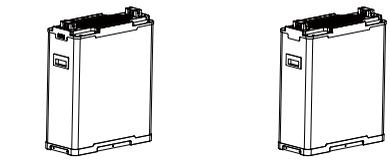
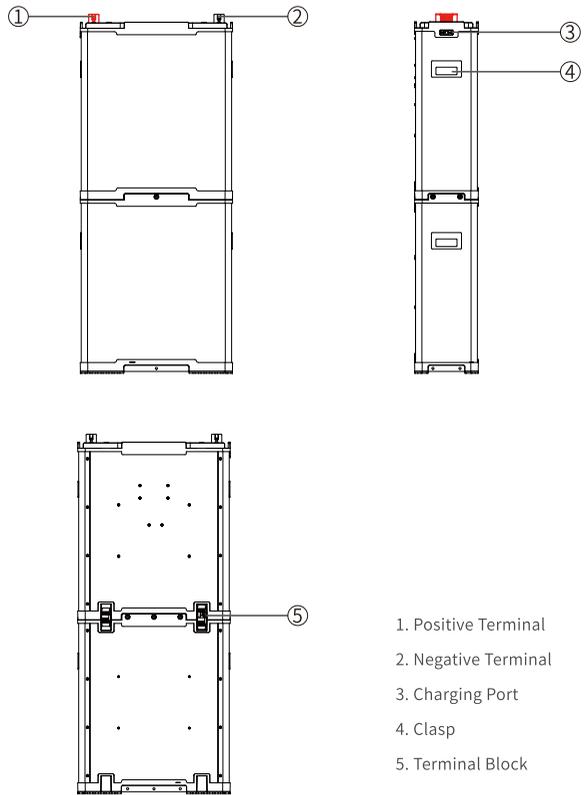
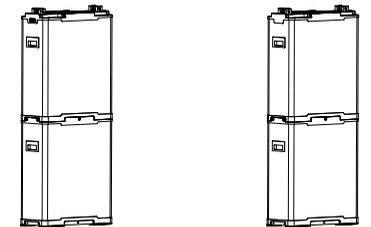


Before installation and use, please read this manual carefully.



24V With MPPT Series 24V Without MPPT Series

24V cannot be used in combination

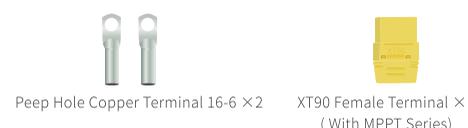


48V With MPPT Series 48V Without MPPT Series

48V needs to be used in combination and cannot be used alone

Accessory Package

24V

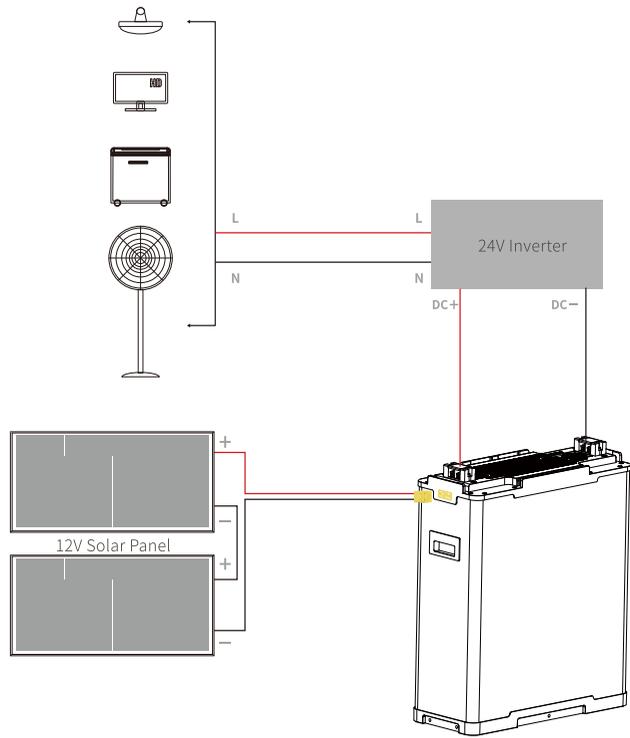


48V

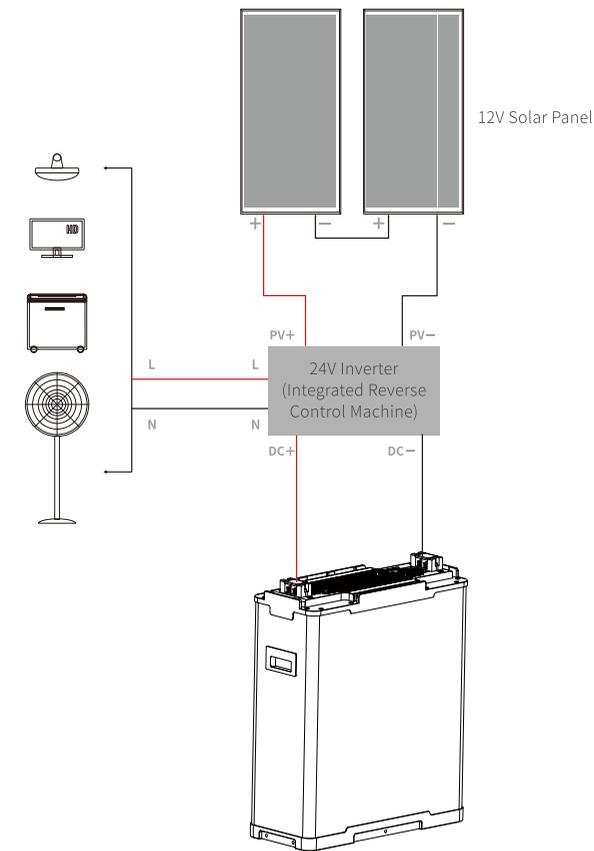


Connection Mode

24V With MPPT Series

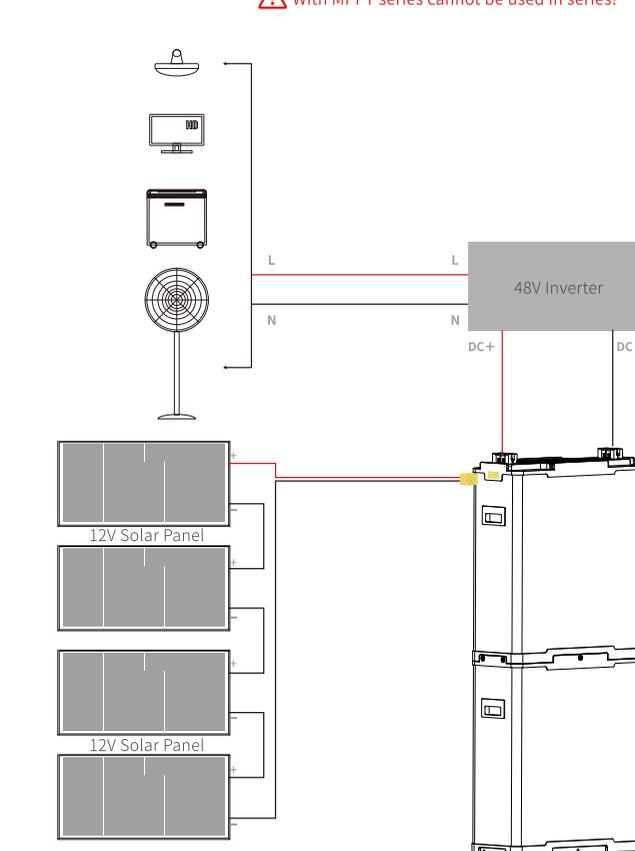


24V Without MPPT Series

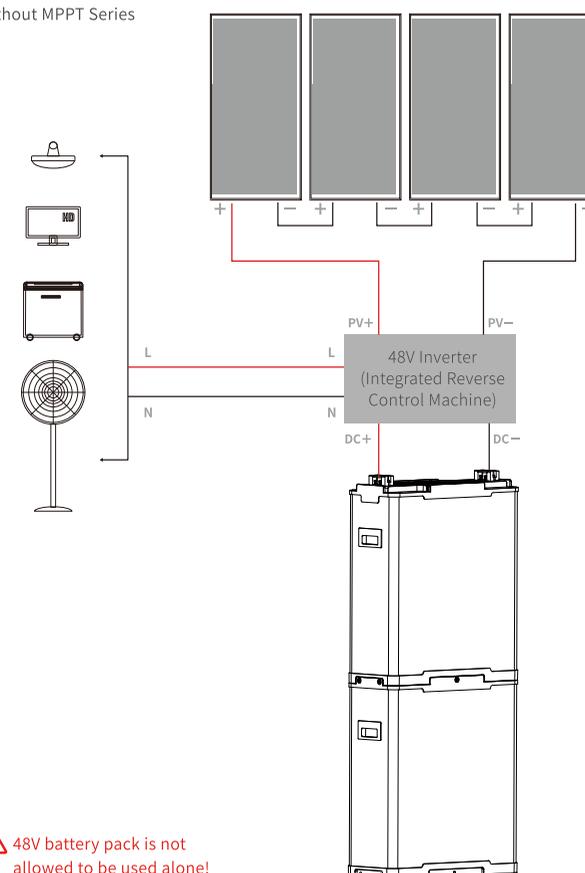


48V With MPPT Series

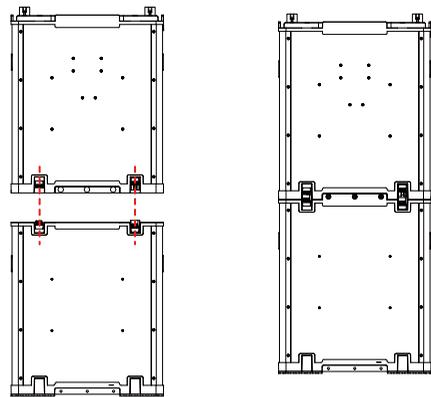
⚠ With MPPT series cannot be used in series!



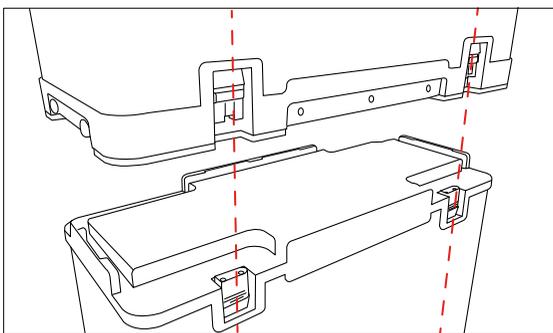
48V Without MPPT Series



⚠ 48V battery pack is not allowed to be used alone!



Secure the XT90 terminal. Secure and tighten the XT90 terminal using M8x12 bolts



Attention

- It is forbidden to use any high-voltage to charge it. Otherwise the BMS components of the battery will be burned out due to the high-voltage, resulting in the failure of overcharge protection. As a result, the battery is overcharged, causing the battery heat out of control and fire hazards. The open circuit voltage of 12V battery pack can not exceed 22V, 24V battery pack can not exceed 44V and 48V battery pack cannot exceed 88V. The maximum open circuit voltage of solar panel cannot exceed twice of the battery voltage.
- When the source voltage of the charging terminal is higher than 88V, the high voltage circuit breaker with charging protection function must be connected between the charging controller and the battery, in order to prevent the failure of the voltage conversion device in the middle and cause overcharging of the battery.
- 12V battery pack, maximum support 4 battery packs in series, the highest charging voltage of 4 battery packs in series is less than 88V, and the highest charging voltage of 2 battery packs in series is less than 44V. 24V battery pack, maximum support 2 battery packs in series, the highest charging voltage of 2 battery packs in series is less than 88V. 48V battery pack, it is forbidden to use in series. Ensure the batteries are discharged to empty condition or fully charged before connecting them in series. Ensure the voltage of batteries are consistent before connecting the batteries in parallel
- It is forbidden to connect the positive and negative poles reversely and short circuit the positive and negative poles of the battery pack; The overload is strictly prohibited.
- The battery pack should not be used in severe vibration scenarios.
- It is strictly prohibited to put in water and clean the battery pack and do not place the product in the outdoor exposed place for a long time to prevent rain or moisture.
- It is forbidden to use or place the battery at high temperature, otherwise it may cause battery overheating, fire or failure of function and shorter life. If battery is used for a long time, the recommended optimal ambient temperature is 10°C-40°C.
- The battery should not be placed in the room where any combustible gas or flammable items are stored, and should be used in a clean, dry and ventilated environment.
- It is strictly prohibited to knock, throw, reverse or trample on the battery pack. It is strictly prohibited to use the battery pack when the appearance is seriously damaged (artificial knocking, scraping, falling from height, unauthorized disassembly of the products, etc.).

- Can connect in parallel up to 2 pcs.
- During installation and electrical appliances installation, the DC voltage of the solar system may be twice more than the voltage of system (e.g. 12V system with 24V, 24V system with 48V), so it is important to use well-insulated tools.
- Do not use any measuring tools that are damaged or defective.
- When you install the system, make sure the fire protection measures do not fail. Do not store the product indoors where any combustible gas or gas mixture is stored.
- The symbols, logos and labels on the outer surface of the product cannot be modified or removed without notice.
- All installation work must be carried out under international electrical specifications and related local configurations.
- Smoking, naked flame and connecting to unprotected lamps are prohibited while operating batteries; Keep away from fire when using.
- Never cut through the product with nail or other edge tool.
- Never ship or store the product together with metal.
- Never throw the product into fire or heating machine to avoid fire, explosion and environment pollution; scrap product should be returned to the supplier and handled by the recycle station.
- Never use the product under strong static and strong magnetic field, otherwise it will destroy the protecting device.
- The product should be stored in half SOC. It needs to be charged once if out of use for as long as half a year.
- Prior to charging, fully check the insulativity, physical condition and ageing status, since breakage and ageing are never allowed.
- The restricted use current marked on the product is not applicable to the inductive load. Under normal conditions, the instantaneous start current of the inductive load is three times that of the normal operation.

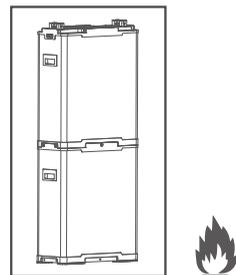
Installation Condition

If this product uses the pv module for charging, the pv module need to be installed in light sufficient place, and blockage by any occlusion or shadow on the surface should be avoided to guarantee the working time, otherwise the working time is decreases in proportion to the photovoltaic module being blocked time.

All GRÜNIQ Lithium batteries have an integrated BMS (Battery Management System). There is no direct communication between the BMS and inverter. Battery will be defined while setting up the inverter as user. This option ensures durability, stability and longer battery lifespan.

Storage and Transportation

- Based on the character of cell, proper environment for transportation of LiFePO4 battery pack need to be created to protect the battery.
- If it is not used for the time being, short term (within 1 month) : battery should be stored at -20°C-40°C; long term (within 1 year) : battery should be stored in 10 °C-35 °C the battery should be stored in a dry, clean and well ventilated warehouse, and the fire source should be isolated.



- During loading of battery, attention must be paid against dropping, turning over and serious stacking.
- LiFePO4 battery pack should be properly protected during storage and transportation to maintain a SOC level of about 50% to ensure that no short circuit or liquid enters the LiFePO4 battery pack or is immersed in a liquid (e.g. water, oil, etc.).

Maintenance

- When installing in a dusty or seriously hazy area, such as coal yard/mining operation, etc., the surface of the solar panel should be clean intermittently.
- Snow on solar panels should be cleaned intermittently.
- If bolts ever become loose, tighten them immediately.

Statement

- The manufacturer will not undertake any loss caused by earthquake, flood, thunder or any other natural disasters, fires not caused by the product itself and theft and damage caused by accidents
- The manufacturer will not undertake any loss by customers connecting the product with other unmatched devices or installing in inadequate conditions.
- The battery pack should not be used under overvoltage. The open circuit voltage of the 12V battery pack cannot exceed 22V; the open circuit voltage of the 24V battery pack cannot exceed 44V; the open circuit voltage of the 48V battery pack cannot exceed 88V. Our company is not responsible for any loss caused by fire or other faults caused by over-voltage use.

*The below damage is not within warranty:

- Wrong connection between positive and negative.
 - Overload of electrical appliances.
 - The outlook is badly broken (because of human damage, scrape, fall down, assemble the products).
 - Water in (when product is placed under rain and not protected from wet areas).
 - If use any other not belong to standard accessories add to the Smart Power result in goes bad (led or Don't discard other equipment not match the Smart Power).
- When using the products please keep away from the fire, please not through freely.
- Damage caused by not following the instructions.



GRÜNIQ

PRODUCT MANUAL

Stackable Floor Type

Directions for Use

www.grueniq.de