SLOVENSKI STANDARD
SIST EN 60617-8:1997

01-junij-2005

Grafični simboli za sheme - 8. del: Merilni instrumenti, svetila in signalne naprave (IEC 60617-8:1996)

Graphical symbols for diagrams -- Part 8: Measuring instruments, lamps and signaling devices

Graphische Symbole für Schaltpläne -- Teil 8: Schaltzeichen für Meß, Melde- und Signaleinrichtungen

Symboles graphiques pour schémas -- Partie 8: Appareils de mesure, lampes et dispositifs de signalisation

Ta slovenski standard je istoveten z: **EN 60617-8:1996**

ICS:

01.080.40	Grafični simboli za uporabo v risbah, diagramih, načrtih v elektrotehniki in elektroniki ter v ustrezni tehnični proizvodni dokumentaciji	Graphical symbols for use on electrical and electronics engineering drawings, diagrams, charts and in relevant technical product documentation
29.020	Elektrotehnika na splošno	Electrical engineering in general

SIST EN 60617-8:1997 **sl**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60617-8

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Descriptors: Measuring instrument, signal device, electric diagram, electrical symbol

English version

Graphical symbols for diagrams
Part 8: Measuring instruments, lamps and signalling devices
(IEC 617-8:1996)

Symboles graphiques pour schémas
Partie 8: Appareils de mesure, lampes et dispositifs de signalisation
(CEI 617-8:1996)

Graphische Symbole für Schaltpläne
Teil 8: Schaltzeichen für Meß, Melde- und Signaleinrichtungen
(IEC 617-8:1996)

This European Standard was approved by CENELEC on 1996-03-05. 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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, 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

Foreword

The text of document 3A/386/FDIS, future edition 2 of IEC 617-8, prepared by SC 3A, Graphical symbols for diagrams, of IEC TC 3, Documentation and graphical symbols, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60617-8 on 1996-03-05.

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) 1997-02-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1997-02-01

Endorsement notice

The text of the International Standard IEC 617-8:1996 was approved by CENELEC as a European Standard without any modification.

NORME INTERNATIONALE

INTERNATIONAL STANDARD

CEI
IEC
617-8

Deuxième édition
Second edition
1996-05

Symboles graphiques pour schémas –

Partie 8: Appareils de mesure, lampes et dispositifs de signalisation

Graphical symbols for diagrams –

Part 8: Measuring instruments, lamps and signalling devices

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For price, see current catalogue

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

GRAPHICAL SYMBOLS FOR DIAGRAMS –

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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 cooperation 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, prepared by technical committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.

3) They have the form of recommendations for international use published in the form of standards, 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.

International Standard IEC 617-8 has been prepared by sub-committee 3A: Graphical symbols for diagrams, of IEC technical committee 3: Documentation and graphical symbols.

This second edition cancels and replaces the first edition published in 1983 and constitutes a technical revision.

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

FDIS	Report on voting
3A/386/FDIS	3A/424/RVD

Full information on the voting for the approval of this standard can be found in the reports on voting indicated in the above table.

Annexes A, B and C are for information only.

INTRODUCTION

This part of IEC 617 forms an element of a series which deals with graphical symbols for diagrams.

The series consists of the following parts:

- Part 1: General information, general index. Cross-reference tables
- Part 2: Symbol elements, qualifying symbols and other symbols having general application
- Part 3: Conductors and connecting devices
- Part 4: Basic passive components
- Part 5: Semiconductors and electron tubes
- Part 6: Production and conversion of electrical energy
- Part 7: Switchgear, controlgear and protective devices
- Part 8: Measuring instruments, lamps and signalling devices
- Part 9: Telecommunications: Switching and peripheral equipment
- Part 10: Telecommunications: Transmission
- Part 11: Architectural and topographical installation plans and diagrams
- Part 12: Binary logic elements
- Part 13: Analogue elements

The scope and the normative references for this series are given in IEC 617-1.

Symbols have been designed in accordance with requirements given in the future ISO 11714-1* The module size M = 2,5 mm has been used. For better readability smaller symbols in this standard have been enlarged to double size and are marked "200 %" in the symbol column. To save space larger symbols have been reduced to half size and are marked "50 %" in the symbol column. In accordance with the future ISO 11714-1, clause 7, symbol dimensions (for instance height) may be modified in order to make space for a greater number of terminals or for other layout requirements. In all cases, whether the size is enlarged or reduced, or dimensions modified, the thickness of the original line should be maintained without scaling.

The symbols in this standard are laid out in such a way that the distance between connecting lines is a multiple of a certain module. The module 2M has been chosen to provide enough space for a required terminal designation. The symbols have been drawn to a size convenient for comprehension, using the same grid consistently in the representation of all symbols.

All symbols are designed within a grid in a computer-aided draughting system. The grid which was used has been reproduced in the background of the symbols.

The older symbols which were included in appendix A of the first edition of IEC 617-8 for a transitional period, are no longer part of this second edition, as they will definitely be withdrawn from use.

The indexes in Annex B and C include an alphabetic list of symbol names and their corresponding number. The symbol names are based on the description of the symbols of this part. A general index including an alphabetic list of symbols of all parts is given in IEC 617-1.

* At present, at the stage of Draft International Standard (document 3/563/DIS).

SYMBOLS GRAPHIQUES POUR SCHÉMAS

Huitième partie: Appareils de mesure, lampes et dispositifs de signalisation

SECTION 1 – APPAREILS INDICATEURS, APPAREILS ENREGISTREURS ET COMPTEURS, SYMBOLES GÉNÉRAUX

1.1 L'astérisque placé à l'intérieur de chacun des symboles de la présente section doit être remplacé:

- soit par le symbole littéral de *l'unité* de la grandeur mesurée ou l'un de ses multiples ou sous-multiples (voir exemples 08-02-01 et 08-02-07);
- soit par le symbole littéral de *la grandeur* mesurée (voir exemples 08-02-05 et 08-02-06):
- soit par une formule chimique (voir exemple 08-02-13);
- soit par un symbole graphique (voir exemple 08-02-08).

Le symbole ou la formule utilisée doit correspondre à l'information fournie par l'appareil de mesure quels que soient les moyens employés pour obtenir cette information.

1.2 Les symboles littéraux d'*unité* ou de *grandeur* doivent être choisis parmi ceux figurant dans l'une des parties de la Publication 27 de la CEI: Symboles littéraux à utiliser en électrotechnique.

Si aucun symbole littéral de la Publication 27 de la CEI, ni aucune formule chimique ne convient, d'autres symboles littéraux peuvent être utilisés. Leur signification doit, dans ce cas, être indiquée soit sur le schéma, soit sur un document associé.

1.3 Lorsque le symbole littéral de l'*unité* de la grandeur mesurée est utilisé, le symbole littéral de la *grandeur* peut être nécessaire pour donner une information complémentaire. Il convient de le placer sous le symbole littéral de l'unité (voir exemple 08-02-02).

GRAPHICAL SYMBOLS FOR DIAGRAMS

Part 8: Measuring instruments, lamps and signalling devices

SECTION 1 – INDICATING , RECORDING AND INTEGRATING INSTRUMENTS, GENERAL SYMBOLS

1.1 The asterisk within the symbols of this section shall be replaced with one of the following:

- the letter symbol for the *unit* of the quantity measured, or a multiple or sub-multiple thereof (see examples 08-02-01 and 08–02–07);
- the letter symbol for the *quantity* measured (see examples 08-02-05 and 08-02-06);
- a chemical formula (see example 08-02-13);
- a graphical symbol (see example 08-02-08).

The symbol or formula used shall be related to the information displayed by the instrument regardless of the means used to obtain the information.

1.2 Letter symbols for *units* and for *quantities* shall be selected from one of the parts of IEC Publication 27: Letter Symbols to be Used in Electrical Technology.

Provided IEC Publication 27, or the letter symbols for chemical elements, do not apply, other letter symbols may be used, if they are explained on the diagram or in referenced documents.

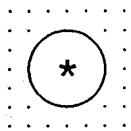
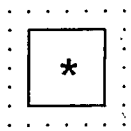
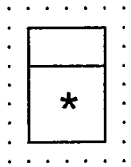
1.3 If the letter symbol for the *unit* of the quantity measured is used, it may be necessary to show the letter symbol for the *quantity* as supplementary information. It should be placed below the unit letter symbol (see example 08-02-02).

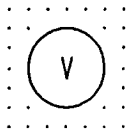
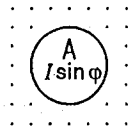
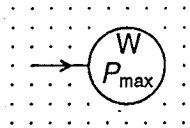
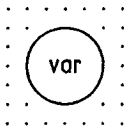
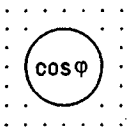
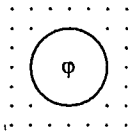
Des informations complémentaires concernant la grandeur mesurée ainsi que tout symbole distinctif nécessaire peuvent être inscrites sous le symbole littéral de la grandeur.

1.4 Pour un appareil indiquant ou enregistrant plus d'une grandeur, les cadres des symboles appropriés doivent être placés de manière contiguë ou en colonne (voir exemples 08-03-02 et 08-04-14).

Supplementary information concerning the quantity measured, and any necessary qualifying symbol may be shown below the quantity letter symbol.

1.4 If more than one quantity is indicated or recorded by an instrument, the appropriate symbol outlines shall be placed attached in line, horizontally or vertically (see examples 08-03-02 and 08-04-14).

No.	Symbole Symbol	Légende	Description
08-01-01		Appareil indicateur L'astérisque doit être remplacé selon les règles données dans l'article 1.1	Indicating instrument The asterisk shall be replaced in accordance with the rules in Clause 1.1
08-01-02		Appareil enregistreur L'astérisque doit être remplacé selon les règles données dans l'article 1.1	Recording instrument The asterisk shall be replaced in accordance with the rules in Clause 1.1
08-01-03		Appareil intégrateur par exemple compteur (d'énergie électrique) L'astérisque doit être remplacé selon les règles données dans l'article 1.1 Ce symbole est également applicable à un appareil à distance répétiteur d'un compteur. Comme exemple, voir le symbole 08-04-11. Ce symbole peut être associé à celui d'un enregistreur pour représenter un appareil combiné. Comme exemple, voir le symbole 08-04-14. Les symboles de la section 5 de la CEI 617-2 peuvent être utilisés pour spécifier le sens du transit de l'énergie. Comme exemples, voir les symboles 08-04-04 à 08-04-07. Le nombre de rectangles supérieurs indique le nombre de sommations différentes d'un compteur à tarifs multiples. Comme exemple, voir le symbole 08-04-08.	Integrating instrument for example energy meter The asterisk shall be replaced in accordance with the rules given in Clause 1.1 This symbol may also be used for a remote instrument which repeats a reading transmitted from an integrating meter. For example, see symbol 08-04-11. This symbol may be combined with that for a recording instrument to represent a combined instrument. For example, see symbol 08-04-14. Symbols from section 5 from IEC 617-2 may be used to specify the direction of energy flow. For examples, see symbols 08-04-04 to 08-04-07. The number of rectangles at the top of the symbol indicates the number of different summations by a multirate meter. For example, see symbol 08-04-08.

No.	Symbole Symbol	Légende	Description
08-02-01		Voltmètre	Voltmeter
08-02-02		Ampèremètre de courant réactif	Reactive current ammeter
08-02-03		Indicateur de maximum de puissance active asservi à un compteur d'énergie	Maximum demand indicator actuated by an integrating meter
08-02-04		Varmètre Indicateur de puissance réactive	Varmeter
08-02-05		Cos φ mètre Indicateur du facteur de puissance	Power-factor meter
08-02-06		Phasemètre Indicateur de déphasage	Phase meter