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Fourth edition
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BASIC SAFETY PUBLICATION

Basic and safety principles for man-machine interface, marking and identification –

Identification of conductors by colours or alphanumerics

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

BASIC AND SAFETY PRINCIPLES FOR MAN-MACHINE INTERFACE, MARKING AND IDENTIFICATION –

IDENTIFICATION OF CONDUCTORS BY COLOURS OR ALPHANUMERICS

FOREWORD

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International Standard IEC 60446 has been prepared by IEC technical committee 16: Basic and safety principles for man-machine interface, marking and identification.

This fourth edition cancels and replaces the third edition, published in 1999 and constitutes a technical revision. This edition includes the following significant technical changes with respect to the previous edition:

a) addition of Clause 3 – Terms and definitions
b) addition of Clause 4 – Identification of conductors
c) addition of subclauses 5.3.4 to 5.3.6 – Use of bi-colour combinations
d) addition of subclause 6.2 – Identification of certain designated conductors
e) addition of a new Annex A (informative) "Identification of certain designated conductors by means of colour code and alphanumeric"
f) deletion of the old Annex A (informative) "Methods of marking PEN conductors in different countries".

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

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

FDIS	Report on voting
16/461/FDIS	16/462/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.

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- withdrawn;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.

A bilingual version of this publication may be issued at a later date.

INTRODUCTION

This International Standard is a basic safety publication is intended for use by technical committees in the preparation of standards in accordance and with the principles laid down in IEC Guide 104 and in ISO/IEC Guide 51.

It should be noted that one of the responsibilities of a technical committee is, wherever possible, to include or refer to requirements of basic safety publications in standards for equipment within its scope. Consequently, the requirements of this basic safety publication apply only if they are included, or are referred to in those standards.

BASIC AND SAFETY PRINCIPLES FOR MAN-MACHINE INTERFACE, MARKING AND IDENTIFICATION –

IDENTIFICATION OF CONDUCTORS BY COLOURS OR ALPHANUMERICS

1 Scope

This International Standard provides general rules for the use of certain colours or alphanumerics to identify conductors with the aim of avoiding ambiguity and ensuring safe operation. These conductor colours or alphanumerics are intended to be applied in cables or cores, busbars, electrical equipment and installations.

2 Normative references

The following referenced documents are indispensable for the application 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 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*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

NOTE The terms are sorted in alphabetical order.

3.1
functional bonding conductor
conductor provided for functional-equipotential-bonding

[IEV 195-02-16]

3.2
functional earthing conductor
functional grounding conductor (in US)
earthing conductor provided for functional earthing

[IEV 195-02-15]

3.3
line conductor
phase conductor (in AC systems) (deprecated)
pole conductor (in DC systems) (deprecated)
conductor which is energized in normal operation and capable of contributing to the transmission or distribution of electric energy but which is not a neutral or mid-point conductor

[IEV 195-02-08]

3.4
mid-point conductor
conductor electrically connected to the mid-point and capable of contributing to the distribution of electric energy