



Instructions for the Kodiak's External Battery Ports

External batteries fall under the limitations of the charge controller. The Kodiak's charge controller will handle 20 amps at up to 24 VDC. Adding an external battery bank will improve run time but becomes part of the system's fixed charge capacity. Charge capacity does not improve when you add batteries, you have the same charge output spread over a larger battery capacity and therefore will experience slower charge rate. This is similar to filling a bucket with water; if you have a gallon bucket and a set flow rate from the faucet, it will take a fixed amount of time to fill. Change to a 2-gallon bucket with the same condition and the bucket will take twice as long to fill. Use a 5 gallon bucket and it will take 5 times as long to fill... etc.

Regardless of how many batteries you add, the charge controller can charge them. The larger the battery bank, the slower the charge rate based on a fixed charge controller output. Bigger battery means longer time to charge it. Added batteries, when charged, will improve run time proportionally. The Kodiak has a 1kW internal battery. Adding a 110amp, 12 VDC, deep cycle marine battery (Costco or Sears) will add approximately 1.2kW to your battery capacity (2.2kW total available) and so on.

The Kodiak system runs on 12 VDC. Batteries are added in PARALLEL to the battery bank. You can add as many additional batteries as you can afford, just be aware of what you are doing and the limitations of the charge system. Red is positive, black is negative. Positive from the battery goes to the Kodiak's red external battery bank connector. Similarly, the negative on the battery goes to the Kodiak's black connector. Do not reverse these connections! Reversing it may damage the box and may explode the battery as well. Consult an expert. Remember that the charge times will get proportionally longer as you add additional batteries as you have not added more charge capacity at the same time. Note that you can NOT add more charge capacity externally and you can NOT charge the external batteries using an external charger. Doing so could cause the Kodiak to fail. Once attached, the external battery bank must remain under the exclusive control of the Kodiak's internal charge controller.

If the external batteries will be positioned within 3 or 4 feet of the Kodiak, you can use 4 to 6 gauge battery cable to connect the battery to the Kodiak. These cables are available from most auto stores and many farm stores (CAL Ranch, etc). Marine deep cycle batteries have screw terminals and stud sizes depend on the battery. The stud size of the battery bank connectors on the Kodiak is about 5/16".

Not all batteries are created equal. Car batteries will work but will fail quickly due to their specialized construction and that they were designed for a different application. Inergy recommends marine deep cycle batteries.

If you have question about connecting external batteries to the Kodiak, please contact Inergy for support.