

November 19, 2020
Diamond Electric Mfg. Co., Ltd.

Diamond Electric Develops “3 in 1” 6.6 kW Onboard Charger – Integration of Multiple Systems Seen Contributing to Spread of EVs –

Diamond Electric Mfg. Co., Ltd. announced on November 19 that it has developed a “3 in 1” onboard charger (OBC) which integrates into one package the following three functions: a 6.6 kW charger, a 2.1 kW low-voltage DCDC converter (LDC) for auxiliaries, and a power delivery unit (PDU) to switch into fast charging. This feature enables system-level downsizing, reducing the weight of electric vehicles (EVs and PHEVs) and expected to contribute to the spread of EVs.

As a countermeasure for global warming, EVs and PHEVs are spreading worldwide as CO2 reduction becomes more significant. EVs and PHEVs adopt more electronics components such as OBCs, and demand for downsizing and weight reduction of those components is growing.

In response, Diamond Electric has developed a “3 in 1” 6.6 kW OBC. The company’s transformer design and thermal management enabled the 30% downsizing of the product compared to the existing products (*1) (*2). Furthermore, the “3 in 1” feature of the OBC, LDC, and PDU integration into one package can substantially reduce the size and weight in the vehicle system and reduce the number of electronics components in EVs.

Notes:

(*1) As of October 2020, investigated by Diamond Electric

(*2) Calculated by the enclosure size excluding connectors

Expected applications

Onboard Charger for EVs and PHEVs



Product specifications:

Dimensions	306x294x195 mm (excluding connectors)
Weight	15 kg
Cooling	Liquid-cooling
Charging Power	6.6 kW
Maximum Charging Efficiency	95%
Applicable Battery Voltage for Charging	250 to 420 V
LDC's Output Power	2.1 kW
LDC's Efficiency	90%
LDC's Output Voltage	9 to 16 V
PDU Functionalities	Relay for switching to fast charging Heater relay for air-conditioning Heater relay for main battery Connector for air-conditioner Connector for inverter

About Diamond Electric Mfg. Co., Ltd.

Diamond Electric is one of the core members of Diamond Electric Holdings Co., Ltd., listed on the Tokyo Stock Exchange (6699). It is a leading manufacturer of ignition coils for automobiles, operating for 80 years. Tabuchi Electric, also a core member of Diamond Electric Holdings, is a leading manufacturer of solar and hybrid inverters, and, together with Diamond Electric, develops products to realize its new vision, "Connect Automotive and Home with 'Monozukuri'/ Manufacturing."

Contact:

Saori Yamanaka

Business Promotion at Marketing

Diamond Electric Mfg. Co., Ltd.

Tel: +81-50-2018-7605

E-mail: s.imai@zbr.co.jp