

# INTERNATIONAL STANDARD



This extended version of IEC 62841-2-16:2024 includes the content of the references made to IEC 62841-1:2014

**Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery – Safety –  
Part 2-16: Particular requirements for hand-held fastener driving tools**

Document Preview

[IEC 62841-2-16:2024](https://standards.iteh.ai/catalog/standards/iec/7209c65e-9a50-4203-8790-d778b1e3ecac/iec-62841-2-16-2024)

<https://standards.iteh.ai/catalog/standards/iec/7209c65e-9a50-4203-8790-d778b1e3ecac/iec-62841-2-16-2024>



## THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2024 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.

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

Tel.: +41 22 919 02 11  
[info@iec.ch](mailto:info@iec.ch)  
[www.iec.ch](http://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 corrigendum or an amendment might have been published.

#### IEC publications search - [webstore.iec.ch/advsearchform](http://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 It also gives information on projects, replaced and withdrawn publications.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](http://webstore.iec.ch/justpublished)

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

#### IEC Customer Service Centre - [webstore.iec.ch/csc](http://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](mailto:sales@iec.ch).

#### IEC Products & Services Portal - [products.iec.ch](http://products.iec.ch)

Discover our powerful search engine and read freely all the publications previews, graphical symbols and the glossary. With a subscription you will always have access to up to date content tailored to your needs.

#### Electropedia - [www.electropedia.org](http://www.electropedia.org)

The world's leading online dictionary on electrotechnology, containing more than 22 500 terminological entries in English and French, with equivalent terms in 25 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

International Standards  
Document Preview  
[standards.iteh.ai](http://standards.iteh.ai)

[IEC 62841-2-16:2024](https://standards.iteh.ai/catalog/standards/iec/7209c65e-9a50-4203-8790-d778b1e3ecac/iec-62841-2-16-2024)

<https://standards.iteh.ai/catalog/standards/iec/7209c65e-9a50-4203-8790-d778b1e3ecac/iec-62841-2-16-2024>



IEC 62841-2-16

Edition 1.0 2024-06  
EXTENDED VERSION

# INTERNATIONAL STANDARD



This extended version of IEC 62841-2-16:2024 includes the content of the references made to IEC 62841-1:2014

**Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery – Safety –  
Part 2-16: Particular requirements for hand-held fastener driving tools**

Document Preview

[IEC 62841-2-16:2024](https://standards.iteh.ai/catalog/standards/iec/7209c65e-9a50-4203-8790-d778b1e3ecac/iec-62841-2-16-2024)

<https://standards.iteh.ai/catalog/standards/iec/7209c65e-9a50-4203-8790-d778b1e3ecac/iec-62841-2-16-2024>

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

ICS 25.140.20

ISBN 978-2-8322-9350-8

**Warning! Make sure that you obtained this publication from an authorized distributor.**

## CONTENTS

FOREWORD.....	5
INTRODUCTION.....	8
1 Scope.....	9
2 Normative references .....	10
3 Terms and definitions .....	15
4 General requirements .....	24
5 General conditions for the tests .....	24
6 Radiation, toxicity and similar hazards.....	27
7 Classification.....	28
8 Marking and instructions.....	28
9 Protection against access to live parts.....	41
10 Starting .....	42
11 Input and current .....	43
12 Heating.....	43
13 Resistance to heat and fire .....	48
14 Moisture resistance .....	49
15 Resistance to rusting.....	52
16 Overload protection of transformers and associated circuits .....	53
17 Endurance.....	53
18 Abnormal operation .....	54
19 Mechanical hazards.....	61
20 Mechanical strength .....	65
21 Construction.....	68
22 Internal wiring.....	76
23 Components .....	78
24 Supply connection and external flexible cords .....	83
25 Terminals for external conductors.....	88
26 Provision for earthing .....	90
27 Screws and connections .....	93
28 Creepage distances, clearances and distances through insulation.....	95
Annex A (normative) Measurement of creepage distances and clearances.....	104
Annex B (normative) Motors not isolated from the supply mains and having basic insulation not designed for the rated voltage of the tool .....	109
Annex C (normative) Leakage current.....	111
Annex D (normative) Electric strength.....	115
Annex E (informative) Methods of applying ISO 13849-1 to power tools.....	117
Annex F (informative) Rules for routine tests .....	119
Annex G Void.....	121
Annex H (normative) Determination of a low-power circuit .....	122
Annex I (informative) Measurement of noise and vibration emissions.....	123
Annex J Void .....	134
Annex K (normative) Battery tools and battery packs .....	135

Annex L (normative) Battery tools and battery packs provided with mains connection or non-isolated sources.....	157
Bibliography.....	176
Figure 1 – Test fingernail.....	101
Figure 2 – Flexing test apparatus.....	102
Figure 3 – Overload test of a class II armature.....	103
Figure A.1 – Clearance gap for parallel sided and V-shaped groove.....	105
Figure A.2 – Clearance gap for rib and uncemented joint with groove.....	106
Figure A.3 – Clearance gap for uncemented joint and diverging-sided groove.....	107
Figure A.4 – Clearance gap between wall and screw.....	108
Figure B.1 – Simulation of fault conditions.....	110
Figure C.1 – Diagram for leakage current measurement for single-phase connection and three-phase tools suitable for single-phase supply.....	113
Figure C.2 – Diagram for leakage current measurement for three-phase connection.....	114
Figure C.3 – Circuit of the leakage current meter.....	114
Figure H.1 – Example of an electronic circuit with low-power points.....	122
Figure I.1 – Test bench.....	132
Figure I.2 – Positions of a hand-held power tool and microphones for the hemispherical / cylindrical measurement surface.....	132
Figure I.3 – Microphone positions on a cubic measurement surface.....	133
Figure I.4 – Directions of vibration measurement.....	133
Figure K.1 – Measurement of clearances.....	156
Figure L.1 – Measurement of clearances.....	175
Table 1 – Maximum normal temperature rises (1 of 2).....	46
Table 2 – Maximum outside surface temperature rises.....	48
Table 4 – Required performance levels.....	60
Table 101 – Permitted actuation modes and workpiece contact force for fastener driving tools that require a workpiece contact.....	64
Table 5 – Impact energies.....	66
Table 6 – Test torques.....	67
Table 7 – Switch trigger force.....	72
Table 8 – Minimum cross-sectional area and AWG sizes of supply cords.....	84
Table 9 – Pull and torque value.....	86
Table 10 – Quick-connect terminals for earthing conductors.....	91
Table 11 – Torque for testing screws and nuts.....	94
Table 12 – Minimum creepage distances and clearances.....	97
Table D.1 – Test voltages.....	115
Table F.1 – Test voltages for the electric strength test.....	120
Table I.101 – Detailed example of a concrete formulation.....	125
Table K.1 – Minimum creepage distances and clearances between parts of different potential.....	154
Table K.2 – Minimum total sum of creepage distances and clearances to accessible surfaces.....	155

Table L.1 – Minimum creepage distances and clearances between parts of opposite polarity ..... 174

**iTeh Standards**  
**(<https://standards.itih.ai>)**  
**Document Preview**

[IEC 62841-2-16:2024](#)

<https://standards.itih.ai/catalog/standards/iec/7209c65e-9a50-4203-8790-d778b1e3ecac/iec-62841-2-16-2024>

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

# ELECTRIC MOTOR-OPERATED HAND-HELD TOOLS, TRANSPORTABLE TOOLS AND LAWN AND GARDEN MACHINERY – SAFETY –

## Part 2-16: Particular requirements for hand-held fastener driving tools

### 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) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch>. IEC shall not be held responsible for identifying any or all such patent rights.

**This extended version (EXV) of the official IEC Standard provides the user with the comprehensive content of the Standard.**

**IEC 62841-2-16:2024 EXV includes the content of IEC 62841-2-16:2024, and the references made to IEC 62841-1:2014.**

**The specific content of IEC 62841-2-16:2024 is displayed on a blue background.**

IEC 62841-2-16 has been prepared by IEC technical committee 116: Safety of motor-operated electric tools. It is an International Standard.

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

Draft	Report on voting
116/757/FDIS	116/800/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/publications](http://www.iec.ch/publications).

This document is to be used in conjunction with IEC 62841-1:2014.

This document supplements or modifies the corresponding clauses in IEC 62841-1, so as to convert it into the IEC Standard: Particular requirements for hand-held fastener driving tools.

Where a particular subclause of IEC 62841-1 is not mentioned in this document, that subclause applies as far as reasonable. Where this document states "addition", "modification" or "replacement", the relevant text in IEC 62841-1 is to be adapted accordingly.

The following print types are used:

- requirements: in roman type; [IEC 62841-2-16:2024](https://standards.globalspec.com/stds/iec/7209c65e-9a50-4203-8790-d778b1e3ecac/iec-62841-2-16-2024)
- *test specifications: in italic type;*
- terms defined in Clause 3: in **bold** type;
- notes: in small roman type.

Subclauses, notes, tables and figures which are additional to those in IEC 62841-1 are numbered starting from 101.

Subclauses, notes, tables and figures in Annex K and Annex L which are additional to those in the main body of this document are numbered starting from 301.

A list of all parts in the IEC 62841 series, published under the general title *Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery – Safety*, 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 [webstore.iec.ch](https://webstore.iec.ch) in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

**IMPORTANT – The "colour inside" logo on the cover page of this document 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.**

**iTeh Standards**  
**(<https://standards.iteh.ai>)**  
**Document Preview**

[IEC 62841-2-16:2024](https://standards.iteh.ai/catalog/standards/iec/7209c65e-9a50-4203-8790-d778b1e3ecac/iec-62841-2-16-2024)

<https://standards.iteh.ai/catalog/standards/iec/7209c65e-9a50-4203-8790-d778b1e3ecac/iec-62841-2-16-2024>

## INTRODUCTION

Individual countries may wish to consider the application of this Part 1 of IEC 62841, so far as is reasonable, to tools not mentioned in an individual part of IEC 62841-2, IEC 62841-3 or IEC 62841-4 and to tools designed on new principles.

Examples of standards dealing with non-safety aspects of **hand-held tools, transportable tools and lawn and garden machinery** are

- standards dealing with EMC aspects;
- standards dealing with environmental aspects.

**iTeh Standards**  
**(<https://standards.iteh.ai>)**  
**Document Preview**

[IEC 62841-2-16:2024](https://standards.iteh.ai/catalog/standards/iec/7209c65e-9a50-4203-8790-d778b1e3ecac/iec-62841-2-16-2024)

<https://standards.iteh.ai/catalog/standards/iec/7209c65e-9a50-4203-8790-d778b1e3ecac/iec-62841-2-16-2024>

# ELECTRIC MOTOR-OPERATED HAND-HELD TOOLS, TRANSPORTABLE TOOLS AND LAWN AND GARDEN MACHINERY – SAFETY –

## Part 2-16: Particular requirements for hand-held fastener driving tools

### 1 Scope

This International Standard deals with the safety of electric motor-operated or magnetically driven:

- **hand-held tools** (IEC 62841-2);
- **transportable tools** (IEC 62841-3);
- **lawn and garden machinery** (IEC 62841-4).

The above listed categories are hereinafter referred to as “tools” or “machines”.

The **rated voltage** is not more than 250 V for single-phase a.c. or d.c. tools, and 480 V for three-phase a.c. tools. The **rated input** is not more than 3 700 W.

The limits for the applicability of this standard for battery tools are given in K.1 and L.1.

This standard deals with the hazards presented by tools which are encountered by all persons in the **normal use** and reasonably foreseeable misuse of the tools.

Tools with electric heating elements are within the scope of this standard.

Requirements for motors not isolated from the supply, and having **basic insulation** not designed for the **rated voltage** of the tools, are given in Annex B. Requirements for rechargeable battery-powered motor-operated or magnetically driven tools and the battery packs for such tools are given in Annex K. Requirements for such tools that are also operated and/or charged directly from the mains or a non-isolated source are given in Annex L.

Hand-held electric tools, which can be mounted on a support or working stand for use as fixed tools without any alteration of the tool itself, are within the scope of this standard and such combination of a **hand-held tool** and a support is considered to be a **transportable tool** and thus covered by the relevant Part 3.

This document applies to hand-held **fastener driving tools**

- intended for driving **fasteners** into or through concrete, fabric, fiberboard, metal, plastic, wood, wood products, cartons, and other materials; and
- whose energy to drive the **fastener** is derived directly or indirectly from an electric motor or magnetic drive.

This document does not apply to pneumatically driven tools where the compressed gas comes from an external source, such as a compressor or a tank.

This document does not apply to tools powered by combustible gases, even if electrically ignited.

NOTE 101 Tools powered by compressed air or combustible gases are covered by ISO 11148-13:2017.

This standard does not apply to:

- tools intended to be used in the presence of explosive atmosphere (dust, vapour or gas);
- tools used for preparing and processing food;
- tools for medical purposes;

NOTE 1 IEC 60601 series covers a variety of tools for medical purposes.

- tools intended to be used with cosmetics or pharmaceutical products;
- heating tools;

NOTE 2 IEC 60335-2-45 covers a variety of heating tools.

- electric motor-operated household and similar electrical appliances;

NOTE 3 IEC 60335 series covers a variety of electric motor-operated household and similar electrical appliances.

- electrical equipment for industrial machine-tools;

NOTE 4 IEC 60204 series deals with electrical safety of machinery.

- small low voltage transformer operated bench tools intended for model making, e.g. the making of radio controlled model aircraft or cars, etc.

NOTE 5 In the United States of America, the following conditions apply:

This standard deals with tools used in non-hazardous locations in accordance with the National Electrical Code, NFPA 70.

NOTE 6 In Canada, the following conditions apply:

This standard deals with tools used in non-hazardous locations in accordance with the Canadian Electric Code, Part 1, CSA C22.1, and General Requirements – Canadian Electrical Code, Part II, CAN/CSA-C22.2 No. 0.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60061, *Lamp caps and holders together with gauges for the control of interchangeability and safety*, available at <http://std.iec.ch/iec60061>

IEC 60065:2001, *Audio, video and similar electronic apparatus – Safety requirements*<sup>1</sup>  
Amendment 2:2010  
Amendment 1:2005

IEC 60068-2-75:1997, *Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests*

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

IEC 60085:2007, *Electrical insulation – Thermal evaluation and designation*

IEC 60127 (all parts), *Miniature fuses*

IEC 60227 (all parts), *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V*

IEC 60238, *Edison screw lampholders*

---

<sup>1</sup> There exists a consolidated version (Edition 7.2:2011) which includes IEC 60065:2001 and its Amendment 1 (2005) and Amendment 2 (2010).

IEC 60245 (all parts), *Rubber insulated cables – Rated voltages up to and including 450/750 V*

IEC 60252-1, *AC motor capacitors – Part 1: General – Performance, testing and rating – Safety requirements – Guidance for installation and operation*

IEC 60320 (all parts), *Appliance couplers for household and similar general purposes*

IEC 60320-1, *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 60384-14, *Fixed capacitors for use in electronic equipment – Part 14: Sectional specification – Fixed capacitors for electromagnetic interference suppression and connection to the supply mains*

IEC 60417, *Graphical symbols for use on equipment*, available at [http://www.graphical-symbols.info/graphical-symbols/equipment/db1.nsf/\\$enHome?OpenForm](http://www.graphical-symbols.info/graphical-symbols/equipment/db1.nsf/$enHome?OpenForm)

IEC 60529:1989, *Degrees of protection provided by enclosures (IP Code)*<sup>2</sup>  
Amendment 1:1999  
Amendment 2:2013

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

IEC 60664-3, *Insulation coordination for equipment within low-voltage systems – Part 3: Use of coating, potting or moulding for protection against pollution*

IEC 60664-4:2005, *Insulation coordination for equipment within low-voltage systems – Part 4: Consideration of high-frequency voltage stress*

IEC 60695-2-11:2000, *Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods – Glow-wire flammability test method for end-products*

IEC 60695-2-13:2010, *Fire hazard testing – Part 2-13: Glowing/hot-wire based test methods – Glow-wire ignition temperature (GWIT) test method for materials*

IEC 60695-10-2:2003, *Fire hazard testing – Part 10-2: Abnormal heat – Ball pressure test*

IEC 60695-11-10:2013, *Fire hazard testing – Part 11-10: Test flames – 50 W horizontal and vertical flame test methods*

IEC 60730-1:2010, *Automatic electrical controls for household and similar use – Part 1: General requirements*

IEC 60825-1:2007, *Safety of laser products – Part 1: Equipment classification and requirements*

IEC 60884 (all parts), *Plugs and socket-outlets for household and similar purposes*

---

<sup>2</sup> There exists a consolidated version (Edition 2.2:2013) which includes IEC 60529:1989 and its Amendment 1 (1999) and Amendment 2 (2013).

IEC 60906-1, *IEC system of plugs and socket-outlets for household and similar purposes – Part 1: Plugs and socket-outlets 16 A 250 V a.c.*

IEC 60990:1999, *Methods of measurement of touch current and protective conductor current*

IEC 60998-2-1, *Connecting devices for low-voltage circuits for household and similar purposes – Part 2-1: Particular requirements for connecting devices as separate entities with screw-type clamping units*

IEC 60998-2-2, *Connecting devices for low-voltage circuits for household and similar purposes – Part 2-2: Particular requirements for connecting devices as separate entities with screwless-type clamping units*

IEC 60999-1:1999, *Connecting devices – Electrical copper conductors – Safety requirements for screw-type and screwless-type clamping units – Part 1: General requirements and particular requirements for clamping units for conductors from 0,2 mm<sup>2</sup> up to 35 mm<sup>2</sup> (included)*

IEC 61000-4-2:2008, *Electromagnetic compatibility (EMC) – Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test*

IEC 61000-4-3:2006, *Electromagnetic compatibility (EMC) – Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test<sup>3</sup>*  
Amendment 1:2007  
Amendment 2:2010

IEC 61000-4-4:2012, *Electromagnetic compatibility (EMC) – Part 4-4: Testing and measurement techniques – Electrical fast transient/burst immunity test*

IEC 61000-4-5:2005, *Electromagnetic compatibility (EMC) – Part 4-5: Testing and measurement techniques – Surge immunity test*

IEC 61000-4-6:2008, *Electromagnetic compatibility (EMC) – Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields*

IEC 61000-4-11:2004, *Electromagnetic compatibility (EMC) – Part 4-11: Testing and measurement techniques – Voltage dips, short interruptions and voltage variations immunity tests*

IEC 61032:1997, *Protection of persons and equipment by enclosures – Probes for verification*

IEC 61056-1, *General purpose lead-acid batteries (valve-regulated types) – Part 1: General requirements, functional characteristics – Methods of test*

IEC 61058-1:2000, *Switches for appliances – Part 1: General requirements<sup>4</sup>*  
Amendment 1:2001  
Amendment 2:2007

IEC 61210, *Connecting devices – Flat quick-connect terminations for electrical copper conductors – Safety requirements*

---

<sup>3</sup> There exists a consolidated version (Edition 3.2:2010) which includes IEC 61000-4-3:2006 and its Amendment 1 (2007) and Amendment 2 (2010).

<sup>4</sup> There exists a consolidated version (Edition 3.2:2008) which includes IEC 61058-1:2000 and its Amendment 1 (2001) and Amendment 2 (2007).