



BSI Standards Publication

Protection against lightning

Part 4: Electrical and electronic systems within structures

This is a preview of BS EN IEC 62305-4:2024. [Click here to purchase the full version from the ANSI store.](#)

National foreword

This British Standard is the UK implementation of EN IEC 62305-4:2024. It is identical to IEC 62305-4:2024. It supersedes BS EN 62305-4:2011, which will be withdrawn on 31 October 2027.

The UK committee advises users that the BS EN IEC 62305 third edition series should be implemented in full as it would not be safe to implement Parts 1, 3 and 4 of the third edition without having done a risk assessment in accordance with BS EN IEC 62305-2:2024.

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 2025
Published by BSI Standards Limited 2025

ISBN 978 0 580 90439 4

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 28 February 2025.

Amendments/corrigenda issued since publication

Date	Text affected

This is a preview of BS EN IEC 62305-4:2024. [Click here to purchase the full version from the ANSI store.](#)

EUROPÄISCHE NORM

October 2024

ICS 29.020; 91.120.40

Supersedes EN 62305-4:2011; EN 62305-4:2011/AC:2016-11

English Version

Protection against lightning - Part 4: Electrical and electronic
systems within structures
(IEC 62305-4:2024)

Protection contre la foudre - Partie 4: Réseaux de
puissance et de communication dans les structures
(IEC 62305-4:2024)

Blitzschutz - Teil 4: Elektrische und elektronische Systeme
in baulichen Anlagen
(IEC 62305-4:2024)

This European Standard was approved by CENELEC on 2024-10-17. 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

This is a preview of BS EN IEC 62305-4:2024. [Click here to purchase the full version from the ANSI store.](#)

European foreword

The text of document 81/733/FDIS, future edition 3 of IEC 62305-4, prepared by TC 81 "Lightning protection" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62305-4:2024.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2025-10-31 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2027-10-31 document have to be withdrawn

This document supersedes EN 62305-4:2011 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 62305-4:2024 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 60364-4-43	NOTE	Approved as HD 60364-4-43
IEC 60364-4-44:2007	NOTE	Approved as HD 60364-4-444:2010
IEC 60364-4-44:2007/A1:2015	NOTE	Approved as HD 60364-4-443:2016
IEC 61000 series	NOTE	Approved as EN IEC 61000 series
IEC 62475	NOTE	Approved as EN 62475
IEC 60060 series	NOTE	Approved as EN 60060 series
IEC 62793	NOTE	Approved as EN IEC 62793
IEC 60038	NOTE	Approved as EN 60038
IEC 61643-351	NOTE	Approved as EN 61643-351
IEC 61643-352	NOTE	Approved as EN IEC 61643-352

This is a preview of BS EN IEC 62305-4:2024. Click here to purchase the full version from the ANSI store.

(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 60364-5-53	2019	Low-voltage electrical installations -- Part 5-53: Selection and erection of electrical equipment - Protection, isolation, switching, control and monitoring	-	-
IEC 60664-1	-	Insulation coordination for equipment within low-voltage supply systems - Part 1: Principles, requirements and tests	EN IEC 60664-1	-
IEC 61000-4-5	-	Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test	EN 61000-4-5	-
IEC 61000-4-9	-	Electromagnetic compatibility (EMC) – Part 4-9: Testing and measurement techniques – Impulse magnetic field immunity test	EN 61000-4-9	-
IEC 61000-4-10	-	Electromagnetic compatibility (EMC) – Part 4-10: Testing and measurement techniques – Damped oscillatory magnetic field immunity test	EN 61000-4-10	-
IEC 61643-11 (mod)	2011	Low-voltage surge protective devices - Part 11: Surge protective devices connected to low-voltage power systems - Requirements and test methods	EN 61643-11	2012
-	-		+ A11	2018
IEC 61643-12	2020	Low-voltage surge protective devices - Part 12: Surge protective devices connected to low-voltage power systems - Selection and application principles	-	-
IEC 61643-21	-	Low voltage surge protective devices - Part 21: Surge protective devices connected to telecommunications and signalling networks - Performance requirements and testing methods	EN 61643-21	-

This is a preview of BS EN IEC 62305-4:2024. [Click here to purchase the full version from the ANSI store.](#)

IEC 61643-22	-	Low-voltage surge protective devices - Part 22: Surge protective devices connected to telecommunications and signalling networks - Selection and application principles	CLC/TS 61643-22	-
IEC 61643-31	-	Low-voltage surge protective devices – Part 31: Requirements and test methods for SPDs for photovoltaic installations	EN 61643-31	-
IEC 61643-32	2017	Low-voltage surge protective devices – Part 32: Surge protective devices connected to the d.c. side of photovoltaic installations – Selection and application principles	-	-
IEC 62305-1	2024	Protection against lightning - Part 1: General principles	EN IEC 62305-1	2024
IEC 62305-2	2024	Protection against lightning - Part 2: Risk management	EN IEC 62305-2	2024
IEC 62305-3	2024	Protection against lightning - Part 3: Physical damage to structures and life hazard	EN IEC 62305-3	2024
IEC 62561	series	Lightning protection system components (LPSC) - Part 1: Requirements for connection components	EN IEC 62561	series

This is a preview of BS EN IEC 62305-4:2024. [Click here to purchase the full version from the ANSI store.](#)

CONTENTS

FOREWORD.....	8
INTRODUCTION.....	10
1 Scope.....	11
2 Normative references	11
3 Terms and definitions	12
4 Design and installation of SPM	16
4.1 General.....	16
4.2 Design of SPM.....	20
4.3 Lightning protection zones (LPZs).....	20
4.3.1 General	20
4.3.2 Outer zones.....	20
4.3.3 Inner zones	21
4.4 Basic SPM	23
5 Earthing and bonding networks.....	24
5.1 General.....	24
5.2 Earth-termination system	25
5.3 Bonding network	26
5.4 Bonding bars	31
5.5 Bonding at the boundary of an LPZ.....	32
5.6 Material and dimensions of bonding components	32
6 Magnetic shielding and line routing.....	33
6.1 General.....	33
6.2 Spatial shielding	33
6.3 Shielding of internal lines.....	33
6.4 Routing of internal lines	34
6.5 Shielding of external lines	34
6.6 Material and dimensions of magnetic shields	34
7 Coordinated SPD system.....	34
8 Isolating interfaces	35
9 SPM management	35
9.1 General.....	35
9.2 SPM management plan	36
9.3 Inspection of SPM.....	38
9.3.1 General	38
9.3.2 Inspection procedure	38
9.3.3 Inspection documentation	39
9.4 Maintenance	39
Annex A (informative) Basis of electromagnetic environment evaluation in an LPZ	40
A.1 General.....	40
A.2 Damaging effects on electrical and electronic systems due to lightning.....	40
A.2.1 Sources of damage.....	40
A.2.2 Object of damage	40
A.2.3 Withstand of equipment signal ports	40
A.2.4 Withstand of equipment power ports	41
A.2.5 Relationship between the object of damage and the source of damage.....	42
A.3 Spatial shielding, line routing and line shielding	42