LOW VOLTAGE RESS LI-ION BATTERY
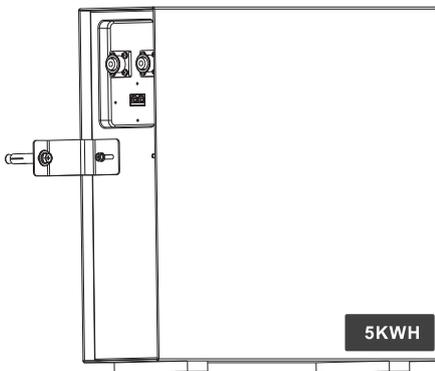# BAT 5KWH-25.6V
USERS GUIDE

End User Documentation
Rev 1.0
Jun-27-2026

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WARNING: Explosion, Electrocution, Or Fire Hazard

☑ A battery can present a risk of electric shock, burns from high short circuit current, fire, or explosion.

☑ Observe proper precautions.

☑ Ensure the cables are properly sized.

☑ Ensure clearance requirements are strictly enforced around the batteries.

☑ Ensure the area around the batteries is well ventilated and clean of debris.

☑ Always use insulated tools. Avoid dropping tools onto batteries or other electrical parts.

☑ If a battery must be removed, always remove the grounded terminal from the battery first. Make sure all devices are disconnected.

☑ All devices must be disconnected when update the BMS software.

☑ DO NOT short the battery terminals.

☑ DO NOT incinerate, crush, or disassemble.

☑ DO NOT reverse connections (polarity) from charger to battery.

☑ DO NOT operate battery beyond published voltage and current limits.

IMPORTANT

☑ When installing batteries, leave adequate clearance between batteries.

☑ When replacing batteries, use the same part number of batteries.

☑ Avoid any fall or collision during the installation process.

☑ Do not remove the battery components. The maintenance of the battery should be carried out by a professional engineer.

☑ Do not expose the Li-ion battery to heat in excess of 55°C during operation, 60 °C in storage;

☑ The SOC is 50% when shipped from factory, it needs to be recharged in time for long time storage.

LOW VOLTAGE RESS BATTERY

This series li-ion batteries are designed for the residential energy storage market (RESS) which combines safe and reliable LiFePO4 prismatic cells with RESS dedicated BMS to guarantee high reliability, safety, and scalability when used with different inverter.

This series include 1 model to adapt to 1KW~3.6KW capacity inverter.

25.6V200Ah (5KWH)

This document is intended for use by anyone required to install and operate Li-ion batteries. Be sure to review this manual carefully to identify any potential safety risks before proceeding.
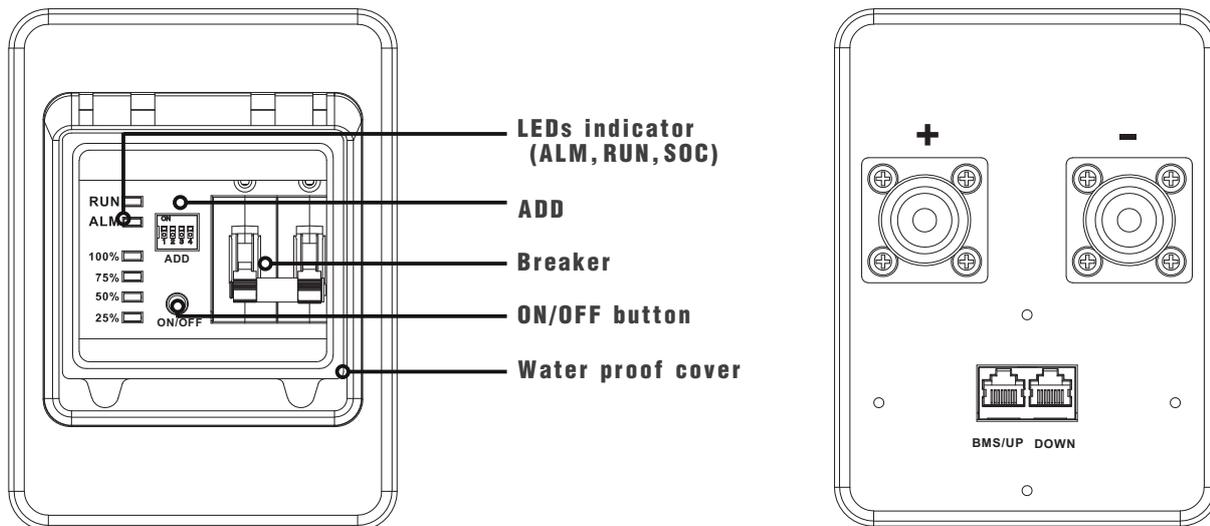
The owner must be familiar with all the features of this product before proceeding.

Failure to install or use this product as instructed can result in damage to the product that may not be covered under the limited warranty.
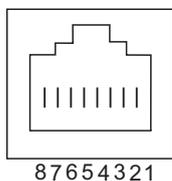
Product Introduction
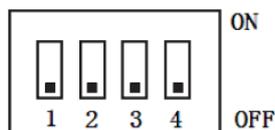
The RESS batteries are shown in below figures.

LEDs indicator (ALM,RUN,SOC)

ADD

Breaker

ON/OFF button

Water proof cover
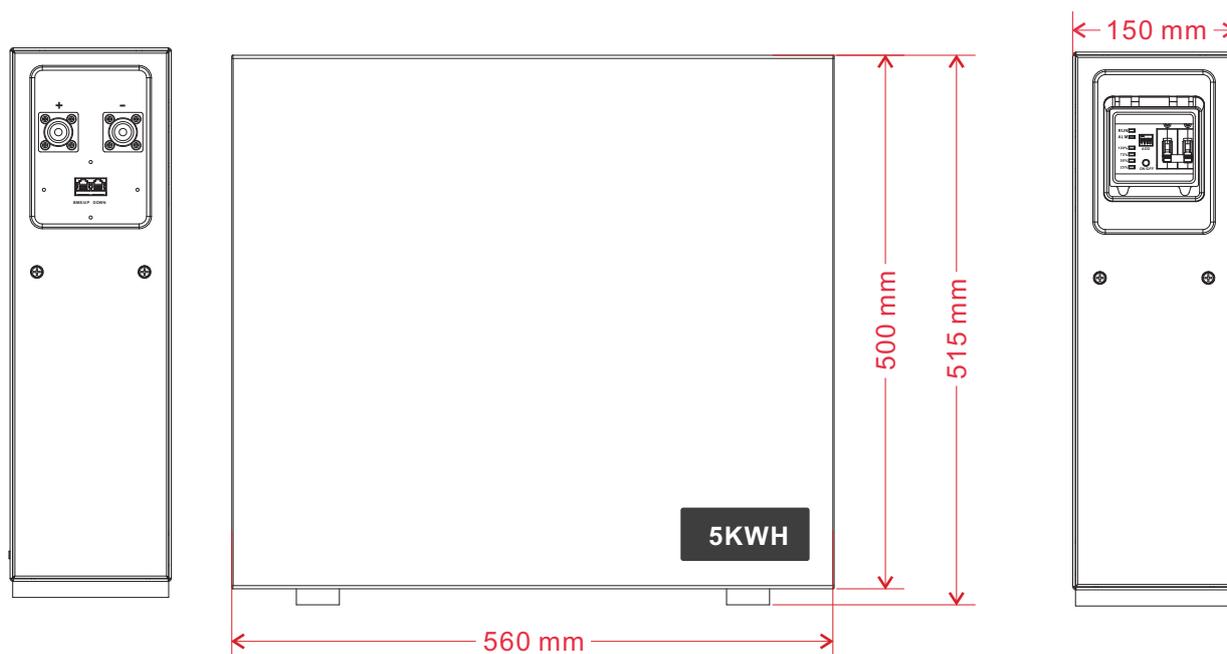
Communication port

87654321

BMS/UP

RJ45 PIN	Description
1	NC
2	NC
3	NC
4	CAN_H
5	CAN_L
6	NC
7	RS485_A
8	RS485_B

DOWN

RJ45 PIN	Description
1	NC
2	NC
3	NC
4	CAN_H
5	CAN_L
6	NC
7	RS485_A
8	RS485_B

ADD Switch

ADD	1#	1#	1#	1#	Remark
1	ON	OFF	OFF	OFF	Pack 1, Master Battery, COM to inverter
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

LED Indicator Description

Status	Nominal Warning Protection	RUN	ALM	SOC				Description
Shut down	Dormancy	OFF	OFF	OFF	OFF	OFF	OFF	
Standby	Nominal	Flash 1	OFF	Follow module capacity				Standby
Standby	Warning	Flash 1	Flash 3	Follow module capacity				Module at low voltage
Charge	Nominal	ON	OFF	Follow module capacity				
Charge	Warning	ON	Flash 3	Follow module capacity				
Charge	Over-charge Protection	ON	OFF	ON	ON	ON	ON	LED turn to standby if no power supply
Charge	Temperature, over-current, Failure protection	OFF	ON	OFF	OFF	OFF	OFF	Stop charging
Discharge	Nominal	Flash 3	OFF	Follow module capacity				
Discharge	Warning	Flash 3	Flash 3	Follow module capacity				
Discharge	Under voltage Protection	OFF	OFF	OFF	OFF	OFF	OFF	Stop discharging
Discharge	Temperature, over-current, short circuit, failure protection	OFF	ON	OFF	OFF	OFF	OFF	Stop discharging
Failure		OFF	ON	OFF	OFF	OFF	OFF	Stop charging and discharging

Note:
Flash 1: light 0.25s/off 3.75s
Flash 2: light 0.5s/ off 0.5s
Flash 3: light 0.5s / off 1.5s

ON/OFF Button

⎍ OFF mode

During in transport, BMS ON/OFF button is at OFF status. it will turn off the BMS power supply.

⎍ ON mode

By press ON/OFF button to active BMS to enter into working mode, if the MCB is also ON, the battery voltage will can be measured by terminal.

Even if the button is at ON mode, The BMS will enter into dormancy mode after 24 hours when there are no charge, no discharge and no communication. it can be activated again by charge or communication or repress ON/OFF button.

History Record

The BMS can restore 200 logs about historical alarm / protection data, the logs can be read by PC software.

Parameters

Model	BAT-5KWH-25.6V
Nominal Voltage [V]	25.6
Nominal Capacity [Ah]	200
Total Energy [Wh]	5120
Dimension (W*D*H, mm)	560*150*515
Weight [Kg]	45
Max. Charging Current [A]	100
Max. Discharging Current [A]	150
Pulse Discharge Current	180A @3s 200A @200ms
Charging Voltage [V]	28.0~29.2
End of Dicharge Voltage [V]	22.4 (Backup Application) / 24 (Cycle Application)
Operation Humidity	0~95% RH (No condensing)
Operating Temperature Range	Standard Product: Charge: 0 ~ +55°C; Discharge: -20 ~ +55°C With Optional Heater: Charge / Discharge: -30 ~ +55°C
Cycle Life [1]	>6000
Designed Calendar Life	10 Years
Communication interface	RS485, CAN
Protection	Over voltage , Low voltage, Over current, Over Temperature, Low Temperature, Short circuit
Parallel Support [2]	Yes, Max. 6 Sets
Series Support	Not support

Transportation requirement

The product passes the certifications of the UN38.3 (UN38.3: Section 38.3 of the sixth Revised Edition of the Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria) and SN/T 0370.2-2009 (Part 2: Performance Test of the Rules for the Inspection of Packaging for Exporting Dangerous Goods). This product belongs to class 9 dangerous goods.

The SOC is 50% when shipped from factory.

The product can be delivered to the site directly and transported by land and water. The packing case must be secured for transportation, compliant with related national standards,

and printed with marks such as anti-collision and moisture prevention. Dispose of waste ESMs in strict accordance with local laws and regulations.

Protect the packing case with the product from the following situations:

- Being dampened by rains, snows, or falling into water
- Falling or mechanical impact
- Being upside-down or tilted

Storage

The rack type Li-ion battery can be stored in an environment with temperatures between -40°C and +60°C and between 10% and 90% relative humidity, non-condensing. For long storage periods at 25°C, charge the battery every 6 months. For temperatures above 40°C, charge the battery every quarter.

Do not store the Li-ion battery at temperatures above 60°C.

Keep away from heat sources (such as a heater)

Communication with different inverter

BAT 5KWh-25.6V li-ion battery BMS support to do communication with below inverters.

This chapter mainly introduce the communication cable connection and BMS software configuration.

SN	Inverter Brand	Adaption Series	Communication
1	Victron	CCGX- VE-CAN	CAN
2	Voltronic		RS485
3	GSB SOLAR		RS485
4	FIRMAN		RS485

Note: The BMS only integrate 1 inverter protocol inside, it needs to re-load different BMS software for different inverter.
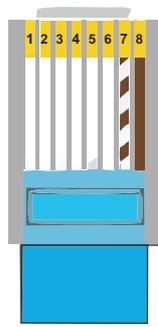
Communication cable

CAN Cable

RS485 Cable

1 2 3 4 5 6 7 8
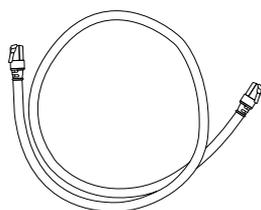
1 2 3 4 5 6 7 8
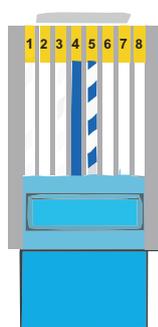
PIN 4-CAN_H

PIN 5-CAN_L

PIN 7-RS485A

PIN 8-RS485B

☐ Communication with inverter by CAN, the battery to battery parallel communication cable must be RS485.

☐ Communication with inverter by RS485, the battery to battery parallel communication cable must be CAN and can terminal resistor is necessary.

System cable connection

Single inverter with single battery

Step 1. Make sure the battery breaker is in off condition. Connect the power cable to inverter. Make sure the screws are tight.

Step 2. Connect the communication cable.

Step 3. Set the battery module ID by ADD. **The master battery which do communication with inverter ADD must be 1**.

Step 4. Make sure the inverter had be installed correctly.

Step 5. Turn on battery breaker.

Step 5. Press ON/OFF button to active the battery BMS and the inverter will be activated,

Step7. Set inverter (Battery type and communication), If the communication between BMS and inverter is nominal, the SOC, temperature information will be send to inverter.

Step8. **Charge the batteries fully in first use.**

Note:
• *For 1pcs 5KWH-25.6V , the max. output current is 150A and it max support 3.6KVA inverter or the real load power consumption is less than 3.6KW.*

COM cable

verter or the real load power
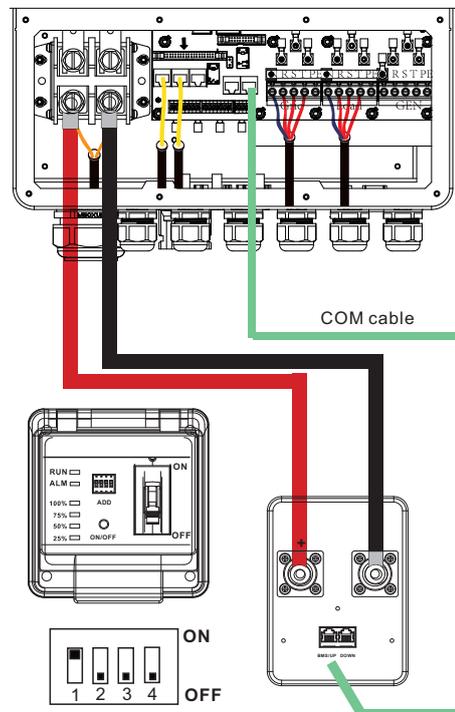
Charging Batteries

The constant current (CC) chargers is recommended strongly.

The charge voltage and current setting can refer to below table:

Battery Voltage and Current During Recharge
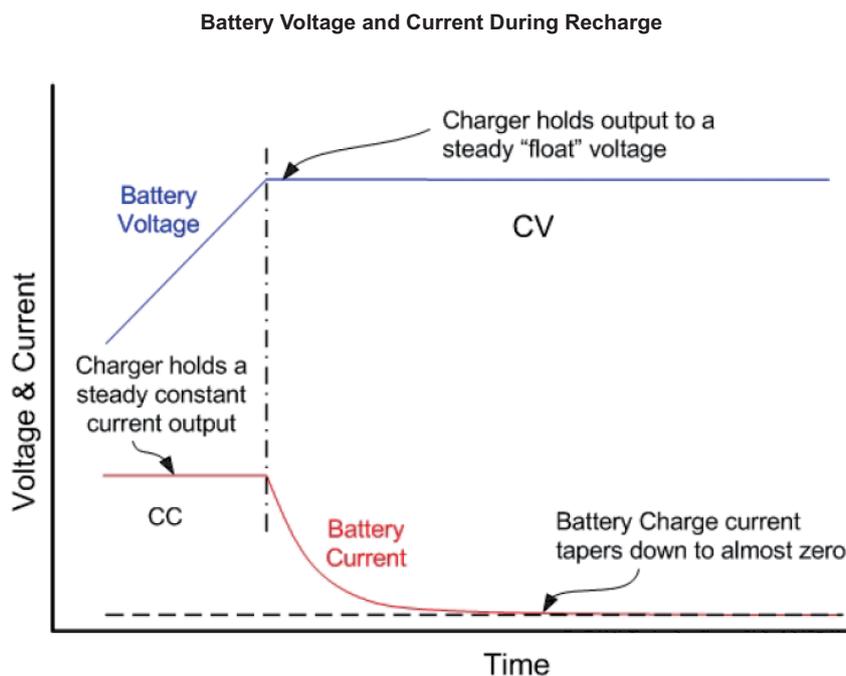
- If there are communication between battery and inverter, the BMS will automatic request charge and discharge parameters from inverter,

- If there are no communication between battery and inverter, setting charge and discharge parameters on inverter.

Recommended setting for 25.6V battery:

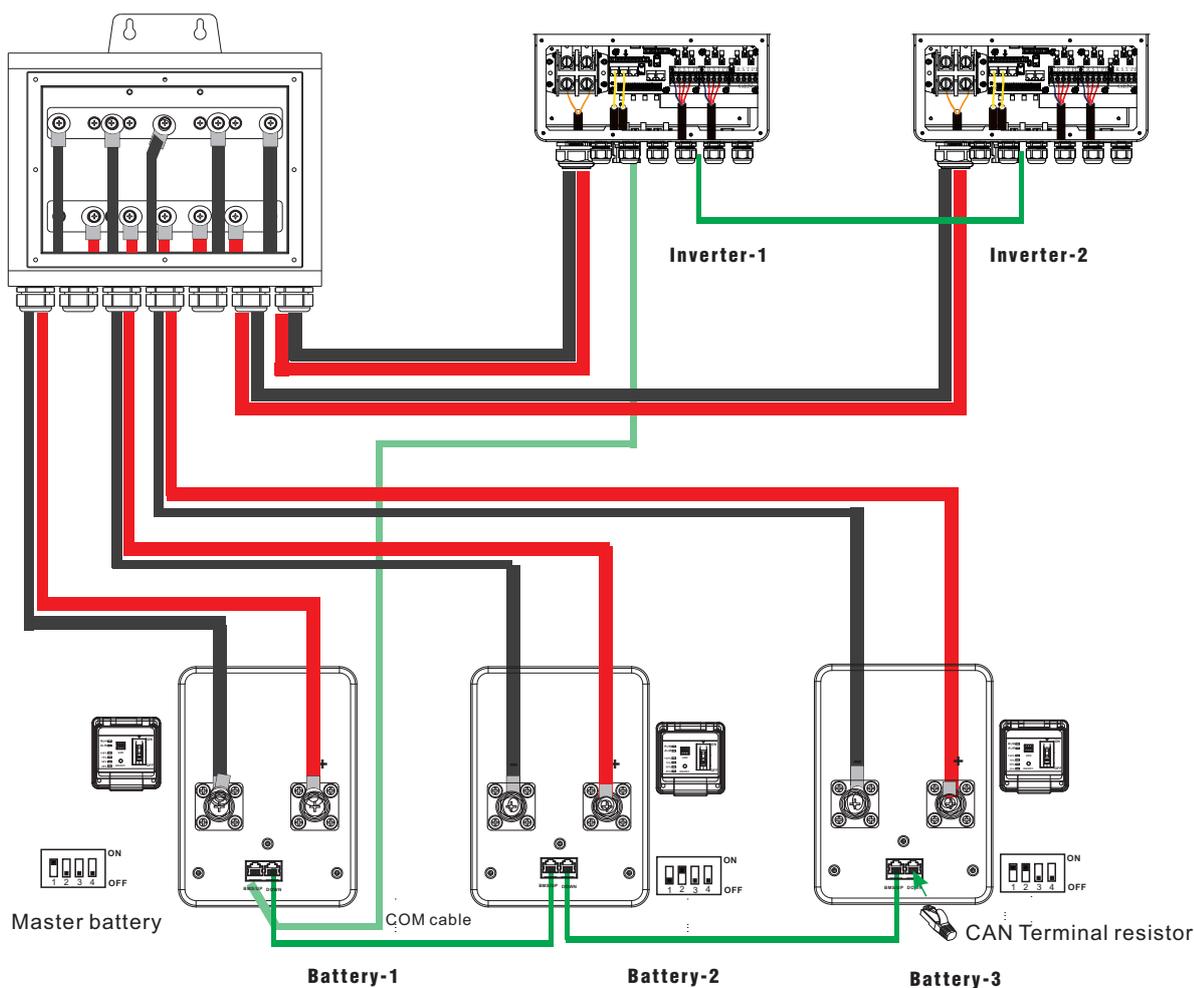Equalized charging voltage: 28.4~29.2Vd

Float charging voltage: 28Vdc

Charge current: 0.5C

End of discharge voltage: 24Vdc

Annex A: Parallel Connection With Distribution BOX

Distribution box is optional for the situation which parallel over 3 batteries or 2~3 inverter in parallel.

Inverter-1

Inverter-2

Master battery

COM cable

CAN Terminal resistor

Battery-1

Battery-2

Battery-3

Note:

☑ Ensure the cables are properly sized.

☑ The length fo cable should be same.

☑ If the communication with inverter by CAN, the parallel communication must be Rs485

☑ If the communication with inverter by RS485, the parallel communication must be CAN and CAN terminal resistor is necessary.