

STN	Základné a bezpečnostné zásady pre rozhranie človek-stroj, označovanie a identifikácia Identifikácia svoriek zariadení a prípojev vodičov a vodičov	STN EN IEC 60445 33 0160
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Basic and safety principles for man-machine interface, marking and identification - Identification of equipment terminals, conductor terminations and conductors

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 11/21

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September 2021

ICS 01.080.20; 13.110; 29.020

Supersedes EN 60445:2017 and all of its amendments
and corrigenda (if any)

English Version

**Basic and safety principles for man-machine interface, marking
and identification - Identification of equipment terminals,
conductor terminations and conductors
(IEC 60445:2021)**

Principes fondamentaux et de sécurité pour les interfaces
hommes-machines, le marquage et l'identification -
Identification des bornes de matériels, des extrémités de
conducteurs et des conducteurs
(IEC 60445:2021)

Grund- und Sicherheitsregeln für die Mensch-Maschine-
Schnittstelle - Kennzeichnung von Anschlüssen elektrischer
Betriebsmittel, angeschlossenen Leiterenden und Leitern
(IEC 60445:2021)

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Europäisches Komitee für Elektrotechnische Normung

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EN IEC 60445:2021 (E)**European foreword**

The text of document 3/1491/FDIS, future edition 7 of IEC 60445, prepared by IEC/TC 3 “Documentation, graphical symbols and representations of technical information” was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60445:2021.

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In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60079-11 NOTE Harmonized as EN 60079-11

IEC 60757 NOTE Harmonized as HD 457 S1

IEC 61666:2010 NOTE Harmonized as EN 61666:2010 (not modified)

IEC 62491 NOTE Harmonized as EN 62491

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60417	-	Graphical symbols for use on equipment	-	-
IEC 60617	-	Graphical symbols for diagrams	-	-



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Edition 7.0 2021-07

INTERNATIONAL STANDARD

NORME INTERNATIONALE



BASIC SAFETY PUBLICATION

PUBLICATION FONDAMENTALE DE SÉCURITÉ

Basic and safety principles for man-machine interface, marking and identification – Identification of equipment terminals, conductor terminations and conductors

Principes fondamentaux et de sécurité pour les interfaces homme-machine, le marquage et l'identification – Identification des bornes de matériels, des extrémités de conducteurs et des conducteurs



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IEC Central Office
 3, rue de Varembe
 CH-1211 Geneva 20
 Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

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IEC 60445

Edition 7.0 2021-07

INTERNATIONAL STANDARD

NORME INTERNATIONALE



BASIC SAFETY PUBLICATION

PUBLICATION FONDAMENTALE DE SÉCURITÉ

Basic and safety principles for man-machine interface, marking and identification – Identification of equipment terminals, conductor terminations and conductors

Principes fondamentaux et de sécurité pour les interfaces homme-machine, le marquage et l'identification – Identification des bornes de matériels, des extrémités de conducteurs et des conducteurs

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**BASIC AND SAFETY PRINCIPLES FOR MAN-MACHINE
INTERFACE, MARKING AND IDENTIFICATION –
IDENTIFICATION OF EQUIPMENT TERMINALS,
CONDUCTOR TERMINATIONS AND CONDUCTORS****FOREWORD**

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It has the status of a basic safety publication in accordance with IEC Guide 104.

This seventh edition cancels and replaces the sixth edition published in 2017. This edition constitutes a technical revision.

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

- a) the definitions have been aligned with IEC 60050-195:2021 and IEC 60050-826:—¹;

¹ Third edition under preparation. Stage at time of publication: IEC FDIS 60050-826:2021.

- b) the provisions for colour to be used for identification of certain designated conductors are made requirements and not only recommendations;
- c) introduction of a new subclause on marking of protective terminals for multiple power supply inputs on equipment.

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

FDIS	Report on voting
3/1491/FDIS	3/1517/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/standardsdev/publications.

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BASIC AND SAFETY PRINCIPLES FOR MAN-MACHINE INTERFACE, MARKING AND IDENTIFICATION – IDENTIFICATION OF EQUIPMENT TERMINALS, CONDUCTOR TERMINATIONS AND CONDUCTORS

1 Scope

This document applies to the identification and marking of terminals of electrical equipment such as resistors, fuses, relays, contactors, transformers, rotating machines and, wherever applicable, to combinations of such equipment (e.g. assemblies), and it also applies to the identification of terminations of certain designated conductors. It also provides general rules for the use of certain colours or alphanumeric notations to identify conductors with the aim of avoiding ambiguity and ensuring safe operation. These conductor colours and alphanumeric notations are intended to be applied on cores, busbars, and electrical equipment, and in cables or installations.

This basic safety publication focusing on safety essential requirements is primarily intended for use by technical committees in the preparation of standards in accordance with the principles laid down in IEC Guide 104 and ISO/IEC Guide 51.

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