
VDV Recommendation 505 “Design of and Protective Provisions for DC Rectifier Substations for Urban DC Rail Systems”

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VDV Recommendation 505 deals with rectifier substations for urban DC rail systems and can also be used for rectifier substations for trolleybus systems, if it is modified accordingly. Particular attention has been paid to the special conditions for the realisation of earthing measures and protective provisions within DC networks having connection to AC networks.

It is the objective of this VDV Recommendation to provide persons responsible for such systems, e.g. project planning engineers, with information and practical examples to facilitate the practical solution of problems.

This Recommendation had to be revised because the EN 50122 series “Railway applications – Fixed installations – Electrical safety, earthing and the return circuit”, on which it is based, was revised in the 2010s, most recently in 2017. Especially Part 1 “Protective provisions against electric shock” has been modified. Thus, the protective provisions are now mainly divided into “protective provisions against direct contact” and “protective provisions against indirect contact” and not into protective provisions with low voltage (nominal voltages up to and including AC 1 000 V / DC 1 500 V) and protective provisions with high voltage (nominal voltages exceeding AC 1 kV / DC 1.5 kV). Therefore, all references to the clauses in the EN 50122 series had to be checked and corrected.

This VDV Recommendation supersedes VDV Recommendation 505 from 2005.

Udo Stahlberg
Head of electrical power installations
T +49 221 57979-132 | stahlberg@vdv.de