



RV Surge Protectors and Campground Power Safety

bad campground wiring An Extended Guide · No. 2056

————— An Extended Guide · No. 2056 —————

Tech Made Simple. Service Made Personal.

Bill Davis — Bill's Home Tech

(330) 200-8042 · bill@billshometech.com · Atwater, Ohio

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THE 60-SECOND VERSION

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1. The Whole Idea in One Glance If you read only this page, you will still make a smart choice. A campground power post is not always wired correctly, and bad power can ruin thousands of dollars of your RV's electronics in an instant. A surge protector plugs in between the post and your rig to guard against it. The simple ones block power spikes. The smarter ones, called an EMS, also watch for low voltage, high voltage, and miswired posts, and cut the power before any of it reaches your rig. A plain surge protector blocks sudden spikes, like from lightning. An EMS does that and also guards against low and high voltage and bad wiring. Your rig is either a 30-amp or a 50-amp rig — buy the one that matches. Portable units plug in at the post; hardwired ones live inside, out of sight. Brands like Progressive Industries and Hughes are the common, trusted names. If you only remember one thing: an EMS costs more than a plain surge protector, but it guards against the problems that actually fry RVs, which is low and high voltage, not just spikes. For most people it is money well spent. WHAT IT IS 2. What a Surge Protector Actually Does A surge protector for an RV is a sturdy box with a plug on each end. One end goes into the campground post, the other into your rig's shore power cord. It sits in the middle and watches the electricity flowing through it, stepping in to protect your rig when something is wrong with that power. It is not the little power strip you use behind a television. It is built for the heavy power an RV draws and for living outdoors in the weather. Think of it as a bodyguard for everything electrical inside your rig. WATCH OUT The protector only helps if you use it every single time you plug in. Make connecting it the first step of hooking up at any new site, the same way you would never skip chocking the wheels.

BAD POWER

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3. What Goes Wrong at a Pedestal Campground power posts take a beating. They sit outdoors for years, get rained on, and are wired by all sorts of hands over time. The result is that a surprising number of them deliver power that is not quite right, and some are downright dangerous. You cannot tell by looking, which is the whole problem. Wiring corroded or loose from years outdoors A post wired wrong by someone who cut a corner Too many rigs on one circuit, dragging the voltage down on a hot day Old parks never built for the power big modern rigs pull WATCH OUT A post can look perfectly normal and still deliver power that will damage your rig. The outlet gives no sign of trouble. That is exactly why a protector that reads the power for you is worth having. SURGE VS EMS 4. Surge Protector or EMS — The Big Distinction This is the most important page in the guide. There are two levels of protection, and they are not the same thing. A plain surge protector guards against sudden spikes in power. An EMS, which stands for Electrical Management System, does that too but also constantly watches the voltage and the wiring and shuts off the power if anything is unsafe. Surge protector: blocks spikes, like a lightning strike nearby EMS: blocks spikes and also watches voltage and wiring all the time Low and high voltage damage more RVs than spikes ever do An EMS cuts power before bad voltage reaches your rig Most RV damage does not come from a dramatic spike. It comes from slow, steady low or high voltage that a plain surge protector ignores entirely. That is the case for spending a little more on an EMS.

WHAT A SURGE IS**6. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech**

5. What a Surge Really Is A surge is a sudden, brief jolt of too much power, over in the blink of an eye. A nearby lightning strike is the classic cause, but so is the power company switching things around. That jolt can travel down the wire and punch through the delicate electronics in your rig before you ever know it happened. A quick, violent spike of excess voltage Often caused by lightning or utility switching Can destroy electronics in an instant This is the one thing every protector, even the cheapest, guards against Even if you buy nothing fancy, a basic surge protector is cheap insurance against a lightning-driven spike. But understand that it is only guarding against this one kind of trouble, not the voltage problems that follow. **VOLTAGE 6. Low and High Voltage, the Quiet Killers** Voltage is the push behind the electricity. Your rig wants it in a healthy range. When too many air conditioners run on a hot afternoon, the voltage can sag too low, and low voltage makes motors like your air conditioner and fridge work too hard and burn out. High voltage, less common, is just as damaging the other direction. Low voltage: common on hot days when a park is full Low voltage overheats motors in your air conditioner and fridge High voltage: rarer, but it can fry electronics outright A plain surge protector does nothing about either one **WATCH OUT** Low voltage is the silent killer of RV air conditioners. It does not spark or bang; it just slowly cooks the motor. Only an EMS watches for it and shuts the power off before the damage is done.

OPEN GROUND

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7. Open Ground and Neutral Faults Every outlet has three jobs for its three wires: one to bring power, one to return it, and one, the ground, to carry danger safely away if something goes wrong. When the ground or the return wire is broken or missing at a post, your rig can become electrified without any outward sign, which is a genuine shock hazard. The ground wire is your safety path if a fault occurs. An 'open ground' means that safety path is broken. A bad neutral can let dangerous voltage into your rig. These faults can make your rig's metal skin unsafe to touch. An open ground is invisible and can make your RV's door handle or steps dangerous to touch in the wrong conditions. An EMS checks for this before it lets any power through, which is a real safety feature, not just gear protection.

MISWIRED 8. Miswired Pedestals Sometimes a post is simply wired wrong. The hot and neutral wires get reversed, or a 50-amp outlet is fed by wiring that was never meant for it. A person cannot see any of this. An EMS reads the wiring the instant you plug in and refuses to pass power along if it finds the post was put together incorrectly. Wires reversed or connected to the wrong terminals. A dangerous condition hidden inside a normal-looking outlet. An EMS tests the wiring before it passes power to your rig. If the post is wrong, the EMS keeps your rig unplugged from the danger. When an EMS refuses to turn on and shows a wiring error, it is not broken. It just saved your rig. Report the post to the campground office and ask for a different site.

WHY EMS WINS**8. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech**

9. Why the Extra Protection Is Worth It Put it all together and the case for an EMS is simple. The things that actually destroy RVs, which are low voltage, high voltage, and bad wiring, are exactly the things a plain surge protector ignores. The extra cost of an EMS buys protection against the real dangers, not just the rare dramatic ones. A surge protector covers only the rarest kind of damage An EMS covers the common, expensive, everyday dangers One prevented air conditioner failure pays for the EMS many times over For a full-timer or a nice rig, an EMS is the sensible floor If your rig and its contents are worth real money, the few extra dollars for an EMS over a plain surge protector is one of the clearest good deals in all of RVing. I steer most folks to an EMS. 30 VS 50 AMP 10. The 30-Amp and 50-Amp Difference RVs come in two main electrical sizes, and your protector must match yours. A 30-amp rig uses a plug with three prongs and draws less power, common on smaller trailers. A 50-amp rig uses a larger four-prong plug and can run more at once, common on big fifth wheels and motorhomes. The two are not interchangeable. 30-amp: three-prong plug, smaller rigs, less total power 50-amp: four-prong plug, big rigs, far more power available Protectors are sold specifically as 30-amp or 50-amp Buy the one that matches your rig's shore power cord WATCH OUT Do not guess at this. A 50-amp protector will not help a 30-amp rig and the other way around. Check your shore power cord's plug, or your rig's paperwork, before you buy.

KNOW YOUR RIG**9. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech**

11. Which Amperage You Have Figuring out whether you have a 30-amp or 50-amp rig takes thirty seconds. Look at the big plug on the end of your shore power cord, the one you stick into the post. Three prongs means 30-amp. Four prongs means 50-amp. That is the whole test.

- 1** Find the end of your shore power cord that plugs into the post
- 2** Count the prongs on the plug
- 3** Three prongs means you have a 30-amp rig
- 4** Four prongs means you have a 50-amp rig

- 5** Buy the protector that matches that number. If you are unsure, take a photo of the plug and the label inside your rig's power compartment. I can tell you in a moment which protector you need, and I can help you order the right one. **PORTABLE VS HARDWIRED**
- 12. Portable or Hardwired** There are two ways to install the protection. A portable unit plugs in at the post each time, easy to move between rigs and nothing to install. A hardwired unit is mounted permanently inside your rig's wiring, out of sight and out of the weather, so there is nothing to plug in or to steal. Portable: plug it in at the post, no install, easy to move. Portable: exposed at the post and can be stolen if not locked. Hardwired: mounted inside, protected and out of sight. Hardwired: a cleaner setup, but it takes a proper install. A portable unit is the easy starting point, and a hardwired one is the tidy permanent answer. If you would like a hardwired unit installed cleanly and safely, that is a job I am glad to do for you.

PROGRESSIVE

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13. Progressive Industries Progressive Industries is one of the names you will hear most for RV power protection. They make both portable units you plug in at the post and hardwired units that mount inside, in both 30-amp and 50-amp sizes. Their EMS models are well regarded for watching voltage and wiring, not just blocking spikes. Makes both portable and hardwired units Available in 30-amp and 50-amp sizes Their EMS models watch voltage, wiring, and surges A long-trusted name among full-time RVers Progressive is a safe, well-known choice, but it is not the only good one. Name recognition matters less than getting a true EMS in the right amperage for your rig. Confirm the current model and price before you buy. **HUGHES**

14. Hughes Power Watchdog Hughes is the other name you will see often, with their Power Watchdog line and their Autoformer products. A nice feature of the Power Watchdog units is that you can watch what the power is doing right on your phone over Bluetooth, and the part that absorbs a surge is designed to be replaced if it ever sacrifices itself. The Power Watchdog line offers EMS protection in 30 and 50 amp Bluetooth lets you read the power on your phone The surge-absorbing module can be replaced by you if it is used up Hughes also makes Autoformers that boost low voltage Being able to see the voltage on your phone is genuinely handy, because it lets you watch for low voltage building on a hot day. Both Progressive and Hughes are solid; pick on features and price, not just the name.

BLUETOOTH

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15. Watching the Power on Your Phone Some protectors, the Hughes Power Watchdog among them, pair with a free app so you can see exactly what the power is doing from your chair inside the rig. You can watch the voltage, see how much power you are drawing, and get a note on your phone if the protector ever trips. It turns a silent box into something you can keep an eye on. See the live voltage without leaving your chair Watch for low voltage creeping in on a hot afternoon Get an alert if the protector cuts the power Keep a history of any power troubles at that site If you camp in summer heat where low voltage is common, the phone-watching feature earns its keep. You can see the problem building and ease off your air conditioner before the EMS has to step in. THE MODULE 16. The Replaceable Surge Module A surge protector works by sacrificing a part of itself to absorb a big spike, so over time, or after one big hit, that part gets used up. On some units, that part, the surge module, can be swapped out by you for a fresh one. On others, the whole unit must be replaced. A replaceable module can save you money down the road. A surge module wears out absorbing spikes over time Some units let you replace just that module Others require replacing the whole protector A replaceable module is cheaper to keep going long-term A used-up surge module does not always mean the whole protector is dead, especially on an EMS, where the voltage and wiring protection can keep working. Check whether yours warns you when the module needs replacing.

WHAT IT COSTS

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17. What to Expect to Pay Prices run from modest for a basic surge-only unit up to a few hundred dollars for a full EMS, with hardwired and 50-amp models at the higher end. It is a one-time purchase that guards gear worth far more. Prices move around, so treat any figure as a rough guide and confirm the current price before you order. Basic surge-only units: the least expensive, limited protection Portable EMS units: a solid mid-range one-time cost Hardwired and 50-amp EMS units: the higher end Confirm the current price and the exact model before buying WATCH OUT Beware a very cheap box that only says 'surge protector.' It may do nothing for the low-voltage problems that cause the most damage. Spend a little more for a true EMS and you are covered where it counts. THE DISPLAY 18. Reading the Display Most portable units have a small screen or a row of lights that tell you what the power is doing. It will show the voltage, sometimes the amperage you are drawing, and signal whether the post is wired correctly. Learning to glance at it takes only a minute and tells you a lot about the site you just plugged into. Shows the voltage coming from the post May show how much power your rig is drawing Lights or codes flag a wiring problem A healthy reading means the post is safe to use Glance at the voltage reading when you first plug in and again on the hottest part of the day. If you watch it dip low in the afternoon, ease off the air conditioner before the EMS trips.

ERROR CODES**13. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech**

19. What the Error Codes Mean When an EMS finds a problem, it shows a code or a flashing light instead of passing power. Each one points to a specific fault: an open ground, reversed wires, voltage out of range. The manual lists what each means. The common thread is simple: a code means the post has a problem, and the EMS is protecting your rig by refusing to connect. A code or flashing light means a detected fault Open ground, reversed polarity, and bad voltage each have their own signal The unit holds off power until the fault clears Keep the manual handy to look up the exact meaning Snap a photo of the code and keep the manual in the same compartment as the protector. Then a mysterious error becomes a two-minute look-up instead of a worrying evening. USING IT 20. Using It at the Pedestal Using a portable protector is a simple routine you do every time you arrive. The key habit is to turn the post's breaker off before you plug or unplug anything, so you are never connecting under live power. Then you let the unit do its checks before you flip the breaker back on.

- 1** Turn off the breaker on the campground post
- 2** Plug the protector into the post
- 3** Plug your rig's shore power cord into the protector
- 4** Turn the post breaker back on
- 5** Let the unit run its check, then watch for a healthy reading Always kill the breaker before plugging or unplugging. Connecting a big RV plug under live power can arc and damage the plug, the post, and the protector. Breaker off first, every time.

THE DELAY

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21. Why It Waits Before Power Flows When you switch the post on with an EMS connected, it will not pass power for a couple of minutes. This is on purpose, not a fault. The delay protects your air conditioner and fridge compressors, which should not be slammed with power the instant it comes back, and it gives the unit time to confirm the power is healthy before letting it through. A built-in delay of a couple of minutes is normal. It protects compressors from a sudden restart. It gives the unit time to check the power first. Wait it out — the power comes on by itself. If your rig stays dark for a minute or two after you flip the breaker, do not panic and start unplugging. The EMS is simply counting down its protective delay. Give it its couple of minutes.

LOCKING IT UP 22. Keeping the Protector From Walking A portable protector sitting at the post is worth real money and is easy to grab. A simple padlock through the designed loop, or a cable securing it to the post, keeps an honest passerby honest. It is a small step that protects a unit you would hate to replace mid-trip. A portable unit at the post is a tempting, grab-able target. Many units have a loop made for a padlock. A cable can tether it to the post. A hardwired unit avoids the problem entirely. Carry a small padlock or cable with your protector and use it at every site. If theft at the post worries you, a hardwired unit mounted inside your rig is the permanent cure.

WEATHER**15. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech**

23. Rain and the Pedestal These protectors are built to live outdoors, but standing water and a driving rain are still worth managing. Keep the connections off the wet ground, let a cover or the post's own hood shield them, and make sure the plugs are fully seated so water cannot creep in. A little care keeps a rainy arrival from becoming a power problem. The unit is weather-rated, but keep connections off wet ground Use the post's hood or a cover to shield the plugs Seat every plug fully so water cannot work in Dry the connectors before plugging in after a soaking WATCH OUT Never plug or unplug with wet hands or in standing water, and never while the breaker is live. Water and electricity are a bad mix. Breaker off, hands dry, connections up off the ground. ADAPTERS 24. Dogbones and Adapters Sometimes the post only offers an outlet that does not match your rig. A short adapter cord, nicknamed a dogbone for its shape, lets a 30-amp rig use a 50-amp outlet or the other way around. Your protector and these adapters work together, but you must still size things so you never draw more power than the smallest link can handle. A dogbone adapter bridges a mismatched outlet It lets a 30-amp rig use a 50-amp post, or the reverse Plugging a big rig into a small outlet limits your total power Your protector still watches the power through the adapter When you adapt a 50-amp rig down to a 30-amp post, you have less total power, so you cannot run everything at once. Run one air conditioner, not two, and watch the protector's reading.

WHAT IT WON'T DO

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25. What a Protector Can't Fix A protector is a guard, not a repairman. It can refuse bad power, but it cannot make a broken post good. It will not boost a sagging voltage on its own, and it will not fix wiring inside your rig. Knowing its limits keeps you from expecting magic it was never built to perform. It refuses bad power; it does not repair the post A plain EMS cuts power on low voltage but does not raise it It does not fix faults inside your own rig It is protection, not a cure for a bad campground If an EMS keeps cutting power for low voltage at a site, the protector is doing its job, but the site cannot support you. Move to a better post rather than fighting it. AUTOFORMER 26. The Autoformer — Boosting Low Voltage A standard EMS will cut the power when voltage sags too low, which protects your rig but leaves you without electricity. An autoformer takes a different tack: it actually boosts a sagging voltage back up into a safe range so you can keep running. It is a different tool for the same low-voltage problem, useful at parks that always run low. An EMS cuts power on low voltage; an autoformer boosts it back up Useful at older parks that chronically sag on hot days Some units combine autoformer boosting with EMS protection It costs more and is heavier than a plain protector If you keep landing at parks where the voltage dips too low to run your air conditioner, an autoformer may be the answer. For most campers who move around, a good EMS is plenty. Confirm which Hughes model does which before buying.

GENERATORS**17. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech**

27. Using It With a Generator When you run off your own generator instead of a post, your protector still has a role, though a different one. A clean modern generator usually gives steady power, so the EMS mostly just watches. An older or struggling generator can put out rough power, and you will want the protector keeping an eye on it just the same. A protector works on generator power as well as shore power. A good inverter generator usually gives clean, steady power. An older generator can run rough — let the EMS watch it. Some units need a moment to accept generator power. Leave the protector in line even on your generator. It costs nothing to keep it there and it will catch a generator that starts putting out bad power as it ages.

SOLAR AND INVERTERS 28. Where It Fits With Solar If you run an inverter and solar system, your shore power protector guards the point where outside power comes in, which is still worth protecting. Your inverter makes its own clean power from the batteries, so the protector matters most when you are plugged into a post or a generator feeding the system. The protector guards incoming shore or generator power. An inverter makes its own clean power from the batteries. You still want protection on the outside feed. The two systems do different jobs and coexist happily. My RV solar guide covers inverters and batteries in plain English. The short version: your surge protector guards the door where outside power enters, and that is a job worth keeping even with a big solar setup.

JOULES**18. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech**

29. Understanding the Surge Rating You will see surge protectors rated in a number called joules. It is a measure of how big a spike the unit can absorb before it is used up. A higher number means more capacity and a longer useful life. It is one number to glance at, but for an RV the voltage and wiring protection of an EMS matters more than chasing the biggest joule rating. Joules measure how much surge the unit can soak up Higher is better for absorbing big or repeated spikes It only speaks to spikes, not to voltage or wiring Do not let a big joule number distract you from getting a true EMS A huge joule rating on a surge-only box still leaves you exposed to the low-voltage damage that is far more common. Prioritize EMS protection first, then look at the joule rating among comparable units. WHEN IT TRIPS 30. When It Trips — What to Do When an EMS cuts the power, it is telling you something about the post, not about itself. Work through the causes calmly. Check the code it shows, see whether the post breaker is on, and give it time to clear a temporary voltage dip. If it keeps refusing, the post is the problem, and the answer is a different site.

- 1** Read the code or light and look up what it means
- 2** Confirm the campground post breaker is actually on
- 3** Wait out the protective delay before deciding anything
- 4** If it is a voltage dip, see whether it clears as load eases
- 5** If the fault persists, report the post and ask to move sites **WATCH OUT** Do not bypass the protector to force the power on. It is refusing for a reason, and bypassing it to get your lights back is exactly how rigs get fried. Move to a good post instead.

TESTING FIRST

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31. Testing the Pedestal First Some careful campers test a post with a small outlet tester before they even connect the rig. It is not required if you have a good EMS, since the EMS tests the post for you, but it is a reassuring habit. The EMS is really your automatic version of this same check, done every time you plug in. A plug-in tester can check a post's wiring by hand. A good EMS does this check automatically for you. Testing by hand is a belt-and-suspenders habit, not a must. The EMS is the continuous version of that one-time test. If you own a true EMS, you do not need to test posts by hand; the unit does it continuously. The hand tester is mostly for folks running a plain surge protector that cannot check wiring.

OLDER PARKS 32. Older Campgrounds and Weak Power Many beloved older campgrounds, including some lovely ones around the Northeast Ohio lakes, were wired decades ago for far smaller rigs than people bring today. Their power can sag badly when the park fills up on a hot weekend. This is exactly where an EMS, or an autoformer, earns its place. Older parks were built for smaller, simpler rigs. Power sags most when the park is full in summer heat. An EMS protects you; an autoformer can keep you running. Expect lower voltage and plan your air conditioner use around it. At an older park on a hot, full weekend, keep an eye on your voltage reading and run one air conditioner instead of two. Easing the load keeps the voltage up for everyone on the circuit.

AT THE DOCK

20. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech

33. At the Boat Dock — Shore Power If you keep a boat on shore power at a marina or a dock, the same ideas apply. Dock wiring is outdoors, near water, and often old, so bad power and faults are a real risk there too. Marine shore power protectors exist for exactly this, and the water setting makes a correct ground even more important. Dock power is outdoors near water, with the same risks A proper ground matters even more around water Marine-rated protectors are made for dock use Keep connections dry and off the wet dock surface WATCH OUT Faulty wiring around water is more than a gear risk; it can be a genuine danger in the water near a dock. If a marina's power seems off, say something and keep people out of the water near it. HARDWIRED INSTALL 34. Installing a Hardwired Unit A hardwired unit is mounted permanently inside your rig's power compartment, wired into the line between the shore cord and your breaker panel. It is protected from weather and theft and there is nothing to plug in. The trade is that it is a wiring job best done carefully, with the power disconnected, by someone comfortable with it. Mounted inside, between the shore cord and the breaker panel Protected from weather and impossible to steal from the post Nothing to plug in at each site — it is always working A real wiring job that should be done with power off If you are not fully comfortable working inside your rig's power compartment, this is a job worth handing off. I install hardwired units cleanly and safely, and I can show you how to read it once it is in.

AT HOME

21. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech

35. At Home and in Storage Your protector matters at home too, whenever you plug the rig into a household outlet to charge batteries or run the fridge before a trip. Home power is usually cleaner than a campground, but a nearby lightning strike does not care where you are parked. Keep using the protector when the rig is plugged in at the house. Use it when charging or prepping the rig at home Home power is cleaner, but lightning is still a risk A storage spot's power can be as rough as any campground No reason to leave the protection behind in the driveway If you run security cameras or a battery maintainer on the stored rig, the protector guards that gear too. My camper security and winterizing guides cover keeping the stored rig healthy over the off-season. SPARE PARTS 36. Backups and Spare Parts A protector that fails mid-trip can leave you without safe power far from a store. If your unit uses a replaceable surge module, carrying a spare is cheap insurance. Keeping the manual and a small lock with it means you are ready for whatever a post throws at you. Carry a spare surge module if your unit uses one Keep the manual stored with the protector Pack the padlock or cable you use to secure it Know how to read the codes before you need to Keep the protector, its manual, a spare module, and its lock together in one bag in the power compartment. Then everything you need is in one place when you pull into a new site at dusk.

CARE

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37. Care and Storage A protector lasts for years with simple care. Keep the plugs clean and dry, do not let the cord get pinched or kinked, and store it where it will not bake or get crushed. The contacts are the part most likely to give trouble, so a wipe and a dry home keep it reliable. Keep the plug contacts clean and dry Do not pinch or kink the cord in a compartment door Store it where it will not bake in summer heat Check the contacts for corrosion now and then Burnt or pitted contacts on a protector often mean a plug was connected under live power at some point. Keep the habit of breaker-off, and the unit's connections will stay clean for years. COMMON MISTAKES 38. The Common Mistakes A few mistakes come up over and over. People buy a surge-only box thinking it covers everything. They plug and unplug under live power. They panic at the normal startup delay. And some skip the protector on 'just one night.' Knowing these keeps you clear of the traps. Buying a surge-only unit and assuming it covers voltage too Connecting or disconnecting with the breaker still on Unplugging during the normal startup delay Skipping the protector for a single night — the worst night to skip WATCH OUT The night you leave the protector in the bin to save five minutes is exactly the night a bad post is waiting. Use it every single time, even for one night.

COMMON WORRIES

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39. The Questions People Ask Me Most When folks sit down to pick a protector, the same questions come up. Here are the honest answers to the ones I hear most, so you can choose with clear eyes and not overspend or underprotect. 'Do I really need an EMS?' For a rig worth real money, yes — it covers the common dangers 'Surge-only or EMS?' EMS, because voltage problems do the most damage 'Portable or hardwired?' Portable to start; hardwired for a clean, theft-proof setup 'Why won't it turn on?' Likely the protective delay or a post fault it caught The one question worth settling first is always the amperage. Get a true EMS in the right 30-amp or 50-amp size, and the rest is detail. BUYING 40. Buying Without Overbuying Buy a true EMS in the amperage that matches your rig, from a trusted name like Progressive or Hughes, and you are covered. You do not need the most expensive model with every feature; you need real voltage and wiring protection in the right size. Add the phone-watching or autoformer features only if your camping truly calls for them. Match the amperage to your rig first, always Choose a true EMS, not a surge-only box Add Bluetooth or autoformer features only if you will use them Confirm the current price and exact model before you order Match the protector to how and where you camp, not to your fears. A good portable EMS in the right amperage serves the vast majority of campers beautifully.

A ROUTINE

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41. A Simple Routine at Each Site Like anything, this becomes effortless with a short rhythm at each stop. A minute of habit at the post means your rig is protected every time, with no thinking required once it is second nature.

- 1 Turn the post breaker off before touching anything
- 2 Plug the protector into the post, then your cord into the protector
- 3 Lock or tether the portable unit to the post
- 4 Turn the breaker on and wait out the delay
- 5 Glance at the display for a healthy reading before you relax WATCH OUT Tie plugging in the protector to another arrival habit, like leveling the rig. Done in the same order every time, it becomes something you never forget and never skip. YOUR CHECKLIST 42.

Your Power-Safety Checklist Here is the short version to keep by the door of the rig. If you can check these off, your rig's electrical heart is well guarded at any post you pull into. Know whether my rig is 30-amp or 50-amp Own a true EMS in that amperage, not a surge-only box Always kill the post breaker before plugging or unplugging Lock or tether a portable unit at the post Wait out the startup delay without unplugging Glance at the display for a healthy voltage reading Carry the manual and a spare surge module if mine uses one Use it every time, even for a single night Tape this list inside the compartment with your shore cord. A quick glance keeps the habit sharp and keeps a bad post from ever catching you off guard.

WHEN TO CALL

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43. When It Is Worth Calling Me Picking and plugging in a portable protector is something most folks can do themselves once they understand it. But if you are not sure which amperage or model fits your rig, if you want a hardwired unit installed cleanly and safely inside the power compartment, or if an EMS keeps tripping and you want someone to help you sort out why, that is exactly what I am here for. I will give you the honest answer, even when the honest answer is that the modest portable unit is all you need. I have more than thirty years of experience with this kind of work and have served Portage County since 2025. My first in-home visit is a flat ninety-nine dollars, and I can also help by remote screen share for less. I can confirm your rig's amperage, help you choose the right EMS, install a hardwired unit, and show you how to read it and handle a tripped post — so you plug in anywhere with confidence. Call or text me at (330) 200-8042. CHEAT SHEET Everyday Cheat Sheet Keep this page handy. It is the short answer to the questions RVers ask most about campground power safety. Bad power at a post can ruin your rig; a protector stands guard A plain surge protector blocks spikes; an EMS also guards voltage and wiring Low voltage, not spikes, does the most damage — get a true EMS Match the unit to your rig: three prongs is 30-amp, four is 50-amp Progressive and Hughes are the common trusted names; confirm current price Always turn the post breaker off before plugging or unplugging A normal startup delay of a couple minutes is the EMS protecting compressors Use it every single time, even for one night; lock a portable unit to the post Get help: call Bill at (330) 200-8042

HOW I CAN HELP

26. For electrical, gas, water, or ladder work, please call a licensed professional. — Bill's Home Tech

Your Visit — and My Promise In-home visit — \$99 flat for your first visit. No contracts and no surprise charges, and a 30-day follow-up is included. Remote Support — \$49 for a screen-share session. I only connect with your permission, you watch the whole time, and you can end anytime. If I can't fix it over the screen-share, I refund the \$49 — and if it turns out you need me in person, that \$49 goes toward your visit. It's included free for Support Plan members (\$39/mo). My promise — If you're not 100% satisfied with your visit, I'll come back at no charge, or refund the full \$99. No questions, no awkwardness. That's how I'd want to be treated. Call or text (330) 200-8042 · Book a visit: billshometech.com/book · bill@billshometech.com This free guide is for general information only — not professional advice, and no substitute for your device's own manual. Any prices or outside products mentioned can change; please confirm current details before you buy. Please use your own good judgment and follow it at your own risk — for anything involving electricity, gas, water, or heights, stop and call a licensed professional. Bill's Home Tech and Bill Davis can't be responsible for any damage, data loss, or injury that results. © 2026 Bill's Home Tech, LLC.

AT A GLANCE

A Picture to Follow Along

Surge Protector or EMS — Which to Buy?

Match the protection to what actually fries RVs.

Basic Surge

Blocks sudden spikes only
Cheapest, limited protection
Ignores low and high voltage

Full EMS

Blocks spikes and watches voltage
Catches bad wiring and open ground
The sensible choice for most rigs

EMS + Autoformer

Also boosts sagging voltage
For older parks that run low
Heavier and costs more

AT A GLANCE

A Second Look

Plugging In Safely at the Post

The same order every time keeps your rig safe.



BEFORE YOU GO

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 results.



HOW I CAN HELP

Your Visit — and My Promise

In-home visit — \$99 flat for your first visit. No contracts and no surprise charges, and a 30-day follow-up is included.

Remote Support — \$49 for a screen-share session. I only connect with your permission, you watch the whole time, and you can end anytime. If I can't fix it over the screen-share, I refund the \$49 — and if it turns out you need me in person, that \$49 goes toward your visit. It's included free for Support Plan members (\$39/mo).

GOOD TO KNOW

My promise — If you're not 100% satisfied with your visit, I'll come back at no charge, or refund the full \$99. No questions, no awkwardness. That's how I'd want to be treated.

Call or text **(330) 200-8042** · Book a visit: **billshometech.com/book** · **bill@billshometech.com**

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