



*We can do that!*

## Powering Up Electric Vehicle Charging Systems

Working with various and respected organizations in the Electric Vehicle (EV) market, Olsun has successfully developed and supplied both custom low and medium voltage transformers and substation lineups for integration into electric vehicle charging systems.

The success of these unique applications is a result of working side by side with the engineering staffs of the EV charging system organizations. Reviewing requirements and specifications, asking questions and addressing the responses and application issues facing our customers have resulted in successful Olsun-engineered solutions.

The EV market is emerging. As electric vehicles become more prevalent, effective charging systems must be developed to meet the inevitable charging demand. To be effective, charging systems must consider multiple design facets including physical size, ease of locating, utility or power source interface, environmental aesthetics and installation costs. For Olsun Electrics' part, we have experience-proven results from working hand in hand with EV charging system development organizations in the areas of transformer and distribution circuit electrical, dimensional and other functionally critical requirements.

### **Olsun Low Voltage substations**

**Utility or source primary feeder of 600 volts or less**

- 1: 750 kW primary mini-substation with dual independent secondary windings providing feeds to two 350 kW ultra fast charging modules and user units.
- 2: Low voltage primary to isolated secondary winding providing feed to one 350 kW ultra fast charging module and user units.
- 3: 1320 kVA multi secondary mini-substation with utility LV primary gear.
- 4: 1320 kVA LV primary mini-substation installation.





*Custom-engineered core and coil design for integration into OEM fast charger assemblies.*

### **Olsun Medium Voltage substations** *Utility or source primary feeder of 5 kV or 15 kV*



*1475 kVA MV multi secondary mini-substation awaiting charger power modules.*

## **OEM / Olsun collaboration successes:**

- Core and coil development for direct integration into OEM product assemblies calling for specific performance and dimension characteristics.
- Various iterations of Olsun designs to address the OEM's varying world market electrical requirements.
- Development of multi-output transformers and integration of same into substation arrangements to provide service to multiple EV modules and user units (UUs), i.e. one transformer source unit...many available user units.
- Integration of auxiliary sources to eliminate the user's need to provide separate electrical power sources for peripheral gear at a given application site.

## **Results allowing the ability to:**

- Supply low or medium voltage primary arrangements to provide flexibility for the EV Organization when dealing with their supplying utility.
- Design the package to be aesthetically and dimensionally acceptable; even color matching!
- Minimize initial costs through integration of special electrical and associated communication and control requirements for the packaged substation, i.e. module feeder breakers, breaker trip units, primary and/or secondary overcurrent protection and SCADA monitoring packages to list a few.

**Olsun Electrics recognizes the significance of the developing EV market and as a provider of engineered power solutions, we embrace it. Olsun is ready to work with EV organizations in applying proven approaches to EV application requirements as well as developing new approaches based on unique customer requirements.**

**Learn how Olsun products can integrate with your EV power module system.**

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Olsun Electrics is a leading dry type transformer manufacturing company that has been providing solutions in the most challenging environments for over five decades.

