

DATASHEET AND Specifications



Model: LFP05024LCD
24V 50AH // MAX CHARGE/
DISCHARGE CURRENT: 50A/50A



LFP05024LCD

The LiFePO₄ battery pack LFP05024LCD not only has a built-in BMS system but has an integrated LED screen that helps users quickly check the voltage of the battery.

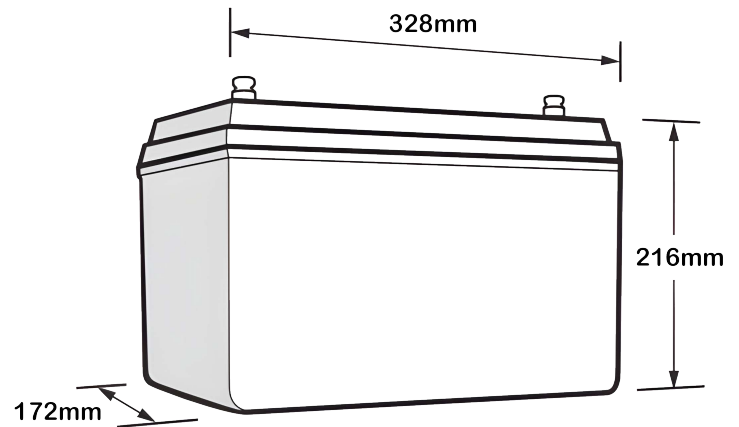
This 24V 50Ah battery pack can be used in parallel systems and it has significant advantages as a backup battery for various applications.. The LFP05024LCD features high power density, small size, long service life, resistance to high temperature, fast charging and discharging, and an effective design.



CHARACTERISTICS

1. Positive electrodes made of LiFePO₄ (LFP), ensuring higher safety and a long service life.
2. Compatible with a variety of power supply devices.
3. Built-in BMS system with multiple protections, which ensures high reliability of the battery pack and enables real-time monitoring of battery.
4. Low internal resistance, with efficient internal balance of the battery control circuit.
5. Wide working temperature range and high reliability.
6. Support for parallel and series connection of battery packs.

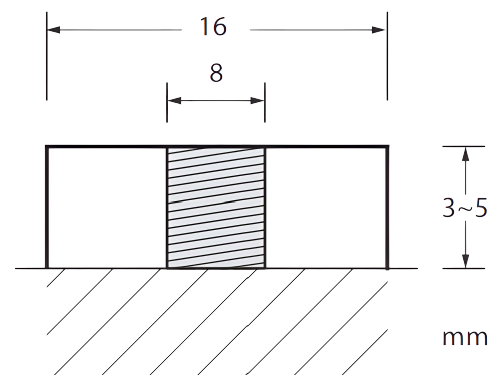
BATTERY DIMENSIONS



FEATURES

- LED indicator for quick voltage monitoring.
- Built-in BMS with Charging current limitation.
- Built-in automatic protection for over-charge, over-discharge, low-temperature, and over-temperature conditions.
- State of charge and state of health indication.
- Internal cell balancing.
- Maintenance free system.

TERMINAL DIMENSIONS



SPECIFICATIONS

Voltage	25.6V
Nominal Capacity (0.2°C, 5A)	50 Ah
Normal Energy (0.2°C, 5A)	1280Wh
Max. Charge Current	50 A
Max. Constant Discharge Current	50 A
Charge Voltage	28.4 - 29.2V
Cut-off Voltage	20V
Charging Standard	CC: 0.2C to 28.8V CV: 28.8V Floating: 27.2V - 27.6V Charging end current: 0.01C
Calendar Life (25°C)	>10 years
Cycle Life (0.2C, 25°C)	8000 with 50% DOD 4000 with 80% DOD 3000 with 100% DOD
Operating Temperature	Charging: -0°C ~ +65°C Discharging: -20°C ~ +75°C
Storage Time / Temperature	-20°C ~ +60°C

GENERAL INFORMATION

Casing Material	ABS case
Assembly	8S1P Single cell Capacity 50Ah
Recommended Charging Type	CC-CV-Float charge
BMS	Integrated

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H) in mm	328* 172* 216 *
Weight	11kg
Terminal	M8
Mounting Options	Any Directions

GENERAL WARNINGS

All other warnings are indicated on battery package:

- Use the recommended charger stated on package.
- Don't throw battery into water, fire, or expose to hot temp.
- Do not disassemble the battery.
- LFP05024LCD batteries **can** be used in series.

PREVENTATIVE MEASURES

In order to prevent leaking, overheating, and or exploding, please read the following preventative measures:

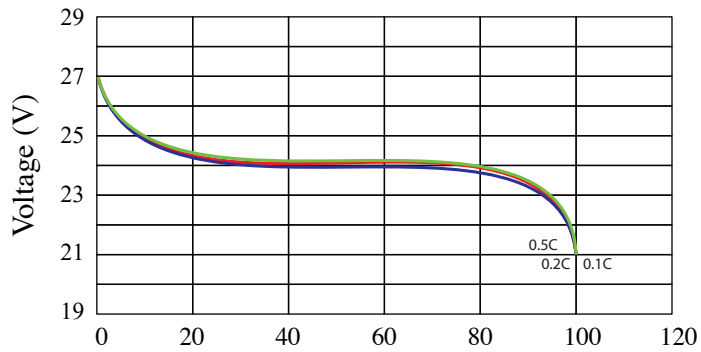
- Do not expose battery to water. Keep the unit under dry, shady, and cool conditions when not in use.
- Never keep the battery near high-temperature sources like fire, direct sunlight, dryer, heaters, ovens, etc.
- Please use the stated charger or a charger that meets the requirements and compatibility of the battery.
- Internal battery damage may occur if wiring is reversed between the positive and negative terminals.
- Refrain from cutting the battery into the socket directly.
- Prevent contact of metal materials near exposed positive and negative terminals. Especially when the unit is active.
- Never ship or store the battery together with metal or metallic items such as aluminum, copper, steel, etc.
- Keep the battery in a safe space where it cannot be knocked down, stepped on, or physically damaged.
- Take care to not cut or pierce the battery with a nail or other edged/sharp tools.
- Never use or keep the battery under high temperature. Doing so may compromise the battery and cause it to overheat, catch fire, lose functionality, or reduce its life.
- Never use the battery under strong static or magnetic fields. It may damage the BMS and cause malfunctions.
- If the battery is leaking; keep electrolyte away from eyes. If exposed, please do not rub eyes, wash eyes with water, and go to the nearest hospital for treatment ASAP.
- If the battery is emitting a peculiar smell, exhibiting overheating, distortion, or appearing in any way abnormal physically during use, storage, or charging, please take it out of the device, storage, or charger and stop using immediately. Place malfunctioning battery in a safe space where it cannot damage other items or cause a fire.
- If the terminal is dirty, please clean it before using.
- Please encase the terminals with the isolative paper if you wish to discard the battery and to prevent any fires.

BMS PARAMETERS

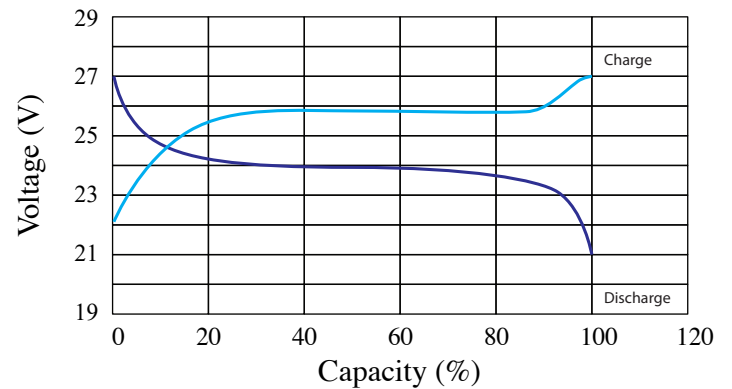
Type		Function	Setting value	Recovery
			LFP05024LCD 25.6V 50Ah	
Voltage	Charge	Cell Voltage Protection	3.65V	Recover at 3.5V
		Total Voltage Protection	29.2V	Recover at 28.0V
	Discharge	Cell Voltage Protection	2.5V	Recover at 2.75V
		Total Voltage Protection	20.0V	Recover at 22.0V
Current	Charge	Over Current Protection 1	52A	Delay 10s, recovery 32sec
		Over Current Protection 2	>102A	Delay 3s, recovery 1min
	Discharge	Over Current Protection 1	52A	Delay 30s, recovery 32sec
		Over Current Protection 2	>102A	Delay 3s, recovery 1min
		Short Circuit Protection	>150A	Delay 1mS, Recovery 5 Ssec
Temp.	Cell Temp 1	Low temp protection	Charging $< 0^{\circ}\text{C}$ Discharging $< -20^{\circ}\text{C}$	Delay 1mS
	Cell Temp 2	High temp protection	Charging $\geq 65^{\circ}\text{C}$ Discharging $\geq 75^{\circ}\text{C}$	Delay 1mS
	PCB	Range	$\geq 95^{\circ}\text{C}$	Recovery at 74°C
Cell Balance	Balance	Balances cells during charging process.	$V_{\text{Max.}} \geq 3.40\text{V}$ and $V_{\text{Max.}} - V_{\text{Min}} \geq 40\text{mV}$, Start balance	All cell voltages $\leq 3.65\text{V}$ and $V_{\text{Max.}} - V_{\text{Min}} \leq 40\text{mV}$, Stop balance

PERFORMANCE CURVES

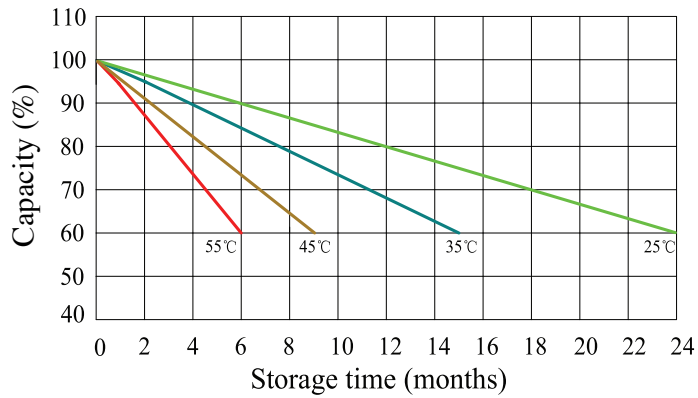
Discharge Performance at 40°C



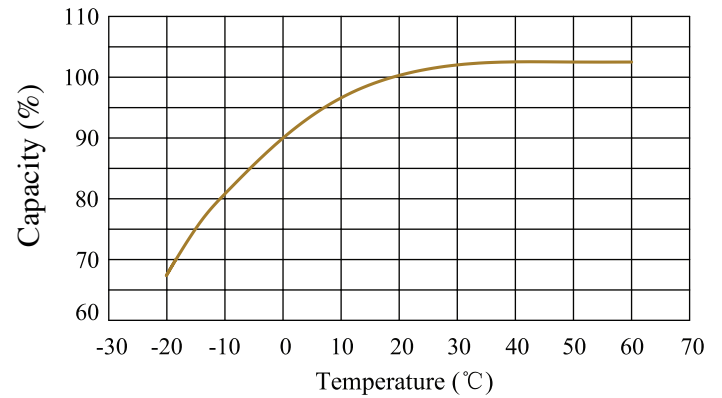
Charge and Discharge at 40°C, 0.5C



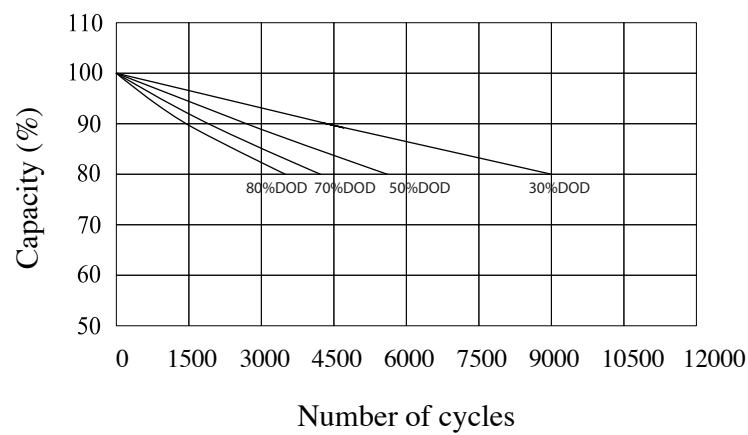
Self-discharge at different temperature



Temperature effects on capacity at 0.5C



Cycle Life with DOD at 35°C, 0.3C



Performance may vary depending on, but not limited to cell usage and application. If cell is used outside specifications, performance will diminish. All specifications are subject to change without notice. All information provided herein is believed, but not guaranteed, to be current and accurate.