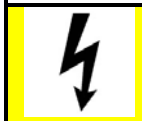
Adapter for public J1772 electric vehicle charging stations to NEMA 14-50 generic connection.

This adapter has not been tested or approved by any agency and may not be approved for use by local electrical codes. It should be used for emergency charging only by individuals who accept all risks for its use.

This must be ONLY used with a GFI protected J1772 charging station rated at 40 Amps or less on circuits under 240 volts.

Do not use if damaged.

	**High Voltage Electrical Power** Do not touch while in use. Property damage, electrical shock, burns, or death could occur.
	**Plug NEMA connector in first Then Plug in J1772 EV connector** Then Start Charging Cycle
	**STOP or End Charging cycle with button** before Unplugging connectors. Always disconnect the J1772 connector first.
	**Do not use the adapter in a wet location.** If this happens, remove power at the source before touching. Do not touch a wet adapter.
	**Take care arranging cables and this adapter to prevent tripping hazards for pedestrians.**

Many conversion vehicles both home built and purchased along with some production vehicles use the NEMA connectors of one type or another. Connectors like the NEMA 14-50 are commonly available at RV parks.

Before the new SAE J1772™ standard was issued in 2010, there was an older version with an awkward connector that was expensive so people chose not to use.

Now that production electric vehicles are ready for sale and public charging stations are being installed with the new J1772 connectors, what can someone with a vehicle that presently has a NEMA 14-50 connector do?

This adapter fills the gap between the NEMA and the new J1772 technology.

The NEMA 14-50 solution was never compliant with the National Electric code in most locations, (see Electric Code Background section) and it still is not. An adaptor like this is a gray area.

If you are in an area where the NEMA 14-50 is permitted for electric vehicles, use it. If not the NEMA 14-50 is the primary issue and not this adapter.

In either case, the J1772 connector in this adapter has not had any third party (like UL) testing. The adapter assembly as a whole has not had any third party testing. If you choose to use this adapter, you accept this fact and any related consequences.

This J1772 connector has been manufactured with high quality materials to conform to the requirements for that connector. If you choose to use this adapter, you accept this fact and any related consequences.

The Adapter is enclosed in a UL listed NEMA 4X polycarbonate box, the NEMA connector Is a UL listed part, and internal power wires are UL listed 8 gage THHN wires. The J1772 connector has nickel-plated brass pins in an acetyl insulator surrounded by an aircraft grade aluminum shell with all parts conforming to the SAE J1772™ specifications. The Connector and complete adapter are made in the USA.

The adapter includes an electronic circuit that will cause the J1772 charging station to provide power to the vehicle. It is programmed to respond to the pilot signal and is programmed for charging a battery that does not require ventilation.

If you decide the lack of third party testing is unacceptable for your use, you may return the unit for a full refund during 30 days after purchase.

If you decide quality, manufacturing or this agreement is unacceptable for your use you may return the unit for a full refund during 30 days after purchase.

The adapter is intended only to be used in dry locations. If during charging conditions change and the adapter gets wet or ends up in a puddle use extreme caution and make sure the electrical power is off before touching the adapter or cables. The J1772 charging station has GFI protection based on the standard but the risks of shocks, burns or death, relating to electricity and water are too high.

The adapter's location when in use needs consideration. You do not want to create a tripping hazard for people in the area by the placement of the adapter or by the cables going to it. The adapter should also be in a secure area under your control while in use so that someone curious about it does not get injured.

Damaged Parts

This is an electrical system and there is always danger associated with high power electricity. **If any part of any of the items involved are damaged or look questionable, DO NOT USE THEM.**

Cracked or broken cases do not provide protection from what may happen inside the enclosure.

Cracked or broken connectors and parts may break more and result in a more dangerous situation.

Damaged wires increase electrical injury risk and must not be used.

Wet or dirty items must not be used.

When all the parts are in good physical condition and have been working as expected there should be no problems because multiple protective systems are in place. Only use this adapter with a true J1772 charging station that has GFI protection. Following these instructions and the sequence of mating plugs and STOPPING the charge cycle with the button, maintains the intended safety.

GFI Problems

The adapter combines old and new technology and problems can appear. One is ground faults. Most NEMA 14-50 power sources are not Ground Fault Interrupter protection GFI. When you use this adapter and use a GFI power source, like a J1772 charging station, that GFI may trip indicating a Ground Fault was detected. The problem is not in the adapter. Go to modularEVpower.com and find the page for GFI problems to help understand and resolve these issues.

Electric Code Background

Electricity in buildings is covered by the National Electric Code, National Fire Protection Association, NFPA 70.

NFPA 70 requires that electric vehicle charging equipment be installed following its guidelines in Article 625. That article requires that NEMA connectors cannot be used for electric vehicle charging and require a system like SAE J1772™ with a unique connector, GFI, and an internal interlocking control. This is the requirement local building code inspectors will be requiring.

There is always an exception. The State of Oregon is the only state that does not require electric vehicle charging to follow NEC 625.

NEMA 14-50 Background

The NEMA straight blade plugs and receptacles are over a hundred years old. The exposed blades that can be partially exposed while energized causes a lot of safety concerns. What if someone's fingers touch the electrified blade, or what if some metal item falls on the exposed blade?

There are two bigger concerns. First, these connectors are seldom protected with **Ground Fault Interrupter protection GFI** so deadly shocks and equipment damage is more likely. The second concern is what happens if there is something wrong with what being plugged in; arcs, electrical sparks happen and with nothing between the user and the connection parts serious burns often happen.

SAE J1772™ Background

In the middle of 2010, the Society of Automotive Engineers SAE finalized a new version of standard J1772™ for the new generation of electric vehicles. This is a standard for conductive charging that has a plug and connector which is very efficient. It is the connector that will be used on most public charging stations.

The standard specifies the exact dimensions of the plug and connector so any one can make them. It also adds several levels of electrical safety over a common plug. The standard requires the electrical power be Ground Fault Interrupter protected GFI which causes the electricity to turn off if any electricity leaks out of the system. It requires an internal automatic switch (relay) that only supplies electrical power to the cable and plug once an electrical interlock signal has communicated there is a vehicle attached keeping parts electricity free when not in use. The plug and connector are made so the actual electrical parts are covered by multiple interlocking parts to keep fingers and things far from the electrically charged parts. It is a safe robust system well suited for public and outdoor use.

Note: SAE J1772™ is the trademark of the Society of Automotive Engineers for this conductive charging standard and parts it covers.

Note: NEMA is the National Electrical Manufacturers Association who is a trade association for electrical equipment.

Warranty Disclaimer

Product warranty is one year from date of sale. Products are warranted to be free from defects in materials and workmanship provided product was used according to recommendations. Liability is limited to the replacement, repair, or refund of purchase price of items deemed defective by the manufacturer. Failures or damage due to misapplication, misuse, abuse, improper handling, or abnormal conditions shall not be warranted. This product is provided "as is" and without other warranties of any kind, whether expressed or implied.

Limitation of Liability

Modular EV Power LLC shall not be liable for any damages or injuries including special or consequential damages that result from the use of, or the inability to use, the product. The user is responsible to ensure the proper application and safety measures are taken to protect persons and equipment from damage due to misapplication and possible product failure.

Return Policy

Standard product(s) may be returned for credit within 30 days of purchase, provided product(s) are in new, sellable condition, and are returned at customer's expense. Credit will be issued for the original product purchase amount, less freight. Warranty returns must be returned per the warranty conditions set forth above, freight pre-paid, with any credit or replacement pending warranty evaluation by the manufacturer. All returns must be pre-authorized by contacting us at sales@modularEVpower.com.