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MARINE BATTERY

RUN-TIME

The running time of a lithium trolling motor Marine battery before needing a recharge depends on several factors, including the capacity (amp hours) of the battery, the power draw of the trolling motor, and other electrical demands of the battery.

Trolling Motor Power Draw

The power draw of the trolling motor is the amount of energy it requires to run. This is usually measured in watts or amps. You can find the specifications of your trolling motor's power draw from the manufacturer's manual or online. In most scenarios, professional fisherman average about a 30% power setting. Trolling in a high flow current would likely require a higher power consumption.

24.0 VDC POWER SOURCE

Throttle Level	Thrust	Current
10%	25 N-m (6 lbf)	2A
20%	45 N-m (10 lbf)	3A
30%	70 N-m (16 lbf)	6A
40%	101 N-m (23 lbf)	9A
50%	140 N-m (31 lbf)	14A
60%	184 N-m (41 lbf)	21A
70%	233 N-m (52 lbf)	29A
80%	287 N-m (65 lbf)	40A
90%	345 N-m (78 lbf)	54A
100%	355 N-m (80 lbf)	57A

36.0 VDC POWER SOURCE

Throttle Level	Thrust	Current
10%	21 N-m (5 lbf)	1A
20%	41 N-m (9 lbf)	2A
30%	69 N-m (16 lbf)	4A
40%	103 N-m (23 lbf)	6A
50%	144 N-m (32 lbf)	10A
60%	191 N-m (43 lbf)	15A
70%	246 N-m (55 lbf)	21A
80%	307 N-m (69 lbf)	29A
90%	375 N-m (84 lbf)	39A
100%	445 N-m (100 lbf)	54A





Calculating Marine Battery Running Time

To calculate the running time in hours, divide the capacity of the battery by the power draw of the trolling motor.

Example: The battery has a capacity of 110Ah and the power draw of your trolling motor is 20 amps.

$$110\text{Ah} / 20\text{A} = 5.5 \text{ hours}$$

This means that, under ideal conditions, the battery will run for 5.5 hours before needing a recharge.

However, this calculation does not account for other electrical demands on the battery including other connected equipment, i.e. lights and fish-finders.

To account for these other electrical demands, you will need to add them to the power draw of the trolling motor. By doing some calculations, you can get a good estimate of the running time of your battery and plan accordingly for your boating or fishing trips.

It is important to note that the actual running time may vary depending on conditions such as temperature, battery chemistry, and other factors. To ensure the best performance from your battery, it is recommended to follow the RedKing Energy's guidelines for charging and maintenance.

Note that RedKing Energy lifepo4 batteries have a 100% depth of discharge meaning all 100Ah is usable.

Typically, lead acid batteries have a ~50% depth of discharge and deep discharges can damage that battery, lithium has no memory effect so can repeatedly discharge up to 100%.

