



Bastion WF5K

ESWMF51H5110BCV01B

User Manual

Manual de utilizare



335.11.23.1

Before using this product, carefully read all product documentation and retain it for future reference.

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Please read this manual before using the product.

This user manual introduces the energy storage module in terms of its installation, electrical connections, operation, commissioning, maintenance, and troubleshooting. Please read through the manual carefully before installing and using the energy storage module, and keep the manual well for future reference.

Application Model

Bastion WF5K

Applicable Personnel

This user manual is intended for photovoltaic (PV) inverter operating personnel and qualified electrical technicians.

NOTE!

This user manual is subject to change without prior notice.



1 Safety Information

1.1 General Safety

Please carefully read the manual safety precautions, and observe all the safety instructions on the equipment and in this document.

The “DANGER”, “WARNING”, and “NOTICE” statements in this document do not cover all the safety instructions. They are only supplements to the safety instructions.

In order to ensure human safety and effectively utilize this manual, use the appropriate symbol to emphasized outstanding. You must fully understand and comply with the emphasized information to avoid personal injury and property damage. Relative safety symbols have been listed below.

	DANGER indicates a hazardous situation which, if not avoided will result in serious injury and fire happens.
	WARNING indicates a hazardous situation which, if not avoided will result in property loss or void warranty
NOTE!	NOTICE indicates a normal situation which, if not avoided will result system doesn't work.

Follow local laws and regulations when installing, operating, or maintaining the equipment. The safety instructions in this document are only supplements to local laws and regulations.

1.2 Personal Safety Personal Requirements

Personnel who plan to install or maintain battery equipment must be trained, understood all necessary safety precautions, and be able to perform all operations correctly.

Only qualified professionals or trained personnel are allowed to install, operate, and maintain the equipment.

Personal Safety







DANGER




- Do not place battery at a children or pet touchable area.
- Do not touch the energized battery, as the enclosure is hot.
- Do not touch the energized battery terminals.
- Do not stand on, lean on, or sit on the battery.

1.3 Electrical Safety

Symbols on battery

There are some electrical symbols on battery relate to electrical safety. Please make sure you have fully understand them before installation.

	SOC Indicator	SOC Indicator on front panel is for battery energy percentage display
 RUN	Working indicator	Battery working indicator on front panel is for showing battery working status.
 ALM	Alarm indicator	Red alarm light shows alarm and fault happen.
	Electrical danger	Voltage exits when the battery is powered on. Only qualified engineers are allowed to operate.
	Earth connector	Earth connection.
	DC positive and negative connectors	Identify positive and negative connectors of DC power source.

	CE mark	The product meets CE certification.
	WEEE tag	Can't leave battery as garbage disposal.
	Recycle	Battery can be recycled

 **DANGER**

- Before installation, ensure that the equipment is intact. Otherwise, electric shocks or fire may occur.
- Do not connect or disconnect power cables when battery is power on. Which may cause electric arcs and sparks more over fire or personal injury.
- Before connecting a power cable, check the positive or negative connectors are correct.
- Do not parallel connect different batteries.
- Do not connect battery with AC directly.
- Do not connect battery with PV wiring directly.
- Do not connect batteries in series.
- Do not connect battery to faulty or unqualified inverter or charger.
- Do not create short circuits with the external connection.
- Make sure cut-off grid and power-off battery before maintenance.
- Make sure earth cable connect correctly before operation



WARNING

- Recharge battery every six months.
- Recharge battery within 10 days after battery is fully discharged.
- Please engage greater than or equal to two batteries when maximum charge current is more than 100A.
- Make sure battery cable placement is installed correctly.
- Use moto meter to make sure there is no voltage between positive and negative terminals after power-off battery when install or maintenance.

NOTE!

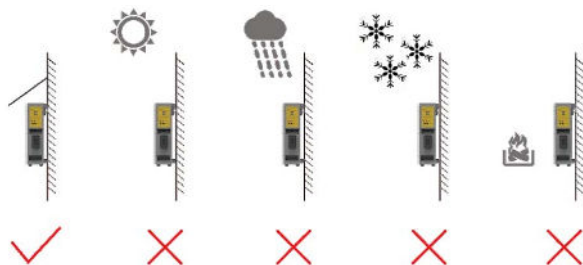
- Please use dedicated insulated tools for install and maintenance.
- Please make sure all batteries are power-off when multiple parallel connection.
- Please check lights on sequence when battery power-on.
- Please make sure communication connection connect correctly with battery and inverter.
- Please make sure ADDS dip switch settings are correctly for single or multiple batteries.
- Please check inverter alarm or SOC reading when there is BMS communication with inverter.

1.4 Environment Safety



WARNING

- Ensure that the equipment is installed in a dry and well-ventilated environment.
- The installation position must be away from direct sunlight and rain.
- The installation position must be far away from fire sources.
- The installation position must be far away from water sources such as taps, sewer pipes, and sprinklers to prevent water seepage.
- The bracket must be installed solid and horizontal.
- Do not expose the equipment to flammable or explosive gas or smoke. Do not perform any operation on the equipment in such environments.
- The operation and service life of the battery depend on the operating temperature. Operate the battery at a temperature equal to or better than the ambient temperature. The recommended operating temperature ranges from 0°C to 30°C.



1.5 Transportation Safety



WARNING

- The products passed certification UN38.3
- The products have MSDS.
- The products belong to class 9 dangerous goods.
- Please protect the packing case from the below situations.
 1. Being dampened by rains, snows, or falling into water
 2. Falling or mechanical impact
 3. Being upside-down or tilted

2 Product Information

2.1 Battery Overview

The Bastion WF5K battery is a wall mounted lithium battery pack which consists of long life-span LiFePO₄ battery cells and functional BMS. It can store and release electric energy based on the requirements of the inverter controller. It is mainly for home energy storage system.

Features

- LiFePO₄ prismatic cell
- 6000 cycles at 1°C condition
- Maximum 1C charge and discharge capability
- No dip switches, addressing automatic self-adaption
- Scalable up to maximum 15 packs
- Protective and active BMS allows greater reliability and control
- IP 54 grade
- Connectors built-in design
- Fully recyclable at the end of life
- Compact

2.2 Appearance



Front View

- SOC indicators
- Working indicator
- Alarm indicator



Side View

- Operation panel
- Start button
- DC main breaker



Side View Removed Operation Panel

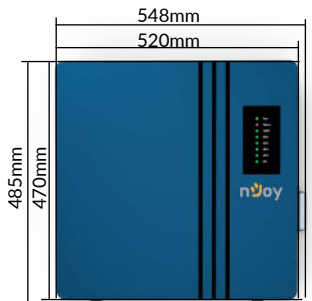
- Communication link ports
- Power connectors
- Grounding terminal



Back View

- Wall mounted Bracket

2.3 Dimensions



2.4 Capacity Options

The battery can be parallel connected for extending power(kW) and energy(kWh)

WARNING

- The maximum power(kW) is limited by main cables from master battery to inverter when all batteries are link connected
- The maximum power(kW) can scalable when all batteries are parallel connected by current combine unit.
- Maximum 15 battery packs can be parallel communicated.



5.12kWh



10.24kWh



20.48kWh
AND MORE

2.5 Display

SOC Display



0~16%



16~34%



34~50%



50~67%



67~83%



83~100%

Charging

When battery is in charging, top green light is flashing, below green lights are solid on. RUN green light is solid on.

Discharging

When battery is in discharging, all green lights are solid on. RUN green light is flashing.

● RUN

● ALM



Warning and Protect

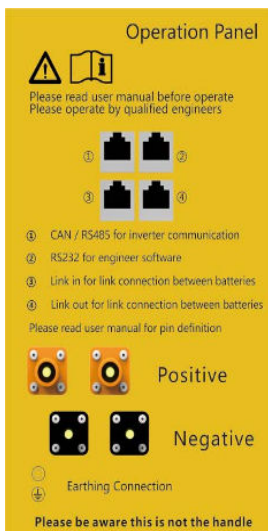
When warning happens, ALM red light is flashing.

When over charged protect happens, RUN green light is solid on. ALM red light is off. SOC green lights are all on.

When over discharged protect happens, all lights are off.

When fail protect happens, RUN green light is off. ALM red light is solid on. SOC green lights are all off.

2.6 Operation



NOTE!

- Please remove the operation panel to see the hiding connections.
- Please operate by qualified engineers.

Start Button



- When battery is sleeping, push start button for 3~6 seconds to start battery, all lights are flashing in turn. Battery is waked up.
- When battery is working, push start button for 3~6 seconds to sleep battery, all lights are flashing in turn. Battery is off.
- When battery is working, push start button for 6~10 seconds to reset battery, all lights are on for 1.5 seconds.

Main Switch (Breaker)

Main switch is a DC breaker to physically to connect or cut off main circuit of battery.

Communication Ports



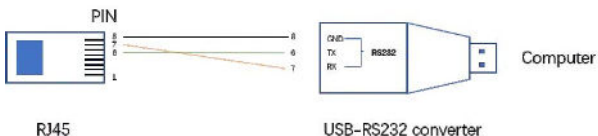
1. CAN/RS485 port is for inverter BMS communication.



8 ~ 1

- | | |
|-------------|-------------|
| 1. RS485 B1 | 5. CAN_L |
| 2. RS485 A1 | 6. GND_B |
| 3. Empty | 7. RS485 A1 |
| 4. CAN_H | 8. RS485 B1 |

2. RS232 port is only for debugging through computer engineer software, all battery information can be read here. The default baud rate is 9600bps.



3. Link in port is the communication cable input between batteries.

4. Link out port is the communication cable output between batteries.

NOTE!

- Please be aware the battery BMS protocol need to be compatible with inverter.
- CAN communication baud rate is 500K.
- RS232 communication baud rate is 9600bps.
- Please communicate with inverter or engineer software by correct RJ45 Pin addresses

Power Connectors



Positive



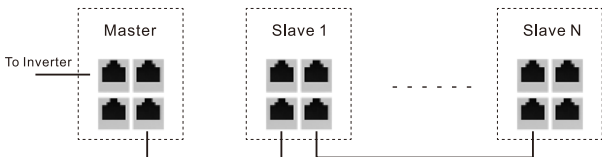
Negative

NOTE!

- Please use the accessory cable kit or connectors for battery power connection.
- Battery cable suggestion cross-section 4-6AWG.

2.7 Multiple Batteries Parallel Connection

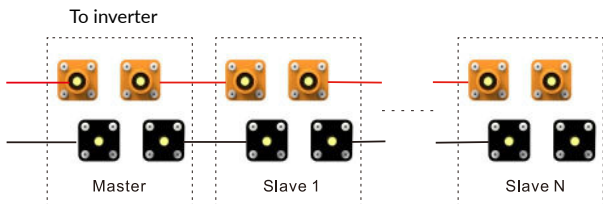
Communication Link



NOTE!

- Please know battery addressing is self-adaption, no need dip switch settings.
- Please use standard network cables and RJ45 heads for link between batteries.

Power cable connection



3 Installation

3.1 Unpacking and Inspection

Please inspect all items when unpacking.
Please ensure there is no any damage for all items.

No.	Item	Description	Qty
1	Battery Pack	5.12kWh battery pack	1Set
2	Bracket	Wall mounted bracket	1Set
3	Anchor Bolt	Wall mounted M8x60mm Bolt	6 PCS
4	Cable Plug	Power Cable Quick Plug	2 PCS
5	RJ 45 Cable	For BMS communication, 2 meter length	1 PCS
6	QC Report	Factory Inspection Report and QC card	1 PCS
7	Power cables	For Power connection	1 pair
8	Earth Lug	For earth cable	1 PCS

3.2 Tools and Materials

Please prepare the below needed tools, materials and safety gear before installation.

a) Tools



① Mark pen



② Screw driver



③ wire cutter



④ RJ 45 crimper



⑤ Electric drill



⑥ Heavy duty wire cutter



⑦ M6 wrench sleeve



⑧ Hammer



⑨ Lug crimper



⑩ Network tester

b) Materials



①

① Network cable



②

② 6AWG red positive power cable



③

③ 6AWG black negative power cable



④

④ Ground cable

c) Safety Gear



① Safety goggles



② safety shoes

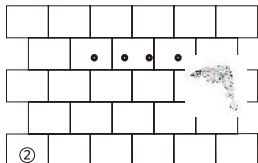
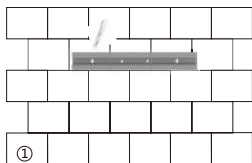


③ Insulated gloves

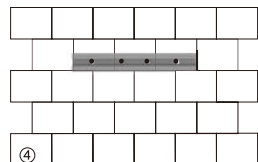
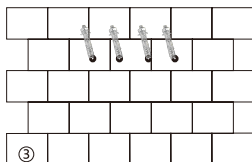
3.3 Installation

The battery is wall mounted or ground stand directly. Please follow the below steps for install.

A) Use the bracket as the template to mark the positions of 4 holes, then drill 12mm holes and make sure the depth of holes is deeper than 60mm.



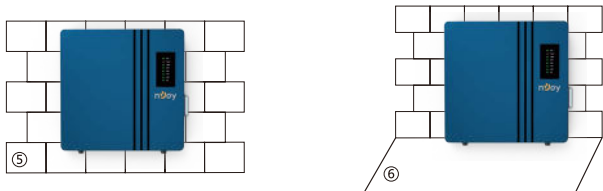
B) Please mount the bracket on the wall by anchor bolts tightly on the wall.



C) Mount bearing accessories on the back of battery by screws. Ensure they are screwed tightly.



D) Install the battery on the wall mounted bracket. Or battery can stand on the ground back to the wall directly.



DANGER

To prevent potential damages and injuries from heavy battery falling down, please carefully hang the battery on the bracket by two people. Don't loosen force unless confirm the battery is well mounted.

E) Measure the power cable and network cable length from battery terminals to inverter terminals. Measure the cable length between batteries too if there is parallel battery installation. Then please make moderate length power cables, network cables and ground cables.



Power cable



Network cable



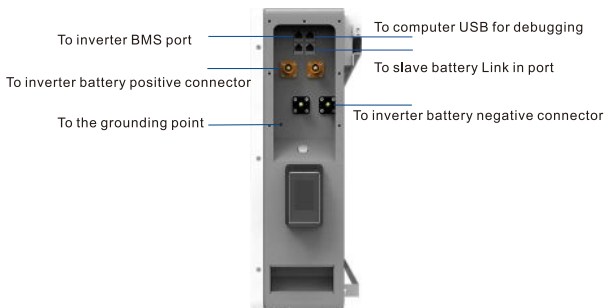
Ground cable

NOTE!

- Please ensure network cable terminals are based on battery and inverter communication port pin definition.
- Please use network tester to ensure communication cable works properly.

F) Please remove operation area plate on the right side of battery pack. And please connect power cables, network cable and ground cable in the correct ports.

For multiple batteries parallel connection, please see the content 2.7 in page 13th.



NOTE!

- Please debug battery by engineer software before recovering operation plate.

4 System Commissioning

4.1 System Power-On

NOTE!

- Turn on the DC main breaker. After the battery is installed and powered on by start button for the first time, all LED blinks for three circles, then LED goes to normal display.
- Turn off the battery by start button, SOC and RUN LED blink in turn once, then goes all off.
- After turning on the battery switch, power on the inverter. For details about how to power on the inverter, see the quick guide for the corresponding inverter model.

4.2 Battery Information Check

NOTE!

- Please read battery parameters by engineer software.
- Please change language by right bottom flags when necessary.
- Please follow chapter 2.6 pin definition and USB kit to achieve RS232 port to computer. After click Open and the communication is successful, you will have a green rolling columnar and shows Normal.

The screenshot displays the PilesTools V3.5.5 software interface. The main window is titled "PilesTools V3.5.5 (P000407-1) 2023/7/8". The interface is divided into several sections:

- Pack Information:** Shows Pack Voltage (52.736 V), Pack Current (0.00 A), SOC (49 %), SOB (100 %), Remaining Capacity (69430 mAh), Full Capacity (101670 mAh), and Battery Cycle (1).
- Temperature:** Displays temperatures for various cells: Tcell 1 (19.4 °C), Tcell 2 (16.2 °C), Tcell 3 (19.4 °C), Tcell 4 (16.4 °C), Tcell 5 (19.1 °C), and Tcell 6 (15.4 °C).
- Cell Voltage(mV):** A table showing the voltage for each of the 16 cells, with MaxVolt set to 3.200 and MinVolt set to 2.750. All cells show a voltage of 3.201 mV.
- Serial Port:** Shows Port COM3, Baud Rate 9600, and Pack Qty 1. A "Close" button is visible.
- System Status:** Includes indicators for CHARGING-OK, DISCHARGING-OK, CHG-FAULT-DEF, and ACIn.
- Alarm Status:** Shows None.
- Protect Status:** Shows None.
- Fault Status:** Shows None.
- Switch Control:** Includes buttons for CB0 Circuit (Close), Stand Alarm (Open), CB1 Circuit (Close), and Stand Alarm (Close). There are also buttons for Password, Change, and F.Love.

At the bottom of the interface, there is a status bar with the text: "VER: P1352101W-21.052-1.00 | SMS S/N: 2135210221902142 | PACK S/N: COMM: Normal | 10:05:15 2023/7/22".

NOTE!

- Please read battery parameters and ensure the total voltage, single cell voltages, temperatures, SOC and capacity are all correct.
- Please ensure there are no alarm, protect and fault happened.



Disposal of Old Electrical & Electronic Equipment

(Applicable in the European Union and other European countries with separate collection systems)

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste.

Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment.

By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product.

The recycling of materials will help to conserve natural resources.

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Va rugam sa parcurgeti manualul inainte de a instalare si operare

Acest manual prezinta cabinetul de baterii pentru invertoarele solare din punct de vedere al montarii, instalarii si conectarii electrice, functionarii, punerii in functiune, mentenantei si a depanarii. Va rugam sa parcurgeti manualul inainte de a instala si opera cabinetul si pastrati-l pentru viitoare referinte.

Model

Bastion WF5K

Pentru personal autorizat

Acest manual de utilizare este dedicat personalului autorizat in instalari de invertoare on-grid si pentru electricieni calificati.

NOTIFICARE!

Acest manual poate suferi modificari neanuntate.



1 Informatii de siguranta

1.1 Informatii generale de siguranta

Va rugam cititi cu atentie masurile de siguranta si precautie prezentate in acest document.

Avertismentele notate cu PERICOL, AVERTISMENT, NOTIFICARE din acest document nu sunt extensive. Ele sunt doar completari la masurile de siguranta generale.

Pentru a proteja viata personalului si utilizarea in siguranta a procedurilor din manual, utilizati simbolurile adecvate pentru a evidentia intelegerea lor. Personalul autorizat trebuie sa inteleaga si sa aplice corect informatia pentru a evita raniri si daune. Simbolurile de siguranta generale sunt prezentate mai jos:

	PERICOL indica situatii periculoase care daca nu sunt evitate vor rezulta in mod cert in raniri grave sau incendii.
	AVERTISMENT indica situatii periculoase care daca nu sunt evitate vor rezulta in daune sau anularea garantiei.
NOTIFICARI!	NOTIFICARE indica situatii comune care daca nu sunt evitate vor rezulta in sistarea sistemelor

Urmati procedurile locale si legislatia privind instalarea, operarea si mentenanta echipamentelor. Masurile de siguranta din acest document sunt doar completari ale reglementarilor locale.

1.2 Siguranta personalului

Cerinte personal

Personalul insarcinat cu instalarea si /sau mentenanta echipamentelor trebuie sa fie instruit in respectarea tuturor masurilor de siguranta si sa urmareasca corect procedura de lucru.

Doar personalului autorizat ii este permisa actiunea de a instala, opera si efectua mentenanta echipamentului.

Siguranta personal



PERCOL




- Nu lasati bateriile la indemana copiilor sau a animalelor de companie
- Nu atingeti bateriile in stare de functionare deoarece carcasa poate fi foarte fierbinte.
- Nu atingeti terminalele bateriilor incarcate si functionale.
- Nu va asezati, sprijiniti sau urca sub nicio forma pe baterii.

1.3 Siguranta electrica

Simbolurile bateriei

Exista cateva simboluri electrice plasate pe baterie care deservesc siguranta. Va rugam sa va familiarizati complet cu ele inainte a efectua instalarea.

	Indicator SOC	Este aflat pe panoul frontal si afiseaza procentual nivelul de incarcare al bateriei.
RUN	Indicator de functionare	Este aflat pe panoul frontal si afiseaza starea de functionare a bateriei.
ALM	Indicator alarma	Daca este aprins acest indicator s-a produs o eroare.
	Pericol electric	Descarcari de tensiune cand bateria este functionala. Doar tehnicienii calificati sunt autorizati pentru operare.
	Conector impamantare	Identifica conectorul necesar impamantarii carcasei echipamentului.
	Conectori DC pozitiv si negativ	Identifica conectorii pozitivi si negativi ale sursei de putere DC

	Insemn CE	Acest produs este certificat CE
	Insemn WEEE	Nu se poate arunca bateria in gunoiul menajer
	Reciclati	Bateria trebuie reciclată

PERICOL

- Inainte de instalare asigurati-va ca echipamentul este intact. In caz contrar, exista pericolul izbucnirii unui incendiu sau de socuri electrice.
- Nu conectati sau deconectati cablurile de curent cand bateria este pornita. Acest lucru poate provoca arcuri electrice si scantei care pot duce la daune si raniri.
- Inainte de conectarea unui cablu, verificati conectorii +/- sa fie in pozitie corecta.
- Nu conectati baterii diferite in paralel.
- Nu conectati bateriile direct la rețeaua AC.
- Nu conectati bateriile cu cablare PV directă
- Nu conectati bateriile in serie
- Nu conectati bateriile la invertoare sau incarcatoare defecte
- Nu creati scurt circuit cu conexiunile externe
- Asigurati-va ca nu exista alimentare inainte de operatiunile de mentenanta
- Asigurati-va ca este instalat corect cablul de impamantare inainte de a pune in functiune echipamentul.



AVERTISMENT

- Reincarcati bateriile la fiecare 6 luni.
- Reincarcati bateriile in maxim 10 zile de descarcarea lor completa.
- Puneti in functiune mai mult sau cel putin doua baterii atunci cand curentul de incarcare este mai mare de 100A.
- Asigurati-va ca este instalat corect cablul bateriilor.
- Utilizati un moto metru pentru a va asigura ca nu exista tensiune intre terminalul - si + dupa inchiderea alimentarii, in faza de instalare si mentenanta.

NOTIFICARI!

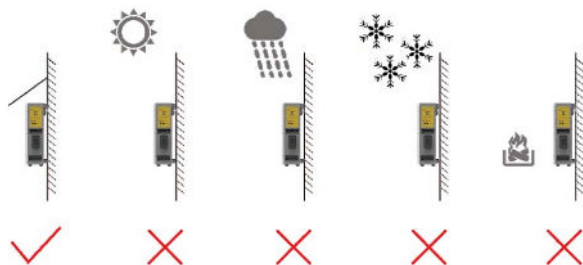
- Utilizati instrumente izolate speciale pentru a efectua instalarea si mentenanta.
- Asigurati-va ca toate bateriile sunt oprite, mai ales in cazul conexiunii in multiplu paralel.
- Verificati ledurile de functionare cand bateria este pornita.
- Asigurati-va ca exista comunicare corecta intre baterii si inverter.
- Asigurati-va ca setarile comutatorului ADDS sunt corecte pentru baterii multiple sau singulare.
- Verificati alarma inverterului sau citirea SOC cand exista un sistem BMS conectat cu inverterul

1.4 Cerinte cu privire la mediul de instalare



AVERTISMENT

- Asigurati-va ca echipamentul este instalat in mediu uscat si bine ventilat.
- Pozitia de instalare trebuie sa fie ferita de bataia directa a razelor de soare si de averse de ploaie sau ninsoare
- Pozitia de instalare trebuie sa fie la o distanta sigura de surse de caldura si foc
- Pozitia de instalare trebuie sa fie la o distanta sigura de surse de apa ca robinete, tevi canalizare si sprinklere pentru a nu fi expus la infiltratii de apa
- Suportul de instalare trebuie sa fie solid si bine prins orizontal.
- Nu expuneti echipamentul la gaze inflamabile, explozibil sau fum. Nu efectuati nicio operatiune a echipamentului in acele conditii.
- Durata de viata si operare depinde de temperatura ambientala. Operarea bateriilor ar trebui facuta la temperatura controlata, intre 0 si 30 grade Celsius.



1.5 Siguranta la transport

Avertisment

- Produsul are certificarea UN38.3
- Produsul detine un MSDS.
- Produsul este in categoria 9 de bunuri cu potential periculos
- Va rugam protejati pachetul de urmatoarele situatii:
 1. Umezeala provocata de ploaie, ninsoare si scufundare in apa.
 2. Impact mecanic si caderi.
 3. Montare inversa sau inclinata.

2 Informatii produs

2.1 Privire de ansamblu baterie

Bateria Bastion WF5K este un cabinet de baterii montabil pe perete cu baterii durabile de tip LiFePO4 si echipat cu BMS. Poate stoca si alimenta cu energie electrica in functie de setarile inverterului conectat. Este de preferabil utilizat in medii rezidentiale.

Specificatii:

- Celule prismatice de tip LiFePO4
- 6000 de cicluri de descarcare in conditii de 1°C
- Maxim 1C capacitate incarcare-descarcare
- Fara comutatoare DIP, se auto-adapteaza
- Scalabil pana la 15 cabinete.
- BMS-ul ofera protectie adecvata
- Clasa IP54
- Design cu conectori incorporati
- Reciclabil
- Compact

2.2 Aspect



Din fata

- Indicatori SOC
- Indicator de functionare
- Indicator de alarma



Din lateral

- Panou de operare
- Buton de start
- Intrerupator circuit DC principal



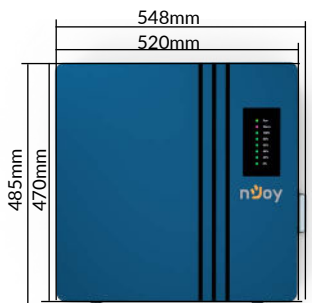
Din lateral cu panoul inlaturat

- Port de comunicare
- Conectori de alimentare electrica
- Terminal de impamantare

Din spate

- Bracheti de montare pe perete.

2.3 Dimensiune



2.4 Optiuni de putere

Bateriile se pot monta in paralel pentru a le maximiza puterea (kW) si energia (kWh).

AVERTISMENT

- Puterea maxima (kW) este limitata de cablurile principale ale bateriei master conectata la inverter.
- Puterea maxima (kW) este scalabila cand bateriile sunt conectate in paralel iar puterea lor este combinata.
- Pot fi conectate in paralel pana la 15 cabinete de baterii maxim.



5.12kWh



10.24kWh



20.48kWh

Si mai multe

2.5 Ecran

Ecran SOC



0~16%



16~34%



34~50%



50~67%



67~83%



83~100%

Incarcare

Cand bateriile sunt in curs de incarcare, led-ul aferent nivelului de incarcare a bateriei lumineaza intermitent, iar celelalte led-uri verzi sunt

Descarcare

Cand bateriile se descarca, toate led-urile sunt apinse, cel de RUN lumineaza intermitent.

● RUN

● ALM



Protectii si avertismente

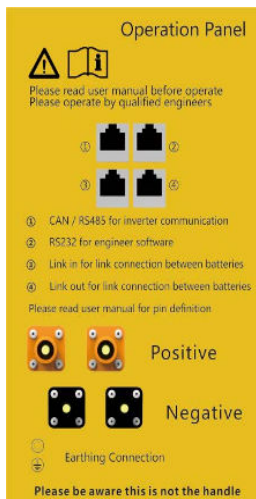
Cand este identificata o avertizare, led-ul ALM lumineaza rosu intermitent.

Cand protectia la supraincarcare se activeaza, led-ul RUN este aprins verde, cel rosu ALM este oprit. Led-urile verzi SOC sunt toate apinse.

Cand protectia la descarcare se activeaza, toate led-urile sunt stinse.

Cand protectiile intra in eroare, led-ul verde RUN este oprit, cel rosu ALM este pornit, led-urile verzi SOC sunt toate stinse.

2.6 Operarea



NOTIFICARE!

- Va rugam demontati panoul de operare pentru a avea acces la conexiunile ascunse
- Operarea va fi realizata doar de catre tehnicieni autorizati.

Buton de pornire



-Cand bateria este in modul Sleep, apasati butonul de start pentru 3-6 secunde pentru a porni, bateria iese din starea de veghe, iar led-urile vor lumina pe rand. Bateria este activa.

-Cand bateria este in functiune, apasati butonul de start pentru 3-6 secunde pentru a pune bateria in starea de veghe, led-urile vor lumina pe rand. Bateria este oprita.

-Cand bateria este in functiune, apasati butonul de start pentru 6-10 secunde pentru a reseta bateria, toate led-urile sunt aprinse pentru 1.5 secunde.

Intreupator principal

Acesta este un intrerupator DC care conecteaza fizic sau intrerupe alimentarea circuitului principal al bateriei.

Porturi de comunicare



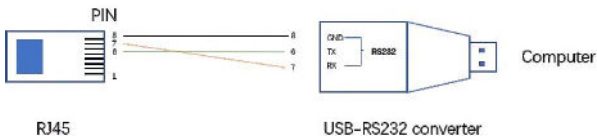
1. CAN/RS485 portul este pentru comunicarea BMS cu invertorul



8 ~ 1

- | | |
|-------------|-------------|
| 1. RS485 B1 | 5. CAN_L |
| 2. RS485 A1 | 6. GND_B |
| 3. Empty | 7. RS485 A1 |
| 4. CAN_H | 8. RS485 B1 |

2. Portul RS232 este utilizat doar pentru depanarea eventualelor erori de pe un computer cu software-ul instalat, toate informatiile se vor regasi acolo.



3. Portul de intrare a cablului de comunicare intre intrarile bateriilor.
4. Portul de iesire a cablului de comunicare intre iesirile bateriilor.

NOTIFICARE!

- Asigurați-vă ca protocolul utilizat de BMS-ul bateriei este compatibil cu inverterul.
- Rata de transfer a comunicării CAN este de 500K.
- Rata de transfer a comunicării RS232 este de 9600bps.
- Asigurați comunicarea cu inverterul sau cu software-ul prin conectarea corectă a pinilor mufei RJ45

Conectori de putere



Pozitivi



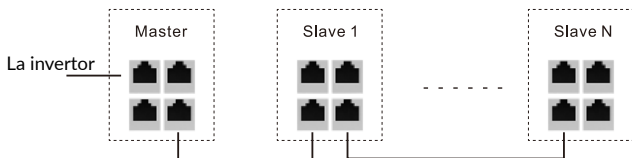
Negativi

NOTIFICARE!

- Vă rugăm să folosiți kitul de cabluri accesorii sau conectorii pentru a conecta bateriile.
- Diametru secțiune recomandat pentru cablurile bateriei este 4-6AWG.

2.7 Conectare în paralel a multiple cabinete de baterii

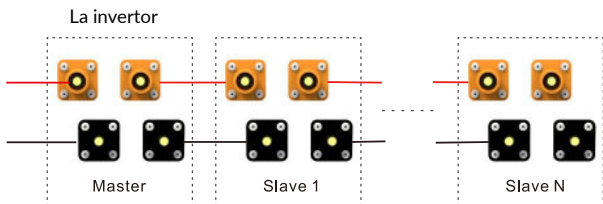
Legătura de comunicare



NOTIFICARE!

- Baterie este auto-adaptabilă, nu are nevoie de setări de jumperi.
- Utilizați cabluri de rețea standard și conectori RJ45 pentru legăturile între baterii.

Conectare cablu de putere



3 Instalarea

3.1 Inspectie si desfacerea pachetului

Faceti o inspectie vizuala a componentelor din pachet pentru a va asigura ca nu exista deteriorari.

No.	Obiect	Descriere	Cantitate
1	Cabinet baterii	5.12kWh	1 set
2	Brachet	Pentru montarea pe perete	1 set
3	Surub de ancorare	Pentru montarea pe perete, M8X60mm	6 buc
4	Mufa cablu	Mufa rapida pentru cablul de putere	2 buc
5	Cablu RJ45	Pentru comunicarea BMS, 2 m	1 buc
6	Raport QC	Inspectie fabrica si card QC	1 buc
7	Cabluri de putere	Conexiune putere	1 set
8	Conector impamantare	Pentru cablul de impamantare	1 pereche

3.2 Materiale si unelte

Pregatiti urmatoarele instrumente, materiale si echipamente de protectie inainte de a efectua instalarea.

a) Unelte



Marker



Surubelnita



Foarfece de sarma



Sertizor RJ45



Bormasina



Foarfece de sarma profesional



Cheie tubulara M6



Ciocan



Sertizor connector



Tester de retea

b) Materiale



①

① Cablu de retea



②

② Cablu de putere / electric pozitiv rosu 6 AWG



③

③ Cablu de putere / electric negativ negru 6 AWG



④

④ Cablu de impamantare

c) Echipament de protectie



Ochelari de protectie



Bocanci de protectie

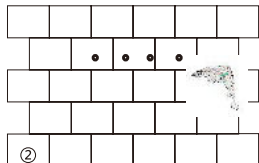
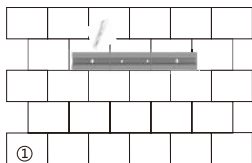


Manusi izolatoare

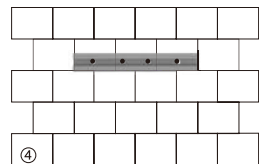
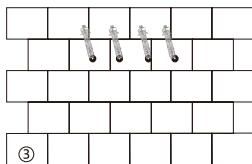
3.3 Instalarea

Cabinetul se va monta pe perete sau se va monta pe un suport direct pe pamant. Utilizati pasii de mai jos pentru instalare.

A) Utilizati brachetul pentru a masura unde se vor face cele 4 gauri de 12mm in diametru si 60mm adancime.



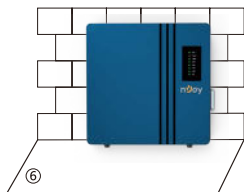
B) Montati bracketii pe perete cu suruburile de ancorare stranse fix.



C) Montati accesoriile pe spatele bateriei cu suruburi stranse foarte bine.



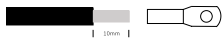
D) Instalati cabinetul pe bracketii deja montati. Sau direct pe pamant cu spatele sprijinit de perete.



 **PERICOL**

Pentru a evita eventualele distrugerii sau raniri cauzate de greutatea cabinetului, la montare se vor prezenta 2 tehnicieni pentru a asigura ca operatiunea de montare decurge corect.

E) Masurati corect lungimea necesara a cablul electric si de retea sa ajunga lejer de la terminalele bateriei la terminalele inverterului. Apoi masurati lungimea necesara intre baterii daca se va efectua o conectare in paralel. Taiati cablurile la dimensiunea masurata.



Cablu electric



Cablu de retea



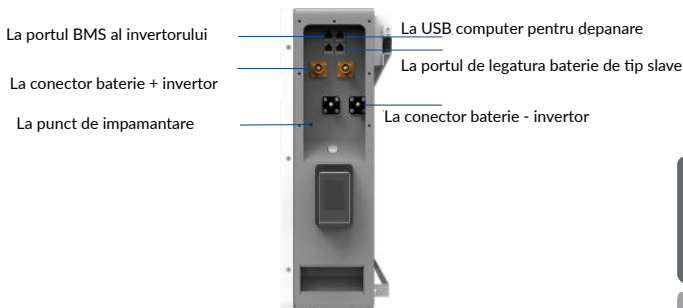
Cablu de
impamantare

NOTIFICARE!

- Asigurati cablurile de retea sa aiba terminale compatibile cu portul de comunicare dintre baterii si inverter.
- Utilizati testerul de retea sa va asigurati de functionarea acestora.

F) Îndepărtați capacul zonei de operare de pe partea dreaptă a cabinetului de baterii. Conectați cablurile electrice, cel de rețea și de împământare în porturile corecte.

Pentru conectarea în paralel a mai multor baterii, vă rugăm să consultați conținutul 2.7 de la pagina 34.



NOTIFICARE!

- Va rugăm efectuați o depanare software înainte de a acoperi zona de operare.

4 Punerea în funcțiune a sistemului

4.1 Pornirea sistemului

NOTIFICARE!

- Porniți intreruptorul principal DC. După ce bateria a fost instalată și pornită de la buton, toate LEDurile clipeșc de 3 ori consecutiv apoi se întorc la funcționarea tipică.
- Opriți bateria de la buton de start, LEDurile SOC și RUN clipeșc pe rând 1 dată, apoi se sting toate.
- După pornirea intreruptorului de baterie, porniți invertorul. Pentru detalii despre inverter, consultați ghidul de utilizare al modelului de inverter corespunzător.

4.2 Verificare informatii baterie

NOTIFICARE!

- Va rugam verificati parametrii bateriei prin intermediul software-ului.
- Schimbati limba utilizata prin intermediul steagurile din ecran, dreapta jos.
- Utilizati sectiunea 2.6 pentru a defini pini si kitul USB pentru a conecta portul RS232 la computer. Dupa deschiderea software-ului si stabilirea comunicatiei cu modulul de baterie, va aparea o coloana de rulare verde si va afisa mesajul Normal.

The screenshot displays the 'REAL-TIME Monitoring' window of a battery management system. The interface is divided into several sections:

- Pack Information:** Shows Pack Voltage at 52.736 V, Pack Current at 0.00 A, SOC at 49%, and SOH at 100%. It also lists Module Capacity (60000 mAh) and Full Capacity (181670 mAh).
- Temperature:** Displays temperatures for 16 cells (Tcell_1 to Tcell_16) and two internal temperatures (INT_T and EXT_T).
- Cell Voltage(mV):** A table showing the voltage for each of the 16 cells, with values ranging from 3291 mV to 3302 mV.
- System Status:** Shows the battery is in a 'CHARGING-OK' state.
- Alarm Status:** Shows 'None'.
- Protect Status:** Shows 'None'.
- Fault Status:** Shows 'None'.
- Switch Control:** Includes buttons for 'CSD Circuit', 'DSD Circuit', 'Load Alarm', and 'BMS Alarm', along with a 'Shutdown' button.

At the bottom, there is a status bar with 'VER: P23022004-01.002-1.00', 'BMS SN: 21302200210021042', 'PACK SN:', 'COMM: Normal', and a language selection icon (UK flag).

NOTIFICARE!

- Va rugam verificati parametrii bateriei si asigurati-va ca tensiunea totala, tensiunea/celula, temperatura, capacitatea, SOC sunt corecte.
- Asigurati-va ca nu s-a produs nicio alarma sau eroare.



Dezafectarea echipamentelor electrice si electronice vechi

(Se aplica pentru țările membre ale Uniunii Europene si pentru alte tari europene cu sisteme de colectare separata)

Acest simbol aplicat pe produs sau pe ambalajul acestuia indica faptul ca acest produs nu trebuie tratat ca pe un deșeu menajer.

El trebuie predat punctelor de reciclare a echipamentelor electrice si electronice.

Asigurandu-va ca acest produs este dezafectat in mod corect, veți ajuta la prevenirea posibilelor consecințe negative asupra mediului si a sanatatii umane, care ar fi putut surveni daca produsul ar fi fost dezafectat in mod necorespunzator.

Reciclarea materialelor va ajuta la conservarea resurselor naturale.

