



Manual and Installation Guide

Model: LFP05048LCD
48V 50AH // MAX CHARGE/DISCHARGE CURRENT: 50A/50A



Charging Parameters

Bulk/Absorption

For your Bulk/Absorption stage, the ideal voltage is between 56.8v-58.4v. For full charge and balance, the absorption mode should be set to last for at least 20 minutes per battery (for multiple batteries in parallel).

Float

Our batteries do not need a float stage for charging, but a float voltage between 55.2V and 57.6V can be used.

Equalization

Equalization is not recommended for our batteries. Most chargers will allow you to shut this feature off or use a setting that does not use equalization. If you cannot turn off this mode, then you will need to adjust the equalization voltage to below 57.6v

Temperature Compensation

Temperature compensation is not needed with our batteries and in some cases, may trigger the built in BMS to go into protect mode. For this reason, we recommend that temperature compensation be shut off or set to 0.

BMS Basic Features

All Elker Batteries come with a built-in battery management system (BMS) that protects the cells for long-term cycling. The BMS protects against the following conditions:

High voltage: > 58.8V

If an individual cell voltage exceeds a prescribed threshold during charging, the BMS will prevent a charge current from continuing. Discharge is always allowed under this condition.

Low voltage: < 40V

If an individual cell falls below a prescribed threshold during discharge, the BMS will prevent further discharge. Although the battery is in "low-voltage disconnect" mode, it will still allow a charging current. (Note: many chargers must detect a voltage over 40v to send a charge to the battery).

High temperature: > 57°C

The BMS will not allow a charging or discharging current.

Low temperature: < -3°C

The BMS will not allow a charging current.

High Current

The BMS will not allow a current that exceeds 70 (+/- 5%) Amps for 30s, or 10 (+/- 10%) Amps for 3s. Although these thresholds have been verified with a DC load bank, the 3 second high current threshold may be reduced from 100A to around 90A for certain highly variable loads through an inverter – like a microwave or space heater. After a high current disconnection, the battery will automatically reconnect after 5 seconds.

A passive balancing process is activated by the BMS at the top of each charge cycle, when the battery voltage exceeds around 56V. This ensures that all the cells remain at the same state of charge, which helps for pack longevity and performance.

Installation

The batteries may be mounted in any orientation. But care must be taken in connecting to the battery terminals. The positive and negative terminals are labeled and color coded (red for +, black for -).

DO NOT REVERSE POLARITY THE BATTERY AS THIS WILL DAMAGE BOTH THE BATTERY AND THE DEVICE BEING CONNECTED!!!

Parallel

Multiple LFP05048LCD may be connected in parallel to increase the current capacity of the batteries. When batteries are mounted in parallel, the voltage of the system does not change, but the current limits are additive. Two LFP05048LCD batteries mounted in parallel deliver 100A continuously and 300A for 3 seconds. Three LFP05048LCD batteries mounted in parallel can deliver 150A continuously and 300A for 3 seconds. Therefore, all cables and connections MUST be able to accommodate the high currents that can be delivered by the battery. Appropriate fuses and circuit breakers are also highly recommended to protect the components from current spikes and short circuits.

Series

LFP05048LCD batteries can not be connected in series.

Use wires atleast 16mm² or 8 AWG to ensure the best efficiency and safety

Special consideration must be made for connection to devices that have a large input capacitance, because of the tendency of these devices to draw large current spikes upon initial connection to the batteries. This includes inverterchargers that are greater than 4000 Watts in size. This applies to 12V, 24V, 36V and 48V inverter chargers.

WHEN CONNECTING TO BATTERY TERMINALS, DO NOT FINGER TIGHTEN. ALL CONNECTIONS MUST BE TIGHTENED TO THE SPECIFICATIONS OF THE BOLT MANUFACTURER. FOR THE BOLTS INCLUDED WITH THE BATTERY, TIGHTEN USING A TORQUE WRENCH TO BETWEEN 9 AND 11 ft-lbs. FAILURE TO ADEQUATELY SECURING CONNECTIONS CAN RESULT IN FIRE

Storage and maintenance

Storage

Storage could not be easier simply charge the batteries to at least 50% state-of-charge and disconnect from any charge or discharge.

Maintenance

Elker Batteries require very little maintenance if any at all. If your batteries are in series and not being charged by a multi-bank charger it is recommended that you fully charge the batteries individually once a year. This will balance out the entire battery bank to ensure the batteries will reach its expected life span. If your batteries are in parallel this is not necessary. Our BMS has a built in passive balancing system that will take care of this for you.

Storage and maintenance

Return & Refund Policy. Thanks for shopping at Elker Batteries. If you are not entirely satisfied with your purchase, we're here to help you.

Returns

You have 30 calendar days to return an item from the date the item shipped. To be eligible for a return, your item must be in the same condition that you received it in. Keep the original packaging for 30 days. Your item must be in the original packaging. Your item needs to have the receipt or proof of purchase.

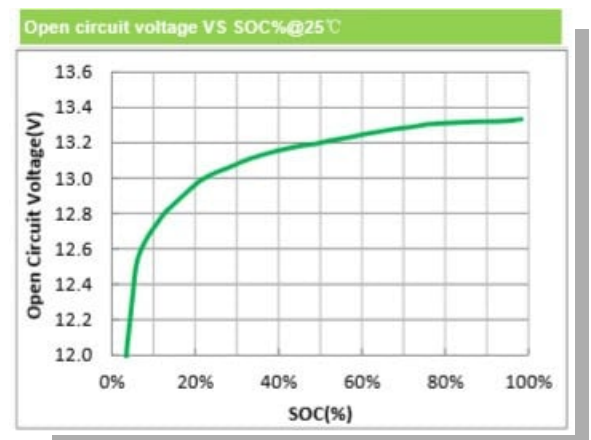
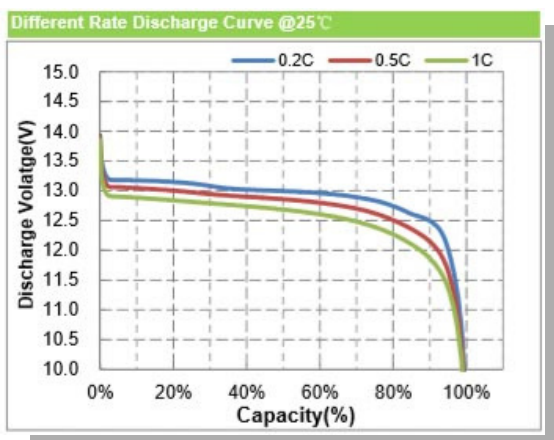
Refunds

Once we receive your item, we will inspect it and notify you that we have received your returned item. We will immediately notify you on the status of your refund after inspecting the item. If your return is approved, we will initiate a refund to your credit card (or original method of payment). You will receive the credit within a certain amount of days, depending on your card issuer's policies.

Specifications and Data Sheet

1. Model
2. EAN / GTIN
3. Nominal Capacity
4. Nominal Voltage
5. Energy
6. Cycle Life
7. Self-discharge
8. Internal Resistance
9. Charging Voltage
10. Standby Voltage
11. Discharging cut-off Voltage
12. Recommended Charge Current
13. Max. Charge Current
14. Max. Discharge Current
15. Max. Pulse Current
16. Battery Management System (BMS)
17. Connection options
18. Waterproof
19. Temperature range (discharge)
20. Temperature range (charge) *
21. Temperature range (storage)
22. Terminals
23. Warranty
24. Weight
25. Battery Cells
26. Casing
27. Dimensions (L x W x H) in mm

LFP05048LCD
3830079460149
50Ah@0.2C
51.2v
2560Wh
≥3500 Cycles
≤3,5 % per month at 25 °C
≤35mΩ
56.8V - 58.4V
54V - 55.2V
30.0v
25A
50A
50A
100A(3s)
Integrated BMS with balance function
Series and Parallel
IP65
-20°C ~ +60°C
0°C ~ +55°C
20°C ~ +60°C
M8 Included
3 Years
24kg
Prismatic CALB
Plastic
522*238*217*





ELKER

Contact Us

If you have any further questions, or need help with anything regarding your battery please do not hesitate to contact us.

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