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Lightning Protection Components (LPC) -- Part 6: Requirements for lightning strike counters

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English version

**Lightning Protection Components (LPC) -
Part 6: Requirements for lightning strike counters**

Composants de protection
contre la foudre (CPF) -
Partie 6: Compteur de coups de foudre

Blitzschutzbauteile -
Teil 6: Anforderungen
an Blitzzähler

This European Standard was approved by CENELEC on 2008-11-01. 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, 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

Central Secretariat: avenue Marnix 17, B - 1000 Brussels

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Foreword

This European Standard was prepared by the Technical Committee CENELEC TC 81X, Lightning protection.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 50164-6 on 2008-11-01.

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) 2009-11-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2011-11-01

EN 50164 series is a family standard under the generic title “*Lightning Protection Components (LPC)*” and consists of the following parts:

- Part 1: Requirements for connection components
 - Part 2: Requirements for conductors and earth electrodes
 - Part 3: Requirements for isolating spark gaps
 - Part 4: Requirements for conductor fasteners
 - Part 5: Requirements for earth electrode inspection housings and earth electrode seals
 - Part 6: Requirements for lightning strike counters
 - Part 7: Requirements for earth enhancing compounds
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1 Scope

This European Standard specifies the requirements and tests for devices intended to count the number of lightning strike pulses flowing in a conductor. This conductor may be part of a lightning protection system (LPS) or part of a surge protective device (SPD) installation.

NOTE Lightning strike counters may also be suitable for use in hazardous atmospheres. Regard should then be taken of the extra requirements necessary for the components to be installed in such conditions.

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>
EN 60068-2-75	1997	Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests (IEC 60068-2-75:1997)
EN 62305-1	2006	Protection against lightning – Part 1: General principles (IEC 62305-1:2006)
EN 62305-3	2006	Protection against lightning – Part 3: Physical damage to structures and life hazard (IEC 62305-3:2006, mod.)
EN 62305-4	2006	Protection against lightning – Part 4: Electrical and electronic systems within structures (IEC 62305-4:2006)
EN 60529	1991	Degrees of protection provided by enclosures (IP Code) (IEC 60529:1989)
EN 61180-1	1994	High-voltage test techniques for low-voltage equipment – Part 1: Definitions, test and procedure requirements (IEC 61180-1:1992)

3 Definitions

For the purposes of this document, the following terms and definitions apply.

3.1**lightning strike counter**

device intended to count the number of lightning strikes based on current flowing in a conductor

3.2**threshold current (I_{tc})**

peak value of the discharge current with an 8/20 waveform that the counter will count in 100 % of the cases

NOTE Values of current lower than $I_{tc}/3$ should not be counted by the counter.

3.3**maximum counting and withstand discharge current (I_{mcw})**

peak value of a current through the conductor having an 8/20 or 10/350 waveform and magnitude according to the current counting and withstand test

NOTE 8/20 waveform can be used only for counters connected to SPDs Type 2.

3.4**impulse current (I_{imp})**

defined by three parameters, a current peak value I_{peak} , a charge Q and a specific energy W/R. This is used for the current counting and withstand test

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