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STN	**Environmentálne inžinierstvo (EE). Rozhranie napájania na vstupe telekomunikačných zariadení a zariadení dátovej komunikácie (ICT). Časť 2: Napájanie jednosmerným prúdom (dc).**	**STN EN 300 132-2 V2.5.1** 87 0132

Environmental Engineering (EE); Power supply interface at the input to telecommunications and datacom (ICT) equipment; Part 2: Operated by -48 V direct current (dc)

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

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Contents

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Foreword

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

The present document concerns the requirements for the interface between telecommunications and datacom (ICT) equipment and its power supply, and includes requirements relating to its stability and measurement. Various other references and detailed measurement and test arrangements are contained in informative annexes.

The present document is part 2 of a multi-part deliverable covering Environmental Engineering (EE); Power supply interface at the input to telecommunications and datacom (ICT) equipment, as identified below:

Part 1: "Operated by alternating current (ac) derived from direct current (dc) sources";

Part 2: "Operated by -48 V direct current (dc)";

Part 3: "Operated by rectified current source, alternating current source or direct current source up to 400 V".

National transposition dates	
Date of adoption of this EN:	5 October 2016
Date of latest announcement of this EN (doa):	31 January 2017
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 July 2017
Date of withdrawal of any conflicting National Standard (dow):	31 July 2017

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the ETSI Drafting Rules (Verbal forms for the expression of provisions).

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1 Scope

The present document contains requirements and measurements methods for the physical interface that is situated between the power supply system(s) and the power consuming telecommunications and datacom (ICT) equipment; this point is called interface "A" as defined in clause 4.

The purpose of the present document is to use a power supply system with the same characteristics for all telecommunications and datacom (ICT) equipment defined in the area of application:

- to facilitate inter working of different (types of) load units;
- to facilitate the standardization of telecommunications and datacom (ICT) equipment;
- to facilitate the installation, operation and maintenance in the same network of telecommunications and datacom (ICT) equipment and systems from different origins.

The present document aims at providing electrical compatibility between the power supply equipment and the power consuming telecommunications and datacom (ICT) equipment, and also between different system blocks connected to the same power supply.

The requirements are defined for:

- the output of the power supply equipment or power supply installation of telecommunications centres providing power at the interface "A";
- the power supply input of any type of telecommunications and datacom (ICT) equipment installed at telecommunication centres that are connected to interface "A" powered by DC;
- any type of telecommunications and datacom (ICT) equipment, installed in access networks and customers' premises, the DC interface "A" of which is also used by equipment requiring a supply to the present document.
- any type of telecommunication and datacom (ICT) equipment powered by DC, used in the fixed and mobile networks installed in different locations as building, shelter, street cabinet.

Disturbances on the power supply interface "A" relating to the continuous wave phenomena below 20 kHz are covered within the present document.

The present document does not cover safety requirements, they are covered by relevant safety standards.

The present document does not cover EMC requirements, they are covered by relevant EMC standards.

NOTE 1: The present document is applicable only to -48 V_{DC} power supply interfaces. However, during a transitional period, other DC voltages may be used in existing installations. Annex B gives guidance on working in conjunction with existing -60 V_{DC} supply systems.

NOTE 2: The DC voltage at interface "A" may be derived from the AC primary supply. The DC supply may incorporate a backup battery

2 References

2.1 Normative 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 https://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.

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

[1] CENELEC EN 60269-1: "Low-voltage fuses - Part 1: General requirements".

[2] CENELEC EN 60934: "Circuit-breakers for equipment (CBE)".

[3] Void.

[4] Void.

[5] CENELEC EN 61000-4-5: "Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test".

[6] Void.

[7] CENELEC EN 61000-4-29: "Electromagnetic compatibility (EMC) -Part 4-29: Testing and measurement techniques -Voltage dips, short interruptions and voltage variations on d.c. input power port immunity tests".

2.2 Informative 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.

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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 Q.551: "Transmission characteristics of digital exchanges".

[i.2] Recommendation ITU-T Q.552: "Transmission characteristics at 2-wire analogue interfaces of digital exchanges".

[i.3] Recommendation ITU-T Q.553: "Transmission characteristics at 4-wire analogue interfaces of digital exchanges".

[i.4] Recommendation ITU-T Q.554: "Transmission characteristics at digital interfaces of digital exchanges".

[i.5] ETSI TR 100 283: "Environmental Engineering (EE); Transient voltages at Interface "A" on telecommunications direct current (dc) power distributions".

[i.6] US Department of Defence MIL-STD-461E: "Requirements for the control of electromagnetic interference characteristics of subsystems and equipment".

[i.7] ETSI EN 300 253: "Environmental Engineering (EE); Earthing and bonding of ICT equipment powered by -48 VDC in telecom and data centres".

[i.8] Recommendation ITU-T O.41: "Psophometer for use on telephone-type circuits".

[i.9] IEC 60050-601: "International Electrotechnical Vocabulary. Chapter 601: Generation, transmission and distribution of electricity - General" (Area 826 "Electrical installations", section 826-11 "Voltages and currents").