

INTERNATIONAL STANDARD

NORME INTERNATIONALE

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

Connecteurs pour usages domestiques et usages généraux analogues –
Partie 2-4: Connecteurs à connexion par gravité

ITIH STANDARD PREVIEW
(standards.iteh.ai)
IEC 60320-2-4:2018
<https://standards.iteh.ai/catalog/standards/sist/910c4c6e-44c3-45fb-a24b-a9186826b315/iec-60320-2-4-2018>



THIS PUBLICATION IS COPYRIGHT PROTECTED
Copyright © 2018 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

IEC Catalogue - webstore.iec.ch/catalogue

The stand-alone application for consulting the entire bibliographical information on IEC International Standards, Technical Specifications, Technical Reports and other documents. Available for PC, Mac OS, Android Tablets and iPad.

IEC publications search - webstore.iec.ch/advsearchform

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and also once a month by email.

Electropedia - www.electropedia.org

The world's leading online dictionary of electronic and electrical terms containing 21 000 terms and definitions in English and French, with equivalent terms in 16 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary

67 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: sales@iec.ch.

A propos de l'IEC

La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC

Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Catalogue IEC - webstore.iec.ch/catalogue

Application autonome pour consulter tous les renseignements bibliographiques sur les Normes internationales, Spécifications techniques, Rapports techniques et autres documents de l'IEC. Disponible pour PC, Mac OS, tablettes Android et iPad.

Recherche de publications IEC - webstore.iec.ch/advsearchform

La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études,...). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Just Published - webstore.iec.ch/justpublished

Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et aussi une fois par mois par email.

Electropedia - www.electropedia.org

Le premier dictionnaire en ligne de termes électroniques et électriques. Il contient 21 000 termes et définitions en anglais et en français, ainsi que les termes équivalents dans 16 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

Glossaire IEC - std.iec.ch/glossary

67 000 entrées terminologiques électrotechniques, en anglais et en français, extraites des articles Termes et Définitions des publications IEC parues depuis 2002. Plus certaines entrées antérieures extraites des publications des CE 37, 77, 86 et CISPR de l'IEC.

Service Clients - webstore.iec.ch/csc

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: sales@iec.ch.



INTERNATIONAL STANDARD

NORME INTERNATIONALE

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

**Connecteurs pour usages domestiques et usages généraux analogues –
Partie 2-4: Connecteurs à connexion par gravité**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 29.120.30

ISBN 978-2-8322-5824-8

**Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

CONTENTS

FOREWORD.....	4
1 Scope.....	6
2 Normative references	6
3 Terms and definitions	7
4 General requirements	8
5 General notes on tests	8
6 Standard ratings	8
7 Classification	9
8 Marking	10
9 Dimensions and compatibility	11
10 Protection against electric shock	12
11 Provision for earthing	13
12 Terminals and terminations.....	13
13 Construction	13
14 Moisture resistance	14
15 Insulation resistance and electric strength	15
16 Forces necessary to insert and withdraw the connector/appliance outlet.....	16
17 Operation of contacts	17
18 Resistance to heating of appliance couplers for hot conditions or very hot conditions.....	17
19 Breaking capacity	18
20 Normal operation	19
21 Temperature rise	20
22 Cords and their connection	21
23 Mechanical strength	21
24 Resistance to heat and ageing.....	22
25 Screws, current-carrying parts and connections.....	22
26 Clearances, creepage distances and solid insulation	23
27 Resistance of insulating material to heat, fire and tracking	29
28 Resistance to rusting	30
29 Electromagnetic compatibility (EMC) requirements	30
Annex AA (normative) Needle-flame test.....	31
Annex BB (normative) Apparatus for the test of 14.102	32
Annex C (normative) Test schedule	33
Figure 101 – Examples of clearances	26
Figure BB.1 – Apparatus for the test of Subclause 14.102	32
Table 101 – Test voltages.....	16
Table 102 – Ratings for the tests of Clause 20.....	20

Table 103 – Rated impulse voltage	24
Table 104 – Minimum clearances	24
Table 105 – Minimum creepage distances for basic insulation	28

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[IEC 60320-2-4:2018](https://standards.iteh.ai/catalog/standards/sist/9f6e4c6e-44c3-45fb-a24b-a9186826b315/iec-60320-2-4-2018)

<https://standards.iteh.ai/catalog/standards/sist/9f6e4c6e-44c3-45fb-a24b-a9186826b315/iec-60320-2-4-2018>

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**APPLIANCE COUPLERS FOR HOUSEHOLD
AND SIMILAR GENERAL PURPOSES –****Part 2-4: Couplers dependent on appliance
weight for engagement**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of 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, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). 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. 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 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 IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

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

This second edition cancels and replaces the first edition published in 2005 and Amendment 1:2009. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) IEC 60320-2-4 is aligned with IEC 60320-1:2015.
- b) IEC 60320-2-4 is aligned with IEC 60335-1 and IEC 60335-2-15. IEC 60320-2-4 appliance couplers are incorporated into appliances designed and manufactured to these standards. To this end, particular attention is drawn to 14.2 and Clause 20.
- c) It also now proposes that appliance couplers with auxiliary contacts be considered.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
23G/402/FDIS	23G/404/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

This Part 2-4 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 third edition of that standard (2015).

The clauses of this standard supplement or modify the corresponding clauses of IEC 60320-1. When a particular subclause or annex of Part 1 is not mentioned in this Part 2-4, the subclause or annex 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.

In this particular standard the following print types are used:

- requirements: in roman type;
- *test specifications: in italic type*; <https://standards.iteh.ai/catalog/standards/sist/9f6e4c6e-44c3-45fb-a24b-a59e826b315/iec-60320-2-4-2018>
- explanatory matter: in smaller roman type

A list of all parts in the IEC 60320 series, published under the general title *Appliance couplers for household and similar general purposes*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document 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 part of IEC 60320 is applicable to two-pole appliance couplers for alternating current 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.

This document is also applicable to appliance couplers with auxiliary contacts rated for alternating current, direct current or both, with a total rated current not exceeding 16 A.

This document is also valid for appliance inlets/appliance outlets integrated or incorporated in appliances.

NOTE 1 Appliance couplers complying with this document 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 can exceed these figures and can be declared by the manufacturer. It is possible that the maximum working ambient temperature for the appliance inlet and for the connector can be different.

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

NOTE 3 If appliance inlets according to this document are used with appliances or other equipment which can 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 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 can be required:

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

NOTE 6 Additional auxiliary contacts can be used as part of the appliance coupler. An example of an auxiliary contact is a contact used to supply a low power device or used to transmit signals for sensors and to/from a microprocessor.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

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

IEC 60320-1:2015, *Appliance couplers for household and similar general purposes – Part 1: General requirements*

IEC 60335-1:2010, *Household and similar electrical appliances – Safety – Part 1: General requirements*

IEC 60335-1:2010/AMD1:2013

IEC 60335-1:2010/AMD2:2016

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 60664-1:2007, *Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*

IEC 60695-11-5:2016, *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 60730-(all parts), *Automatic electrical controls*

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

iTeh STANDARD PREVIEW
(standards.iteh.ai)

3 Terms and definitions

[IEC 60320-2-4:2018](https://standards.iteh.ai/catalog/standards/sist/9f6e4c6e-44c3-45fb-a24b-a9186826b315/iec-60320-2-4-2018)

<https://standards.iteh.ai/catalog/standards/sist/9f6e4c6e-44c3-45fb-a24b-a9186826b315/iec-60320-2-4-2018>

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 1 to entry: The weight-engaged coupler is used in an appliance which is in two parts, in order to supply 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 to entry: 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 to entry: 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 1 to entry: 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.

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

3.108

auxiliary contact

contact included in the appliance coupler to operate an auxiliary circuit as part of the normal operation of the appliance, with a maximum allowable current rating of 2 A

Note 1 to entry: An example of an auxiliary contact is a pole used to supply a low current device, used to transmit signals for sensors and to/from a microprocessor.

3.109

non-polarized

designed so that the inlet and connector auxiliary contact poles are interchangeable

[IEC 60320-2-4:2018](https://standards.iteh.ai/catalog/standards/sist/9f6e4c6e-44c3-45fb-a24b-a9186826b315/iec-60320-2-4-2018)

[https://standards.iteh.ai/catalog/standards/sist/9f6e4c6e-44c3-45fb-a24b-](https://standards.iteh.ai/catalog/standards/sist/9f6e4c6e-44c3-45fb-a24b-a9186826b315/iec-60320-2-4-2018)

4 General requirements

[a9186826b315/iec-60320-2-4-2018](https://standards.iteh.ai/catalog/standards/sist/9f6e4c6e-44c3-45fb-a24b-a9186826b315/iec-60320-2-4-2018)

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. For alternating current they are tested 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 weight-engaged appliance inlets installed in accordance with the manufacturer's instructions, representative appliances or appliance parts shall be supplied.

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 is replaced as follows:

7.1 According to maximum temperature of the corresponding appliance inlet:

- a) appliance couplers for cold conditions, appliance inlet temperature not exceeding 70 °C;
- b) appliance couplers for hot conditions, appliance inlet temperature not exceeding 120 °C;
- c) appliance couplers for very hot conditions, appliance inlet temperature not exceeding 155 °C.

NOTE Appliance couplers for hot conditions can also be used under cold conditions; appliance couplers for very hot conditions can also be used under cold or hot conditions.

7.2 According to the type of equipment to be connected:

- a) appliance couplers for class I equipment;
- b) appliance couplers for class II equipment.

NOTE For a description of the classes, see IEC 61140.
<https://standards.iteh.ai/catalog/standards/sist/9f6e4c6e-44c3-45fb-a24b-a918e876b315/iec-60320-2-4-2018>

7.3 According to protection against liquid spillage when the connector is installed according to the manufacturer's instructions:

- a) protected;
- b) not protected.

7.4 According to breaking capacity:

- a) the coupler is intended to be engaged and disengaged with current flowing;
- b) the coupler is intended to be engaged and disengaged without current flowing.

7.5 According to the maximum ambient working temperature of the coupler

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

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

- 100 000
- 60 000
- 30 000
- 20 000
- 10 000
- 6 000

NOTE Different numbers of endurance cycles can be declared for different current ratings of the same coupler. A cycle is two strokes as defined in Clause 19, that is, one connection followed by one disconnection.

7.7 The following information is recorded to cover required tests:

- a) The specified minimum cross-sectional area of cord.
- b) The maximum allowable terminal temperature rise.
- c) The maximum allowable termination temperature rise.
- d) The maximum allowable contact temperature rise.
- e) The minimum appliance weight required for correct engagement.
- f) The minimum base weight required for correct disengagement.
- g) The end equipment standard.
- h) The type of load to be connected:
 - resistive load
 - inductive load
 - capacitive load
 - specific load
 - direct current (auxiliary contacts)
- i) Type of cord to be connected (e.g. IEC type 52).
- j) Function of the connector:
 - connectors which normally make the connected load
 - connectors which do not normally make the connected load
 - connectors which normally break the connected load
 - connectors which do not normally break the connected load

NOTE Connectors which carry a current of 200 mA or less are considered to be off-load.

- k) For connectors with auxiliary contacts:
 - number of auxiliary contacts
 - maximum current rating of auxiliary contacts
 - maximum voltage rating of auxiliary contacts
 - specified for use in DC applications the contacts shall be classified as
 - i) polarized or
 - ii) non-polarized
 - the insulation classification between the auxiliary circuit and primary circuit

NOTE For SELV and PELV refer to the appropriate intended product standard.

8 Marking

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


8.2 Replacement:

Weight-engaged appliance inlets shall be marked with the name, trademark or identification mark of the maker or of the responsible vendor and a type reference.

8.5 This subclause of IEC 60320-1 does not apply.

8.6 Replacement:

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

- earthing terminal: the symbol  (IEC 60417-5019:2006) or PE
- neutral terminal: the letter N

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

Appliance inlets, other than those integrated or incorporated in an appliance or equipment, for use with connectors according to 8.6, shall have terminal markings to correspond with 8.6.

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

Rewirable connectors shall be supplied with the following instructions:

- a) a diagram illustrating the method of connection of the conductors, in particular the (excess) length of the earthing conductor and the operation of the cord anchorage;
- b) a full-scale diagram showing the length of sleeving and insulation to be stripped back;
- c) the sizes and types of cords suitable;
- d) the type of attachment for connector and inlet.

NOTE 1 It is essential that the connection of the earthing conductor is shown in an instructive way, preferably with sketches.

NOTE 2 These instructions need not follow connectors supplied directly to an equipment manufacturer.

NOTE 3 In order to comply with the National Electrical Code of the United States, the neutral terminal must be either white in colour, or labelled "white". One way of accomplishing this is to nickel plate the neutral terminal and to leave the other terminal(s) unplated.

[IEC 60320-2-4:2018](https://standards.iteh.ai/catalog/standards/sist/9f6e4c6e-44c3-45fb-a24b-a9186826b315/iec-60320-2-4-2018)

Additional subclauses: <https://standards.iteh.ai/catalog/standards/sist/9f6e4c6e-44c3-45fb-a24b-a9186826b315/iec-60320-2-4-2018>

8.101 Instructions for installation

Instructions for installation and use shall be supplied with weight-engaged appliance couplers. These instructions shall contain the information necessary to ensure compliance with this document and shall contain the classifications declared by the manufacturer according to Clause 7.

For weight-engaged couplers intended to be exclusively delivered to the equipment manufacturer, the instruction sheet may be replaced by a leaflet, letter, or drawing, etc. It is not necessary for each coupler to be accompanied by such a document.

8.102 Marking of auxiliary contacts

Auxiliary contacts shall be clearly marked to ensure no confusion occurs during installation. For polarized couplers, polarities shall be marked on both the appliance inlet and connector.

9 Dimensions and compatibility

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

9.1 Replacement:

Appliance couplers shall be designed and constructed so that unintended or improper connection is prevented.

Weight-engaged appliance couplers may take any form appropriate to their function, but shall comply with the requirements of this document as far as applicable.

9.2 This subclause of IEC 60320-1 does not apply.

9.3 *Replacement:*

It shall not be possible to make improper connections between weight-engaged connectors and weight-engaged appliance inlets when installed in accordance with the manufacturer's instructions. In those constructions where the design is such that transient single-pole connections occur as the weight-engaged connector is placed into and withdrawn from the appliance inlet during normal use, such transient single-pole connections are allowed.

Weight-engaged couplers shall not allow improper connections with plugs or portable socket outlets complying with IEC TR 60083.

Weight-engaged couplers shall not allow improper connections with connectors or appliance inlets complying with the standard sheets of the IEC 60320 series.

Compliance is checked by examination and reference to the manufacturer's declarations.

NOTE "Improper connections" include single-pole connection and other connections which do not comply with the requirements concerning protection against electric shock.

If in doubt, reference is made to the appropriate appliance standards regarding the requirements for weight-engaged connectors and appliance inlets.

It shall not be possible to engage connectors for class II equipment with appliance inlets for class I equipment.

[IEC 60320-2-4:2018](https://standards.iteh.ai/catalog/standards/sist/9f6e4c6e-44c3-45fb-a24b-a9186826b315/iec-60320-2-4-2018)

Compliance is checked by inspection.

<https://standards.iteh.ai/catalog/standards/sist/9f6e4c6e-44c3-45fb-a24b-a9186826b315/iec-60320-2-4-2018>

9.4 This subclause of IEC 60320-1 does not apply.

10 Protection against electric shock

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

10.1 *Replace the first two paragraphs with:*

Appliance couplers shall be so designed that live parts of the appliance inlets are not accessible when the connector is in partial or complete engagement.

Weight-engaged appliance connectors shall be so designed that the live parts and parts connected thereto are not accessible when the connector is properly assembled and wired as in normal use.

10.2 *Addition:*

NOTE To be assessed when incorporated in the end product.

Additional subclause (after 10.5):

10.101 Additional protection against access to live parts

Test probe 13 of IEC 61032 is applied without appreciable force through openings in appliance connectors.

NOTE “Without appreciable force” is considered to be a force not exceeding 1 N.

It shall not be possible to touch live parts with the test probe.

11 Provision for earthing

This clause of IEC 60320-1 applies.

12 Terminals and terminations

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

12.1 Replacement:

For weight-engaged appliance inlets and weight-engaged connectors, the requirements in the appropriate IEC standard for the appliance or equipment into which they are intended to be integrated or incorporated shall apply.

12.2 This subclause of IEC 60320-1 does not apply.

13 Construction

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

13.2 The note of this subclause is not applicable.

13.4 Replacement: <https://standards.iteh.ai/catalog/standards/sist/9f6e4c6e-44c3-45fb-a24b-a9186826b315/iec-60320-2-4-2018>

Pins of weight-engaged appliance inlets shall

- be securely retained,
- have adequate mechanical strength,
- not be removable without the aid of a tool, and
- have any live parts surrounded by a shroud.

NOTE This requirement does not exclude pins which are to some extent floating.

The security of components designed to function as contact pins, whether in the inlet or connector part, is checked by inspection and by the tests of Clause 19 and Clause 20.

13.5 Replacement:

The contact system of a weight-engaged coupler shall be self-adjusting so as to provide adequate contact pressure.

For connectors other than 0,2 A connectors self-adjustment of the contacts shall not depend upon the resiliency of insulating material.

Compliance is checked by inspection.

NOTE The self-adjustment of the contacts can be provided in either the appliance inlet or the connector or both.