

News Release

FOR IMMEDIATE RELEASE

Hitachi Automotive Systems Starts Mass Production of High Voltage and High Output EV Inverter, the First in the World

Tokyo, October 18, 2019 --- Hitachi Automotive Systems, Ltd. today announced the start of mass production for their 800-volt compatible high voltage and high output electric vehicle (EV) inverter, which increases EV practicality and enables long-distance driving. The product contributes to both comfortable acceleration performance of the vehicle and faster charging times. For this inverter, the mounting technology of the power semiconductor was newly developed to realize an 800-volt system. Due to the product's high cooling performance and high voltage, compared to the previous generation of inverters, the new inverter delivers twice the voltage and 2.7 times higher power density.

Globally, the adoption of electric vehicles has been expanding in line with tightening environmental regulations. The European Union (EU) has made it mandatory to reduce average CO₂ emissions from 120.5g/km in 2018 to below 95g/km by 2021. In China, automakers are also accelerating promotion of EVs, plug-in hybrid electric vehicles (PHEVs) and others, as they are required to comply with the New Energy Vehicle (NEV) credit policies that have been implemented starting 2019.

As most EVs are based on a 400-volt system, in order to increase the vehicle's driving range, additional batteries with parallel connection are required. This results in increasing the battery capacity but also the charging time. However, an 800-volt system enables the battery to be charged with the necessary amount of energy over a short period, allowing for fast charging of high capacity batteries. To make the 800-volt system possible, Hitachi Automotive Systems undertook a complete review of its inverter insulation structure to develop a compact power module with double-sided cooling and new high voltage insulation heat dissipation mounting technology. Compared to the previous generation of inverters, the solution delivers twice the voltage at 800 volts and 94.3kVA/L, equating to 2.7 times higher power density.

Hitachi Automotive Systems is committed to assisting the further adoption of electric vehicles by automotive manufacturers, and contributing to global environmental conservation by continually enhancing our electric motors, inverters, and other electric powertrain systems.



The exterior of the EV inverter



A high voltage and high output power module with double-sided direct water cooling is built into Hitachi Automotive Systems' inverter

About Hitachi Automotive Systems, Ltd.

Hitachi Automotive Systems, Ltd. is a wholly owned subsidiary of Hitachi, Ltd., headquartered in Tokyo, Japan. The company is engaged in the development, manufacture, sales and services of automotive components, transportation related components, industrial machines and systems, and offers a wide range of automotive systems including Powertrain Systems, Chassis Systems and Advanced Driver Assistance Systems. For more information, please visit the company's website at <http://www.hitachi-automotive.co.jp/en/>.

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Information contained in this news release is current as of the date of the press announcement, but may be subject to change without prior notice.
