

Lightning Protection System Components (LPSC) - Part 3: Requirements for isolating spark gaps

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ICS 29.020, 91.120.40

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**Lightning Protection System Components (LPSC) -
Part 3: Requirements for isolating spark gaps
(IEC 62561-3:2012, modified)**

Composants de système de protection
contre la foudre (CSPF) -
Partie 3: Exigences pour les éclateurs
d'isolement (CEI 62561-3:2012, modifiée)

Blitzschutzsystembauteile (LPSC) -
Teil 3: Anforderungen an
Trennfunkengestrecken
(IEC 62561-3:2012, modifiziert)

This European Standard was approved by CENELEC on 2012-03-16. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard 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 European Standard 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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization

Comité Européen de Normalisation Electrotechnique

Europäisches Komitee für Elektrotechnische Normung

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 81/418/FDIS, future edition 1 of IEC 62561-3, prepared by IEC/TC 81, "Lightning protection", was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62561-3:2012.

A draft amendment, which covers common modifications to IEC 62561-3 (81/418/FDIS), was prepared by CLC/TC 81X "Lightning protection" and approved by CENELEC.

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) 2013-03-16
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2015-03-16

This document supersedes EN 50164-3:2006 + A1:2009.

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.

Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62561-3:2012 are prefixed "Z".

Endorsement notice

The text of the International Standard IEC 62561-3:2012 was approved by CENELEC as a European Standard with agreed common modifications.

COMMON MODIFICATIONS

Whole document

Replace all references to IEC 62305 by references to EN 62305.

Replace all references to IEC 62561 by references to EN 62561.

1 Scope

Add the following at the end of the clause:

Protective devices according to EN 50122-1 and EN 50123-5 are outside the scope of this European Standard.

6 Tests

Under 6.2.4.1, Table 1, footnote ^a, **replace** "IEC 62305-1 and IEC 61643-11" by "EN 62305-1 and EN 61643-11".

Annexes

Annex A (normative) **Environmental test for isolating spark gaps**

In A.2, **replace** thrice "IEC 60068-2-52:1996" by "EN 60068-2-52:1996".

Add the following new annexes:

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 Where 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 60068-2-52 + corr. July	1996 1996	Environmental testing - Part 2: Tests - Test Kb: Salt mist, cyclic (sodium chloride solution)	EN 60068-2-52	1996
IEC 61643-11	-	Low-voltage surge protective devices - Part 11: Surge protective devices connected to low-voltage power systems - Requirements and test methods	EN 61643-11	-
IEC 62305-1	-	Protection against lightning - Part 1: General principles	EN 62305-1	-
IEC 62561-1	-	Lightning Protection System Components (LPSC) - Part 1: Requirements for connection components	EN 62561-1	-
ISO 6957	1988	Copper alloys - Ammonia test for stress corrosion resistance	-	-
ISO 6988	1985	Metallic and other non-organic coatings - Sulfur dioxide test with general condensation of moisture	EN ISO 6988	1994

Annex ZB
(informative)

**Identification and differences of tests between
EN 62561-3:2012 and EN 50164-3:2006 + A1:2009**

**Table ZB.1 – Identification and differences of tests
between EN 62561-3:2012 and EN 50164-3:2006 + A1:2009**

Test description	EN 62561-3:2012	EN 50164-3:2006 + A1:2009	Deviations / Remarks
Isolation resistance	6.2.1	6.2.1	None
Withstand voltage	6.2.2	6.2.2	None
Rated impulse sparkover voltage	6.2.3	6.2.3	None
Lightning current	6.2.4	6.2.4	None
Isolation resistance	6.2.5	6.2.4.1	None
Withstand voltage	6.2.6	6.2.4.2	None
Rated impulse sparkover voltage	6.2.7	6.2.4.3	None
Marking test	6.3	6.3	None

Bibliography

Add the following reference:

EN 50164-3:2006 + A1:2009, *Lightning Protection Components (LPC) – Part 3: Requirements for isolating spark gaps*

Replace the references to IEC standards with the following:

EN 60529, *Degrees of protection provided by enclosures (IP Code) (IEC 60529)*

EN 62305-3, *Protection against lightning – Part 3: Physical damage to structures and life hazard (IEC 62305-3)*

EN 62305-4, *Protection against lightning – Part 4: Electrical and electronic systems within structures (IEC 62305-4)*

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INTRODUCTION

This part of IEC 62561 deals with the requirements and tests for isolating spark gaps (ISG) used for the installation of a lightning protection system (LPS) designed and implemented according to IEC 62305 series of standards.

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LIGHTNING PROTECTION SYSTEM COMPONENTS (LPSC) –

Part 3: Requirements for isolating spark gaps (ISG)

1 Scope

This part of IEC 62561 specifies the requirements and tests for isolating spark gaps (ISG) for lightning protection systems.

ISGs can be used to indirectly bond a lightning protection system to other nearby metalwork where a direct bond is not permissible for functional reasons.

Typical applications include the connection to:

- earth termination systems of power installations;
- earth termination systems of telecommunication systems;
- auxiliary earth electrodes of voltage-operated, earth fault circuit breakers;
- rail earth electrode of AC and DC railways;
- measuring earth electrodes for laboratories;
- installations with cathodic protection and stray current systems;
- service entry masts for low-voltage overhead cables;
- bypassing insulated flanges and insulated couplings of pipelines.

This standard does not cover applications where follow currents occur.

NOTE Lightning protection system components (LPSC) can also be suitable for use in hazardous conditions such as fire and explosive atmosphere. Due regard will be taken of the extra requirements necessary for the components to be installed in such conditions.

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 60068-2-52:1996, *Environmental testing – Part 2-52: Tests – Test Kb: Salt mist, cyclic (sodium chloride solution)*

IEC 61643-11, *Low-voltage surge protective devices – Part 11: Surge protective devices connected to low-voltage power systems – Requirements and test methods*

IEC 62561-1, *Lightning protection system components (LPSC) – Part 1: Requirements for connection components*

IEC 62305-1, *Protection against lightning – Part 1: General principles*

ISO 6957:1988, *Copper alloys – Ammonia test for stress corrosion resistance*

ISO 6988:1985, *Metallic and other non-organic coatings – Sulphur dioxide test with general condensation of moisture*