



BSI Standards Publication

Lightning protection system components (LPSC)

Part 6: Requirements for lightning strike counters (LSCs)

National foreword

This British Standard is the UK implementation of EN IEC 62561-6:2023. It is identical to IEC 62561-6:2023. It supersedes BS EN IEC 62561-6:2018, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee GEL/81, Protection against lightning.

A list of organizations represented on this committee can be obtained on request to its committee manager.

Contractual and legal considerations

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient's own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication is not intended to constitute a contract. Users are responsible for its correct application.

© The British Standards Institution 2023
Published by BSI Standards Limited 2023

ISBN 978 0 539 17351 2

ICS 29.020; 91.120.40

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 July 2023.

Amendments/corrigenda issued since publication

Date	Text affected
------	---------------

English Version

Lightning protection system components (LPSC) - Part 6:
Requirements for lightning strike counters (LSCs)
(IEC 62561-6:2023)

Composants des systèmes de protection contre la foudre
(CSPF) - Partie 6: Exigences pour les compteurs de coups
de foudre (LSC)
(IEC 62561-6:2023)

Blitzschutzsystembauteile (LPSC) - Teil 6: Anforderungen
an Blitzzähler (LSC)
(IEC 62561-6:2023)

This European Standard was approved by CENELEC on 2023-06-19. 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

European foreword

The text of document 81/723/FDIS, future edition 3 of IEC 62561-6, prepared by IEC/TC 81 "Lightning protection" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62561-6:2023.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2024-03-19 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2026-09-19 document have to be withdrawn

This document supersedes EN IEC 62561-6:2018 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.

Endorsement notice

The text of the International Standard IEC 62561-6:2023 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 61180	NOTE	Approved as EN 61180
IEC 62305 (series)	NOTE	Approved as EN 62305 (series)
IEC 62475	NOTE	Approved as EN 62475

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.cenelec.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 60529	-	Degrees of protection provided by enclosures (IP Code)	-	-
IEC 61000-6-2	-	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity standard for industrial environments	EN IEC 61000-6-2	-
IEC 61000-6-4	-	Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments	EN IEC 61000-6-4	-
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 22479	2019	Corrosion of metals and alloys - Sulphur dioxide test in a humid atmosphere (fixed gas method)	EN ISO 22479	2022
ISO 6957	1988	Copper alloys; ammonia test for stress corrosion resistance	-	-

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Lightning protection system components (LPSC) –
Part 6: Requirements for lightning strike counters (LSCs)**

**Composants des systèmes de protection contre la foudre (CSPF) –
Partie 6: Exigences pour les compteurs de coups de foudre (LSC)**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 29.020, 91.120.40

ISBN 978-2-8322-6861-2

**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 Type of LSC.....	9
4.2 LSC Internal circuit	9
4.3 LSC installation location	9
5 Requirements	10
5.1 General.....	10
5.2 Documentation.....	10
5.3 Marking.....	10
5.3.1 Content of marking	10
5.3.2 Durability and legibility.....	11
5.4 Design	11
6 Tests	12
6.1 General test conditions	12
6.1.1 General	12
6.1.2 Impulse discharge current count for LSC Type I.....	12
6.1.3 Nominal discharge current count for LSC Type II	13
6.2 Documentation and installation instructions	14
6.2.1 General conditions.....	14
6.2.2 Acceptance criteria	14
6.3 Marking test.....	14
6.3.1 General test conditions	14
6.3.2 Acceptance criteria	14
6.4 Ultraviolet (UV) light resistance.....	14
6.4.1 General test conditions	14
6.4.2 Acceptance criteria	14
6.5 Resistance tests to corrosion (for metallic parts).....	15
6.5.1 General test conditions	15
6.5.2 Acceptance criteria	15
6.6 Impact test.....	15
6.6.1 General test conditions	15
6.6.2 Acceptance criteria	16
6.7 Index of protection confirmation (IP Code)	16
6.8 Electrical tests	16
6.8.1 General test conditions	16
6.8.2 Minimum discharge current counting test.....	16
6.8.3 Threshold current test.....	17
6.8.4 Maximum impulse current counting test	18
6.8.5 Performance verification test	18
7 Electromagnetic compatibility (EMC)	18
7.1 Electromagnetic immunity	18
7.2 Electromagnetic emission	18

8	Structure and content of the test report.....	19
8.1	General.....	19
8.2	Report identification.....	19
8.3	Specimen description.....	19
8.4	Standards and references.....	20
8.5	Test procedure.....	20
8.6	Testing equipment description.....	20
8.7	Measuring instruments description.....	20
8.8	Results and parameters recorded.....	20
8.9	Statement of pass/fail.....	20
Annex A	(normative) Resistance to UV light.....	21
A.1	General.....	21
A.2	Test.....	21
A.3	First alternative test to Clause A.2.....	21
A.4	Second alternative test to Clause A.2.....	21
Annex B	(normative) Resistance to corrosion tests for LSCs.....	22
B.1	General.....	22
B.2	Salt mist test.....	22
B.3	Humid sulphurous atmosphere test.....	22
B.4	Ammonia atmosphere treatment.....	22
Annex C	(normative) Flowchart for testing LSCs.....	23
Annex D	(normative) Applicability of previous tests.....	24
Bibliography		25
Figure C.1	– Flowchart for testing of LSCs.....	23
Table 1	– Preferred parameters for impulse discharge currents counted (I_{imp}).....	13
Table 2	– Preferred parameters for nominal discharge currents counted (I_n).....	13
Table D.1	– Differences in the requirements for LSCs complying with IEC 62561-6:2011 or IEC 62561-6:2018.....	24

INTERNATIONAL ELECTROTECHNICAL COMMISSION

LIGHTNING PROTECTION SYSTEM COMPONENTS (LPSC) –**Part 6: Requirements for lightning strike counters (LSCs)****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 62561-6 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 2018. This edition constitutes a technical revision.

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

- a) a new classification according to the internal circuit of LSCs has been added;
- b) the tests flowchart in Annex C has been updated to reflect this new classification;
- c) the applicability of previous tests has been added (Annex D).

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

FDIS	Report on voting
81/723/FDIS	81/726/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/standardsdev/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.