

What You Need to Know About EV Charger Installation Before You Buy

If you own an electric vehicle or are thinking about buying one, you have probably started looking into EV charger installation for your home. It sounds simple enough: buy a charger, plug it in, and you are ready to go. But the reality is more layered. There are electrical panels to assess, load calculations to run, and local codes to follow. I have seen homeowners buy a Level 2 charger only to find their panel has no room for a new breaker, or that their wiring is too old to handle the load. That is the kind of headache you want to avoid.

In this article, I will walk through the practical side of getting a charger installed at your house. I will cover what to look for in an electrician, how to match a charger to your home's electrical system, and what the whole process typically costs. This is not a sales pitch. It is the kind of advice you get from someone who has crawled under houses and stared at breaker panels for years.

Start With Your Electrical Panel

Before you even browse chargers, take a picture of your main electrical panel. That panel tells the story of how much capacity your home has left. Most homes built in the last twenty years have a 200-amp service, but older homes might have 100 or 150 amps. If you have a central air conditioner, an electric stove, a dryer, and a hot water heater all running at once, you might have only 20 or 30 amps of headroom left. A typical Level 2 charger pulls 32 amps continuously for hours. That is a big ask.

An experienced electrician will perform a load calculation to see if your panel can handle the extra circuit. If it cannot, you have options. You can install a load management device that shares power between the charger and other heavy loads. You can upgrade your service to 200 amps or more. Or you can choose a lower-powered charger that draws 16 or 20 amps instead. The point is to know your limits before you buy anything.

[View the location on Google Maps](#)

Choose the Right Charger for Your Situation

Not all chargers are the same. Some are hardwired, some plug into a NEMA 14-50 outlet. Hardwired units are generally safer and cleaner-looking, but they require an electrician to install. Plug-in units are more portable and easier to swap out if you move. I prefer hardwired for a permanent install because there is one less connection point that can loosen over time.

Think about cable length, too. If your driveway is long or your parking spot is around the corner, a 25-foot cable might not reach. Measure the distance from your panel to where the charger will mount, then add the distance from the charger to your car's charge port. Add a few feet for slack. That number tells you the minimum cable length you need.

Also consider whether you want a smart charger with Wi-Fi and an app. Smart chargers let you schedule charging during off-peak hours, track your energy usage, and sometimes integrate with home solar systems. But they add complexity. If you just want to plug in and charge, a dumb charger works fine and costs less.

Hire a Licensed Electrician With EV Experience

This is where many homeowners go wrong. They hire a handyman or a general contractor who has never installed an EV charger before. The result is often a sloppy job: wrong breaker size, loose connections, or a charger that trips the main breaker every time the AC kicks on. A licensed electrician who has done [EV charger installation](#) before will know the NEC code requirements, the right wire gauge for the distance, and how to properly torque the connections.

Ask the electrician how many EV chargers they have installed. Look for someone who can explain the permit process and who pulls a permit with the local building department. Permits protect you. They mean an inspector will check the work. That is worth the small extra cost. I have seen unpermitted work that was dangerous - wires not secured, no GFCI protection, ground wires missing. Do not skip the permit.

The Installation Process Step by Step

Here is what a typical EV charger installation looks like from start to finish:

- Site visit and load calculation. The electrician inspects your panel, measures distances, and identifies the best route for the wiring.
- Permit application. The electrician or you files for an electrical permit with the city or county. This can take a few days to a week.
- Running the conduit and cable. The electrician runs conduit from the panel to the charger location, either through the attic, crawl space, or along the exterior wall. This is the most labor-intensive step.
- Mounting the charger and connecting it to the breaker. The unit is secured to the wall, wires are pulled and terminated, and the breaker is installed in the panel.
- Testing and inspection. The electrician tests the charger, verifies it communicates with your car, and calls for the final inspection. Once the inspector signs off, you are

ready to charge.

The whole process usually takes one to two days for a straightforward install. If the panel needs an upgrade or the run is very long, add more time.

Costs to Expect

Pricing varies by region and complexity, but here is a rough breakdown for a typical home installation in 2025:

- Charger: \$400 to \$1,200 depending on brand, features, and cable length.
- Labor and materials: \$800 to \$2,000 for a standard install within 50 feet of the panel. This includes the breaker, conduit, wire, and mounting bracket.
- Panel upgrade or load management: \$500 to \$3,000 extra if your service needs an upgrade.
- Permit and inspection fees: \$100 to \$300 depending on your local jurisdiction.

Some utility companies offer rebates for EV charger installation. Check with your power provider before you start. A rebate can knock a few hundred dollars off the total. Also, the federal tax credit for EV charging equipment expired in 2023, but some states still offer incentives.

Plan for the Future

If you think you might buy a second EV later, install a charger that can handle two cars, or at least run conduit large enough for a second circuit. Running conduit later is much more expensive than doing it during the first install. I tell everyone to at least stub out an empty conduit from the panel to the garage or driveway. That way, adding a second charger later is just a pull and a breaker.

The same logic applies to solar. If you plan to add solar panels in the next few years, your EV charger installation should account for that. You may want a charger that can talk to your solar inverter so you charge with excess solar power. Planning now saves you from redoing work later.

Common Mistakes and How to Avoid Them

The biggest mistake is buying a charger before you know your home can support it. I have seen people buy a 60-amp charger only to discover their panel is maxed out. Then they are stuck returning the unit or paying for an expensive service upgrade. Always start with the electrical assessment.

Another mistake is mounting the charger in a place that is inconvenient. Put it where the cable can reach your car's charge port without stretching or wrapping around the car. If you park in the driveway, mount the charger on the wall closest to the driveway. If you park in the garage, mount it near the front corner of the garage. Think about where your car sits and where the port is. For most EVs, the port is on the front left or rear left. Make sure the cable reaches that spot comfortably.

Also, do not forget about weather protection. If the charger is outdoors, make sure it is rated for outdoor use and that the receptacle or connection point is sealed. Water and electricity do not mix. A weatherproof cover over the plug helps, too.

Is It Worth Doing Yourself?

Some homeowners with electrical experience consider installing the charger themselves. I understand the appeal. But EV charger installation involves high current that runs for hours. A loose connection can start a fire. Even if you know basic wiring, a 240-volt circuit at 32 or 48 amps demands precision. Torque specifications on breaker and charger terminals matter. Most DIYers do not own a torque screwdriver. I have seen connections that looked tight but were actually loose enough to overheat. For safety, leave it to a pro.

If you really want to do it yourself, at minimum have a licensed electrician inspect the work before you energize it. That is cheaper than a full install and gives you peace of mind.

Final Thoughts

EV charger installation is not rocket science, but it does require careful planning and professional execution. Start with a load calculation, choose a charger that fits your electrical capacity and your parking setup, and hire an electrician who has done this before. The upfront effort is small compared to the convenience of waking up every morning with a full battery.

If you are in South Florida and need help with your installation, Simply Wired Electrical at 1821 SW 23rd Terrace, Fort Lauderdale, FL 33312, phone +19544660475, handles these projects regularly and can walk you through the process from start to finish.