



Making vehicles special

# Sustainable Rescue Services: The WAS 500 Electric Ambulance Box Conversion, 5.5 T.



# Ideal Conditions for E-Mobility in the Rescue Services.



E-mobility is becoming established – because it is efficient, powerful and zero emission. It's high time that sustainable drive technology also became established in special and emergency vehicle construction. With our electric ambulance, we are showing that the electric drive system is also a viable alternative for emergency vehicles with a high weight of up to 5.5 t. Thanks to the intensive testing of our prototype within the ambulance service by more than 20 European ambulance organisations, we have been able to develop the WAS E-ambulance to production level. More than 20,000 service kilometres covered serve as proof of the reliability of this innovative drive concept for use in emergency vehicles.

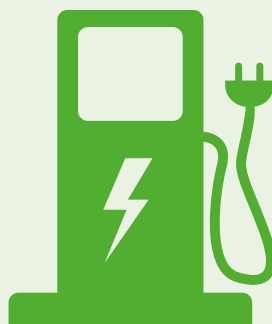
## High-Performance Technology on which You Can Rely on.

### High Performance.

The powerful 147 kW drive system with a torque of 1150 Nm enables a top speed of 120 km/h and impresses with high acceleration values.

### Long Range.

The electric ambulance manages around 150-200 km under real conditions with a single battery charge while operating the air conditioning/heating and medical equipment - and this with a weight of 5.5 t. With interim charges at hospitals and charging stations, the electric ambulance can be utilised all day long in the city. This noteworthy performance is achieved thanks to our use of highly efficient highvoltage lithium battery technology – in conjunction with our light weight body construction.



**22 kW**    **50 kW**  
**3.5 h**    **1.5 h**

**Optional:**  
**100 kW < 1 h**

**When completely  
charged**

### Short Charging Times.

With charging times of 3.5 hours at 22 kW – or as little as 1.5 hours in 50 kW mode, the electric ambulance is back on the road in no time. The charging times can be put to exceptional use for preparation and follow-up after deployments: Even a charging time of just 20 to 30 minutes at 22 kW at the ambulance site provides a significant range extension of around 30 kilometres. For your convenience, when charging in 22 kW mode you can use the 400 V CEE connector with 32 A fuse provided.

### High Safety Level.

The vehicle remains safe, even in case of damage, as only self-locking, non-flammable battery technology is installed.

# Strong Performance That Pays off.

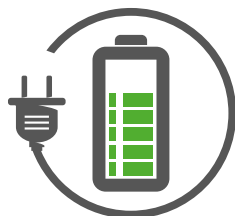


## Optimal Efficiency under the Bonnet.

The high-performance synchronous motor is integrated into the battery system, which includes intelligent battery management. This monitors, controls and safeguards the supply of power to the entire vehicle.

KEY FEATURES	
Power management	Vehicle management system with display monitor
Highly efficient synchronous motor	Approx. 1150 Nm torque 147 kW output
Top speed	120 km / h
Nominal voltage	Approx. 400 V
On-board charger	22 kW AC / 50 kW DC Optional: 100 kW DC (DC quick-charging)
Heating / Aircon	Integrated system with pre-conditioning
Range	150-200 km*
Battery output	87 kWh
Perm. total weight	5.5 t

\* under real conditions, depending on the driving and application profile



## The Current Power Status at a Glance.

The cockpit display provides information regarding the vehicle management, including the remaining range, charge status, energy consumption and vehicle status information.

## Low Operating Costs.

The E-Ambulance saves both money and time: On the one hand, the electric drive system is much more efficient than a diesel-driven vehicle. On the other hand, maintenance costs and downtime for oil changes and other maintenance measures, which are required for the secure running of a combustion engine, are no more. Components that are susceptible to faults, such as turbochargers or transmissions, are also completely done away with.

## High Efficiency.

- The vehicle is accelerated and decelerated using just the accelerator pedal, by means of gradual recuperation. The kinetic energy is converted into electrical energy, and fed back into the battery. In addition to the higher energy efficiency, wear to the brakes is significantly minimised.
- Fully integrated HV air conditioning components with complex control algorithms ensure that only the required amount of energy is used for the air conditioning of the patient compartment and the driver's cabin.
- Pre-conditioning while in charging mode ensures that the patient compartment is always at the correct temperature when in use.

# Custom Equipment: State of the Art in Technology and Comfort.



## Custom Equipment.

The WAS lightweight box construction also pays dividends for the E-Ambulance. It not only saves weight and thus drive power, but also offers custom equipment options depending on the main intended application. The power supply to the medical equipment, including the air conditioning technology and ventilation, is also fully covered by the electric motor.



## Promoting Sustainability.

E-mobility is promoted by the Department for Transport as a key technology for a future-proof and sustainable transport system. Electromobility projects within the emergency services also benefit from this when it comes to the procurement of electric vehicles and the development of charging. There are also many local funding pools. This type of funding makes your new electric vehicle fleet even more affordable.

