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INTERNATIONAL STANDARD

Low-voltage electrical installations -
Part 1: Fundamental principles, assessment of general characteristics, and definitions

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FOREWORD

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IEC 60364-1 has been prepared by IEC technical committee 64: Electrical installations and protection against electric shock. It is an International Standard.

This sixth edition cancels and replaces the fifth edition published in 2005. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) the entire document has been restructured and renumbered, maintaining the numbering of the (sub)clauses which are preceded with the part number, i.e. 1.1, 1.2, etc.;
b) the scope has been expanded to include new areas of application and has been restructured;
c) in 1.5.2.2.2, the topic of safety services and standby electric supply systems has been added;

d) in 1.5.2.14, the topic of energy efficiency has been included;

e) in 1.5.2.15, the topic of prosumer electrical installations has been included;

f) in 1.5.3.5, the requirement for an equivalent safety level for the use of new materials and innovations for which no product standards exist yet has been added;

g) in 1.5.4.3, the recommendation to assess the effectiveness of protective measures for the safety of human beings and livestock to be maintained by periodic verification during the entire lifetime of the installation has been added;

h) Table 3 shows the symbol for the newly introduced "system-referencing-conductor (SRC)";

i) the number of figures showing the type of electric system in AC and DC systems is limited to illustrate requirements.

The text of this International Standard is based on the following documents:

Draft	Report on voting
64/2760/FDIS	64/2776/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 60364 series, published under the general title *Low-voltage electrical installations*, can be found on the IEC website.

The reader's attention is drawn to the fact that Annex B lists all of the "in-some-country" clauses on differing practices of a less permanent nature relating to the subject of this document.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

1.1 Scope

1.1.1 Scope of this document

This part of IEC 60364 defines the scope and objective of the IEC 60364 series and specifies the fundamental safety requirements for an electrical installation.

This document addresses the fundamental principles, assessment of general characteristics and definitions of low-voltage electrical installations.

1.1.2 Scope of the IEC 60364 series

The IEC 60364 series specifies the rules for the design, erection, and verification of low-voltage electrical installations. The rules are provided for the safety of human beings (persons), livestock and property against dangers and damage which can arise from the intended use of low-voltage electrical installations and for the proper functioning of those installations.

EXAMPLE A non-comprehensive list of electrical installations or systems includes:

– residential premises;
– commercial premises;
– public premises;
– industrial premises;
– agricultural and horticultural premises;
– prefabricated buildings;
– caravans, caravan sites and similar sites;
– construction sites, exhibitions, fairs and other installations for temporary purposes;
– marinas;
– external lighting and similar installations;
– medical locations;
– mobile or transportable units;
– photovoltaic systems;
– stationary secondary batteries;
– low-voltage generating sets;
– temporary connected batteries (e.g. electric vehicle).

NOTE 1 "Premises" covers the land and all facilities including buildings belonging to it.

The IEC 60364 series covers

– electrical installations with nominal voltages not exceeding 1 000 V AC or 1 500 V DC; for AC, the preferred frequencies which are taken into account in this document are 50 Hz and 60 Hz. The use of other frequencies is not excluded;
– circuits, other than the internal wiring of apparatus, operating at voltages exceeding 1 000 V AC or 1 500 V DC and derived from an installation having a nominal voltage not exceeding 1 000 V AC or 1 500 V DC, for example, discharge lighting, electrostatic precipitators;
– fixed wiring for information and communication technology (ICT), signalling, etc., including installation and support of fibre optic cables;
– wiring systems and cables not specifically covered by the standards for appliances.