

PSI smartcharging

# Dynamic Load And Charging Management



PSI 

# PSISmartcharging

## Support For E-Mobility Requirements

Modern bus fleets are becoming increasingly electrified. It is therefore necessary to ensure the availability of the vehicles by means of a load and charging management system.

PSISmartcharging ensures the following aspects:

- The vehicles are securely charged and temperature-controlled at the time of departure.
- The requirements of a multi-depot operation are taken into account and lead to a uniform approach.
- The complex energy supply is safely mastered.

- Price signals from the market are used to meet economic targets in a cost-optimized manner.

Due to its modular structure, our solution can be scaled and expanded as required. PSISmartcharging uses standardized communication interfaces to enable the greatest possible manufacturer independence. The targeted bundling of PSI expertise in the areas of network control technology, network technology, local public transport and logistics achieves optimum benefits for the customer.

## PSISmartcharging – In One View

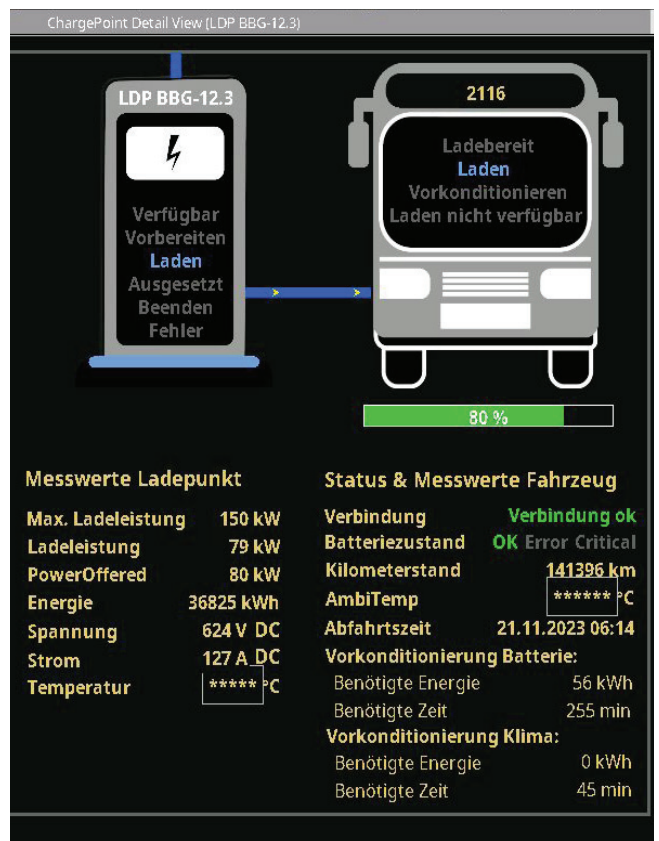
### Solutions + Benefits

#### Your Solutions

- + Peak shaving to reduce peak loads in the depot
- + Control and maintenance of the charging infrastructure via backend software (influencing the charging processes, open door detection, fault detection and user notification, historical data reports: charging processes, telemetric data)
- + Integration via VDV 463

#### Your Benefits

- + Optimized depot management
- + Grid monitoring and control
- + Consideration of market price signals
- + Preconditioning of the fleet
- + Modular structure
- + Standardized communication interfaces





## PSIsmartcharging Ensures Safe E-Bus Operation

In the public transport of the future, PSIsmartcharging works directly with the depot management system to ensure that electric buses are charged on time and to the optimum extent for their planned routes, taking safety aspects into account. The electricity grid is permanently monitored and, in the event of an imminent overload or restrictions in energy supply, the power is

redistributed in such a way that the grid status is stabilized again. In the future, electricity price changes can be flexibly taken into account in charging planning. In addition, the service life of the battery systems is extended by gentle charging processes, thus increasing the cost-effectiveness of operation.

## PSIsmartcharging Controls Charging Infrastructure In The Low-Voltage Grid

The growing electrification of the bus fleet is increasing the responsibility at the depot. In addition to the previous responsibilities, the operation and monitoring of the electrical infrastructure is required, and operating it safely is becoming increasingly challenging. It is therefore all the more important to use a system that comprehensively fulfills KRITIS requirements. PSIsmartcharging with its IT architecture will continue to cover all relevant legal requirements in the best possible way in the future.



### Fulfillment Of KRITIS Requirements

#### Grid Monitoring And Control

- + Monitoring of all voltage levels
- + Automated switchover in the event of a fault
- + Support for emergency operations
- + Limitation in case of bottlenecks
- + Connection to the network control room
- + Power purchase monitoring

#### Charge Planning

- + On-demand charging
- + Optimal planning of charging processes
- + Prioritization according to departure time
- + Preconditioning the vehicles at the time of departure



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