



Model: CL1120-48 | Voltage: 51.2V | Capacity: 120Ah | Energy: 6,144Wh

## ELECTRICAL SPECIFICATIONS

Voltage	51.2 V
Nominal Capacity	120 Ah
Capacity @ 25A/ 48V	288 min
Resistance	≤30 mΩ @ 50% SOC
Effeciency	99%
Self Discharge	<3% per Month
Supported Inverters	Sol-Ark Victron Schneider Electeic

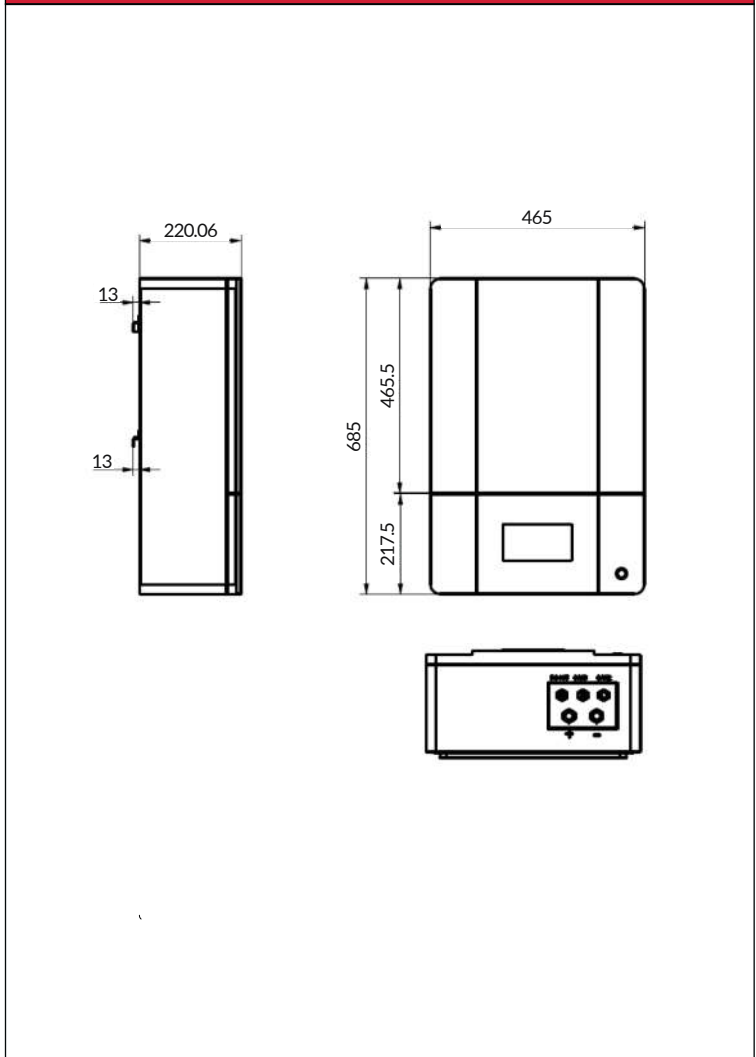
## CHARGING CHARACTERISTICS

Recommended Charge Current	60 A
Maximum Charge Current	120 A
Floating Charge Voltage	55.2 ± 0.2 V
Maximum Charge Voltage	58.4 ± 0.2 V
Recommended Charge Voltage (Single Unit)	55 V - 58.4 V
BMS Charge Voltage Cut-Off	58.5 V
Reconnect Voltage	58.2 V
Balancing Voltage	55 V ± 0.2 V

## DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	6 KW
Peak Discharge Current	500 A For 3 S
Recommended Low Voltage Disconnect	43.2 V
BMS Discharge Voltage Cut-Off	43.2 V
Reconnect Voltage	44 V
Short Circuit Protection	200-600 μs

## DIMENSIONAL SPECIFICATIONS



## TEMPERATURE SPECIFICATIONS

Discharge Temperature	-20 to 60 °C ( -4 to 140 ° F )
Charge Temperature*	0 to 45 °C ( -4 to 140 ° F )
Recommended Storage Temperature	-10 to 35 °C ( 14 to 86 ° F )
BMS High Temperature Cut-Off	65 °C ( 149 ° F )
Reconnect Temperature	50 °C ( 122 ° F )

\*32°F = 0°C

## MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	465 x 220 x 685
Weight	143.3 lbs (65 kg)
Terminal / Thread Pitch	M8 / 1.25
Bolt Length / Thread Depth	16mm / 10mm
Case Material / Torque	ABS / 80-100 in-lbs (9-11 N-m)
IP Rating	IP55
Cell Type - Chemistry	Prismatic - LiFePO4

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## BATTERY ALARM & PROTECTION

### OVER-CHARGE

Over-charge alarm for each cell	3.55±0.03V
Over-charge protection for each cell	3.75±0.03V
Over-charge release for each cell	3.4±0.03V
Over-charge alarm for total voltage	56.8V±0.5V
Over-charge protection (total voltage)	60.0V±0.5V
Over-charge release for total voltage	54.4V±0.5V
Over-charge release method	Under the release voltage

### OVER-DISCHARGE

Over-charge alarm for each cell	3.00±0.03V
Over-charge protection for each cell	2.70±0.03V
Over-charge release for each cell	3.10±0.03V
Over-charge alarm for total voltage	48.0V±0.5V
Over-charge protection (total voltage)	43.2V±0.5V
Over-charge release for total voltage	49.6V±0.5V
Over-charge release method	Charge to recovery

### OVER-CURRENT

Charge over current alarm	135±5A
Charge over current protection	150±5A
Protection delay time	5±1s
Charge over current release method	Auto release after 1min
Discharge over current alarm	35±5A
Discharge over current protection	150±10A
Over current release method	5±1s

### DISCHARGE OVER TEMPERATURE

Alarm	60±3C
Protect	65±3C
Release	55±3C

### CHARGE LOW TEMPERATURE PROTECTION

Alarm	5±3C
Protect	0±3C
Release	5±3C

### CHARGE OVER TEMPERATURE

Alarm	50±3C
Protect	55±3C
Release	45±3C

### COMMUNICATION & MONITORING

LCD	Custom LCD Display
Communication	Can-bus, RS485
Monitoring	CANBAT WIFI App
Parallel connection	Up to 14 units
Series connection	Not allowed

### SHORT CIRCUIT

1200A±200A, delay time 200~800us

### OTHER FEATURES

State of charge alarm	10%
Cycle Life @ DOD 100% / 80%	2,500 Cycles / 4,000 Cycles

## FEATURE LIFEPO4 BATTERY



#### MORE CAPACITY :

Lithium iron provides up to 100% of usable energy, which means you can discharge the battery entirely



#### MINIMAL DISCHARGE :

Less than 3% self-discharge per month, which provides you more power when you need it.



#### EASY INSTALLATION :

Canbat lithium iron batteries are designed to be drop-in replacements for sealed lead-acid batteries.



#### LIGHTWEIGHT :

Lithium iron batteries are 60% lighter than lead-acid batteries, allowing for simple installation and transportation.



#### INCREASED FLEXIBILITY :

Install up to 14 units of the 48V 120Ah in parallel to create a large power house



#### HIGH DISCHARGE RATE :

Ability to deeply discharge the battery at a high rate of discharge while maintaining high energy capacity.



#### INTELLIGENT BMS :

The battery management system monitors and adapts to battery conditions to maximize performance and safety.



#### FASTER CHARGING :

Charges much faster than conventional sealed lead-acid batteries, giving you access to reliable power quicker.



#### LONG CYCLE LIFE :

More than 2,500 cycles at a depth of discharge of 100% and a warranty of 10 years on all lithium batteries.



## REQUIRED ACCESSORY LIST AND INSTALLATION

NO	ITEMS	DESCRIPTION	QTY	UNIT
1	Battery module	CLI120-48	1	pcs
2	Bracket	Mounting Bracket	1	pcs
3	Screws	M8*25	8	pcs
4	Expansion screws	M8*60	12	pcs
5	Module communication cable	RJ45 *2_1.5m	1	pcs
6	Inverter communication cable	RJ45_2.0m	1	pcs

STEP	OPERATION	INSTRUCTION
1	Pre-inspection	Prior to opening the package, check for any major external damage.
2	Preperation	Before installation, prepare all the tools required for a fast and smooth installation.
3	Battery install position	Choose install position to ensure proper function and effectiveness of battery module.
4	Preperation 2	Move the package to the desired opening and install location.
5	Open the package	Open the package and check the battery module and accessories for any damage prior to install.
6	Punch holes	Punch 12 installation holes on the wall.
7	Fix the bracket	Fix the bracket (2) on the wall with included screws (M8*25).
8	Install battery	Place the battery module on the fixed bracket, then secure with additional screws (M8*60) for extra protection. Keep the ambient temperature at 25°C for optimal performance. Install additional cables if required (5&6).

## IMPORTANT INFORMATION

This 120Ah 48V LiFePO4 battery is air cooled. For best results, place the battery in a dust-free environment or clean the battery and its surrounding at least once every 4 month. If the battery is installed but not in use for longer than 3 month, charge fully to prolong its life cycle. For long-term storage, this battery needs to be placed in a clean, dry, well-ventilated indoor environment. Store your battery with atleast 50% charge and transport with no more than 30% charge. For long-term storage, charge your battery every 6 months. During transport, place in an upward position and do not drop or stack with other units or products.

Please read the user manual carefully before using this battery as improper use may cause damage. Canbat Technologies Inc shall be exempt from any responsibility for accidents caused by improper usage. The battery must be far away from heat sources, high voltages, and sunshine. Do not throw your battery into the water. Never connect the positive and negative terminals of the battery with metal. Never store or transport the battery with other metals. Never disassemble the battery without Canbat's permission and guidance.

Please do not use or store the battery in a high-temperature environment. This could lead to overheat, fires or battery life cycle reduction. Charge your battery periodically to prolong its life cycle. Stop using the battery if there is a peculiar smell, color change, leakage, severe distortion or other abnormal factors. If the battery leaks and gets into the eyes or skin, do not wipe; instead, wash it with running clean water and go to the nearest hospital immediately. Do not place scraped battery into open water or fires.

To maximize battery performance and ensure safe operation of your battery, use the appropriate cable size and tighten connections using the proper torque value. Refer to the data sheet for your particular battery's torque value. It is recommended to use a washer. Place the washer between the cable lug and nut, not between the cable lug and battery terminal surface.

If LiFePO4 batteries are not fully discharged, they do not need to be charged after each use. LiFePO4 batteries do not get damaged when left in a partial state of charge (PSOC). You can charge your LiFePO4 batteries after each use or when they have been discharged up to 80% (20% SOC). If the BMS disconnects the battery due to low voltage, at 100% depth of discharge, remove the load to reconnect the battery circuit and charge immediately. Please note that we recommend storing batteries at 50% state of charge (SOC).

The CLI120-48 supports parallel connections of up to 14 units. The battery is designed for 48V systems and series connections are not allowed.