Irish Standard
I.S. EN 50550:2011&AC:2012&A1:2014

Power frequency overvoltage protective device for household and similar applications (POP)

I.S. EN 50550:2011&AC:2012&A1:2014

Incorporating amendments/corrigenda/National Annexes issued since publication:

EN 50550:2011/A1:2014 EN 50550:2011/AC:2012

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Údarás um Chaighdeáin Náisiúnta na hÉireann

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50550:2011/A1

September 2014

ICS 29.120.50

English Version

Power frequency overvoltage protective device for household and similar applications (POP)

Dispositif de protection contre les surtensions à fréquence industrielle pour les applications domestiques et analogues

Schutzeinrichtung gegen netzfrequente Überspannungen für Hausinstallationen und für ähnliche Anwendungen

This amendment A1 modifies the European Standard EN 50550:2011; it was approved by CENELEC on 2014-07-28. 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.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

This document (EN 50550:2011/A1:2014) has been prepared by CLC/TC 23E "Circuit breakers and similar devices for household and similar applications".

The following dates are fixed:

• latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2015-07-28
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2017-07-28

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

This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

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).

Annex A

Replace Table A.1 by the following new table:

Table A.1 – Test sequences

Test sequence	Clause or subclause	Test or inspection
A	6	Marking
	8.1.1	General
	8.1.2	Mechanism
	9.3.5	Indelibility of marking
	8.1.3 and 8.1.4	Clearance and creepage distances
	9.12	Reliability of screws, current currying parts and connections
	9.13	Reliability of terminals for external conductors
	9.14	Protection against electric shock
	9.15	Resistance to mechanical shock and impact
	9.16	Resistance to heat
	9.17	Resistance to abnormal heat and to fire
B	9.4	Dielectrics properties
	9.5	Temperature rise
	9.11	Verification of safety performance of overstressed POPs
	9.6	Operating characteristics
C	9.7	Verification of the mechanical and electrical endurance
D	9.3.1	Operating characteristics of the main protective device
	9.3.2.3 b) 1)	Short circuit test (only for devices according to 4.2.3)
E	9.3.2.3 a)	Short circuit test (only for devices according to 4.2.1)
	9.3.2.3 b) 2)	Short circuit test (only for devices according to 4.2.3)
	9.3.2.3 c) [b)]	Short circuit test (only for devices according to 4.2.2)
F	9.3.3	Ageing of electronic components
G [a)]	9.10	Electromagnetic compatibility
H	9.8 and 9.9	Tests of creepage distances and clearances for electronic circuits
I	9.18	Verification of the correct operation at low ambient air temperatures for RCCBs for use at temperatures between -25 °C and +40 °C

[a)] EMC tests may be conducted on three sets of three samples. First set with tests T7.3 and T8.3, second set with tests T8.1, T8.5, T8.4 and T8.2, third set with tests T10.1, T10.2, T8.6 and T9.1, according to Tables 4, 5, 6 and 7 as applicable.

[b)] Only for Icn tests.

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Corrigendum to EN 50550:2011

English version

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In 8.1.3, first sentence, ***replace*** "Table 3" *with* "Table 2" *to read* "The minimum required clearances and creepage distances are given in Table 2 which is based on the POP being designed for operating in an environment with pollution degree 2.".

In 8.1.3, headline of Table 2 continuation, ***replace*** "Table 3" *with* "Table 2" *to read* "Table 2 – Minimum clearances and creepage distances *(continued)*".

In 8.1.3, Table 2, footnote g, ***replace*** "RCCB" *with* "POP" *to read* "This applies also to clearance and creepage distances between live parts of different polarity of the POP and equipments mounted close to it.".

In 9.8.3, item a), last paragraph, ***replace*** "Table 3" *with* "Table 2" *to read* "Clearances and creepage distances complying with the requirements of Table 2, and printed boards with type B coating complying with EN 60664-3 are excluded from this test;".

In 9.10.1.3, Table 6, footnote a, third sentence, ***replace*** "RCD" *with* "POP" *to read* "The point to which discharges shall be applied is selected by an exploration of the accessible surfaces of the POP, when installed as for normal use.".

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March 2012

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50550

February 2011

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CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 50550:2011 E

Foreword

This European Standard was prepared by the CENELEC BTTF 128-1, Power frequency overvoltage protective device for household and similar applications.

It was submitted to the formal vote and was approved by CENELEC as EN 50550 on 2011-01-15.

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

The following dates are proposed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2012-01-15
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2014-01-15

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and covers essential requirements of EC Directive 2004/108/EC. See Annex ZZ.

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Tables

1 Scope

This European Standard applies to power frequency overvoltage protection devices (hereafter referred to as “POP”) for household and similar uses, with a rated frequency of 50 Hz, a rated voltage 230 V a.c. (between phase and neutral), intended to be used in combination with a main protective device being either a CB in compliance with EN 60898-1 or EN 60898-2, a RCCB in compliance with EN 61008-1 or a RCBO in compliance with EN 61009-1.

NOTE 1 Requirements for POPs in combination with switching devices other than a main protective device, or a POP integrated in a MPD, are under consideration.

NOTE 2 Requirements for POP with functional earth connection regarding temporary overvoltage withstand are under consideration.

NOTE 3 A POP is not a protective device to be used for automatic disconnection of the supply in the meaning of HD 60364-4-41.

They are intended for use in an environment with pollution degree 2 and overvoltage category III.

They can be designed for factory assembly or for assembly on site.

These devices are intended to mitigate the effects of power frequency overvoltages between phase and neutral conductor (e.g. caused by loss of neutral conductor in the three phase supply upstream the POP) for downstream equipment by actuating the main protective device when an overvoltage between phase and neutral is detected.

NOTE 4 To mitigate means in this context that the POP will provide protection in most cases of power frequency overvoltages.

NOTE 5 Protection in case of overvoltage between phases is under consideration. In case of phase to phase electrical supply system with rated voltage between phases 230 V a.c. and no neutral conductor, one line monitored POP in compliance to this standard can be used according to manufacturer’s instruction.

The POP does not impair the protective function of the main protective device.

This European Standard does not apply for protection against common mode over voltages.

This European Standard does not apply to surge protective devices.

This European Standard states:

– the definitions of terms used for POP (Clause 3);

– the classification of POP (Clause 4);

– the characteristics of POP (Clause 5);

– the preferred values of the operating and influencing quantities (Clause 5);

– the marking and information to be provided for POP (Clause 6);

– the standard conditions for installation and operation in service (Clause 7);

– the requirements for construction and operation (Clause 8);

– the list of minimum requirements to be tested (Clause 9).