# SLOVENSKI STANDARD

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**(istoveten EN 60320-2-4:2006)**

Appliance couplers for household and similar general purposes - Part 2-4: Appliance couplers dependent on appliance weight for engagement (IEC 60320-2-4:2005)



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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

# EN 60320-2-4

January 2006

ICS 29.20.20

English version

# Appliance couplers for household and similar general purposes Part 2-4: Couplers dependent on appliance weight for engagement

(IEC 60320-2-4:2005)

Connecteurs pour usages domestiques et usages généraux analogues
Partie 2-4: Connecteurs à connexion par gravité
(CEI 60320-2-4:2005)

Gerätesteckvorrichtungen für den Hausgebrauch und ähnliche allgemeine Zwecke
Teil 2-4: Gerätesteckvorrichtungen mit vom Gerätegewicht abhängiger Kupplung
(IEC 60320-2-4:2005)



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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 60320-2-4:2006 E

## Foreword

The text of document 23G/251/FDIS, future edition 1 of IEC 60320-2-4, 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 60320-2-4 on 2005-12-01.

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) | 2006-09-01 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn | (dow) | 2008-12-01 |

This European Standard makes reference to International Standards. Where the International Standard referred to has been endorsed as a European Standard or a home-grown European Standard exists, this European Standard shall be applied instead. Pertinent information can be found on the CENELEC web site.

This Part 2-4 is to be used in conjunction with EN 60320-1:2001, *Appliance couplers for household and similar general purposes, Part 1: General requirements*.

The clauses of this Part 2-4 supplement or modify the corresponding clauses of EN 60320-1. Where a subclause of Part 1 is not mentioned in this Part 2-4, that subclause of EN 60320-1 applies as far as is reasonable. Where this Part 2-4 states "addition", "modification" or "replacement", the relevant text of Part 1 is to be adapted accordingly.



Subclauses, figures or tables which are additional to those in Part 1 are numbered starting from 101. Additional annexes are lettered AA, BB, etc.



## Endorsement notice

The text of the International Standard IEC 60320-2-4:2005 was approved by CENELEC as a European Standard without any modification.

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# NORME INTERNATIONALE

# INTERNATIONAL STANDARD

**CEI**
**IEC**
**60320-2-4**

Première édition
First edition
2005-10

# Connecteurs pour usages domestiques et usages généraux analogues –

# Partie 2-4: Connecteurs à connexion par gravité



# Appliance couplers for household and similar general purposes –



# Part 2-4: Couplers dependent on appliance weight for engagement



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International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

# APPLIANCE COUPLERS FOR HOUSEHOLD AND SIMILAR GENERAL PURPOSES –

## Part 2-4: Couplers dependent on appliance weight for engagement

## FOREWORD

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International Standard IEC 60320-2-4 has been prepared by subcommittee 23G: Appliance couplers, of IEC technical committee 23: Electrical accessories

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

| FDIS | Report on voting |
|---|---|
| 23G/251/FDIS | 23G/252/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 2.

IEC 60320 consists of the following parts, under the general title *Appliance couplers for household and similar general purposes*:

Part 1: General requirements

Part 2-1: Sewing machine couplers

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

Part 2-3: Appliance couplers with a degree of protection higher than IPX0

Part 2-4: Couplers dependent on appliance weight for engagement

This part 2 is to be used in conjunction with IEC 60320-1:*Appliance couplers for household and similar general purposes – Part 1: General requirements*. It was established on the basis of the second edition of that standard (2001).

The clauses of this standard supplement or modify the corresponding clauses of IEC 60320-1. When a particular subclause of Part 1 is not mentioned in this part 2, the subclause of IEC 60320-1 applies without modification as far as is reasonable. Where this standard states "addition", "modification" or "replacement", the relevant requirement, test specification or explanatory matter in IEC 60320-1 should be adapted accordingly.

Subclauses, figures or tables which are additional to those in Part 1 are numbered starting from 101. Additional annexes are lettered AA, BB etc.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be



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

# APPLIANCE COUPLERS FOR HOUSEHOLD AND SIMILAR GENERAL PURPOSES –

# Part 2-4: Couplers dependent on appliance weight for engagement

## 1 Scope

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

This standard is applicable to two-pole appliance couplers for a.c. only, with or without earthing contact, with a rated voltage not exceeding 250 V and a rated current not exceeding 16 A, for household and similar general purposes and intended for incorporation or integration within electric appliances or other electric equipment of multi-part construction for 50 Hz or 60 Hz supply which depend on the weight of the appliance to ensure correct engagement.

NOTE 1 Appliance couplers complying with this standard are suitable for use in appliances which are used in an ambient temperature not normally exceeding 25 °C but occasionally reaching 35 °C. However the ambient temperature surrounding the appliance coupler may exceed these figures and is to be declared by the manufacturer. It is possible that the maximum working ambient temperature for the appliance inlet and for the connector may be different.



NOTE 2 Appliance couplers dependent on appliance weight for engagement may be subject to spillage of liquid in normal use. They are classified according to whether protection against water spillage is provided, when installed in accordance with the manufacturer's installation instructions.



NOTE 3 If appliance inlets according to this standard are used with appliances or other equipment which may be subject to spillage of liquid affecting the appliance inlet when the functioning part of the appliance or equipment is seated on its power base, then protection against moisture is to be provided by the equipment.



NOTE 4 References to standard sheets within IEC 60320-1 do not apply to appliance couplers dependent on appliance weight for engagement.

NOTE 5 Special constructions may be required:

– in locations where special conditions may prevail, for example, in ships, vehicles and the like;

– in hazardous locations, for example, where explosions are likely to occur.

## 2 Normative references

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

IEC 60320-1:2001, *Appliance couplers for household and similar general purposes – General requirements*

IEC 60320-2-2, *Appliance couplers for household and similar general purposes – Part 2-2: Interconnection couplers for household and similar equipment*

IEC 60320-2-3, *Appliance couplers for household and similar general purposes – Part 2-3: Appliance couplers with a degree of protection higher than IPX0*

IEC 60335-1:2001, *Household and similar electrical appliances – Safety – Part 1: General requirements*

IEC 60664-1:1992, *Insulation coordination for equipment within low voltage systems* [1)]
Amendment 1 (2000)

IEC 60695-11-5, *Fire hazard testing – Part 11-5: Test flames – Needle-flame test method – Apparatus, confirmatory test arrangement and guidance*

IEC 60695-11-10, *Fire hazard testing, – Part 11-10: Test flames, – 50 W horizontal and vertical flame test methods*

IEC 61032, *Protection of persons and equipment by enclosures – Probes for verification*

ISO 9772, *Cellular plastics – Determination of horizontal burning characteristics of small specimens subjected to a small flame*

## 3 Definitions

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

**3.101**
**weight-engaged coupler**
coupler that relies on the weight of the functioning part of the appliance, in which it is incorporated or integrated, to ensure correct engagement

NOTE The weight-engaged coupler is used in an appliance which is in two parts, for supplying the part that performs the function of the appliance (the functioning part) from the power base which is connected to the power supply.



**3.102**
**weight-engaged connector**
component part of the weight-engaged coupler which carries the power connections, and engages with the corresponding appliance inlet.



**3.103**
**weight-engaged appliance inlet**
component part of a weight-engaged coupler intended for integration or incorporation in the functioning part of the appliance

**3.104**
**rewirable weight-engaged connector**
weight-engaged connector so constructed that the supply cord can be replaced

NOTE 1 The method of attachment of the supply cord, when installed in accordance with the manufacturer's installation instructions, is classified according to type X or type Y attachment requirements of the appliance standards.

NOTE 2 The requirements for type X or Type Y attachment methods are given in IEC 60335-1.

**3.105**
**type X attachment**
method of attachment of the supply cord such that it can easily be replaced

NOTE The supply cord may be specially prepared and only available from the manufacturer or its service agent. A specially prepared cord may include a part of the appliance.

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1) A consolidated edition (1.2) exists containing IEC 60664-1:1992 and its Amendment 1 (2000) and Amendment 2 (2002).

**3.106**
**type Y attachment**
method of attachment of the supply cord such that any replacement is intended to be made by the manufacturer, its service agent or similar qualified person

**3.107**
**type Z attachment**
method of attachment of the supply cord such that it cannot be replaced without breaking or destroying the appliance

## 4 General requirements

This clause of IEC 60320-1 applies.

## 5 General notes on tests

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

**5.2** *Replacement:*

The specimens are tested as delivered and under normal conditions of use, in accordance with the installation instructions of the manufacturer; they are tested with a.c. at 50 Hz or 60 Hz.



Non-rewirable weight-engaged connectors shall be submitted with a cord at least 1 m long.

For those clauses requiring the tests to be carried out on weight-engaged connectors and appliance inlets installed in accordance with the manufacturer's instructions, representative appliances or appliance parts shall be supplied.



**5.5** *Replacement:*

For weight-engaged appliance inlets three specimens are required, to be subjected to the tests specified.

For weight-engaged connectors six specimens are required:

– set 1 of three specimens is subjected to the tests specified, with the exception of those of Clauses 14, 15, 16, 19, 20 and 21, and of 24.2;
– set 2 of three specimens is subjected to the tests of 14.1 and of Clauses 15, 16, 19, 20 and 21 (including the repetition of Clause 16).

For weight-engaged connectors which are declared as providing protection against water spillage, three additional specimens are required, which are subjected to the test of 14.2.

For weight-engaged connectors of elastomeric or thermoplastic material, two additional specimens are required which are subjected to the tests of 24.2.1 or 24.2.2, whichever is applicable.

For non rewirable weight-engaged connectors with indicators, three additional specimens with one pole of the indicator disconnected are required for the tests of Clause 15.

## 6 Standard ratings

This clause of IEC 60320-1 is replaced as follows

**6.1** The standard rated voltage is 250 V. Other rated voltages may be declared by the manufacturer provided they do not exceed 250 V.

**6.2** The rated current shall be declared by the manufacturer. A coupler may have different current ratings dependent on use within specified applications. The rated current shall not in any case exceed 16 A.

Compliance with the requirements of 6.1 and 6.2 is checked by visual inspection of the marking or the manufacturer's instructions for installation and use.

## 7 Classification

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

**7.1** *Replacement:*

**7.1** Weight-engaged couplers are classified:

**7.1.1** According to whether or not protection against water spillage is provided when the connector is installed according to the manufacturer's instructions.



**7.1.2** According to type of equipment to be connected:

– appliance couplers for class I equipment;

– appliance couplers for class II equipment.



NOTE For a description of the classes, see IEC 61140

**7.1.3** According to whether or not the coupler is intended to be engaged and disengaged with current flowing.

**7.1.4** According to the maximum ambient working temperature of the coupler.

NOTE The maximum ambient working temperature of the connector and appliance inlet may be different.

**7.1.5** According to the number of cycles to be performed in the test of Clause 20. Preferred values are:

**7.1.5.1** 100 000

**7.1.5.2** 60 000

**7.1.5.3** 30 000

**7.1.5.4** 20 000

**7.1.5.5** 10 000

**7.1.5.6** 6 000

NOTE Different numbers of endurance cycles may be declared for different current ratings of the same coupler.