

MTA at IAA Transportation 2024 The BHP, an Onboard Battery Charger for electrified trucks

Hannover, 17th September 2024. MTA, a multinational company operating in the global automotive sector through two divisions – Electrical and Electronic – will be present for the first time at IAA Transportation (Hall 22, Stand A13) with its range of On-board Battery Chargers (OBCs) for electrified truck platforms.

Among the range of OBCs that MTA develops and produces for full electric or plug-in hybrid vehicles in heavy-duty applications, with voltages up to 1,000 V and powers up to 22 kW, the highlight of the fair is the new BHP, proposed at a power class of 19,2 kW (BHP 19) for the US market and of 22 kW (BHP22) for the European one.

The BHP is a lightweight and compact bidirectional high-power-density OBC for on-board battery-powered vehicle applications, and it is based on the latest cutting-edge silicon carbide (SiC) semiconductors and power converter technologies, resulting in high efficiency and optimal performance even in challenging environments.

The main innovative aspect of the BHP is that it can be configured in either "Forward Charge Mode" or "Reverse Power Mode" (allowing bidirectional operations). This advanced technology not only allows for efficient charging of the vehicle's battery from the grid, but also enables the energy discharging back to the grid or to other devices. This dual functionality makes the BHP a versatile tool in energy management, capable of providing energy to external devices via Vehicle-to-Load (V2L) applications or giving back energy to the grid through Vehicle-to-Grid (V2G) applications. Maximum operational safety is ensured by the galvanic isolation that provides clear separation of the vehicle from the grid.

Another important innovation of the BHP is its Fast DC charging capability which significantly reduces charging times by delivering high power levels at a much faster rate than conventional AC charging methods, thus improving the uptime. At vehicle level, the DC fast charging capability integrated in the OBC optimizes the architecture reducing complexity, cost and weight.

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The BHP also provides an ePTO (electrical power take-off) which uses electrical power to operate different systems, such as for example the hydraulic pump, which is particularly interesting in off-highway applications.

All the power components of the BHP are liquid-cooled, and this allows optimal operating temperature in all working conditions bringing to best in class efficiency and power density in terms of volume and weight.

The BHP has undergone rigorous testing to ensure compliance with international EMC, safety, and environmental standards, providing reassurance of its reliability and suitability for various demanding applications.

Antonio Falchetti, Executive Director of MTA, comments: “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 stabilize and to balance the grid, allowing for higher penetration of intermittent renewable sources like solar and wind power,” Falchetti concludes.

MTA’s OBCs are produced both in the Italian plant in Cinisello Balsamo (Milan) and in the Mexican one, MTA Mexico, to offer customer support in the European and NAFTA markets.

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Images

	<p>MTA's BHP 22</p>
	<p>MTA's BHP 19</p>

MTA S.p.A. is a multinational company operating in the automotive sector through 2 Business Units: Electrical and Electronic. From design to industrialization, MTA produces a wide portfolio of components for the primary manufacturers of cars, motorcycles, trucks, agricultural and earth moving machines.

Founded in 1954, MTA globally owns 11 sites, 3 technical sales offices and 1 R&D centre. Nowadays, MTA employs 1,937 people and has a turnover of € 398 million, the 10,5% of which are invested in R&D.

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