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Power2Drive: Designwerk presents new mobile fast charger MDC 88-920 at this year's trade fair in Munich

Electromobility specialist develops new product for charging commercial vehicles

Power moves: The mobile fast charger family from Designwerk Technologies AG has a new addition - the MDC 88-920. The Swiss electromobility specialist will be presenting the product series at Power2Drive in Munich from June 19 to 21. At the trade fair for charging infrastructure and electromobility, the new mobile fast charger is one of the finalists for the Smarter E Award in the e-mobility category. With this award, the jury recognizes technical innovations and pioneering solutions that make an important contribution to the success of the industry. The new mobile fast charger meets the increased demand for charging commercial vehicles with a battery capacity of more than 500 kilowatt hours. The Designwerk team will be demonstrating exactly how the ideal charging solution for electric trucks, fully electric special vehicles in the municipal sector, buses, sports aircraft and sea ferries works at the joint stand 219 in Hall C6 with the German rental partner SCHALL-E. The trade fair appearance will also focus on the Stationary Battery Backed Charger (SBC) for battery-buffered mega charging, which is also one of the finalists of the Smarter E Award, and the high-voltage battery system portfolio with capacities between 65 and 250 kilowatt hours.

The mobile fast chargers from the Swiss electromobility specialist are widely used by commercial vehicle manufacturers and their contract partners. Due to the use of state-of-the-art SiC semiconductors with low switching losses, a sophisticated switching topology and a new air cooling system, the latest generation of fast chargers is even more compact and particularly powerful. The MDC 88-920 enables a permanently high charging capacity of 84 kilowatts at up to 1000 volts. With a battery capacity of 400 kilowatts, charging with direct current takes less than four hours from 10 to 80 percent of the battery charge level (State of Charge, SOC), with a battery capacity of 1000 kilowatts in around ten hours. “The latest generation is smaller and more compact than its predecessor and can simultaneously charge two vehicles with 42 kilowatts each Electric vehicles with higher battery capacities, such as trucks, waste collection or sewer cleaning vehicles, can be charged flexibly and overnight. This makes the MDC 88-920 the perfect

overnight charging solution," explains Thorben Maier, Head of Sales Charging Technology at Designwerk.

Maximum compatibility thanks to replaceable cable

The MDC 88-920 from Designwerk impresses with its compactness and large operating radius. The castor set makes it easy to transport and flexible to use. The fast charger also features the latest generation of power electronics. It draws power from the standard industrial socket formats CEE 63 and CEE125 and can charge vehicles with the CCS type 1 and 2 charging standards, CHAdeMO and the Chinese GB/T standard. The NACS charging standard and the new MCS standard can also be integrated without any problems. This means that local authorities and customers who have different connections at the main and secondary locations can swap cables easily and in a matter of seconds. Users receive straightforward support with charging management. "Charging processes can be analyzed and diagnostics created via interfaces," says Maier.

Mobile Charger 44-920 and 22-500 complete the mobile fast charger family

The third generation of mobile fast chargers complements the Designwerk trade fair presentation: the Mobile Charger 44-920 and 22-500. Like the MDC 88-920, these feature new air cooling, state-of-the-art SiC semiconductors and an intelligent circuit topology. Due to the high power density - the Designwerk Mobile Chargers are up to 68 percent smaller than devices with identical performance data from competitors - the devices can be easily used on a trolley. This means that one Mobile Charger can replace several fixed installations and reduce costs because no civil engineering costs are incurred. Customers from the automotive industry and from bus and truck depots thus remain flexible at all times.

Mega Charger with a charging capacity of up to 2.1 megawatts on display as a miniature model

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Mega Charger with a charging capacity of up to 2.1 megawatts on display as a miniature model

Together with partners, Designwerk has developed a Stationary Battery-Backed Charger (SBC) for customers and companies looking to significantly reduce charging times for their commercial vehicles in continuous and shift operation. The battery-backed “Mega Charger” is based on the new global charging standard Megawatt Charging System (MCS) and can be seen as a miniature model at Power2Drive. MCS enables rapid charging from ten to 80 percent within a pause of around 30 minutes with a battery capacity of around 740 kWh. The SBC enables the intermediate storage of up to 2 megawatt hours of electricity thanks to high-voltage battery systems in second-life applications. The mobile container in the standard 20x40 foot format charges two commercial vehicles simultaneously with up to 1.4 megawatts. The integrated battery buffers avoid peak loads and reduce the load on the power grid.

Designwerk adapts the battery systems to the performance requirements of customers

At the trade fair for charging infrastructure and electromobility, the high-voltage battery experts from Designwerk will also be explaining the wide range of possible applications for their battery systems. “We solve our customers' individual storage challenges quickly, in a service-oriented manner and with many years of practical experience from our own electric trucks,” explains Volker Nerlich, Sales Manager High-Voltage Battery Systems and Special Projects. The standard battery systems have capacities of 65 to 250 kilowatt hours and can be combined in a single unit or in battery sets with several megawatt hours. With voltage options up to 800 volts, Designwerk adapts the battery systems individually to the installation space and power requirements. With a high energy density, the battery systems guarantee safe operation and a long service life. Final production takes place in Winterthur, Switzerland.

PRESSEINFORMATION

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Designwerk Technologies AG

The company Designwerk Technologies AG specialises in electromobility for commercial vehicles: developing, driving, charging and storing. The passion for electromobility grew among the founders during the 80-day, all-electric world record circumnavigation with the specially developed Zerotracer cabin motorbike. Since its foundation in 2008, Designwerk has been driving electromobility forward with innovative products and projects, aiming to spread sustainable mobility. The Designwerk brand develops and manufactures small series of electric lorries, mobile fast chargers, battery-buffered fast charging stations in the megawatt range and modular high-voltage battery systems. The e-trucks include the first fully electric refuse collection vehicles on Swiss roads and the e-trucks with the largest battery capacities and ranges currently available. The chargers are widely used by European vehicle manufacturers. The modular traction batteries enable smaller and medium-sized vehicle manufacturers to successfully enter and transition to electromobility. The Volvo Group has held a stake in Designwerk since 2021. Today, the company employs 225 people at its headquarters in Winterthur and its sites in Basel (Switzerland) and Lottstetten (Germany).

Pictures (Source: Designwerk Technologies AG)

The MDC 88-920 enables a permanently high charging capacity of 84 kilowatts at up to 1000 volts.

With the castor set, the MDC 88-920 is easy to transport and flexible to use. It impresses with its compactness and large operating radius.

The Designwerk Technologies AG family of mobile fast chargers with the MDC 22-500, the 88-920 and the 44-920.

The Stationary Battery-Backed Charger with a charging capacity of up to 2.1 megawatts can be seen as a miniature model at Power2Drive.

Driving, charging and storing - Designwerk unites the entire portfolio of electric mobility for e-trucks, battery systems and chargers under one roof.

The MDC 88-920 is easy to operate and features the latest generation of power electronics.

Designwerk Technologies AG
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