



SLOVENSKI STANDARD
SIST EN 300 132-3-0 V2.1.1:2012
01-april-2012

Okoljski inženiring (EE) - Napajalni vmesnik na vhodu v telekomunikacijsko in podatkovno-komunikacijsko opremo - 3. del: Napajanje z usmerjenim tokovnim virom, izmenično napetostjo ali enosmerno napetostjo do 400 V - 0. poddel: Pregled

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 0: Overview

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Ta slovenski standard je istoveten z: EN 300 132-3-0 Version 2.1.1

ICS:

19.040	Preskušanje v zvezi z okoljem	Environmental testing
35.200	Vmesniška in povezovalna oprema	Interface and interconnection equipment

SIST EN 300 132-3-0 V2.1.1:2012 **en**

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ETSI EN 300 132-3-0 V2.1.1 (2012-02)



**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 0: Overview**

Reference

REN/EE-02017-0

Keywords

environment, interface, power supply

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Sous-Préfecture de Grasse (06) N° 7803/88

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Foreword

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

The present document is part 3 sub-part 0 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 3-0: "Operated by rectified current source, alternating current source or direct current source up to 400 V, Sub-part 0: Overview";

Part 3-1: "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";

Part 3-2: "Operated by rectified current source, alternating current source or direct current source up to 400 V; Sub-part 2: Alternating up to 400 V solution";

Part 3-3: "Operated by rectified current source, alternating current source or direct current source up to 400 V; Sub-part 3: Rectified current up to 400 V solution".

The parts 3-0 to 3-3 are the result of a revision of EN 300 132-3 [3]. This revision was necessary, because the present document was not clear. Sub-parts have been introduced for voltage interfaces A3 up to 400 V.

NOTE 1: For parts 1 and 2, the nominal DC voltage is -48 or -60 V.

NOTE 2: Not all the sub-parts or part 3 will be released at the same time. The first sub-parts that will be released are part 3-0 and 3-1.

National transposition dates

Date of adoption of this EN:	9 February 2012
Date of latest announcement of this EN (doa):	31 May 2012
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	30 November 2012
Date of withdrawal of any conflicting National Standard (dow):	30 November 2012

1 Scope

The present document introduces a series of standards sub-parts specifying Power Supply Interface A3 at the input to telecommunications and datacom (ICT) equipment:

- Part 3-1: "Operated by rectified current source, alternating current source or direct current source up to 400 V; Sub-part 1: Direct Current source up to 400V";
- Part 3-2: "Operated by rectified current source, alternating current source or direct current source up to 400 V; Sub-part 2: Alternating up to 400 V solution".
- Part 3-3: "Operated by rectified current source, alternating current source or direct current source up to 400 V; Sub-part 3: Rectified current up to 400 V solution".

The power can be supplied at the interface by a single source or a multi-source system that may include batteries or back-up generators or renewable energy sources.

The sub-part document aims at providing compatibility between the power supply equipment and both the telecom/datacom (ICT) equipment. The same interface A3 can be used for other load units connected (e.g. control/monitoring, cooling system, etc.).

The requirements at interface A3 defined in the sub-parts 1 to 3 apply to:

- the output of the power supply equipment or power supply installation for powering telecommunications and datacom (ICT) equipment;
- the power supply input of telecommunications and datacom (ICT) equipment;
- other equipment power supply input compatible with this interface.

The purpose of the present document is:

- to identify a power supply system with the same characteristics for all telecommunications and datacom (ICT) equipment defined in the area of application. The area of application may be telecom center or datacenter or customer premises (e.g. business buildings);
- to facilitate the standardization of power supply systems for telecommunications and datacom (ICT) equipment;
- to facilitate the installation, operation and maintenance in the same network of equipment and telecommunications and datacom (ICT) equipment or system from different origins;
- to facilitate interworking of different types of loads.

General requirements for safety and EMC are out of the scope of the present document series unless specific requirements are not defined in existing safety or EMC standards.

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 reference 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 ETS 300 132-1: "Equipment Engineering (EE); Power supply interface at the input to telecommunications equipment; Part 1: Operated by alternating current (ac) derived from direct current (dc) sources".
- [2] ETSI EN 300 132-2: "Environmental Engineering (EE); Power supply interface at the input to telecommunications equipment; Part 2: Operated by -48 V direct current (dc)".
- [3] ETSI EN 300 132-3-1: "Environmental Engineering (EE); Power supply interface at the input to telecommunications and datacom (ICT) equipment; Part 3-1: Operated by rectified current source, alternating current source or direct current source up to 400 V, Sub-part 0: Overview".
- [4] IEC 60038: "IEC Standard Voltages".

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] IEC 60445: "Basic and safety principle for man-machine interface, marking and identification - Identification of equipment terminals, conductor terminations, and conductors".
- [i.2] www.electropedia.org: "Electropedia: The World's Online Electrotechnical Vocabulary".
- [i.3] ETSI EN 300 132-3-2: "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 2: Alternating up to 400 V solution".
- [i.4] ETSI EN 300 132-3-3: "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 3: Rectified current up to 400 V solution".

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

abnormal service voltage ranges: steady-state voltage ranges over which the telecommunications and datacom (ICT) equipment will not be expected to maintain normal service but will survive undamaged

area of application: any location where the interface A3 is used i.e. telecommunication centers, Radio Base Stations, datacenters and customer premises

compliance criteria:

Criteria a): The apparatus shall continue to operate as intended during and after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended.

Criteria b): Temporary loss of function or degradation of performance, which ceases after the disturbance ceases, and from which the equipment under test recovers its normal performance, without operator intervention.

customer premises: any location which is the sole responsibility of the customer

interface A3: interface, physical point, at which power supply is connected in order to operate the telecommunications and datacom (ICT) equipment

load unit: power consuming equipment, that is part of a system block

nominal voltage: value of the voltage by which the electrical installation or part of the electrical installation is designated and identified

normal operating condition: typical environmental and powering conditions for operation of telecommunications and datacom (ICT) equipment, power supply, power distribution and battery

normal operating voltage: typical value of the voltage at A3 interface within the normal operating voltage range

normal operating voltage range: voltage range at A3 interface where the system operates most of the time, e.g. in general linked to battery floating voltage

normal service: service mode where telecommunications and datacom (ICT) equipment operates within its specification

normal service voltage range: range of the steady-state voltage at the "A3" interface over which the equipment will maintain normal service

operating voltage: value of the voltage under normal conditions, at a given instant and a given point (A3 interface) of the system

power supply: power supply to which telecommunications and datacom (ICT) equipment is intended to be connected

system block: functional group of telecommunications and datacom (ICT) equipment depending for its operation and performance on its connection to the same power supply

telecommunications and datacom (ICT) equipment: in this context, telecommunications and datacom (ICT) equipment means telecommunication or datacommunication equipment that is a part of ICT equipment definition

telecommunication centre: any location where telecommunications and datacom (ICT) equipment is installed and is the sole responsibility of the operator

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3.2 Symbols

For the purposes of the present document, the following symbols apply:

U_T Reference Test Voltage

3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

AC Alternating Current

NOTE: Also when used as a suffix to units of measurement.

DC Direct Current

NOTE: Also when used as a suffix to units of measurement.

EMC Electro Magnetic Compatibility

ICT Information and Communication Technology

UPS Uninterrupted Power Supply