

Connecting devices for low-voltage circuits for household and similar purposes —

Part 1: General requirements

The European Standard EN 60998-1:1993, with the incorporation of amendment A1:2001, has the status of a British Standard

ICS 29.120.30

Cooperating organizations

The European Committee for Electrotechnical Standardization (CENELEC), under whose supervision this European Standard was prepared, comprises the national committees of the following countries:

Austria	Italy
Belgium	Luxembourg
Denmark	Netherlands
Finland	Norway
France	Portugal
Germany	Spain
Greece	Sweden
Iceland	Switzerland
Ireland	United Kingdom

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National foreword

This British Standard has been prepared under the direction of the Power Electrical Engineering Standards Policy Committee (PEL/-) and is the English language version of EN 60998-1:1993 *Connecting devices for low voltage circuits for household and similar purposes — Part 1: General requirements*, including amendment A1:2001, published by the European Committee for Electrotechnical Standardization (CENELEC). It was derived by CENELEC from IEC 60998-1:1990, including amendment 1:1998, published by the International Electrotechnical Commission (IEC).

The CENELEC common modifications have been implemented at the appropriate places in the text. The start and finish of each common modification is indicated in the text by tags [C] [C]. Where a common modification has been introduced by amendment, the tags carry the number of the amendment. For example, the common modifications introduced by CENELEC amendment A11 are indicated by [C11] [C11].

The start and finish of text introduced or altered by amendment is indicated in the text by tags [A1] [A1]. Tags indicating changes to IEC text carry the number of the IEC amendment. For example, text altered by IEC amendment 1 is indicated by [A1] [A1].

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 2 to 26, an inside back cover and a back cover.

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English version

Connecting devices for low voltage circuits for household and similar purposes — Part 1: General requirements

(includes amendment A1:2001)
(IEC 60998-1:1990 + A1:1998, modified)

Dispositifs de connexion pour circuits basse tension
pour usage domestique et analogue —
Première partie: Règles générales
(inclut l'amendement A1:2001)
(CEI 60998-1:1990 + A1:1998, modifiée)

Verbindungsmaterial für
Niederspannungs-Stromkreise für Haushalt und
ähnliche Zwecke —
Teil 1: Allgemeine Anforderungen
(enthält Änderung A1:2001)
(IEC 60998-1:1990 + A1:1998, modifiziert)

This European Standard was approved by CENELEC on 9 March 1993. Amendment A1 was approved by CENELEC on 2000-08-01. 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, 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 CENELEC questionnaire procedure, performed for finding out whether or not the International Standard IEC 998-1:1990 could be accepted without textual changes, has shown that some common modifications were necessary for the acceptance as a European Standard.

The reference document, together with the common modifications prepared by CENELEC Reporting Secretariat SR 23F, was submitted to the CENELEC members for formal vote in August 1992.

The text of the draft was approved by CENELEC on 1993-03-09.

The following dates were fixed:

- latest date of publication of an identical national standard (dop) 1994-03-01
- latest date of withdrawal of conflicting standards (dow) 1997-03-01

For products which have complied with the relevant national standard before 1997-03-01 as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2002-03-01.

Annexes designated “normative” are part of the body of the standard. Annexes designated “informative” are given only for information. In this standard, Annex A is informative. Where reference is made to other international or harmonized standards, the edition of that standard quoted in Annex ZA (normative) is applicable.

NOTE In this document, the following print types are used:

- requirements proper: in roman type;
- *test specifications: in italic type;*
- explanatory matter: in smaller roman type.

Foreword to amendment A1

The text of amendment 1:1998 to the International Standard IEC 60998-1:1990, prepared by SC 23F, Connecting devices, of IEC TC 23, Electrical accessories, was submitted to the Unique Acceptance Procedure and was approved by CENELEC as amendment A1 to EN 60998-1:1993 on 2000-08-01 without any modification.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2001-12-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2003-08-01

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1 Scope

Ⓒ This standard applies to connecting devices as separate entities for the connection of two or more electrical copper conductors (complying with HD 383) rigid (solid or stranded) or flexible, having a cross-sectional area of 0,5 mm² up to and including 35 mm² with a rated voltage not exceeding 1 000 V a.c. up to and including 1 000 Hz and 1 500 V d.c. where electrical energy is used for household and similar purposes. Ⓒ

Connecting devices complying with this standard shall not require the use of special tools, other than that for twist-on connecting devices.

This standard contains the general requirements to be used together with the Parts 2, containing detailed particular requirements.

Ⓒ This standard does not apply to terminals designed to receive prepared conductors (soldering, eyelet, lug, etc.) nor to terminals designed to be assembled together with apparatus being subjected to strong vibrations. Ⓒ

2 Normative references

Ⓒ NOTE Other international publications quoted in this standard are listed in Annex ZA (normative). Ⓒ

3 Definitions

For the purpose of this standard the following definitions apply:

3.1

connection

electrical connection between two or more conductors or between a conducting part and one or more conductors

3.2

junction

connection between two or more conductor ends

3.3

tapping

connection of a conductor end (called “tapped conductor”) on any point of another conductor (called “main conductor”)

3.4

connecting device

device for the electrical connection of two or more conductors comprising one or more terminals and, if necessary, insulation and/or ancillary parts (see Annex A)

3.5

terminal

conductive part of one pole comprising one or more clamping unit(s) and insulation if necessary (see Annex A)

3.6

clamping unit

the part(s) of a terminal necessary for the mechanical clamping and the electrical connection of the conductor(s) including the parts which are necessary to ensure correct contact pressure (see Annex A)

3.7

ancillary part

part of a connecting device providing electrical and mechanical protection and/or mounting, for example a base, an enclosure, a mounting rail, etc. (see Annex A)

3.8

rated connecting capacity

the cross-sectional area of the largest rigid conductor(s) to be connected as stated by the manufacturer of the connecting device

3.9

rated insulation voltage

the voltage of a component, device or piece of equipment to which dielectric voltage tests and creepage distances are referred

3.10

rated current

current assigned to the device by the manufacturer

3.11

clearance

the shortest distance in air between two conductive parts

3.12

creepage distance

the shortest distance along the surface of an insulating material between two conductive parts

3.13

ambient temperature

the temperature of the air surrounding the connecting device together with its enclosure, if any

3.14

temperature rise

the difference between the temperature of the part under test, together with its enclosure if any, measured under load according to the test specification and the ambient temperature

3.15

multiway terminal device

a connecting device that consists of several terminals, insulated from each other in a common housing of insulating material, which are capable of being subdivided by the user to make connecting devices consisting of one or more terminals

3.16

connecting terminal plate

assembly made up of several terminals on a base made of insulating material not intended to be subdivided by the user, including a fixing device and possibly a cap

4 General

Connecting devices shall be so designed and constructed that in normal use their performance is reliable and without danger to the user or surroundings.

Compliance is checked by carrying out all tests specified.

5 General notes on tests

5.1 Tests according to this standard are type tests.

5.2 Unless otherwise specified, the samples are tested as delivered and installed as in normal use, at an ambient temperature of $20\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$.

5.3 The tests are carried out in the order of the clauses.

5.4 Unless otherwise stated, three samples are submitted to all the tests, and this standard is met if all tests are satisfied.

5.5 If only one of the samples does not satisfy a test due to an assembly or manufacturing fault, which is not representative of the design, that test and any preceding ones which may have influenced the results of the test shall be repeated on another full set of samples all of which shall comply with the repeated test requirements. The standard is then met.

5.6 A supplementary set of three samples, which may be necessary for the repetition of a test, may be supplied at the same time as the first set. If the supplementary set is not supplied at the same time as the first one, all the tests must be repeated.