Unobstructed Sunlight

Solar panels function through the interaction of many individual cells. Keeping this in mind, solar results can be greatly affected with even the slightest obstruction to a single cell of the panel. When selecting a location for panel placement, keep this in mind. Make sure the panel is free of any debris, or any shadows created by things like tree branches, overhead structures, or any other objects in the environment.

Safety Tips

The Apex is designed for use with Inergy branded solar panels. These solar panels will provide the best experience possible. As a hard rule - all solar panels must be connected to the Apex (and to each other) in a PARALLEL wiring configuration. Inergy solar panels are designed in this way.

EXTERNAL BATTERY GUIDELINES

The Apex was designed with user customization in mind, in an effort to expand the number of applications and versatility of the system. External batteries are one of the main ways we have done this. Below are some guidelines for expanding the power of the Apex through additional batteries, as well as some important safety tips.

Connecting Batteries

Before external batteries are connected, they must be balanced to match the Voltage of the Apex. Discharge the Apex to 10.5 Volts prior to connecting any external batteries. Similarly, **ALL EXTERNAL BATTERIES MUST BE WITHIN 0.1 VOLTS OF APEX VOLTAGE (10.4 VOLTS - 10.6 VOLTS) BEFORE CONNECTING.**

FAILURE TO DO SO VOIDS THE WARRANTY AND CAN RESULT IN IRREPARABLE DAMAGE TO THE APEX AND/OR RISK OF FIRE.

External batteries should be connected in a PARALLEL wiring configuration to expand the battery capacity of the Apex (see page 13 for more information). This is done by connecting positive to positive, and negative to negative. This is the only approved method for expanding battery capacity, any deviation can result in severe damage to the Apex and create a potentially dangerous situation. It will also void any and all warranties.

Battery wires & connectors: When connecting external batteries to the Apex, we recommend using 2/0 Gauge battery cables (made of pure copper, NOT copper plated) with 3/8" ring terminals for up to a 5 foot long cable. Call our technical support for questions about longer lengths at **(877) 891-2657.**

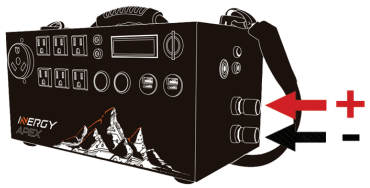
Number of Batteries

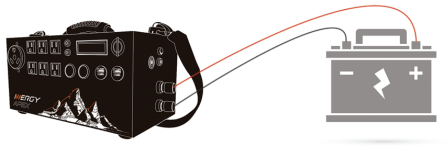
"How many batteries can I connect to the Apex?"
In general, we recommend connecting no more than 3,000 Watt Hours (238 Ah, 12.6V) of external batteries for best results. Remember, the maximum charge input of the Apex remains steady at 500 Watts. The more batteries that are connected, the longer they all take to charge.

Types of Batteries

"What types of batteries can I connect to the Apex?"
Any 12 Volt Deep Cycle Lead Acid, AGM, or Gel Cell battery can be connected to the Apex. DO NOT connect external lithium batteries not supplied by Inergy. Irreparable damage to the Apex or fire could result.

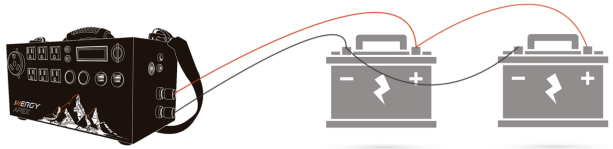
CONNECTING EXTERNAL BATTERIES





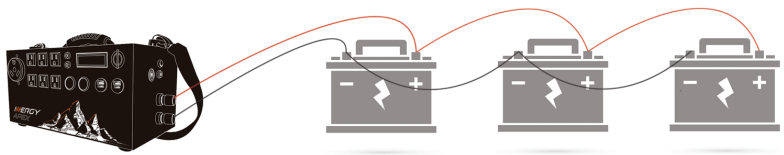
INTERNAL BATTERY CAPACITY | EXTERNAL BATTERY | TOTAL CAPACITY

1,100 WATTS + 1,000 WATTS = 2,100 WATTS



INTERNAL BATTERY CAPACITY | EXTERNAL BATTERIES | TOTAL CAPACITY

1,100 WATTS + 2,000 WATTS = 3,100 WATTS



INTERNAL BATTERY CAPACITY | EXTERNAL BATTERIES | TOTAL CAPACITY

1,100 WATTS + 3,000 WATTS = 4,100 WATTS

SAFE USE AND STORAGE GUIDELINES

- **NEVER** connect solar panels or other charge sources exceeding 26 Volts (Open Circuit, abbreviated as VOC) to the Apex.
- **NEVER** connect solar panels in a SERIES wiring configuration. All solar panels must be connected in a PARALLEL wiring configuration.
- **NEVER** store the Apex in environments exceeding 140 F, like a hot vehicle.
- **NEVER** connect an external battery charger to any external batteries that are connected to the Apex.
- **NEVER** connect any external battery to the Apex that is charged higher than 12.6 Volts. We strongly recommend connecting external batteries charged to 10.5 Volts.
- **NEVER** connect an external battery that measures more than 0.1 Volts different than the Apex voltage at the time they are connected. To illustrate, if your Apex is charged to 10.5 Volts at the time you wish to connect an external battery, ensure the external battery measures between 10.4 - 10.6 Volts before it is connected. A Voltage meter (available at local hardware or auto parts store) can be used to measure your external batteries.

IMPORTANT NOTICE REGARDING LITHIUM BATTERIES

In general, devices with large quantities of lithium ion batteries (like the Apex) should be stored similar to a gas powered generator: away from flammable items and on a cool, dry, non-combustible surface (like a garage or storage shed). When handling lithium batteries, do not short-circuit, crush, drop, mutilate, penetrate with foreign objects, apply reverse polarity, expose to high temperature or disassemble packs and cells. If a Lithium ion battery (or Apex) overheats, hisses, bulges, or pops, immediately move the device away from flammable materials and place it on a non-combustible surface for at least 48 hours. If you experience a lithium battery fire and the fire cannot be extinguished, allow the fire to burn out on its own in a controlled and safe manner. It is possible for burning lithium- ion