

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



**Household and similar electrical appliances – Safety –  
Part 2-65: Particular requirements for air-cleaning appliances**

**Appareils électrodomestiques et analogues – Sécurité –  
Partie 2-65: Règles particulières pour les épurateurs d'air**

IEC 60335-2-65:2002

<https://standards.iteh.ai/cou/standards/iec/a7685295-86d6-40a7-99b7-08175c971b91/iec-60335-2-65-2002>



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## REDLINE VERSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –  
SAFETY –**

**Part 2-65: Particular requirements for air-cleaning appliances**

FOREWORD

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**This consolidated version of the official IEC Standard and its amendments has been prepared for user convenience.**

**IEC 60335-2-65 edition 2.2 contains the second edition (2002-10) [documents 61/2174/FDIS and 61/2255/RVD], its amendment 1 (2008-04) [documents 61/3533/FDIS and 61/3585/RVD] and its amendment 2 (2015-01) [documents 61/4837/FDIS and 61/4875/RVD].**

**In this Redline version, a vertical line in the margin shows where the technical content is modified by amendments 1 and 2. Additions and deletions are displayed in red, with deletions being struck through. A separate Final version with all changes accepted is available in this publication.**

This part of International Standard IEC 60335 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances.

The French version of this standard has not been voted upon.

This part 2 is to be used in conjunction with the latest edition of IEC 60335-1 and its amendments. It was established on the basis of the fourth edition (2001) of that standard.

NOTE 1 When “Part 1” is mentioned in this standard, it refers to IEC 60335-1.

This part 2 supplements or modifies the corresponding clauses in IEC 60335-1, so as to convert that publication into the IEC standard: Safety requirements for electric air-cleaning appliances.

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

NOTE 2 The following numbering system is used:

- subclauses, tables and figures that are numbered starting from 101 are additional to those in Part 1;
- unless notes are in a new subclause or involve notes in Part 1, they are numbered starting from 101, including those in a replaced clause or subclause;
- additional annexes are lettered AA, BB, etc.

NOTE 3 The following print types are used:

- requirements: in roman type;
- *test specifications: in italic type;*
- notes: in small roman type.

Words in **bold** in the text are defined in Clause 3. When a definition concerns an adjective, the adjective and the associated noun are also in **bold**.

The following differences exist in the countries indicated below.

- 8.1.4: The measurement method and maximum energy discharge are different (USA).
- 16.101: The test is different (USA).
- 22.101: This test is not carried out (USA).
- 24.101: The contact separation need not be in accordance with IEC 61058-1 (USA).
- Clause 32: This test is only applicable for portable appliances (USA).



The committee has decided that the contents of the base publication and its amendments will remain unchanged until the stability 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.

The contents of the corrigendum 1 of July 2004 have been included in this copy.

NOTE The attention of National Committees is drawn to the fact that equipment manufacturers and testing organizations may need a transitional period following publication of a new, amended or revised IEC publication in which to make products in accordance with the new requirements and to equip themselves for conducting new or revised tests.

It is the recommendation of the committee that the content of this publication be adopted for implementation nationally not earlier than 12 months or later than 36 months from the date of publication.

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WITHDRAWN

## INTRODUCTION

It has been assumed in the drafting of this International Standard that the execution of its provisions is entrusted to appropriately qualified and experienced persons.

This standard recognizes the internationally accepted level of protection against hazards such as electrical, mechanical, thermal, fire and radiation of appliances when operated as in normal use taking into account the manufacturer's instructions. It also covers abnormal situations that can be expected in practice and takes into account the way in which electromagnetic phenomena can affect the safe operation of appliances.

This standard takes into account the requirements of IEC 60364 as far as possible so that there is compatibility with the wiring rules when the appliance is connected to the supply mains. However, national wiring rules may differ.

If an appliance within the scope of this standard also incorporates functions that are covered by another part 2 of IEC 60335, the relevant part 2 is applied to each function separately, as far as is reasonable. If applicable, the influence of one function on the other is taken into account.

When a part 2 standard does not include additional requirements to cover hazards dealt with in Part 1, Part 1 applies.

NOTE 1 This means that the technical committees responsible for the part 2 standards have determined that it is not necessary to specify particular requirements for the appliance in question over and above the general requirements.

This standard is a product family standard dealing with the safety of appliances and takes precedence over horizontal and generic standards covering the same subject.

NOTE 2 Horizontal and generic standards covering a hazard are not applicable since they have been taken into consideration when developing the general and particular requirements for the IEC 60335 series of standards. For example, in the case of temperature requirements for surfaces on many appliances, generic standards, such as ISO 13732-1 for hot surfaces, are not applicable in addition to Part 1 or part 2 standards.

An appliance that complies with the text of this standard will not necessarily be considered to comply with the safety principles of the standard if, when examined and tested, it is found to have other features that impair the level of safety covered by these requirements.

An appliance employing materials or having forms of construction differing from those detailed in the requirements of this standard may be examined and tested according to the intent of the requirements and, if found to be substantially equivalent, may be considered to comply with the standard.

## HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

### Part 2-65: Particular requirements for air-cleaning appliances

#### 1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of electric **air-cleaning appliances** for household and similar purposes, their **rated voltage** being not more than 250 V for single-phase appliances and 480 V for other appliances.

Appliances not intended for normal household use but that nevertheless may be a source of danger to the public, such as appliances intended to be used by laymen in shops, in light industry and on farms, are within the scope of this standard.

As far as is practicable, this standard deals with the common hazards presented by appliances that are encountered by all persons in and around the home. However, in general, it does not take into account

- ~~the use of appliances by young children or infirm persons without supervision~~ persons (including children) whose
  - physical, sensory or mental capabilities; or
  - lack of experience and knowledge prevents them from using the appliance safely without supervision or instruction;
- ~~children playing with the appliance by young children.~~

NOTE 101 Attention is drawn to the fact that

- for appliances intended to be used in vehicles or on board ships or aircraft, additional requirements may be necessary;
- in many countries additional requirements are specified by the national health authorities, the national authorities responsible for the protection of labour and similar authorities.

NOTE 102 This standard does not apply to

- appliances intended exclusively for industrial purposes;
- appliances intended to be used in locations where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapour or gas);
- air-cleaning systems incorporated in the building structure.

#### 2 Normative references

This clause of Part 1 is applicable **except as follows**.

**Addition:**

ISO 4892-2:2013, *Plastics – Methods of exposure to laboratory light sources – Part 2: Xenon-arc lamps*

ISO 4892-4:2013, *Plastics – Methods of exposure to laboratory light sources – Part 4: Open-flame carbon-arc lamps*

### 3 Terms and definitions

This clause of Part 1 is applicable except as follows.

#### 3.1.9 Replacement:

##### normal operation

operation of the appliance as supplied or with high-voltage output circuits short-circuited, whichever is more unfavourable

#### 3.101

##### air-cleaning appliance

self-contained appliance having a filter system that may incorporate means for ionizing the air

#### 3.102

##### UV-C emitter

radiating source constructed to emit non-ionizing electromagnetic energy at wavelengths of 100 nm to 280 nm

#### 3.103

##### UV radiation air-cleaning appliance

appliance that incorporates **UV-C emitters** to inactivate air-borne microbes

### 4 General requirement

This clause of Part 1 is applicable.

### 5 General conditions for the tests

This clause of Part 1 is applicable except as follows.

#### 5.101 Appliances are tested as **motor-operated appliances**.

### 6 Classification

This clause of Part 1 is applicable.

### 7 Marking and instructions

This clause of Part 1 is applicable except as follows.

#### 7.1 Addition:

**UV radiation air-cleaning appliances** containing replaceable **UV-C emitters** shall be marked with the type reference of the emitter and with the substance of the following warning:

**WARNING:** UV radiation is dangerous for the eyes and skin. Do not operate the UV-C emitter outside the appliance.

If it is intended that replacement of the **UV-C emitter** can be carried out by the user, the appliance shall be marked with "Read the instructions" or with symbol ISO 7000-0790 (2004-01).

### 7.12 Addition:

The instructions shall include details for cleaning and other **user maintenance** of the appliance. They shall state that prior to cleaning or other maintenance, the appliance must be disconnected from the supply mains.

The instructions for **UV radiation air-cleaning appliances** shall give details concerning:

- the method, frequency of cleaning, and necessary precautions to be taken;
- precautions to be taken when replacing **UV-C emitters** and starters, if applicable.

The instructions of appliances containing **UV-C emitters** shall contain the substance of the following:

- This appliance contains a UV-C emitter.
- Unintended use of the appliance or damage to the housing may result in the escape of dangerous UV-C radiation. UV-C radiation may, even in little doses, cause harm to the eyes and skin.
- Appliances that are obviously damaged must not be operated.
- If the replacement of the **UV-C emitter** by the user is not allowed, this must be clearly stated.

The instructions of appliances containing replaceable **UV-C emitters** shall also contain the substance of the following:

- Read the maintenance instructions before opening the appliance;
- The appliance must be disconnected from the supply before replacing the UV-C emitter.

## 8 Protection against access to live parts

This clause of Part 1 is applicable except as follows.

### 8.1.4 Addition:

~~For voltages having a peak value over 15 kV, the energy of the discharge shall not exceed 350 mJ.~~

The discharge from parts that are only accessible after the removal of a cover for cleaning or other **user maintenance** is measured 2 s after the cover has been removed.

## 9 Starting of motor-operated appliances

This clause of Part 1 is not applicable.

## 10 Power input and current

This clause of Part 1 is applicable.

## 11 Heating

This clause of Part 1 is applicable except as follows.

### 11.7 Replacement:

*Appliances are operated until steady conditions are established.*

#### 11.8 Addition:

NOTE 101 Operation of a current-limiting device in a high-voltage circuit is allowed.

### 12 Void

### 13 Leakage current and electric strength at operating temperature

This clause of Part 1 is applicable.

### 14 Transient overvoltages

This clause of Part 1 is applicable.

### 15 Moisture resistance

This clause of Part 1 is applicable.

### 16 Leakage current and electric strength

This clause of Part 1 is applicable except as follows.

**16.101** High-voltage transformers shall have adequate internal insulation.

*Compliance is checked by the following test.*

Twice the **working voltage** is induced in the secondary winding of the transformer by applying a sinusoidal voltage having a frequency higher than **rated frequency** to the primary terminals.

*The duration of the test is*

- 60 s for frequencies up to twice the **rated frequency**, or
- $120 \times \frac{\text{rated frequency}}{\text{test frequency}}$  s, with a minimum of 15 s, for higher frequencies.

NOTE The frequency of the test voltage is higher than **rated frequency** to avoid excessive excitation current.

*A maximum of one-third of the test voltage is applied and is then rapidly increased without creating transients. At the end of the test, the voltage is decreased in a similar manner to approximately one-third of its full value before switching off.*

*There shall be no breakdown between windings or between adjacent turns of the same winding.*

### 17 Overload protection of transformers and associated circuits

This clause of Part 1 is applicable.