SLOVENSKI STANDARD

SIST EN 60073:2003

april 2003

Basic and safety principles for man-machine interface, marking and identification - Coding principles for indicators and actuators

ICS   01.070; 13.110; 29.020

Referenčna številka
SIST EN 60073:2003(en)

iTeh STANDARD PREVIEW
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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60073

July 2002

ICS 01.070; 29.020

English version

Basic and safety principles for man-machine interface, marking and identification - Coding principles for indicators and actuators
(IEC 60073:2002)

Principes fondamentaux et de sécurité
pour l'interface homme-machine,
le marquage et l'identification -
Principes de codage pour les indicateurs
et les organes de commande
(CEI 60073:2002)

Grund- und Sicherheitsregeln
für die Mensch-Maschine-Schnittstelle,
Kennzeichnung -
Codierungsgrundsätze für
Anzeigengeräte und Bedienteile
(IEC 60073:2002)

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This European Standard was approved by CENELEC on 2002-07-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Ref. No. EN 60073:2002 E

Foreword

The text of document 16/402/FDIS, future edition 6 of IEC 60073, prepared by IEC TC 16, Basic and safety principles for man-machine interface, marking and identification, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60073 on 2002-07-01.

This European Standard supersedes EN 60073:1996.

The following dates were fixed:

– latest date by which the EN has to be implemented
   at national level by publication of an identical
   national standard or by endorsement   (dop) 2003-04-01

– latest date by which the national standards conflicting
   with the EN have to be withdrawn   (dow) 2005-07-01

Annexes designated "normative" are part of the body of the standard.
Annexes designated "informative" are given for information only.
In this standard, annexes A and ZA are normative and annexes B and C are informative.
Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 60073:2002 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

   IEC 60204-1   NOTE   Harmonized as EN 60204-1:1997 (not modified).

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Annex ZA
(normative)

Normative references to international publications
with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE   When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60027	Series	Letter symbols to be used in electrical technology	HD 245	Series
IEC 60050-441	- [1]	International Electrotechnical Vocabulary (IEV) Chapter 441: Switchgear, controlgear and fuses	-	-
IEC 60050-721	- [1]	Chapter 721: Telegraphy, facsimile and data communication	-	-
IEC 60050-845	- [1]	Chapter 845: Lighting	-	-
IEC 60417	Series	Graphical symbols for use on equipment	EN 60417	Series
IEC 60447	- [1]	Man-machine interface (MMI) - Actuating principles	EN 60447	1993 [2]
IEC 60617	Series	Graphical symbols for diagrams	EN 60617	Series
IEC 61310-1	- [1]	Safety of machinery - Indication, marking and actuation Part 1: Requirements for visual, auditory and tactile signals	EN 61310-1	1995 [2]
IEC Guide 104	- [1]	The preparation of safety publications and the use of basic safety publications and group safety publications	-	-
ISO 3864	- [1]	Safety colours and safety signs	-	-
ISO 7000	- [1]	Graphical symbols for use on equipment - Index and synopsis	-	-

[1] Undated reference.

[2] Valid edition at date of issue.

Publication	Year	Title	EN/HD	Year
ISO 8201	- [1]	Acoustics - Audible emergency evacuation signal	-	-
ISO 11429	- [1]	Ergonomics - System of auditory and visual danger and information signals	-	-
ISO/IEC Guide 51	- [1]	Safety aspects - Guidelines for their inclusion in standards	-	-
CIE 2-2	- [1]	Colours of light signals	-	-

NORME
INTERNATIONALE

INTERNATIONAL
STANDARD

CEI
IEC
60073

Sixième édition
Sixth edition
2002-05

Principes fondamentaux et de sécurité pour
l'interface homme-machine, le marquage
et l'identification –
Principes de codage pour les indicateurs
et les organes de commande

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

Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE

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Pour prix, voir catalogue en vigueur
For price, see current catalogue

CONTENTS

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

Coding principles for indicators and actuators

FOREWORD

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.

2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.

3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.

4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.

5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.

6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60073 has been prepared by IEC technical committee 16: Basic and safety principles for man-machine interface, marking and identification.

This sixth edition cancels and replaces the fifth edition published in 1996 and constitutes a technical revision.

Compared to the fifth edition, the following substantial modifications have been made:

– the field of application has been extended to include displays on screens;

– the concept of "message" has been adopted from IEC 60050(721);

– clarifications are provided in 4.2.1 and 5.2.3.2.

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
16/402/FDIS	16/404/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 3.

Annex A forms an integral part of this standard.

Annexes B and C are for information only.

The committee has decided that the contents of this publication will remain unchanged until 2007. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

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INTRODUCTION

This basic safety publication is intended for use by technical committees in the preparation of standards in accordance 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 the 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.

Supervision and intervention are the principal tasks of personnel engaged in the monitoring and control of equipment or processes.

Indicator for the representation of conditions, and actuating devices to enable intervention under normal and fault conditions, are essential to this purpose.

The information presented should meet the needs of the users for the monitoring and control tasks which they are required to perform, for example, in extensive industrial processes.

Safety and ergonomic aspects should also be taken into account. The use of only a single means of coding is often insufficient to ensure unambiguous representation of information.

Apart from an unambiguous marking of the indicating and actuating devices, there is a requirement for a clear and consistent system of coding.

The choice of a code will depend on the information which it is intended to impart. This may relate to the state of equipment (or part of it), to the condition of a process, and/or to the effects which this condition has on persons, property and the environment.

The user is required to decide on which of these criteria the coding for the relevant application is to be based.

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

Coding principles for indicators and actuators

1 Scope

This International Standard establishes general rules for assigning particular meanings to certain visual, acoustic and tactile indications in order to

– increase the safety of persons, property and/or the environment through the safe monitoring and control of the equipment or process;

– facilitate the proper monitoring, control and maintenance of the equipment or process;

– facilitate the rapid recognition of control conditions and actuator positions.

This standard is for general application:

– from simple cases such as single indicator lights, push-buttons, mechanical indicators, light emitting diodes (LEDs) or video display screens to extensive control stations which may include a wide variety of devices for controlling an equipment or process;

NOTE   Application of the general coding principles for displays on screens should be carried out without modification.

– where the safety of persons, property and/or the environment is involved, and also where the above-mentioned codes are used to facilitate the proper monitoring and controlling of equipment;

– where a particular kind of coding is to be assigned by a technical committee to a special function.

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 60027 (all parts), *Letter symbols to be used in electrical technology*

IEC 60050(441), *International Electrotechnical Vocabulary (IEV) – Chapter 441: Switchgear, controlgear and fuses*

IEC 60050(721), *International Electrotechnical Vocabulary (IEV) – Chapter 721: Telegraphy, facsimile and data communication*

IEC 60050(845), *International Electrotechnical Vocabulary (IEV) Lighting*

IEC 60417 (all parts), *Graphical symbols for use on equipment*