ICS 33.100.10 SLOVENSKÁ TECHNICKÁ NORMA Apríl 2014

STN	**Elektromagnetická kompatibilita a záležitosti rádiového spektra (ERM). Elektromagnetická kompatibilita (EMC), norma na rádiové zariadenia a služby. Časť 35: Osobitné požiadavky na aktívne zdravotnícke implantáty s nízkym výkonom (LP-AMI) pracujúce v pásmach od 2 483,5 MHz do 2 500 MHz.**	**STN EN 301 489-35 V1.1.2** 87 1489

Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 35: Specific requirements for Low Power Active Medical Implants (LP-AMI) operating in the 2 483,5 MHz to 2 500 MHz bands

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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Environmental Engineering (EE); Earthing and bonding of 400 VDC data and telecom (ICT) equipment

Reference
DEN/EE-02045

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Foreword

This European Standard (EN) has been produced by ETSI Technical Committee Environmental Engineering (EE).

The present document has been produced within the framework of the following considerations:

a) Datacommunications and Telecommunications (ICT) equipment is generally installed in data and telecom centres and held in racks, cabinets or other mechanical structures;

b) the existing ITU-T and ITU-R Recommendations and CENELEC standards in such matters do not ensure the required standardization at the equipment level;

c) network operators and equipment providers agreed to standardize on a bonding configuration that facilitates:

- compliance with functional requirements including Electromagnetic Compatibility (EMC) aspects of emission and immunity;
- compatible building and equipment provisions;
- installation of new data and telecom centres as well as expansion or replacement of installations in existing data and telecom centres with equipment coming from different suppliers;
- a structured installation practice;
- simple maintenance rules;
- contracting on a common basis;
- cost effectiveness in development, manufacturing, installation and operation.

National transposition dates	
Date of adoption of this EN:	30 September 2013
Date of latest announcement of this EN (doa):	31 December 2013
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	30 June 2014
Date of withdrawal of any conflicting National Standard (dow):	30 June 2014

Introduction

The present document addresses earthing and bonding of data and telecom (ICT) equipment in data and telecom centres when implementing a direct current interface up to 400 VDC defined in EN 300 132-3-1 [1] in relation to safety, functional performance and EMC. The present standard may also be applicable for ICT equipment in other locations such as: street cabinets, containers, subscriber's buildings, BTSs, etc.

The general principles for electrical installations from a safety perspective are based on the HD 60364-series (IEC 60364-series) of standards, and where appropriate on information published by ITU-T to provide for the proper functioning of those installations.

1 Scope

The present document applies to earthing and bonding of ICT equipment installed in data and telecom centres and similar installations operating within the normal service voltage range up to 400 VDC defined in EN 300 132-3-1 [1].

Earthing and bonding network of the building (CBN), the bonding network of the equipment (SRPP), and the interconnection between these two networks are treated in the present document. It contributes to the standardization of telecommunication and datacom equipment installation.

It also co-ordinates with the pre-conditions of the installation to achieve the following targets:

- safety from electrical hazards;
- continuity of service requiring:
  - reliable signal reference;
  - satisfactory Electromagnetic Compatibility (EMC) performance.

The present document defines earthing and bonding configuration down to the equipment level in order to facilitate the installation, operation and maintenance of data and telecom centres in data and telecom buildings or similar installations independent of the equipment supplier.

The specification of ICT equipment and of the pre-conditions of installation is subject to agreement of the parties (e.g. the supplier and the purchaser). Annex A can be used in the procedure to achieve an agreement.

The present document does not cover safety and EMC aspects of the equipment. Those aspects are covered by other relevant standards.

The present document applies to the installation of ICT equipment in data and telecom centres. The present document may also be applicable for ICT equipment in other locations, e.g.:

- street cabinet;
- container;
- subscriber's building;
- BTS.

2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at http://docbox.etsi.org/Reference.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

2.1 Normative references

The following referenced documents are necessary for the application of the present document.

[1] ETSI EN 300 132-3-1: "Environmental Engineering (EE); Power supply interface at the input to telecommunications and datacom (ICT) equipment; Part 3: Operated by rectified current source, alternating current source or direct current source up to 400 V; Sub-part 1: Direct current source up to 400 V".

[2] CENELEC HD 60364-1: "Low-voltage electrical installations - Part 1: Fundamental principles, assessment of general characteristics, definitions" (IEC 60364-1).

[3] CENELEC HD 60364-4-41: "Low-voltage electrical installations - Part 4-41: Protection for safety - Protection against electric shock" (IEC 60364-4-41).

[4] CENELEC HD 60364-5-54: "Low-voltage electrical installations - Part 5-54: Selection and erection of electrical equipment - Earthing arrangements and protective conductors" (IEC 60364-5-54).

[5] IEC 60050: "International Electrotechnical Vocabulary".

[6] CENELEC EN 60950-1: "Information technology equipment - Safety - Part 1: General requirements" (IEC 60950-1).

[7] CENELEC EN 62305-series: "Protection against lightning" (IEC 62305-series).

[8] CENELEC EN 50310: "Application of equipotential bonding and earthing in buildings with information technology equipment".

[9] ETSI EN 300 253: "Environmental Engineering (EE); Earthing and bonding of telecommunication equipment in telecommunication centres".

[10] CENELEC EN 41003: "Particular safety requirements for equipment to be connected to telecommunication networks and/or a cable distribution system".

[11] IEC/TR 60479-5: "Effects of current on human beings and livestock - Part 5: Touch voltage threshold values for physiological effects".

[12] CENELEC EN 50174-2: "Information technology -Cabling installation -Part 2: Installation planning and practices inside buildings".

[13] CENELEC EN 61557-8: "Electrical safety in low voltage distribution systems up to 1 000 V a.c. and 1 500 V d.c. - Equipment for testing, measuring or monitoring of protective measures - Part 8: Insulation monitoring devices for IT systems" (IEC 61557-8).

[14] CENELEC EN 61557-9: "Electrical safety in low voltage distribution systems up to 1 000 V a.c. and 1 500 V d.c. - Equipment for testing, measuring or monitoring of protective measures - Part 9: Equipment for insulation fault location in IT systems" (IEC 61557-9).

[15] CENELEC HD 308: "Identification of cores in cables and flexible cords".

[16] CENELEC EN 60445: "Basic and safety principles for man-machine interface, marking and identification - Identification of equipment terminals, conductor terminations and conductors" (IEC 60445).

2.2 Informative references

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

[i.1] Recommendation ITU-T K.27: "Bonding configurations and earthing inside a telecommunication building".

[i.2] CENELEC EN 55022: "Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement".

[i.3] Recommendation ITU-T L.1200: "Specification of DC power feeding system interface".