

# Installation Overview - Pika Energy T701 Wind Turbine

1700 Watt (24/48V Off-Grid)

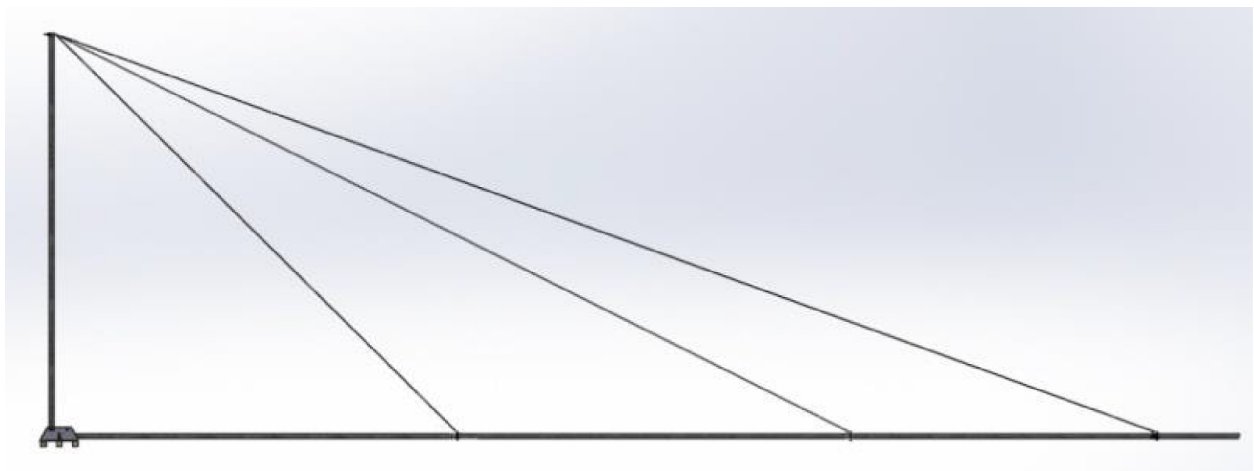
## T701 Wind Turbine

A Pika T701 wind turbine can charge your batteries day and night and turn inclement weather into lots of energy production! Installing a T701 takes some planning and adherence to some basic safety guidelines. A large percentage of time to complete a turbine installation is spent assembling the tower and the associated rigging. A properly installed tower is crucial for turbine performance and safety. For good performance from any wind turbine you



should have a tower that is at least 30 feet above the nearest obstruction within 300 ft.

A typical guyed tower will require 4 anchors, 3 to 5 tower sections and multiple sets of guy wires (which may come prefabricated). Installing a tower can take a couple of days of work and at least 3 people should be present to raise or lower a tower. A typical T701 installation does not require heavy equipment such as a crane, instead a lever arm, called a gin pole, allows the tower to be tilted up or down on a hinge plate. A heavy duty worm drive winch should be used to raise and lower the tower.



For a guyed tower there is no need for a large tower foundation, depending on the land there may be no need for a foundation at all. Two 6 foot ground rods are used at the tower base for

electrical grounding. Lots of time can be saved by using precut and swaged guy wires and there is significant money to be saved in shipping by sourcing tower sections locally. Pika Energy's Econotower kit allows you to maximize your DIY tower installation.

Mounting a T701 to a tower is quick and easy. The T701 is shipping in 3 sections for tower-top installation: 1) nacelle, 2) blades, and 3) tail and vanes. The nacelle houses the generator and is the heaviest. A chain wrench is used to torque the yaw tightly onto the tower top adapter. The blades are mated to a hub separately and installed using a left hand nut onto the generator shaft. The tail and vanes are attach to the nacelle using two bolts. Three 12 AWG wires connect at the tower top (UF 2 conductor plus ground). Two people can mount a T701 to a tower top in about a 1.5 hrs by following the included installation checklist. Below is a basic list of tools you'll need to mount a T701 on a tower top.

### **T701 tower top installation tool list**

- A digital camera to photograph installation to receive warranty
- Torque screw driver with #2 phillips head
- Torque wrench
- Chain wrench 4.5" capacity
- Second chain wrench or pipe wrench for tower
- Wire strippers
- Needlenose pliers
- Metric socket set (10,13 and 19mm) with extension
- Set of metric allen wrenches (6mm ball-end)

A well planned installation will help you harness the wind resource at your home for years to come and when bad weather hits, your batteries will thank you!

## **B801 Charge Controller**

Looking for an off-grid system built for the 21<sup>st</sup> century? Look no further than the Pika B801 Charge Controller. Built from the ground up around a plug and play DC microgrid technology, the B801 allows for an easy to install, scalable off-grid hybrid system. A hybrid off-grid system can generate power in stormy weather and after the sun goes down.

The B801 is easy to install: if you can put in a breaker panel, you can install a B801. A clean installation takes only a couple of hours and can be completed with commonly used tools. Four mounting screws hold the B801 securely to the wall. An 80A (continuous rated) DC breaker is needed between the battery bank and charge controller. Use 1 ¼" conduit to protect the battery wiring feeding into the charge controller. The REbus side of the B801 has two knockouts for ¾" conduit. Using the onboard display, the B801 can be easily configured to work with battery banks between 24-48V and an auto start relay can be configured to start a backup generator.

The integrated Wi-Fi connection seamlessly connects to your home network and allows you to monitor your system online at anytime.

You'll need:

- a level
- drill and driver
- measuring tape
- hacksaw
- pliers
- screwdriver
- hammer
- multimeter
- wire stripper