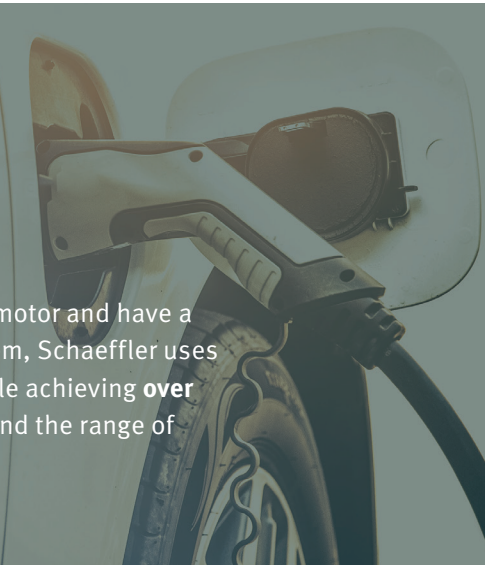


We pioneer motion

A POWERTRAIN OF ITS OWN

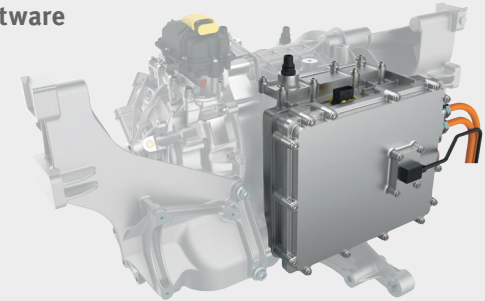
Performant, efficient and safe –
Schaeffler's new power electronics.

Power electronics **convert electric energy** between battery and electric motor and have a major influence on **powertrain efficiency**. In the 800-volt electrical system, Schaeffler uses cutting-edge silicon carbide technology, thus minimizing power loss while achieving **over 99 % efficiency in the power electronics unit**. This can significantly extend the range of electric vehicles.



INTEGRATED SYSTEM SOLUTION

One-stop shop: In the Schaeffler **3in1 electric axles** with electric motor, transmission and power electronics, the Schaeffler **software** carries out **signal processing** and controls the drive.



HIGHLIGHTS



1200 V SiC
semiconductor technology



High power density
up to 70kW / litre



Efficiency reaches above 99%

BROAD RANGE OF PERFORMANCE

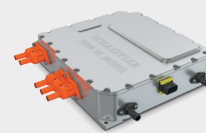
From passenger car to commercial vehicle: The **scalability** of the electronics platform facilitates the **integration of customer-specific applications**.

800-volt electrical system

| | | |
|--------|---------------------------------|--------|
| 180 kW | Range of performance | 500 kW |
| 350 A | Phase current (Effective value) | 700 A |



Passenger cars
Optimized in regard to package (installation space and weight) and performance



Commercial vehicles
Very high durability (robustness) and high efficiency

FUNCTIONS



Model-based software platform, complying to AUTOSAR standards; for flexible integration of OEM software components



Extensive safety and monitoring measures with online thermal management and flexible derating



Integrated control of hydraulic actuator systems (electric oil pump, valves and sensors)



Modulation methods with random switching frequency strategies to optimize efficiency and NVH