MALAYSIAN STANDARD

MS IEC 60364-1:2007 (CONFIRMED:2015)

Low-voltage electrical installations - Part 1: Fundamental principles, assessment of general characteristics, definitions (Second revision) (IEC 60364-1:2005, IDT)

ICS: 91.140.50

Descriptors: low-voltage, electrical installations, fundamental principles, assessment, characteristics, definitions

NOTE. This MS has been reviewed by the responsible committee and confirmed that its contents are current

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NOTE: Technical corrigenda are not to correct errors which can be assumed to have no consequences in the application of the MS, for example minor printing errors.

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Committee representation

The Electrotechnical-1 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
Jabatan Kerja Raya Malaysia
Kementerian Perdagangan Dalam Negeri dan Hal Ehwal Pengguna
Malaysian Cable Manufacturers Association
Malaysian Electrical Appliances and Distributors Association
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 Technical Committee on Electrical Installation, Protection and Insulation Practice which supervised the adoption of IEC Standard as Malaysian Standard was managed by The Electrical and Electronics Association of Malaysia (TEEAM) in its capacity as an authorised Standards-Writing Organisation and consists of representatives from the following organisations:

Association of Consulting Engineers Malaysia

EITA Holdings Sdn Bhd

G.H. Liew Engineering (1990) Sdn Bhd

Jabatan Bomba dan Penyelamat Malaysia

Jabatan Kerja Raya Malaysia

Sabah Electricity Sdn Bhd

Sarawak Electricity Supply Corporation

SIRIM QAS International Sdn Bhd (Electric and Electronic Section)

Suruhanjaya Tenaga

The Electrical and Electronics Association of Malaysia (Secretariat)

The Institution of Engineers, Malaysia

Time Era Sdn Bhd

TNB Distribution Division

Universiti Malaya

Universiti Teknologi Malaysia

NATIONAL FOREWORD

The adoption of the IEC Standard as a Malaysian Standard was recommended by the Technical Committee on Electrical Installation, Protection and Insulation Practice under the authority of the Electrotechnical Industry Standards Committee. Development of this standard was carried out by The Electrical and Electronics Association of Malaysia which is the Standards-Writing Organisation (SWO) appointed by SIRIM Berhad to develop standards for electrical installation, protection and insulation practice.

This Malaysian Standard is the 2nd Revision of MS IEC 60364-1:2003, *Electrical installations of buildings - Part 1: Fundamental principles, assessment of general characteristics, definitions (First revision).*

This Malaysian Standard is identical with IEC 60364-1:2005, *Low-voltage eletrical installations – Part 1: Fundamental principles, assessment of general characteristics, definitions,* 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) The basis IEC 60364-1 is printed in English and French languages. However, only the English version is retained for this Malaysian Standard; and

d) references to International Standards should be replaced by equivalent Malaysian Standards as follows :

Referenced International Standards	Corresponding Malaysian Standards
IEC 60038, *IEC standard voltages*	MS IEC 60038, *IEC standard voltages*
IEC 60364-4-41, *Electrical installations of buildings – Part 4-41: Protection for safety – Protection against electric shock*	MS IEC 60364-4-41, *Electrical installations of buildings – Part 4-41: Protection for safety – Protection against electric shock*
IEC 60364-4-42, *Electrical installations of buildings – Part 4-42: Protection for safety – Protection against thermal effects*	MS IEC 60364-4-42, *Electrical installations of buildings – Part 4-42: Protection for safety – Protection against thermal effects*
IEC 60364-4-43, *Electrical installations of buildings – Part 4-43: Protection for safety – Protection against overcurrent*	MS IEC 60364-4-43, *Electrical installations of buildings – Part 4-43: Protection for safety – Protection against overcurrent*
IEC 60364-4-44, *Electrical installations of buildings – Part 4-44: Protection for safety – Protection against voltage disturbances and electromagnetic disturbances*	MS IEC 60364-4-44, *Electrical installations of buildings – Part 4-44: Protection for safety – Protection against voltage disturbances and electromagnetic disturbances*
IEC 60364-5-51, *Electrical installations of buildings – Part 5-51: Selection and erection of electrical equipment – Common rules*	MS IEC 60364-5-51, *Electrical installations of buildings – Part 5-51: Selection and erection of electrical equipment – Common rules*

NATIONAL FOREWORD *(continued)*

IEC 60364-5-52, *Electrical installations of buildings – Part 5-52: Selection and erection of electrical equipment – Wiring systems*	MS IEC 60364-5-52, *Electrical installations of buildings – Part 5-52: Selection and erection of electrical equipment – Wiring systems*
IEC 60364-5-53, *Electrical installations of buildings – Part 5-53: Selection and erection of electrical equipment – Isolation, switching and control*	MS IEC 60364-5-53, *Electrical installations of buildings – Part 5-53: Selection and erection of electrical equipment – Isolation, switching and control*
IEC 60364-5-54, *Electrical installations of buildings – Part 5-54: Selection and erection of electrical equipment – Earthing arrangements, protective conductors and protective bonding conductors*	MS IEC 60364-5-54, *Electrical installations of buildings – Part 5-54: Selection and erection of electrical equipment – Earthing arrangements, protective conductors and protective bonding conductors*
IEC 60364-5-55, *Electrical installations of buildings – Part 5-55: Selection and erection of electrical equipment – Other equipment*	MS IEC 60364-5-55, *Electrical installations of buildings – Part 5-55: Selection and erection of electrical equipment – Other equipment*
IEC 60617-DB, *Graphical symbols for diagrams*	MS IEC 60617-DB, *Graphical symbols for diagrams*
"DB" refers to the IEC on-line database	"DB" refers to the IEC on-line database
IEC 60721 (all parts), *Classification of environmental conditions*	MS IEC 60721 (all parts), *Classification of environmental conditions*

This standard cancels and replaces MS IEC 60364-1:2003, *Electrical installations of buildings - Part 1: Fundamental principles, assessment of general characteristics, definitions (First revision).*

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

LOW-VOLTAGE ELECTRICAL INSTALLATIONS –

Part 1: Fundamental principles, assessment of general characteristics, definitions

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.
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International Standard IEC 60364-1 has been prepared by IEC Technical Committee 64: Electrical installations and protection against electric shock.

This fifth edition cancels and replaces the fourth edition, published in 2001. It constitutes a technical revision.

The main changes with respect to the previous edition are:

– in order to complete the scope, the new items external lighting and similar installations, medical locations, mobile or transportable units, photovoltaic power supply units and low-voltage generating sets are added;
– in Clause 131, "Fundamental principles", the list of hazards which may arise in electrical installations is completed; furthermore, a new subclause dealing with protection against voltage disturbances and measures against electromagnetic influences and a new subclause dealing with protection against power supply interruption are added;

– in Clause 132, "Design", the new subclause "Documentation for the electrical installation" is added;

– in Clause 134, "Erection and verification of electrical installations", the new subclause " periodic verification" is added;

– the former Clause 312, "Types of distribution system" is renamed "Conductor arrangement and system earthing" and, in the relevant subclauses, several new figures are included for better understanding of the different kind of a.c. and d.c. circuits and types of systems and their earthing being applied nowadays in IEC member countries;

– in 33.1, "Compatibility of characteristics", a new item for excessive PE conductor currents is added;

– a new Clause 36, "Continuity of service", is included;

– Annex B is aligned with the second edition of IEC 60050-826:2004.

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

FDIS	Report on voting
64/1488/FDIS	64/1499/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 in accordance with the ISO/IEC Directives, Part 2.

IEC 60364 consists of the following parts, under the general title *Low-voltage electrical installations:*

Part 1: Fundamental principles, assessment of general characteristics, definitions

Part 4: Protection for safety

Part 5: Selection and erection of electrical equipment

Part 6: Verification

Part 7: Requirements for special installations or locations

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "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.