Förhandsgranskning / Preview

Earthing and potential equalizations system Recommendations for planning and design

Guidance information

[*Information within brackets in this document refers to local regulations****]***

In order to ensure a high degree of personal and operational safety in industrial electrical installations it is necessary to comply with certain rules in connection with the planning and implementation of earthing systems. Undesired potential differences between different parts of the installation and/or a reference potential can, for example, lead to functional disturbances, damage to the installation or give rise to personal danger.

The fundamental requirements for earthing systems are stated in [SS 436 40 00, Electrical installation of buildings -Rules for design and erection of electrical installations]. According to HD384/IEC 60364-series.

In the case of voltages exceeding 1 kV the principal regulations are contained in [SS 421 01 01, Power installations exceeding 1 kV AC].

The requirements for earthing arrangements for check measurements and working earths are defined in applicable maintenance instructions and EN 50110-1.

In SSG 4525E with Appendices deal **mainly with the practical** handling of the earthing system, but also a number of other aspects are included so that the requirements of regulations and standards are met.

These instructions do not include “Earthing systems for lightning protection”. Standards within area, see section 1.12.

For more detailed information about the potential equalisation of industrial electrical installations, please refer to SEK Hb 449 (new handbook on potential equalisation).

The SSG instructions that primarily complement these instructions are:

- **SSG 5150E**, Earthing and screening of electronics equipment
- **SSG 4530E,** Earth fault monitoring for system earthing in a.c. systems
- **SSG 4100E,** Erection instructions for electrical equipment,
- **SSG 4102E,** Explosive applications (section 9, General rules for electrical installations)
- **SSG 4909E,** Recommendations for EMC survey.

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