MTA to exhibit at IAA Transportation

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MTA S.p.A
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MTA exhibited at IAA Transportation for the first time, showcasing its range of On-board Battery Chargers (OBCs) for electrified truck platforms.

Among the OBCs that MTA designs and manufactures for fully electric or plug-in hybrid heavy-duty vehicles, with voltages up to 1,000V and power levels up to 22kW, the key focus at the event will be the new BHP model. This charger is available in two versions: the BHP 19.2kW, tailored for the US market, and the BHP 22kW for Europe.

The BHP is a lightweight, compact, and high-power-density bidirectional charger, designed for on-board battery-powered vehicles. It employs advanced silicon carbide (SiC) semiconductors and power converter technology to ensure high efficiency and reliable performance, even in demanding conditions.

What sets the BHP apart is its ability to operate in both "Forward Charge Mode" and "Reverse Power Mode", enabling bidirectional functionality. This allows not only for efficient charging from the grid but also for energy to be discharged back into the grid or to other devices. This dual capability makes the BHP an important tool for energy management, facilitating Vehicle-to-Load (V2L) and Vehicle-to-Grid (V2G) applications, offering the potential to power external devices or return energy to the grid.

The BHP ensures maximum safety through galvanic isolation, which clearly separates the vehicle's electrical system from the grid. Another significant feature is its Fast DC charging capability, which greatly reduces charging times by delivering high power levels much faster than traditional AC methods, thereby increasing vehicle uptime. Integrating this DC fast charging functionality within the OBC simplifies vehicle architecture, reducing cost, weight, and complexity.

The BHP also offers an electrical power take-off (ePTO), allowing electrical power to operate various systems, such as hydraulic pumps, which is particularly beneficial for off-highway applications. The charger's power components are liquid-cooled, ensuring optimal temperature regulation and delivering best-in-class efficiency and power density for its size and weight.

The BHP has undergone extensive testing to meet international standards for electromagnetic compatibility (EMC), safety, and environmental performance, demonstrating its reliability for a wide range of challenging applications.

"The BHP brings even more benefits to the truck industry: from an economical point of view, it allows electric vehicles owners to sell energy back to the grid, thus reducing energy expenses. The BHP offers important advantages from an environmental point of view too: Its ability to store and return energy in fact helps to stabilise and to balance the grid, allowing for higher penetration of intermittent renewable sources like solar and wind power," said Antonio Falchetti, Executive Director of MTA.

MTA's On-board Battery Chargers are manufactured at its facilities in Cinisello Balsamo, Italy, and MTA Mexico, providing customer support for both the European and NAFTA markets.