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POWER ELECTRONIC ARCHITECTURE OF SUPPLY SYSTEMS FOR ELECTRIC VEHICLE CHARGING

ABSTRACT *The paper discusses the basic requirements and power electronics converters used in charging systems for electric vehicle battery charging stations. Architecture of power systems with AC bus and DC bus are characterized as well as centralized and distributed. Possible power combinations with local energy stores are described. It also presents a modern architecture based on cascade converters allowing the elimination of a medium voltage transformer. The considerations are illustrated by an exemplary four-level converter with 1.2 MW power developed and constructed at the Electrotechnical Institute (IEL) in Warsaw.*

Keywords: *Power electronics, Electromobility, architecture of supply systems for EV charging*
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