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Åskskydd – Del 1: Allmänt

*Protection against lightning –
Part 1: General principles*

Som svensk standard gäller europastandarden EN 62305-1:2011. Den svenska standarden innehåller den officiella engelska språkversionen av EN 62305-1:2011.

Nationellt förord

Europastandarden EN 62305-1:2011

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 62305-1, Second edition, 2010 - Protection against lightning - Part 1: General principles**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 62305-1, utgåva 1, 2006, gäller ej fr o m 2014-01-13.

Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a säkerhet, prestanda, dokumentation, utförande och skötsel av elprodukter, elanläggningar och metoder. Genom att utforma sådana standarder blir säkerhetskraven tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

SEK är Sveriges röst i standardiseringsarbetet inom elområdet

SEK Svensk Elstandard svarar för standardiseringen inom elområdet i Sverige och samordnar svensk medverkan i internationell och europeisk standardisering. SEK är en ideell organisation med frivilligt deltagande från svenska myndigheter, företag och organisationer som vill medverka till och påverka utformningen av tekniska regler inom elektrotekniken.

SEK samordnar svenska intressenters medverkan i SEKs tekniska kommittéer och stödjer svenska experters medverkan i internationella och europeiska projekt.

Stora delar av arbetet sker internationellt

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

Standardiseringsarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

Var med och påverka!

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

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English version

**Protection against lightning -
Part 1: General principles
(IEC 62305-1:2010, modified)**

Protection contre la foudre -
Partie 1: Principes généraux
(CEI 62305-1:2010, modifiée)

Blitzschutz -
Teil 1: Allgemeine Grundsätze
(IEC 62305-1:2010, modifiziert)

This European Standard was approved by CENELEC on 2011-01-13. 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 Central Secretariat 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 Central Secretariat 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 and the United Kingdom.

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 81/370/FDIS, future edition 2 of IEC 62305-1, prepared by IEC TC 81, Lightning protection, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62305-1 on 2011-01-13.

This European Standard supersedes EN 62305-1:2006 + corr. Nov.2006.

This EN 62305-1:2011 includes the following significant technical changes with respect to EN 62305-1:2006 + corr. Nov.2006:

- 1) It no longer covers protection of services connected to structures.
- 2) Isolated interfaces are introduced as protection measures to reduce failure of electric and electronic systems.
- 3) First negative impulse current is introduced as a new lightning parameter for calculation purposes.
- 4) Expected surge overcurrents due to lightning flashes have been more accurately specified for low voltage power systems and for telecommunication systems.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

The following dates were fixed:

- | | | |
|--|-------|------------|
| – latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement | (dop) | 2012-01-13 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn | (dow) | 2014-01-13 |

Annex ZA has been added by CENELEC.

ANM – (sv anm) Uppgifter om andra, felaktiga datum har tidigare cirkulerat i CENELEC.

Endorsement notice

The text of the International Standard IEC 62305-1:2010 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:

- | | | |
|----------------------|------|---|
| [1] IEC 60664-1:2007 | NOTE | Harmonized as EN 60664-1:2007 (not modified). |
| [2] IEC 61000-4-5 | NOTE | Harmonized as EN 61000-4-5. |
| [7] IEC 61643-1 | NOTE | Harmonized as EN 61643-11. |
| [8] IEC 61643-21 | NOTE | Harmonized as EN 61643-21. |
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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application 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 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 62305-2	2010	Protection against lightning - Part 2: Risk management	EN 62305-2	2011
IEC 62305-3	2010	Protection against lightning - Part 3: Physical damage to structures and life hazard	EN 62305-3	2011
IEC 62305-4	2010	Protection against lightning - Part 4: Electrical and electronic systems within structures	EN 62305-4	2011

INTRODUCTION

There are no devices or methods capable of modifying the natural weather phenomena to the extent that they can prevent lightning discharges. Lightning flashes to, or nearby, structures (or lines connected to the structures) are hazardous to people, to the structures themselves, their contents and installations as well as to lines. This is why the application of lightning protection measures is essential.

The need for protection, the economic benefits of installing protection measures and the selection of adequate protection measures should be determined in terms of risk management. Risk management is the subject of IEC 62305-2.

Protection measures considered in IEC 62305 are proved to be effective in risk reduction.

All measures for protection against lightning form the overall lightning protection. For practical reasons the criteria for design, installation and maintenance of lightning protection measures are considered in two separate groups:

- the first group concerning protection measures to reduce physical damage and life hazard in a structure is given in IEC 62305-3;
- the second group concerning protection measures to reduce failures of electrical and electronic systems in a structure is given in IEC 62305-4.

The connection between the parts of IEC 62305 is illustrated in Figure 1.

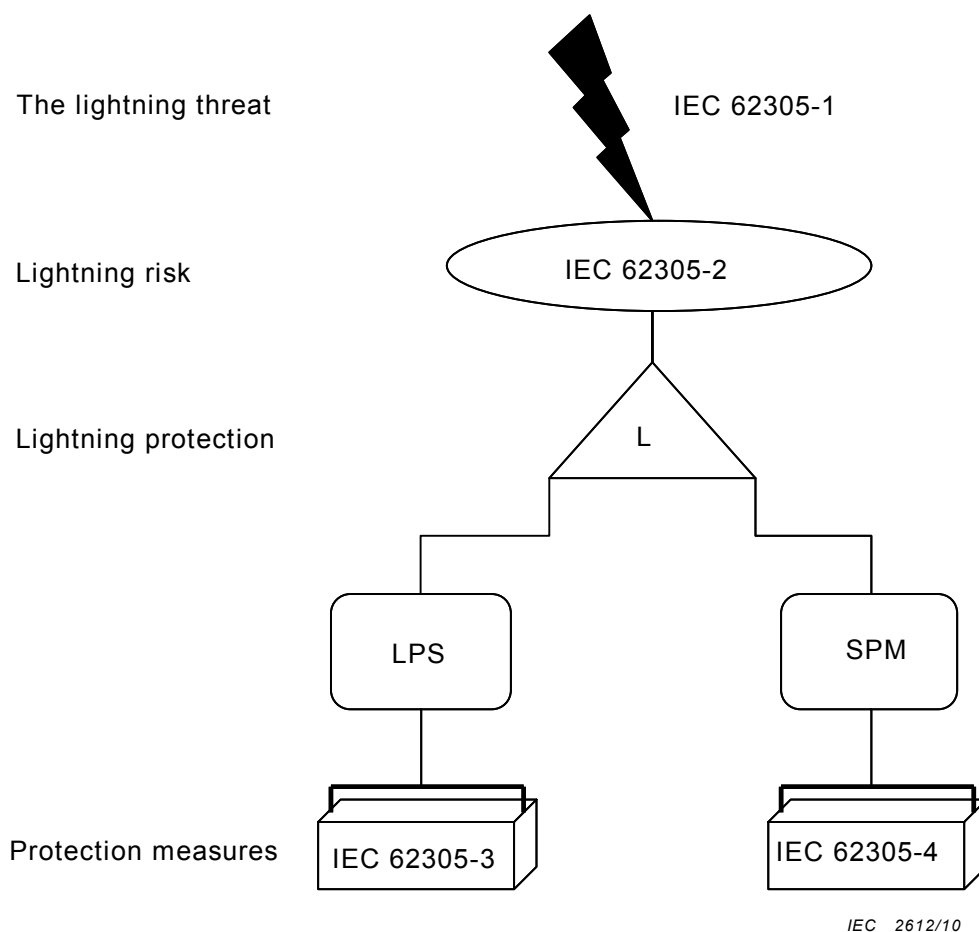


Figure 1 – Connection between the various parts of IEC 62305

PROTECTION AGAINST LIGHTNING –

Part 1: General principles

1 Scope

This part of IEC 62305 provides general principles to be followed for protection of structures against lightning, including their installations and contents, as well as persons.

The following cases are outside the scope of this standard:

- railway systems;
- vehicles, ships, aircraft, offshore installations;
- underground high pressure pipelines;
- pipe, power and telecommunication lines placed outside the structure.

NOTE These systems usually fall under special regulations produced by various specialized authorities.

2 Normative references

The following referenced documents are indispensable for the application 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.

IEC 62305-2:2010, *Protection against lightning – Part 2: Risk management*

IEC 62305-3:2010, *Protection against lightning – Part 3: Physical damage to structures and life hazard*

IEC 62305-4:2010, *Protection against lightning – Part 4: Electrical and electronic systems within structures*