E010011.9_s
CRS105.250.SN.U1.0F21E1S9281207		DEALER	dealer1@bafang-e.com	2018-11-30 17:48:49	Update	CRS1053615E010011.9_s
CRS105.250.SN.U1.0F21E1S9281207		DEALER	dealer1@bafang-e.com	2018-11-30 17:42:13	Update	CRS1053615E010011.9_s

1 2 > Total: 11

All the component operation is recorded in BESST.

8. New Version Updates.

Update

Component HMI

SN DPE06.U9.0602Q1RA310004

Software Ver. DPE06Q10901.1

Clear

Read

Get a file from cloud

Get a file from local

DPE06 - S88243P1230.bin

Update starting...

Update

USB HID

Connect

Reset

Tip: Please select the item first, download hardware file, and update.

Update Firmware Process

Please select bin file from local or get file onl

Update

Component HMI

SN DPE06.U9.0602Q1RA310004

Software Ver. DPE06Q10901.1

Clear

Read

Get a file from cloud

Get a file from local

DPE06 - S88243P1230.bin

Update

USB HID

Connect

Reset

Tip: Please select the item first, download hardware file, and update.

Update Firmware Process

BESST box update HMI

 95%

Progress bar indicate the process of Box update components

Tip before update
Process bar.

8.1 CAN Controller notes

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