

Edition 1.0 2024-08 EXTENDED VERSION

## INTERNATIONAL STANDARD



This full version of IEC 62841-3-15:2024 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 3-15: Particular requirements for transportable magnetic drills

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IEC 62841-3-15:2024

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Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery – Safety –

Part 3-15: Particular requirements for transportable magnetic drills

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#### INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

#### Part 3-15: Particular requirements for transportable magnetic drills

#### **FOREWORD**

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

IEC 62841-3-15:2024 EXV includes the content of IEC 62841-3-15:2024, and the references made to IEC 62841-1:2014.

The specific content of IEC 62841-3-15:2024 is displayed on a blue background.

IEC 62841-3-15 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
116/801/FDIS	116/823/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 <a href="https://www.iec.ch/members.experts/refdocs">www.iec.ch/members.experts/refdocs</a>. The main document types developed by IEC are described in greater detail at <a href="https://www.iec.ch/standardsdev/publications">www.iec.ch/standardsdev/publications</a>.

This Part 3-15 is to be used in conjunction with the first edition of IEC 62841-1 (2014).

This Part 3-15 supplements or modifies the corresponding clauses in IEC 62841-1:2014, so as to convert it into the IEC Standard: Particular requirements for transportable magnetic drills.

Where a particular subclause of IEC 62841-1:2014 is not mentioned in this Part 3-15, that subclause applies as far as relevant. Where this document states "addition", "modification" or "replacement", the relevant text in IEC 62841-1:2014 is to be adapted accordingly.

The following print types are used:

- requirements: in roman type;
- test specifications: in italic type;
- notes: in small roman type;
- terms defined in Clause 3: in bold typeface.

Subclauses, notes, tables and figures which are additional to those in IEC 62841-1:2014, except as described below for Annex K and Annex L, 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 of the IEC 62841 series, 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 <a href="webstore.iec.ch">webstore.iec.ch</a> in the data related to the specific document. At this date, the document will be

- reconfirmed,
- · withdrawn, or
- revised.

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 36 months from the date of publication.

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#### 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.

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

#### Part 3-15: Particular requirements for transportable magnetic drills

#### 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 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.

This document applies to transportable magnetic drills which can include a liquid system.

#### 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 62841-3-15:2024

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

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

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

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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

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

Amendment 1:1999 Amendment 2:2013

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

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

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)

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

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 requirements4

Amendment 1:2001 Amendment 2:2007

IEC 61210, Connecting devices – Flat quick-connect terminations for electrical copper conductors – Safety requirements | 1227-463b-3659-69b63667b0/iec-62841-3-15-2024

IEC 61540:1997, Electrical accessories – Portable residual current devices without integral overcurrent protection for household and similar use (PRCDs)<sup>5</sup>
Amendment 1:1998

IEC 61558-1, Safety of power transformers, power supplies, reactors and similar products – Part 1: General requirements and tests

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

IEC 61558-2-6, Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V – Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers

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>&</sup>lt;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).

<sup>&</sup>lt;sup>5</sup> There exists a consolidated version (Edition 1.1:1999) which includes IEC 61540:1997 and its Amendment 1 (2001).