

KAABLIGA ÜHITATUD JUHTIMIS- JA KAITSESEADIS
ELEKTRILISTE TEESÕIDUKITE LAADIMISEKS
MOODUSES 2

In-Cable Control and Protection Device for mode 2
charging of electric road vehicles (IC-CPD)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 62752:2016 sisaldab Euroopa standardi EN 62752:2016 ingliskeelset teksti.	This Estonian standard EVS-EN 62752:2016 consists of the English text of the European standard EN 62752:2016.
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ICS 29.120.50

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EUROPEAN STANDARD

EN 62752

NORME EUROPÉENNE

EUROPÄISCHE NORM

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ICS 29.120.50

Supersedes EN 61851-1:2011 (partially)

English Version

**In-cable control and protection device for mode 2 charging of
electric road vehicles (IC-CPD)
(IEC 62752:2016)**

Appareil de contrôle et de protection intégré au câble pour
la charge en mode 2 des véhicules électriques (IC-CPD)
(IEC 62752:2016)

Ladeleitungsintegrierte Steuer- und Schutzeinrichtung für
die Ladebetriebsart 2 von Elektro-Straßenfahrzeugen (IC-
CPD)
(IEC 62752:2016)

This European Standard was approved by CENELEC on 2016-04-08. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



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

European foreword

The text of document 23E/919/FDIS, future edition 1 of IEC 62752, prepared by SC 23E “Circuit-breakers and similar equipment for household use” of IEC/TC 23 “Electrical accessories” was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62752:2016.

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) 2017-02-19
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2017-12-31

This European Standard partially supersedes EN 61851-1:2011 for what concerns the product IC-CPD as a cable assembly for mode 2 EV charging. The DOW will be 2017-12-31.

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 document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directives see informative Annexes ZZA and ZZB, which are integral parts of this document.

Endorsement notice

The text of the International Standard IEC 62752:2016 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60269-1:2006	NOTE	Harmonized as EN 60269-1:2007 (not modified).
IEC 60364 Series	NOTE	Harmonized as HD 384/HD 60364 Series.
IEC 60364-7-722	NOTE	Harmonized as HD 60364-7-722.
IEC 60999-1:1999	NOTE	Harmonized as EN 60999-1:2000 (not modified).
IEC 60947-1:2007	NOTE	Harmonized as EN 60947-1:2007 (not modified).
IEC 61008-1:2010	NOTE	Harmonized as EN 61008-1:2012 (modified).
IEC 62423:2009	NOTE	Harmonized as EN 62423:2009 (modified).

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 60065	-	Audio, video and similar electronic apparatus - Safety requirements	EN 60065	-
IEC 60068-2-1	-	Environmental testing - Part 2-1: Tests - Test A: Cold	EN 60068-2-1	-
IEC 60068-2-5	-	Environmental testing - Part 2-5: Tests - Test Sa: Simulated solar radiation at ground level and guidance for solar radiation testing	EN 60068-2-5	-
IEC 60068-2-11	-	Basic environmental testing procedures - Part 2-11: Tests - Test Ka: Salt mist	EN 60068-2-11	-
IEC 60068-2-27	-	Environmental testing - Part 2-27: Tests - Test Ea and guidance: Shock	EN 60068-2-27	-
IEC 60068-2-30	-	Environmental testing - Part 2-30: Tests - Test Db: Damp heat, cyclic (12 h + 12 h cycle)	EN 60068-2-30	-
IEC 60068-2-31	-	Environmental testing - Part 2-31: Tests - Test Ec: Rough handling shocks, primarily for equipment-type specimens	EN 60068-2-31	-
IEC 60068-2-64	-	Environmental testing - Part 2-64: Tests - Test Fh: Vibration, broadband random and guidance	EN 60068-2-64	-
IEC 60068-3-4	-	Environmental testing - Part 3-4: Supporting documentation and guidance - Damp heat tests	EN 60068-3-4	-
IEC 60112	-	Method for the determination of the proof and the comparative tracking indices of solid insulating materials	EN 60112	-
IEC 60227	Series	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V	-	-
IEC 60245	Series	Rubber insulated cables - Rated voltages up to and including 450/750 V	-	-
IEC 60309	Series	Plugs, socket-outlets and couplers for industrial purposes	EN 60309	Series

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60309-1	1999	Plugs, socket-outlets and couplers for industrial purposes - Part 1: General requirements	EN 60309-1 +A11	1999 2004
+A1 (mod)	2005		+A1	2007
+A2	2012		+A2	2012
IEC 60309-2	-	Plugs, socket-outlets and couplers for industrial purposes - Part 2: Dimensional interchangeability requirements for pin and contact-tube accessories	EN 60309-2	-
IEC 60364-4-44 (mod)	2007	Low-voltage electrical installations - Part 4-44: Protection for safety - Protection against voltage disturbances and electromagnetic disturbances	HD 60364-4-442	2012
IEC 60384-14	Series	Fixed capacitors for use in electronic equipment - Part 14: Sectional specification - Fixed capacitors for electromagnetic interference suppression and connection to the supply mains	EN 60384-14	Series
IEC 60417-DB	-	Graphical symbols for use on equipment	-	-
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991 1993
IEC 60664-1	2007	Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests	EN 60664-1	2007
IEC 60664-3	-	Insulation coordination for equipment within low-voltage systems - Part 3: Use of coating, potting or moulding for protection against pollution	EN 60664-3	-
IEC 60695-2-10	-	Fire hazard testing - Part 2-10: Glowing/hot-wire based test methods - Glow-wire apparatus and common test procedure	EN 60695-2-10	-
IEC 60695-2-11	-	Fire hazard testing - Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products (GWEPT)	EN 60695-2-11	-
IEC 60884-1	2002	Plugs and socket-outlets for household and similar purposes - Part 1: General requirements		-
+A1	2006		-	-
+A2	2013		-	-
IEC 61249-2	Series	Materials for printed boards and other interconnecting structures	EN 61249-2	Series
IEC 61540	-	Electrical accessories - Portable residual current devices without integral overcurrent protection for household and similar use (PRCDs)	HD 639 S1	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61543	1995	Residual current-operated protective devices (RCDs) for household and similar use - Electromagnetic compatibility	EN 61543 + corr. December +A11 +A12	1995 1997 2003 2005
+A1	2004		-	-
+A2	2005		+A2	2006
IEC 61851-1	2010	Electric vehicle conductive charging system - Part 1: General requirements	EN 61851-1	2011
IEC 62196-1	-	Plugs, socket-outlets, vehicle connectors and vehicle inlets - Conductive charging of electric vehicles - Part 1: General requirements	EN 62196-1	-
IEC 62196-2	-	Plugs, socket-outlets, vehicle connectors and vehicle inlets - Conductive charging of electric vehicles - Part 2: Dimensional compatibility and interchangeability requirements for a.c. pin and contact-tube accessories	EN 62196-2	-
IEC/TS 62763	2013	Pilot function through a control pilot circuit using PWM modulation and a control pilot wire	-	-
CISPR 14	Series	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus	EN 55014	Series
ISO 178	-	Plastics - Determination of flexural properties	EN ISO 178	-
ISO 179	Series	Plastics - Determination of Charpy impact properties	EN ISO 179	Series
ISO 179-1	-	Plastics - Determination of Charpy impact properties - Part 1: Non-instrumented impact test	EN ISO 179-1	-
ISO 2409	-	Paints and varnishes - Cross-cut test	EN ISO 2409	-
ISO 4628-3	-	Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 3: Assessment of degree of rusting	EN ISO 4628-3	-
ISO 4892-2	2013	Plastics - Methods of exposure to laboratory light sources - Part 2: Xenon-arc lamps	EN ISO 4892-2	2013
ISO 16750-5	2010	Road vehicles - Environmental conditions and testing for electrical and electronic equipment - Part 5: Chemical loads	-	-
ISO 17409	2015	Electrically propelled road vehicles - Connection to an external electric power supply - Safety requirements	-	-

Annex ZB (normative)

Special national conditions

Special national condition: National characteristic or practice that cannot be changed even over a long period, e.g. climatic conditions, electrical earthing conditions.

NOTE If it affects harmonization, it forms part of the European Standard or Harmonization Document.

For the countries in which the relevant special national conditions apply these provisions are normative, for other countries they are informative.

<u>Country</u>	<u>Clause</u>	<u>Special national condition</u>
Denmark	1	IC-CPD: For IC-CPDs supplied with a plug for household and similar use, repeated continuous loads of long duration, shall be limited to 6 A.
Finland	1	IC-CPD: The following additional requirement applies: for IC-CPDs supplied with a plug for household and similar use the maximum charging current is 8 A for long lasting charging.
Norway	4.3.4	IC-CPD: In Norway, pluggable types where connector is part of the ICCB shall not be used.
Switzerland	5.3.2	IC-CPD: In Switzerland, simplified control pilot circuit is not allowed.
Switzerland	5.3.2	IC-CPD: In Switzerland, the use of EN 60309-2 accessories is recommended for mode 2 connections for more than 8 A (2 kVA).
France	8.1	IC-CPD: In France, the use of solid brass pins is required.
France	8.3.1	IC-CPD: In France, For a rated current above 8 A, rewirable connections of the household plug are not allowed. Connection between the household plugs and cable shall use terminations (see definition 3.2.3).
Switzerland	8.3.1	IC-CPD: In Switzerland, the use of EN 60309-2 accessories is recommended for mode 2 connections for more than 8 A (2 kVA).
Belgium	9.7.7.4	IC-CPD: In Belgium, an IC-CPD shall be able to function properly in both LNE and LLE configurations, provided the correct voltage is available.

Annex ZC (informative)

A-deviations

A-deviation: National deviation due to regulations, the alteration of which is for the time being outside the competence of the CEN-CENELEC national member.

This European Standard falls under Directives 2014/35/EU and 2014/30/EU.

NOTE (from CEN/CENELEC IR Part 2:2015, 2.16) Where standards fall under EC Directives or Regulations, it is the view of the Commission of the European Communities (OJ No C 59; 1982-03-09) that the effect of the decision of the Court of Justice in case 815/79 Cremonini/Vrankovich (European Court Reports 1980, p. 3583) is that compliance with A-deviations is no longer mandatory and that the free movement of products complying with such a standard should not be restricted within the EC except under the safeguard procedure provided for in the relevant Directive or Regulation.

A-deviations in an EFTA-country are valid instead of the relevant provisions of the European Standard in that country until they have been removed.

<u>Country</u>	<u>Clause</u>	<u>A-deviation</u>
Denmark	General	The requirements in this standard cannot replace or change any part of the Danish National requirements for plugs for household and similar use according to DS 60884-2-D1.

Annex ZZA
(informative)

Relationship between this European standard and the essential requirements of Directive 2014/30/EU [2014 OJ L96] aimed to be covered

This European standard has been prepared under a Commission's standardisation request as regards harmonised standards in support of Directive 2014/30/EU relating to electromagnetic compatibility, to provide one voluntary means of conforming to essential requirements of Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility [2014 OJ L96].

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding essential requirements of that Directive, and associated EFTA regulations.

Table ZZA.1 – Correspondence between this European standard and Annex I of Directive 2014/30/EU [2014 OJ L96]

Essential requirements of Directive 2014/30/EU	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
All requirements are covered by complying clause 9.26 of the standard	§9.26	

WARNING 1: Presumption of conformity stays valid only as long as a reference to this European standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2: Other Union legislation may be applicable to the product(s) falling within the scope of this standard.

Annex ZZB
(informative)

Relationship between this European standard and the safety objectives of Directive 2014/35/EU [2014 OJ L96] aimed to be covered

This European standard has been prepared under a Commission's standardisation request relating to harmonised standards in the field of the Low Voltage Directive, M/511, to provide one voluntary means of conforming to safety objectives of Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits [2014 OJ L96].

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZZB.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding safety objectives of that Directive, and associated EFTA regulations.

Table ZZB.1 – Correspondence between this European standard and Annex I of Directive 2014/35/EU [2014 OJ L96]

Safety objectives of Directive 2014/35/EU	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
Within the limits of the scope, all requirements are covered by complying all clauses of the standard.	All normative clauses	

WARNING 1: Presumption of conformity stays valid only as long as a reference to this European standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2: Other Union legislation may be applicable to the product(s) falling within the scope of this standard.

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