Obtaining and Organizing the Required Files

 Right-click on the desktop and in the drop down, hover your mouse pointer to "New" and then click on "Folder" and create a title for it. In this guide the folder will be named "eFlex CAN Upgrade Package" and it is suggested for you to use the same title. Once the title is typed in either double click somewhere on the desktop or click "Enter" on your keyboard.

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	eFlex CAN Upgrade Package					
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2. Go to website "fortresspower.com", hover your mouse pointer to the "SUPPORT" tab on the website and click on "Firmware".







5. Once the downloads are completed, navigate to the "Downloads" folder (or wherever you saved the files from the website). Close the browser, click on the start (looks like

a Windows icon) and type in "pc". Then, click on "This PC".

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6. Then, go to the "Downloads" folder (or wherever you saved the files from the website) where you'll see the downloaded folder.

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7. Select all the files, right-click on the selection and click on "Copy" to copy these files.



8. Navigate to the "eFlex CAN Upgrade Package" right-click somewhere in the folder and paste the copied files.

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9. Click somewhere in the folder to remove the blue highlight from the files. Then, right-click on one of the files and from the dropdown click on "Extract All...".

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10. Afterwards, click on "Extract".



11. Proceed the same process to extract the file" eFlexBMS_Software_V1.61".

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Now the drivers for the CAN tool (USBCAN) need to be installed

Installing the Drivers for the CANtool (USBCAN)

- 1. Connect the USB cable of the CANtool (USBCAN) to your computer and the CANtool itself.
- 2. Click on the "Start" icon (looks like a Windows logo) and type in "device manager". Above the search-bar, click on "Device Manager".



3. A window similar to the one shown below will open and one of the items of the list will be "USBCAN II" with an indent on the left. Right-click on this "USBCAN II" and

from the drop-down click on "Update driver".



4. Next, click on "Browse my computer for drivers".



5. Now, click on "Browse..."

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6. Then, navigate to the "eFlex CAN Upgrade Package" and from there navigate as follows: "eFlex CAN Upgrade Package" >>> "CAN-tool Drivers" >>> "CAN-tool Main

Driver" >>> "64". Once "64" is selected, click "OK".

Search for drivers in this location: C(Users/Avtandil Giorgadze)OneDrive - Fortress Power/Desktop/eVa Include subfolders - Let me pick from a list of available drivers on my computer This list will show available drivers compatible with the device, and all drivers int category as the device.	Eile Act	 Manager ion View Help Im Im I						- ×		^	
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7. Then, click "Next".

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8. You will see the success message as shown below. Click "Close" and close the "Device Manager" window.



9. It's time to install an additional document. To do so, first open "eFlex CAN Upgrade Package" folder. Then, open the "CAN-tool Drivers" folder and afterwards open the "CAN-tool Additional Driver" folder. Now you can see a file titled "cantestV2.41".

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10. Double-click "cantestV2.41".



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11. Then click "Install" and the installation process will start.

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📌 Quick access		Name		Date modified	Туре	Size		
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12. Almost at the end of the installation, there will be a prompt. Click on "? (Y)".







14. Go back to folder "eFlex CAN Upgrade Package".

The drivers only have to be installed once. Keep the CANtool connected to the computer

and now it's time to perform an actual firmware update.

Updating Firmware

Important!

There must be no current flow to or from any battery in the system during the firmware update process. It is a good idea to have the battery breakers on all Sol-Arks in the system in the 'OFF' position.

Firmware must be updated on one battery at a time. During the firmware update, the battery must be communicating neither with an inverter nor with any other battery. Unplug the battery to inverter communication cable, next, turn off the other batteries in the loop and keep turned on only the battery that is receiving the new firmware (later turning off this battery and turning on the next battery to receive the firmware, repeating this for all the batteries in the system). There must be now current flow to or from the batteries in the process.

Make sure that both cables that came with the CANtool (USBCAN) are connected to the CANtool. Then, make sure that the USB cable is connected to the computer and that the ethernet cable is connected to either of the two ethernet ports.

 Open "eFlex CAN Upgrade Package" folder, then open "eFlex-BMS-Software-V...." folder and double click on the subfolder with the same folder name, "eFlex-BMS-Software-V....". Afterwards, Find a file named "BMS". Open this file by double-clicking on it.

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\leftrightarrow \rightarrow \checkmark \uparrow	→ Desktop → eFlex CAN Upgrade Pack	age > eFlexBMS_Software_V1.61	> BMS_V1.61	~ C	Search BMS_V1.61	م
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🛓 Downloads 🖈	Record	4/20/2023 3:30 PM	File folder			
📑 Documents 🖈	📰 BMS	4/20/2023 3:30 PM	Application	4,723 KB		
🚬 Pictures 🔹 🖈	BMS.exe.config	4/20/2023 3:30 PM	CONFIG File	1 KB		
🕖 Music 🔹 🖈	BMS.pdb	4/20/2023 3:30 PM	PDB File	386 KB		
🔀 Videos 🛷	CAN-Info.dll	4/20/2023 3:30 PM	Application exten	162 KB		
eVault Classic 🖈	CAN-Info.pdb	4/20/2023 3:30 PM	PDB File	40 KB		
🔁 NimalAnantł 🖈	ControlCAN.dll	4/20/2023 3:30 PM	Application exten	52 KB		
eFlex 5.4kWh 🖈	Skin.dll	4/20/2023 3:30 PM	Application exten	2,674 KB		
Fortress Pow 🖈	S EnvDTE.dll	4/20/2023 3:30 PM	Application exten	250 KB		
	ICSharpCode.SharpZipLib.dll	4/20/2023 3:30 PM	Application exten	196 KB		
Entress Power	🗟 InstrumentPanelLib.dll	4/20/2023 3:30 PM	Application exten	11 KB		
	IPAddressControlLib.dll	4/20/2023 3:30 PM	Application exten	31 KB		
30 items 1 item selected	4.61 MB					

2. You might see something similar to the one shown below. If so, click on "More info" in the blue window.



3. Next, click on "Run anyway".



4. Now the BMS software is open. In the top left corner of the software click on "Communication Configuration" and in the dropdown of it click on "CAN".



5. In the window that opens next, click on "Connection CAN" without changing any parameters.



6. If everything so far was done correctly, you'll see "CAN Connected", click "OK" in the success window.



7. Once the communication between a computer and a battery is established, the lines are populated as seen below.

E KR00-BMS-2020_20210628

Basic information		Basic information		Basic information		-Basic information
Battery ID	2009054E0133	Battery ID	-	Battery ID	-	Batter
Qty_Batt	1	Qty_Batt	-	Qty_Batt		Qty_
Unit Voltage	54.6	Unit Voltage		Unit Voltage		Unit Volt
Unit Current	-0.5	Unit Current		Unit Current		Unit Cur
Unit SOC	100	Unit SOC	-	Unit SOC	-	Unit
Charge Relay Status	Make	Charge Relay Status	-	Charge Relay Status	-	Charge Relay St
Discharge Relay Status	Make	Discharge Relay Status	-	Discharge Relay Status	· ·	Discharge Relay St
Pre-charge Relay Status	Break	Pre-charge Relay Status	-	Pre-charge Relay Status		Pre-charge Relay St
System Average Voltage	546	System Average Voltage	-	System Average Voltage		System Average Vol
System Unit Quantity	1	System Unit Quantity	-	System Unit Quantity		System Unit Qua
Battery Parallel Status	Parallelled	Battery Parallel Status	-	Battery Parallel Status		Battery Parallel St
nsulation resistance(kΩ)	65535	Insulation resistance(kΩ)		Insulation resistance(kΩ)		Insulation resistance
Pre_Volt(V)	553	Pre_Volt(V)	-	Pre_Volt(V)		Pre_Vo
Max Cell Volt(mV)	3547	Max Cell Volt(mV)		Max Cell Volt(mV)		Max Cell Volt
Max Cell Volt Num	7	Max Cell Volt Num	-	Max Cell Volt Num		Max Cell Volt N
Min Cell Volt(mV)	3339	Min Cell Volt(mV)	-	Min Cell Volt(mV)		Min Cell Volt
Min Cell Volt Num	16	Min Cell Volt Num	-	Min Cell Volt Num		Min Cell Volt N
Max Temp(°C)	26	Max Temp(°C)	-	Max Temp(°C)		Max Temp
Max Temp Num	6	Max Temp Num	-	Max Temp Num		Max Temp
Min Temp(°C)	24	Min Temp(°C)	-	Min Temp(°C)		Min Tem
Min Temp Num	3	Min Temp Num	-	Min Temp Num		Min Temp I
Software Version	3010	Software Version	-	Software Version		Software Ver
Hardware Version	d	Hardware Version		Hardware Version	· ·	Hardware Ver
Alarm Level	2	Alarm Level	-	Alarm Level		Alarm L
Cycle Counts	12	Cycle Counts	-	Cycle Counts	-	Cycle Co
Balance Volt(V)	0	Balance Volt(V)	-	Balance Volt(V)	-	Balance Vo
Discharge Energy(kWH)	68.966	Discharge Energy(kWH)	-	Discharge Energy(kWH)	· ·	Discharge Energy(k
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P						

It's time to update the firmware file.
 To continue the process by selecting the appropriate firmware version, click on

"Update".

👺 BMS-V1.61

Communication Configuration Parameters Setting Record Export Data Language Select					
Basic information		- Basic information	Basic information	Basic information	
Battery ID	2205054E0542	Battery ID -	Battery ID -	Battery ID -	
Qty_Batt	1	Qty_Batt -	Qty_Batt -	Qty_Batt -	
Unit Voltage	53.2	Unit Voltage -	Unit Voltage -	Unit Voltage -	
Unit Current	-0.3	Unit Current -	Unit Current -	Unit Current -	
Unit SOC	91	Unit SOC -	Unit SOC -	Unit SOC -	
Charge Relay Status	Make	Charge Relay Status -	Charge Relay Status -	Charge Relay Status -	
Discharge Relay Status	Make	Discharge Relay Status -	Discharge Relay Status -	Discharge Relay Status -	
Pre-charge Relay Status	Break	Pre-charge Relay Status -	Pre-charge Relay Status -	Pre-charge Relay Status -	
System Average Voltage	53.2	System Average Voltage -	System Average Voltage -	System Average Voltage -	
System Unit Quantity	1	System Unit Quantity -	System Unit Quantity -	System Unit Quantity -	
Battery Parallel Status	Parallelled	Battery Parallel Status -	Battery Parallel Status -	Battery Parallel Status -	
Insulation resistance	65535	Insulation resistance -	Insulation resistance -	Insulation resistance -	
Pre_Volt(V)	53.2	Pre_Volt(V) -	Pre_Volt(V) -	Pre_Volt(V) -	
Max Cell Volt(mV)	3332	Max Cell Volt(mV) -	Max Cell Volt(mV) -	Max Cell Volt(mV) -	
Max Cell Volt Num	11	Max Cell Volt Num -	Max Cell Volt Num -	Max Cell Volt Num -	
Min Cell Volt(mV)	3328	Min Cell Volt(mV) -	Min Cell Volt(mV) -	Min Cell Volt(mV) -	
Min Cell Volt Num	7	Min Cell Volt Num -	Min Cell Volt Num -	Min Cell Volt Num -	
Max Temp(°⊂)	27	Max Temp(°C) -	Max Temp(°C) -	Max Temp(°C) -	
Max Temp Num	6	Max Temp Num -	Max Temp Num -	Max Temp Num -	
Min Temp(°⊂)	24	Min Temp(°C) -	Min Temp(°C) -	Min Temp(°C) -	
Min Temp Num	3	Min Temp Num -	Min Temp Num -	Min Temp Num -	
Software Version	4006	Software Version -	Software Version -	Software Version -	
Hardware Version	a	Hardware Version -	Hardware Version -	Hardware Version -	
Alarm Level	Normal	Alarm Level -	Alarm Level -	Alarm Level -	
Cycle Counts	3	Cycle Counts -	Cycle Counts -	Cycle Counts -	
Balance Volt(V)	0	Balance Volt(V) -	Balance Volt(V) -	Balance Volt(V) -	
Discharge Energy(kWH)	20.060	Discharge Energy(kWH) -	Discharge Energy(kWH) -	Discharge Energy(kWH) -	
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9. Click "Open".

Basic information		Basic information	Basic information	-Basic information
Battery ID	2205054E0542	Battery ID -	Battery ID -	Battery ID -
Qty Batt	1	Qty Batt -	Qty Batt -	Qty Batt -
Unit Voltage	53.2	Unit Voltage -	Unit Voltage -	Unit Voltage -
Unit Current	-0.3	Unit Current -	Unit Current -	Unit Current -
Unit SOC	91	278 D. 45 H. 1 .		Unit SOC -
Charge Relay Status	Make	BMS Update	- U ×	Charge Relay Status -
Discharge Relay Status	Make			Discharge Relay Status -
Pre-charge Relay Status	Break			Pre-charge Relay Status -
System Average Voltage	53.2			System Average Voltage -
System Unit Quantity	1	BMS: LECU1		System Unit Quantity -
Battery Parallel Status	Parallelled	File	Open	Battery Parallel Status -
Insulation resistance	65535		Obeil	Insulation resistance -
Pre_Volt(V)	53.2	Download: 0%		Pre_Volt(V) -
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Max Cell Volt Num	11		Run	Max Cell Volt Num -
Min Cell Volt(mV)	3328	樽中型号・ 元 ── ──		Min Cell Volt(mV) -
Min Cell Volt Num	7			Min Cell Volt Num -
Max Temp(°C)	27			Max Temp(°C) -
Max Temp Num	6			Max Temp Num -
Min Temp(°C)	24	win remp(c) -	win remp(c) -	Min Temp(°C) -
Min Temp Num	3	Min Temp Num -	Min Temp Num -	Min Temp Num -
Software Version	4006	Software Version -	Software Version -	Software Version -
Hardware Version	a	Hardware Version -	Hardware Version -	Hardware Version -
Alarm Level	Normal	Alarm Level -	Alarm Level -	Alarm Level -
Cycle Counts	3	Cycle Counts -	Cycle Counts -	Cycle Counts -
Balance Volt(V)	0	Balance Volt(V) -	Balance Volt(V) -	Balance Volt(V) -
Discharge Energy(kWH)	20.060	Discharge Energy(kWH) -	Discharge Energy(kWH) -	Discharge Energy(kWH) -
UPS Manufacturer	C=6 M=5 W=on	UPS Manufacturer -	UPS Manufacturer -	UPS Manufacturer -
01	Detail	02 Detail	03 Detail	04 Detail
Update		Update	Update	Update

10. Navigate to the "eFlex CAN Upgrade Package" in this pop-up window, double-click on "eFlex CAN Upgrade Package" and then click on "eFlex _BMSfirmware_12.06".

Afterwards, click "Open".

Basic information Basic inform							
Batery Parallel Insulation resir Precharge Relay System Varage Name Date modified Type Size Max Cell Vo Min Cell Vo Min Cell Vo Max Tems Opcharge Freedbarg Image: Size Image: Size Image: Size Image: Size Image: Size Max Cell Vo Min Cell Vo Max Tems Opcharge Freedbarg Image: Size	asic information		Basic information	Basic information		Basic informa	ation
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01 Vire name (creation and creation) Open Cancel	UPS Manufa		a name			File/* bin *	rin) (nir
Update Cancel	01	ri i	eries_bivisiimware_1200			- met .bin,	-iki
Update						Open	Cancel
	Update						.ii.

11. Initiate the firmware update by clicking "Run".





12. Percentage will start increasing.

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asic information	Basic information	Basic information	- Basic information
Battery ID -	Battery ID -	Battery ID -	Bat
Qty_Batt -	Qty Batt -	Qty_Batt -	Q
Unit Voltage -	Unit Voltage -	Unit Voltage -	Unit V
Unit Current -	Unit Current -	Unit Current -	Unit C
Unit SOC -	Unit SOC -	Unit SOC -	Un
Charge Relay Status -	Charge Relay Status -	Charge Relay Status -	Charge Relay
Discharge Relay Status -	Discharge Relay Status	Discharge Relay Status -	Discharge Relay
Pre-charge Relay Status -	Pre-charge Relay Status -	Pre-charge Relay Status -	Pre-charge Relay
System Average Voltage -	System Average Voltage -	System Average Voltage -	System Average \
System Unit Quantity -	System Unit Quantity -	System Unit Quantity -	System Unit C
Battery Parallel Status		rallel Status -	Battery Parallel
nsulation resistance(kΩ) 🛛 🔛 BMS	5 Update	— Δ × istance(kΩ) -	Insulation resistan
Pre_Volt(V)		Pre_Volt(V) -	Pre
Max Cell Volt(mV)		ell Volt(mV) -	Max Cell V
Max Cell Volt Num		ell Volt Num -	Max Cell Vo
Min Cell Volt(mV)	BMS: LECU1	ell Volt(mV) -	Min Cell V
Min Cell Volt Num		ell Volt Num -	Min Cell Vo
Max Temp(°C)	File: C:\Users\Avtandil Giorgadze\OneDi	Open ax Temp(°C) -	Max Te
Max Temp Num		Temp Num -	Max Tem
Min Temp(°C) Down	lload: 77%	in Temp(°C) -	Min Te
Min Temp Num		Temp Num -	Min Tem
Software Version	-	Updating rare Version -	Software
Hardware Version	-	rare Version -	Hardware \
Alarm Level		Alarm Level -	Alarr
Cycle Counts		ycle Counts -	Cycle
Balance Volt(V)		ance Volt(V) -	Balance
Discharge Energy(kWH) -	Discharge Energy(kWH) -	Discharge Energy(kWH) -	Discharge Energ
UPS Manufacturer -	UPS Manufacturer -	UPS Manufacturer -	UPS Manuf
01 Det	tail 02 Detail	03 Detail	04
Update	Update	Update	Update
UPS WiFI	UPS WIFI	UPS WiFI	UPS WiFI
asic information	Basic information	Basic information	- Basic information
Battery ID -	Battery ID -	Battery ID -	Ba
01 0 11	Oty Batt	Oby Batt -	

13. At the end of the firmware update, you'll see a success message as shown below. Now the firmware is updated. You may close this window and disconnect the CAN

tool from the battery.

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Communication Configuration	Parameters Setting Record Export	Data Language Select	
Basic information	Basic information	- Basic information	- Basic information
Battery ID -	Battery ID -	Battery ID	- Batte
Qty_Batt -	Qty_Batt -	Qty_Batt	- Qty
Unit Voltage -	Unit Voltage -	Unit Voltage	- Unit Vo
Unit Current -	Unit Current -	Unit Current	- Unit Cu
Unit SOC -	Unit SOC -	Unit SOC	- Unit
Charge Relay Status -	Charge Relay Status -	Charge Relay Status	- Charge Relay S
Discharge Relay Status -	Discharge Relay Status -	Discharge Relay Status	- Discharge Relay S
Pre-charge Relay Status -	Pre-charge Relay Status -	Pre-charge Relay Status	- Pre-charge Relay S
System Average Voltage -	System Average Voltage -	System Average Voltage	- System Average Vo
System Unit Quantity -	System Unit Quantity -	System Unit Quantity	- System Unit Qu
Battery Parallel Status	MS Lindate	rallel Status	- Battery Parallel S
Insulation resistance(kΩ)	inis opuare	istance(kΩ)	- Insulation resistance
Pre_Volt(V)		Pre_Volt(V)	- Pre_V
Max Cell Volt(mV)		ell Volt(mV)	- Max Cell Vol
Max Cell Volt Num	Completed	× ell Volt Num	- Max Cell Volt
Min Cell Volt(mV)	BMS: LECU1	ell Volt(mV)	- Min Cell Vol
Min Cell Volt Num		ell Volt Num	- Min Cell Volt
Max Temp(°C)	File: C:\Users\Avta Lindate Compl	Open ax Temp(°C)	- Max Tem
Max Temp Num		Temp Num	- Max Temp
Min Temp(°C) Do	wnload: 100%	in Temp(°C)	- Min Tem
Min Temp Num		Temp Num	- Min Temp
Software Version	C	DK Updated vare Version	- Software Ve
Hardware Version		/are Version	- Hardware Ve
Alarm Level		Alarm Level	- Alarm
Cycle Counts		ycle Counts	- Cycle C
Balance Volt(V)	Deletios voltary -	ance Volt(V)	- Balance V
Discharge Energy(kWH) -	Discharge Energy(kWH) -	Discharge Energy(kWH)	- Discharge Energy(
UPS Manufacturer -	UPS Manufacturer -	UPS Manufacturer	- UPS Manufac
01 0	Detail 02	Detail 03	Detail 04
Update	Update	Update	Update
UPS WiFI	UPS WiFI	UPS WiFI	UPS WiFI
_			
Basic information	Basic information	Basic information	Basic information
Battery ID -	Battery ID -	Battery ID	- Batte
Qtv Batt -	Qtv Batt -	Qtv Batt	- Qtv
ste			
P Type here to search	ch O 🛱	i 📀 📬 🐖 📰 📰	🌒 🛷 🥫 🔁

The firmware is now updated!

Selecting Protocol ID

Different communication protocols are required for different inverters. This article shows how to change CAN ("C") or MOD ("M") protocol ID. Refer to the table below to see which protocol ID is appropriate for your inverter.

UPS - CAN						
Protocol ID	Protocol Name	Notes				
2	SMA CANBUS	SMA SunnyIsland				
3	Victron CANBUS					
6	Sol-Ark CANBUS	Default				

	UPS - Modbus					
Protocol ID	Protocol Name	Notes				
1	Sol-Ark MODBUS	No longer used				
2	Schneider MODBUS					
5	Envy MODBUS	Default				

1.



2. Click on "UPS WiFi" and Click on the downward arrow next to the number next to "UPS-CAN:", afterwards click on the appropriate number from the dropdown list of the numbers.



3. You'll see that after clicking the number, the dropdown list will disappear and the number that you've selected will be displayed in the box. Next, click "Set".



4. Once clicked on "Set", you'll see a Success message on your screen. Click "OK".

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5. And close the "Set window. Now you have successfully changed the protocol ID. E KR00-BMS-2020_20210628





6.

Disabling Wi-Fi

 To disable Wi-Fi on an eFlex unit, please follow the steps given in this article. "UPS Manufacturer line has "W=" and then either "on" or "off". This indicates whether the wifi is on or off on the battery. To turn off the Wi-Fi, open the eFlex BMS software and click on UPS WiFi.

Basic information	n	-Basic information
B	Battery ID -	Bat
- E	Qty_Batt -	Q
Unit	it Voltage -	Unit V
Unit	it Current -	Unit (
U U	Unit SOC -	Un
Charge Rela	ay Status -	Charge Relay
Discharge Rela	ay Status -	Discharge Relay
Pre-charge Rela	ay Status -	Pre-charge Relay
System Average	e Voltage -	System Average V
System Unit (t Quantity -	System Unit Q
Battery Paralle	lel Status -	Battery Parallel
Insulation resistar	ance(kΩ) -	Insulation resistant
Pre	e_Volt(V) -	Pre_
Max Cell \	Volt(mV) -	Max Cell Vo
Max Cell V	Volt Num –	Max Cell Vo
Min Cell \	Volt(mV) -	Min Cell Vo
Min Cell V	Volt Num -	Min Cell Vo
Max Te	ſemp(°C) -	Max Te
Max Ten	mp Num -	Max Tem
Min Te	ſemp(°C) -	Min Te
Min Ten	mp Num -	Min Tem
Software	e Version -	Software \
Hardware	e Version -	Hardware
Alar	irm Level -	Alarn
Cycle	e Counts -	Cycle
Balance	ce Volt(V) -	Balance
Discharge Energ	rgy(kWH) -	Discharge Energy
UPS Manu	ufacturer -	UPS Manuf
03	Detail	04
Update		Update
UPS WiF	FI	UPS WiFI
-Basic information B	n	- Basic information Ba
1	-Basic informatio	Basic information Battery ID - Qtv Batt -

2. Next, check mark the "WiFi" and click "Set".



3. You will see the success message. Click "OK", but don't close the window with a "WiFi" checkmark.



4. You'll notice that the check-mark that you set for "WiFi" is retained, but the Wi-Fi status is still "on".



5. Now, uncheck-mark the WiFi and click on "Set".

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6. You'll see a success message window. Click "OK".

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Now, the check-mark on "WiFi" is removed, but more importantly, the Wi-Fi is turned off.
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