



An Extended Guide · No. 1607

Sizing an Inverter Generator (and Linking Two)

Clean, quiet power —
sized right, or doubled up

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! Read this first — size for safety, not just comfort

Getting the size right is not only about comfort — it is about safety, too. An undersized unit gets overloaded and pushed harder than it should be: it runs hot, it strains, and a motor that can't get the surge it needs can hum, overheat, and be damaged. So take the size seriously and always leave yourself a margin — a little extra room — rather than sizing right to the edge. And one safety rule never changes: any fuel-burning generator gives off carbon monoxide, an invisible, deadly gas, so it runs **OUTDOORS ONLY**, well away from the house (the safety agencies say at least 20 feet), never in a garage or on a porch even with the door open. A battery or power station makes no exhaust and is safe to use indoors. An inverter generator makes clean, steady power that's gentle on electronics — but it still has to be sized to your list, and a small one may not start a big 240-volt motor like a well pump.

Clean, quiet power — sized right

If you want backup power that's gentle on your electronics, easy on the ears, and kind to your fuel, an inverter generator is a lovely choice. This guide is about sizing one — and a neat trick for growing it later.

I'm Bill. Folks often ask me why one generator costs more than another that claims the same watts. A big part of the answer is the word 'inverter.' These units make cleaner power, run quieter, and sip fuel when they're barely loaded. For a lot of homes, that's worth a great deal.

The sizing method is the same one you already know — steady total plus the biggest surge, with a margin. What's different is how gracefully an inverter behaves, and the fact that many can be linked in pairs to double up. We'll take both slowly.

★ Let's size a quiet one together

Tell me your must-run list and whether you're thinking about electronics, close neighbors, or a well pump, and call or text me at (330) 200-8042. I'll help you see whether an inverter fits — free, with nothing to sell you.

The whole idea, on one page

If you remember only this page, you understand what makes an inverter generator special and how to size one.

- ❑ An inverter generator makes clean, steady power — good for electronics, computers, and sensitive medical devices.
- ❑ It throttles its engine down under light loads, so it runs quieter and stretches its fuel further.
- ❑ They come in smaller, lighter sizes than many conventional units.
- ❑ Many are parallel-capable: link two and their running AND surge watts combine, so you can grow later.
- ❑ You size one the same way — steady running total plus the single biggest surge, with a margin.
- ❑ Many inverters are 120-volt only and smaller, so a 240-volt well pump often needs a larger unit or another kind.

✓ The one-sentence version

An inverter gives clean, quiet, fuel-sipping power sized the usual way — and if it's parallel-capable, you can start with one and add a second when your list grows.

What makes an inverter different

For sizing, four traits set an inverter apart from a plain conventional generator. They're the reasons it might be your pick.

- **Clean power:** it smooths its output into a steady, even wave that electronics and medical devices prefer.
- **It throttles down:** under a light load the engine eases off, so it's quieter and burns less fuel.
- **Smaller sizes:** inverters often come lighter and more compact, easy to move and store.
- **Parallel-capable:** many can link with a second identical unit to combine their power.

None of those change the basic sizing math — steady total plus the biggest surge — but they change how pleasant the unit is to live with, and they open the door to growing your setup a piece at a time.

✓ Same math, gentler machine

Think of an inverter as a well-mannered generator: it does the same job, but more quietly, more cleanly, and often in a smaller package. You still size it running-plus-surge.

Clean power, and who needs it

The headline reason people choose an inverter is the quality of the power it makes.

An inverter shapes its electricity into a smooth, even wave — often called pure sine wave. Sensitive things love it: computers, modems, televisions, and medical devices all run happier on clean power than on the rougher output of a plain generator, which can make some electronics act up or wear sooner.

That's why our home-office and internet guide and our guide on sizing for medical devices both lean toward inverter power or a UPS. If your must-run list is heavy on electronics — or someone relies on a CPAP or an oxygen concentrator — clean power moves from nice-to-have to important.

✓ Clean power protects sensitive gear

If your outage plan centers on electronics or a medical device, an inverter's clean output is a real advantage. It's power your gear can trust, not just power that's present.

It throttles down under light load

Here's a trait that quietly saves you fuel and spares your ears — and it affects how you think about runtime.

A conventional generator runs its engine at full speed no matter how little you're drawing. An inverter is smarter: when your load is light, it eases the engine down to just what's needed. Less noise, less fuel, less wear — all from the same tank.

This is why a lightly loaded inverter can run so much longer and quieter than you'd expect. It also means that when you're only running a few small, steady things — the fridge, some lights, the internet — the unit is barely working, and sips accordingly.

✓ Lighter loads run longer and quieter

The less you ask of an inverter, the longer it runs on a tank and the quieter it stays. That's the opposite of straining — it's a machine relaxing into an easy job.

Smaller sizes, and what that means for you

Inverters often come in lighter, more compact sizes than conventional portables — a real blessing, and a real limit.

The blessing: a small inverter is easy to lift, roll, and store, and quiet enough to sit near the patio without drowning out conversation. For essentials and electronics, that portability and calm are worth a lot, especially if lifting is hard on you.

The limit: because many inverters are on the smaller side, a single unit may not have the surge to start a big motor like a 240-volt well pump. That's not a flaw — it's just a size question, and it's exactly what the linking trick on the next pages helps with.

✓ Small and quiet has a trade-off

A compact inverter is a joy to handle, but check that its surge rating clears your biggest motor. If it doesn't, you either link two or step up to a larger unit.

Sizing a single inverter to your list

Before we talk about linking two, let's size one — and it's the same method you've seen throughout these guides.

Add the running watts of everything you'd run at once for your steady total, add your single biggest surge on top, and leave a comfortable margin. Then check both of the inverter's numbers — its continuous rated watts and its brief surge rating — against your two figures. Our running-watts-versus-starting guide explains the two-number idea if you'd like it fresh.

Because inverters run cleaner and often start motors a touch more gracefully, a well-sized one handles the fridge and the furnace blower nicely. Just be honest about your biggest surge — that's what tells you whether one unit is enough.

✓ Check the surge, not just the steady watts

It's easy to see that an inverter covers your steady total and stop there. Always check its surge rating against your biggest single jolt too — that's usually the deciding number.

Linking two: the doubling trick

Here's the feature that makes inverters so flexible — and it's genuinely clever.

Many inverters are **parallel-capable**: with a kit or a special cord, you connect two identical units so they work as one. When you do, their power combines — both the continuous running watts AND the surge watts add together. Two smaller units become, in effect, one larger one.

That means a job too big for a single small inverter can be met by a pair, while keeping all the inverter virtues — clean power, quiet running, easy handling of each piece. Not every model links, so if this appeals to you, confirm the unit is parallel-capable before you buy.

✓ Both numbers combine, not just one

The nice part is that linking adds the surge as well as the steady watts — so a linked pair can start a bigger motor than either unit could alone, not just run more small things.

Start with one, grow later

Parallel capability turns backup power into something you can build up over time, instead of one big purchase all at once.

You can start with a single inverter sized for today's essentials — the fridge, some lights, the internet — and live with just that. If your needs grow later, or you decide you want to run more at once, you add a second matching unit and link them, rather than replacing the first.

That's easier on the budget and flexible for the future. It also means you can keep one unit light and portable for camping or a small outage, and pair up only when a bigger storm calls for it.

★ We can plan a setup you can grow into

If a single unit now and a second one later suits your situation, I'll help you make sure the first one is parallel-capable and sized to build on. Call or text me at (330) 200-8042 and we'll map it out.

Clean power starts motors a bit more gracefully

There's a small bonus to an inverter's clean output when it comes to starting motors — though it's a bonus, not a miracle.

The smooth, steady wave an inverter makes tends to start motors a little more gracefully than rough power does. It won't shrink your motor's surge — only a soft starter does that, as our well-pump guide explains — but it can make a start feel less jarring.

Don't lean on this to rescue an undersized unit, though. You still size for the full surge of your biggest motor. The clean power is a pleasant edge, not a substitute for enough surge rating.

! Clean power is a bonus, not a rescue

An inverter's gentle wave helps a little, but it does not let you skip sizing for the surge. If the surge rating can't cover your biggest jolt, the motor still won't start — link two or size up.

Two kinds of homes, two sets of needs

Whether an inverter is the whole answer or just part of it depends a great deal on where you live — and, above all, on whether a well pump is on your list.

If you live in town or the suburbs

In town or a close-in suburb, an inverter is often the ideal fit. Your essentials are light, city water keeps flowing, and the quiet running is a real kindness to neighbors close by.

- One inverter is frequently plenty for the fridge, lights, the internet, and your electronics.
- The clean power suits computers and any sensitive gear, and the quiet keeps the peace on a tight lot.
- If your list grows, link a second matching unit rather than starting over.
- Your biggest surge is usually the fridge or a window air conditioner — well within a well-sized inverter.

If you are out in the country on a well

Out on a well, the picture is mixed. A single small inverter often can't start a 240-volt well pump — many are 120-volt only — so the inverter usually handles the gentler loads while something larger tackles the pump.

- The well pump's big 240-volt surge is usually beyond a small 120-volt-only inverter on its own.
- An inverter can still shine on the fridge, freezer, lights, and electronics, running clean and quiet.
- For the pump, a larger conventional portable or a standby handles the surge — though some larger inverters do offer 240 volts.
- Store several days of water and fuel; rural outages run longer. Our well-pump guide covers the surge in depth.

★ Town or country, I'll help you place the inverter

In town an inverter is often the whole answer; on a well it's usually the clean, quiet partner to a bigger unit for the pump. Tell me your list at (330) 200-8042 and we'll sort out which jobs the inverter should carry.

The same inverter idea lives in batteries

If you've read our battery guide, the word 'inverter' will already feel familiar — and that's no accident.

A battery power station also uses an inverter to turn its stored energy into the clean household power your gear uses. So a power station and an inverter generator share that clean-output heart — one runs on a battery, the other on fuel. Both are rated the same way: a continuous watt figure and a brief surge figure.

Our guide on watts versus watt-hours walks through that continuous and surge rating for batteries, and the same thinking transfers straight to an inverter generator. Size against the continuous rating, with the surge covering your biggest motor's jolt.

✓ One idea, two kinds of unit

Whether the clean power comes from a fuel tank or a battery, you ask the same two questions: does the continuous rating cover my steady load, and does the surge rating cover my biggest jolt?

The 240-volt question

This is the single most important thing to check if a well pump or another 240-volt load is on your list.

Many inverter generators put out only 120 volts — fine for the fridge, lights, and electronics, but not for a 240-volt well pump, water heater, or range. A 240-volt load needs a unit that offers 240 volts with the right outlet, and enough surge to start it.

Some larger inverters do offer 240 volts, so it's not off the table — but the small, quiet units people picture first usually don't. If the pump must run, either choose a larger 240-volt-capable unit or let a conventional portable or standby handle the pump. Our guides on sizing a portable generator and on a standby cover those paths.

✓ Check volts before you fall in love

Before you settle on a compact inverter, confirm it puts out the voltage your must-haves need. For a 240-volt well pump, that check comes first, before size or noise or anything else.

Inverter or a conventional portable?

Both are portable generators; they simply lean different directions. Knowing the lean helps you choose with confidence.

An **inverter** wins on clean power, quiet running, fuel economy under light loads, and easy handling — ideal for electronics, close neighbors, and a start-small-grow-later plan. A **conventional portable** often gives you the most watts for the money and comes in larger, 240-volt-capable sizes better suited to a big well pump.

Neither is simply better — they suit different lists. Our guide on sizing a portable generator covers the conventional side in full, so you can weigh them side by side against your own must-run list.

✓ Match the machine to your list

Heavy on electronics and want it quiet? Lean inverter. Need the most watts per dollar or a big 240-volt pump started? A conventional portable or a standby may fit better.

Fuel and runtime, the inverter way

The throttling-down trait shows up most happily in how long an inverter runs between fill-ups.

Because the engine eases down when the load is light, an inverter stretches its fuel further than a conventional unit doing the same gentle work. The lighter your draw, the longer it goes — which is why inverters are such good company for a long, quiet evening on a few essentials.

As always, size for how long as well as how much: plan fuel for the outage plus a reserve, and store it safely. Our guide on sizing for how long — runtime and fuel — covers the duration side for every kind of unit.

! Let it cool before you refuel

Any fuel-burning generator, inverter included, must run outdoors only, well away from the house, because its exhaust carries deadly carbon monoxide. And let a hot engine cool before refueling — spilled fuel on hot metal can catch fire.

Common inverter-sizing mistakes

A few avoidable slip-ups account for most inverter regret. Now you'll spot them coming.

- **Assuming a small inverter will start a well pump**, when many are 120-volt only and short on surge for a 240-volt motor.
- **Buying a model that can't be linked**, then having no way to grow when the list gets bigger.
- **Sizing to the steady watts only** and forgetting to check the surge rating against your biggest jolt.
- **Leaning on clean power to rescue an undersized unit**, as if a smooth wave could replace enough surge.
- **Overpaying for clean power you don't need**, when your list is all motors and heaters and no sensitive electronics.

✓ Match the trait to your need

An inverter's virtues are worth paying for when you have electronics, close neighbors, or a grow-later plan. If your list is all rough loads, a conventional portable may serve just as well for less.

Questions worth asking before you buy

Whether you're talking to a salesperson or to me, these get you to the truth about an inverter.

Q: Is this unit parallel-capable, and with which models?

If you might grow later, this matters. Confirm it can link with a second unit, and which one, so you're not stuck when your list grows.

Q: Does it put out 240 volts?

Most compact inverters are 120-volt only. If a well pump or another 240-volt load must run, you need a larger 240-volt-capable unit — or a different kind of generator for that load.

Q: What's the continuous rating, not just the peak?

Size against the steady continuous watts, with the surge rating covering your biggest motor. As always, treat the biggest headline number with a little suspicion.

Q: Will one unit start my biggest motor, or should I link two?

Check the single unit's surge against your biggest jolt. If it comes up short, a linked pair combines both units' surge — often the cleanest way to get there.

✓ There's no silly question

If the inverter details still feel slippery, that's normal — call or text me at (330) 200-8042 and we'll work through them together.

Connecting and using an inverter safely

An inverter connects much like any portable, with the same safety rules — clean, quiet power doesn't change those.

For 120-volt essentials, heavy-duty outdoor cords are simple and safe. To feed household circuits, or any 240-volt load, you use a transfer switch or interlock installed by a licensed electrician — our guide on your transfer switch's circuit count covers that side. A linked pair connects through its parallel kit first, then feeds your cords or switch as one.

And the enduring rule holds: an inverter still burns fuel, so it makes carbon monoxide and belongs outdoors only, well away from the house, even though it's quiet enough that you might forget it's running.

! Quiet does not mean safe indoors

An inverter's hush is deceptive — it still gives off deadly, invisible carbon monoxide. Never run it in a garage, shed, or porch, even with the door open. Outdoors only, well away from windows and doors.

Common Questions

The inverter-generator questions I hear most, answered plainly.

Q: Why does an inverter cost more than a conventional unit its size?

You're paying for clean power, quieter running, fuel savings under light loads, and often lighter weight. If you value those — especially for electronics — it's money well spent; if not, a conventional portable may serve for less.

Q: Can two different inverters be linked together?

Generally you link two matching, parallel-capable units. Mixing odd models usually isn't supported, so plan to pair the same unit. Always confirm before buying the second.

Q: Will an inverter run my whole house?

A large one, or a linked pair, can cover a good essentials list, but true whole-home coverage usually points to a standby with load management. See our guide on sizing a standby generator.

Q: Is inverter power really better for my computer?

Yes — its clean, steady wave is gentler on electronics and medical devices than rough power. Our home-office and medical-device guides explain why clean power matters for sensitive gear.

Q: Can an inverter start my well pump?

Often not alone — many are 120-volt only and small. A linked pair or a larger 240-volt-capable unit may, but check the surge and voltage. See our well-pump guide for the surge details.

★ Still weighing an inverter?

Send me your list at (330) 200-8042 and we'll figure out whether one inverter, a linked pair, or a different kind of unit fits your home best — at your pace.

A quick self-check at your kitchen table

You can pressure-test your inverter plan in about a minute with these questions.

- ☐ I know my steady running total and my single biggest surge.
- ☐ One unit's continuous rating clears my steady total, with headroom.
- ☐ One unit's surge rating clears my biggest jolt — or I'll link two to combine them.
- ☐ If I have a 240-volt load, I've confirmed the unit offers 240 volts.
- ☐ If I might grow, I've confirmed the unit is parallel-capable.
- ☐ I value the clean power and quiet — otherwise a conventional portable might do.

✓ If any answer is 'not sure', that's fine

That's exactly what a friendly phone call is for. Reach me at (330) 200-8042 and we'll fill in the blanks together.

Bringing it all together

An inverter generator gives you clean, quiet, fuel-sipping power — sized the usual way, and grown a piece at a time if you like.

Size a single unit running-plus-surge with a margin, check its voltage against your must-haves, and — if it's parallel-capable — know that a second matching unit can double both the running and the surge later. Just don't expect a small one to start a big 240-volt pump on its own.

From here, our guide on sizing a portable generator compares the conventional kind, our watts-versus-watt-hours guide shares the inverter idea for batteries, and our home-office and medical-device guides explain why clean power matters most for sensitive gear.

★ Let's find your quiet, clean fit

If you'd rather talk it through than puzzle it out on paper, that's exactly what I'm here for. Call or text me at (330) 200-8042 with your list, and we'll size it together — free, with nothing to sell you.

You don't have to do this alone

You just have to remember that a friendly, patient person is one call away.

I hope this guide made sizing an inverter generator and deciding whether to link two feel a little less daunting and a lot more doable. Keep it in a drawer with your other home papers, come back to a page whenever you need it, and don't worry about memorizing anything.

When you'd rather have a hand, that's exactly what I do. I come to your home, work at your pace, and never make you feel rushed or silly for asking. A first visit is a flat \$99, and for the parts that don't need me on-site I can often help right on your screen for \$49. Every visit comes with a 30-day, come-back-free guarantee. I don't do the licensed electrical or gas work myself — for that I'll help you line up a trustworthy local pro.

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Inverter vs. Conventional, for Sizing

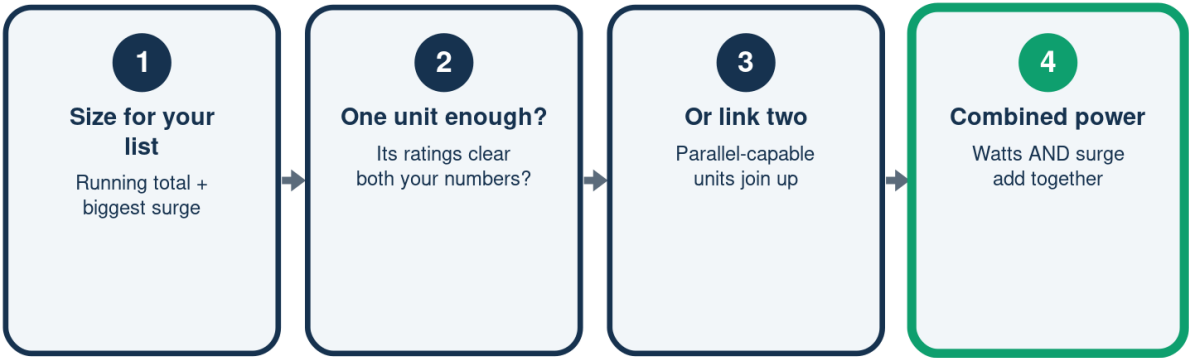
The traits that set an inverter apart

	Inverter	Conventional
Power quality	Clean, steady	Rougher
Under light load	Throttles down	Runs full speed
Link two?	Often yes	No
Sizes	Often smaller	Small to large

Clean, quiet, and stretchable -- but many inverters are smaller and 120-volt only.

Size One, or Link Two

The same running-plus-surge method, with room to grow



Start with one; add a second matching unit later if your list grows.

One Inverter vs. Two Linked

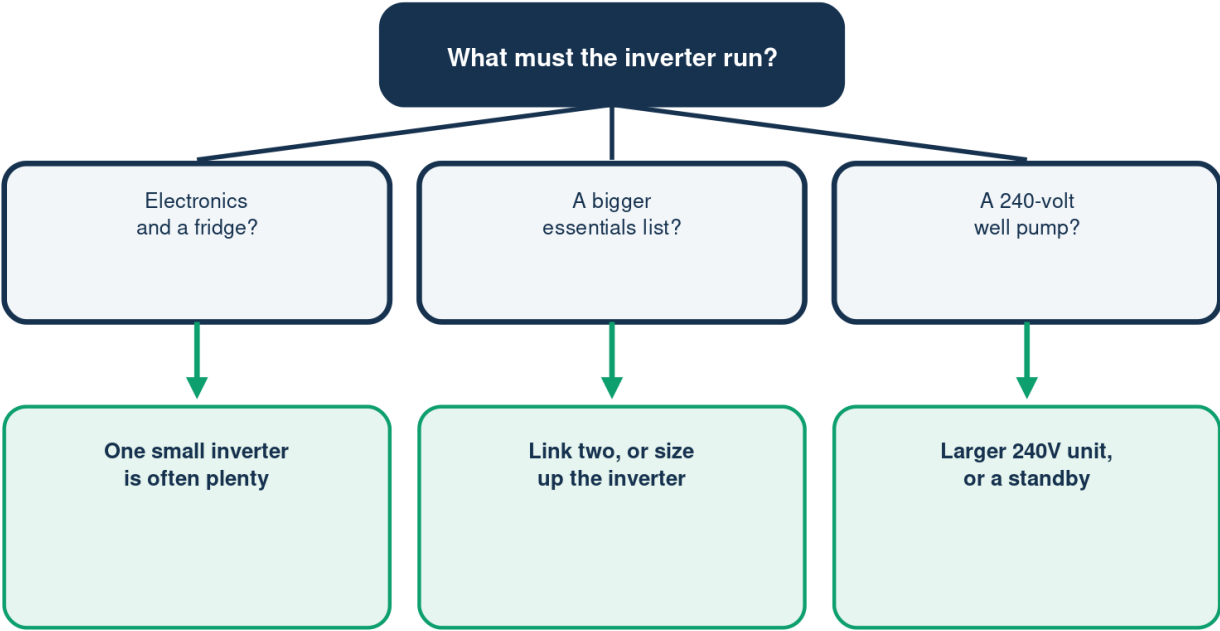
What linking a matching pair gives you

	One unit	Two linked
Running watts	One unit's	Both combined
Surge watts	One unit's	Both combined
Noise and fuel	Lower	A bit more
Flexibility	Fixed	Grow as needed

Linking two adds their running AND their surge -- room to grow.

What Do You Need to Run?

Let your must-run list point the way



Many inverters are 120-volt only and smaller -- a 240-volt well pump often needs another kind.

Illustration - a schematic, not to scale. Your setup may differ.



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A Note From Bill

A quick note from Bill.

I write these guides to make home tech a little less frustrating, and I do my best to keep every step accurate and up to date. Still, every home, device, and setup is a bit different, so I can't promise a guide will match yours exactly or fix your particular problem. These guides are for general information only — they're not professional, legal, or financial advice, and they don't replace your device's own manual or the manufacturer's instructions. Please go slow, use your own good judgment, and use everything here at your own risk. If a step involves electrical wiring, a gas appliance, a water heater, plumbing, or climbing a ladder — or if anything just doesn't feel safe — please stop and call a licensed professional (or give me a call at 330-200-8042). Bill's Home Tech and Bill Davis can't be responsible for any damage, data loss, or injury that comes from using these guides. Thanks for reading, and stay safe out there.

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