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IEC 60320-2-4

Edition 2.0 2018-06

# REDLINE VERSION



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

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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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

- 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.
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- 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.
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#### **DISCLAIMER**

**This Redline version is not an official IEC Standard and is intended only to provide the user with an indication of what changes have been made to the previous version. Only the current version of the standard is to be considered the official document.**

**This Redline version provides you with a quick and easy way to compare all the changes between this standard and its previous edition. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.**

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;*
- 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 ~~may~~ can exceed these figures and ~~is to~~ can be declared by the manufacturer. It is possible that the maximum working ambient temperature for the appliance inlet and for the connector ~~may~~ can be different.

NOTE 2 Appliance couplers dependent on appliance weight for engagement ~~may~~ can be subject to spillage of liquid in normal use. They are classified according to whether protection against ~~water~~ 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 ~~may~~ 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 ~~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~~ can be required:

- in locations where special conditions ~~may~~ 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:~~2004~~ 2015, *Appliance couplers for household and similar general purposes – Part 1: 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:~~2004~~ 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:~~1992~~ 2007, *Insulation coordination for equipment within low-voltage systems<sup>4)</sup> – Part 1: Principles, requirements and tests*

~~Amendment 1 (2000)~~

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*

~~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*

<sup>4)</sup> ~~A consolidated edition (1.2) exists containing IEC 60664-1:1992 and its Amendment 1 (2000) and Amendment 2 (2002).~~



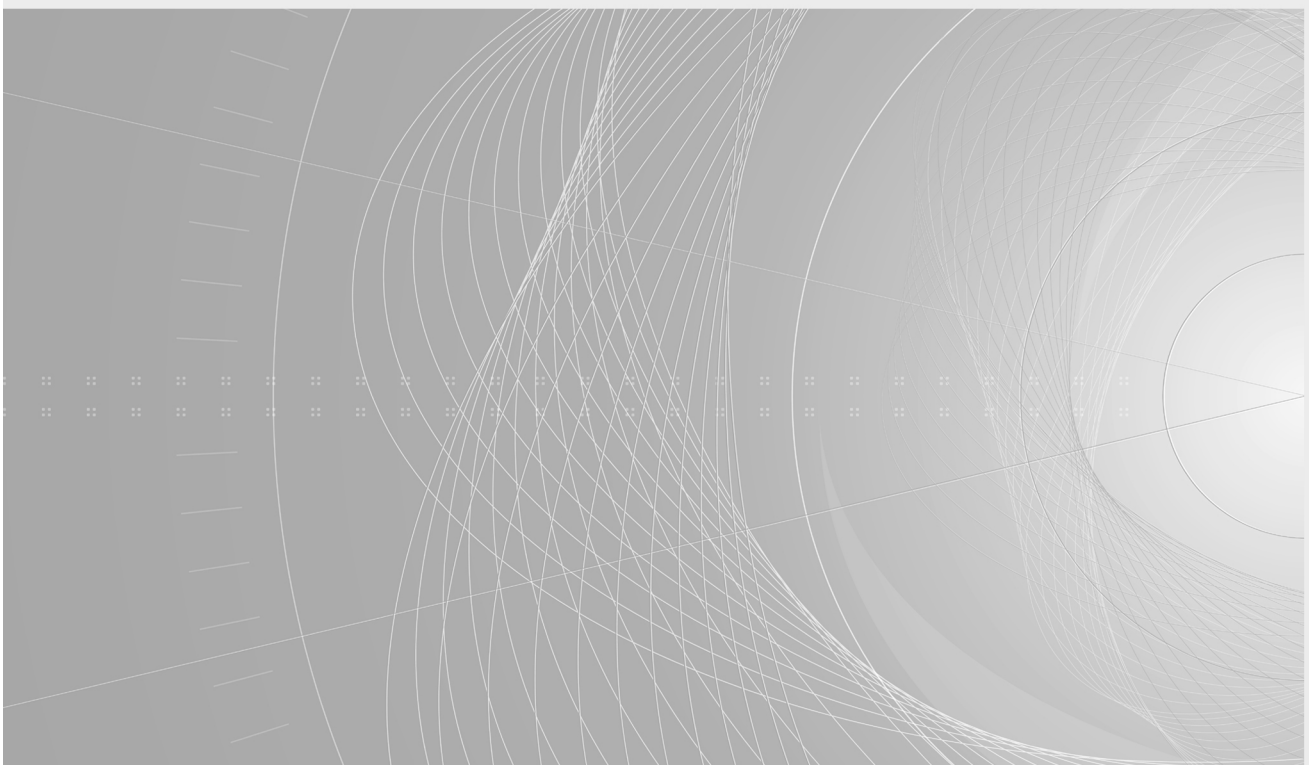
# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

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**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**



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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

- 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.
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## **APPLIANCE COUPLERS FOR HOUSEHOLD AND SIMILAR GENERAL PURPOSES –**

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

#### **1 Scope**

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NOTE 5 Special constructions can be required:

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

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IEC 60730-(all parts), *Automatic electrical controls*

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

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## COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

### CONNECTEURS POUR USAGES DOMESTIQUES ET USAGES GÉNÉRAUX ANALOGUES –

#### Partie 2-4: Connecteurs à connexion par gravité

##### AVANT-PROPOS

- 1) La Commission Electrotechnique Internationale (IEC) est une organisation mondiale de normalisation composée de l'ensemble des comités électrotechniques nationaux (Comités nationaux de l'IEC). L'IEC a pour objet de favoriser la coopération internationale pour toutes les questions de normalisation dans les domaines de l'électricité et de l'électronique. A cet effet, l'IEC – entre autres activités – publie des Normes internationales, des Spécifications techniques, des Rapports techniques, des Spécifications accessibles au public (PAS) et des Guides (ci-après dénommés "Publication(s) de l'IEC"). Leur élaboration est confiée à des comités d'études, aux travaux desquels tout Comité national intéressé par le sujet traité peut participer. Les organisations internationales, gouvernementales et non gouvernementales, en liaison avec l'IEC, participent également aux travaux. L'IEC collabore étroitement avec l'Organisation Internationale de Normalisation (ISO), selon des conditions fixées par accord entre les deux organisations.
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La Norme internationale IEC 60320-2-4 a été établie par le sous-comité 23G: Connecteurs, du comité d'études 23 de l'IEC: Petit appareillage.

Cette deuxième édition annule et remplace la première édition parue en 2005 et l'Amendement 1:2009. Cette édition constitue une révision technique.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

- a) L'IEC 60320-2-4 s'aligne sur l'IEC 60320-1:2015.
- b) L'IEC 60320-2-4 s'aligne sur l'IEC 60335-1 et avec l'IEC 60335-2-15. Les connecteurs de l'IEC 60320-2-4 sont incorporés dans les appareils d'utilisation conçus et fabriqués pour ces normes. À cet effet, une attention particulière est apportée au 14.2 et à l'Article 20.

- c) Il est également désormais proposé que les connecteurs avec contacts auxiliaires soient pris en considération.

Le texte de cette Norme internationale est issu des documents suivants:

FDIS	Rapport de vote
23G/402/FDIS	23G/404/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à l'approbation de cette Norme internationale.

Ce document a été rédigé selon les Directives ISO/IEC, Partie 2.

La présente partie 2-4 doit être utilisée conjointement avec l'IEC 60320-1: *Connecteurs pour usages domestiques et usages généraux analogues – Partie 1: Exigences générales*. Elle a été établie sur la base de la troisième édition de cette norme (2015).

Les articles de la présente norme complètent ou modifient les articles correspondants de l'IEC 60320-1. Lorsqu'un paragraphe particulier ou une annexe particulière de la Partie 1 n'est pas mentionné(e) dans la présente Partie 2-4, le paragraphe ou l'annexe de l'IEC 60320-1 s'applique sans modification dans la mesure du raisonnable. Lorsque la présente norme spécifie «addition», «modification» ou «remplacement», il convient d'adapter en conséquence l'exigence, la modalité d'essai ou le commentaire correspondant(e) de l'IEC 60320-1.

Les paragraphes, figures ou tableaux complémentaires à ceux de la Partie 1 sont numérotés à partir de 101. Les annexes complémentaires sont dénommées AA, BB, etc.

Dans la présente norme particulière, les caractères d'imprimerie suivants sont utilisés:

- exigences: caractères romains;
- *modalités d'essais: caractères italiques;*
- notes: petits caractères romains.

Une liste de toutes les parties de la série IEC 60320, publiées sous le titre général *Connecteurs pour usages domestiques et usages généraux analogues*, peut être consultée sur le site web de l'IEC.

Le comité a décidé que le contenu de ce document ne sera pas modifié avant la date de stabilité indiquée sur le site web de l'IEC sous "http://webstore.iec.ch" dans les données relatives au document recherché. A cette date, le document sera

- reconduit,
- supprimé,
- remplacé par une édition révisée, ou
- amendé.

## CONNECTEURS POUR USAGES DOMESTIQUES ET USAGES GÉNÉRAUX ANALOGUES –

### Partie 2-4: Connecteurs à connexion par gravité

#### 1 Domaine d'application

L'article correspondant de l'IEC 60320-1 est remplacé comme suit:

La présente partie de l'IEC 60320 est applicable aux connecteurs bipolaires pour courant alternatif seulement, avec ou sans contact de mise à la terre, de tension assignée ne dépassant pas 250 V et de courant assigné ne dépassant pas 16 A, pour usages domestiques et généraux analogues, destinés à l'incorporation ou à l'intégration dans des appareils électriques d'utilisation ou dans d'autres matériels électriques réalisés par assemblage et alimentés à 50 Hz ou 60 Hz et qui dépendent du poids de l'appareil d'utilisation pour assurer un engagement correct.

Le présent document s'applique également aux connecteurs avec contacts auxiliaires assignés en courant alternatif, en courant continu ou les deux, avec un courant assigné total ne dépassant pas 16 A.

Le présent document est également valable pour les socles de connecteurs d'appareils et prises de connecteurs intégrés ou incorporés dans des appareils d'utilisation.

NOTE 1 Les connecteurs conformes au présent document sont adaptés à une utilisation dans des appareils d'utilisation utilisés sous une température ambiante ne dépassant généralement pas 25 °C mais pouvant occasionnellement atteindre 35 °C. Toutefois, la température ambiante autour du connecteur peut dépasser ces valeurs et peut être déclarée par le fabricant. Il est possible que les températures ambiantes de service maximales pour le socle de connecteur d'appareil et pour la prise mobile soient différentes.

NOTE 2 Les connecteurs à connexion par gravité peuvent être soumis à des débordements de liquide en utilisation normale. Ils sont classés en fonction de l'existence ou non d'une protection contre les débordements de liquide lorsqu'ils sont installés conformément aux instructions d'installation du fabricant.

NOTE 3 Si les socles de connecteurs conformes au présent document sont utilisés dans des appareils d'utilisation ou dans d'autres matériels pouvant être soumis à des débordements de liquide affectant le socle de connecteur d'appareil lorsque la partie en fonction de l'appareil d'utilisation ou du matériel est en place sur son socle alimenté, alors une protection contre l'humidité est fournie par le matériel.

NOTE 4 Les références aux feuilles de norme de l'IEC 60320-1 ne s'appliquent pas aux connecteurs à connexion par gravité.

NOTE 5 Des constructions spéciales peuvent être exigées pour:

- des emplacements pouvant présenter des conditions particulières, par exemple à bord des navires, dans des véhicules, etc.;
- des emplacements à atmosphère dangereuse, présentant par exemple des dangers d'explosion.

NOTE 6 Des contacts auxiliaires supplémentaires peuvent être utilisés comme faisant partie du connecteur. Un contact utilisé pour alimenter un dispositif de faible puissance ou pour transmettre des signaux de capteurs et vers/depuis un microprocesseur est un exemple de contact auxiliaire.

#### 2 Références normatives

Les documents suivants cités dans le texte constituent, pour tout ou partie de leur contenu, des exigences du présent document. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

L'article correspondant de l'IEC 60320-1 s'applique avec les ajouts suivants:

IEC TR 60083, *Prises de courant pour usages domestiques et analogues normalisées par les pays membres de l'IEC*

IEC 60320-1:2015, *Connecteurs pour usages domestiques et usages généraux analogues – Partie 1: Exigences générales*

IEC 60335-1:2010, *Appareils électrodomestiques et analogues – Sécurité – Partie 1: Exigences générales*

IEC 60335-1:2010/AMD1:2013

IEC 60335-1:2010/AMD2:2016

IEC 60529, *Degrés de protection procurés par les enveloppes (Code IP)*

IEC 60664-1:2007, *Coordination de l'isolement des matériels dans les systèmes (réseaux) à basse tension – Partie 1: Principes, exigences et essais*

IEC 60695-11-5:2016, *Essais relatifs aux risques du feu – Partie 11-5: Flammes d'essai – Méthode d'essai au brûleur-aiguille – Appareillage, dispositif d'essai de vérification et lignes directrices*

IEC 60695-11-10, *Essais relatifs aux risques du feu – Partie 11-10: Flammes d'essai – Méthodes d'essai horizontal et vertical à la flamme de 50 W*

IEC 60730-(toutes les parties), *Dispositifs de commande électrique automatiques*

ISO 9772, *Plastiques alvéolaires – Détermination des caractéristiques de combustion de petites éprouvettes en position horizontale, soumises à une petite flamme*