AS 61534.1:2020

Australian STANDARD®

STANDARDS Australia

Powertrack systems

Part 1: General requirements (IEC 61534-1:2011+AMD1:2014 CSV (ED. 2.1) MOD)

AS 61534.1:2020

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Australian Industry Group
Better Regulation Division—NSW Fair Trading
Consumer Electronics Suppliers Association
Consumers' Federation of Australia
Electrical Regulatory Authorities Council
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Originated as AS/NZS 61534.1:2008.
Jointly revised and redesignated as AS 61534.1:2020.

Preface

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee EL-004, Electrical Accessories, to supersede AS/NZS 61534.1—2008, *Powertrack systems, Part 1: General requirements (IEC 61534-1, Ed. 2 (2003) MOD)*.

AS/NZS 61534.1—2008 will also remain current for six months from the date of publication of this document and after this time it will be superseded by AS 61534.1:2020. Regulatory authorities that reference this document in regulation may apply these requirements at a different time. Users of this document should consult with these authorities to confirm their requirements.

After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this document as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this document is to provide Australian electrical industries with general electrical safety requirements for powertrack systems.

The major changes in this edition are as follows:

(a) Updated normative references, see Clause 2.

(b) Changes to the number of samples to be tested, see Clause 5.3.

(c) Inclusion of a short-circuit test clause, see Clause 18.

(d) Changes to external influences, see Clause 21.

This document is an adoption with national modifications and has been reproduced from IEC 61534-1:2011+AMD1:2014 CSV (ED. 2.1), *Powertrack systems — Part 1: General requirements*. The modifications are additional requirements and are set out in Appendix ZZ, which has been added at the end of the source text.

As this document has been reproduced from an International Standard, the following applies:

(i) In the source text "this part of IEC 61534" should read "this document".

(ii) A full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms "normative" and "informative" are used in Standards to define the application of the appendices or annexes to which they apply. A "normative" appendix or annex is an integral part of a Standard, whereas an "informative" appendix or annex is only for information and guidance.

NOTES

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

POWERTRACK SYSTEMS –

Part 1: General requirements

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.
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This Consolidated version of IEC 61534-1 bears the edition number 2.1. It consists of the second edition (2011-05) [documents 23A/630/FDIS and 23A/631/RVD] and its amendment 1 (2014-06) [documents 23A/700A/FDIS and 23A/706/RVD]. The technical content is identical to the base edition and its amendment.

This Final version does not show where the technical content is modified by amendment 1. A separate Redline version with all changes highlighted is available in this publication.

This publication has been prepared for user convenience.

International Standard IEC 61534-1 has been prepared by subcommittee 23A: Cable management systems, of IEC technical committee 23: Electrical accessories.

The main changes from the previous edition are as follows:

- updated normative references (Clause 2);
- changes to the number of samples to be tested (Subclause 5.3);
- inclusion of a short circuit test (New Clause 18);
- changes to external influences (Clause 21).

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all the parts in the IEC 61534 series, under the general title *Powertrack systems*, can be found on the IEC website.

The following difference exists in the countries indicated below:

– Table 4, first column, first line: the 10 A rated terminal should be capable of clamping 1 mm^2 as a minimum (UK);
– Australia has specific wiring rules covering socket-outlets to be switched. In Australia, AS/NZS 3000 contains requirements for switching devices to be used in Australian and New Zealand electrical installations;
– 9.5: in Australia, fuses and fuse-links are not to be used.

The committee has decided that the contents of the base publication and its amendment 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 of June 2013 apply to the French version only.

INTRODUCTION

Particular requirements for specific types of powertrack systems will be specified in the relevant parts 2 of IEC 61534.

For a specific type of powertrack system the requirements of Part 1 of the standard are to be considered, together with the particular requirements of the appropriate Part 2, which will supplement or modify some of the corresponding clauses in Part 1 to provide the complete requirements for that type of system.

Part 1 shall apply unless supplemented or modified by an appropriate Part 2.

POWERTRACK SYSTEMS –

Part 1: General requirements

1 Scope

1.1 This part of IEC 61534 specifies general requirements and tests for powertrack (PT) systems with a rated voltage not exceeding 277 V a.c. single phase, or 480 V a.c. two or three phase 50 Hz or 60 Hz with a rated current not exceeding 63 A. These systems are used for distributing electricity in household, commercial and industrial premises.

1.2 Powertrack systems, according to this standard, are intended for use under the following conditions:

– an ambient temperature in the range –5 °C to + 40 °C, the average value over a 24 h period not exceeding 35 °C;
– a situation not subject to a source of heat likely to raise temperatures above the limits specified above;
– an altitude not exceeding 2000 m above sea level;
– an atmosphere not subject to excessive pollution by smoke, chemical fumes, prolonged periods of high humidity or other abnormal conditions.

In locations where special conditions prevail, as in ships, vehicles and the like and in hazardous locations, for instance, where explosions are liable to occur, special constructions may be necessary.

This standard does not apply to

– cable trunking systems and cable ducting systems covered by IEC 61084 [8] [1];
– busbar trunking systems covered by IEC 60439-2 [5];
– electrical supply track systems for luminaires covered by IEC 60570 [6].

2 Normative references

The following referenced documents are indispensable for the application 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.

IEC 60038:2009, *IEC standard voltages*

IEC 60060-1:2010, *High-voltage test techniques – Part 1: General definitions and test requirements*

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

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

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1 Figures in square brackets refer to the bibliography.