



Surge protection for Electronic Vehicles & EV Chargers

Low cost insurance | Protecting your expensive investments



With the increasing popularity of electric vehicles, and “fast charging” technology, the need for a reliable and safe charging infrastructure is also increasing. Both the charging devices and the vehicles themselves have sensitive electronic components that are susceptible to damage from a barrage of common power fluctuations. Since the addition of this equipment is a significant expense to individuals and business owners alike, the safeguarding of these investments is imperative.

While a direct hit by a lightning strike is nearly impossible to protect against, the real danger for electronic devices comes from the consequential electrical surges that follow. In addition to lightning, there are a number of other common threats to the electronics in electric vehicles and charging equipment including; downed power lines, an aging & increasingly taxed power grid, summer brownouts, power outages, electrical switching, poor wiring, and short circuits.

While these threats and the culprit of electrical equipment failure isn’t always apparent, it has been clearly recognized in the most recent version of the National Electrical Code (NEC). NEC 2020, states “all home dwelling units as defined by Article 230.67, must have a UL Listed Surge Protective Device installed at the incoming 120/240Vac main service panel”.

THREE TYPES OF CHARGING STATIONS

	AC Level One	AC Level Two	DC Fast Charge
Controls	ICM517, ICM518, ICM493, ICM493-60	ICM517, ICM518	ICM530 SERIES, ICM450A (Monitoring Only)
Voltage	120V, Single Phase AC	208V or 240V, Single Phase AC	208V or 480V, Three Phase AC
Amps	12-16 Amps	12-80 Amps (Typ. 32 Amps)	<125 Amps (Typ. 60 Amps)
Charging Loads	1.4 to 1.9 kW	2.5 to 19.2 kW (Typ. 7 kW)	<90 kW (Typ. 50 kW)
Charge Time for Vehicle	3-5 Miles of Range Per Hour	10-20 Miles of Range Per Hour	80% Charge in 20-30 Minutes