Rack Li-ion Battery--Deye--Setup
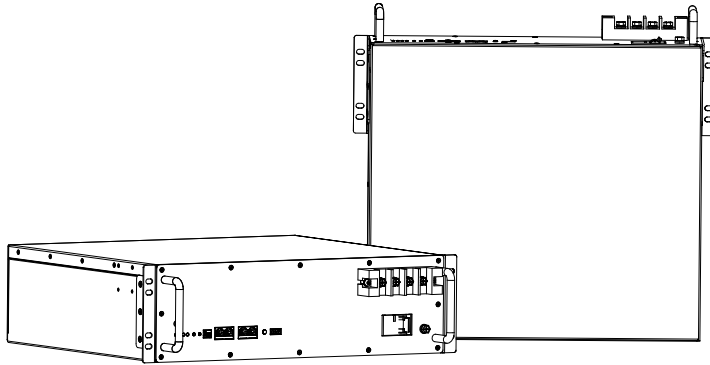# User's Guide

Battery and Deye Setup

Check List:

51.2V100Ah Rack Li-ion Battery
Power cable
Communication cable
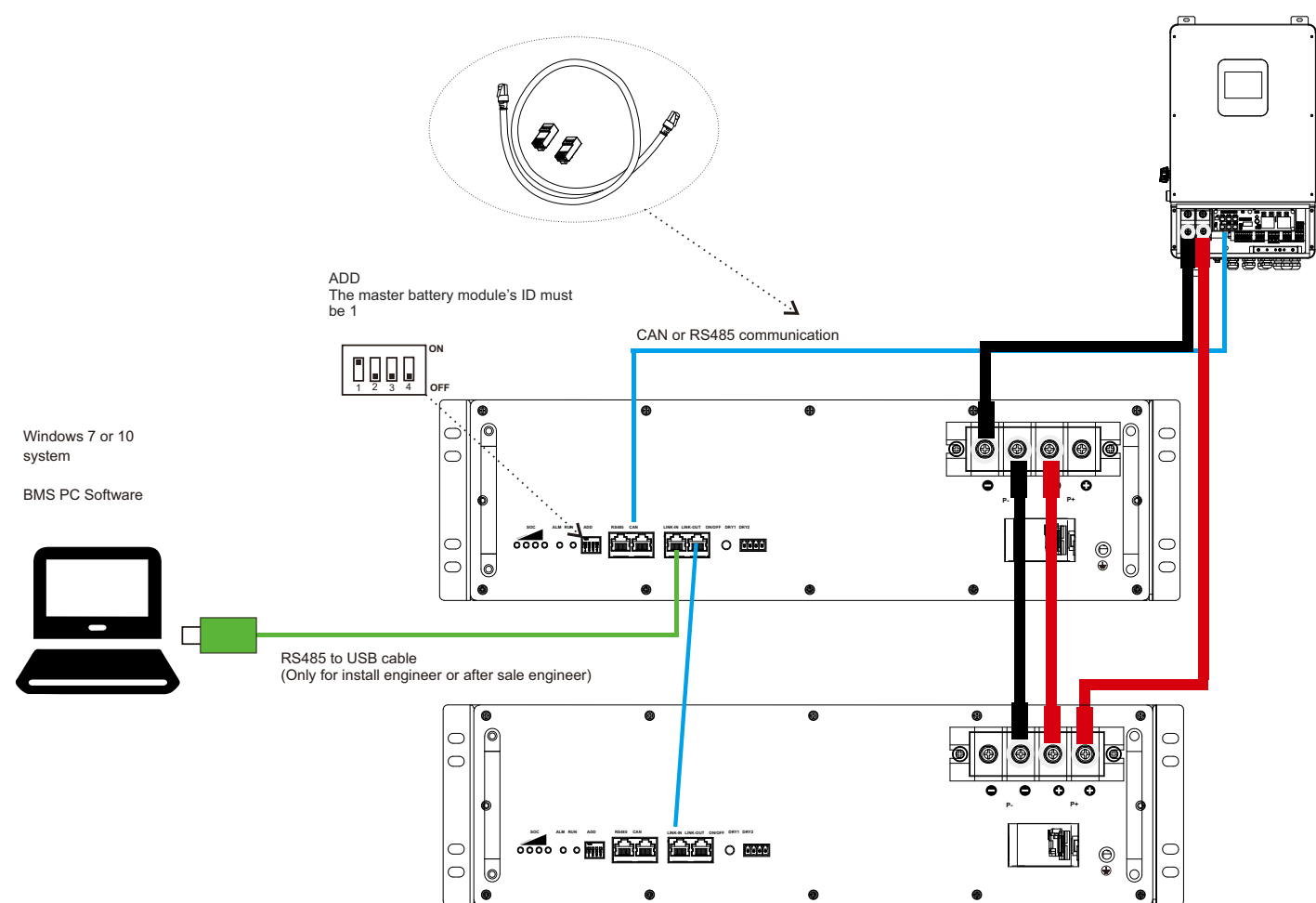Deye SUN-5K-SG01LP1-US inverter

Step 1 : Cable connect in inverter
Keep both inverter and battery completely off.
Connect power cable and comm cable to inverter first.
Note: Comm cable has label on, make sure the inverter side goes
to battery side, inverter side to the inverter RS485 side, battery
side left for later on in battery connection.
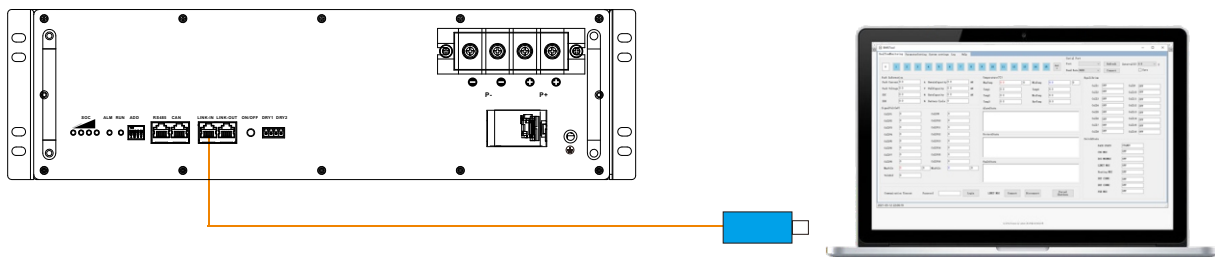
,

System cable connection

ADD
The master battery module's ID must be 1

CAN or RS485 communication

Windows 7 or 10 system

BMS PC Software

RS485 to USB cable
(Only for install engineer or after sale engineer)

ADD Switch

ADD	1#	1#	1#	1#	Remark
0	OFF	OFF	OFF	OFF	Pack 0, Default
1	ON	OFF	OFF	OFF	Pack 1, Master Battery
2	OFF	ON	OFF	OFF	Pack 2
3	ON	ON	OFF	OFF	Pack 3
4	OFF	OFF	ON	OFF	Pack 4
5	ON	OFF	ON	OFF	Pack 5
6	OFF	ON	ON	OFF	Pack 6
7	ON	ON	ON	OFF	Pack 7
8	OFF	OFF	OFF	ON	Pack 8
9	ON	OFF	OFF	ON	Pack 9
10	OFF	ON	OFF	ON	Pack 10
11	ON	ON	OFF	ON	Pack 11
12	OFF	OFF	ON	ON	Pack 12
13	ON	OFF	ON	ON	Pack 13
14	OFF	ON	ON	ON	Pack 14
15	ON	ON	ON	ON	Pack 15

Step2 : BMS PC Software Operation

1. Download BMS PC software and Unzip to a local folder.

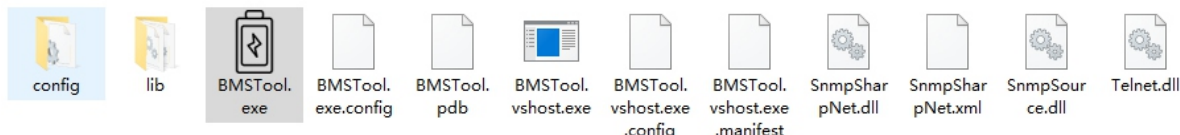*http://120.27.63.138:8181/docs/rack_48v/software*

2. Connect battery LINK-IN port to computer by RS485 to USB equipment:

3. Check the battery ADD and make sure the ID=1

ON
1 2 3 4
OFF

4. Double click " BMSTool.exe" to run BMS PC software.

config lib BMSTool.exe BMSTool.exe.config BMSTool.pdb BMSTool.vshost.exe BMSTool.vshost.exe.config BMSTool.vshost.exe.manifest SnmpSharpNet.dll SnmpSharpNet.xml SnmpSource.dll Telnet.dll

Battery ADD   If RS485 to USB device is connected well, the serial port will be listed

BMSTool

RealTimeMonitoring | ParameterSetting | System Settings | Inverter Protocol Settings | Logs | Help

0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | Auto

Serial Port
Port COM5   Refresh   Interval (S) 0.5
Baud Rate 9600   Connect   ☐ Save

3. Click " Connect", the BMS detail information will be listed

Pack Information

Pack Current	0.0	A	Remain'Capacity	6.3	Ah
Pack Voltage	48.8	V	Full Capacity	30.0	Ah
SOC	21.0	%	Rated Capacity	30.0	Ah
SOH	100.0	%	Battery Cycle	1	

Temperature (℃)

MaxTemp	29.0	2	Min Temp	28.4	3
Temp 1	28.9		Temp 4	28.5	
Temp 2	29.0		MOS Temp	29.2	
Temp 3	28.4		Env Temp	31.0	

Equilibrium

Cell V1	OFF	Cell V1	OFF
Cell V1	OFF	Cell V1	OFF
Cell V1	OFF	Cell V1	OFF
Cell V1	OFF	Cell V1	OFF
Cell V1	OFF	Cell V1	OFF
Cell V1	OFF	Cell V1	OFF
Cell V1	OFF	Cell V1	OFF
Cell V1	OFF	Cell V1	OFF

Cell Voltage (mV)

Cell V1	3252	Cell V9	3251	
Cell V2	3233	Cell V10	3252	
Cell V3	3252	Cell V11	3251	
Cell V4	3251	Cell V12	3251	
Cell V5	3251	Cell V13	3251	
Cell V6	3251	Cell V14	3251	
Cell V7	3251	Cell V15	3250	
Cell V8	3252	Cell V16	0	
MaxVolt	3252	10	MinVolt	3233	2
VoltDif	19				

Alarm Status

No Alarm

Protect Status

No Protect

Fault Status

No Fault

SwitchStatus

PACK STATU	STANDBY
CHG MOS	ON
DSG MOS	ON
LIMIT MOS	OFF
HEATING MOS	OFF
DRY CONN1	OFF
DRY CONN2	OFF
PRE MOS	OFF

Communication Normal   Password [ ]   Login   LIMIT MOS   Connect   Disconnect   Forced Shutdown

BMSTool (Real Time Monitoring)

RealTimeMonitoring | ParameterSetting | System Settings | Inverter Protocol Settings | Logs | Help

Serial Port
Port: COM5   Refresh   Interval (S): 0.5
Baud Rate: 9600   Connect   ☐ Save

0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | Auto

Pack Information
Pack Current	0.0	A	Remain'Capacity	6.3	Ah
Pack Voltage	48.8	V	Full Capacity	30.0	Ah
SOC	21.0	%	Rated Capacity	30.0	Ah
SOH	100.0	%	Battery Cycle	1	

Temperature (°C)
MaxTemp	29.0	2	Min Temp	28.4	3
Temp 1	28.9		Temp 4	28.5
Temp 2	29.0		MOS Temp	29.2
Temp 3	28.4		Env Temp	31.0

Cell Voltage (mV)
Cell V1	3252	Cell V9	3251
Cell V2	3233	Cell V10	3252
Cell V3	3252	Cell V11	3251
Cell V4	3251	Cell V12	3251
Cell V5	3251	Cell V13	3251
Cell V6	3251	Cell V14	3251
Cell V7	3251	Cell V15	3250
Cell V8	3252	Cell V16	0
MaxVolt	3252 (10)	MinVolt	3233 (2)
VoltDif	19		

Alarm Status: No Alarm
Protect Status: No Protect
Fault Status: No Fault

Equilibrium
Cell V1 OFF (×16)

SwitchStatus
PACK STATU	STANDBY
CHG MOS	ON
DSG MOS	ON
LIMIT MOS	OFF
HEATING MOS	OFF
DRY CONN1	OFF
DRY CONN2	OFF
PRE MOS	OFF

Communication Normal   Password [ ] Login   LIMIT MOS Connect | Disconnect | Forced Shutdown

Battery information:
Total current, Total voltage, SOC, SOH, Remain capacity, Rated capacity, Cycle times.

Cells information:
Cell voltage

Alarm, Protection, Fault information

Temperature information:
Cell temperature
Environment temperature
BMS temperature (MOS)

Note:

The Parameter setting change must be carried out by a professional engineer.

Writer new parameters

Check default BMS parameters setting

BMSTool (ParameterSetting)

RealTimeMonitoring | ParameterSetting | System Settings | Inverter Protocol Settings | Logs | Help

Clear | Deselect All | Write | Stop | Read | Clear | Restore

Pack OV Alarm Protect
- Pack OV Alarm (V)
- Pack OV Protect (V)
- Pack OVP Release (V)
- Pack OVP Delay Time (mS)

Cell OV Alarm Protect
- Cell OV Alarm (V)
- Cell OV Protect (V)
- Cell OVP Release (V)
- Cell OVP Delay Time (mS)

Pack UV Alarm Protect
- Pack UV Alarm (V)
- Pack UV Protect (V)
- Pack UVP Release (V)
- Pack UVP Delay Time (mS)

Cell UV Alarm Protect
- Cell UV Alarm (V)
- Cell UV Protect (V)
- Cell UVP Release (V)
- Cell UP Delay Time (mS)

CHG OC Alarm Protect
- CHG OC Alarm (A)
- CHG OC Protect (A)
- CHG OC Delay Time (mS)

CHG OT Alarm Protect
- CHG OT Alarm (°C)
- CHG OT Protect (°C)
- CHG OTP Release (°C)

DSG OT Alarm Protect
- DSG OT Alarm (°C)
- DSG OT Protect (°C)
- DSG OTP Release (°C)

CHG UT Alarm Protect
- CHG UT Alarm (°C)
- CHG UT Protect (°C)
- CHG UTP Release (°C)

DSG OC Alarm Protect
- DSG OC Alarm (A)
- DSG OC 1 Protect (A)
- DSG OC 1 Delay Time (mS)
- DSG OC 2 Protect (A)
- DSG OC 2 Delay Time (mS)

DHG UT Alarm Protect
- DHG UT Alarm (°C)
- DHG UT Protect (°C)
- DHG UTP Release (°C)

MOS OT Alarm Protect
- MOS OT Alarm (°C)
- MOS OT Protect (°C)
- MOS OTP Release (°C)

ENV OT Alarm Protect
- ENV OT Alarm (°C)
- ENV OT Protect (°C)
- ENV OTP Release (°C)

ENV UT Alarm Protect
- ENV UT Alarm (°C)
- ENV UT Protect (°C)
- ENV UTP Release (°C)

- Balance Threshold (mV)
- Balance ΔVcell (mV)

- Sleep Vcell (V)
- Delay Time (s)
- SCP Delay Time (uS)
- SOC Low Alarm (%)

BMS Version
- Model SN
- PACK SN

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RealTimeMonitoring | ParameterSetting | System settings | System extension Settings | Log | Help

Clear

Inverter selection
RS485 Inverter

Inverter Type [   ]   [READ]

Inverter Type [PLY(DEYE,SMK,FIRMAN) ▾] [WRITE]   Select communication protocol

CAN Inverter

Inverter Type [   ]   [READ]

Inverter Type [VICTRON   ▾]   [WRITE]

Step 3: Inverter setup

Press setup in the top right corner, go in, make sure everything is properly set as below:

1. LI type(Lithium)

Steps:

Setup →

Battery Setup →

Batt (choose 'Use Batt % charge' and 'BMS Lithium Batt') →

Lithium Mode→12

Charge (choose 'Grid Charge', charge current is N*50A, Float V is 53.5V, Absorption/Equalization V is 56V) →

Discharge (Shutdown is 15%, Low Batt is 20%)

After setup, you can press 'Li-Batt info' to check battery Voltage/Current/Max Charge/Discharge current/SOC.

2.Grid

Steps:

Setup →

Grid Setup →

Limiter (choose 'Grid Sell'

And 'Time of Use'. you can set proper time on the right and choose it)

Example: set like this picture means 06:00~12:55, battery discharge to Grid until SOC is 20%; 12:55~06:00(tomorrow), Battery charge through Grid until SOC is 100%.

Step 4: You are ready to go

Step 5: Shut Down
POWEBOX

1 Remove all the load

2 Turn off DC breaker of Powerbox.

3 Long press 3s Reset button of the Powerbox to power off battery

4 Disconnect PV/Grid

5 Turn off the inverter power switch,shut down the inverter

Battery Parallel

1 Remove all the load

2 Turn off DC breaker between the battery and inverter.

3 Disconnect PV/Grid

4 Turn off the inverter power switch,shut down the inverter

5 Long press Reset button to power off the battery,from the master to the slaves one by one.Then switch off all the batteries' Power switch