

**Components for low-voltage surge protective devices -
Part 311: Performance requirements and test circuits
and methods for gas discharge tubes (GDT) (IEC 61643-
311:2013)**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 61643-311:2013 sisaldab Euroopa standardi EN 61643-311:2013 ingliskeelset teksti.	This Estonian standard EVS-EN 61643-311:2013 consists of the English text of the European standard EN 61643-311:2013.
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**Components for low-voltage surge protective devices -
Part 311: Performance requirements and test circuits for gas discharge
tubes (GDT)
(IEC 61643-311:2013)**

Composants pour parafoudres basse
tension -
Partie 311: Exigences de performance et
circuits d'essai pour tubes à décharge de
gaz (TDG)
(CEI 61643-311:2013)

Bauelemente für
Überspannungsschutzgeräte für
Niederspannung -
Teil 311: Leistungsanforderungen sowie
Prüfschaltungen und -verfahren für
Gasentladungsableiter (ÜsAG)
(IEC 61643-311:2013)

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CENELEC

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

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Foreword

The text of document 37B/113/FDIS, future edition 2 of IEC 61643-311, prepared by SC 37B, "Specific components for surge arresters and surge protective devices", of IEC TC 37, "Surge arresters" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61643-311:2013.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2014-02-16
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2016-05-16

This document partially supersedes EN 61643-311:2001.

EN 61643-311:2013 includes the following significant technical changes with respect to EN 61643-311:2001:

- addition of performance values.

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Endorsement notice

The text of the International Standard IEC 61643-311:2013 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60364-5-51:2005	NOTE	Harmonised as HD 60364-5-51:2009 (modified).
IEC 61180-1:1992	NOTE	Harmonised as EN 61180-1:1994 (not modified).
IEC 61643-312	NOTE	Harmonised as EN 61643-312.
IEC 61643-11:2011	NOTE	Harmonised as EN 61643-11:2012 (modified).
IEC 61643-21:2000 + A1:2008	NOTE	Harmonised as EN 61643-21:2001 (not modified) + A1:2009 (modified)

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-2-1	2007	Environmental testing - Part 2-1: Tests - Test A: Cold	EN 60068-2-1	2007
IEC 60068-2-20	2008	Environmental testing - Part 2-20: Tests - Test T: Test methods for solderability and resistance to soldering heat of devices with leads	EN 60068-2-20	2008
IEC 60068-2-21 + corr. January	2006 2012	Environmental testing - Part 2-21: Tests - Test U: Robustness of terminations and integral mounting devices	EN 60068-2-21	2006
IEC 61000-4-5 + corr. October	2005 2009	Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test	EN 61000-4-5	2006
ITU-T Recommendation K.20	2011	Resistibility of telecommunication equipment - installed in a telecommunications centre to overvoltages and overcurrents	-	-

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COMPONENTS FOR LOW-VOLTAGE SURGE PROTECTIVE DEVICES –

Part 311: Performance requirements and test circuits for gas discharge tubes (GDT)

1 Scope

This part of IEC 61643 is applicable to gas discharge tubes (GDT) used for overvoltage protection in telecommunications, signalling and low-voltage power distribution networks with nominal system voltages up to 1 000 V (r.m.s.) a.c. and 1 500 V d.c.. They are defined as a gap, or several gaps, with two or three metal electrodes hermetically sealed so that gas mixture and pressure are under control. They are designed to protect apparatus or personnel, or both, from high transient voltages. This standard contains a series of test criteria, test methods and test circuits for determining the electrical characteristics of GDTs having two or three electrodes. This standard does not specify requirements applicable to complete surge protective devices, nor does it specify total requirements for GDTs employed within electronic devices, where precise coordination between GDT performance and surge protective device withstand capability is highly critical.

This part of IEC 61643

- does not deal with mountings and their effect on GDT characteristics. Characteristics given apply solely to GDTs mounted in the ways described for the tests;
- does not deal with mechanical dimensions;
- does not deal with quality assurance requirements;
- may not be sufficient for GDTs used on high-frequency (>30 MHz);
- does not deal with electrostatic voltages;
- does not deal with hybrid overvoltage protection components or composite GDT devices.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60068-2-1:2007, *Environmental testing – Part 2: Tests. Tests A: Cold*

IEC 60068-2-20:2008, *Environmental testing – Part 2: Tests. Test T: Test methods for solderability and resistance to soldering heat of devices with leads*

IEC 60068-2-21:2006, *Environmental testing – Part 2-21: Tests – Test U: Robustness of terminations and integral mounting devices*

IEC 61000-4-5:2005, *Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – Section 5: Surge immunity test*

ITU-T Recommendation K.20:2011, *Resistibility of telecommunication equipment installed in a telecommunications centre to overvoltages and overcurrents*