
Nizkonapetostne naprave za zaščito pred prenapetostnimi udari - 11. del: Naprave za zaščito pred prenapetostnimi udari za nizkonapetostne napajalne sisteme - Zahteve in preskusi - Dopolnilo A11

Low-voltage surge protective devices - Part 11: Surge protective devices connected to low-voltage power systems - Requirements and test methods

Überspannungsschutzgeräte für Niederspannung - Teil 11: Überspannungsschutzgeräte für den Einsatz in Niederspannungsanlagen - Anforderungen und Prüfungen

Parafoudres basse tension - Partie 11: Parafoudres connectés aux systèmes basse tension - Exigences et méthodes d'essai

<https://standards.iteh.ai/catalog/standards/sist/61440fdb-acc2-44bd-b618-2065fd539a98/sist-en-61643-11-2012-a11-2018>

Ta slovenski standard je istoveten z: EN 61643-11:2012/A11:2018

ICS:

29.240.10	Transformatorske postaje. Prenapetostni odvodniki	Substations. Surge arresters
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SIST EN 61643-11:2012/A11:2018

en,fr

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SIST EN 61643-11:2012/A11:2018

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 61643-11:2012/A11

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ICS 29.140; 29.140.10

English Version

**Low-voltage surge protective devices - Part 11: Surge protective
devices connected to low-voltage power systems -
Requirements and test methods**

Parafoudres basse tension - Partie 11: Parafoudres
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Überspannungsschutzgeräte für Niederspannung - Teil 11:
Überspannungsschutzgeräte für den Einsatz in
Niederspannungsanlagen - Anforderungen und Prüfungen

This amendment A11 modifies the European Standard EN 61643-11:2012; it was approved by CENELEC on 2017-07-17. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This amendment exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

SIST EN 61643-11:2012/A11:2018

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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EN 61643-11:2012/A11:2018 (E)

European foreword

This document (EN 61643-11:2012/A11:2018) has been prepared by CLC/TC 37A "Low voltage surge protective devices".

The following dates are fixed:

- latest date by which this document has to be (dop) 2018-09-23
implemented at national level by publication of an
identical national standard or by endorsement
- latest date by which the national standards conflicting (dow) 2021-03-23
with this document have to be withdrawn

Annex ZC applies to portable SPDs classified as pluggable equipment type A according to EN 62368-1.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

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*In the European foreword, **replace** the last paragraph as follows:*

This standard covers the principle elements and objectives for electrical equipment designed for use within certain voltage limits (LVD - 2014/35/EU).

Add a new subclause:

7.5.5 Portable SPDs classified as pluggable equipment type A

For portable SPDs classified as pluggable equipment Type A, the additional requirements given in Annex ZC apply. Compliance is checked by tests of Annex ZC.

Add the following to Annex ZA:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60364	series	Electrical installations of buildings / Low-voltage electrical installations	HD 384 / HD 60364	series
IEC 62368-1	2014	Audio/video, information and communication technology equipment - Part 1: Safety requirements	EN 62368-1	2014 (mod)

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EN 61643-11:2012/A11:2018 (E)

Add the following new annexes:

Annex ZC (normative)

Additional requirements for portable SPDs classified as pluggable equipment type A

Annex ZC applies to portable SPDs classified as pluggable equipment type A according to EN 62368-1.

NOTE A pluggable equipment type A is an equipment that is intended for connection to the mains via a non-industrial plug and socket-outlet or via a non-industrial appliance coupler, or both. These equipment are dedicated to household and similar uses.

It does not apply to

- portable SPDs for industrial and similar use,
- portable SPDs that are designed to be permanently connected to the fixed installation with a reliable earth (e.g. mounted in 19" racks).

If not otherwise mentioned, Annex ZC amends specific requirements of this European Standard. All requirements not mentioned in this annex shall be applied unchanged as provided in Table 3.

In Clause ZC.x below, the same numbering of the sub-clauses has been kept as in the main document.

ZC.7.7 Specific requirements for portable SPDs classified as pluggable equipment type A

For portable SPDs considered as pluggable equipment type A, the following specific requirements apply.

- Every mode of protection shall be provided with an appropriate internal disconnecter(s). No external disconnectors shall be required. All tests shall be passed by the SPD itself.
- Live terminals shall not be specifically assigned to a line terminal or to a neutral terminal. All live terminals shall be tested in the same way (due to possible inversion).
- No exceptions related to N-PE mode of protection of the main document apply to portable SPDs.
- Wherever disconnecter operation is required, it shall be provided by internal disconnecter(s).
- Internal disconnectors dedicated to the SPD function shall not be resettable or replaceable.
- The short circuit current rating I_{scrr} shall not be lower than 1 500 A.
- All possible protection modes shall be tested, i.e. live to live and live to PE, when applicable.
- Voltage limiting components shall be rated to a minimum value of 1,25 times the nominal rated voltage of the system for which the SPD is designed, e.g. 230 V + 25 % min. for 230 V AC systems. When a mode of protection contains more than one voltage limiting component in series, this requirement applies to the sum of the voltage ratings of all voltage limiting components connected in series.

For SPDs with no protection mode connected to PE, no additional requirement applies.

For SPDs with a protection mode connected to PE, this protection mode shall consist of at least one voltage limiting component (e.g. MOV) and one voltage switching component (e.g. GDT) connected in series.

Portable multiservice SPDs designed to protect more than one kind of service e.g. power, data, and telecom system, shall be provided with modes of protection referring to a common reference point.

NOTE: This common reference point is normally connected to PE or the equipotential bonding system of the fixed installation

All clearances and creepage distances, including distances along outer surfaces of components, shall comply with the requirements for basic insulation of overvoltage category II and pollution degree 2.

Compliance is checked by visual inspection and the relevant tests of Clause 8 in conjunction with this Annex ZC.

ZC.8.3.5.3 Short-circuit current behaviour tests

b) Test at low short-circuit current

The prospective short-circuit current shall be set to 100 A.

Pass criteria

Pass criteria **C, H, I, J, K, M** and **N** according to Table 4 shall apply.

ZC.8.3.5.3.2 Additional test for SPD's failure mode simulation

Pass criteria

Pass criteria **C, H, I, J, M** and **N** according to Table 4 shall apply.

ZC.8.3.8 Behaviour under temporary overvoltages (TOVs)

Tests are applied:

- between live terminals;
- between live terminals and PE, if applicable.

Table B.1 is replaced by Table ZC.B.1 with conditions corresponding to the worse conditions of TT and TN systems. U_{ref} is set to minimum 255 V AC.

NOTE For household and similar use, installations fed by IT system are limited to the line-to-line a.c system voltages (without distributed neutral conductor).

Table ZC.B.1 – TOV test values for systems complying with IEC 60364 series for portable SPDs

	For $t_T = 5$ s (LV-system faults in consumer installation)	For $t_T = 120$ min (LV-system faults in distribution system and loss of neutral)	For $t_T = 200$ ms (HV- system faults) (requirement in 7.2.8.2 and test in 8.3.8.2)
	Withstand mode required	Withstand mode or safe failure mode required	Safe failure mode required ^a
Tests between live terminals	$1,32 \times U_{\text{REF}}$	$\sqrt{3} \times U_{\text{REF}}$	Not applicable
Tests between live – PE ^a	$\sqrt{3} \times U_{\text{REF}}$	$\sqrt{3} \times U_{\text{REF}}$	$1\,200 + U_{\text{REF}}$
^a Applicable for SPDs with protection mode connected to PE			

ZC.8.3.8.2 TOVs caused by faults in the high (medium) voltage system

The prospective short-circuit current of the power source for U_{REF} shall be set to 100 A.

Annex ZZ (informative)

Relationship between this European standard and the safety objectives of Directive 2014/35/EU [2014 OJ L96] aimed to be covered

This European Standard has been prepared under a Commission's standardization request relating to harmonized standards in the field of the Low Voltage Directive, M/511, to provide one voluntary means of conforming to safety objectives of Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonization of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits [2014 OJ L96].

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZZ.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding essential requirements of that Directive, and associated EFTA regulations.

Table ZZ.1 – Correspondence between this European standard and Article 3 of Directive 2014/53/EU [2014 OJ L153]

Safety Objectives of Directive 2014/35/EU	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
(1)(a)	1, 2, 3, 4, 5, 7.1, 8.2, Annex ZC, Annex D	
(1)(b)	7.1, 7.3, 8.2, 8.4, Annex ZC, Annex D	
(1)(c)	4, 8.1, Annex ZC, Annex D	
(2) (a)	5.5, 7.2.1, 7.2.2, 8.3.1, 8.3.2, all tests for which pass criteria C, E, I apply, all tests for which H, J apply, 9, Annex ZC, Annex D	
(2) (b)	7.2.4, 7.2.5, 7.2.5.2, 7.2.8, 7.5.1, 7.5.4, 8.3.4, 8.3.5 and annex ZC, 8.3.5.2, 8.3.8 and annex ZC, 8.6.1 and 8.6.4, 9, Annex D	
(2) (c)	7.4.5.1 and 7.4.5.2, 9, Annex ZC, Annex D	
(2) (d)	7.2.6, 7.2.7, 7.3.4, 7.5.2, 8.3.6, 8.3.7, 8.4.3 and Annex F.3, Annex ZC, Annex D	
(3) (a)	7.3.5, 7.6.1.3, 8.4.4, 9 and annex ZB, Annex ZC, Annex D	
(3) (b)	7.4.2, 7.4.3, 7.5.2, 8.3.5.1, 8.5.2, 8.5.3, 8.5.4 and Annexes F.1, F.2, F.4 and F.5, 9, Annex ZC, Annex D	
(3) (c)	7.2.5, 7.2.8, 7.5.1, 7.5.4, 8.3.5, 8.3.8, 8.6.1 and 8.6.4, 9, Annex ZC, Annex D	

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — Other Union legislation may be applicable to the product(s) falling within the scope of this standard.