MALAYSIAN STANDARD

MS IEC 62305-3:2007

PROTECTION AGAINST LIGHTNING-PART 3: PHYSICAL DAMAGE TO STRUCTURES AND LIFE HAZARD
(FIRST REVISION)
(IEC 62305-3:2006, IDT)

ICS: 91.120.40, 29.020

Descriptors: lightning protection, installations and contents

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Committee representation

The Electrotechnical Industry Standards Committee (ISC E) under whose authority this Malaysian Standard was adopted, comprises representatives from the following organisations:

Association of Consulting Engineers Malaysia
Department of Standards Malaysia
Federation of Malaysian Manufacturers
Independent Power Producer Association
Jabatan Kerja Raya Malaysia
Malaysian Cable Manufacturers Association
Malaysian Electrical Appliances and Distributors Association
Ministry of Domestic Trade and Consumer Affairs
Ministry of International Trade and Industry
Persatuan Pengguna-Pengguna Standard Malaysia
Pusat Tenaga Malaysia
SIRIM QAS International Sdn Bhd
Suruhanjaya Komunikasi dan Multimedia Malaysia
Suruhanjaya Tenaga
Tenaga Nasional Berhad
The Electrical and Electronics Association of Malaysia
The Institution of Engineers, Malaysia
Universiti Teknologi Malaysia

The Working Group on Lightning Protection which recommends adoption of the IEC Standards consists of representatives from the following organisations:

Association of Consulting Engineers Malaysia
Institute of Engineer Malaysia
Jabatan Kerja Raya Malaysia (Cawangan Kejuruteraan Elektrik)
Lightning Research Sdn Bhd
Markas Angkatan Tentera Malaysia
Mega Jati Consult Sdn Bhd
Pertubuhan Akitek Malaysia
SIRIM Berhad
SIRIM QAS International Sdn Bhd
Tenaga Nasional Berhad
The Electrical and Electronics Association of Malaysia
TM Research and Development
TNB Research Sdn Bhd
Universiti Teknologi Malaysia

NATIONAL FOREWORD

The adoption of the IEC Standard as a Malaysian Standard was recommended by the Technical Committee on Electromagnetic Compatibility (EMC) under the authority of the Electrotechnical Industry Standards Committee (ISC E).

This Malaysian Standard is identical with IEC 62305-3:2006, *Protection Against Lightning – Part 3: Physical damage to structures and life hazard*, published by the International Electrotechnical Commission (IEC). However, for the purposes of this Malaysian Standard, the following apply:

a) in the source text, “this International Standard” should read “this Malaysian Standard”;

b) the comma which is used as a decimal sign (if any), to read as a point;

c) references to normative reference should be replaced by Malaysian Standard.

MS IEC 62305 consist of the following parts, under the general title *Protection against lightning:*

- *Protection against lightning Part-1: General principles*
- *Protection against lightning Part-2: Risk management*
- *Protection against lightning Part-3: Physical damage to structures and life hazard*
- *Protection against lightning Part-4: Electrical and electronic systems within structures*

This standard cancels and replaces:

a) MS IEC 61024-1:2001, *Protection of structures against lightning Part 1: General principles*

b) MS IEC 61024-1-1:2001, *Protection of structures against lightning Part 1: General principles Section 1: Guide A - Selection of protection levels of lightning protection systems*

c) MS IEC 61024-1-2: 2001, *Protection of structures against lightning Part 1-2: General principles, Guide B- Design, installation, maintenance and inspection of lightning protection systems*

Compliance with a Malaysian Standard does not of itself confer immunity from legal obligations.

NOTE. IDT on the front cover indicates an identical standard i.e. a standard where the technical content, structure, and wording (or is an identical translation) of a Malaysian Standard is exactly the same as in an International Standard or is identical in technical content and structure although it may contain the minimal editorial changes specified in clause 4.2 of ISO/IEC Guide 21-1.

INTERNATIONAL ELECTROTECHNICAL COMMISSION

PROTECTION AGAINST LIGHTNING –

Part 3: Physical damage to structures and life hazard

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC national committees). The object of the IEC is to promote international cooperation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the 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. The 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 the 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.
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International standard IEC 62305-3 has been prepared by IEC technical committee 81: Lightning protection.

The IEC 62305 series (Parts 1 to 5), is produced in accordance with the new Publications` Plan, approved by National Committees (81/171/RQ (2001-06-29)), which restructures in a more simple and rational form and updates the Publications of the IEC 61024 series, the IEC 61312 series and the IEC 61663 series.

The text of this first edition of IEC 62305-3 is compiled from and replaces

– IEC 61024-1, first edition (1990).
– IEC 61024-1-2, first edition (1998).

The text of this standard is based on the following documents:

FDIS	Report on voting
81/264/FDIS	81/269/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above Table.

This publication has been drafted, as close as possible, in accordance with the ISO/IEC Directives, Part 2.

IEC 62305 consists of the following parts, under the general title *Protection against lightning:*

Part 1: General principles

Part 2: Risk management

Part 3: Physical damage to structures and life hazard

Part 4: Electrical and electronic systems within structures

Part 5: Services[1]

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC website "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be:

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

In the United States, based on the requirements of NFPA 780: Standard for the Installation of Lightning Protection Systems 2004 Edition and practical experience in the use of horizontal earth electrodes, the minimum length of horizontal earth electrodes is not required to be twice that required for vertical electrodes.

In France, Portugal and Spain:

– natural components cannot substitute as lightning protection components but may be used to complete/enhance the LPS;

– aluminium solid round diameters should be extended from 8 mm to 10 mm;

– stranded conductors cannot be used as down-conductors;

– diameter of solid round conductors should be extended from 16 mm to 18 mm;

– hot dip galvanized steel solid tape thickness should be extended from 2 mm to 3,5 mm.

[1] To be published