elexon: Making the best out of nighttime charging

43 kW AC charging solution for commercial vehicles - cost-effective and grid-friendly overnight charging

Expanding a charging infrastructure for commercial vehicles, much like their counterpart, electric passenger cars, requires different charging concepts and types of columns. One of these is the new, downwardly scalable 43 kW AC charging solution from elexon GmbH. The product, developed and manufactured in Germany, was specially designed for charging electrically powered trucks, vans and construction machinery at night. This charging solution, until now more a niche product, is increasingly becoming an interesting alternative to both AC and DC charging solutions. "In the face of costly megawatt charging stations and widespread concerns about their undesirable impact on the power grid, the 43 kW AC charging solution has come into focus. Many visitors at the IAA Transportation were looking for a future-proof charging technology that supports logistical processes cost-effectively and doesn't massively burden the power grid." explains Marcus Scholz, Managing Director of elexon GmbH.

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- Up to 43 kW AC charging power
- Can be scaled downwards (11 kW / 22 kW)
- Charges large battery capacities
- Use nightly idle times without interrupting statutory rest periods
- High charging power not required: grid-friendly
- Lower investment costs compared to DC columns
- Interesting alternative to 22 kW charging stations

Trouble-free overnight charging for trucks

The range of battery electric trucks and vans is constantly evolving. A prime example of this were the exclusive trade show presentations by various manufacturers at this year's IAA Transportation. The expansion of charging infrastructures for commercial vehicles follows this example. elexon's new 43 kW AC charging station makes it one of the few suppliers on the European market to expand its AC charging solutions specifically for the commercial vehicle market. The new charging column provides 11 kW/22 kW or 43 kW of charging power. It thus offers greater flexibility in the medium and long term compared to constant power AC solutions and also scores points in a DC comparison with significantly lower investment costs. Charging concepts like these are becoming increasingly interesting for e-trucks, for example, especially in view of the German government's planned charging infrastructure subsidy.

A product for a flexible, cost-effective charging infrastructure

The new AC charging solution with up to 43 kW was developed to charge large batteries as conveniently and grid-friendly as possible during longer waiting times or nighttime stops; whether on company premises, industrial areas, charging hubs, car parks, rest areas close to freeways or logistic sites. The target group includes warehouses and dispatch service providers, car depot operators, (inter)municipal business parks, building yards and more. Commercial vehicles in long-distance and regional traffic benefit from the uninterrupted utilization of nightly idle times. No more re-parking. And rest periods are observed. Battery capacities between 250 and 500 kWh charge within 6 to 8 hours - grid-friendly. The power grid is put under much less strain than with fast-charging solutions in the megawatt range. Time-intensive charging also protects the battery and thus, increases its service life. At the same time, AC solutions require a lower investment than a DC infrastructure. Regardless of whether the 43 kW charging station is integrated into an existing DC infrastructure or is the focus of attention as an AC charging solution, drivers and customers benefit from the high charging convenience and the comparatively low-cost structure.

Sustainably produced, state-of-the-art technology

These AC charging stations can be switched between 11 kW, 22 kW and 43 kW and have been given the rating "sustainable". The 100% development and climate-friendly manufacturing in Germany minimize the CO^2 footprint. Even the technical elements correspond to the philosophy of sustainable product development. The controller, also developed and manufactured 100% in-house, is combined with high-quality industrial electronics from renowned German manufacturers. Valuable standard industrial components with a long service life not only increase durability, but also facilitate quick repairs by skilled technicians in the event of a problem. This means that the entire box doesn't have to be replaced and scrapped in the event of problems with the electronics.

The new AC charging station is available as a single charger. The charging solution features the new Generation 3 controller from elexon. The controller uses the OCPP 2.0.1 communication protocol and meets the technical requirements for vehicle charging in accordance with ISO15118-2. Communication between charging stations and charging infrastructure is enormously simplified, control of the charging process becomes more precise, simplified, automatic, user-independent billing and also plug-and-charge are possible. The result is a future-proof and highly convenient charging infrastructure.

For press inquiries, please contact:

elexon GmbH
Jaqueline Koch
Gewerbepark Brand 70
52078 Aachen

Email: jaqueline.koch@elexon-charging.de
Web: www.elexon-charging.com

About elexon

Elexon is a joint venture established in 2019 by SMA Solar Technology AG (SMA), AixControl GmbH and aixACCT charging solutions GmbH aimed at advancing the development of charging infrastructures for EVs across Europe.

Elexon operates as a full-service provider and, as a result of the merger, boasts extensive expertise in the field of electromobility. elexon focuses on charging infrastructure, energy and load management, as well as the provision of electricity via renewable energies.

With its 360° charging infrastructure solutions, elexon offers its customers holistic plug-and-play solutions for the planning, installation and service of efficient EV charging parks from a single source.

Image 1: The AC charging stations from elexon have a modular structure so that they can be expanded later. This keeps you flexible and saves costs.

Bild 2: The columns were developed for professional use in charging parks, logistics centers and the like.

Image credits: elexon GmbH