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colour inside

BASIC SAFETY PUBLICATION

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

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

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

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 ~~or~~ 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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2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

IEC 60417, *Graphical symbols for use on equipment* (available at http://www.graphical-symbols.info/equipment)

IEC 60617, *Graphical symbols for diagrams* (available at http://std.iec.ch/iec60617)

~~IEC Guide 104, *The preparation of safety publications and the use of basic safety publications and group safety publications*~~

~~ISO/IEC Guide 51, *Safety aspects – Guidelines for their inclusion in standards*~~

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Edition 7.0 2021-07

INTERNATIONAL STANDARD

NORME INTERNATIONALE

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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



IEC 60445:2021-07(en-fr)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

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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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Elle a le statut d'une publication fondamentale de sécurité, conformément au Guide 104 de l'IEC.

Cette septième édition annule et remplace la sixième édition parue en 2017. Cette édition constitue une révision technique.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

a) les définitions ont été harmonisées avec l'IEC 60050-195:2021 et l'IEC 60050-826:—[1];
b) les dispositions relatives aux couleurs à utiliser pour l'identification de certains conducteurs désignés sont à présent des exigences et ne sont plus de simples recommandations;
c) introduction d'un nouveau paragraphe sur le marquage des bornes de protection pour des entrées d'alimentation multiples sur un matériel.

Le texte de cette Norme internationale est issu des documents suivants:

FDIS	Rapport de vote
3/1491/FDIS	3/1517/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à son approbation.

La langue employée pour l'élaboration de cette Norme internationale est l'anglais.

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[1] Troisième édition en cours d'élaboration. Stade au moment de la publication: IEC FDIS 60050-826:2021.

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

1 Domaine d'application

Le présent document s'applique à l'identification et au marquage des bornes de matériels électriques, tels que résistances, coupe-circuits à fusibles, relais, contacteurs, transformateurs, machines tournantes et, chaque fois que cela est possible, à des combinaisons de tels matériels (par exemple des ensembles). Il s'applique également à l'identification des extrémités de certains conducteurs désignés. Il prévoit également des règles générales concernant l'utilisation de certaines couleurs ou de certains caractères alphanumériques pour identifier les conducteurs dans le but d'éviter toute ambiguïté et d'assurer la sécurité de fonctionnement. Ces couleurs et caractères alphanumériques destinés aux conducteurs sont prévus pour être appliqués aux noyaux, aux barres omnibus et aux matériels électriques, ainsi qu'aux câbles ou installations.

La présente publication fondamentale de sécurité axée sur les exigences de sécurité essentielles est principalement destinée à être utilisée par les comités d'études lors de l'élaboration des normes conformément aux principes énoncés dans le Guide 104 de l'IEC et le Guide ISO/IEC 51.

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2 Références normatives

Les documents suivants sont cités dans le texte de sorte qu'ils constituent, pour tout ou partie de leur contenu, des exigences du présent document. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

IEC 60417, *Symboles graphiques utilisables sur le matériel* (disponible sur http://www.graphical-symbols.info/equipment)

IEC 60617, *Symboles graphiques pour schémas* (disponible sur http://std.iec.ch/iec60617)