



Life Energy Motion

Press release

LEM launches innovative and certified DC meter solution for electric vehicle chargers

Geneva, Switzerland, 10th November 2020 – LEM (SIX: LEHN), a leading global company in electrical measurement for industry and automotive applications, launches its new DC meter solution, the smartest and most compact DC Billing Meter (DCBM) on the market, fully compliant with the German “Eichrecht” regulation.

The DCBM is a smart and compact billing solution that will help electric vehicle charging stations take advantage of the benefits of DC charging. Offering a power measurement range from 25kW to 600kW, the DCBM is a legal and certified meter that provides accurate billing of DC chargers.

Charging infrastructure key to e-mobility worldwide

With around 2.5 million plug-in electric cars in 2019, charging infrastructure is set to play a major role in worldwide mobility. Today’s public charging infrastructure supplies mostly alternating current (AC). This leads to a relatively long charging time of eight hours on average, due to a low power capability of around 44 kW. To reduce this charging time to only a few minutes, charger manufacturers convert the AC into a direct current (DC) outside the car, bypassing the On-Board-Charger (OBC) and supplying the battery pack of the electric vehicle directly. This method can boost charging power up to 400 kilowatts. However, this conversion stage generates power losses, which do not have to be paid for by the end user, the EV’s owner. Thus, an electric meter is placed after the conversion stage to monitor and bill the exact energy transferred to the electric vehicle.

DCBM adheres to German “Eichrecht” regulations

The German “Eichrecht” regulations state that consumers should only be charged for the DC power supplied. Standards are being established not only at the European level but also at the international level and more particularly in the USA in the state of California.

The DCBM has been developed to meet market demands for inter-operability and data security, easy and fast retrofitting of charging stations already deployed, and the ability to provide high power at up to 600A/1000V. Designed to meet future connectivity needs, the DCBM offers Ethernet communications, supporting the HTTPS/REST protocol to allow quick integration and deployment within charging stations.

The DCBM also integrates the Signed billing data sets according to the S.A.F.E OCMF protocol, allowing billing data to be transmitted with an extremely high level of security and providing total interoperability for cloud service operators.

The DCBM project is already a success due to an exceptional cooperation between LEM customers, standards committees, laboratory institutes, and the global teams of LEM. The DCBM has been designed in record time by the LEM R&D center in Lyon, France, and by the Industry-segment team in Geneva. This project is a great example of LEM’s innovation, talent, technical skills, and leadership.





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The main challenge was to define and design a DC meter that would meet the applicable standards as well as the many needs of charger manufacturers.

Key technical benefits

- Standardized Direct Current Billing Meter in compliance with VDE-AR-E-2418-3-100
- Adjusts meter accuracy according to the charging cable in use
- LCD display shows live measurements, energy, alarms and legal data
- Ethernet communication allows quick integration and deployment into charging stations
- Signed billing data sets offer extremely high security and total interoperability for cloud service operators

LEM – Life Energy Motion

A leading company in electrical measurement, LEM engineers the best solutions for energy and mobility, ensuring that our customers' systems are optimized, reliable and safe.

Our 1,500 people in over 15 countries transform technology potential into powerful answers. We develop and recruit the best global talent, working at the forefront of mega trends such as renewable energy, mobility, automation and digitization.

With innovative electrical solutions, we are helping our 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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