

NMC 48V 12AH Lithium-Ion Battery Specifications

INTRODUCTION

Thank you for purchasing an Aegis Battery product. It is advised to read and familiarize with the contents of this manual prior to use as failure to do so may result in degraded battery characteristics.

The model you have purchased is the **ABL-048012P 48V,12Ah** rated Li-ion (NMC) Battery featuring enhanced safety, non-toxicity, higher performance and extended service life as compared with traditional lead-type batteries including but not limited to SLA, AGL and GEL. This battery was assembled in our ISO 9001 Certified production facilities and as such you can expect performance and consistency from this product and every other product you may be using or have used.

CONTENTS

- + Aegis Energies (dba: Aegis Battery) Li-ion (NMC) Battery Pack
- + Model Compatible Charger (If optional Charger was purchased)
- + 1 Copy User Manual



Discharge



Charge

SPECIFICATIONS

Battery Type	NMC(Nickel Manganese Cobalt) - PVC Wrapped
Voltage (V)	48V
Capacity (Ah)	12Ah
Energy Stored (Wh)	576 Watt-Hours
Weight	7.7 lbs. (3.5 kg)
Dimension (L x W x H)	262 mm x 101 mm x 72 mm \pm 2mm 10.2 in. x 4.1 in. x 3.3 in. \pm 0.1 in.
Normal Charge Voltage	54.6V
Normal Charge Current	3.0 Amps
Normal Battery Cutoff Voltage	36.4V
Nominal Continuous Discharge Current	6.0 Amps
Maximum Continuous Discharge Current	12.0 Amps
Maximum Peak Pulse Discharge Current	24.0 Amps (2 Seconds)
Charge Temperature	0°C to 45°C
Discharge Temperature	-20°C to 60°C
Operating/Storage Humidity	60 \pm 25%R.H
Automatic Battery Protection Module/System	Low /Over Voltage Disconnect Cell Balancing Short Circuit Protection Reverse Polarity Protection

CHARGING



PRIOR TO INITIAL USE, ENSURE BATTERY HAS TAKEN FULL CHARGE AND IS IN A FULLY CHARGED STATE. OUR BATTERIES MAY NOT BE SHIPPED FULLY CHARGED!



MAKE SURE THE CHARGER'S INDICATOR LIGHT HAS TURNED GREEN AND WAIT FOR 30 MIN. ELAPSE BEFORE UNPLUGGING, CHARGE TIME VARIES FROM MODEL TO MODEL!



ENSURE YOU ARE USING THE CORRECT CORRESPONDING CHARGER.
(i.e. 12V NMC Battery -> 12V NMC Charger or 12V LFP Battery -> 12V LFP Charger)
LEAD ACID OR OTHER GENERIC LITHIUM BATTERY CHARGERS WILL NOT WORK AND CAN DAMAGE THIS BATTERY.

When charging your battery, please follow the provided sequence below:

1. Attach Battery Charging Connector to Charger (This will vary depending on your selected model and configuration of battery)
2. Plug in charger to 120V Power Outlet
3. When Charging you should observe a **RED** LED Indicator: this indicates that the battery is currently in the Constant Current (CC) charging phase
4. Wait for a **GREEN** LED Indicator: this indicates the battery is currently in the Constant Voltage (CV) charging phase
5. Wait 30 MINUTES before unplugging the Charger from the 120V Outlet **FIRST** and then disconnecting the Battery from the Charger **SECOND**

Note: You may notice the voltage for your lithium battery is higher than the listed voltage, especially when fully charged. This is completely normal for lithium batteries and should be within tolerance for most applications. If you have any concerns, please feel free to email us at contact@agisbattery.com

DISCHARGING

1. Make sure your load accepts **48V** nominal voltage.
2. Ensure the connection between the battery and the load can handle the current draw. Please consult references for the appropriate wire type.
3. The maximum continuous discharge current is **12A**. Please make sure your max electrical load consumes a current **less than 12A continuous and 576 watts of power.**
4. The battery outputs steady voltage until little capacity remains, do NOT rely on voltage as an indicator of remaining capacity, Aegis Battery recommends the usage of an In-Line Watt Meter for conveyance of accurate battery discharge telemetry.

Series & Parallel Connection

Note: Only certain models support series and parallel connection and may have requirements noted below. It is better to purchase a single battery with higher capacity or voltage; however, if required please contact support to confirm.

Series: Each battery must be charged separately and given a full charge before connecting in series.

Parallel: Only connect batteries with equal state of charge in parallel. Also, measure the internal resistance of each battery and only use batteries with closely matched internal resistance of the same make, model and batch origin. It is highly recommended that resistors be used to achieve equal internal resistance between batteries and to add fuse(s) to the circuit for safety reasons.

Recommended Maintenance / Storage

To ensure your battery longevity and performance, we recommend the following:

1. For long term storage, it is recommended to charge and discharge the battery every 1-2 months.
2. Please store the battery in a dry place 4°C - 35°C (39°F-95°F).
3. For our standard batteries, please do not use chargers or amp loads greater than the rated capacity (Ah) of the battery. For longevity, it is best to charge at 1/5 capacity rate and discharge at no greater than the rated capacity. (ex. 100Ah Battery -> 20Amp Charger)