

Appliance couplers for household and similar general purposes —

Part 2-2: Interconnection couplers for household and similar equipment

The European Standard EN 60320-2-2:1998 has the status of a British Standard

ICS 29.120.30

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National foreword

This British Standard is the English language version of EN 60320-2-2:1998. It is identical with IEC 60320-2-2:1998. It supersedes BS EN 60320-2-2:1992 which will be withdrawn on 2001-07-01.

The UK participation in its preparation was entrusted by Technical Committee PEL/23, Electrical accessories, to Subcommittee PEL/23/3, Appliance couplers, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
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Cross-references

Attention is drawn to the fact that CEN and CENELEC standards normally include an annex which lists normative references to international publications with their corresponding European publications. 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 30, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

Amendments issued since publication

Amd. No.	Date	Comments

This British Standard, having been prepared under the direction of the Electrotechnical Sector Committee, was published under the authority of the Standards Committee and comes into effect on 15 January 1999

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ISBN 0 580 30893 6

Contents

	Page
National foreword	Inside front cover
Foreword	2
Text of EN 60320-2-2	5

ICS 29.120.30

Descriptors: Low-voltage equipment, household appliance, similar general use, interconnection coupler, interconnection cord, rating, dimension, construction, test

English version

Appliance couplers for household and similar
general purposes
Part 2-2: Interconnection couplers for household
and similar equipment

(IEC 60320-2-2:1998)

Connecteurs pour usages domestiques
et usages généraux analogues
Partie 2-2: Connecteurs
d'interconnexion pour matériels
électriques domestiques et analogues
(CEI 60320-2-2:1998)

Gerätesteckvorrichtungen für den
Hausgebrauch und ähnliche
allgemeine Zwecke
Teil 2-2: Netzweiterverbindungen für
Geräte für den Hausgebrauch und
ähnliche Einrichtungen
(IEC 60320-2-2:1998)

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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.

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

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Foreword

The text of document 23G/183/FDIS, future edition 2 of IEC 60320-2-2, prepared by SC 23G, Appliance couplers, of IEC TC 23, Electrical accessories, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60320-2-2 on 1998-10-01.

This European Standard supersedes EN 60320-2-2:1991.

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) 1999-07-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2001-07-01

This standard is to be used in conjunction with 60320-1:1996.

This part 2 supplements or modifies the corresponding clauses of EN 60320-1:1996.

Where a particular clause or subclause of part 1 is not mentioned in this part 2, that clause or subclause applies as far as is reasonable. Where this part 2 states “addition”, “modification” or “replacement”, the relevant text of part 1 is to be adapted accordingly.

Subclauses, tables and figures which are additional to those in part 1 are numbered starting from 101.

Annexes designated “normative” are part of the body of the standard.

Annexes designated “informative” are given for information only.

In this standard, Annex ZA and Annex ZB are normative and Annex ZC is informative.

Annex ZA, Annex ZB and Annex ZC have been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60320-2-2:1998 was approved by CENELEC as a European Standard without any modification.

Contents

	Page
Foreword	2
Introduction	5
1 Scope	5
2 Normative references	5
3 Definitions	5
4 General requirements	6
5 General notes on tests	6
6 Standard ratings	6
7 Classification	6
8 Marking	6
9 Dimensions and compatibility	7
10 Protection against electric shock	8
11 Provision for earthing	8
12 Terminals and terminations	8
13 Construction	8
14 Moisture resistance	9
15 Insulation resistance and electric strength	9
16 Forces necessary to insert and to withdraw the connector	10
17 Operation of contacts	11
18 Resistance to heating of appliance couplers for hot conditions or very hot conditions	11
19 Breaking capacity	11
20 Normal operation	11
21 Temperature rise	12
22 Cords and their connection	12
23 Mechanical strength	12
24 Resistance to heat and ageing	13
25 Screws, current-carrying parts and connections	13
26 Creepage distances, clearances and distances through insulation	13
27 Resistance of insulating material to heat, fire and tracking	13
28 Resistance to rusting	13
29 Electromagnetic compatibility (EMC) requirements	13
STANDARD SHEETS	14
Annex ZA (normative) Normative references to international publications with their corresponding European publications	30
Annex ZB (normative) Special national conditions	30

	Page
Annex ZC (informative) IEC and CENELEC code designations for flexible cords	Inside back cover
Figure 101 — “GO” gauge for appliance outlets to standard sheet F (see 8.1)	26
Figure 102 — “GO” gauge for appliance outlets to standard sheet H (see 8.1)	27
Figure 103 — “GO” gauge for appliance outlets to standard sheet J (see 8.1)	28
Figure 104 — “GO” gauge for appliance outlets to standard sheet L (see 8.1)	29

Introduction

Where in IEC 60320-1 the words “appliance coupler”, “connector” or “appliance inlet” appear, they should be deleted and replaced by “interconnection coupler”, “plug connector” or “appliance outlet” respectively.

1 Scope

This clause of IEC 60320-1 is replaced as follows:

This standard is applicable to two-pole interconnection couplers for a.c. only, with and without earthing contact, with a rated voltage not exceeding 250 V and a rated current not exceeding 16 A, for household and similar appliances and equipment and intended for the interconnection of the electrical supply to electrical appliances or equipment for 50 Hz or 60 Hz supply.

Appliance outlets integrated in or incorporated in appliances or other equipment are within the scope of this standard. The dimensional and general requirements of this standard apply to such outlets, but certain tests may not be relevant.

The requirements for plug connectors are based on the assumption that the temperature of the socket contacts of the corresponding appliance outlets does not exceed 65 °C (cold conditions).

Interconnection couplers complying with this standard are suitable for use at ambient temperatures not normally exceeding 25 °C, but occasionally reaching 35 °C.

Interconnection couplers complying with the standard sheets in this standard are intended for the interconnection of appliances or equipment having no special protection against moisture; for the interconnection of other appliances or equipment and of an appliance or equipment which is subject to spillage of liquid in normal use, additional requirements are necessary.

Special constructions may be required

- in locations where special conditions prevail as, for example, in ships, vehicles and the like;
- in hazardous locations, for example, where explosions are liable to occur.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 60320. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this part of IEC 60320 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60083:1997, *Plugs and socket-outlets for domestic and similar general use standardized in member countries of IEC*.

IEC 60320-1:1994, *Appliance couplers for household and similar general purposes — Part 1: General requirements*.

IEC 60536:1976, *Classification of electrical and electronic equipment with regard to protection against electric shock*.

IEC 60906 (all parts), *IEC system of plugs and socket-outlets for household and similar purposes*.

ISO 1101, — *Geometrical Product Specifications (GPS) — Geometrical tolerancing — Generalities, definitions, symbols, indication on drawings*¹⁾.

3 Definitions

This clause of IEC 60320-1 applies with the following additions:

Additional definitions:

3.101

an **interconnection coupler** is a means enabling the connection and disconnection at will of an appliance or equipment to a cord leading to another appliance or equipment

It consists of two parts:

- a **plug connector**, which is the part integral with, or intended to be attached to, the cord;
- an **appliance outlet**, which is the part integrated or incorporated in the appliance or equipment or intended to be fixed to it, and from which the supply is obtained.

NOTE An appliance outlet integrated in an appliance or equipment is an appliance outlet (the shroud and bottom of) which is formed by the housing of the appliance or equipment. An appliance outlet incorporated in an appliance or equipment is a separate appliance outlet built in or fixed to an appliance or equipment.

¹⁾ To be published.

3.3 Replacement:

The term “accessory” is used as a general term covering plug connectors and/or appliance outlets.

4 General requirements

This clause of IEC 60320-1 is replaced as follows.
Interconnection couplers shall be so designed and constructed that in normal use their performance is reliable and without danger to the user or surroundings.

In general, compliance is checked by carrying out all the tests specified.

5 General notes on tests

This clause of IEC 60320-1 applies amended as follows:

5.4 Replacement:

Unless otherwise specified, plug connectors and appliance outlets are tested in conjunction with an appropriate appliance outlet or plug connector complying with this standard.

5.5 Replacement:

For appliance outlets, six specimens are required, three of which are subjected to the tests specified with the exception of those of clauses 14, 15, 16, 19, 20 and 21; the other three specimens are subjected to the tests of clauses 14, 15, 16, 19, 20 and 21 (including the repetition of the test of 16.2).

For plug connectors, nine specimens are required, three of which are subjected to the tests specified with the exception of those of clauses 14, 15 and 17 and subclauses 22.4 and 24.2; three other specimens are subjected to the tests of clauses 14, 15 and 17; the other three specimens are subjected to the test of 22.4.

For plug connectors of rubber or similar material, two additional specimens are required which are subjected to the test of 24.2.1.

For plug connectors of polyvinyl chloride (PVC) or similar material, two additional specimens are subjected to the test of 24.2.3.

Accordingly, for plug connectors the total number of specimens is:

Plug connector made of	Number of specimens
Rigid insulating material	9
PVC, rubber or similar material	11

6 Standard ratings

This clause of IEC 60320-1 applies amended as follows:

6.2 Replacement:

Standard rated currents are 2,5 A, 10 A and 16 A as specified in 9.1 of this standard.

7 Classification

This clause of IEC 60320-1 applies amended as follows:

Replacement:

7.1 Interconnection couplers are classified according to the type of appliance or equipment to be connected:

- interconnection couplers for class I equipment;
- interconnection couplers for class II equipment.

NOTE For a description of the classes, see IEC 60536.

7.2 Plug connectors are, moreover, classified according to the method of connecting the cord:

- rewirable plug connectors;
- non-rewirable plug connectors.

8 Marking

This clause of IEC 60320-1 applies amended as follows:

8.1 Replacement:

Plug connectors shall be marked with:

- rated current in amperes;
- rated voltage in volts;
- symbol for nature of supply;
- name, trade mark or identification mark of the manufacturer or of the responsible vendor;
- type reference.

NOTE The type reference may be a catalogue number.

8.2 Replacement:

Appliance outlets other than those integrated in an appliance or equipment shall be marked with

- the name, trade mark or identification mark of the manufacturer or of the responsible vendor, and
- a type reference, the latter being not visible after the appliance outlet is correctly mounted or when a plug connector is in engagement.

NOTE The type reference may be a catalogue number.

8.3 Replacement:

Plug connectors and appliance outlets for class II equipment shall not be marked with the symbol for class II construction.

8.5 Replacement:

The marking specified in 8.1 shall be easily discernible when the plug connector is wired ready for use.

NOTE The term “ready for use” does not imply that the plug connector is in engagement with an appliance outlet.

8.6 Replacement:

In non-reversible plug connectors, the contact positions shall be established by looking at the engagement face of the plug connectors and their disposition shall be as follows:

earthing contact: upper central position;
line contact: lower left-hand position;
neutral contact: lower right-hand position.

In rewirable, non-reversible plug connectors, terminals shall be indicated as follows:

earthing terminal: the symbol $\perp$;
neutral terminal: the letter N.

In non-rewirable, non-reversible plug connectors, no marking of contacts is necessary, but cores shall be connected as specified in 22.1.

Appliance outlets other than those integrated or incorporated in an appliance or equipment, for use with plug connectors according to this subclause, shall have terminal markings to correspond with this subclause.

The marking symbol or letters shall not be placed on screws, removable washers or other removable parts.

NOTE The requirement concerning the marking of terminals and the connection of conductors has been introduced to align with the corresponding requirement for appliance couplers, which was introduced to take account of those countries which require a polarized supply system and the introduction of the IEC plug and socket-outlet system (see IEC 60906).

9 Dimensions and compatibility

This clause of IEC 60320-1 applies amended as follows:

Replacement:

9.1 Interconnection couplers shall comply with the appropriate standard sheets as specified below, except as permitted by 9.6:

2,5 A 250 V interconnection coupler for class I equipment:

— plug connector Sheet A
— appliance outlet Sheet B

2,5 A 250 V interconnection coupler for class II equipment:

— plug connector Sheet C

— appliance outlet Sheet D

10 A 250 V interconnection coupler for class I equipment:

— plug connector Sheet E
— appliance outlet Sheet F

10 A 250 V interconnection coupler for class II equipment:

— plug connector Sheet G
— appliance outlet Sheet H

16 A 250 V interconnection coupler for class I equipment

— plug connector Sheet I
— appliance outlet Sheet J

16 A 250 V interconnection coupler for class II equipment:

— plug connector Sheet K
— appliance outlet Sheet L

Compliance is checked by measurement or by means of gauges at an ambient temperature of $25\text{ °C} \pm 5\text{ °C}$. The accessories shall be tested with the gauges according to the following table:

Accessory to be tested	Gauge
10 A plug connectors of standard sheets E and G	Figure 9H
16 A plug connectors of standard sheets I and K	Figure 9M
10 A appliance outlet of standard sheet F	Figure 101
10 A appliance outlet of standard sheet H	Figure 102
16 A appliance outlet of standard sheet J	Figure 103
16 A appliance outlet of standard sheet L	Figure 104

9.2 Provision, if any, for retaining the plug connector in the appliance outlet shall comply with standard sheet... (under consideration).

9.3 It shall not be possible to make single-pole connections between plug connectors and appliance outlets.

Appliance outlets shall not allow improper connections with plugs complying with IEC 60083.

Plug connectors shall not allow improper connections with portable socket-outlets complying with the same IEC 60083 nor with connectors complying with IEC 60320-1.

Compliance is checked by manual test.