SLOVENSKI STANDARD
SIST EN 60999-1:2001
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Nadomeģļ a:
SIST EN 60999-1:2000

Povezovalne naprave - Varnostne zahteve za vijaļ ne in brezvijaļ ne pritrdilne enote za elektriļ ne bakrene vodnike - 1. del: Sploġne in posebne zahteve za vodnike od 0,2 mm2 do vključ no 35 mm2 (IEC 60999-1:1999)

Connecting devices - Electrical copper conductors - Safety requirements for screw-type and screwless-type clamping units - Part 1: General requirements and particular requirements for clamping units for conductors from 0,2 mm² up to 35 mm² (included) (IEC 60999-1:1999)

Verbindungsmaterial - Elektrische Kupferleiter - Sicherheitsanforderungen für Schraubklemmstellen und schraubenlose Klemmstellen - Teil 1: Allgemeine Anforderungen und besondere Anforderungen für Klemmstellen für Leiter von 0,2 mm² bis einschließlich 35 mm² (IEC 60999-1:1999)

Dispositifs de connexion - Conducteurs électriques en cuivre - Prescriptions de sécurité pour organes de serrage à vis et sans vis - Partie 1: Prescriptions générales et particulières pour les organes de serrage pour les conducteurs de 0,2 mm² à 35 mm² (inclus) (CEI 60999-1:1999)

Ta slovenski standard je istoveten z: EN 60999-1:2000

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29.120.20

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60999-1

March 2000

ICS 29.120.20

Supersedes EN 60999-1:1993

English version

Connecting devices - Electrical copper conductors Safety requirements for screw-type and screwless-type clamping units Part 1: General requirements and particular requirements for clamping units for conductors from 0,2 mm² up to 35 mm² (included) (IEC 60999-1:1999)

Dispositifs de connexion - Conducteurs électriques en cuivre - Prescriptions de sécurité pour organes de serrage à vis et sans vis
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(CEI 60999-1:1999)

Verbindungsmaterial - Elektrische Kupferleiter - Sicherheitsanforderungen für schraub- und schraubenlose Klemmstellen
Teil 1: Allgemeine Anforderungen und besondere Anforderungen für Klemmstellen für Leiter von 0,2 mm² bis einschließlich 35 mm²
(IEC 60999-1:1999)

This European Standard was approved by CENELEC on 2000-01-01. 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, 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

Ref. No. EN 60999-1:2000 E

Foreword

The text of document 23F/108/FDIS, future edition 2 of IEC 60999-1, prepared by SC 23F, Connecting devices, of IEC TC 23, Electrical accessories, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60999-1 on 2000-01-01.

This European Standard supersedes EN 60999-1:1993 and its corrigendum March 1997.

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) 2000-10-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2003-01-01

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

Endorsement notice

The text of the International Standard IEC 60999-1:1999 was approved by CENELEC as a European Standard without any modification.

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

IEC 60998-2-3 NOTE: Harmonized as EN 60998-2-3:1993 (not modified).

IEC 60998-2-4 NOTE: Harmonized as EN 60998-2-4:1993 (not modified).

IEC 61210 NOTE: Harmonized as EN 61210:1995 (modified).

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 60228 (mod) + IEC 60228A (mod)	1978 1982	Conductors of insulated cables First supplement: Guide to the dimensional limits of circular conductors	HD 383 S2	1986
IEC 60344	1980	Guide to the calculation of resistance of plain and coated copper conductors of low-frequency cables and wires	-	-
IEC 61545	1996	Connecting devices - Devices for the connection of aluminium conductors in clamping units of any material and copper conductors in aluminium bodied clamping units	-	-
ISO 1456	1988	Metallic coatings - Electrodeposited coatings of nickel plus chromium and of copper plus nickel plus chromium	-	-
ISO 2081	1986	Metallic coatings - Electroplated coatings of zinc on iron or steel	-	-
ISO 2093	1986	Electroplated coatings of tin - Specification and test methods	-	-

NORME INTERNATIONALE

INTERNATIONAL STANDARD

CEI
IEC
60999-1

Deuxième édition
Second edition
1999-11

Dispositifs de connexion –

Conducteurs électriques en cuivre –

Prescriptions de sécurité pour organes de serrage à vis et sans vis –

Partie 1: Prescriptions générales et particulières pour les organes de serrage pour les conducteurs de 0,2 mm² à 35 mm² (inclus)

Connecting devices –

Electrical copper conductors –

Safety requirements for screw-type and screwless-type clamping units –

Part 1: General requirements and particular requirements for clamping units for conductors from 0,2 mm² up to 35 mm² (included)

International Electrotechnical Commission 3, rue de Varembé Geneva, Switzerland
Telefax: +41 22 919 0300 e-mail: inmail@iec.ch IEC web site http://www.iec.ch

Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

CONNECTING DEVICES – ELECTRICAL COPPER CONDUCTORS – SAFETY REQUIREMENTS FOR SCREW-TYPE AND SCREWLESS-TYPE CLAMPING UNITS –

Part 1: General requirements and particular requirements for clamping units for conductors from 0,2 mm² up to 35 mm² (included)

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 60999-1 has been prepared by subcommittee 23F: Connecting devices, of IEC technical committee 23: Electrical accessories.

This second edition of IEC 60999-1 cancels and replaces the first edition published in 1990, of which it constitutes a technical revision.

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

FDIS	Report on voting
23F/108/FDIS	23F/112/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.

In this standard the following print types are used:

– Requirements proper: in roman type;
– *Test specifications: in italic type;*
– Notes: in smaller roman type.

Annexes B and C form an integral part of this standard.

Annex A is for information only.

The committee has decided that this publication remains valid until 2009-01.

At this date, in accordance with the committee's decision, the publication will be

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

CONNECTING DEVICES – ELECTRICAL COPPER CONDUCTORS – SAFETY REQUIREMENTS FOR SCREW-TYPE AND SCREWLESS-TYPE CLAMPING UNITS –

Part 1: General requirements and particular requirements for clamping units for conductors from 0,2 mm² up to 35 mm² (included)

1 Scope

This part of IEC 60999 applies to screw-type and screwless-type clamping units for connecting devices, either as separate entities or as integral parts of equipment, for the connection of electrical copper conductors (complying with IEC 60228), rigid (solid or stranded) and/or flexible, having a cross-sectional area of 0,2 mm² up to and including 35 mm² and equivalent AWG sizes with a rated voltage not exceeding 1 000 V a.c. with a frequency up to and including 1 000 Hz, and 1 500 V d.c.

It applies to clamping units primarily suitable for connecting unprepared conductors.

This standard does not apply to clamping units

a) for connection by crimping or soldering;

b) for data and signalling circuits;

c) for flat quick-connect terminations, insulation-piercing connecting devices and twist-on connecting devices, which are covered by IEC 61210 [3][1)], IEC 60998-2-3 [1] and IEC 60998-2-4 [2] respectively.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 60999. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of IEC 60999 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60228:1978, *Conductors of insulated cables*

IEC 60228A:1982, *Conductors of insulated cables – First supplement*

IEC 60344:1980, *Guide to the calculation of resistance of plain and coated copper conductors of low-frequency cables and wires*

IEC 61545:1996, *Connecting devices – Devices for the connection of aluminium conductors in clamping units of any material and copper conductors in aluminium bodied clamping units*

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1) Figures in square brackets refer to the bibliography.

ISO/DIS 1456:—, *Metallic coatings – Electrodeposited coatings of nickel plus chromium and of copper plus nickel plus chromium* [2)]

ISO 2081:1986, *Metallic coatings – Electroplated coatings of zinc on iron or steel*

ISO 2093:1986, *Electroplated coatings of tin – Specification and test methods*

3 Definitions

For the purpose of this part of IEC 60999, the following definitions apply.

3.1
clamping unit
the part(s) of the terminal necessary for the mechanical clamping and the electrical connection of the conductor(s), including the parts which are necessary to ensure the correct contact pressure

3.2
terminal
the conductive part of one pole, composed of one or more clamping unit(s) and insulation if necessary

3.3
connecting device
a device for the electrical connection of one (or more) conductor(s), comprising one (or more) terminal(s), either fixed to a base or forming an integral part of the equipment

3.4
screw-type clamping unit
a clamping unit for the connection and subsequent disconnection of one conductor or the interconnection and subsequent disconnection of two or more conductors, the connection being made, directly or indirectly, by means of screws or nuts of any kind

3.5
pillar clamping unit
a screw-type clamping unit in which the conductor is inserted into a hole or cavity, where it is clamped under the shank of a screw or screws. The clamping pressure may be applied directly by the shank of the screw or through an intermediate part to which pressure is applied by the shank of the screw

NOTE Examples of pillar clamping units are shown in figure 2.

3.6
screw clamping unit
a screw-type clamping unit in which the conductor is clamped under the head of a screw. The clamping pressure may be applied directly by the head of the screw or through an intermediate part such as a washer, clamping plate or anti-spread device

NOTE Examples of screw clamping units are shown in figure 3.

[2)] To be published.