LEM launches a new series of DC energy meters for fast and megawatt EV chargers

GENEVA, SWITZERLAND, July 1, 2025 /EINPresswire.com/ -- LEM (SIX: LEHN). Electrical measurement technology specialist LEM announced today that it is building on its experience in electrical measurement, energy metering, and metrology with the launch a new series of DC meters. With the introduction of the DCES600 and DCES1500, LEM enables DC charging infrastructure manufacturers to accelerate time-to-market for both fast and megawatt charging solutions, with kilowatt-hour (kWh) billing services. The new meters offer enhanced performance, flexibility, and system optimization, making them particularly well-suited for applications such as e-truck charging.

LEM_DCES600_closed_WithBackground

The DCES600 and DCES1500 meters address a broad range of DC current-sensing requirements. They are designed to achieve class B accuracy at charger level with currents of up to 1500A, at operating temperatures from –40°C to +85°C without derating. Their high accuracy is maintained across the entire current range, ensuring precise measurements throughout the full charging cycle, from high currents at the start to low currents near completion.

The new meters comply with international legal metrology certifications and calibration standards, ensuring accuracy and traceability for kWh billing and regulatory compliance in EV charging applications. This, combined with the full-cycle sensing accuracy discussed above, is important when charging electric trucks, where the cost of transportation directly depends on the precise reporting of the amount of energy delivered during charging.

Designers can access the DCES meters over an RS485 communication interface that provides

cybersecurity features. These features include authentication of measurements using digital signatures, and facilities that enable secure remote maintenance and firmware updates. These facilities are designed to help reduce the operating costs of EV chargers built using the DCES meters. LEM is also offering a comprehensive set of application programming interfaces (APIs) to enable quick and easy software integration, and other software tools to ease testing and product integration.

The DCES meters are available with an optional remote display unit, the RDU, which gives OEMs and systems integrators greater flexibility in the design of the human/machine interface compared to solutions with an integrated display. The RDU can be mounted on a front panel, DIN rail, or base plate, has a slim form factor, and doesn't need additional connections, such as communications lines or power sources, other than its link to the DCES meters.

LEM_DCES600_opened_WithBackground

LEM_DCES1500_closed_WithBackground

Both DCES meters have a robust mechanical design, with a glass-fiber reinforced case, which offers insulation resistance at up to 1000V DC for the DCES600, and up to 1500V DC for the DCES1500. They also offer large power terminals with large current contact areas. The DCES600 has two M10 studs that enable busbar termination to be screwed down onto a contact area of 33 x 36mm. In the DCES1500, there are four M12 studs in two pairs, with each pair offering a combined contact area of 45 x 100mm. The busbars for both meters are specified to operate at up to 110°C. Both meters are supplied with a protective cover and seals.

The DCES meters offer real-time reporting of voltage, current, temperature and energy. These values can be used for both direct energy measurement, for example for billing purposes, and as part of a system management strategy for ensuring the end equipment is kept within safe operating limits through remote system diagnostics.

Applications for the DCES modules include:
- DC fast charging stations: The DCES600 is ideal for public and commercial fast-charging stations, enabling high throughput and rapid vehicle turnaround.
- Megawatt charging hubs: The DCES1500 is purpose-built for megawatt-class charging, supporting heavy-duty vehicles, buses, and future high-capacity EVs.
- Fleet and depot charging: Both meters can be integrated into fleet charging depots, providing accurate energy tracking for operational cost management and regulatory compliance.
- OEM Integration: The modularity and advanced communication interfaces make the DCES family suitable for integration into OEM charging platforms and custom solutions, for control and monitoring of any DC applications such as battery storage.

LEM_RDU_WithBackground

LEM - Leader in Electrical Measurement

Availability: LEM is now in the process of the certification of the DCES series by the end of the year. The DCES meters will then be compliant with European regulations such as MID 2014/32/EU, the EU's Directive on measuring instruments, and with Eichrecht, the German calibration law. Samples

are available now to enable developers to start work on charger integration and certification.

LEM – Life Energy Motion

Leading the world in electrical measurement, LEM engineers the best solutions for energy and mobility, ensuring that its customers' systems are optimized, reliable and safe. With 1,700 people in over 17 countries transforming technology potential into powerful answers, LEM develops and recruits the best global talent, working at the forefront of megatrends such as renewable energy, mobility, automation and digitization.

Through its innovative electrical solutions, LEM is helping customers and society accelerate the transition to a sustainable future. Listed on the SIX Swiss Exchange since 1986, the company's ticker symbol is LEHN.

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