IEC 62841-4-9

Edition 1.0 2026-01

INTERNATIONAL STANDARD

Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery - Safety -
Part 4-9: Particular requirements for battery-powered chain saws for tree service

ICS 25.140.20

ISBN 978-2-8327-0824-8

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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IEC 62841-4-9 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
116/916/FDIS	116/934/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. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

This document is to be used in conjunction with the first edition of IEC 62841-1:2014 and IEC 62841-1:2014/AMD1:2025.

This document supplements or modifies the corresponding clauses in IEC 62841-1:2014, so as to convert it into the IEC Standard: Particular requirements for battery-powered chain saws for tree service.

Where a particular subclause of IEC 62841-1:2014 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;
– *test specifications: in italic type;*
– notes: in small roman type.

The terms defined in Clause 3 are printed in **bold typeface**.

Subclauses, notes, tables and figures which are additional to those in IEC 62841-1:2014 are numbered starting from 101.

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

NOTE The attention of National Committees is drawn to the fact that equipment manufacturers and testing organizations can 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.

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 in the data related to the specific document. At this date, the document will be

– reconfirmed,
– withdrawn, or
– revised.

1 Scope

Replacement:

This part of IEC 62841 applies to rechargeable **battery**-powered motor-operated **chain saws for tree service**, hereinafter referred to as chain saws or machines, having a maximum mass of 5,0 kg. The mass includes the heaviest **detachable battery pack**(**s**), if any, as described in IEC 62841-1:2014, K.8.14.2 e) 2), but excludes the **guide bar, saw chain** and **saw chain** lubricant. Chain saws covered by this document are intended to be used for pruning and dismantling standing tree crowns.

The chain saws covered by this document are designed only to be operated with the right hand on the **rear handle** and the left hand on the **front handle**.

This document does not apply to

– chain saws supplied by mains power or power from non-isolated sources that permit the machine to be used while connected to such power supplies; or
– chain saws supplied by **integral batteries**; or
– chain saws for cutting wood as covered by IEC 62841-4-1; or
– chain saws designed for use in conjunction with a guide-plate and riving knife or in any other way such as with a support or as a stationary or transportable machine; or
– pole-mounted pruners; or

NOTE 1 Pole-mounted pruners are covered by IEC 62841-4-10.

– pruning saws.

NOTE 2 Pruning saws will be covered by a future part of IEC 62841-4.

The maximum **rated voltage** for machines and **battery** packs is 75 V d.c.

Battery machines covered by this document are not considered to be **class I tools**, **class II tools** or **class III tools** and therefore are not required to have **basic insulation**, **supplementary insulation** or **reinforced insulation**. Electric shock hazard is considered to exist only between parts of opposite polarity.

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

When evaluating a rechargeable **battery** pack for protection against electric shock during charging, **creepage distances**, **clearances** and distances through insulation, the relevant requirements of this document are applicable with the **battery** pack fitted to the intended **charger**.

Since rechargeable **battery** packs for machines are submitted to different use patterns (such as rough use, high charging and discharging currents), their safety can be evaluated only by this document and not by using other standards for rechargeable **battery** packs, such as IEC 62133-1:2017 or IEC 62133-2:2017, unless otherwise indicated in this document. All relevant aspects related to the safety of rechargeable **batteries** are addressed in this document, such that the requirements of IEC 62133-1:2017 or IEC 62133-2:2017 are not required to be separately applied.

When evaluating the risk of **fire** associated with rechargeable **battery** packs for machines, consideration has been given to the fact that these **battery** packs are unattended energy sources and have been evaluated as such in this document. Requirements in other standards regarding the risk of **fire** due to the charging of these **battery** packs are therefore considered to be fulfilled.

This document also addresses requirements covering the use of lithium-ion **cells** employed in **battery systems** in machines. The following is considered within the context of these requirements:

– These requirements address the risk of **fire** or **explosion** of these **batteries** and not any possible hazards associated with toxicity nor potential hazards associated with transportation or disposal.

NOTE 3 IEC 62281:2019 covers the safety aspects of lithium-ion **batteries** during transport.

– **Battery systems** covered by these requirements are not intended to be serviced by the end user.

– These requirements are intended to provide comprehensive evaluation of a **battery** only if used in products covered by this document.

– These requirements address the safety of lithium-ion **battery systems** during storage and use including discharge and charge. These requirements are only considered to be supplementary requirements in regard to battery **charger** fire and electric shock.

– These requirements refer to and require parameters supplied in reference to the **cells** that establish conditions for safe use of those **cells**. Those parameters form the basis of acceptance criteria for a number of tests contained herein. This document does not independently evaluate the safety of **cells**. These parameters, taken as a set, constitute the "**specified operating region**" for a **cell**. There can be several sets of **specified operating region**(**s**).

This document does not apply to machines using **general purpose batteries** installed by the user and this document alone will not be sufficient to ensure that all hazards are considered for these products.

This document does not apply to the safety of battery **chargers** themselves.

NOTE 4 IEC 60335-2-29 covers a variety of **chargers.**

2 Normative references

IEC 62841-1:2014, Clause 2 and IEC 62841-1:2014/AMD1:2025, Clause 2 are applicable, except as follows:

Replacement:

IEC 60664-1:2020, *Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests*

ISO 3744:2010, *Acoustics - Determination of sound power levels and sound energy levels of noise sources using sound pressure - Engineering methods for an essentially free field over a reflecting plane*

ISO 11203:1995, *Acoustics - Noise emitted by machinery and equipment - Determination of emission sound pressure levels at a work station and at other specified positions from the sound power level*
ISO 11203:1995/AMD1:2020

Addition:

IEC 60112:2020, *Method for the determination of the proof and the comparative tracking indices of solid insulating materials*

IEC 60664-3:2016, *Insulation coordination for equipment within low-voltage systems - Part 3: Use of coating, potting or moulding for protection against pollution*

Bibliography

The bibliography of IEC 62841-1:2014 and of IEC 62841-1:2014/AMD1:2025 is applicable, except as follows.

Addition:

IEC 62133-1:2017, *Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications - Part 1: Nickel systems*

IEC 62133-2:2017, *Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications - Part 2: Lithium systems*

IEC 62841-4-1, *Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery - Safety - Part 4-1: Particular requirements for chain saws*

IEC 62841-4-10, *Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery - Safety - Part 4-10: Particular requirements for pole-mounted pruners*[1]

EN IEC 62841-4-9, *Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery - Safety - Part 4-9: Particular requirements for battery-powered chain saws for tree service*[2]

European Directive 2000/14/EC, *Noise emission by outdoor equipment*

Replacement:

IEC 62281:2019, *Safety of primary and secondary lithium cells and batteries during transport*

Deletion:

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

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1 To be published. Stage at the time of publication: IEC/FDIS 62841-4-10:2025.

2 To be published. Stage at CENELEC at the time of publication: FprEN IEC 62841-4-9.