



12V/100Ah

LiFePO₄ Battery Pack
Cast aluminum version

Name: LITHIUM ION BATTERIES

Model: GR12-100N

LiFePO₄ Battery Pack

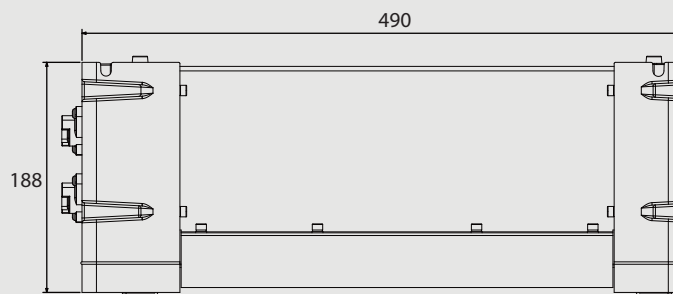
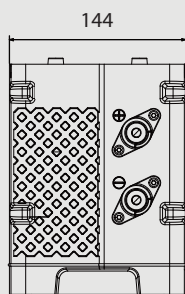
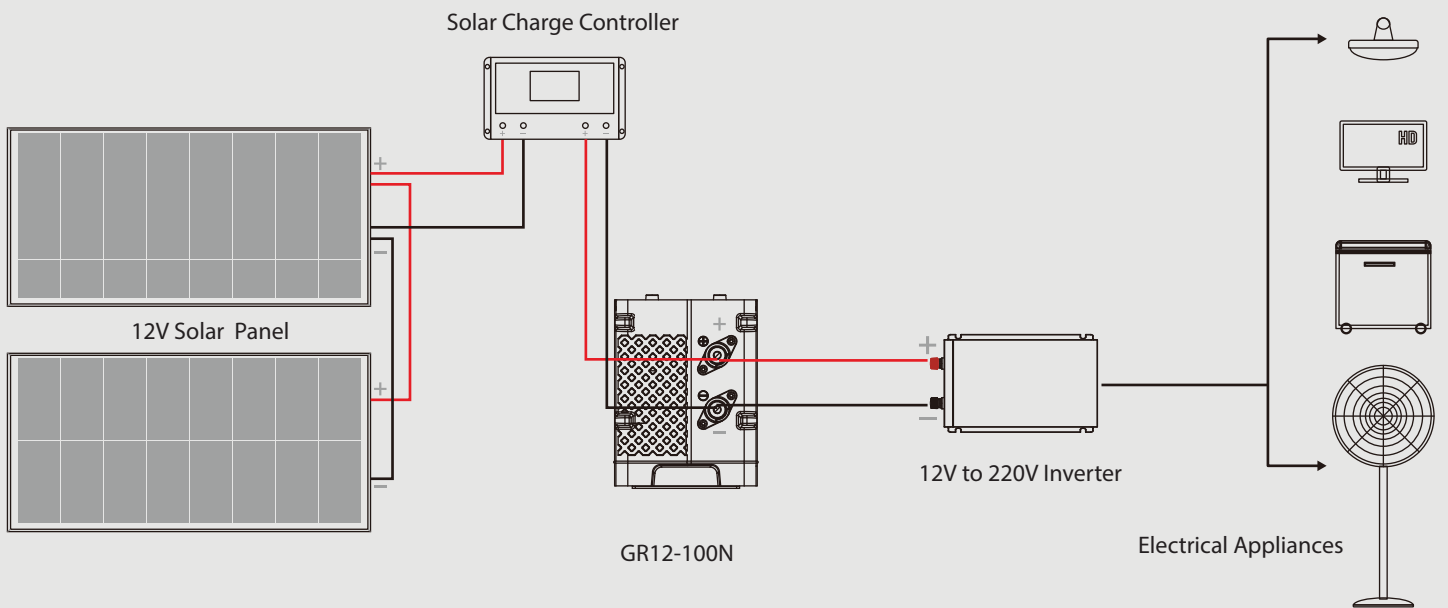
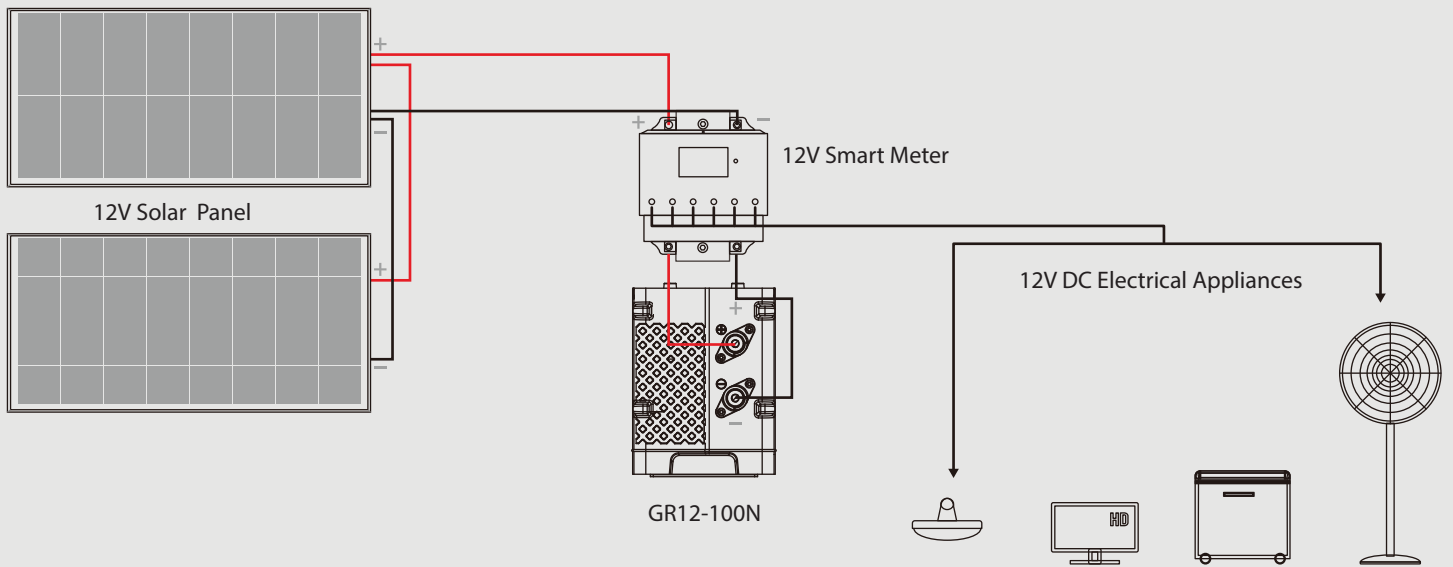


Application Places

For areas with power outage, the battery pack can be charged by solar panels and the excess energy stored can be used for night lighting. For areas where electricity tariff is high, the battery pack can be charged during the electricity valley value period, and used at the peak power period.

Areas with intermittent power supply, the battery pack can be used as UPS to avoid information loss caused by sudden power outage.

The battery pack is applicable to commercial lighting, industrial lighting, home lighting, outdoor lighting, camping tourism, farming, planting, the night market stalls, etc.



Product size: (mm)

Technical Parameters

Model	GR12-100N	
Basic Specifications	Nominal Capacity	100Ah
	Nominal Voltage	12V(12.8V)
	Electricity(kWh)	1.28kWh
Input	Full charge Voltage	14.4V-15V
	Maximum Charging Voltage	25V
	Input Voltage Range	15V-30V
	Continuously Use Input Current	80A
	Maximum Solar Panel Input Current	80A
	Rshoot delay protection	1000ms
	Output	Continuously Use Output Current
Discharge Cut-off Voltage		10V-12V
Over-Discharge Delay Protection		1000ms
Short Circuit Protection Delay		300us
Short Circuit Protection Recovery		Disconnect Load
Instant Start Current		400A
Instant Start Current Time		10S

Battery	Cell Type	Life PO ₄ Battery/LFP
	Storage Temperature Range	Short-Term -20°C-40°C (Within 1 month)
		Long-term 10°C-35°C (Within 1 year)
	Operating Temperature Range	-15°C-60°C
	Recommended Temperature Range	10°C-40°C
	Storage Humidity	≤75% RH
	Atmospheric Pressure	Below 5000 Above Sea Level
	Self-Discharge (25°)	<3%/Month
	Depth of Discharge	>80%
	C-rate Discharge	<0.8C
Life Cycle	> 6000 Cycles	
Other	Certification Standards	UN38.3/CE/MSDS/DGM
	Warranty	5 years
	Product Size	505±2×145±2×188±2mm
	Packing Size	585±5×230±5×280±5mm
	Net Weight	13kg
	Gross Weight	13.5kg

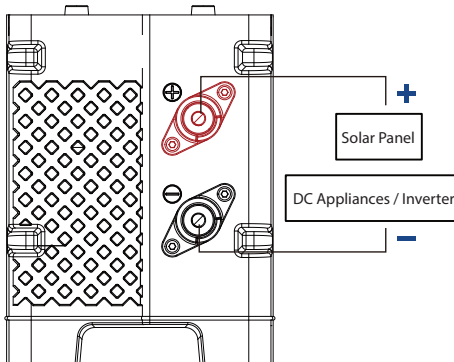
Advantages

- High quality aluminium magnesium alloy, anti-corrosion, substantial, durable, artistic, practical.
- Long lifespan battery with over 12 years lifespan that ensures the whole set products life span.
- All in one mould design and production, easy to install. ■ Dustproof structure design, DC output, safe and reliable.
- Integrated packaging, safe and convenient to transport.

Instructions

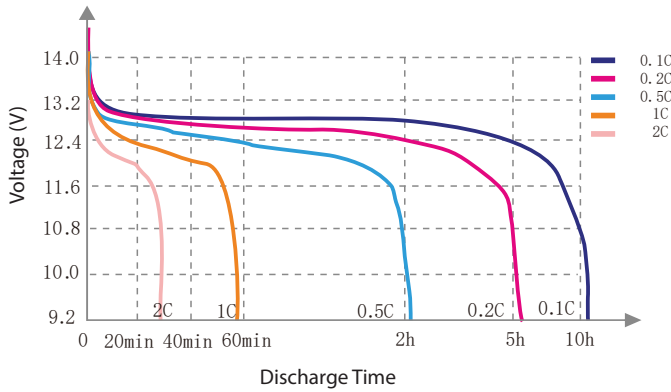
Attention:

- 1-It is forbidden to charge with high voltage. The open circuit voltage of 12V battery pack can not exceed 22V, 24V battery pack cannot exceed 44V and 48V battery pack cannot exceed 88V. The maximum open circuit voltage of solar panel cannot exceed twice the battery voltage.
- 2-Please use an MPPT controller with lithium iron phosphate battery mode.
- 3-The output must have high-voltage isolation function when using high-voltage MPPT controller.
- 4-When the source voltage of the charging terminal is higher than 88V, in order to prevent the failure of the voltage conversion device in the middle and cause overcharging of the battery, the high-voltage circuit breaker with charging protection function must be connected between the charging controller and the battery.
- 5-12V 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.
- 6-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.
- 7-The battery pack should not be used in severe vibration scenarios.
- 8-It is strictly prohibited to put in water and clean the battery pack, and do not place the product in an outdoor exposed place for a long time to prevent rain or moisture.
- 9-It is forbidden to use or place the battery at high temperature. If battery is used for a long time, the recommended optimal ambient temperature is 10-40°C.
- 10-The battery should not be placed in a room where any combustible gas or flammable items are stored, and should be used in a clean, dry and ventilated environment.
- 11-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 damage (artificial knocking, scraping, falling from height, unauthorized disassembly of the products, etc.).
- 12-It is strictly forbidden to dump or invert the product.

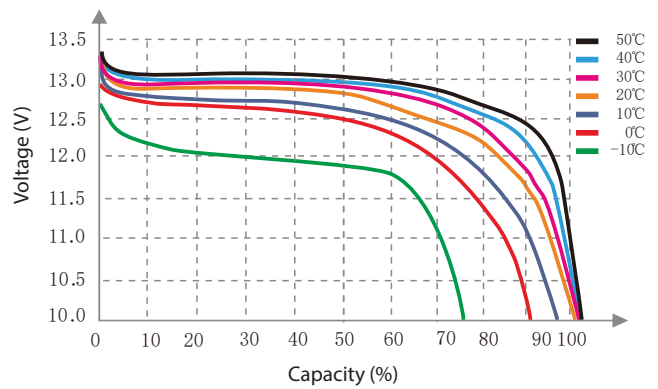


Battery Specification

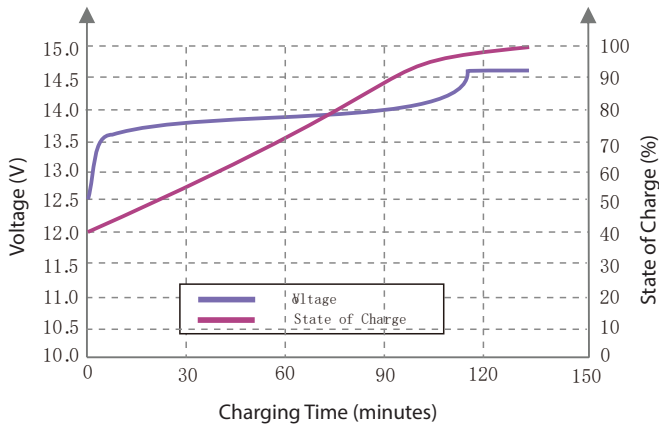
Different Rate Discharge Curve (25°C)



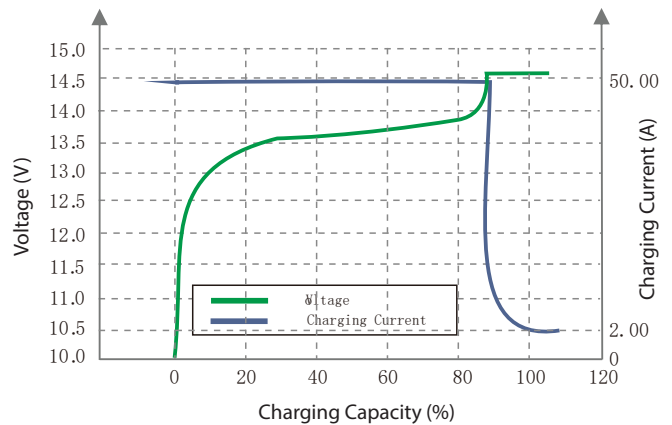
Different Temperature Discharge Curve (0.5°C)



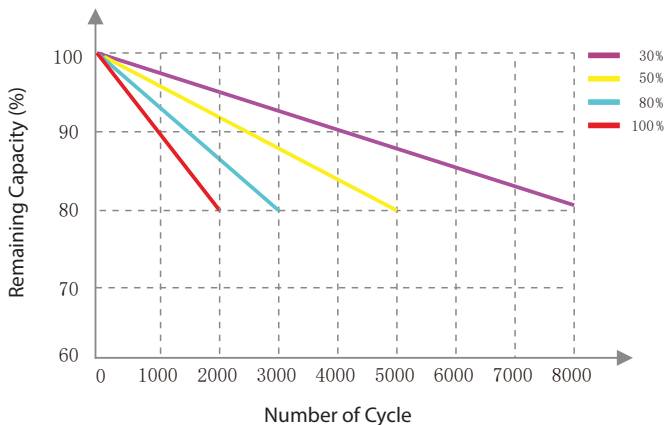
State of Charge Curve (0.5°C, 25°C)



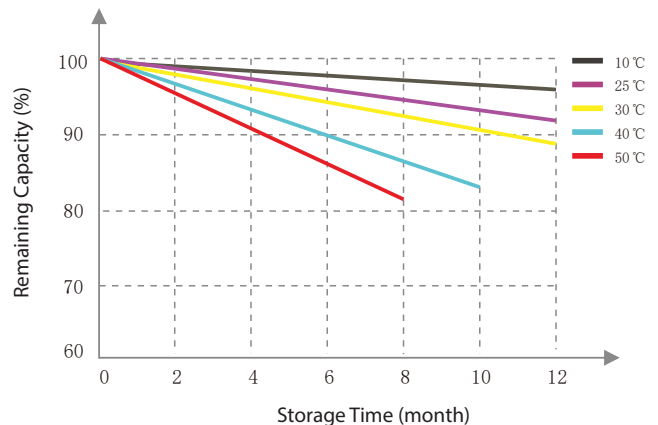
Charging Characteristics (0.5°C, 25°C)



Different DOD Discharge Cycle Life Curve (1C)



Different Temperature Self Discharge Curve



The Advantages and Characteristics of LiFePO₄ Battery

- **Volume:** The capacity of LiFePO₄ battery is higher than lead- acid cell, being double that of Lead-acid battery with the same volume.
- **Weight:** LiFePO₄ is light. The weight is just 1/3 of lead-acid cell with the same capacity.
- **Discharge rate:** LiFePO₄ battery can discharge with maximum current , it is used in electric vehicles and electric bicycles.
- **No memory effect:** The LiFePO₄ battery can be charged and discharged upon your preference. No need to discharge totally then charge it.
- **Durability:** The durability of LiFePO₄ Battery is high and consumption is slow. The time of charging and discharging is more than 2000times. After 2000times circulation, the capacity of the battery will be more than 80%.
- **Security:** LiFePO₄ battery passed the strict safety testing, with higher safety performance.
- **Environmental protection:** Lithium materials don't have any poisonous or harmful substance. It is regarded as green and environmentally friendly battery. No pollution results in the process of production or usage.
- **Professional Cell combination:**
Choosing our cell and combine accurately after multiple researches , to ensure cell's best performance and long life;
- We choose high tech while connecting interface, this process provides more safety, durability with less maintenance.
- Multi-layer protection structure, shockproof, anti explosion and fire.
- Safe and durable for long run.
- Secure and reliable, compared to lead-acid battery, the materials of LiFe PO₄ is the securest, hence the best choice of solar energy storage battery.

Storage and Transportation

- Based on the character of cell, proper environment for transportation of LiFePO₄ battery pack needs to be created to protect the battery.
- Battery should be kept in dry, clean, and well-ventilated warehouse.
- During loading of battery, attention must be paid against dropping, turning over and serious stacking.

Notices

- Never use or keep the battery in areas of high temperature. Otherwise, it will heat the battery which may cause a fire or reduce its life and function.
- Never throw the battery into fire or heating machine to avoid explosion and environment pollution. Scrap batteries should be returned to the supplier and handled by the recycle station.
- Never use the battery under strong static and strong magnetic field, otherwise it will destroy the protecting device.
- If battery leaks, the electrolyte gets into eyes, please don't rub your eyes and wash instantly by water before going to the hospital to prevent eye injury.
- If battery emits peculiar smell, heating, or distortion during use, storage or charging process, please immediately remove from device or charge and stop using.
- For a safe charging process, please read the instructions carefully and use a certified charger or inverter.
- Check the voltage of battery and relevant connectors before using the battery. Battery can't be used until everything turns out to be normal.
- Prior to charging, fully check the insulation, physical condition and aging status, since breakage and aging are never allowed.
- The battery should be stored in half SOC. It needs to be charged once if out of use for as long as half a year.
- Clean the dirty electrode, if any, with a clean dry cloth, or operation failure may occur.

Warning

- Never knock, throw or trample the battery.
- Never switch the positive and negative.
- Never connect the positive and negative of battery with metal.
- Never ship or store the battery together with metal.
- Never cut through the battery with nail or other edge tool.
- Never throw the battery into water, please keep it in dry, shady and cool places when not in use.