



SLOVENSKI STANDARD
SIST EN IEC 62561-3:2023

01-november-2023

Elementi za zaščito pred strelo (LPSC) - 3. del: Zahteve za izolacijska iskrišča (IEC 62561-3:2023)

Lightning protection system components (LPSC) - Part 3: Requirements for isolating spark gaps (ISG) (IEC 62561-3:2023)

Blitzschutzsystembauteile (LPSC) - Teil 3: Anforderungen an Trennfunkenstrecken (IEC 62561-3:2023)

Composants des systèmes de protection contre la foudre (CSPF) - Partie 3: Exigences pour les éclateurs d'isolement (IEC 62561-3:2023)

Ta slovenski standard je istoveten z: EN IEC 62561-3:2023

ICS:

29.080.99	Drugi standardi v zvezi z izolacijo	Other standards related to insulation
91.120.40	Zaščita pred strelo	Lightning protection

SIST EN IEC 62561-3:2023

en

EUROPEAN STANDARD

EN IEC 62561-3

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2023

ICS 91.120.40

Supersedes EN 62561-3:2017

English Version

**Lightning protection system components (LPSC) - Part 3:
Requirements for isolating spark gaps (ISGs)
(IEC 62561-3:2023)**

Composants des systèmes de protection contre la foudre
(CSPF) - Partie 3: Exigences pour les éclateurs d'isolement
(IEC 62561-3:2023)

Blitzschutzsystembauteile (LPSC) - Teil 3: Anforderungen
an Trennfunkensrecken
(IEC 62561-3:2023)

This European Standard was approved by CENELEC on 2023-08-09. 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN IEC 62561-3:2023 (E)**European foreword**

The text of document 81/727/FDIS, future edition 3 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 IEC 62561-3:2023.

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) 2024-05-09
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2026-08-09

This document supersedes EN 62561-3:2017 and all of its amendments and corrigenda (if any).

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.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

iTeh STANDARD PREVIEW
Endorsement notice
 (standards.itih.ai)

The text of the International Standard IEC 62561-3:2023 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 standard indicated:

IEC 60079-10 (series) NOTE Approved as EN 60079-10 (series)

IEC 60529 NOTE Approved as EN 60529

IEC 61643-11 NOTE Approved as EN 61643-11

IEC 62305-3 NOTE Approved as EN 62305-3

IEC 62305-4 NOTE Approved as EN 62305-4

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cencenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-2-52	2017	Environmental testing - Part 2-52: Tests - Test Kb: Salt mist, cyclic (sodium chloride solution)	EN IEC 60068-2-52	2018
IEC 60068-2-75	2014	Environmental testing - Part 2-75: Tests - Test Eh: Hammer tests	EN 60068-2-75	2014
IEC 62305-1	2010	Protection against lightning - Part 1: General principles	EN 62305-1	2011
-	-		/AC	2016-11
IEC 62561-1	-	Lightning protection system components (LPSC) - Part 1: Requirements for connection components	EN IEC 62561-1	-
ISO 4892-2	2013	Plastics - Methods of exposure to laboratory light sources - Part 2: Xenon-arc lamps	EN ISO 4892-2	2013
ISO 4892-3	2016	Plastics - Methods of exposure to laboratory light sources - Part 3: Fluorescent UV lamps	EN ISO 4892-3	2016
ISO 4892-4	2013	Plastics - Methods of exposure to laboratory light sources - Part 4: Open-flame carbon-arc lamps	-	-
ISO 6957	1988	Copper alloys; ammonia test for stress corrosion resistance	-	-
ISO 22479	2019	Corrosion of metals and alloys - Sulphur dioxide test in a humid atmosphere (fixed gas method)	EN ISO 22479	2022



INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Lightning protection system components (LPSC) –
Part 3: Requirements for isolating spark gaps (ISGs)**

**Composants des systèmes de protection contre la foudre (CSPF) –
Partie 3: Exigences pour les éclateurs d'isolement**

<https://standards.iteh.ai/catalog/standards/sist/e2b74f01-fb7c-4bb7-a003-5072f974be84/sist-en-iec-62561-3-2023>

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 91.120.40

ISBN 978-2-8322-7129-2

**Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 Terms and definitions	8
4 Classification.....	9
4.1 According to the capability of ISGs to withstand lightning current.....	9
4.2 According to ISGs installation location	9
5 Requirements	10
5.1 General.....	10
5.2 Environmental requirements	10
5.3 Documentation and installation instructions	10
5.4 Lightning current carrying capability.....	10
5.5 Rated impulse sparkover voltage	10
5.6 Rated withstand voltage.....	10
5.6.1 Rated DC withstand voltage.....	10
5.6.2 Rated power frequency withstand voltage.....	10
5.7 Isolation resistance.....	11
5.8 Marking.....	11
6 Tests.....	11
6.1 General test conditions	11
6.2 Ultraviolet (UV) light test.....	12
6.2.1 General test conditions	12
6.2.2 Acceptance criteria	12
6.3 Corrosion resistance test	12
6.3.1 General test conditions	12
6.3.2 Acceptance criteria	12
6.4 Impact test.....	12
6.4.1 General test conditions	12
6.4.2 Acceptance criteria	13
6.5 Electrical tests	13
6.5.1 Isolation resistance.....	13
6.5.2 Withstand voltage	13
6.5.3 Rated impulse sparkover voltage	14
6.5.4 Lightning current.....	14
6.6 Documentation and installation instructions	15
6.6.1 General conditions.....	15
6.6.2 Acceptance criteria	15
6.7 Marking test.....	15
6.7.1 General test conditions	15
6.7.2 Acceptance criteria	16
7 Electromagnetic compatibility (EMC)	16
8 Structure and content of the test report.....	16
8.1 General.....	16
8.2 Report identification	16
8.3 Specimen description.....	17

8.4	Standards and references	17
8.5	Test procedure.....	17
8.6	Testing equipment description	17
8.7	Measuring instruments description.....	17
8.8	Results and parameters recorded	17
8.9	Statement of pass or fail	17
Annex A (normative) Flowchart for testing ISGs		18
Annex B (normative) Resistance to corrosion tests for ISGs		20
B.1	General.....	20
B.2	Salt mist treatment.....	20
B.3	Humid sulphurous atmosphere treatment	20
B.4	Ammonia atmosphere treatment.....	20
Annex C (normative) Environmental test for outdoor isolating spark gaps – Resistance to ultraviolet light		21
C.1	General.....	21
C.2	Test	21
C.3	First alternative test to C.2.....	21
C.4	Second alternative test to C.2	21
Annex D (normative) Applicability of previous tests		22
Bibliography.....		23
Figure A.1 – Flowchart of the sequence of tests for ISGs.....		19
Table 1 – Lightning impulse current (I_{imp}) parameters ^a		15
Table D.1 – Differences in the requirements for ISGs complying with IEC 62561-3:2017.....		22

INTERNATIONAL ELECTROTECHNICAL COMMISSION

LIGHTNING PROTECTION SYSTEM COMPONENTS (LPSC) –**Part 3: Requirements for isolating spark gaps (ISGs)**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 62561-3 has been prepared by IEC technical committee 81: Lightning protection. It is an International Standard.

This third edition cancels and replaces the second edition, published in 2017. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition.

- a) alignment with the latest edition of ISO 22479 relating to humid sulphurous atmosphere treatment;
- b) addition of a new normative Annex D for the applicability of previous tests.

The text of this International Standard is based on the following documents:

Draft	Report on voting
81/727/FDIS	81/729/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 62561 series, published under the general title *Lightning protection system components (LPSC)*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

SIST EN IEC 62561-3:2023

<https://standards.iteh.ai/catalog/standards/sist/e2b74f01-fb7c-4bb7-a003-5072f974be84/sist-en-iec-62561-3-2023>