



An Extended Guide · No. 1764

Surges From Inside Your Own Home

The everyday spikes that
quietly wear gear out

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! Read this first — two kinds of protection, one safety rule

There are two kinds of surge protection in this guide, and they are not the same job. A whole-home surge protector wires into your electrical panel, where the power is always live and a mistake can be deadly — that is strictly a licensed electrician's work, almost always with a permit, and never a do-it-yourself project. (It isn't something I do myself, either; I help you understand it, choose wisely, and line up a trustworthy local pro.) The other kind — the surge-protector strips and plug-in units you use at the wall — are perfectly safe for you to set up on your own. One honest note either way: no surge protector is a lightning rod or an iron-clad guarantee, so in a violent electrical storm, unplugging a treasured device is still the surest protection of all. The surges in this guide are born inside your home, past the panel, so the plug-in protectors you set up yourself are the real hero here — with the whole-home unit at the panel, an electrician's job, backing them up against the outside ones.

The surges that come from inside your own home

Most people picture surge protection as storm insurance — something for lightning and the power company. Here's the surprise that changes how you'll think about it: most of the surges your electronics ever see are made right inside your own home, by your own appliances.

I'm Bill, of Bill's Home Tech in Portage County, Ohio. In 30-plus years of helping folks with the electronics in their homes, this is the fact that surprises people most — and the one that finally makes surge protection feel like everyday sense instead of a storm-season worry.

So let's follow those inside surges around the house, in plain English. Once you see where they come from, you'll understand exactly why a humble plug-in protector earns its keep even when the sky is perfectly clear.

★ There's no silly question here

If any of this feels new, that's all it is — new, not hard. Call or text me at (330) 200-8042 and I'll explain it as many times as it takes, free and with nothing to sell you.

The whole guide, on one page

If you remember only these few things, you've got the surprising heart of it.

- ❑ Most surges start inside your home, not out in a storm — a fact that surprises almost everyone.
- ❑ Anything with a big motor or a strong heating element gives a small electrical 'kick' when it switches on or off.
- ❑ The fridge, furnace blower, AC, well or sump pump, washer, dryer, power tools, and space heaters all do it, day and night.
- ❑ No single one hurts much, but their little spikes add up and slowly shorten the life of your electronics.
- ❑ That's why plug-in protectors earn their keep even when there isn't a cloud in the sky.
- ❑ A whole-home unit at the panel does not catch surges born inside your home past it — that's the plug-in protector's job.

✓ One idea to hold onto

Surge protection isn't just storm insurance. It's everyday upkeep against the quiet spikes your own appliances make around the clock — which is why the plug-in layer matters every single day.

The big surprise: a lot of it is you

We're trained to blame the sky. The everyday truth is closer to home — literally.

When I tell folks that many experts believe the majority of the surges a home sees actually start inside the house, they're usually amazed. It runs against everything we've been told about surge protection being a lightning thing.

Our guide on what a power surge is lays out all the causes, inside and out. This guide zooms in on the inside ones, because they're the most constant, the most overlooked, and the best argument there is for the plug-in protectors you can set up yourself, today, with no help at all.

✓ A helpful reframe

Once you know your own fridge and furnace are part of the story, surge protection stops feeling like a gamble on the weather and starts feeling like ordinary, sensible home care. That's exactly the right way to see it.

How a motor makes a spike

You don't need any electrical background for this — just a simple picture from the kitchen.

Anything with a big motor or a strong heating element pulls a hard gulp of electricity the instant it switches on, and gives a little kick back when it switches off. That sudden start and stop sends a brief spike — a small surge — down the wiring your whole home shares.

Picture someone opening a big tap on a shared water line: for a moment, everyone else's pressure jumps. Your electronics feel that same kind of jump for an instant, every time a big appliance cycles on or off nearby.

✓ Starting up is the hard part

A motor is hardest on the line the moment it starts, when it's hungriest for power. That's why the click of the fridge or the whoomp of the furnace kicking on is the little event your electronics quietly feel.

The usual suspects around your home

Once you know what to listen for, you'll notice them all day — the click and hum of something big switching on.

Here's the lineup of everyday appliances making small surges inside your home. None of them is doing anything wrong; it's just the nature of a motor or a heater cycling.

Appliance	When it spikes
Refrigerator or freezer	Every time it cycles on
Furnace blower, central AC	Each heating or cooling cycle
Well pump or sump pump	Whenever it kicks on
Washer and dryer	As the motor and heat start
Power tools, vacuum	The moment you switch on
Space heaters	As the heating element cycles

✓ **It's a chorus, not a solo**

It's rarely just one appliance. Across a day, all of these cycle over and over, so the little spikes are near-constant — a steady background hum your electronics live in.

Small, but relentless

Here's what makes the inside surges so sneaky — and why they're worth guarding against.

No single one is dramatic. You'll never see a spark or hear a bang. But they happen dozens, even hundreds of times a day and night, quietly, whether you're home or fast asleep. That refrigerator kicking on at 3 a.m. is nudging your electronics, just a little.

Like a drip wearing on a stone, that steady drumbeat of tiny spikes slowly shortens the life of the delicate electronics around your home. A gadget that seemed to 'die for no reason' has often died of a thousand little nudges you never noticed.

! The quiet wear is the real story

It's tempting to think that if lightning hasn't struck, all is well. But the everyday inside surges may be doing more cumulative harm to your electronics than the once-in-a-blue-moon big one ever will.

Why the whole-home unit misses these

This is the page that surprises even folks who thought they had surges figured out.

A whole-home protector sits at your electrical panel, where power enters the house, and it's wonderful at stopping big surges coming **in** from outside — the grid, nearby lightning. But a surge born inside your home, from an appliance past the panel, isn't coming in from outside. It's already on the inside, downstream of the panel unit.

So the panel unit generally can't catch those internal spikes on their way to your sensitive electronics — they never pass back through it. That's no knock on the whole-home unit; it's simply doing a different job. Catching the inside surges falls to the plug-in protector, right at the outlet.

✓ A neat contrast to the storm guides

Our lightning and grid guides are about surges arriving from outside, which the panel unit is built to stop. This guide is the mirror image — surges starting inside, which the plug-in protector is built to catch.

Why plug-in protectors earn their keep

Here's the whole reason a plug-in protector is worth having even if you never once saw a storm.

Sitting right at the outlet, next to your TV or computer, a plug-in protector catches the small inside surges before they reach your gear — the very ones the panel unit can't touch. It's on duty every day, against the spikes your own appliances make around the clock.

Pair the two layers and you've got real coverage: the whole-home unit stops the big stuff coming in from outside, and the plug-in protectors handle the everyday spikes born inside. That teamwork is what we call layered protection, and our layered-protection guide lays it out in full.

✓ Everyday value, not just storm value

If you've ever wondered why bother with a plug-in protector in fair weather, this is the answer: the inside surges never take a day off, so neither does your plug-in protection.

Dedicated circuits and steadier wiring

There's a way to tame inside surges closer to their source, and it's worth knowing about even though it isn't a DIY job.

A big appliance makes less trouble for the rest of the house when it's on its own dedicated circuit — a wire that serves just that one appliance. That keeps the fridge's or the furnace's electrical kick from traveling straight into the outlet where your computer lives. Many big appliances are already wired this way.

Adding a dedicated circuit is a licensed electrician's job, not a weekend project — but it's a real, honest way to quiet the biggest offenders at the source. If you're planning other electrical work, it can be a sensible thing to ask about.

✓ Ask when the electrician's already there

If an electrician is coming for a whole-home protector or other work, that's the moment to ask whether a dedicated circuit for a big appliance makes sense. It may save a separate trip.

Two kinds of homes, two sets of needs

Inside surges happen in every home, but the mix of appliances — and how freely their spikes travel — can look different in town than on a farm with a well.

If you live in town or the suburbs

In town and the suburbs, city water means there's no well pump cycling away. But you've still got the fridge, furnace, AC, and laundry making their everyday spikes, and newer homes are full of sensitive electronics worth protecting.

- Plug-in protectors on the TV, computer, and network gear catch the inside spikes right where they'd do harm.
- No well pump, but the fridge, furnace, AC, and dryer cycle around the clock just the same.
- Updated wiring and dedicated circuits are more common, which helps tame the bigger appliances.
- A whole-home unit backs it all up against outside surges — pair it with plug-in protectors for the inside ones.

If you are out in the country on a well

Out in the country, a 240-volt well pump kicks on and off all day, adding a strong, regular inside surge that town homes simply don't have — on top of everything else. Older farmhouse wiring can pass those spikes around more freely, too.

- That well pump is a big, frequent source of inside surges — one more reason plug-in protectors earn their keep.
- Older wiring, with fewer dedicated circuits, lets appliance spikes travel more easily to your electronics.
- An electrician can add dedicated circuits, and a protector at the pump's controls, to tame the biggest offenders.
- Layer it: plug-in protectors for the inside spikes, a whole-home unit for the storms rolling across open land.

★ On a well? Let's tame those pump surges

A well pump is a surge machine that runs all year. Tell me about your setup and I'll help you protect the gear that matters — and line up an electrician for the pump-side work. Call (330) 200-8042.

Older wiring feels it more

The age of your home's wiring changes how easily an inside surge reaches your electronics.

In older homes, more outlets often share the same circuits, and there are fewer dedicated lines for the big appliances. That gives an appliance's electrical kick an easier path straight to wherever your sensitive electronics happen to be plugged in.

It's another reason the plug-in protector is such a bargain in an older home: it stands guard right at the outlet, no matter what the wiring behind the walls is doing. You don't have to rewire the house to protect the television — you just plug in good protection where the gear lives.

✓ Protection you can add without rewiring

Rewiring an old house is a big project. A plug-in protector is the opposite — a few minutes and it's working. It's the easiest, cheapest first step for any home, and especially an older one.

The kitchen and laundry are surge factories

If you want to know where your inside surges are coming from, follow the noise to the kitchen and the laundry room.

The fridge, the dishwasher, the microwave, the washer, and the dryer are all big motors and heating elements, cycling on and off all day. They both **cause** surges and, with their own delicate circuit boards these days, can be **damaged** by them — so they sit on both sides of the story at once.

Many of these are hardwired or on dedicated circuits, so a whole-home unit is often the practical route for the big ones, with plug-in protectors for countertop electronics on ordinary outlets. Our guide on protecting kitchen and laundry appliances walks through it room by room.

! Never a light-duty strip on a heater

Never plug a high-wattage heating appliance — a space heater, a big countertop cooker — into a light-duty power strip. It can overheat the strip and start a fire. High-heat appliances belong straight in a proper wall outlet.

Inside vs. outside surges, at a glance

Here's the whole contrast on one page, so you can see why you want both layers of protection.

The difference	Inside surges	Outside surges
Where from	Your own appliances	Lightning and the grid
How big	Usually small	Can be huge
How often	All day, every day	Now and then
What you notice	Nothing — quiet wear	Sometimes dramatic
What guards them	Plug-in protectors	Whole-home unit

✓ **Read the bottom row**

The last row is the whole point: inside surges are the plug-in protector's job, and outside surges are the whole-home unit's. Different sources, different guards — which is why you want both.

What to protect first

You don't have to guard every outlet against inside surges. A short walk tells you where it's actually worth doing.

Start where the sensitive electronics live — the entertainment center, the home office, and wherever the internet equipment sits. These are the delicate 'brains' that the everyday spikes wear down, and a good plug-in protector at each spot pays for itself many times over.

You can mostly skip the plain, sturdy things — a lamp, a basic fan. It's the circuit boards that need looking after. Our guides on protecting your TV and home theater and your computer and network gear go deeper where it counts most.

★ I'll do the walk with you

On a visit I'll walk your home, point out what's worth protecting from those everyday spikes, and set up the plug-in protectors right there. Call or text (330) 200-8042.

Common mistakes people make

Knowing the usual slip-ups in advance is half the battle. Here are the ones worth sidestepping.

- **Thinking a whole-home unit covers everything.** It's great for outside surges, but it can't catch the ones born inside past the panel.
- **Skipping plug-in protectors because 'there's no storm.'** The inside surges happen every day, rain or shine.
- **Trusting a plain power strip** to protect electronics — it only adds outlets. You need a real surge protector.
- **Daisy-chaining strips** or forcing one into an ungrounded outlet — both quietly undo the protection you're counting on.
- **Putting a light-duty strip on a big heating appliance** like a space heater — that's a fire risk, not protection.

! The two don'ts, worth repeating

Never daisy-chain one strip into another, and never use a 3-to-2-prong cheater adapter to force a protector into an ungrounded outlet. Both defeat the very protection you set out to add.

A few myths, cleared up

The inside-surge story clears up some tall tales along the way. Here are the ones I hear most.

Q: 'Surges only come from lightning.'

Not so. Most surges your electronics see start inside your home, from big appliances cycling on and off. Lightning is the dramatic exception, not the everyday rule.

Q: 'A whole-home protector means I'm fully covered.'

It's a wonderful first layer for outside surges, but it can't catch the ones born inside your home past the panel. You still want plug-in protectors on your sensitive gear.

Q: 'A newer home doesn't have this problem.'

Backwards, actually. Newer homes are packed with sensitive electronics and smart appliances — more things making inside surges, and more things that can be worn down by them.

Q: 'My electronics seem fine, so nothing's happening.'

The inside surges are invisible and their harm is slow. The first sign is usually a device that dies sooner than it should have, with no obvious cause.

✓ Each myth has a home

If any of these surprised you, good. Our guides on what a power surge is and on surge protector versus plain power strip settle the neighboring confusions too.

Simple habits that help

A few easy habits keep the inside surges in check. None of them costs much or takes long.

- ❑ Put a good plug-in surge protector on each cluster of sensitive electronics — the TV, the computer, the network gear.
- ❑ Plug protectors straight into a grounded wall outlet, never into an extension cord or another strip.
- ❑ Never daisy-chain one strip into another, and never use a cheater adapter on a two-prong outlet.
- ❑ Keep light-duty strips off high-wattage heating appliances like space heaters.
- ❑ Glance at your protectors' indicator lights now and then, so you know the inside-surge guard is still working.

✓ Set it and mostly forget it

The nice thing about guarding against inside surges is that once the plug-in protectors are in place, they work on their own. A rare glance at the lights is about all the upkeep it takes.

Putting the layers together

The strongest setup handles surges coming from both directions at once.

A whole-home unit at the panel — a licensed electrician's job, with a permit — stops the big surges arriving from outside. Plug-in protectors at the wall catch the everyday spikes born inside, plus whatever slips past the panel unit. Each covers what the other can't.

Neither layer alone is the whole answer, but together they cover each other's blind spots beautifully. Our layered-protection guide shows exactly how the two work as a team — and why the inside surges make the plug-in layer essential, not optional.

✓ Inside is the layer folks forget

Most people, once they hear about surges, think first of the whole-home unit. This guide is your reminder that the inside surges make the plug-in layer just as important — they're the half of the job the panel can't do.

The quiet cost of ignoring them

Because inside surges never make a scene, it's easy to pretend they aren't happening. The cost is real — it just shows up late.

You won't get a dramatic bang. What you get instead is a repair bill months later, or an appliance that dies years before it should have. That's the sting of the inside surge: no drama at all, just a shorter life for your electronics and a bigger bill somewhere down the road.

The happy flip side is how cheap the fix is. A plug-in protector costs a tiny fraction of the electronics it guards, and it works every single day against surges you'll never see or hear. Few things in the whole house pay you back so quietly, or so well.

✓ Cheap insurance against a slow leak

Think of inside surges as a slow leak on the life of your electronics, and a plug-in protector as the cheap patch that stops it. You'll never see it working — which is exactly the point.

How I can help

Guarding against the surges your own home makes is exactly the sort of everyday, practical thing I love to take off your plate.

I can walk your home with you, point out which electronics the everyday spikes are quietly wearing down, and set up the right plug-in protectors on the spot — cords tidied so nothing's a trip hazard, lights facing where you'll see them. It's simple, safe, and something you'll never have to fuss with again.

For a whole-home unit, or a dedicated circuit to tame a big appliance at its source, I don't do the electrical work myself — that's a licensed electrician's job. But I'll help you understand it and line up a trustworthy local pro, so the whole plan comes together.

★ Real help, close to home

A first in-home visit is a flat \$99, and for simple questions I can often help over a screen-share for \$49. Every visit comes with a 30-day, come-back-free guarantee. Call or text (330) 200-8042.

Common Questions

The questions I hear most about surges from inside the home, answered plainly.

Q: Do most surges really start inside my home?

Many experts say yes — the majority of the surges your electronics see come from your own big appliances cycling on and off, not from lightning. Those small, frequent spikes are the constant, overlooked part of the story.

Q: If I have a whole-home protector, do I still need plug-in ones?

Yes. The panel unit stops big surges coming in from outside, but it can't catch the ones born inside your home past the panel. Plug-in protectors handle those — so you want both.

Q: Why bother with plug-in protectors when there's no storm?

Because the inside surges happen every day, storm or shine. Your fridge, furnace, and pump make small spikes around the clock, and the plug-in protector is what stands between those and your electronics.

Q: Do dedicated circuits really help?

They do. Putting a big appliance on its own circuit keeps its electrical kick from traveling straight to your sensitive gear. It's a licensed electrician's job, but a real, honest way to quiet surges at the source.

★ Still have a question?

That's what I'm here for. Call or text me at (330) 200-8042 and ask away — there's truly no such thing as a silly question about this.

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 the surges that start inside your home 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 work myself — for that I'll help you line up a trustworthy local pro.

★ Bill's Home Tech — real help, close to home

Call or text me at (330) 200-8042, or visit BillsHomeTech.com. Serving Atwater and all of Portage County. 30+ years of patient, plain-English tech help — and if you're ever not 100% happy with a visit, I'll make it right or refund it. That's a promise. — Bill

The Everyday Surge

How a chore becomes a little spike



No drama each time -- just quiet wear that adds up over the years.

The Usual Suspects

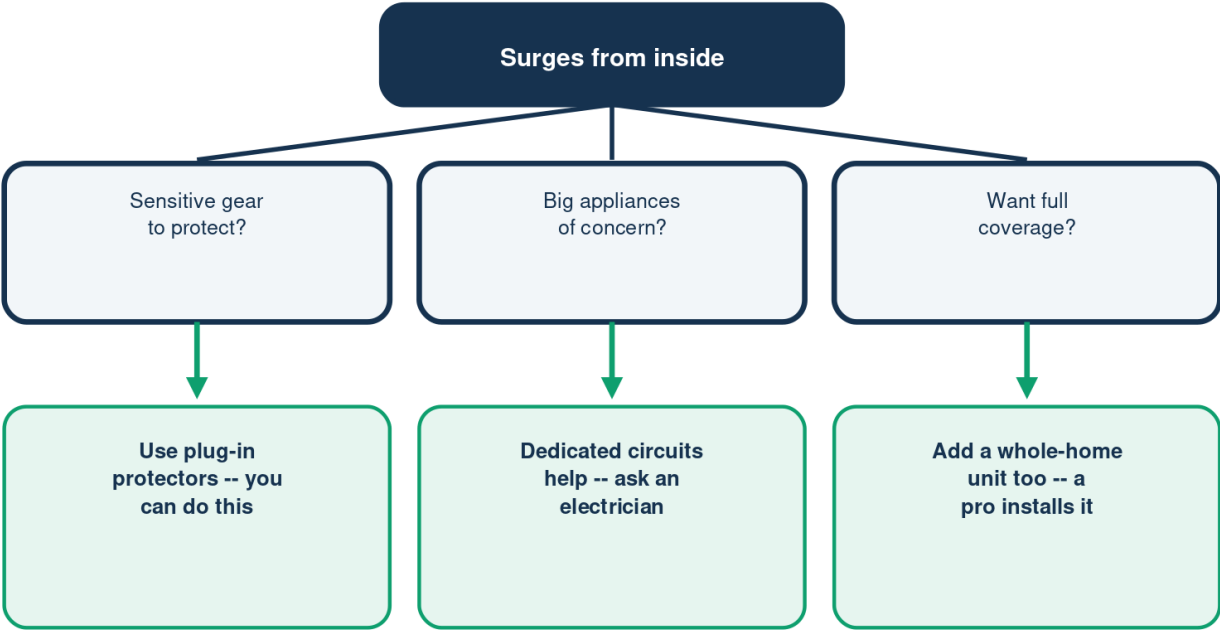
Everyday appliances that make inside surges

When it spikes	
Fridge	Cycles on
Furnace / AC	Cycles on
Pump	Kicks on
Dryer / tools	Motor start

Each one gives a little electrical kick as it starts or stops.

Surges From Inside

How to guard against the everyday spikes



A panel unit can't catch surges born past it -- that's the plug-in's job.

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

Inside vs. Outside Surges

Two sources, two different guards

	Inside surges	Outside surges
Source	Your appliances	Lightning & grid
Size	Small	Can be huge
How often	Daily	Now and then
Guard with	Plug-in	Whole-home

You want both layers -- one for each kind of surge.



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Bill can screen-share and fix many things remotely — a flat \$49, free for Support Plan members.



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.

— *Bill*



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