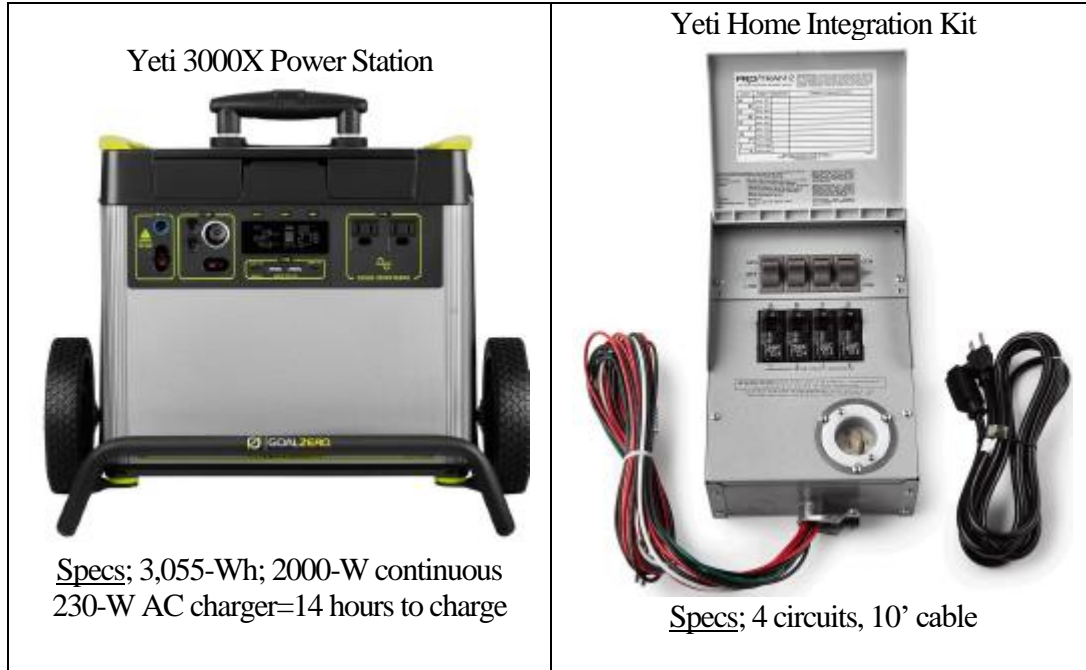# Roper Yeti-3000X Battery Electricity Backup

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In my search for the best least-expensive way to provide important battery backup after electric-grid outages, Baseline Solar Solutions of Blacksburg VA recommended the Goal Zero Yeti 3000X Lithium Power Station (Li-ion NMC)with the Yeti Home Integration Kit (HIK). Warranty: 24 months.

Yeti 3000X Power Station

Specs; 3,055-Wh; 2000-W continuous
230-W AC charger=14 hours to charge

Yeti Home Integration Kit

Specs; 4 circuits, 10' cable

I ordered the Yeti 12V Car Charging Cable so I can charge the Yeti battery from my Tesla Model 3 LR BEV when a grid outage appears to become long, I attach the BEV's 12-volts battery to the Yeti battery to provide about 0.12-kW charging. I bought a 26' extension cable to reach the distance from the Tesla to the Yeti 12-volts input.

Specs; Has a 10' cable, 60-W or 120-W

Physical Specifications

- Weight: Yeti battery only: 69.78 lbs; roll cart only: 8.9 lbs
- Dimensions: Yeti battery only: 15.25 x 10.23 x 13.6 in, Yeti battery & roll Cart 20.5 x 14.6 x 18.2 in
- Operating Usage Temp. 32-104 F

Four Roper-House Circuits Connected to the Yeti Battery

(All lights, except for closets = old CFLs, are LEDs.)

- Refrigerator to always be connected. (~500-W) (**Circuit #6, HIK #2**)
- Kitchen receptacles, including microwave to be connected as needed. (1-kW with microwave running) (**C11, H#4**)
- Computer room to be connected most of the time. (UPS [25 minutes backup after grid outage], 2 computers, Comcast modem, WiFi router, 2 printers, < 300-W with no printing) to be connected as needed. (**C2, H#1**)
- Den, kitchen lights and large TV (Sony XBR-49X950H, 182-W, 0.5-W standby) to be connected as needed. (**C12, H#3**)

Tests after Installation

1. Refrigerator switch on; other 3 switches off. Check that refrigerator cycles on and off.
2. Refrigerator and microwave switches on; other 2 switches off. Try using microwave as refrigerator cycles.
3. Refrigerator and computer switches on; other 2 switches off. Check that computers are working. (UPS keeps the computers, modem and WiFi running for ~25 minutes after grid outage.)
4. Refrigerator and TV switches on; other 2 switches off. Try turning on TV.
5. Refrigerator, microwave and TV switches on; computer switch off. Turn on TV and try using microwave.
6. All switches on; turn on TV and computers and try using microwave.

Goal-Zero Yeti App

- WiFi Internet connectivity
- Bluetooth local connectivity
- Dashboard to manage Yeti system
  - View battery parameters.
  - Turn 4 ports on/off.
  - Select battery-charging profiles.
  - Create energy-usage time charts.
- Update firmware
- Quick Start Guide

Timetable

1. 13 April 2022: Roper Yeti backup system was ordered by Baseline Solar Solutions. Paid half cost to order.
2. 9 May 2022: Baseline Solar installed the Roper Yeti backup System. Paid last half of cost.
3. 27 May 2022: APCO power went off for 15-hours & 14-minutes due to a tree falling on a power line. I experimented with switching all four circuits to be powered by the battery. I determined that I needed to just concentrate on running the refrigerator and the WiFi during awake hours and only the refrigerator during sleeping hours to have enough kWhs. Then, it became clear that I needed to get power from my Tesla Model 3 Long Range BEV through its cigarette lighter; it took a long learning curve to figure out how to do that.
4. 4 June 2022: I learned from another Tesla owner that all that is needed to keep the car's 12-volts power available for charging the house backup battery is to turn on the Tesla's Sentry Mode. Then, running the power cable out a slightly open car window to the backup battery does the job. Sentry mode uses about 250-W power and the 12-volts maximum power is 120-W; so, the power loss to the Tesla traction battery is about 370-watts. So, a 10-hours grid outage would take about 3.7-kWh from the Tesla traction battery of about 70-kWh capacity. It would be great if Tesla created an External-Power Mode that would allow using the 12--volts port without having Sentry Mode on. Then only about 120-kWh would be taken from the Tesla traction battery in 10 hours. **The Hyundai Ioniq 5 BEV has Vehicle-To-Load (V2L) capability that uses a V2L Connector on the charge port to provide external AC power up to 3.6-kW (15 Amps).**

5. 4 August 2022: APCO power went off for 2-hours & 18-minutes, starting at about 17:08 I put my 2018 Tesla Model 3 Long Range BEV near the Goal Zero Yeti backup battery to input nearly 1-kW from the Tesla accessories 12-volts battery to the backup battery, in case the outage might be very long. Everything worked as expected. Used only 3 of the 4 available circuits. (The Tesla accessories 12-volts battery is kept charged by the large Tesla battery.)

   a. Power off again at 21:05, lasting 3-hours & 21-minutes. Again, attached Tesla battery to backup battery and used only 3 of the 4 circuits.

   b. Power output to house about 300-watts; input from Tesla battery about 100-watts.
   So, **3000-Wh/300-W = 10 hours without Tesla input; 3000-Wh/200-W = 15 hours with Tesla input**. Could extend to about **20-hours without using TV and house LED lighting**. Have several solar-charged lanterns. Plan to prioritize refrigerator circuit and computer room circuit.

6. 21 April 2023: APCO power went off for 6 hours at night: about 18:30 to 3:30.

7. 10 August 2023: APCO power went off for about 4 hours from 4:00 to 8:00. Used ¬1.0-kW from 2023 Tesla Model 3 Long Range to provide extra power to battery.

Installation Photos

I put a 4" wood block under the front of the battery on the floor to make it easier to read the display on the front top.

Home Integration Kit

References

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