BILL'S HOME TECH
Home & Small Business Tech Solutions

BILL'S COMPLETE MANUALS

# Portable Power Stations

Sizing, charging, solar panels and outage plans — explained in plain English, one step at a time

## A plain-English guide for every household

Take your time — you can't break it

*Written for you by Bill — Bill's Home Tech*

(330) 200-8042 · BillsHomeTech.com

*For Jackery, EcoFlow, Anker SOLIX, BLUETTI & more · facts current November 2026*

# What's Inside

This is your guide to portable power stations: the quiet, fume-free batteries that keep your phone, internet, lights and even a CPAP or refrigerator going when the power goes out. Read it in any order and at your own pace — there is no test, and you can't fall behind. Models and prices change often, so this guide teaches you what to look for on any box rather than telling you which one to buy.

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PART 1

# Getting Started

What a portable power station is, how it differs from a generator and a battery backup, and whether one makes sense for your home. Start here.

CHAPTER 1

# A Note from Bill

Hello, and welcome. If you've seen those boxy batteries with handles in the store or in a TV ad and wondered, "Would one of those keep my things going when the power goes out?" — this guide is for **you**. And if someone in the family just gave you one for a birthday or the holidays, and it's still sitting in the box, this guide is for you too.

I'm Bill. I've spent more than 30 years working with technology, and these days I help folks here in Portage County feel at home with theirs. I wrote this guide the way I'd explain it at your kitchen table: slowly, in plain English, and without trying to sell you anything. When I use a word like "watt-hour" or "inverter," I'll stop and explain it right then.

## What this guide will do for you

- Explain what a portable power station is — and what it isn't — in a few minutes.
- Teach you the two numbers on the box that matter most, so you buy the right size the first time.
- Walk you through the first charge, the buttons, the screen and the phone app.
- Show you how solar panels work with a power station, and how to choose ones that fit.
- Help you build a simple outage plan: Wi-Fi, phones, a CPAP, the refrigerator.
- Cover safe use, storage, recalls, recycling, and the fake "huge discount" websites to steer clear of.

## The big promise: you can't break it by learning

A power station is one of the friendliest gadgets in the house. You press a button, plug something in, and it works. Most of what's in this guide is about *choosing*, *charging* and *plugging in* — things you can do slowly and undo if you change your mind. The one job that is truly dangerous — connecting backup power to your home's wiring — I'll mark clearly as a job for a **licensed electrician**. I'm a technology helper, not an electrician, and I'll always tell you honestly which is which.

WHAT THIS DOES FOR YOU

### Why this matters

A power station is quiet, makes no fumes, and can sit safely in your living room. During an outage it can keep your phone charged, your internet on, a lamp lit and, with the right size, a CPAP or a refrigerator running. That's the difference between sitting in the dark wondering and staying in touch with the people who matter.

## I'm only a phone call away

If anything in this guide leaves you unsure, call me at **(330) 200-8042**. There's no such thing as a silly question, especially about electricity, where it's always smarter to ask first.

Let's start with the simplest question: what exactly *is* this box?

***— Bill***

CHAPTER 2

# What a Portable Power Station Is

A **portable power station** is a big rechargeable battery in a sturdy case with a handle. On the front you'll find ordinary household outlets, USB ports for phones and tablets, and usually a round car-style outlet. A small screen shows how full the battery is. You charge it from a wall outlet, a car, or solar panels, then use it to power things wherever you need them.

## What's inside, in plain words

| Part | What it does |
|---|---|
| **The battery** | Stores the energy. Most newer models use **LiFePO4** batteries (lithium iron phosphate, sometimes written **LFP**). Chapter 8 explains why that matters. |
| **The inverter** | Turns the battery's power into the same kind of power that comes out of your wall, so you can plug in a lamp or a CPAP. The household outlets only work when the inverter is switched on. |
| **The charger** | Lets you refill the battery from the wall, a car outlet, or solar panels. |
| **The brain** | Called the **battery management system**. It watches temperature and charge levels and shuts things off if something is wrong. |

## Names you'll see on the box

Different companies call these different things. A **power station**, a **portable power station**, a **battery generator** and a **solar generator** are all the same kind of product. "Solar generator" usually just means a power station sold together with solar panels. There's no engine and no fuel inside any of them.

## How it's different from the things it gets confused with

| | Power station | Gas generator | Battery backup (UPS) | Power bank |
|---|---|---|---|---|
| Fuel | None — a battery | Gasoline or propane | None — a battery | None — a battery |
| Safe indoors? | Yes | **Never** | Yes | Yes |
| Noise | Quiet (a fan at times) | Loud | Quiet | Silent |
| Typical size | About 250 to 5,000 Wh | Runs for hours on a tank | Minutes to an hour | Phone-sized |
| Best for | Outages, CPAP, camping | Whole rooms, long outages | Computer, router | Phones, tablets |

GOOD TO KNOW

### Pairs with your surge and battery-backup guide

Our **Surge Protectors & Battery Backups** guide covers small battery backups for computers and routers, and the dangers of gas generators. This guide goes much deeper on power stations themselves: sizing, charging, solar panels, and living with one.

WHAT THIS DOES FOR YOU

### What this does for you

Once you know a power station is simply a big, safe, quiet battery, the rest of this guide is just learning how big a battery you need and how to keep it ready.

CHAPTER 3

# Is a Power Station Right for You?

Power stations are wonderful for some jobs and the wrong tool for others. It's worth five minutes to think about what you actually want to keep running before you spend several hundred dollars.

## Good reasons to own one

- **Power outages.** Keeping phones charged, the internet on, a lamp and a radio going, maybe a small refrigerator or a freezer for a few hours at a time.
- **A CPAP or other plug-in medical device** you'd rather not go a night without (Chapter 18).
- **Camping, an RV, a fishing trip or the tailgate** — a quiet alternative to a noisy generator.
- **Working outdoors** — running a string of lights, a fan, or charging tool batteries away from an outlet.
- **Peace of mind** for someone who lives alone and worries about storms.

## When a power station is *not* the answer

- **Running the whole house.** Central air conditioning, an electric furnace, an electric water heater or an electric range use far more power than portable units are built for.
- **Long, multi-day outages with heavy needs**, unless you also have solar panels and plenty of sun, or a very large system.
- **Life-support equipment** as your only plan. A power station can be one layer of backup, but your doctor and equipment supplier should help you plan (Chapter 18).
- **A well pump** or **sump pump** — often possible only with large models, and some need wiring work by an electrician. Ask before buying for that job.

TIP

### Start with a list, not a store

Before you shop, write down the three to five things you'd most want running in an outage. Chapter 5 shows you how to find the watts for each. That one sheet of paper will steer you to the right size.

GOOD TO KNOW

### What they cost

As of November 2026, small power stations (roughly 250 to 500 Wh) commonly sell for around $200 to $400; mid-size units around 1,000 Wh often run $400 to $900 depending on sales; and large home-backup units of 2,000 Wh and up can cost $1,000 to several thousand dollars. Prices swing a lot with holiday sales, so treat these as rough ranges.

WHAT THIS DOES FOR YOU

### What this does for you

Knowing what a power station can and can't do keeps you from buying one that's too small to help — or paying for one far bigger than you'll ever use.

PART 2

# Sizing It Right

The two numbers on every box, how to find the watts of the things you own, simple runtime math, and how to choose a size and a brand.

CHAPTER 4

# Watt-Hours and Watts: The Two Numbers That Matter

Every power station lists two numbers in big print. Almost every buying mistake comes from mixing them up. Here's the simplest way I know to keep them straight.

## Watt-hours (Wh): the size of the fuel tank

**Watt-hours**, written **Wh**, tell you how much energy the battery holds. A 1,000 Wh station holds about four times as much as a 250 Wh one. Bigger means things run *longer*. Larger units sometimes list **kWh** (kilowatt-hours) instead: 1 kWh is 1,000 Wh, so a "2 kWh" station is a 2,000 Wh station.

## Watts (W): how hard it can push at once

**Watts**, written **W**, are about how much power the station can deliver *at the same moment*. Think of it as the width of the hose. A station rated at 1,500 W can run things that add up to 1,500 watts all at once. Plug in more than that and it will shut off its outlets to protect itself.

## Surge or peak watts

You'll also see a larger **surge** or **peak** number. Some appliances — refrigerators, freezers, pumps, and power tools with motors — need a short burst of extra power for a second or two when they start. The surge rating tells you how big a burst the station can handle. It is *not* a number you can run at all day.

| What it says | What it means | Why you care |
|---|---|---|
| 1,024 Wh | Battery capacity | How **long** things will run |
| 1,800 W | Continuous output | How **many** things (or how big a thing) at once |
| 2,700 W surge | Short burst for start-up | Whether a refrigerator or pump can start |
| LiFePO4 | Battery type | How many years it should last |

TIP

### A quick memory trick

**Wh = how long. W = how much at once.** If your things keep shutting off, you need more watts. If they run fine but the battery empties too soon, you need more watt-hours.

WHAT THIS DOES FOR YOU

### What this does for you

With these two numbers in hand, you can look at any power station from any brand and know in seconds whether it fits your needs — no sales pitch required.

CHAPTER 5

# Make Your "Must Keep Running" List

The right size depends entirely on what *you* want to run. This chapter helps you make a short list and find the watts for each item. Grab a pencil and a flashlight — some of these labels hide on the back or bottom of things.

## Finding the watts on a device

1. Look on the back or bottom of the device, or on its power brick (the little box on the cord), for a label.
2. If you see a number followed by **W**, that's the watts. Write it down.
3. If you only see **volts (V)** and **amps (A)**, multiply them. For example, a power brick that says **12V** and **2A** uses up to 12 × 2 = **24 watts**.
4. For appliances, look for the yellow **EnergyGuide** label or the owner's manual. It may list yearly energy use in kWh rather than watts; Chapter 19 shows how to use that for a refrigerator.
5. If you can't find anything, search the model number online with the word "watts".

GOOD TO KNOW

### Labels show the most, not the usual

The number on a label is usually the most the device *can* draw, not what it normally uses. A router brick labeled 24 watts may really use 10 to 15. That's fine: using the label gives you a safety cushion. Many power stations also show the live watts on their screen, which is the real number (Chapter 10).

## A sample list

| Device | Typical range (always check yours) |
|---|---|
| **Modem and router** | Often about 10 to 30 W together |
| **Cell phone charging** | About 5 to 25 W while charging |
| **LED lamp** | About 5 to 15 W |
| **Laptop** | About 30 to 100 W while charging |
| **CPAP** | Varies widely by model and settings — the heated humidifier uses the most (Chapter 18) |
| **Full-size refrigerator** | Often a few hundred watts while running, with a bigger start-up surge |
| **Microwave, coffee maker, toaster** | Often 800 to 1,500 W or more — heavy, but only for minutes |
| **Space heater** | Commonly 1,500 W — drains a power station very fast |

HEADS UP

### These are rough ranges

The numbers above are typical ranges, not promises. Your own devices' labels and the power station's screen are what count. Write your own numbers on the list in the Cheat-Sheet (Chapter 28).

WHAT THIS DOES FOR YOU

### What this does for you

A five-minute list replaces guesswork. You'll know whether a small, light station will do, or whether you need a bigger one for the refrigerator.

CHAPTER 6

# The Runtime Math, Step by Step

"How long will it last?" is the question everybody asks. You can get a good rough answer with simple division. A calculator on your phone is all you need.

## The simple formula

1. Find the station's capacity in watt-hours. Say it's **1,000 Wh**.
2. Add up the watts of everything you'll run at the same time. Say a modem and router (**20 W**) plus a lamp (**10 W**) = **30 W**.
3. Divide: 1,000 ÷ 30 = about **33 hours**.
4. Now take a fair bite off that answer — about a fifth is a common rule of thumb — because some energy is lost turning battery power into household power, and batteries keep a little in reserve. That leaves roughly **26 hours**.
5. Treat the answer as a rough guide, not a promise. Cold weather and devices that cycle on and off change it.

## Two more worked examples

| Example | The math |
|---|---|
| **Phones only** | Charging a phone fully takes very roughly 10 to 20 Wh. A 300 Wh station can recharge a phone many times over — enough for a household for days. |
| **A laptop all evening** | A laptop using about 50 W for 5 hours is 250 Wh. A 500 Wh station handles that with room to spare; a 250 Wh station would be cutting it close. |

TIP

### Use USB when you can

Charging phones and tablets from the station's **USB** ports, instead of plugging their wall chargers into its household outlets, usually wastes less energy — and you can leave the household outlets (the inverter) switched off, which also saves power.

GOOD TO KNOW

### The station will tell you, too

Most power stations show an estimated "time remaining" on the screen based on what's plugged in right now. It jumps around as devices turn on and off, but after a few minutes it settles into a useful number.

WHAT THIS DOES FOR YOU

### What this does for you

Ten seconds of division tells you whether you'll make it through the night — before the storm, not during it.

CHAPTER 7

# What It Can and Can't Run

Here's a plain-English look at common household items and how they get along with power stations. "Small" means roughly 250 to 500 Wh, "medium" about 1,000 Wh, and "large" 2,000 Wh and up.

| Item | Small | Medium | Large | Notes |
|---|---|---|---|---|
| Phones, tablets, hearing-aid chargers | Yes, for days | Yes | Yes | The easiest job of all |
| Modem & router | Many hours | A day or more | Days | Chapter 17 |
| LED lamps, radio, fan | Yes | Yes | Yes | Small fans use little |
| CPAP | A night or so* | Several nights* | Many nights* | *Humidifier off; Chapter 18 |
| TV and streaming box | A few hours | Many hours | Yes | Check the TV's watts |
| Refrigerator | Usually not | Some hours | Longer | Check surge rating; Chapter 19 |
| Microwave, coffee maker | Usually not | Often, briefly | Yes, briefly | Drains fast |
| Space heater, hair dryer | No | Very briefly | Briefly | Not a good use |
| Central A/C, electric furnace, water heater, range | No | No | No | Whole-house jobs |

HEADS UP

### Heat is the battery-killer

Anything that makes heat with electricity — space heaters, hair dryers, toasters, electric blankets on high, kettles — uses a lot of power. Even a large station will drain in an hour or two running a space heater. In a winter outage, blankets and layers go much further.

STAY SAFE

### Gas furnaces and power stations

Many gas furnaces need electricity for the blower and controls. Connecting a furnace to backup power usually means wiring work, which is a job for a licensed electrician or your heating contractor — never something to improvise with extension cords or by cutting a plug onto the furnace.

WHAT THIS DOES FOR YOU

### What this does for you

Knowing ahead of time what's realistic keeps you from being disappointed in the middle of an outage, and helps you save the battery for the things that matter.

CHAPTER 8

# Choosing a Size and a Brand

The four brands you'll see most in stores and online are **Jackery**, **EcoFlow**, **Anker SOLIX** and **BLUETTI**. All four sell a range from small to very large, and all four have phone apps. I don't recommend one brand over another; I'd rather teach you what to look for on any box.

## Five things to check on any model

1. **Capacity (Wh)** that fits your list from Chapter 5, with some cushion.
2. **Output (W)** higher than the total of what you'll run at once, and a **surge** rating high enough for anything with a motor.
3. **Battery type.** LiFePO4 (LFP) is the type most new models use. Makers rate these batteries for thousands of charge cycles before they fall to about 70 to 80 percent of their original capacity. For most households that's many years of use.
4. **A safety listing.** Look for a listing to **UL 2743**, the safety standard for portable power packs, from a recognized testing lab, on the product or in its specifications.
5. **Warranty and support.** Many major brands offer several years of warranty on newer models. Check the length and that there's a U.S. support phone number or website.

## Weight matters more than you'd think

A 1,000 Wh station commonly weighs somewhere around 20 to 30 pounds, and 2,000 Wh models can weigh 40 to 60 pounds or more. If you'll carry it up from the basement in the dark, try lifting one in the store first. Some larger models have wheels and a pull handle.

## Expansion batteries

Many mid-size and large models can add an **expansion battery** (sometimes called an extra battery) that plugs into the main unit to add more watt-hours. It's a way to start smaller and grow later. Expansion batteries only work with the specific models the maker lists, so check before buying.

GOOD TO KNOW

### What "LiFePO4" means for you

LiFePO4 batteries are known for long life and stability. Older and some lighter models used other lithium-ion types that wear out sooner. If two models are similar in price, the LiFePO4 one will usually last more years. Each maker publishes its own cycle rating — some rate to 70 percent capacity, some to 80 — so compare carefully.

TIP

### One size for most households

For an outage plan focused on Wi-Fi, phones, lights and maybe a CPAP, a station of about **1,000 Wh** is a sensible middle ground for many homes. If the refrigerator is a must, look at 2,000 Wh and up, or plan on solar panels to refill it.

WHAT THIS DOES FOR YOU

### What this does for you

Comparing on these five points — not on the color of the box or the size of the discount — gets you a station that will still be doing its job years from now.

PART 3

# Day One with Your Power Station

Unboxing, the first full charge, the buttons and the screen, the ways to charge it, and the phone app.

CHAPTER 9

# Unboxing and the First Charge

Most power stations arrive partly charged. Even so, the best first step is a full, calm charge at home, so you know it works and you learn how long charging takes.

## What's usually in the box

- The power station itself.
- A **wall charging cord**. Many newer models have the charger built in, so it's an ordinary cord; others use a separate power brick.
- A **car charging cable** that plugs into a car's 12-volt outlet (sometimes sold separately).
- Sometimes a **solar adapter cable** for panels from other makers.
- A user manual and a warranty card. Keep both — Chapter 28 has a place to write down the model and serial number.

## The first charge, step by step

1. Set the station on a hard, flat surface — a floor, a table, a counter — away from beds, curtains, and anything that could fall on it.
2. Leave a few inches of space around the vents so the fan can breathe.
3. Plug the wall charging cord into the station's **AC input** port (the label usually says **AC IN** or shows a wall-plug symbol), then into a wall outlet.
4. Watch the screen. It should show the battery percentage climbing and the watts coming in.
5. Let it charge to **100 percent**. Depending on the model and charging mode, this can take anywhere from about an hour to several hours.
6. Unplug it. Press the power button to see that the screen comes on and shows 100 percent.

> **TIP**
>
> **Write down the date**
>
> Note the date of the first full charge on the Cheat-Sheet in Chapter 28. It's your starting point for the "top it up every few months" habit in Chapter 23.

HEADS UP

### Use the cords that came with it

Charge it with the maker's own cord or charger, or one the maker lists as compatible. A random charger from the junk drawer may not fit properly or may charge slowly.

WHAT THIS DOES FOR YOU

### What this does for you

One full charge on a calm day proves the station works, teaches you how long refilling takes, and means you're ready if the lights go out tonight.

CHAPTER 10

# Reading the Screen and the Buttons

Every brand's layout is a little different, but almost all power stations have the same few buttons and show the same few numbers. Once you know them, you can use any model.

## The buttons

| Button | What it does |
|---|---|
| **Main power button** | Turns the station (and its screen) on and off. Usually you press and hold it for a second or two. |
| **AC button** | Turns the household outlets on and off. **This is the one people miss.** If your lamp won't light, the AC outlets are probably switched off. A small light or an "AC" icon on the screen shows when they're on. |
| **DC or USB button** | Turns the USB ports and the car-style outlet on and off. On some models the USB ports are always on. |
| **Light button** | Many models have a built-in light on the side or front. Handy in a dark outage. |
| **IoT or Wi-Fi button** | On some models, used to pair with the phone app (Chapter 12). |

## The numbers on the screen

| Shows | Means |
|---|---|
| **Battery percent** | How full it is. 100 percent is full. |
| **Input watts** | How fast it's charging right now, from the wall, the car, or solar. |
| **Output watts** | How much power everything plugged in is using right now — the real number for your list. |
| **Time remaining** | An estimate of how long until empty (or full, while charging). It changes as devices turn on and off. |
| **Warning icons** | Symbols for overload, high temperature, or a fault. Check the manual for your model's list. |

## Turning it on and plugging something in

1. Press and hold the main power button until the screen lights up.
2. Press the **AC** button if you're using a household plug, or the **DC/USB** button for USB devices.
3. Plug in your device and turn it on.

4. Check the output watts on the screen. That's what the device really uses.
5. When you're finished, unplug the device and press the AC or DC button again to switch those outlets off. Leaving the AC outlets on with nothing plugged in still uses a little battery.

TIP

### If it beeps or shuts off

Most often it's an **overload**: you've plugged in more watts than the station can deliver. Unplug the biggest item, then turn the AC outlets back on. If it shows a temperature warning, move it somewhere cooler and give the vents room.

WHAT THIS DOES FOR YOU

### What this does for you

The output-watts number turns guesswork into knowledge. Plug in each item on your list once, write down the real number, and your runtime math in Chapter 6 becomes far more accurate.

CHAPTER 11

# Charging It: Wall, Car, and More

A power station is only useful if it's full when you need it. There are three common ways to fill it up, and many models let you combine them.

## 1. From a wall outlet (fastest and simplest)

This is how you'll charge it most of the time. Many newer models offer a **fast-charge** mode that can fill the battery in roughly an hour, and a quieter, slower mode that's easier on the battery and the fan noise. The app or a switch on the unit chooses between them. If you're not in a hurry, the slower mode is perfectly fine.

## 2. From the car

1. Start the car (charging with the engine off can drain the car's own battery).
2. Plug the car charging cable into the car's 12-volt outlet (the old cigarette-lighter socket).
3. Plug the other end into the station's car or DC input port.
4. Expect it to be slow: a car outlet delivers far less power than a wall outlet, so a 1,000 Wh station can take many hours. It's best for topping up during a drive.

STAY SAFE

**Never charge in a closed garage**

Never run a car in a closed or attached garage to charge anything, even with the door partly open. Car exhaust contains carbon monoxide, which you can't see or smell. Charge from the car only while driving or with the car parked outdoors, well away from the house.

## 3. From solar panels

Solar panels let you refill the station during a long outage or out at the campsite. That's a big enough topic for its own part of the guide — see Chapter 13.

GOOD TO KNOW

**Charging while using it**

Most power stations can power your devices while they are being charged — sometimes called **pass-through charging**. That's how they work as a battery backup that takes over when the power fails (Chapter 20). Check your model's manual for any limits.

HEADS UP

### Cold-weather charging

LiFePO4 batteries generally shouldn't be charged when they're below freezing. Many stations will simply refuse to charge until they warm up, and some have built-in battery heating. If yours lives in the garage or a cold car, bring it inside to warm up before charging, and check your manual's charging temperature range.

WHAT THIS DOES FOR YOU

### What this does for you

Knowing more than one way to refill the station means a long outage doesn't have to leave you empty-handed.

CHAPTER 12

# The Phone App

Each of the big four brands has a free phone app for iPhone and Android: the **Jackery** app, the **EcoFlow** app, the **Anker** app (used for Anker SOLIX power stations), and the **BLUETTI** app. You don't *need* the app to use a power station — the buttons work fine — but it adds some genuinely useful features.

## What the app is good for

- Seeing the battery level and time remaining from another room — or, over Wi-Fi, from anywhere.
- Switching outlets on and off without getting up.
- Choosing a quieter, slower charging mode, or setting a charging limit to protect the battery.
- Installing **firmware updates** — improvements and fixes for the station's built-in software.
- Getting a notification on your phone when the power goes out, if the station is plugged in as a backup.

## Connecting the app, step by step

1. Install the maker's app from the App Store (iPhone) or Google Play (Android). Check that the developer name is the brand itself.
2. Open the app and create an account with your email address and a password. Write the password down somewhere safe.
3. Turn on your phone's **Bluetooth**, and stand near the power station.
4. Turn the station on. Some models need you to press a button or a button combination to start pairing; the app will show you which.
5. In the app, tap the option to **add a device** (often a **+** sign). Choose your station when it appears.
6. When asked, choose your home **Wi-Fi** network and type its password, if you want to check the station from away from home. You can skip this and use Bluetooth only.
7. Let the app check for a firmware update and install it while the station is plugged in.

GOOD TO KNOW

### Bluetooth first, and 2.4 GHz Wi-Fi

Jackery and Anker both say the first connection is made over Bluetooth, and then you can add Wi-Fi. Many stations, including Jackery's, connect only to a **2.4 GHz** Wi-Fi network, not 5 GHz. If your router uses one name for both, it usually works anyway; if setup fails, that's one of the first things to check. On some Jackery models, Wi-Fi and Bluetooth turn back off if the app doesn't connect within a few minutes — just start pairing again.

TIP

### If it won't connect

Move closer to the station, turn your phone's Bluetooth off and back on, and close and reopen the app. Make sure no other phone is connected to the station at the same time. Most models also have a way to reset their Wi-Fi and Bluetooth pairing; your manual shows the button to hold.

SCAM ALERT

### Only the maker's app

Download the app only from the official App Store or Google Play listing, published by the brand itself. Never install an app from a link in a text message or an ad, and never give your app password to someone who calls offering "support."

WHAT THIS DOES FOR YOU

### What this does for you

With the app set up, a quick look at your phone tells you whether the station is full and ready — even while you're away visiting family.

PART 4

# Solar Panels

How solar charging works, how to choose panels that fit your power station, and how to set them up outdoors safely.

CHAPTER 13

# How Solar Charging Works

Portable solar panels fold up like a briefcase and open to face the sun. A cable runs from the panels to the power station, which stores the energy. No installer, no roof work, no wiring into the house — just unfold, aim and plug in.

## The number on the panel

Panels are sold by their **watts** — 100 W, 200 W, 400 W and so on. That number is what the panel produces in ideal, laboratory-bright sun. In everyday conditions you'll usually get noticeably less. Clouds, haze, a low winter sun, shade on even part of the panel, and heat all cut the output.

## A realistic estimate

1. Take the panel's rated watts. Say **200 W**.
2. Assume you'll get a good deal less in practice — on a decent day, perhaps half to three-quarters of it. Call it about **120 W**.
3. Multiply by the hours of good, direct sun. In Northeast Ohio, a clear summer day gives more good hours than a gray December one. Say **4 hours**.
4. 120 × 4 = about **480 Wh** in a day — roughly half of a 1,000 Wh station.

GOOD TO KNOW

### The screen tells the truth

The station's **input watts** number shows exactly what the panels are delivering right now. Move the panel a little and watch it change. It's the easiest way to learn the best spot in your yard.

HEADS UP

### Ohio winters

In a winter outage, short days and gray skies can mean very little solar charging. Panels are a big help in spring, summer and fall, but don't count on them alone in January.

WHAT THIS DOES FOR YOU

### What this does for you

With panels, an outage that lasts for days doesn't mean an empty battery. On a sunny day, you can refill and keep going.

CHAPTER 14

# Choosing Panels That Fit

The simplest choice is to buy panels from the same brand as your power station, in a size the maker lists as compatible. Then the plugs match and the numbers are already checked for you. If you want to use another brand's panels, there are three things to check.

## 1. The voltage must be in range

Every power station lists a **solar input** range in volts on its spec sheet, such as "12–60V." Every panel lists its **open-circuit voltage**, written **Voc**. The panel's Voc — or the total Voc if you connect panels together in a chain — must be *inside* the station's range. Too high can stop charging or damage the station.

## 2. The current must be in range

The station also lists the most current (amps) its solar input accepts. The panel's current rating should not exceed it. Your manual lists both numbers.

## 3. The plug must fit

Most stand-alone panels end in a pair of **MC4** connectors (chunky, clicking plugs used across the solar world). Many power stations have a different port, so you'll need the maker's **MC4 adapter cable**. Jackery stations use a round **DC8020** solar input on many models; others use an **XT60** or similar port. The manual shows which yours has.

GOOD TO KNOW

### What Jackery says about other panels

Jackery says third-party panels can be used as long as the panel's voltage and current fall within the station's DC input range — and that it can't guarantee compatibility with other brands. Connecting a panel whose voltage exceeds the input limit may stop charging or damage the product. The other makers give similar advice in their manuals.

## More panels, faster charging — up to a limit

A station's spec sheet lists its maximum solar input in watts. Adding panels beyond that number won't charge it any faster. Some larger stations have two solar inputs. When in doubt, match the maker's recommended bundle.

TIP

### Write the numbers on the Cheat-Sheet

Copy your station's solar input range (volts), its maximum current (amps) and its maximum solar watts onto the Cheat-Sheet in Chapter 28. Then you can check any panel in seconds.

WHAT THIS DOES FOR YOU

### What this does for you

Three quick checks keep you from buying panels that won't plug in, won't charge, or worse, could damage an expensive power station.

CHAPTER 15

# Setting Up Panels Outdoors

Portable panels are meant to be set up and taken down by hand. Here's a calm, safe routine.

## Step by step

1. Pick a spot with full sun for as many hours as possible, away from trees and the shadow of the house. In our part of the country, panels facing roughly **south** do best.
2. Unfold the panel and open its kickstand, or lean it against something sturdy. Tilt it so it faces the sun as squarely as you can.
3. Keep the power station **indoors** or in the shade, out of rain and direct sun. Run the cable to it; many people pass it through a slightly opened window or door.
4. Connect the panel's cable to the adapter (if needed), then to the station's solar input.
5. Check the screen: you should see **input watts** above zero. If not, check the connections and the voltage range from Chapter 14.
6. Every couple of hours, turn the panel to follow the sun if you're able. It makes a noticeable difference.
7. Before dark or before bad weather, unplug the cable at the station first, then fold the panel and bring it in.

HEADS UP

### Weather and wind

Many portable panels are water-resistant but not built to sit out in storms, and their light frames can catch the wind like a sail. Bring them in when weather turns, and never leave connectors lying in puddles.

STAY SAFE

### Trip hazards and a tight window

A cable across a walkway is easy to trip over in the dark. Route it along the wall, and don't pinch it hard in a window or door — that can damage the cable over time.

TIP

### Keep the panels clean

Dust, pollen and bird droppings cut output. Wipe the panel gently with a soft, damp cloth — no harsh cleaners or scrubbers.

WHAT THIS DOES FOR YOU

### What this does for you

A few minutes of setup each morning can refill a good part of your battery on a sunny day, quietly and for free.

PART 5

# Using It in an Outage

A simple outage plan, keeping Wi-Fi and phones going, medical equipment, the refrigerator, battery-backup mode, and the truth about connecting backup power to your house.

CHAPTER 16

# Your Outage Plan with a Power Station

The time to plan for an outage is on a calm, sunny afternoon. Here's a simple plan you can write down once and follow when the lights go out.

## Before an outage

1. Keep the station charged to at least **80 percent** during storm seasons, and check it every few months the rest of the year (Chapter 23).
2. Decide where it will sit during an outage: a central spot on a hard floor, near the router and your phone chargers.
3. Keep the cords you'll need in a bag with it: phone cables, a short heavy-duty extension cord, and the station's own charging cables.
4. Write your priority list on the Cheat-Sheet (Chapter 28): what gets plugged in first, second and third.
5. Show one other person in the household how to turn it on and press the AC button.

## When the power goes out

1. Stay calm and get a flashlight. Many stations have a built-in light you can turn on right away.
2. Turn the station on. Plug in your first priority — often the modem and router, or a CPAP at bedtime.
3. Charge phones from the USB ports.
4. Check the output watts and the time remaining on the screen. Adjust: unplug what you don't need right now.
5. Report the outage to your electric company, by phone, text or app, and check its outage map for an estimated restoration time.
6. Every few hours, check the battery percent and decide what to keep running.

## After the power comes back

- Plug the station back into the wall and let it recharge to full.
- Note what worked and what you wished you had, and add it to the plan.

TIP

### Stretch the battery

Run the most important things, and only when needed. Switch off the AC outlets when you're only charging phones by USB. Turn off the TV when nobody's watching. Small habits can add hours.

WHAT THIS DOES FOR YOU

### What this does for you

A written plan means you aren't trying to remember what to do in the dark, and a family member can help even if you're not home.

CHAPTER 17

# Keeping Wi-Fi and Phones Going

For many households, staying connected is the most important thing during an outage: hearing from family, checking the news, calling for help. A power station handles this job beautifully.

## Keep the internet on

1. Find your **modem** (the box the internet cable plugs into) and your **router** (the box that makes Wi-Fi; sometimes it's the same box).
2. Unplug their power cords from the wall or surge protector, and plug them into the power station's AC outlets. If either one uses a small brick that plugs into USB, you can use the USB ports instead.
3. If you have fiber internet, there may also be a small box on the wall called an **ONT** that needs power. Plug it in too.
4. Wait a few minutes for the lights to settle. Check that your phone shows Wi-Fi.

> **GOOD TO KNOW**
>
> **The internet may be down anyway**
>
> If the outage is widespread, your internet provider's equipment in the neighborhood may also lose power. Powering your own modem only helps if the service outside is still running. Your cell phone's data may still work in that case.

## Keep phones charged

- Use the station's USB ports and your phone's own cable.
- Turn on your phone's **Low Power Mode** (iPhone) or **Battery Saver** (Android) to make each charge last longer.
- Charge everyone's phones early, while the battery is full, rather than waiting until they're nearly empty.

## A cordless home phone

If you have a home phone through your cable or fiber company, it depends on that equipment having power. Powering the modem (and the cordless phone base) from the station can keep it working — as long as the service outside is up. Our Surge Protectors & Battery Backups guide covers home phones and 911 in an outage in more detail.

WHAT THIS DOES FOR YOU

### What this does for you

A modem, router and a few phones use very little power. Even a small station can keep you connected for many hours — often the single most reassuring thing it does.

CHAPTER 18

# CPAP, Oxygen and Medical Equipment

Many people buy a power station for a CPAP or other plug-in medical device. It can be a real comfort. But medical equipment deserves extra care, and your equipment supplier and doctor should be part of the plan.

STAY SAFE

**Life-support equipment needs a full plan**

If you depend on an oxygen concentrator, a ventilator, or other equipment you can't safely go without, a power station should be only **one** layer of your backup plan. Ask your equipment supplier what backup they recommend (many supply oxygen cylinders for outages), ask your doctor what to do in a long outage, and tell your electric company that someone in the home relies on medical equipment. In an emergency, call 911.

## Running a CPAP from a power station

1. Check your CPAP's manual, or call your equipment supplier, and ask whether the maker approves running it from a battery or power station, and whether there's an official **DC cable or converter** for your model.
2. Test it on a normal night first. Charge the station fully, run the CPAP from it all night, and see how much battery is left in the morning.
3. For the longest runtime, turn off the **heated humidifier** and **heated tubing** when running on battery. CPAP retailers and makers say the humidifier is by far the biggest power user.
4. If the maker offers a DC converter, it can run the CPAP from the station's DC outlet without converting to household power and back, which usually stretches the battery further.
5. Write down what you learned: how many percent a night used, with and without the humidifier.

HEADS UP

**Use only the maker's adapters**

Use only the CPAP maker's own DC cable or converter for your exact model. Adapters from other machines or unknown sellers can have the wrong voltage or connector.

## Other plug-in devices

- **Power wheelchairs and scooters:** ask the maker whether charging from a power station is approved.
- **Refrigerated medicines like insulin:** a power station can run a small refrigerator for a while (Chapter 19). Ask your pharmacist how long your medicine can safely stay out of the refrigerator.
- **Hearing aids, phones and medical alert systems:** easy jobs for the USB ports.

WHAT THIS DOES FOR YOU

### What this does for you

Testing your CPAP on a calm night turns "I hope it works" into "I know it works, and for how long" — the best kind of peace of mind.

CHAPTER 19

# Refrigerators and Freezers

Keeping food cold is one of the most common reasons people buy a bigger power station. It can be done, but it takes a station that's big enough, and a bit of planning.

## Why refrigerators are tricky

- The compressor needs a **start-up surge** several times its running watts. The station's surge rating must handle it.
- A refrigerator cycles on and off all day, so its average use is much lower than its running watts.
- Older refrigerators often use much more energy than newer ones.

## Estimating with the EnergyGuide label

1. Find the refrigerator's yearly energy use in **kWh per year** on its yellow EnergyGuide label or in the manual. Say it's **600 kWh**.
2. Divide by 365 to get a day: 600 ÷ 365 = about **1.6 kWh**, or **1,600 Wh** a day.
3. Compare to your station. A 2,000 Wh station might run that refrigerator for roughly a day, less the conversion losses from Chapter 6. A 1,000 Wh station, perhaps half a day.
4. Real use will vary: a full refrigerator in a cool kitchen with the door kept closed uses less.

TIP

### Run it in shifts

Food stays cold for a while in a closed refrigerator. Many people run the refrigerator from the station for an hour or two at a time, a few times a day, rather than all day. Keep the door closed as much as possible and use a refrigerator thermometer.

GOOD TO KNOW

### When in doubt, throw it out

Keep a simple thermometer in the refrigerator and the freezer. Food safety guidance from the U.S. Department of Agriculture (at **foodsafety.gov**) explains how long food stays safe without power and what to throw out. Look it up on a calm day and jot the key points on the Cheat-Sheet, so you're not guessing during an outage.

WHAT THIS DOES FOR YOU

## What this does for you

A little arithmetic tells you whether your station can save the groceries, and how to stretch it if it's close.

CHAPTER 20

# Using It as a Battery Backup (UPS Mode)

Many power stations can stay plugged into the wall with your devices plugged into *them*. When the power fails, the station takes over automatically. Makers call this **UPS mode** (uninterruptible power supply) or **EPS** (emergency power supply).

## Setting it up

1. Plug the station into the wall and let it charge fully.
2. Plug your devices — the modem and router, for example — into the station's outlets, and turn the AC outlets on.
3. In the app, look for a UPS or backup setting. Some models let you set a **backup reserve**, a percentage the station keeps in reserve for outages.
4. Test it: with everything running, switch off the wall outlet or unplug the station's charging cord. Your devices should keep going. Plug it back in.

## Switchover time, in plain words

When the power fails, the station needs a split second to take over. Makers list this switchover time in **milliseconds** (ms) — thousandths of a second. For example, Jackery lists 20 milliseconds or less for the Explorer 1000 v2. Routers, lamps, phone chargers and refrigerators don't notice a gap that short. A desktop computer usually doesn't either, but not always.

HEADS UP

### Not a substitute for a true UPS on some equipment

For a desktop computer that must never blink, a dedicated computer battery backup (covered in our Surge Protectors & Battery Backups guide) is built for that job. For life-support medical equipment, follow the supplier's backup plan, not a consumer power station's UPS mode.

TIP

### Keep the battery happy

If the station lives on the charger all year as a backup, see whether the app offers a charge limit (for example, stop at 80 or 90 percent) or a battery-care setting. Check the maker's advice for your model.

WHAT THIS DOES FOR YOU

### What this does for you

With UPS mode, your Wi-Fi and phone base stay on through a blink or a long outage without you lifting a finger — even in the middle of the night.

CHAPTER 21

# Home Backup Kits and Transfer Switches

The biggest power stations can power parts of your house directly — the furnace blower, the refrigerator, a well pump, the lights in certain rooms — through a **transfer switch** or a **home backup panel**. Examples include the EcoFlow Smart Home Panel, the Jackery Smart Transfer Switch, and the Anker SOLIX Home Power Panel. These can work very well. **They must be installed by a licensed electrician.**

STAY SAFE

**Never connect backup power to your home's wiring yourself**

Never plug a power station or generator into a wall outlet to "feed" the house, and never use a cord with plugs on both ends (sometimes called a "suicide cord"). This is called **backfeeding**. It can start a fire, damage the station, and send electricity back out onto the power lines, where it can kill a utility lineworker. Connecting backup power to your home is a job for a **licensed electrician**, with a proper transfer switch, and often a permit and inspection. This guide gives no wiring steps on purpose.

## What a transfer switch does, in plain words

A **transfer switch** is a device installed next to your electrical panel. It safely disconnects the chosen circuits from the power company's lines before connecting them to your backup power, so the two can never mix. EcoFlow's own installation manual, for example, says its home panel must be installed by a licensed electrician and verified by your local building authority.

## How to get one, the right way

1. Make your list of the circuits you'd most want backed up (Chapter 5 and Chapter 7 will help).
2. Check which home-backup accessories your power station maker sells for your model.
3. Call a **licensed electrician**. Ask for a written quote including the transfer switch or panel, labor, the permit and the inspection.
4. Ask the electrician to label everything clearly and to show you, step by step, how to switch over in an outage.
5. Write those switch-over steps on the Cheat-Sheet in Chapter 28.

FROM BILL

### Where I can help, and where I can't

I'm a technology helper, not an electrician. I'm glad to help you figure out what you want backed up, set up the power station and its app, and practice the switch-over steps your electrician leaves you. The wiring itself always belongs to a licensed electrician.

WHAT THIS DOES FOR YOU

### What this does for you

Done properly, a home backup kit lets you run the furnace blower or the well pump in an outage without dragging cords through the house — safely, and without putting anyone on the power lines at risk.

PART 6

# Safety, Care & Scams

Using a power station safely indoors, storing it so it's ready, recalls and recycling, traveling with one, and the fake deals to avoid.

CHAPTER 22

# Safe Use Indoors

One of the best things about a power station is that it's safe to use inside — no fumes, no fuel. Like anything with a big lithium battery, though, it deserves a little respect.

## Good habits

- Use and charge it on a **hard, flat surface**: a floor, table or counter. Not on a bed, couch or carpet where the vents can be blocked.
- Keep a few inches clear around the vents. The fan may run while charging or under heavy use; that's normal.
- Keep it away from water, sinks, and rain, and away from heaters, stoves and direct hot sun.
- Keep children's hands and pets' paws away from the outlets.
- Don't stack things on top of it or cover it with a blanket.

## Extension cords and power strips

- If you need a cord, use a **heavy-duty**, grounded extension cord that's no longer than you need.
- Don't run cords under rugs or through doorways where they'll be pinched.
- Don't plug power strips into power strips. Our Surge Protectors & Battery Backups guide explains why.
- Remember the station's output limit (watts). A power strip doesn't add any power — it just adds outlets.

STAY SAFE

### Stop and unplug if you notice this

If a power station **swells**, smells of burning or chemicals, gets unusually hot, hisses, or makes popping sounds, stop using it. Unplug it if you can do so safely, move people and pets away, and call 911 if there is smoke or fire. With a fire, don't try to be a hero — get everyone out and let the fire department handle it.

GOOD TO KNOW

### Carbon monoxide isn't a power-station problem

Because there's no engine, a power station gives off no carbon monoxide. That's exactly why it's the right choice for indoor backup power. Gas generators are a very different story: they belong outdoors, far from the house.

WHAT THIS DOES FOR YOU

### What this does for you

A few simple habits let you keep the station right where you need it — next to the bed for a CPAP, or by the router — with confidence.

CHAPTER 23

# Storage and Long-Term Care

A power station that sits forgotten in a closet for a year may be nearly empty — or worse, worn down — on the day you need it. A tiny bit of care keeps it ready for years.

## What Jackery recommends, as an example

| Habit | Guideline |
|---|---|
| **Charge level for storage** | About **50 to 80 percent**. Never store it empty. |
| **How often to check** | About every **3 months**: top it up if it has dropped. |
| **Where** | A cool, dry place, roughly **32°F to 104°F** (0°C to 40°C), out of direct sun. |
| **Unplug accessories** | Disconnect solar panels and devices so they don't slowly drain it. |

Other brands give similar advice; your manual has the exact numbers for your model. The common thread is simple: don't let it sit empty, don't let it bake or freeze, and check on it now and then.

## A four-times-a-year routine

1. Put a reminder on your calendar or phone for the first of January, April, July and October.
2. On that day, turn the station on and check the percent.
3. If it's low, charge it. If storm season is coming, charge it to full.
4. Open the app (if you use it) and install any firmware update.
5. Plug in a lamp for a minute to make sure the AC outlets work.

HEADS UP

### Garages and cars get too hot and too cold

Ohio garages can go well below freezing in winter and well above 100°F in a summer car. Neither is good for a big battery. Inside the house — a closet, a basement shelf — is a better home.

TIP

### Keep the kit together

Store the cords, the car cable, the solar adapter, and a printed copy of the Cheat-Sheet in one bag next to the station. In the dark, you'll be glad everything is in one place.

WHAT THIS DOES FOR YOU

### What this does for you

Five minutes four times a year means your station is full and healthy when the storm comes — and it lasts years longer.

CHAPTER 24

# Recalls, Damage and Recycling

## Check for recalls

Now and then a power station or a battery product is recalled for a safety problem. For example, in August 2026 the U.S. Consumer Product Safety Commission (CPSC) announced a recall of Goal Zero YETI 3000X power stations because a circuit board can overheat, posing fire and burn hazards. Recalls are rare, but they're worth checking.

1. Find your station's exact model name and serial number on the label (often on the bottom or back).
2. Go to **cpsc.gov/Recalls** and search for the brand.
3. Read any recall carefully to see whether your model and serial numbers are included.
4. If yours is recalled, stop using it and follow the remedy in the notice: usually a free repair, replacement or refund from the maker.
5. Register your product with the maker (often in the app or on its website) so they can contact you directly.

## If it's damaged

If a station has been dropped hard, crushed, soaked, or shows any of the warning signs in Chapter 22, stop using it. Contact the maker's support for instructions before you do anything else with it.

## Recycling an old power station

Lithium batteries must **never** go in your household trash or curbside recycling bin. They can start fires in garbage trucks and recycling centers.

1. Contact the maker first. Some brands run recycling or trade-in programs.
2. Or take it to a **household hazardous waste** collection site or an electronics recycler. Your county's solid-waste district can tell you where and when.
3. Use the locators at **call2recycle.org** or **earth911.com**, which the EPA lists as resources. Call ahead: many drop-off spots only take smaller batteries, so ask whether they accept a large power station.
4. Before you drop it off, cover any exposed terminals with tape, and keep it in a dry place.

WHAT THIS DOES FOR YOU

### What this does for you

A quick recall check protects your home, and proper recycling keeps a big battery from becoming somebody else's fire.

CHAPTER 25

# Travel: Cars, Camping and Airplanes

## In the car

- Secure the station so it can't slide or fly forward in a sudden stop — on the floor behind a seat, or strapped in the trunk.
- Don't leave it in a closed car on a hot summer day or a bitter winter night for long.
- You can charge it from the car while driving (Chapter 11).

## Camping and the RV

- A power station runs lights, fans, phone chargers, a CPAP, and a small cooler quietly — a welcome change from a generator at a campground.
- Keep it in the shade, and out of rain and morning dew.
- Pair it with portable solar panels for longer trips (Chapter 13).

## Airplanes: leave it at home

The Federal Aviation Administration (FAA) allows lithium-ion batteries up to **100 Wh** on passenger planes, allows **101 to 160 Wh** only with the airline's approval, and **forbids** batteries larger than **160 Wh**. Almost every portable power station is far larger than that, so it can't go in your carry-on or checked bag. Airlines can have even stricter rules for power banks.

TIP

### Flying somewhere and need power?

Bring a small, airline-friendly power bank for your phone in your carry-on, and check your airline's current rules before you fly. If you need a power station at your destination, ship it by ground or rent or buy one there.

WHAT THIS DOES FOR YOU

### What this does for you

Knowing the rules saves you a surprise at the airport and keeps the station safe on the road.

CHAPTER 26

# Scams and Fake Deals

Power stations are popular and expensive, which makes them a favorite of scammers. The most common trick is a fake online store with an unbelievable price.

SCAM ALERT

### The "90 percent off" power station

You see an ad on Facebook, Instagram, TikTok or in a search result: a big-name power station for a fraction of its price — "clearance," "warehouse closing," "only today." The website looks real and may copy the brand's logo and photos. You pay, and either nothing arrives, or something cheap and useless does. Your card details may be stolen too. If a deal on a $1,000 power station looks too good to be true, it is.

## How to check a deal before you buy

1. Type the brand's web address yourself (for example, jackery.com, ecoflow.com, ankersolix.com or bluettipower.com) instead of clicking the ad, and compare the price.
2. Or buy from a store you already know: a big-box store, a hardware store, or a well-known online retailer.
3. Search the website's name with the words **scam** or **reviews**.
4. Be suspicious if the site only takes payment by wire transfer, Zelle, gift cards, or cryptocurrency, or says credit cards are "temporarily unavailable."
5. Pay with a **credit card**, which gives you the strongest right to dispute a charge.

SCAM ALERT

### Other tricks to know

Watch out for fake "giveaway" posts asking you to pay shipping for a free power station; phone calls or texts claiming to be the maker's support and asking for your account password or a payment; and door-to-door sellers after a storm pressuring you to buy a "home battery system" on the spot. Real companies won't rush you.

TIP

### If you already paid

Call your card company or bank right away, using the number on the back of your card, and ask about disputing the charge. Report the site at **reportfraud.ftc.gov**. Be wary of anyone who then contacts you offering to recover your money for a fee — that's often a second scam. Our I Think I've Been Scammed guide walks through the next steps.

WHAT THIS DOES FOR YOU

### What this does for you

Thirty seconds of checking protects hundreds of dollars — and gets you a real power station with a real warranty.

PART 7

# When to Call Bill & Your Cheat-Sheet

An honest word about when a hand is worth it, and a one-page summary to keep with your power station.

CHAPTER 27

# When to Call Bill

I've written this guide so you can choose, set up and live with a power station on your own. But part of being helpful is being honest about when a hand saves time, worry or money. Here's my straight advice, with no pressure.

## Times it's well worth a call

- **Before you buy** — going through your "must keep running" list together and working out the size you actually need (Chapter 5 and Chapter 6), so you don't overspend or underbuy.
- **Setting up the app**, Wi-Fi, firmware updates and outage notifications on your phone (Chapter 12).
- **Building your outage plan** — connecting the modem and router, testing UPS mode, and walking through it with the family (Chapter 16 and Chapter 20).
- **Testing a CPAP setup** and figuring out how many nights you can count on (Chapter 18).
- **Checking a deal** that seems too good to be true, before you pay (Chapter 26).
- **You'd simply rather have a patient person handle it.** That's always a good enough reason.

## What I don't do

I don't do electrical wiring. Transfer switches, home backup panels, and anything inside your electrical panel belong to a **licensed electrician** (Chapter 21). I'm happy to help you prepare questions for the electrician and to set up the technology side afterward.

## What working with me is like

I work at your pace — no rushing, no talking down, no jargon. I explain what I'm doing in plain words, and I'll always tell you honestly when something isn't worth the money. Home visits are here in Portage County, Ohio; remote help reaches you wherever you are. I've been doing this work for more than 30 years.

FROM BILL

### How to reach me

Call **(330) 200-8042**, or book a time at **billshometech.com/book**. My help is **$49 remote · $99 in your home**. This guide is free to read and share with family and neighbors.

GOOD TO KNOW

### You may be greeted by Sophie

When you call or visit billshometech.com, you might first meet **Sophie**, my AI receptionist. She can answer quick questions and help you book a time. The actual help always comes from me.

Thank you for taking the time to get ready before the next storm. A little preparation goes a long way, and you don't have to figure it all out alone.

***— Bill***

CHAPTER 28

# Your Power Station Cheat-Sheet

Keep a copy of this with your power station, in the bag with its cords. The whole guide, boiled down.

## The essentials

| Remember | |
|---|---|
| **Wh (watt-hours)** | How **long** it runs. The size of the tank. |
| **W (watts)** | How **much at once**. Stay under the station's output rating. |
| **Runtime** | Wh ÷ watts in use, then take off about a fifth. A rough guide. |
| **AC button** | Must be **on** for the household outlets to work. |
| **Storage** | About 50–80 percent charged, cool and dry; check every 3 months. |
| **Solar** | Panel Voc and current must be inside the station's input range. |
| **Indoors** | Safe to use inside. Hard surface, vents clear. |
| **Home wiring** | Only through a transfer switch installed by a **licensed electrician**. Never backfeed. |
| **Airplanes** | Over 160 Wh: not allowed. Leave it home. |

## Write it down once

| Keep handy | |
|---|---|
| **Brand and model** | _____ |
| **Serial number** | _____ |
| **Capacity (Wh) / output (W) / surge (W)** | _____ / _____ / _____ |
| **Solar input: volts / amps / max watts** | _____ / _____ / _____ |
| **Date of first full charge** | _____ |
| **App account email** | _____ |
| **Outage priority 1, 2, 3** | _____ |
| **Watts of each (from the screen)** | _____ |
| **CPAP: percent used per night** | With humidifier _____ Without _____ |
| **Electric company outage number** | _____ |
| **Electrician (name and phone)** | _____ |
| **Maker's support (phone or website)** | _____ |

## When something's wrong, in order

1. Nothing comes out of the outlets: press the **AC** button so the household outlets turn on (Chapter 10).
2. It beeps and shuts off: you've plugged in too much. Unplug the biggest item and turn the AC outlets back on.
3. It won't charge: check the cord at both ends, try another wall outlet, and make sure it isn't below freezing (Chapter 11).
4. Solar shows zero input: check the connections, the sun on the panel, and the voltage range (Chapter 14).
5. The app won't connect: move closer, turn Bluetooth off and on, use 2.4 GHz Wi-Fi (Chapter 12).
6. It swells, smells, hisses or gets very hot: stop using it, move away, call 911 if there's smoke (Chapter 22).
7. Still stuck: call Bill at **(330) 200-8042**.