



BmsTools HS2.0.2 software

User Manual



I. Software running environment

This software runs on PC and its compatible machines using the WINDOWS operating system. The system environment requires the support of the NET Framework 2.0 or above, please make sure it is installed before using it.

1. Download Microsoft .NET Framework.



2. Double click on the downloaded program to install it.



3. The software does not need to be installed independently, just double

click on the main program icon to run it when the running environment is satisfied.

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名称	修改日期	类型	大小				
Config	2022/12/12 14:31	文件夹					
🗇 BmsTools	2022/12/12 14:30	应用程序	815 KB				
BmsTools.exe.config	2023/4/24 11:26	CONFIG 文件	1 KB				



🚸 BmsTools HS2	2.0.2											– 🗆 X
Realtime Moni	toring M	ulti M	onitor	ing]	lemory	Info.	Para	ameter S	etting	System	n Co	nfig. Other Setting GPS Export Data Protocols
0 1 11 12 22 23	2 3 13 14 24 25	4 15 26	5 16 27	6 17 28	7 18 29	8 19 30	9 20 31	10 21 32	-			Serial Port Serial Port COM Tyep RS232 Pack Start 1 Pack End 1 V LoopDisplay
Pack Information	tion		_	_	Tem	perat	ure(°C)					ADDR Interval 1 V S
Pack Vo Pack Cu RemainCap FullCap Battery (Independent Independent	ltage rrent SOC SOH acity Cycle Volt Curr		V A % % mAH mAH mV mA	~	l Tex Tex Tex Tex Tex Tex	ENV_T [ell 1 [ell 3] ell 5 [ell 7] ell 9] ll 11 [ll 13]		MO Tcel Tcel Tcel Tcel Tcell Tcell Tcell	PS_T		~	Protocol System Status CHARGING-OFF CHARGING CHG-LIMIT-OFF CACin DISCHARGING-OFF ODISCHARGING CHEATER-OFF Fully Alarm Status Protect Status
MaxVo Vcell 1 Vcell 4 Vcell 7 Vcell 10 Vcell 13 Vcell 16		 V V	Vcell 2 Vcell 5 Vcell 8 Vcell 8 Ccell 13	linVolt 2 5 1 4		 7 7 7 7 7 7 7 7 7 7 7 7 7	 7cell 3 7cell 6 7cell 9 rell 12 rell 15		ff		`	Fault Status
VER: COMM:			B PA	MS S/I	N: N:						Pa	assword Change 2023/04/24

4. Language switch :

- 1. Click on the national flag icon
- 2. Select English as the current language **English** interface language is English
- **By PC** : The language of the interface is determined by the language of the computer.
- If the language is not entered on the PC, the default language is English.
- 3. Click on "OK".



\$	BmsTo	ools HS	2.0.2																	_		×
Re	altim	e Mon	itorin	g Mu	1ti M	onitor	ing	Memory	Info.	Par	amete	er Setting	System	Config.	Other S	Setting	g GPS	Expo	rt Data	Protoco	ls	
	0	1	2	3	4	5	6	7	8	9	10			Ser	ial Port			nd Roto I	0096			
	11	12	13	14	15	16	17	18	19	20	21				COM Tye	RS232	· Da] Monitor	ing	C	pen	
	22	23	24	25	26	27	28	29	30	31	32				Pack_Star	t 1	~ P	ack_End	1	✓ 🗹 Loo	pDisplay	
P	ack In	forma	tion			v	^	Tem	perati	ure(°C)					ADDI	۲ 	I	nterval	1	~ S		
	I	Pack Ci	urrent			Å		Chan	ge La	nguag	e											
			SOC SOH			% %			PC 1	Langua	.ge:	中文(简体)					CHAR	CINC	CHC-	I IMIT-OFF	•4Cin	
	Rer	nainCap	pacity [mAH				Usi	ng:	English					DISC	HARGING	OHEAT	FR-OFF	●Rull:	
	Ba	FullCaj tterv	pacity Cycle			mAH			Cl	hange	To:	中文(简体)					DIDC		UILLIII	DR OIT	•1 uii	,
	Indep	endent	: Volt [mV				2	Ц	Enalish By DC										\sim
1	Indep	endent	Curr [mA	~			-		by PC					-					\vee
Ċ	ell Vol	ltage(r	nV)	_		_																\wedge
	1	MaxVo	lt			М	inVo	lt					_				-					\vee
Ĩ	1	Icell 1	1			Vcell 2	2	-		3	L	OK		Cancel								<
2	I	/cell 4	4			Vcell 5				Cell C			_	Swi	tch Contr	ol						
		/cell i				Vcell b	<u>'</u>	_	, ,	Cell 9					CI	HG Circ	uit 💷	Sou	and Aları	m		
1	ve Ve	ell 10	` <u> </u>		v	cell 14			ve Ve	ell 12					D	SG Circ	uit 💷	I	ED Aları	m. 111		
6	Ve	cell 16	3 <u>-</u>				·			.011 10				,					Shutdown	n 1 FF		
0	VER: MM:					B PA	MS S/	'N: 'N:						Passwo	rd		Ch	ange	X	⊁	11:30 2023/0):00)4/24

(4) English interface

🚸 BmsToo	ols HS	2.0.2									>
Realtime	Moni	itorin	g Mu	lti M	onitor	ing	Memory	Info.	Par	ameter	Setting System Config. Export Data Protocols
0	1 12	2 13	3 14	4 15	5 16	6 17	7 18	8 19	9 20	10 21	Serial Port Serial Port COM3 V Baud Rate 9600 V COM Type R5232 V Monitoring
22	23	24	25	26	27	28	29	30	31	32	Pack_Start 1 V Pack_End 1 V LoopDisplay
Pack Info Pack Pack Pack Pack Pack Pack Pack Pack	orma ack Vo ack Cu ainCap ullCap ullCap ttery endent	tion oltage [wrrent] SOC] SOH] pacity] Cycle] : Volt] : Curr]			V A % % nAH nAH mV nA	*	Ten To To To To To Toe	perate eNV_T ell 1 ell 3 ell 5 ell 7 ell 9 ll 11 ll 13	ure(°C)) Ta Ta Ta Ta Ta Ta Ta Ta	MDS_T ADDR Interval 1 ~ S Protocol ell 2 ell 4 ell 6 ell 8 Il 10 Il 12 Il 14 Protect Status Protect
Ven Voit	age(r 1axVo cell 1 cell 4 cell 7 ell 10 ell 13	nv) olt 1 4 7 3 3			M Vcell 2 Vcell 8 Vcell 8 cell 1 cell 1	linVol 2 5 8 1 4	t	Vo Vo	Tcell 3 Tcell 6 Tcell 9 Sell 12	Volti 3 3 9 2 5	Fault Status Fault Status Switch Control CHG Circuit III Sound Alara DSG Circuit III LED Alara Shutdown OFF
VER: COMM:					B PA	MS S/	N: N:				Password Change 2023/04

II RS232 communication connection

1. RS232 communication cable connection:







2. Definition of RS232 communication cable connection:







Pin	Colour	Defenition
1		NC
2	Green & White	232-TX
3	Blue	232-RX
4		NC
5	Brown	232-GND
6		NC
7		NC
8		NC
9		NC



III RS232 communication box driver installation

1. Download RS232 communication box driver



Download reference address : <u>http://www.sztek.com/down-810</u>



2. Unzip the driver package

US	B Drive	
r	UT-810N UT-850N Prolific Driver UT-880-TC UT-890-TC UT-8801 UT-883R FTDI Driver UT-8811 UT-891 Silicon Driver	
r	UT-8890 EXAR Driver	

3. Insert the RS232 communication cable correctly into the USD port of

the computer.



4. Enter [My Computer], find [Universal Serial Bus Controller] in

[Device Manager] and locate the appropriate USB port with 💁 ! Then right click on

the mouse, **update the driver**, and load the USB Drive

driver package



as the below pictures show :







5. Make sure that the USB 232 communication box driver is installed **OK** and that **[COM]** will appear in the port.





IV Connect with the software

Test whether the battery is normally powered on and not in hibernation status: insert the crystal head of the communication cable into the communication port of the protection board and the USB 232 communication box USB end into the computer, as shown in below pictures.

1. Turn on the switch 1 to check the battery level as the position marked 2.

2. Insert the crystal head of the communication cable into the communication

port of the protection board $\mathbf{\overline{3}}$ and the USB 232 communication box USB end

into the computer as 4 shows.







2. Open [BmsTools HS2.0.2] and double click to run the





3.

- (1) Select serial port in the software **1** and select baud rate 9600 **2**.
- (2) Click the "Try to connect" button to search for a serial port to connect. Or manually select the serial port and click on the "Open" button to connect 3.



💩 Bm	sTools H	S2.0.2										×
Realt	ime Mo	nitoring	g Mui	lti Ma	onitor	ing	Memory	/ Info	. Para	ameter S	etting System Config. Export Data Protocols _ 3	
0	1	2	3	4	5	6	7	8	9	10	Serial Port	ה
22	. 12 2 23	13 24	14 25	15 26	16 27	17 28	18 29	19 30	20 31	21 32	COM Type RS232 V Monitoring Pack_Start 1 V Pack_End 1 V LoopDisplay	 y
Pack	Inform	ation			7		Ter	nperat	ure(°C))	ADDR Interval 1 V S	
	Pack '	Voltage			V.	î		ENV_T		M	S_T Protocol	
	Pack	SOC SOU			А % к		To To	ell 1 ell 3		Tcel Tcel	1 2 System Status	
	RemainC	apacity			x0 m.A.H		To	ell 5		Tce	1 6 CHARGING-OFF CHARGING CHG-LIMIT-OFF CACir	n
	FullC	apacity			mÁH		To	ell 7		Tcel Tcel	OISCHARGING-OFF ODISCHARGING OHEATER-OFF OFull	ly
Inc	battery lepender	t Volt			nV		Tce	11 11		Tcel	12 Alarm Status	^
Ind	lepender	it Curr [mA	~	Tce	911 13		Tcel	. 14	\sim
Cell \	/oltage	(mV)									Protect Status	^
	MaxV	olt			M	linVol	t			VoltDi	ff	\sim
	Vcell	1	7	· ,	 Vcell 2	2					Fault Status	^
	Vcell	4		,	Vcell 5	ō 📃		1	/cell 6)	Switch Control	×
	Vcell	7		,	Vcell 8	3		1	/cell 9		CHG Circuit III Sound Alarm III	
	Vcell :		_	V	cell 11	۱ <u> </u>	_	V	cell 12	2	DSG Circuit III LED Alarm III	
	Vcell : Vcell :	16		Ύι	seit 14	±		V	sert 13	'L	V Shutdown OFF	
VER: COMM:					B PA	MS S/	N: N:				Password Change	i4:18 '04/07

4. The software and connection interface shows as below

altim	e Mon	itorin	g Mult	ti Mon	itoring	g Memor	y Info.	Para	ameter	r Setting Syst	em Config. Export Data Protocols
0 11 22	1 12 23	2 13 24	3 14 25	4 15 26	5 6 16 1 [°] 27 28	7 7 18 3 29	8 19 30	9 20 31	10 21 32	Normal	Serial Port Serial Port COM3 Baud Rate 9600 Close COM Tyep RS232 Pack End 1 Combination
Ack In Pa Pa Rema Fu Bat	forma ck Vol ck Cur inCapa 11Capa tery C	tion tage rent SOC SOH city city rcle	49.95(0.00 93 100 46630 50000 24	D V A % 0 %	нн	Ter T	mperatu ENV_T cell 1 cell 3	22.9 24.1 24.2	Tc	MOS_T 19.7 cell 2 24.4 cell 4 24.2	ADDR I Interval S Protocol None, HS-PC-232-BP-VI. 1 System Status CHARGING-ON CHARGING CHC-LIMIT-OFF CACir DISCHARGING-ON ODISCHARGING CHEATER-OFF Full Alarm Status None
ell Vol	tage(r MaxVo	nV) It 13	33	31	MinV	v	332	29	Vol	tDiff 2	Protect Status None
		3329	 }	 Vc:	ell 2	3330	 V	 cell 3	333	30	- Fault Status
N Ve Ve	/cell 4 /cell 7 :ell 10 :ell 13	3330 3330 3330 3331		Vo Vo Voe Voe	ell 5 ell 8 11 11 11 14	3330 3330 3330 3330	V V Vc	cell 6 cell 9 ell 12 ell 15	333 333 333 333	30 30 30 30	Switch Control CHG Circuit III Sound Alarm III DSG Circuit III LED Alarm III Shutdown OFF
/ER: P	15S50,	1−2137 rmal	5-1.09		BMS PACK	S/N: 161 S/N:	.00-114	7100-0	04200:	1	Password Change 💥 🔀 11:32 2023/0

V. Change the protocols in the software

1. Find

System Config.



BmsTools HS2.0.2					\times
Realtime Monitoring	Multi Monitorin	g Memory Info.	Parameter Setting	System Config. Export Data Protocols	
Voltage(mV)			^	Capacity(mAH)	^
Vref		Calibration		DesignCapacity	
Pack Voltage		Calibration		RemainCapacity	
Curront(mA)				FullCapacity	
CHG Current		Collibration	Posotting	Read Write	
(1000-650000mA)		Cambration	Resetting	Battery Cycle Setting	
Zero Current		Calibration	Resetting	Battery Cycle	
DSG Current (1000-650000-4)	~	Calibration	Resetting		
Cell Number Setting				Inverter protocol Password	
Call Number	~	Cotting		CAN Protocol 3. VICTRON(维克多) ~	
COII MUNDEL		Setting		RS485 Protocol 1.PYLON(派能) ~	
CHG Current Setting				Type Manual (手动) ~	
Start Current(A) ~	Setting	Read	Read Write	
Gan Charge Setting			_	Manufacture Information	
Gap charge setting			_	Clear text box arter writing	
Gap Charge T	hreshold	 Setting 	3	no-repeat BMS S/N 20 V Write	
				no-repeat PACK S/N (40)	
			Ŷ		•
VER: P15S50A-21375- OMM: Normal	1.09 BMS	S/N: 16100-114	7100-042001	Password Change 2023/0	6:0 04/

2. Enter the password : Pz#168178

💠 BmsTools HS2.0.2				
Realtime Monitoring Multi	Monitoring Memory Info.	Parameter Sett	ng System Config. Export Data Protocols	
Voltage(mV)			^ Capacity(mAH)	^
Vref	Calibration		DesignCapacity	
Pack Voltage	Calibration		RemainCapacity	
Current(mA)			FullCapacity	
CHG Current	Calibration	Resetting	Read	
Zero Current	Calibration	Resetting	Battery Cycle Setting	
DSG Current			Battery Cycle 0 🗘 Setting	
(1000-650000mA)	 Calibration 	Resetting	Inverter protocol	
Cell Number Setting			Password	
Cell Number	Setting		CAN Protocol 3. VICTRON(维克多) ~	
CHC Current Setting			RS485 Protocol 1. PYLON(JKRE)	
Start Current(Å)	✓ Setting	Read	Read Write	
			Manufacture Information	
Gap Charge Setting			Clear text box after writing	
Gap Charge Thresho	ld ~ Setting	9	no-repeat BMS S/N 20 VVite	
			🗌 no-repeat PACK S/N (40)	
			•	~
VER: P15S50A-21375-1.09	BMS S/N: 16100-114	7100-042001	Password Change	11:40:46 2023/04/07

3.

(1) Select the protocols under CAN/485 Protocol as the frame 1 shows.



🚸 BmsTools HS2.0.2				- 0	\times
Realtime Monitoring	Multi Monitoring	Memory Info.	Parameter Setting	System Config. Export Data Protocols	
Voltage(mV)			^	Capacity(mAH)	^
Vref		Calibration		DesignCapacity	
Pack Voltage		Calibration		RemainCapacity	
Current(mA)				FullCapacity	
CHG Current (1000-650000mA)	~	Calibration	Resetting	Read Write	
Zero Current		Calibration	Resetting	Battery Cycle Setting	
DSG Current (1000-650000mA)	~	Calibration	Resetting	Inverter protocol	
Cell Number Setting				Password	
Cell Number	~ S	etting		CAN Protocol 3. VICTRON(维克多) ~ RS485 Protocol 1. PYLON(派能) ~ 1	
CHG Current Setting				Type Manual (手动) ~	- 11
Start Current(A	n) 🔨 👌	Setting	Read	Read Write 2	
- Gan Charge Setting -			_	Manufacture Information	
oup charge setting	1 1 1 1	Catting			
Gap Charge 1	hreshold	Setting		no-repeat BMS S/N 20 Vrite	
				no-repeat PACK S/N (40)	
			~		~
VER: P15S50A-21375- COMM: Normal	1.09 BMS S PACK S	/N: 16100-1147 /N:	7100-042001	Password Change II: 2023	53:31 /04/07

VI Solutions for connection failure

Possible reasons for failure :

1. Use the wrong software.

Solution: change to the correct version software.

2. Defective or incorrectly wired communication cable.



solution : replace the communication cable with a good one or correct the incorrect wiring.

3. The computer USD port not recognized. solution :

change the USD port.

4. No driver installed.

solution : install a driver compatible with the communication line.

Methods to tell if the communication cable driver is installed Method 1

Check if there is a relevant COM port in the "Serial port" pull-down of the software, if

not found, it is probably not installed.

串口	COM48	▼ 波特率	9600	•	打开串口
Pack	COM1 COM48	D Pack数量	1		启动监控
地址	0	间隔(秒)	1	•	

Method 2

Press win and R at the same time to open the [Run] window, enter "devmgmt.msc"

to open the [Device Manager].





📼 运行	
	Windows 将根据您所输入的名称,为您打开相应的程序、 文件夹、文档或 Internet 资源。
打开(0):	· devmgmt.msc
	☞ 使用旨理仪探创建风社务。
	确定 取消 浏览(B)

Find [**Port**] in [**Device Manager**] and find the corresponding COM port. If you can find it as below pictures show, it means the driver has been installed, if not, it means the driver is not installed.

