



\*Note: This built-in intelligent BMS will reset after five seconds in most fault conditions. Disconnecting the load from battery will also reset.

# CRUZE TECHNICAL SPECIFICATIONS

## Electrical Specifications

Nominal Voltage	51.2V
Nominal Capacity	105Ah
Energy	5376Wh
Self Discharge	2~3% Per Month
Maximum Batteries in Series	NA
Maximum Batteries in Parallel	4
Built-in BMS	Internal
Resistance	<15 mΩ
Cell Chemistry	LiFePO4(Lithium Iron-Phosphate)

## Charging Specifications

Recommended Charge Current	0.2C/21A
Max Charge Current	50A
BMS Charge Current Protection	105A
Recommended Charge Voltage	58.4V
Reconnect Voltage	@ 54.5V
Balancing Voltage	@ 3.2V Per Cell
Charge Protection Voltage	60V

## Discharging Specifications

Max Discharge Current	105A
Discharge Surge Current1	200A for 60 seconds
Discharge Surge Current2	330A for 35 seconds
Surge for Loads Over	500A for 2 seconds
Recommended Low Voltage Disconnect	48V
BMS Discharge Cut-Off Voltage	40V
Reconnect Voltage	44.8V
Short Circuit Protection	Yes

## Temperature Specifications

Discharge Temperature	-4°F to 149°F (-20°C to 65°C)
Charge Temperature	32°F to 122°F (0°C to 50°C)
Storage Temperature	32°F to 95°F (0°C to 35°C)
Reconnect Temperature	Discharge 131 °F (55°C) Charge 113 °F (45°C)

## Mechanical Specifications

Dimensions	458mmL X 333mmW X 236mmH
Weight	44KG
Terminal Type	M8
Terminal Torque	619~974in-lbs(70~110N-m)
Case Material	Stainless Steel
Waterproof Level	IP67

## Integrated Heating Specifications

Heat	Integrated Heating Technology
Heating ON	Auto ON- > 10A and < 0°C
Heating OFF	Auto OFF- > 5°C
Continuous Power Draw (When Enabled)	400W
Required Minimax Charging Currentvtz	>10A

## Certifications

Certifications	UL1973,UL9540A,IEC62619 for cells MSDS for shipping UN38.3
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## Communication Protocols

CAN	✓
RS485	✓
UART	✓
Bluetooth	✓

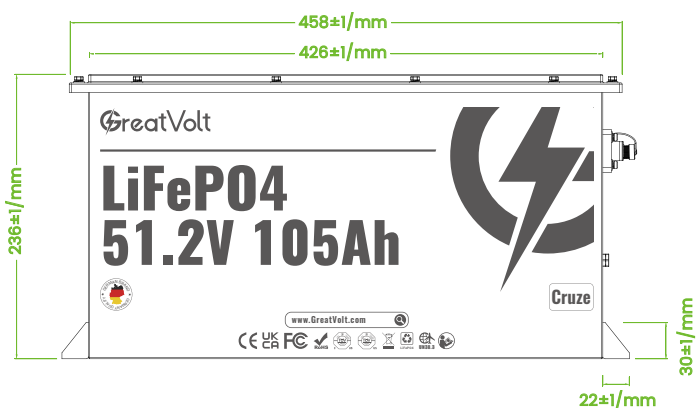
\* Heating - Charging in Subzero Weather will Automatilly turn on heating function.

\* Storage - Please keep the battery in the cool and dry environment: Within 1 month -5°C~35°C or Within 6 months 0°C~35°C, relative humidity ≤75%, please charge the battery pack (around 50% SOC) regularly (every 60~90 days) to keep its chemistry active and longer lifespan. Long shelf time without charging the battery, the battery may completely depleted or totally died. Please DO remove the battery from your device when battery NOT IN USE for long time.

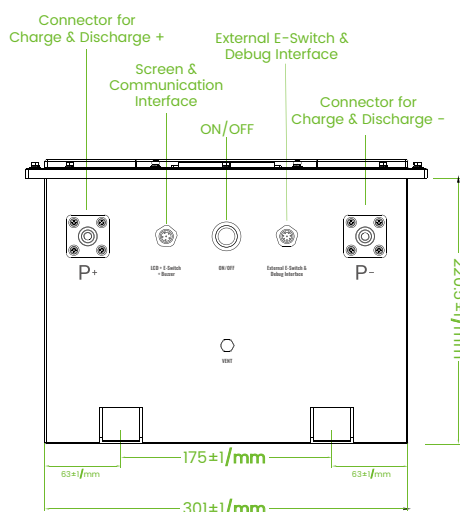
# Mechanical Drawing



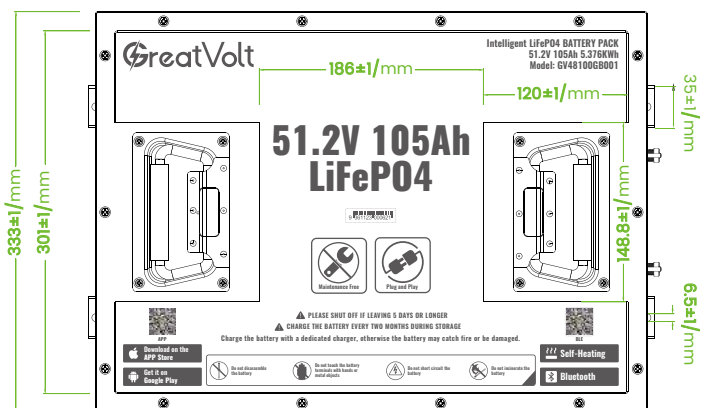
## Perspective



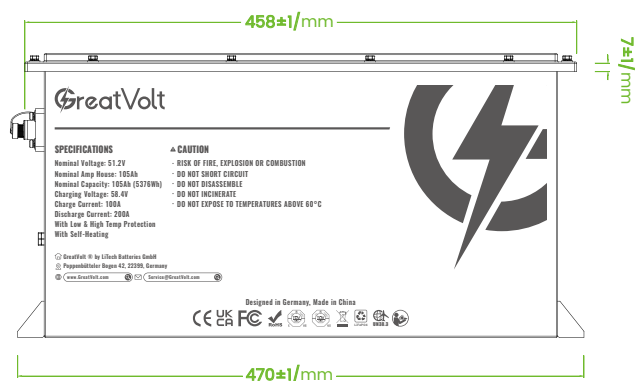
Front view



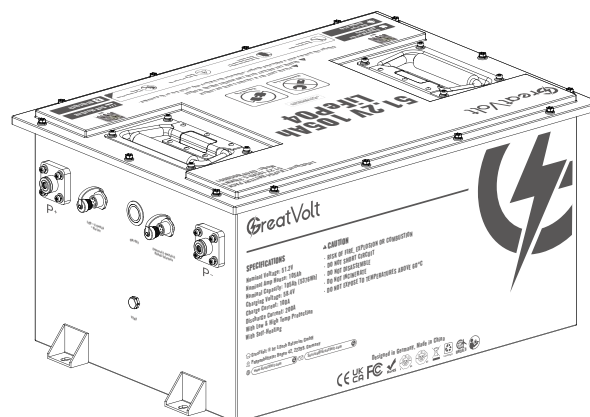
Side view



Top view



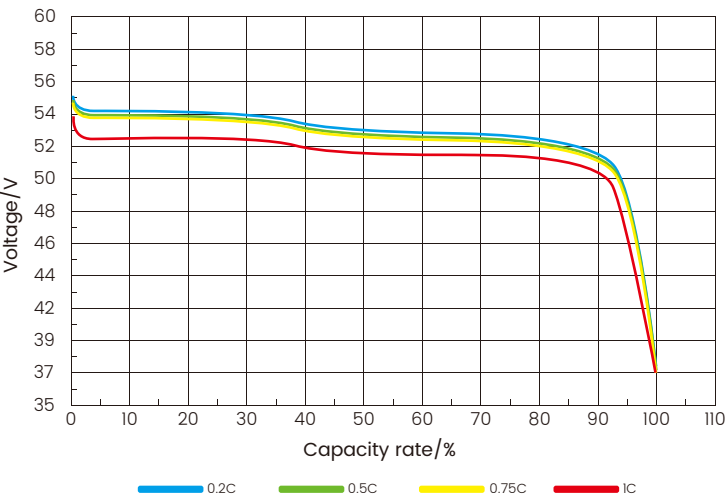
Rear view



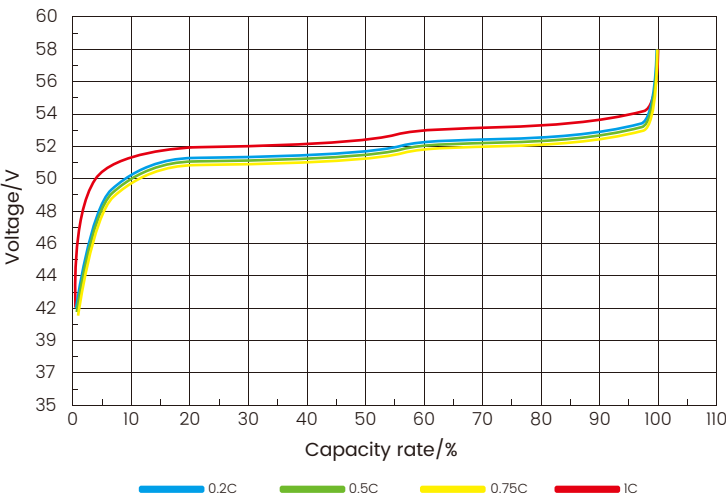
## Perspective

# RATE CHARGE-DISCHARGE CURVE

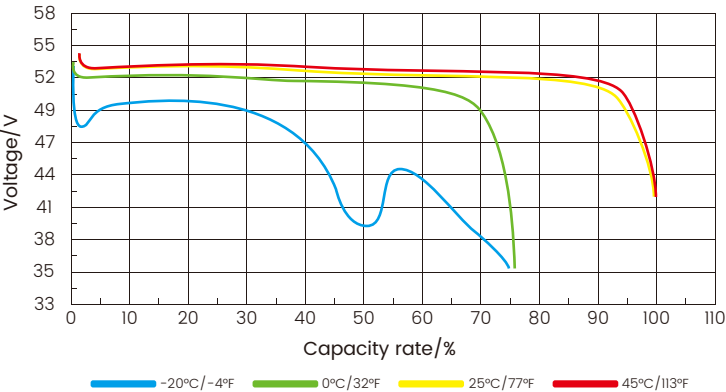
Discharge tests were performed at 25°C/77°F



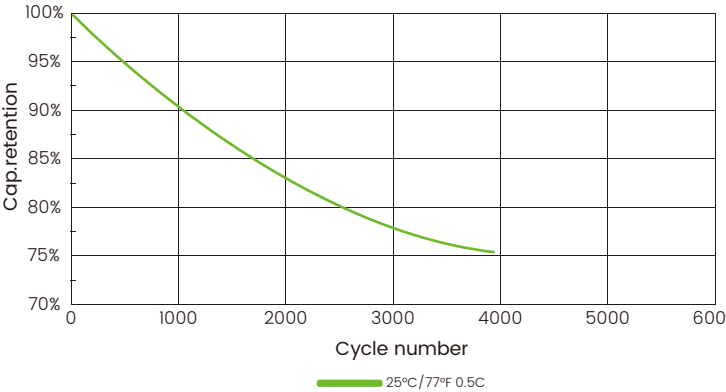
Charge tests were performed at 25°C/77°F



0.2C High and low temperature discharge



0.5C Cycle curve



# PERFORMED OPERATION DATA FOR HEATED BATTERIES

Heating data at different temperatures (charging heating)

