



## WHAT TYPE OF BATTERY DO I NEED TO RUN MY TROLLING MOTOR?

Most electric trolling motor will operate with any deep cycle 12-volt marine battery. But for the longest run time and lifespan we recommend lithium iron phosphate (LiFePO4) batteries.

### HERE'S 5 REASONS WHY:

Dakota Lithium LiFePO4 batteries will provide double to triple the run time. More run time means more fishing time.

Dakota Lithium batteries last longer and will need to be replaced less often. Providing piece of mind and greater lifetime value.

Dakota Lithium weighs 60% less than deep cycle lead acid batteries. Less weight means more maneuverability and speed. And the batteries are easier to carry when you need to charge them.

Dakota's lithium iron phosphate works down to negative 20 degrees Fahrenheit (-29 Celsius) meaning you can power your boat in the summer and your ice fishing rig in the winter.

You need less batteries when you use a Dakota Lithium. Lithium iron phosphate has a flat voltage curve. That means that the voltage does not drop as you use the battery. You get all the juice down to the last drop. Historically if you power a trolling motor with a deep cycle lead acid battery you would only be able to use half of the capacity of the battery before the voltage is too low to run the motor. With Dakota Lithium you can use all of the power of the battery, meaning that a 100 Ah battery from Dakota Lithium is equal to 200 Ah in lead acid batteries.



## THE BEST BATTERY SIZE FOR YOUR TROLLING MOTOR

Motor Thrust / Max Amp Draw (A) @ Voltage (V) / Recommended Battery

20 lbs / 20A @ 12V / [DL 54](#)

25 lbs / 25A @ 12V / [DL 54](#)

30 lb / 30A @ 12V / [DL 54](#) or [DL 100](#)

45 lb / 42A @ 12V / [DL 54](#) or [DL 100](#)

55 lb / 50A @ 12V / [DL 54](#) or [DL 100](#)

70 lb / 42A @ 24V / [24V Single Pack](#) or [DL 54 x 2](#) or [DL 100 x 2](#)

80 lb / 56A @ 24V / [24V Single Pack](#) or [DL 54 x 2](#) or [100 x 2](#) or [DL 200 x 2](#)

101 lb / 46 @ 36V / [36V Single Pack](#) or [DL 100 x 3](#)

112 lb / 52 @ 36V / [36V Single Pack](#) or [DL 100 x 3](#) or [DL 200 x 3](#)

Please note: this chart is for educational purposes only and is not applicable to all trolling motors. Contact your trolling motor manufacturer for your model's amp draw and instructions on rigging, including the use of fuses or circuit breakers.

**SHOP TROLLING MOTOR BATTERIES**

## HOW TO CALCULATE RUN TIME FOR A TROLLING MOTOR BATTERY

The total run time of your trolling motor will depend upon the power settings (max amp draw) that you are operating under, and if your battery is lead acid or Dakota Lithium. It is also key to understand how using your trolling motor for propulsion versus spotlock, will dramatically impact the overall runtime of your system.

### STEP 1:

Determine the voltage of your motor. 12V motors require one 12V Dakota Lithium battery. 24V motors require either a single Pack 24V battery or two 12V batteries in series. 36V motors require either a single Pack 36V battery or three 12V batteries in series. 48V motors require either a single Pack 48V battery or four 12V batteries in series.

### STEP 2:

Determine the amp draw of your motor. Max amp draw of your trolling motor should be less than < the max amp draw of your battery (also called continuous discharge rate). This means that your motor will never ask for more power than your battery is capable of giving at any one time. For many 12V motors the max amp draw is roughly equal to the lbs of thrust. So if you have a 30 lb motor the amp draw is most likely near 30 amps. 24v and 36v motors use less amps per pound of thrust. It is important to read the product manual of the motor manufacturer to verify your motors max amp draw for compliance with our batteries.

### STEP 3:

Find a Dakota Lithium battery with a max continuous amp discharge that is greater than what your motor needs.

For all Dakota Lithium batteries the max continuous amp discharge for a 12 volt battery is roughly = to the total amp hours (Ah). For most motors you want a bigger battery like the [DL 54](#) or [DL 100](#). One way to create a larger continuous amp discharge is to wire two batteries in parallel. This will double the capacity (run time) and the max continuous amps.

One important note, if you wire two batteries in series it will increase the voltage but not the max continuous amp discharge or the capacity (Ah). This is why most 24V or 36V trolling motors use 50 Ah batteries or larger. 24V and 36V motors have a high amp draw and need multiple batteries in series to meet the power required unless you are using our 24V, 36V, or 48V single pack batteries.

### STEP 4:

Deciding which battery is right for you, factoring in the time that you plan to be on the water and the applications that you are using your motor for, will determine which Ah battery system is right for you. It is key to understand how using your trolling motor for propulsion versus spotlock, will dramatically impact the overall runtime of your system. You will use more power for extended periods of propulsion compared to spotlock. If your trolling motor is your primary means of propulsion, then we recommend opting for a higher Ah system that your budget will allow such as the 100Ah battery compared to the 54Ah battery.

### THE MOST COMMON CHOICES AMONG ANGLERS:

**12V 30 LB TROLLING MOTOR** - [12V 54Ah](#) battery - Full day of runtime

**12V 55 LB TROLLING MOTOR** - [12V 54Ah](#) - Depending upon application, minimal half day of runtime,  
[12V 100Ah](#) - Full day of runtime plus

**24V 80 LB TROLLING MOTOR** - [24V 50Ah single pack](#) or [2x 12V 54Ah](#) in series - Full day of runtime,  
[2x 12v 100Ah in series](#) - Multiple days of runtime / Tournament use

**36V 112 LB TROLLING MOTOR** - [36v 63Ah single pack](#) - Multiple days of runtime / Tournament use  
[3x 12v 100Ah in series](#) - Multiple days of runtime

### CHARGING YOUR NEW LITHIUM BATTERY:

We recommend using the Dakota Lithium chargers with our batteries. Most LiFePO4 specific chargers output 14.6 - 14.8 V which does safely charge the batteries, but the DL chargers output 14.4V which help you get a slightly longer lifespan from your battery.

### USING YOUR ON-BOARD CHARGER:

Most on-board chargers will work, but will only charge to 80% on the AGM setting.

### CAN YOU USE A DC-DC CHARGER TO CHARGE WHILE YOU ARE RUNNING YOUR ENGINE?

Yes, this is a common practice to charge your batteries while your main engine is running. This will lead to extended battery life.

**SHOP TROLLING MOTOR BATTERIES**