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Li-Ion Battery Chargers For EVs With CAN Communications

From Green Watt Power, a division of Powerland Technology, the EVC-1500 is a series of fully-potted, ruggedized chargers for 48-V batteries for electric vehicle (EV) applications. Members of this series are specifically designed to charge Li-ion battery systems in motorcycles, scooters, carts, forklifts and other e-mobility applications.

The chargers are flexible, having universal input voltage ranges of 90 to 264 Vac and an output voltage range of 28 V to 59 V and output current up to 26 A. Units measure 11.3 x 6.0 x 3.5 in. (286 x 154 x 88 mm) with an option for a handle (EVC-60-1500FH, see the figure) for easy portability or no handle (EVC-60-1500F). Designed for high-power density and thermal efficiency with a built-in fan, the chargers weigh only 4 kg. CAN bus communication is a standard feature for unit status and control, with an auxiliary 12-V output for CAN bus or other needs.

The chargers achieve typical efficiencies of 92% at 230 Vac (89% at 115 Vac), which represents an industry best with the charger's high-power density, according to the vendor. Among other key specifications, power factor is 0.99 at 110-V input and turn-on delay at full load is 5 s max. Additionally, each unit is protected against short circuit, overvoltage, overtemperature and other faults.

With a case temperature maximum of <60°C at 25°C ambient with derating above 45°C, the units are rated for IP65 for the enclosure. The EVC-1500 chargers are also designed to meet UL1564 and CE and EN55032 Class B. Beyond these characteristics, Green Watt Power can modify the units as needed to meet each application's unique requirements.

Units are available from stock to 8 weeks. For more information, contact Green Watt/Powerland at 310-881-3890 or sales@greenwattpower.com. Or see the datasheet or the website.

Figure. The EVC-1500 series of fully-potted, ruggedized 1200-W to 1500-W chargers for 48-V Li-ion batteries is designed for both on-board and off-board EV charging applications. Featuring high efficiency, these chargers are said to offer solid and safe power conversions for applications such as e-vehicles, e-motorcycles, e-boats and e-machines.