

BS EN 61534-21:2014



BSI Standards Publication

Powertrack systems

Part 21: Particular requirements for powertrack systems intended for wall and ceiling mounting

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National foreword

This British Standard is the UK implementation of EN 61534-21:2014. It is identical to IEC 61534-21:2014. It supersedes BS EN 61534-21:2006 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PEL/213, Cable management.

A list of organizations represented on this committee can be obtained on request to its secretary.

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English Version

**Powertrack systems - Part 21: Particular requirements for
powertrack systems intended for wall and ceiling mounting
(IEC 61534-21:2014)**

Systèmes de conducteurs préfabriqués - Partie 21:
Exigences particulières pour les systèmes de conducteurs
préfabriqués destinés au montage sur des murs et des
plafonds
(CEI 61534-21:2014)

Stromschienensysteme - Teil 21: Besondere Anforderungen
für Stromschienensysteme für Wand und Decke
(IEC 61534-21:2014)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

The text of document 23A/701/FDIS, future edition 2 of IEC 61534-21, prepared by SC 23A "Cable management systems", of IEC/TC 23 "Electrical accessories" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61534-21:2014.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2015-04-24
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2017-07-24

This document supersedes EN 61534-21:2006.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

Endorsement notice

The text of the International Standard IEC 61534-21:2014 was approved by CENELEC as a European Standard without any modification.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61534-1	2011	Powertrack systems -	EN 61534-1	2011
+ A1	2014	Part 1: General requirements	+ A1	2014

CONTENTS

1	Scope	5
2	Normative references	5
3	Terms and definitions	5
4	General requirements	6
5	General notes on tests	6
6	Ratings	6
7	Classification	6
8	Marking and documentation	7
9	Construction	7
10	Clearances, creepage distances and solid insulation	7
11	Protection against electric shock	7
12	Terminals and terminations	7
13	Screws, current carrying parts and connections	7
14	Mechanical strength	7
15	Insulation resistance test and dielectric strength test	9
16	Normal operation	9
17	Temperature rise	9
18	Short-circuit protection and short-circuit withstand strength	9
19	Resistance to heat	9
20	Fire hazard	9
21	External influences	9
22	Electromagnetic compatibility	9
	Annex AA (normative) Additional test requirements for PT systems already complying with IEC 61534-21:2006	10

POWERTRACK SYSTEMS –

Part 21: Particular requirements for powertrack systems intended for wall and ceiling mounting

1 Scope

Clause 1 of IEC 61534-1:2011 and IEC 61534-1:2011/AMD1:2014 is applicable except as follows:

1.1 Addition:

This part of IEC 61534 specifies the particular requirements and tests for PT systems intended for mounting on walls and/or ceiling. They may be installed flush or semi-flush, surface mounted, suspended or spaced away from the surface using fixing devices.

2 Normative references

Clause 2 of IEC 61534-1:2011 is applicable except as follows:

Addition:

IEC 61534-1:2011, *Powertrack systems – Part 1: General requirements*
IEC 61534-1:2011/AMD1:2014

3 Terms and definitions

Clause 3 of IEC 61534-1:2011 and IEC 61534-1:2011/AMD1:2014 is applicable except as follows:

Additional terms and definitions:

3.101

wall PT system

PT system which is suitable for mounting on a vertical surface or a vertical structure directly or with the use of fixing devices

3.102

ceiling PT system

PT system which is suitable for mounting or suspending beneath a horizontal surface or horizontal structure directly or with the use of fixing devices

3.103

fixing devices

system component used for the mechanical connection of the PT system to the supporting surface or supporting structure

3.104

external load

mechanical load applied to the PT system from outside and not due to the mass of the system components

3.105**suspension means**

mechanism for supporting a load (e.g. a luminaire) that hangs from the PT system

3.106**skirting PT system**

PT system which is suitable for mounting on the lower part of a wall close to the floor

4 General requirements

Clause 4 of IEC 61534-1:2011 is applicable.

5 General notes on tests

Clause 5 of IEC 61534-1:2011 is applicable except as follows:

5.3 Addition:

3 samples: subclause 14.3.101

3 samples: subclause 14.3.102

3 samples: subclause 14.3.103

6 Ratings

Clause 6 of IEC 61534-1:2011 is applicable.

7 Classification

Clause 7 of IEC 61534-1:2011 is applicable except as follows:

*Additional subclauses:***7.101 According to external load withstand capability****7.101.1 Wall PT system**

7.101.1.1 Wall PT system not intended to withstand an external load

7.101.1.2 Wall PT system capable of withstanding an external load from above

7.101.2 Ceiling PT system

7.101.2.1 Ceiling PT system not intended to withstand an external load

7.101.2.2 Ceiling PT system capable of withstanding an external load from above

7.102 According to provision for suspended loads

7.102.1 PT System without provision for suspended loads

7.102.2 PT System with provision for suspended loads

7.103 According to floor treatment when the PT system is mounted at the skirting position

7.103.1 Dry-treatment of floor

7.103.2 Wet-treatment of floor

8 Marking and documentation

Clause 8 of IEC 61534-1:2011 and IEC 61534-1:2011/AMD1:2014 is applicable except as follows:

8.5 Addition of the following dashed items:

- for PT system according to 7.101.1.2 and 7.101.2.2, the maximum load in kg which can be withstood
- for PT system according to 7.102.2, the maximum load in kg which can be suspended

9 Construction

Clause 9 of IEC 61534-1:2011 is applicable.

10 Clearances, creepage distances and solid insulation

Clause 10 of IEC 61534-1:2011 is applicable.

11 Protection against electric shock

Clause 11 of IEC 61534-1:2011 and IEC 61534-1:2011/AMD1:2014 is applicable.

12 Terminals and terminations

Clause 12 of IEC 61534-1:2011 is applicable.

13 Screws, current carrying parts and connections

Clause 13 of IEC 61534-1:2011 and IEC 61534-1:2011/AMD1:2014 is applicable.

14 Mechanical strength

Clause 14 of IEC 61534-1:2011 is applicable except as follows:

14.3 Static load test

Delete subclauses 14.3.1, 14.3.2 and 14.3.3.

Additional subclauses:

14.3.101 External load test

PT systems shall withstand mechanical stresses applied to the PT system.

Compliance is checked by the following test.

At least two lengths of the PT system are joined together including the electrical connection and installed according to the manufacturer's instructions to a rigid support; the joint shall be placed midway between the fixing devices.

A steel plate with a length of (150 ± 20) mm, a width not less than the PT system and a thickness of (5 ± 1) mm is positioned on the upper surface of the PT system centrally at the midpoint between the supports. For classifications 7.101.1.1 and 7.101.2.1, a vertical force is gradually applied on the steel plate up to (350 ± 10) N over a period of (60 ± 1) s and maintained for (60 ± 1) min. For classifications according to 7.101.1.2 and 7.101.2.2, a vertical force is gradually applied on the steel plate up to (750 ± 10) N or with a force declared by the manufacturer $\pm 2\%$, whichever is the higher over a period of (60 ± 1) s and maintained for (60 ± 1) min.

During the tests, the sample shall not break and shall neither have parts that have worked loose, nor shall it show any deformation likely to impair electrical safety.

After the test:

- The sample shall comply with Clause 10 and 11.1 of IEC 61534-1:2011 and IEC 61534-1:2011/AMD1:2014.
- There shall be no permanent deformation, which would prevent the correct insertion and withdrawal of the tap-off units.
- The samples shall withstand the test according to 15.2 but without the pre-conditioning of 15.1, and the tests of 11.3 of IEC 61534-1:2011 and IEC 61534-1:2011/AMD1:2014.

14.3.102 PT systems with provision for suspended loads

PT systems classified according to 7.102.2 shall withstand mechanical loads applied to the suspension means in normal use.

Compliance is checked by the following test.

The provision for the suspension means is installed as for normal use according to the manufacturer's instructions. Screwed connections, if any, intended to provide mechanical support of the suspension means are tightened to the torque given in the relevant column of Table 5 of IEC 61534-1:2011 if not specified by the manufacturer.

The suspension means is then loaded, without jerks, with a force declared by the manufacturer $\pm 2\%$ or if no force is declared then the test shall be performed with a force of (250 ± 5) N, for (24 ± 1) h.

During the test, the PT system and the suspension means shall not become detached from one another and shall show no damage, which leads to non-compliance with this standard.

14.3.103 PT systems with tap-off units

In normal use, the construction of the tap-off unit shall be such as to prevent disconnection from the PT or live parts becoming accessible.

Compliance is checked by the following test.

The tap-off unit is inserted as in normal use 10 times and withdrawn 10 times in the tap-off outlet with the PT system installed in normal use as declared by the manufacturer.

The tap-off unit is inserted once more into the tap-off outlet as in normal use and a withdrawal force of (30 ± 1) N is applied for (60 ± 5) s parallel to the force on the tap-off unit in normal use as declared by the manufacturer.

The tap-off unit shall not become disconnected from the PT and live parts shall not become accessible when tested according to 11.1.1.1 of IEC 61534-1:2011 and IEC 61534-1:2011/AMD1:2014.

15 Insulation resistance test and dielectric strength test

Clause 15 of IEC 61534-1:2011 is applicable.

16 Normal operation

Clause 16 of IEC 61534-1:2011 is applicable.

17 Temperature rise

Clause 17 of IEC 61534-1:2011 is applicable.

18 Short-circuit protection and short-circuit withstand strength

Clause 18 of IEC 61534-1:2011 is applicable.

19 Resistance to heat

Clause 19 of IEC 61534-1:2011 is applicable.

20 Fire hazard

Clause 20 of IEC 61534-1:2011 is applicable.

21 External influences

Clause 21 of IEC 61534-1:2011 is applicable except as follows:

Delete subclause 21.1.3.

Additional subclause:

21.2.101 Protection against ingress of water for wet treatment of the floor

Where PT systems are fitted at the skirting position and the floor is subject to wet treatment then the PT system shall have a minimum degree of protection of IP X4.

22 Electromagnetic compatibility

Clause 22 of IEC 61534-1:2011 is applicable.

Annexes

The annexes of IEC 61534-1:2011 and IEC 61534-1:2011/AMD1:2014 are applicable except as follows:

Additional annex:

Annex AA (normative)

Additional test requirements for PT systems already complying with IEC 61534-21:2006

PT systems already complying with IEC 61534-21:2006 only require testing in accordance with the following clauses if appropriate:

- 18** Short-circuit protection and short-circuit withstand strength.
 - 21.2.101** According to floor treatment when the PT system is mounted at the skirting position declared according to 7.103.2.
-

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