



QOMOLANDER (USA) INC.
SHENZHEN QOMOLANDER TECHNOLOGY CO., LTD

sales@qomolander.com

www.qomolander.com

Golf Cart Lithium Battery

User Manual



Warranty Info:

Serial number _____

Purchase date _____

Qomolander (USA) inc

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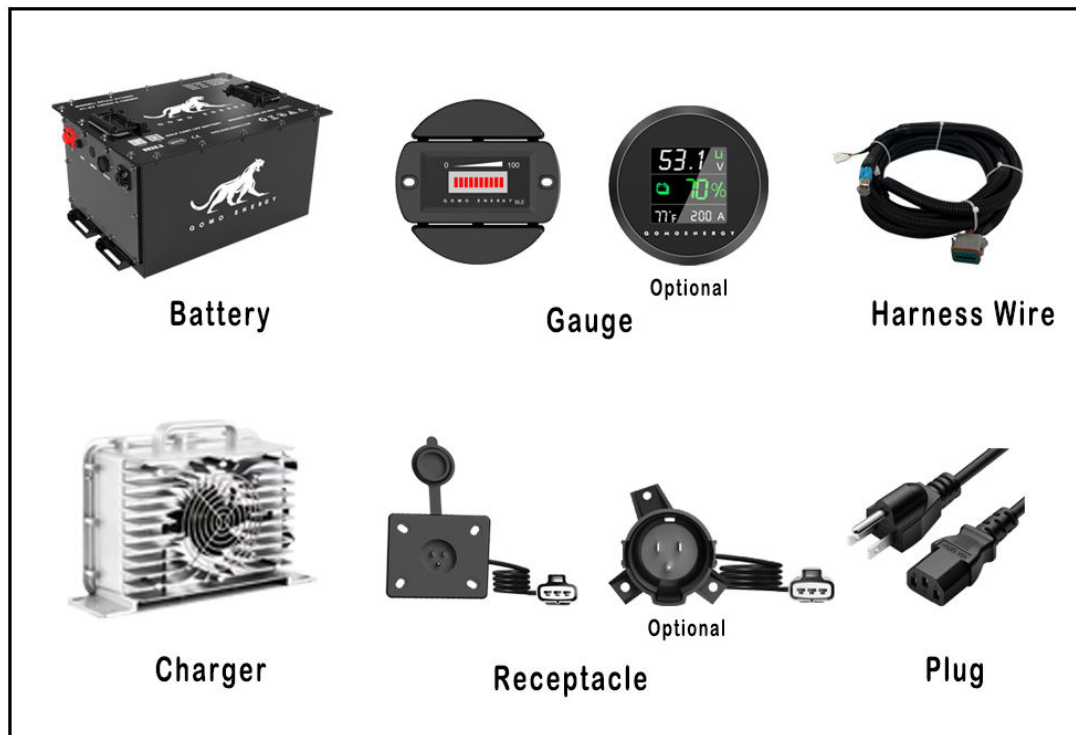
Address: 1150 S Millken AVE, Ontario, CA 91761, USA

Thanks for purchasing QOMOLANDER Products

QOMOLANDER is a high-tech company committed to developing and manufacturing lithium battery. Our lithium batteries are well designed with integrated battery management system which is safe and reliable in operation.

Please read the user manual carefully before install and operate it and always take care while use it. This product is not intended to use by young or infirm persons without supervision.

Packing Lists

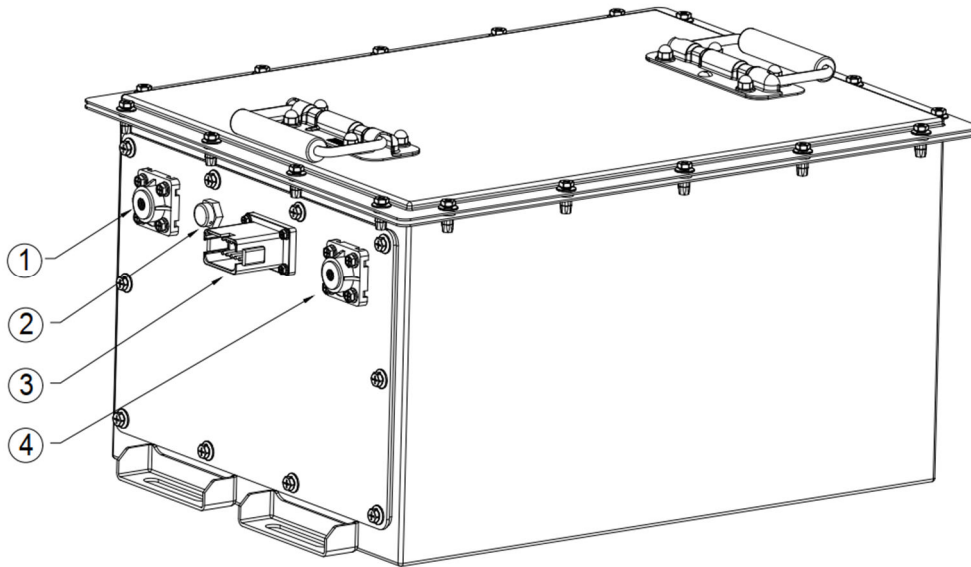


Please note: as our products continue to update, the product you receive may differ in appearance or parameters as in the manual. This manual is for reference only, please refer to the actual product you receive.

Overview

The batteries are equipped with an integrated battery management system which can

- Cell balancing
- Battery voltage monitoring
- Battery current monitoring
- Pre warning when battery capacity is less than 20% (Gauge will beep)
- Battery temperature monitoring (integrated temperature sensor)



① Positive Terminal ② Vent ③ Communication Port ④ Negative Terminal

Note: Press and hold the “External On/Off SWITCH” button to turn on/off the battery. Green light indicates power on.

Installation Steps

ATTENTION:

Before installing, make sure that all appliances are turned off.

1. Open the golf cart compartment, you will see your original lead-acid batteries. Disconnect all the wires safely, and pull out your old lead acid batteries.
2. Fasten the bracket we offer in the compartment as the base.
3. Install the charger into the compartment.
4. Replace your old receptacle with the new one we offer (for safety, this step is necessary).
5. Install the gauge and ON/OFF switch on dash board of your cart.
6. Install the wiring harness which will be used to connect battery communication port, charger, on/off switch and gauge.
7. Put the battery pack into compartment and fasten the pack to the bracket base.
8. Connect wiring harness with battery and charger, on/off switch and gauge.
9. Connect Battery Positive and Negative Terminal to Positive and Negative of the Charger.
10. Connect Battery Positive and Negative Terminal to Positive and Negative of your cart.
11. Connect the wiring harness to Battery Communication Port, ON/OFF Switch, Gauge and Charger.
12. Now you can turn on the ON/OFF Switch to check whether everything is well connected.
13. If the battery is low power, then you need to charge it at first (You can use the plug we offer).

All installation steps are complete, and your carts is ready to go.

Note: only authorized mechanics or technicians are allowed to install the battery.

Operation

Power ON

Press once the ON-OFF switch at the end of wiring harness, the LED indicator on the switch will light up. The gauge will light up also and displays the current SOC. Then the battery will be powered on and ready to work.

Power OFF

Press the ON-OFF switch again, the LED indicator on the switch and the gauge will turn off, and the battery will be powered off.

Disconnect wiring harness, the battery will power off as well.

Automatic Shutdown

1. If the SOC of the battery pack is higher than 20% and there is no discharging for 7 days, it will automatically shut down.
2. If the SOC of battery pack is equal or less than 20% and there is no discharging for 24 hours, it will automatically shut down as well.

In automatic shutdown state, press the ON-OFF switch twice to restart the battery. (One time for reset the switch and the second time for POWER ON)

Warning

Low Power Warning

When the SOC of the battery pack is lower than 20% or the gauge displays only two bars power left, the buzzer will ring and the gauge bars will flash. Please charge the battery immediately.

Other warnings

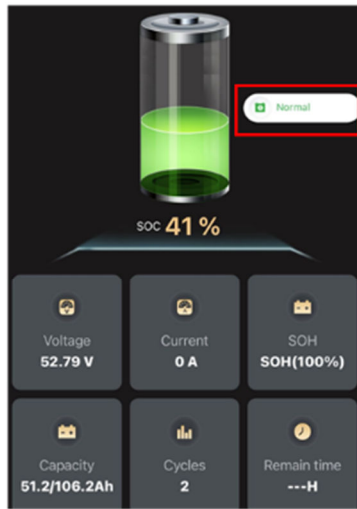
Other warnings like High Temperature, Low Voltage, Over-Discharge, Over-Current, the buzzer will ring and the gauge bars will flash as well.

If you hear a warning alarm from the buzzer, please slow down or stop to check immediately. Otherwise, the BMS protection may be triggered and cause a shutdown. After the warning alarm stops, the battery can work again.

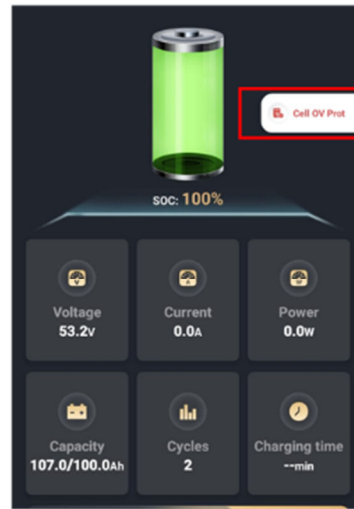
You can find out the details of warning either by our Bluetooth APP 'Qomolander' or by Digital Gauge.

The following table explains the reasons for various warnings in detail.

Warnings on Qomolander APP



Normal



Warning

Warning Code	Meaning	Warning Code	Meaning
Cell OV Prot	Cell Over Voltage Protection	DSGFET Fault	Discharge Mosfet Fault
Pack OV Prot	Pack Over Voltage Protection	CHGFET Fault	Charge Mosfet Fault
Full CHG Prot	Full Charge Protection	Cell Unbalance	Cell Unbalance Alarm
Cell UV Prot	Cell Under Voltage Protection	Amb. OT Alarm	Ambient Temperature Over Alarm
Pack UV Prot	Pack Under Voltage Protection	Amb. UT Alarm	Ambient Temperature Under Alarm
CHG OT Prot	Charge Over Temperature Protection	SOC Low Alarm	SOC Low Alarm
CHG UT Prot	Charge Under Temperature Protection	MOS OT Alarm	MOS Over Temperature Alarm
DSG OT Prot	Discharge Over Temperature Protection	Cell UV Alarm	Cell Under Voltage Alarm
DSG UT Prot	Discharge Under Temperature Protection	Pack UV Alarm	Pack Under Voltage Alarm
MOS OT Prot	MOS Over Temperature Protection	Cell OV Alarm	Cell Over Voltage Alarm
SC Prot	Discharge Short Circuit Protection	Pack OV Alarm	Pack Over Voltage Alarm
DOC Prot	Discharge Over Current Protection	DOC Alarm	Discharge Over Current Alarm
COC Prot	Charge Over Current Protection	COC Alarm	Charge Over Current Alarm
Amb. OT Prot	Ambient Temperature Over Protection	DSG OT Alarm	Discharge Over Temperature Alarm
Amb. UT Prot	Ambient Temperature Under Protection	DSG UT Alarm	Discharge Under Temperature Alarm
Temp. Fault	Temperature Detection Fault	CHG OT Alarm	Charge Over Temperature Alarm
Voltage Fault	Voltage Detection Fault	CHG UT Alarm	Charge Under Temperature Alarm

Warnings on Digital Gauge



Normal



Warning

Cause of Warning	Display	Buzzer	Remarks
Cell Low Volt Alarm	WARNING2	1S beep, 1S stop	No Warning when charging
Cell Low Volt Protection	WARNING2	0.2S beep, 0.2S stop	No Warning when charging
Pack Low Volt Alarm	WARNING4	1S beep, 1S stop	No Warning when charging
Pack Low Volt Protection	WARNING4	0.2S beep, 0.2S stop	No Warning when charging
Over Temperature Alarm	WARNING8	1S beep, 1S stop	No Warning when charging
Over Temperature Protection	WARNING8	0.2S beep, 0.2S stop	No Warning when charging
Low Temperature Alarm	WARNING9	1S beep, 1S stop	No Warning when charging
Low Temperature Protection	WARNING9	0.2S beep, 0.2S stop	No Warning when charging
Low SOC (11-20%)	WARNING11	1S beep, 1S stop	No warning when gauge confirms SOC and No warning when charging
Low SOC (0-10%)	WARNING11	0.2S beep, 0.2S stop	No warning when gauge confirms SOC and No warning when charging

Charging

This battery needs to be charged with the designated charger we sell, otherwise it may cause insufficient charging or battery damage. We are not responsible for any problems caused by this.

The battery can be charged no matter it is on or off. The gauge keeps rolling while charging.

When the battery is fully charged or triggered Overvoltage Protection, the SOC will be automatically

corrected to 100% and the gauge will display 10 bars.

We strongly recommend you fully charge the battery every 2 weeks for more accurate SOC display. After long-term storage, please fully charge the battery before use.

When the battery is fully charged, please disconnect the charger in time. Please do not plug the charger on the wall for a long time.

If you keep the charger connected to the socket all the time, the charger will repeatedly restart charging the battery when the minimum volt of battery cell is lower than 3.23V (100Ah battery) or 3.34V (105Ah battery). Generally speaking, when SOC drops below 95%, the battery will restart charging again and again.

If the battery' SOC is above 95%, the battery will not restart charging unless the battery is discharged.

Power down

When single battery cell voltage is lower than 2.2V or the total voltage of the battery pack is about 38V, the battery is in power-down state.

In the power-down state, please press the ON-OFF switch to power on the battery and charge it with a charger immediately. In the power-down state, you can only charge it after you turn on the switch.

Bluetooth

Connect your phone to your battery with Bluetooth, you can monitor the battery' status or even troubleshoot if needed with the APP "QOMOANDER". For example, you can monitor the battery' real-time SOC, SOH, Capacity, Voltage, Current, Temperature, Warning on this APP.

You can also upgrade battery' program by the OTA function on this APP.

Scan the QR code below or search the APP "QOMOANDER" to download the APP for your Phone.

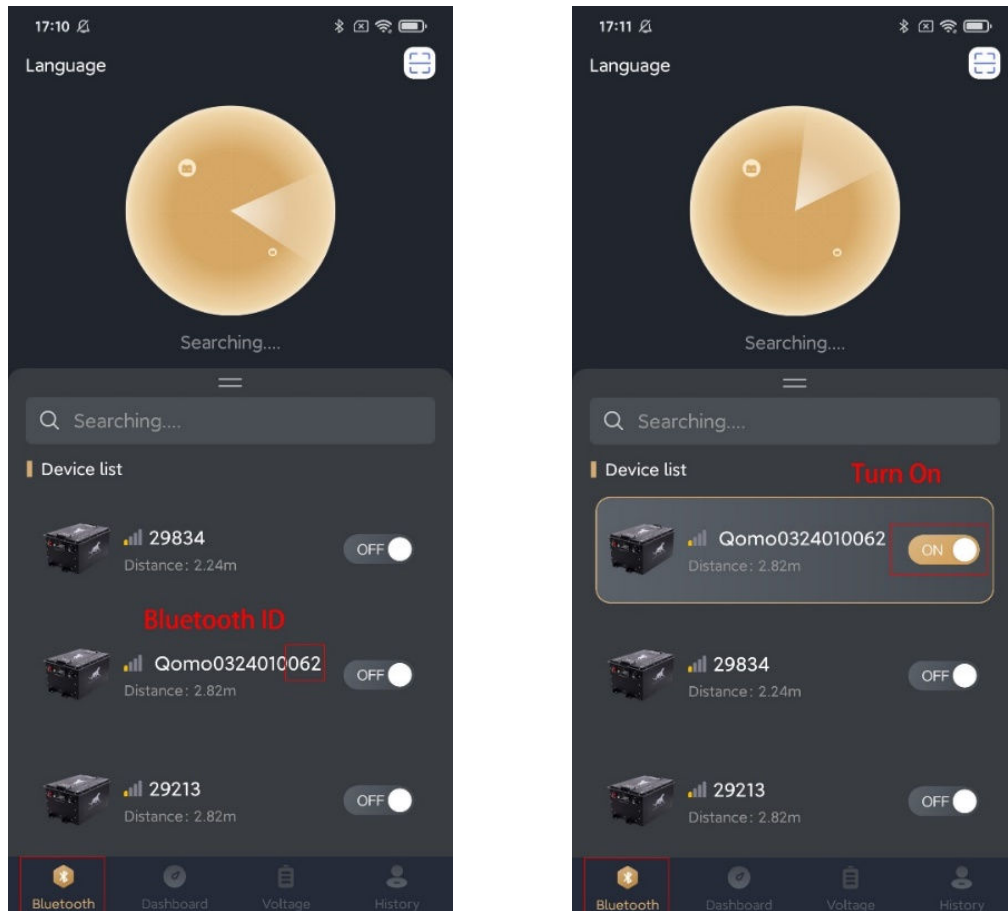


Android



iOS

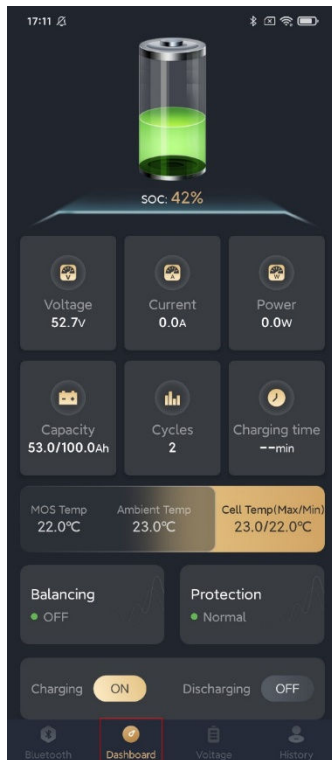
After installed the “QOMOANDER” APP, open it. It will search nearby connectable batteries and display its Bluetooth ID. Turn on your Battery' Bluetooth ID.



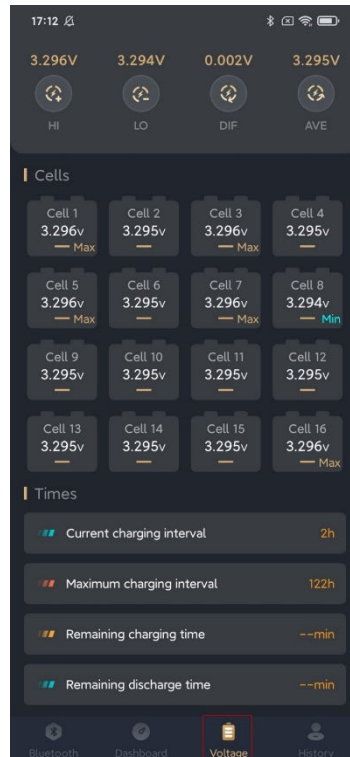
For the Bluetooth ID, you can find it on the label attached to your battery or your Gauge.



In dashboard page, you can monitor the battery' real-time SOC, SOH, Voltage, Current, Power, Capacity, Cycles, Charging time, MOS Temperature, Ambient Temperature, Cell Temperature, Balancing, Protection.

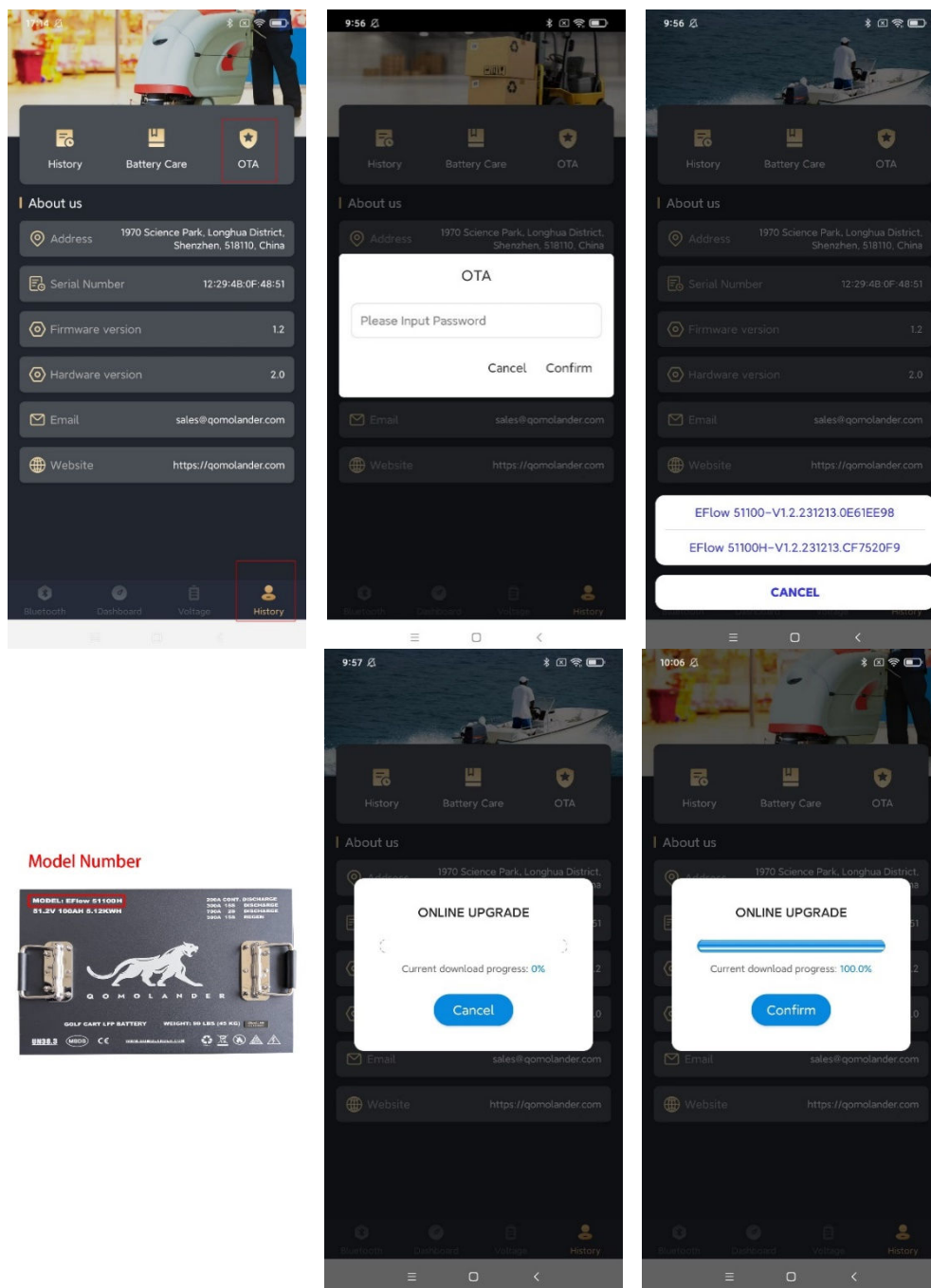


In Voltage page, you can monitor the detailed voltage of each battery Cell. The highest voltage, the lowest Voltage, Voltage Difference, Average Voltage and Voltage of each battery cell.



In History page, you can check the battery' firmware and hardware version. And you can also **upgrade the program of your battery.**

Click OTA and input PIN **“qomolanderprogram”**, then you can find all the available online program. Please choose the right program of the models you have. (You can find the model number printed on the battery). Then start upgrading.



The upgrade process takes few minutes, so please be patient. If the Bluetooth connection is disconnected midway, causing the upgrade to fail, please follow the above steps and try again.

Specification

Below are the specifications of our golf cart lithium batteries.

EFlow & EFlow H Series

Model	EFlow 5150	EFlow 51100	EFlow 51100H	EFlow51105H Mini	EFlow 51150H	EFlow 38105H
Nominal Capacity	50Ah	100Ah	100Ah	105Ah	150Ah	105Ah
Nominal Voltage	51.2V	51.2V	51.2V	51.2V	51.2V	38.4V
Stored Energy	2560Wh	5120Wh	5120Wh	5376Wh	7680Wh	4032Wh
Mileages per Charge	15-25 Miles (25-40km)	30-50 Miles (48-80km)	30-50 Miles (48-80km)	30-50 Miles (48-80km)	45-65 Miles (72-104km)	20-40 Miles (32-64km)
Continuous Discharge Current	160A	160A	200A	200A	200A	200A
Max Discharge Current	200A @10Mins	300A @15S	300A @15S	300A @15S	300A @15S	300A @15S
Cell Combination	1P16S	1P16S	1P16S	1P16S	1P16S	1P12S
Cell assembly	REPT 50Ah	REPT 100Ah	REPT 100Ah	EVE 105Ah	EVE 150Ah	EVE 105Ah
Dimension (L*W*H)	18.1*13.4*9.9 inches 460*340*250 mm	18.1*13.4*9.9 inches 460*340*250 mm	18.1*13.4*9.9 inches 460*340*250 mm	15.8*11.1*10.9 inches 400*280*275 mm	32.3*13.4*9.9 inch 820*340*250 mm	14.6*13.4*9.9 inch 370*340*250 mm
Weight	73 lbs. (33 kg)	99 lbs. (45 kg)	99 lbs. (45 kg)	99 lbs. (45 kg)	154.3 lbs. (70 kg)	80.5 lbs. (36.5 kg)
Charging Time	3.5h	7h	7h	7h	7.5h	7h
Charger	CA4810 Output: 48V10A AC input: 85V-265V With plug & receptacle	CA4815 Output: 48V15A AC input: 85V-265V With plug & receptacle				CA3615 Output: 36V15A AC input: 85V-265V With plug & receptacle
Life Cycle	>3500 Cycles					
Bluetooth	Yes					
CAN	Yes					
Protection Level	IP67					
Casing material	Stainless Steel					
Self-Discharge	3% per month					
Charging Temperature	32°F ~ 131°F (0°C ~ 55°C)					
Discharging Temperature	14°F ~ 131°F (-10°C ~ 55°C)					
Storage Temperature	-4°F ~ 131°F (-20°C ~ 55°C) for 1 month; 32°F ~ 95°F (0°C ~ 35°C) for 1 year					

EMax & EPower Series

Model	EMax 51105	EMax 51150	EMax 51210	EMax 72105	EPower 96105
Nominal Capacity	105Ah	150Ah	210Ah	105Ah	105Ah
Nominal Voltage	51.2V	51.2V	51.2V	70.4V	96V
Stored Energy	5376Wh	7680Wh	10752Wh	7392Wh	10080Wh
Mileages per Charge	30-50 Miles (48-80km)	45-65 Miles (72-104km)	60-100 miles (96-160km)	40-60 Miles (64-96km)	65-95 miles (104-150km)
Continuous Discharge Current	250A	250A	250A	250A	250A
Max Discharge Current	500A @15S	500A @15S	500A @15S	500A @15S	500A @15S
Cell Combination	1P16S	1P16S	2P16S	1P22S	1P30S
Cell assembly	EVE 105AH	EVE 150Ah	EVE 105AH	EVE 105AH	EVE 105AH
Dimension (L*W*H)	18.1*13.4*9.9 inch 460*340*250 mm	32.3*13.4*9.9 inch 820*340*250 mm	33.9*13.4*9.9 inch 860*340*250 mm	21.7*13.4*9.9 inch 550*340*250 mm	34.7*13.4*9.9 inch 880*340*250mm
Weight	99 lbs. (45 kg)	154.3 lbs. (70 kg)	198.4 lbs. (90 kg)	132 lbs. (60 kg)	180 lbs. (81.5 kg)
Charging Time	7h	10h	9.5h	7h	10.5h
Charger	CA4815 Output: 48V15A AC input: 85V-265V With plug & receptacle	CA4822 Output: 48V22A AC input: 85V-265V With plug & receptacle	CA7215 Output: 72V 15A AC input: 85V-265V With plug & receptacle	CA9610 Output: 96V10A AC input: 85V-265V With plug & receptacle	
Life Cycle	>3500 Cycles				
Bluetooth	Yes				5G
CAN	Yes				
Protection Level	IP67				
Casing material	Stainless Steel				
Self-Discharge	3% per month				
Charging Temperature	32°F ~ 131°F (0°C ~ 55°C)				
Discharging Temperature	14°F ~ 131°F (-10°C ~ 55°C)				
Storage Temperature	-4°F ~ 131°F (-20°C ~ 55°C) for 1 month; 32°F ~ 95°F (0°C ~ 35°C) for 1 year				

Warnings

1. Keep batteries out of infants' reach.
2. Do not disassemble, resemble, or repair the battery by yourself. Incorrect reassembly may cause combustion or electric shock.
3. Do not insert nails or other objects into the battery, strike it, or weld directly on the battery.
4. Do not use batteries for unspecified purposes.
5. Do not use different types of batteries together and do not use new and used batteries together.
6. Do not charge with unspecified conditions.
7. Do not short-circuit the battery.
8. do not reverse batteries positive and negative terminal.
9. Do not apply strong pressure to the batteries nor handle roughly.
10. Do not solder directly on the battery.
11. Do not use it near heat or water, or allow it to become wet.
12. Do not use a badly damaged battery or operate it with damaged cables or charging adapters.
13. Do not use or charge the batteries near fire or flammable materials.
14. Do not operate this product in explosive atmospheres.
15. Do not permit the battery to freeze. Never charge a frozen battery.
16. In case of leakage or a strange smell, move the battery away from possible sources of fire immediately.
17. In case of skin or eye contact, rinse immediately with clean water and seek medical care immediately.
18. Do not keep using this product if it is damaged, waterlogged, distorted, or broke.
19. This product contains lithium-ion batteries. When it is worn out dispose it properly using local laws and regulations.
20. If the battery has any problem, please contact the place where you purchased it.

Storage

- For storage over one month, place the battery in a dry and ventilated room that is 32°F~95°F.
- Do not store near corrosive material, fire, and heat sources.
- In order to avoid over discharge, for long-term storage, the power must be turned off and the SOC is kept above 60% to avoid over discharge. The battery must be fully charged and must be charged again every 8 months.

Warranty (Repairs/Replacements)

The battery your purchased from QOMOLANDER has five years warranty from date of purchase at retail against defective material or workmanship. We make no warranty other than this limited warranty and expressly exclude any implied warranty including any warranty for consequential damages. This limited warranty is not transferable.

Seller warranty this product, if used in accordance with all applicable instructions, to be free from original defects in material and workmanship within the warranty period. If the product has any failure problem within the warranty period, Seller will repair or replace the product at its sole discretion according to the

failure situation.

Any Warranty claim should be addressed to the party from whom the Product was purchased. If a distributor or other intermediary is unwilling or unable to handle an end-user's claim then the end-user should approach the Manufacturer directly. See below for how to make a claim.

Limited Warranty

This Warranty is void if the Products in a Warranty claim have been:

1. Stored, installed, used or charged in any manner that is contrary to the Manufacturer's instructions or data sheets or generally accepted good industry practice.
2. Opened, modified or tampered with in any way, including the alteration or erasure of date codes etc.
3. Used for an application or in a manner for which they were not designed.
4. Stolen or at any time outside of the customer's control (except in the normal course of business).
5. Subjected either during storage or use to extreme environmental conditions, including heat, cold and moisture, or other limits defined in the Manufacturer's instructions and data sheets.
6. All consequential losses and/or damages arising from the malfunction of a product are expressly excluded.
7. The cost of transporting a Product that is the subject of a Warranty claim, or is being supplied by the Manufacturer in recompense for a Warranty claim, from the customer/distributor to the Manufacturer or from the Manufacturer to the customer/distributor is excluded and is the responsibility of the customer/distributor.