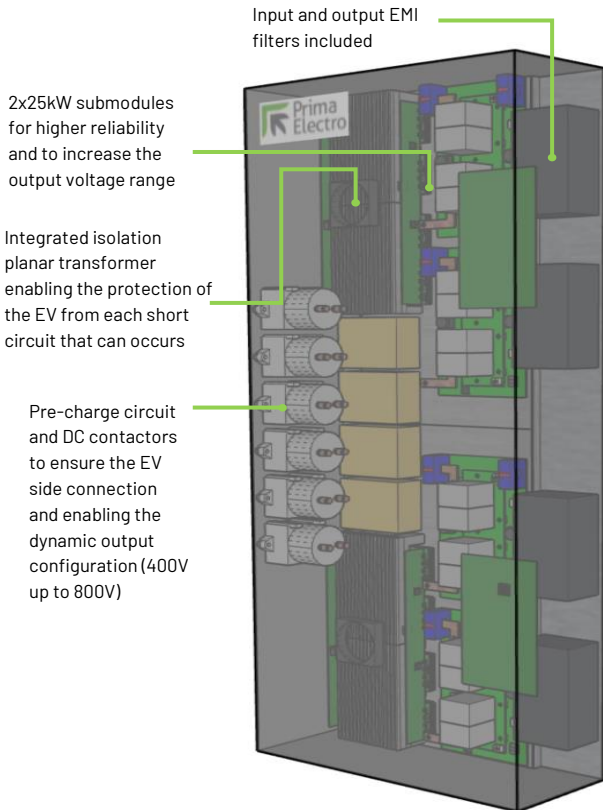


## eThunder Series – Fast & ultrafast charging solution

High power modular DC battery charger from **50 kW up to 350 kW**, with flexible architecture configurable for standard and future EV batteries. Bidirectional topology able to implement V2G ancillary services enabling power sharing and smart management of distributed stored energy.

Made by the latest power electronic SiC devices selected to ensure high reliability and best quality.



### FEATURES

- Isolated DC input battery charger
- Bidirectional topology (**V2G ready**)
- Customizable input voltage range
- **Dynamic configurable output voltage range** (400 V or 800 V battery)
- **High efficiency** over the whole operating range
- **Modular architecture** easy to parallel increasing power rating (50 kW up to 350 kW)

### COMMUNICATION

Ethernet and CAN communication

### MECHANICS & SAFETY

- Two cooling versions:
  - Air cooled (standalone system)
  - Liquid cooled (require external cooler)
- Input pre-charge system for hot plugging DC Link connection
- Emergency button for maximum safety of operation (**Safe Torque Off**)

### 50 kW MODULE SPECIFICATIONS

#### Max Charging Power

50 kW – 125A

#### Max Output Voltage

1000 V<sub>DC</sub> (CCS2 compatible)

#### Input Voltage Range

600 – 900 V<sub>DC</sub>  
1200 – 1500 V<sub>DC</sub>

*Custom range on demand*

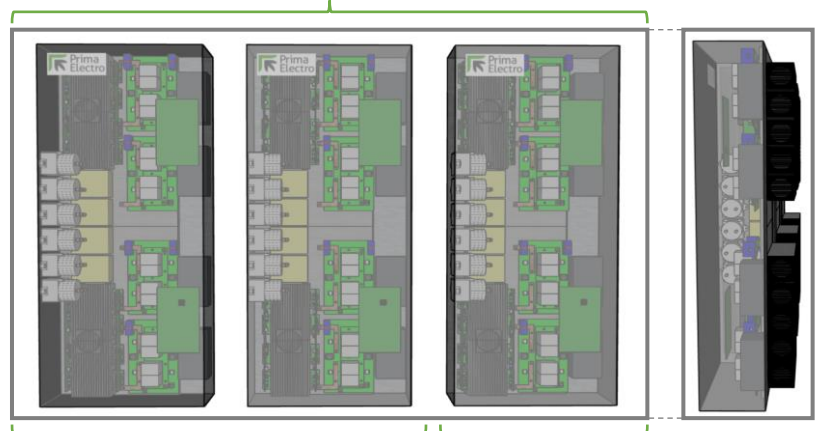
#### Efficiency

97% at full load

#### Dimensions (mm)

Air-Cooling: 950 x 375 x 220  
Liquid-Cooling: 95 x 375 x 155

3x50 kW → 150 kW



2x50 kW → 100 kW

50 kW

Example of 150 kW DC charging point with 3x50 kW modules



### Portfolio

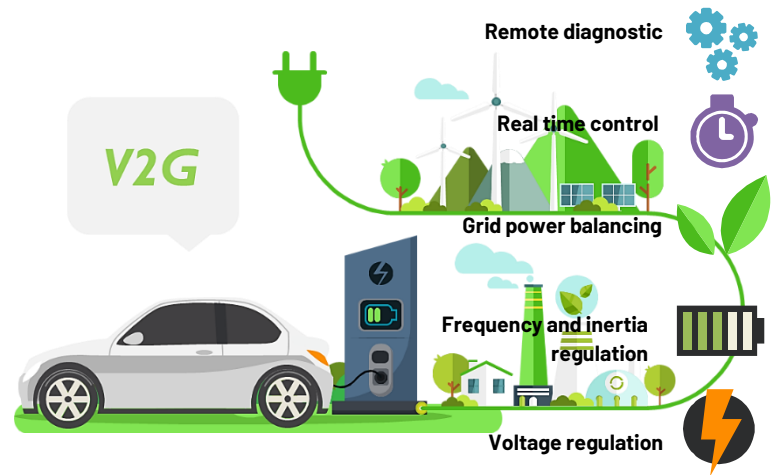
- Standalone 50 kW or Dynamic configurable modularity up to 350 kW (full parallel or partial parallel & standalone)
- Flexible solution for any type of installation site

### Destination

- Urban/Extra-urban public parking
- Train station parking
- Service station
- Shopping mall parking
- Business parking
- eBus/Delivery eTruck charge

### Connection

- City Tramway (*development for EU project*)
- External AC/DC Front End
- Internal Active Front End for each 50 kW (*future development*)



## Technical Specifications

Input DC	
Voltage Range	Customizable / Examples 600V-900V, 1200V-1500V
Input Current	Up to 95 A
Output DC	
Voltage Range	50 - 500 V, 50 - 1000 V
Maximum Current	125 A
Nominal Power	50 kW
Efficiency	>97% full load
Features	
Communication	Ethernet, CAN
Topology	Bidirectional, isolated
Additional Feature	Vehicle to Grid suitable
General Information	
Electrical Protections	Input & Output overcurrent and overvoltage
Other Protections	Internal over-temperatures, Fan monitoring, Pre-charge
Operating Ambient Temperature	From -25°C up to 50°C
Humidity	0 - 95% without condensation
Height x Width x Depth	950 x 375 x 220 mm (air cooled version) 950 x 375 x 155 mm (liquid cooled version)
Weight	Within 65 kg
Internal electronics / External enclosure	IP20 / IP54
Max Altitude	2000 m @ 1500V input 4000m @ 1000V input
Heatsink cooling	Two available versions: Forced air cooling / Liquid cooling
Standby Consumption	<30 W
Power connections	Terminals blocks
Marking	CE, UL ready (designed according UL standards, certification in progress)
Installation	Wall mount, Push-through