

Hyundai Mobis unveils scalable 160-kW PE system for mainstream EVs

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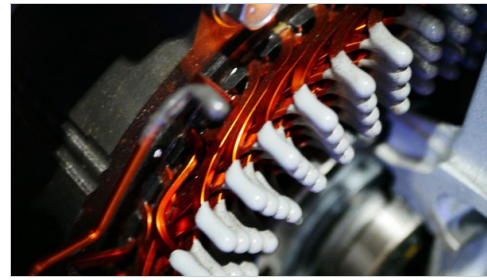
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The company expands its in-house-developed PE lineup, targeting broader EV segments and improved profitability through standardized, modular drive components

Hyundai Mobis has developed a 160-kilowatt Power Electric (PE) system for general-purpose models, following its earlier development of a high-performance 250-kW PE system. The company also plans to complete the development of a 120-kW PE system tailored for small mobility vehicles by the first half of 2026.



Source: Getty Images

Through these developments, Hyundai Mobis aims to establish a drive system lineup covering all types of electric vehicles and to further enhance its global competitiveness in electrification components.

Previously, Hyundai Mobis focused on mass-producing PE systems based on customer orders, but it has now secured design technology for each PE system component through in-house research and development and is unveiling its own drive models.

The PE system, a core auto component equivalent to the powertrain of an internal combustion engine (ICE), consists of a motor, inverter and reduction gear. During the development of its proprietary PE system model, Hyundai Mobis emphasized standardizing key auto components and modularizing elements such as the stator for the drive motor, the inverter and the power module, which is a bundle of power semiconductors.

This system-level standard model offers scalability advantages as it can be applied to various vehicle models using a platform-like approach, which is considered more efficient than developing a new powertrain for each vehicle launch.

Hyundai Mobis intends to proactively propose this PE system to its global customers and reported that some overseas customers have already shown significant interest. The company, which had previously secured orders for battery systems from global customers, sees this development as a way to expand its electrification portfolio into the powertrain sector. It also expects improved profitability now that it can handle both design and mass production.

The PE system developed by Hyundai Mobis delivers a maximum output of 160 kW, equivalent to 215 horsepower in ICE terms, and is suitable for most EVs in mass production. According to the company, installing two PE systems on the front and rear axles would double the maximum output.

Despite being designed as a universal model, the system's performance was improved by increasing specific power, measured as power output per unit weight, by about 16% and reducing overall system volume by nearly 20%. These improvements were achieved through extensive use of modular design technology and standard auto components. Hyundai Mobis also enhanced the motor structure by applying new cooling technology and developed a power module using power semiconductors that maximize energy efficiency.

With these developments, Hyundai Mobis expects to have a complete lineup of drive systems covering all types of EVs from small mobility solutions to high-performance vehicles. The company anticipates that this will enable it to meet diverse customer needs and support a differentiated product strategy tailored to specific purposes.

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