PROJECT

MultiCharge

Feasibility Study for the Development of a PFC Harmonic Filter Missing Link for Creation of Simultaneous Multi-Point Fast Charging Stations for Electric Vehicles

Funding: European (Horizon 2020)

Duration: Mar 2015 - Aug 2015

Status: Complete

Total project cost: €71,429

EU contribution: €50,000

Call for proposal: H2020-SMEINST-1-2014

CORDIS RCN : 196224

Objectives:

Whilst some manufacturers offer “multi-vehicle” charge points, all models investigated were found to be cosmetic combinations of plural charging points capable of charging multiple vehicles operating the same charging methodology. No instances of true multi vehicle chargers (ie many types of vehicle/charging system on charge at the same time) were found. This is due to the complexities arising around electrical harmonic interactions between vehicles under charge and the various charging methodologies. Sufficient work to define these has not been carried out and no vehicle or charger unit impact data is available over the longer term.

Potential service providers face a choice between cosmetic combinations or multiple different charging stations, a costly option, low in flexibility. The MultiCharge project will deliver a comprehensive picture of the harmonics between different vehicles and charging methodologies, before using software modelling to analyse the interactions and develop a Harmonic Filter to enable true multi-vehicle charging. MultiCharge replaces the active electronic module and multiple transformers present in most current EV chargers, with a single 3 phase 440 volt main passive unit comprising a zigzag auto transformer, harmonic filter, interphase transformer & rectifier block and distribution bus & control unit.

The project will deliver social and economic growth via increased uptake of cleaner to run, cheaper to use Electric Vehicles. This will be achieved through delivery of an affordable re-charging system based upon market leader Carroll & Meynell's own technology, patented buck boost units and zigzag transformer to enable significant reductions in the cost of providing appropriate electricity supply to EV charging stations.

Parent Programmes:

H2020-EU.3.4. - Horizon 2020: Smart, Green and Integrated Transport

Institute type: Public institution

Institute name: European Commission

Funding type: Public (EU)

Lead Organisation:

Carroll & Meynell Transformers Limited

Address:

GUISELEY WAY DURHAM LANE INDUSTRIAL PARK EAGLESCLIFFE
STOCKTON ON TEES
TS16 0RF
United Kingdom

EU Contribution: €50,000

Technologies:

Electric road vehicles
Hardware and software solutions for EV network

Development phase: Research/Invention

STRIA Roadmaps: Transport electrification

Transport mode: Road transport

Transport sectors: Passenger transport

Transport policies: Other specified

Geo-spatial type: Other