

Australian/New Zealand Standard™

**Household and similar electrical
appliances—Safety**

**Part 2.86: Particular requirements for
electric fishing machines**



AS/NZS 60335.2.86:2019

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-002, Safety of Household and Similar Electrical Appliances and Small Power Transformers. It was approved on behalf of the Council of Standards Australia on 3 June 2019 and by the New Zealand Standards Approval Board on 31 May 2019.

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Australian/New Zealand Standard™

**Household and similar electrical
appliances—Safety**

**Part 2.86: Particular requirements for
electric fishing machines**

Originally as AS/NZS 60335.2.86:2002.

Jointly revised and redesignated as AS/NZS 60335.2.86:2013.

Jointly revised and redesignated as AS/NZS 60335.2.86:2019.

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AS/NZS 60335.2.86:2019

**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –
SAFETY –****Part 2.86: Particular requirements for electric fishing machines****Foreword**

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-002 - Safety of Household and Similar Electrical Appliances and Low Voltage Power Transformers to supersede AS/NZS 60335.2.86:2013 three years from the date of publication of this Standard. During this period AS/NZS 60335.2.86:2013 will also remain current. Regulatory authorities that reference this Standard in regulation may apply these requirements at a different time. Users of this Standard should consult with these authorities to confirm their requirements.

The objective of this Standard is to provide manufacturers, designers, regulatory authorities, testing laboratories and similar organizations with safety requirements designed to give the user protection against hazards that might occur during normal operation and abnormal operation of the appliance and which may be used as the basis for approval for sale or for connection to the electricity supply mains in Australia and New Zealand.

The text of IEC 60335-2-86 Ed 3, prepared by IEC Technical Subcommittee SC 61H, was submitted to the Standards Australia/Standards New Zealand Combined Procedure (dual public comment and committee vote) for adoption of the IEC standard as a Standards Australia/Standards New Zealand joint standard.

The principal changes in this edition, as compared with the 2013 edition of AS/NZS 60335.2.86 are as follows (minor changes are not listed):

- the text has been aligned with the 2011 edition of Part 1;
- some notes have been converted to normative text (22.102, 22.113, 26.106);
- requirements for battery operated electric fishing machines have been moved to Annex S.

This Standard is an adoption with national modifications of the third edition of IEC 60335-2-86, *Household and similar electrical appliances – Safety – Part 2-86: Particular requirements for electric fishing machines*. It has been varied as indicated to take account of Australian and New Zealand conditions.

This part 2 is to be used in conjunction with the latest edition of AS/NZS 60335.1 *Household and similar electrical appliances – Safety – Part 1: General requirements* and its Amendments. It was established on the basis of AS/NZS 60335.1:2011.

This part 2 supplements or modifies the corresponding clauses of AS/NZS 60335.1 so as to convert it into the Australian/New Zealand Standard: Safety requirements for electric fishing machines.

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 of Part 1 is to be adapted accordingly.

NOTE 1 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.;
- subclauses, notes and annexes that are additional to those in the IEC standard are prefixed with the letters AZ.

NOTE 2 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.

p NOTE 3 In this document, p is used in the margin to indicate instructions for preparing a consolidated version.

The essential safety requirements in AS/NZS 3820¹ that could be applicable to requirements for electric fishing machines are covered by this standard.

The national variations to IEC 60335-2-86 Ed 3 form the Australian and New Zealand national variations for purposes of the IECEE scheme for recognition of results of testing to standards for safety of electrical equipment (the CB scheme).

¹ AS/NZS 3820 *Essential safety requirements for electrical equipment*

The text of the International Standard IEC 60335-2-86 Ed 3 was approved as a joint Australia/New Zealand Standard with the agreed national variations as given below.

AUSTRALIAN NATIONAL VARIATIONS

There are no national variations to this Part 2 other than those listed in the national variations in AS/NZS 60335.1:2011.

NEW ZEALAND NATIONAL VARIATIONS

There are no national variations to this Part 2 other than those listed in the national variations in AS/NZS 60335.1:2011.

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CONTENTS

FOREWORD.....	3
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 Terms and definitions	8
4 General requirement.....	9
5 General conditions for the tests	9
6 Classification.....	9
7 Marking and instructions.....	10
8 Protection against access to live parts.....	11
9 Starting of motor-operated appliances	12
10 Power input and current.....	12
11 Heating.....	12
12 Void.....	12
13 Leakage current and electric strength at operating temperature.....	12
14 Transient overvoltages	12
15 Moisture resistance	13
16 Leakage current and electric strength.....	13
17 Overload protection of transformers and associated circuits	13
18 Endurance.....	13
19 Abnormal operation	13
20 Stability and mechanical hazards.....	13
21 Mechanical strength	13
22 Construction.....	13
23 Internal wiring.....	16
24 Components.....	16
25 Supply connection and external flexible cords	16
26 Terminals for external conductors.....	16
27 Provision for earthing	17
28 Screws and connections.....	17
29 Clearances, creepage distances and solid insulation.....	17
30 Resistance to heat and fire.....	17
31 Resistance to rusting.....	17
32 Radiation, toxicity and similar hazards.....	18
Annexes	19
Annex A (informative) Routine tests.....	19
Annex S (normative) Battery-operated appliances powered by batteries that are non-rechargeable or not recharged in the appliance	20
Annex AA (normative) Boat mounted electric fishing machines	23
Bibliography.....	25

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –
SAFETY –****Part 2-86: Particular requirements for electric fishing machines**

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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- 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.

This part of International Standard IEC 60335 has been prepared by subcommittee 61H: Safety of electrically-operated farm appliances, of IEC technical committee 61: Safety of household and similar electrical appliances.

This third edition cancels and replaces the second edition published in 2002, its Amendment 1 (2005) and its Amendment 2 (2012). This edition constitutes a technical revision.

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

- aligns the text with IEC 60335-1, Ed 5, and its Amendments 1 and 2;
- some notes have been converted to normative text (22.102, 22.113, 26.106);
- requirements for battery-operated electric fishing machines have been moved to Annex S.

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

FDIS	Report on voting
61H/363/FDIS	61H/365/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.

A list of all parts of the IEC 60335 series, under the general title: *Household and similar electrical appliances – Safety*, can be found on the IEC website.

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 fifth edition (2010) 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 fishing machines.

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 associated noun are also in **bold**.

NOTE 4 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.

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.

A bilingual version of this publication may be issued at a later date.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

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.

NOTE 1 Throughout this publication, when "Part 1" is mentioned, it refers to IEC 60335-1.

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

NOTE 2 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 3 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.

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-86: Particular requirements for electric fishing machines

1 Scope

This clause of Part 1 is replaced by the following.

This part of IEC 60335 deals with the safety of **electric fishing machines** by means of which water may be electrified for the purpose of catching fish or for providing barriers to all animals living in water.

The **rated voltage** of **electric fishing machines** is not more than 250 V for single phase machines and 480 V for other machines, except that the **rated voltage** of **electric fishing machines** for permanent connection to fixed wiring is not more than 1 000 V.

Electric fishing machines are appliances for scientific and commercial use.

Additional requirements for boat mounted **electric fishing machines** are given in Annex AA.

NOTE 101 Examples of **electric fishing machines** coming within the scope of this standard are:

- **mains-operated electric fishing machines** which include those supplied from portable or stationary generator sets;
- **battery-operated electric fishing machines**.

NOTE 102 Attention is drawn to the fact that

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

NOTE 103 This standard does not apply to

- electric fence energizers (IEC 60335-2-76);
- electric animal stunning equipment (IEC 60335-2-87);
- shark deterrent devices that are carried by the user.

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 Part 1 is applicable except as follows.

Addition:

IEC 60068-2-52, *Environmental testing – Part 2: Tests – Test Kb: Salt mist, cyclic (sodium chloride solution)*

IEC 61558-2-4, *Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V – Part 2-4: Particular requirements and tests for isolating transformers and power supply units incorporating isolating transformers*