

# User Manual for BMS software

PT48xxA HMI

File change history			
Version	Editor	Date	Comment
V1.0.0	谈海涛	2019/10/08	
V1.0.1	谈海涛	2019/11/08	
V1.0.2	于金辉	2020/10/22	
V2.1.8	于金辉	2020/04/19	

Contents

- 1. Introduction.....4
- 2. Operation Environment.....4
  - 2.1 Software environment:.....4
  - 2.2 Hardware environment: .....4
- 3. Basic Operation.....5
  - 3.1 Open software:.....5
  - 3.2 Monitor real-time information:.....7
  - 3.3 Configure parameter: .....8
  - 3.4 Download firmware:..... 11

## 1. Introduction

This reference manual is for users who want to monitor the operating state of the Batteries BMS (PT48xxA device), by providing complete instruction and information on using the PT48xxA HMI software to do so. This will enable the user to do the following:

- Read real-time information including all fault information, and each battery voltage and temperature.
- Configure system parameters to change the operating state of the batteries BMS.
- Download firmware to update the device.
- Read history and alarm information to analyze working state.

## 2. Operation Environment

### 2.1 Software environment:

PT48xxA HMI software supports Windows system (XP, win7, win10 - suggest win7 or win10), also require .net framework 4.0.



### 2.2 Hardware environment:

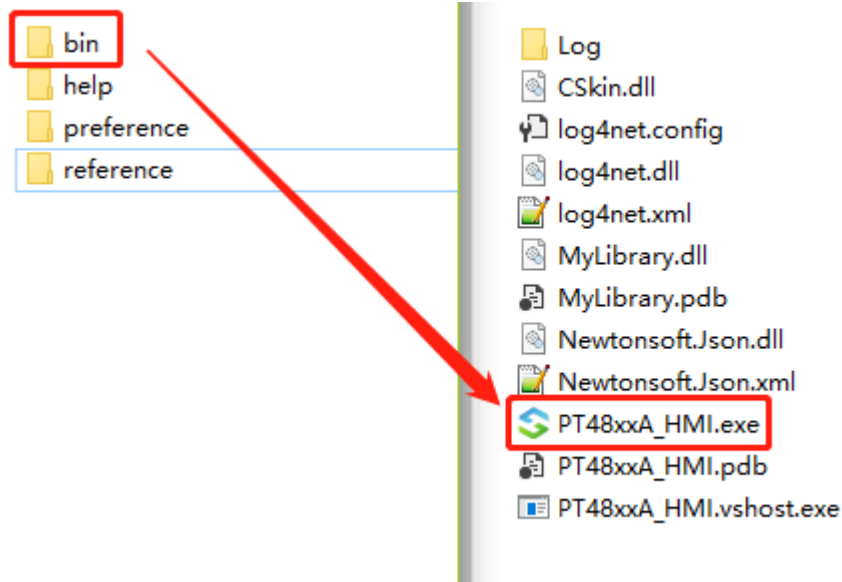
Connect the required RS485-USB/(RS232-USB) cable from the BMS to the computer.



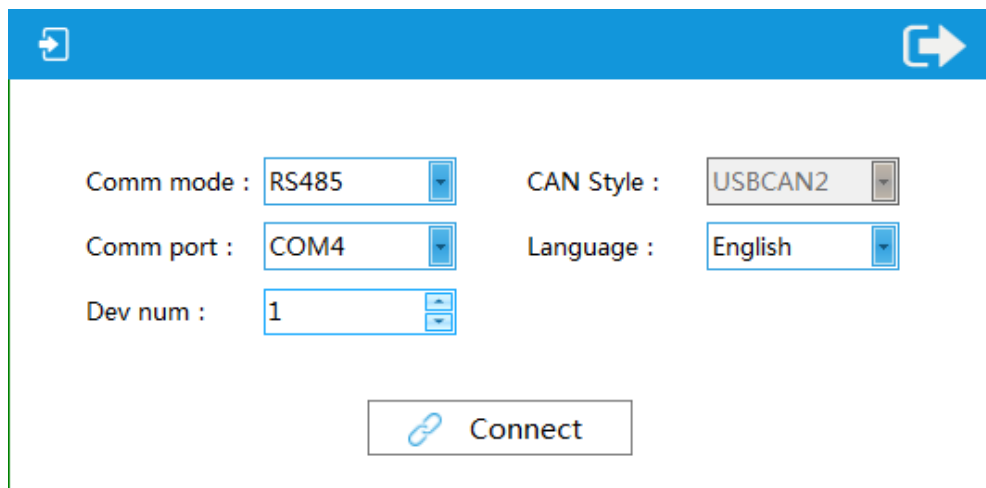
### 3. Basic Operation

#### 3.1 Open software:

1. Enter the portable version (PT48xxA\_HMI\_V1.x.x.zip) to access four folders. Click on the **PT48xxA\_HMI.exe** in the bin folder to open the software.

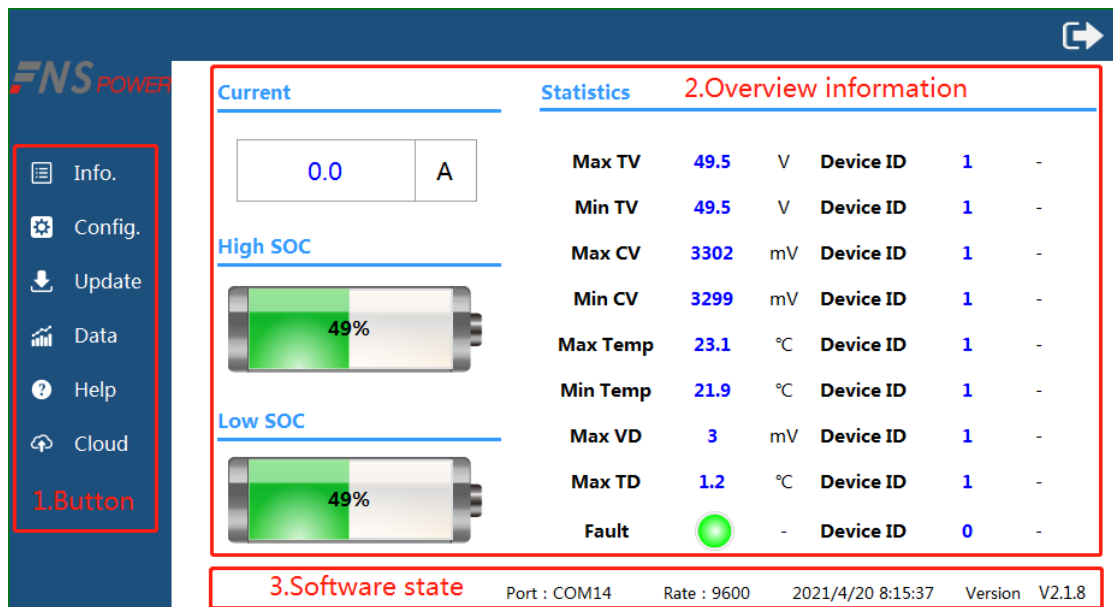


2. When the software opens correctly, it will go to the login interface page. Choose the correct parameters and click **Connect**. This will take you to the main interface page:
  - Comm mode : choose RS485/RS232 as the communication mode of BMS.
  - Comm port : the communication port is different on different computers. Software will update the port on your computer when you pull down, then click the port connect to the BMS.
  - CAN style : just use in CAN communication.
  - Language : choose Chinese or English as the software language.
  - Dev num : input the right number of BMS in parallel.

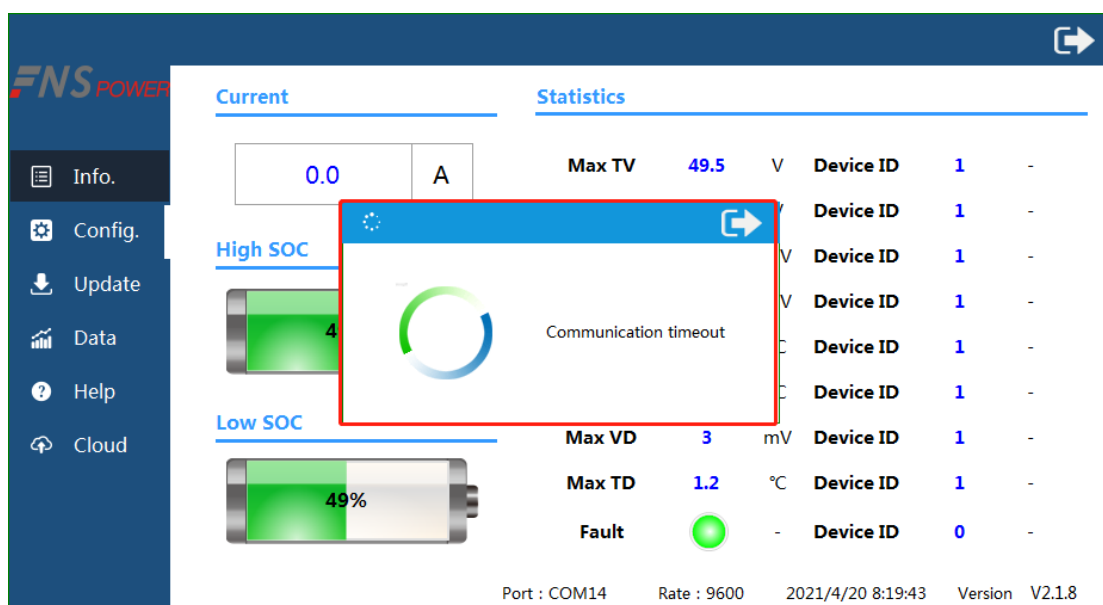


3. The main interface page has three parts:

- Button part : it has five different sections which you can open for different functions of the software by clicking corresponding button.
- Overview information : this part shows the main information of all the BMS in the system. You can see if the system is working correctly or not.
- Software state : shows some basic software information.



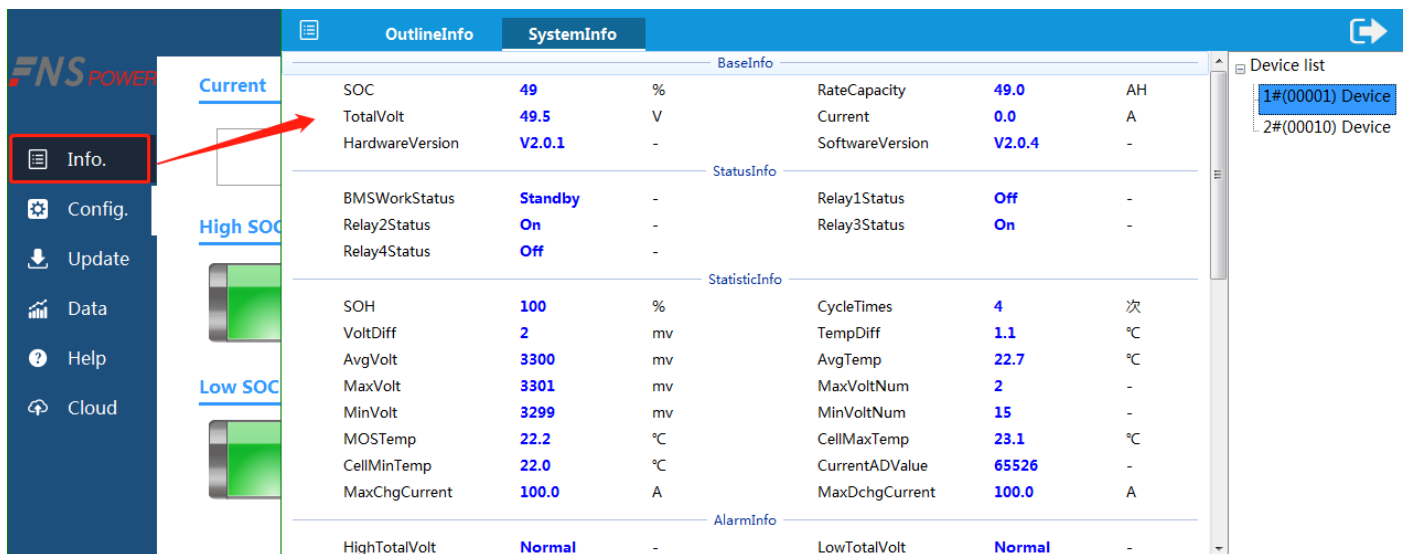
**Note :** If the BMS or software is not working correctly, you will see the timeout interface. Check the BMS, RS485-USB wire, or the com port is correctly attached or not.



### 3.2 Monitor real-time information:

Click **Info. Button** on the main interface page to get a new page with all the real-time information.

- Outline Info : shows some main information of each BMS.
- System Info : shows the detailed real-time information of the BMS which is selected in the Device list.
- Device list : this list will show all the BMS installed when more than 2 BMS are connected. Clicking on the device will update the corresponding real-time information.



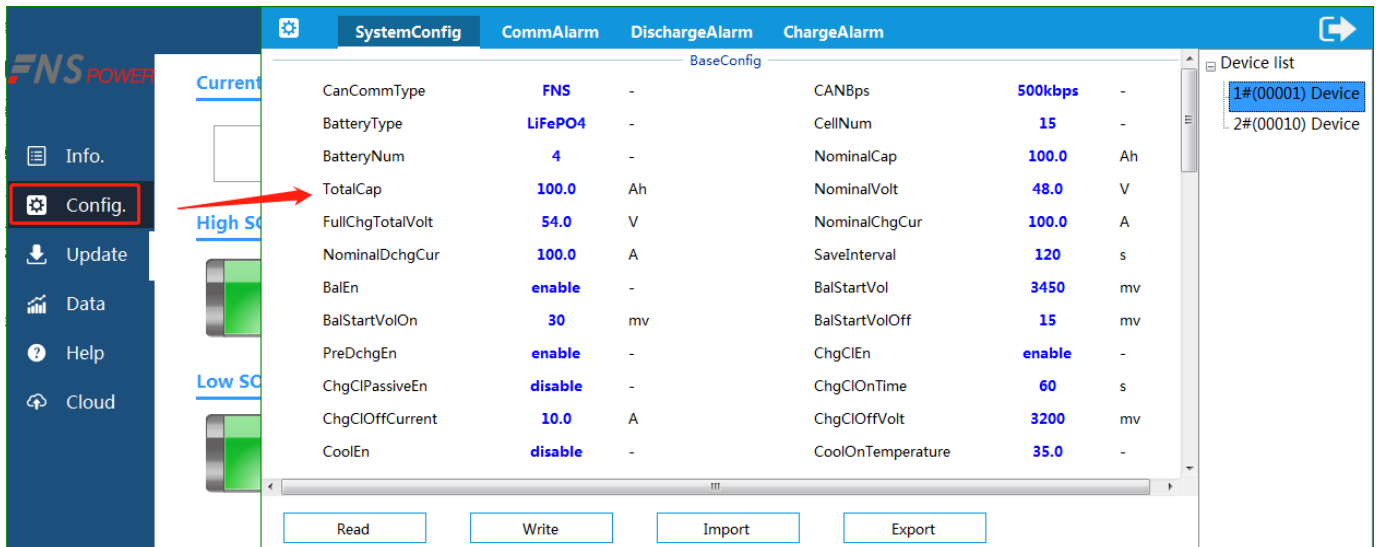
OutlineInfo		SystemInfo			
BaseInfo					
SOC	49	%	RateCapacity	49.0	AH
TotalVolt	49.5	V	Current	0.0	A
HardwareVersion	V2.0.1	-	SoftwareVersion	V2.0.4	-
StatusInfo					
BMSWorkStatus	Standby	-	Relay1Status	Off	-
Relay2Status	On	-	Relay3Status	On	-
Relay4Status	Off	-			
StatisticInfo					
SOH	100	%	CycleTimes	4	次
VoltDiff	2	mv	TempDiff	1.1	°C
AvgVolt	3300	mv	AvgTemp	22.7	°C
MaxVolt	3301	mv	MaxVoltNum	2	-
MinVolt	3299	mv	MinVoltNum	15	-
MOSTemp	22.2	°C	CellMaxTemp	23.1	°C
CellMinTemp	22.0	°C	CurrentADValue	65526	-
MaxChgCurrent	100.0	A	MaxDchgCurrent	100.0	A
AlarmInfo					
HighTotalVolt	Normal	-	LowTotalVolt	Normal	-

Device list

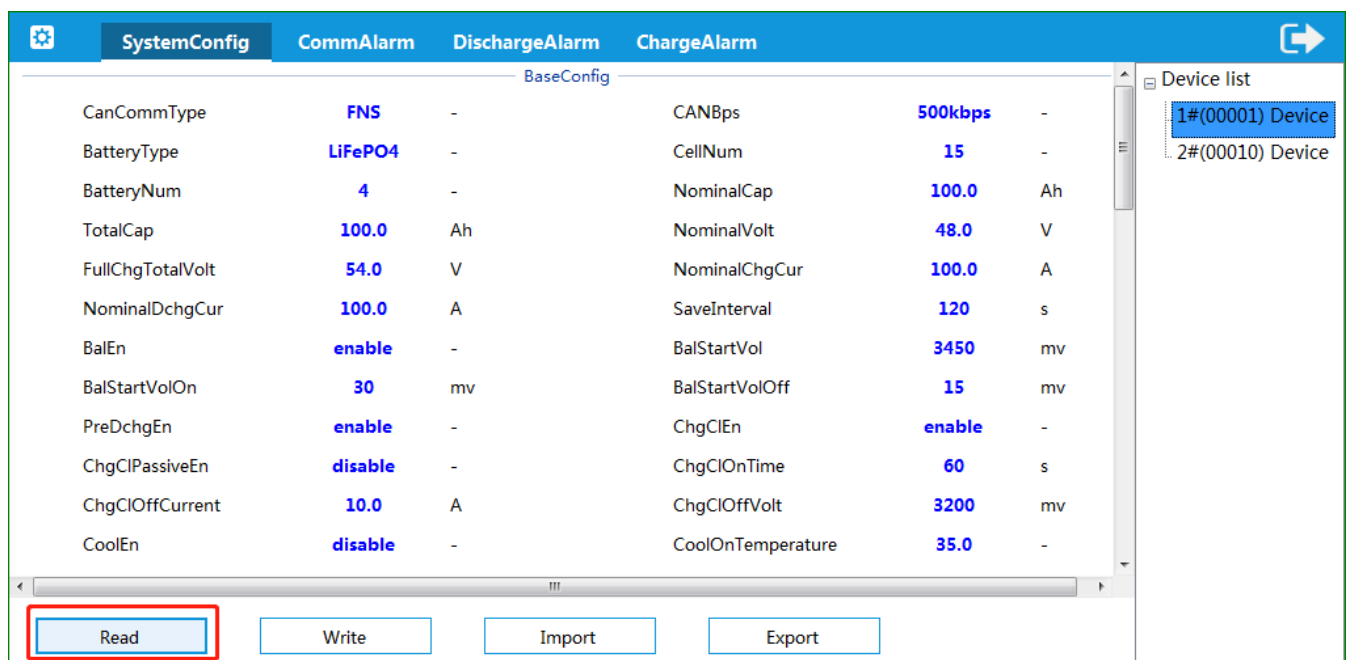
- 1#(00001) Device
- 2#(00010) Device

### 3.3 Configure parameter:

1. Click the **Config. Button** on the main interface page to get a new page with all the configure parameters on it.

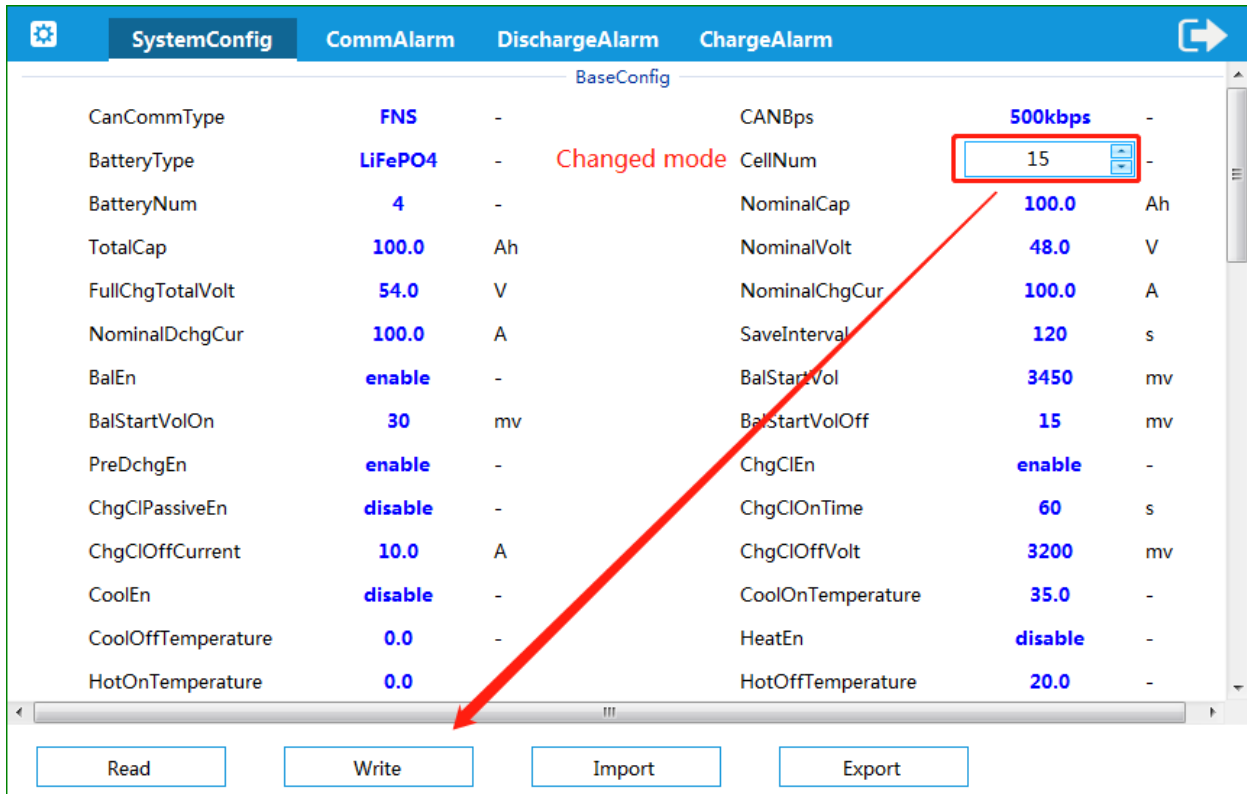


2. **Read parameter** : click **Read**. The software will then be updated with the BMS parameters.



3. **Write parameter** : move the mouse onto the value you want to change, and left click the mouse. The value will enter 'changed mode', then set the value you want. After changing all the values, click the **Write Button** to send the updated parameter to the BMS.

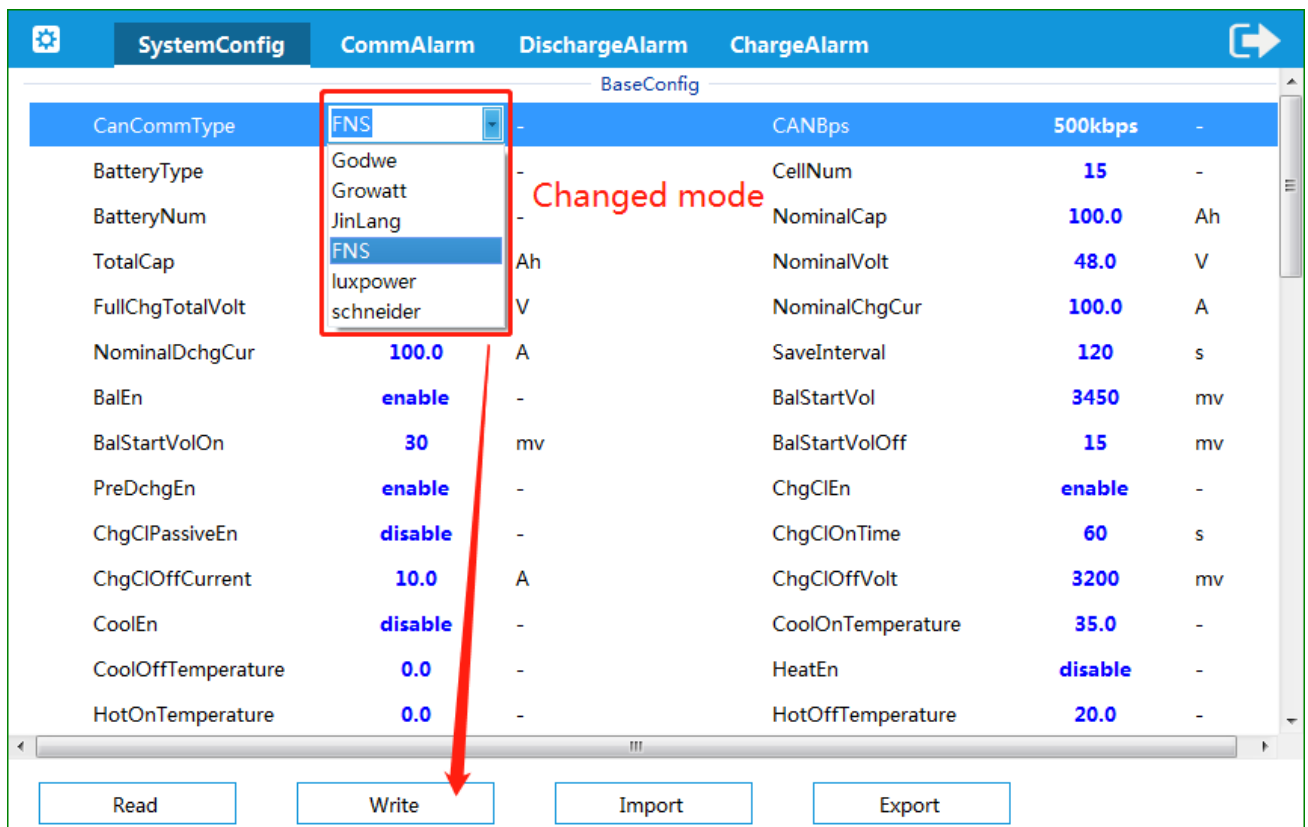




BaseConfig					
CanCommType	FNS	-	CANBps	500kbps	-
BatteryType	LiFePO4	-	CellNum	15	-
BatteryNum	4	-	NominalCap	100.0	Ah
TotalCap	100.0	Ah	NominalVolt	48.0	V
FullChgTotalVolt	54.0	V	NominalChgCur	100.0	A
NominalDchgCur	100.0	A	SaveInterval	120	s
BalEn	enable	-	BalStartVol	3450	mv
BalStartVolOn	30	mv	BalStartVolOff	15	mv
PreDchgEn	enable	-	ChgCIEn	enable	-
ChgCIPassiveEn	disable	-	ChgCLOnTime	60	s
ChgCLOffCurrent	10.0	A	ChgCLOffVolt	3200	mv
CoolEn	disable	-	CoolOnTemperature	35.0	-
CoolOffTemperature	0.0	-	HeatEn	disable	-
HotOnTemperature	0.0	-	HotOffTemperature	20.0	-

Buttons: Read, Write, Import, Export

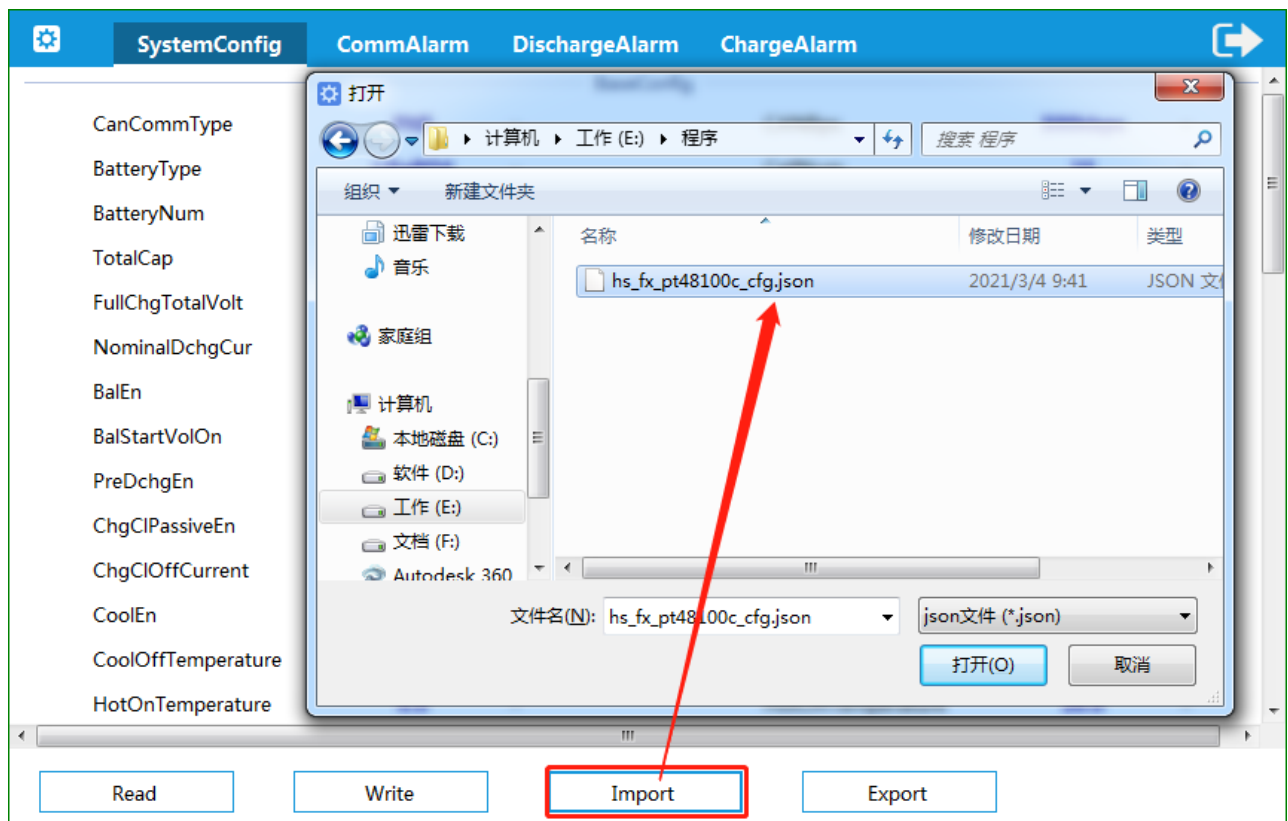
4. **Write CAN communication type:** move the mouse onto the type you want to change, and left click the mouse. The type will enter 'changed mode', then set the type you want. After changing the type, click the **Write Button** to send the updated type to the BMS.



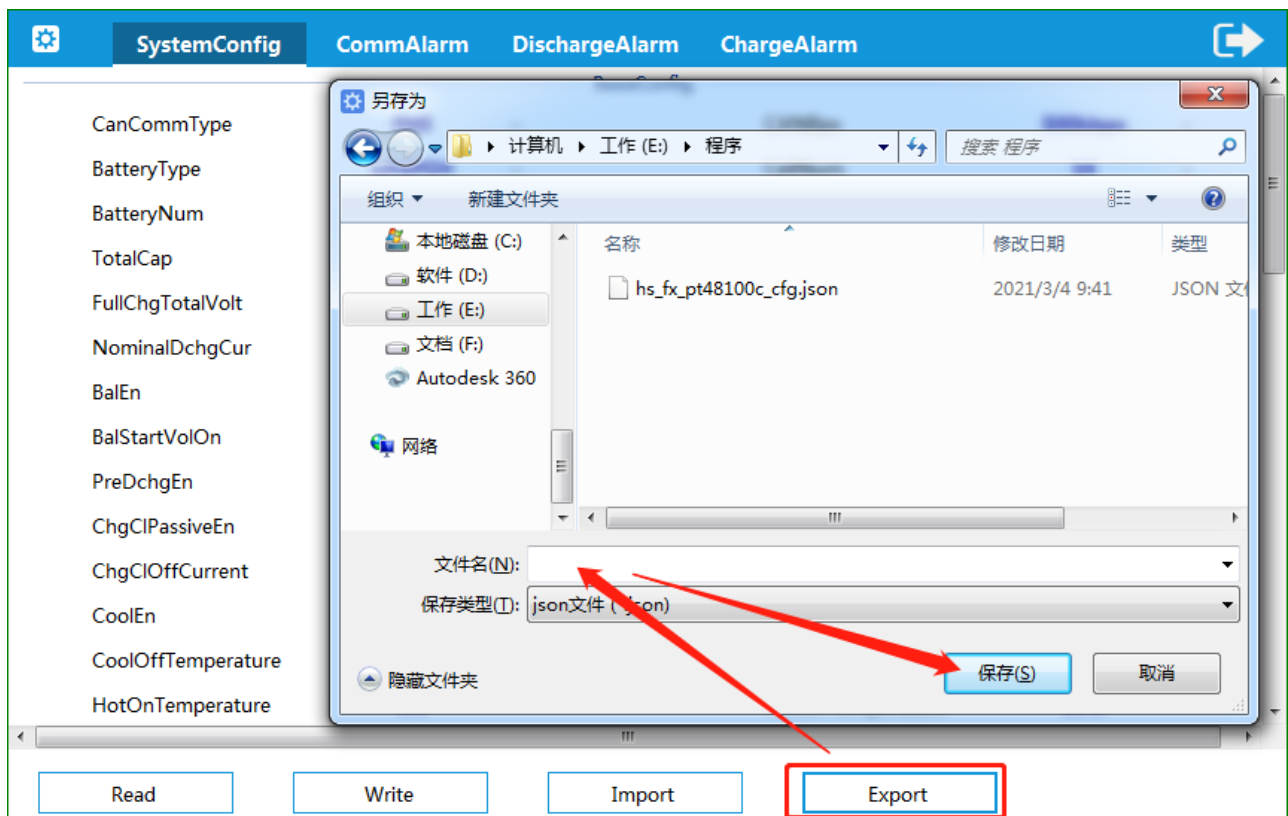
BaseConfig					
CanCommType	FNS	-	CANBps	500kbps	-
BatteryType	LiFePO4	-	CellNum	15	-
BatteryNum	4	-	NominalCap	100.0	Ah
TotalCap	100.0	Ah	NominalVolt	48.0	V
FullChgTotalVolt	54.0	V	NominalChgCur	100.0	A
NominalDchgCur	100.0	A	SaveInterval	120	s
BalEn	enable	-	BalStartVol	3450	mv
BalStartVolOn	30	mv	BalStartVolOff	15	mv
PreDchgEn	enable	-	ChgCIEn	enable	-
ChgCIPassiveEn	disable	-	ChgCLOnTime	60	s
ChgCLOffCurrent	10.0	A	ChgCLOffVolt	3200	mv
CoolEn	disable	-	CoolOnTemperature	35.0	-
CoolOffTemperature	0.0	-	HeatEn	disable	-
HotOnTemperature	0.0	-	HotOffTemperature	20.0	-

Buttons: Read, Write, Import, Export

5. **Import parameter** : click **Import** and choose the 'hs\_fx\_pt48100c\_cfg.json' file.

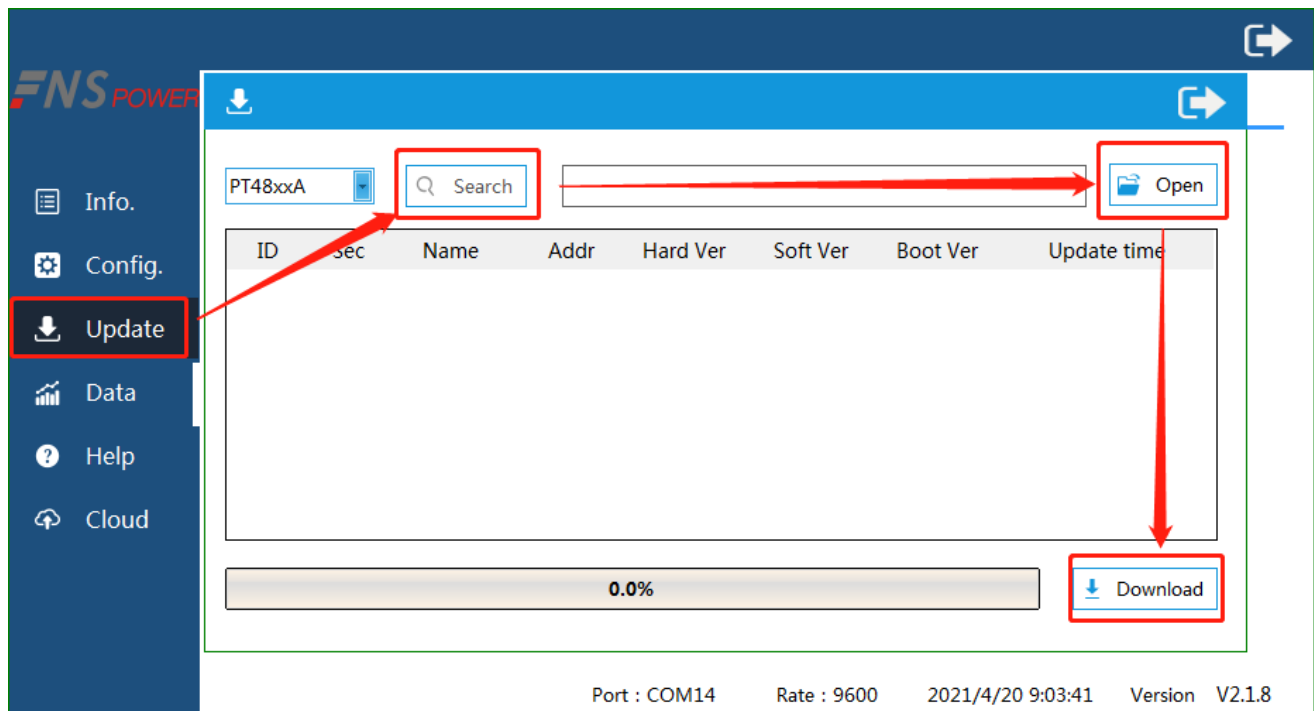


6. **Export parameter** : click **Export** and enter document name, then click **Save** to save the parameter document.



### 3.4 Download firmware:

1. Click **Update** on main interface page, enter password(**default is 123**), then click **Sign in**.
2. Download sequence : 1. Click **Search** to get BMS information; 2. Click **Open** to open the firmware(.s19 file); 3. Click **Download** to send firmware to the BMS.



### 3.5 Read history data:

1. Click **Data** on the main interface page to get the data interface.
  - Start Time : the start time of the history data you want to read.
  - End Time : the end time of the history data you want to read.
  - File Type : the type of the history data including Alarm, Config and Detail.
  - Read Button : read the data from BMS.
  - ... Button : opens the folder where the saved data file is.
  - Erase Button : erases the data in the BMS.

