

SLOVENSKI STANDARD

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Sistem kabelskega napajanja električnih vozil - 23. del: Postaja za kabelsko napajanje električnega vozila z enosmernim tokom

Electric vehicle conductive charging system - Part 23: DC electric vehicle supply equipment

Konduktive Ladesysteme für Elektrofahrzeuge - Teil 23:
Gleichstromversorgungseinrichtungen für Elektrofahrzeuge

Système de charge conducteur pour véhicules électriques - Partie 23 : Borne de charge en courant continu pour véhicules électriques

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ICS:

43.120

Električna cestna vozila

Electric road vehicles

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**Electric vehicle conductive charging system - Part 23: DC
electric vehicle supply equipment
(IEC 61851-23:2023)**

Système de charge conducteur pour véhicules électriques -
Partie 23: Borne de charge en courant continu pour
véhicules électriques
(IEC 61851-23:2023)

Konduktive Ladesysteme für Elektrofahrzeuge - Teil 23:
Gleichstromversorgungseinrichtungen für Elektrofahrzeuge
(IEC 61851-23:2023)

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EN IEC 61851-23:2026 (E)**European foreword**

The text of document 69/907/FDIS, future edition 2 of IEC 61851-23, prepared by TC 69 "Electrical power/energy transfer systems for electrically propelled road vehicles and industrial trucks" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61851-23:2026.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2027-10-31 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2029-10-31 document have to be withdrawn

This document supersedes EN 61851-23:2014 and all of its amendments and corrigenda (if any).

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This document is read in conjunction with EN IEC 61851-1:2019.

This document has been prepared under a standardization request addressed to CENELEC by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

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The text of the International Standard IEC 61851-23:2023 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 standard indicated:

IEC 60068-2-11	NOTE Approved as EN IEC 60068-2-11
IEC 60364-4-41:2005	NOTE Approved as HD 60364-4-41:2017 + A11:2017
IEC 60364-5-55	NOTE Approved as HD 60364-5-559
IEC 60364-7-722	NOTE Approved as HD 60364-7-722
IEC 60695-10-3	NOTE Approved as EN 60695-10-3
IEC 60695-11-10	NOTE Approved as EN 60695-11-10
IEC 61557-9:2014	NOTE Approved as EN 61557-9:2015 (not modified)
IEC 61558-2-6	NOTE Approved as EN IEC 61558-2-6
IEC 61851-23:2014	NOTE Approved as EN 61851-23:2014 (not modified)
IEC 62305-4:2010	NOTE Approved as EN 62305-4:2011

IEC 62909-1	NOTE Approved as EN IEC 62909-1
IEC 62909-2	NOTE Approved as EN IEC 62909-2
ISO/IEC 17025:2017	NOTE Approved as EN ISO/IEC 17025:2017 (not modified)
ISO 15118-1:2019	NOTE Approved as EN ISO 15118-1:2019 (not modified)
ISO 15118-3:2015	NOTE Approved as EN ISO 15118-3:2016 (not modified)

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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

NOTE 1 Where 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.cencenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60038 (mod)	2009	IEC standard voltages	EN 60038	2011
IEC 60068-2-75	2014	Environmental testing - Part 2-75: Tests - Test Eh: Hammer tests	EN 60068-2-75	2014
IEC 60068-2-78	-	Environmental testing - Part 2-78: Tests - Test Cab: Damp heat, steady state	EN IEC 60068-2-78	-
IEC 60227-1	2007	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V - Part 1: General requirements	-	-
IEC 60245-1	2003	Rubber insulated cables - Rated voltages up to and including 450/750 V - Part 1: General requirements	-	-
+ A1	2007		-	-
IEC 60320-1	-	Appliance couplers for household and similar general purposes - Part 1: General requirements	EN IEC 60320-1	-
IEC 60364-4-43 (mod)	2008	Low-voltage electrical installations - Part 4-43: Protection for safety - Protection against overcurrent	HD 60364-4-43	2010
IEC 60364-5-53	2019	Low-voltage electrical installations - Part 5-53: Selection and erection of electrical equipment - Protection, isolation, switching, control and monitoring	HD 60364-5-53	2022
IEC 60364-5-54	2011	Low-voltage electrical installations - Part 5-54: Selection and erection of electrical equipment - Earthing arrangements and protective conductors	HD 60364-5-54	2011
-	-		+ A11	2017
+ A1	2021		+ A1	2022

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<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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	EN IEC 60384-14	-
IEC 60479-1	2018	Effects of current on human beings and livestock - Part 1: General aspects	-	-
IEC 60479-2	2019	Effects of current on human beings and livestock - Part 2: Special aspects	-	-
IEC 60529	-	Degrees of protection provided by enclosures (IP Code)	EN 60529	-
IEC 60664-1	2020	Insulation coordination for equipment within low-voltage supply systems - Part 1: Principles, requirements and tests	EN IEC 60664-1	2020
IEC 60811-501	-	Electric and optical fibre cables - Test methods for non-metallic materials - Part 501: Mechanical tests - Tests for determining the mechanical properties of insulating and sheathing compounds	EN 60811-501	-
IEC 60812	2018	Failure modes and effects analysis (FMEA and FMECA)	EN IEC 60812	2018
IEC 60990	2016	Methods of measurement of touch current and protective conductor current	EN 60990	2016
IEC 61008-1 (mod)	2010	Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs) - Part 1: General rules	EN 61008-1	2012
+ A1 (mod)	2012		+ A1	2014
+ A2 (mod)	2013		+ A2	2014
-	-		+ A11	2015
-	-		+ A12	2017
IEC 61009-1 (mod)	2010	Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBOs) - Part 1: General rules	EN 61009-1	2012
+ A1 (mod)	2012		+ A1	2014
+ A2 (mod)	2013		+ A2	2014
-	-		+ A11	2015
-	-		+ A12	2016
-	-		+ A13	2021
IEC 60947-2	2016	Low-voltage switchgear and controlgear - Part 2: Circuit-breakers	EN 60947-2	2017
+ A1	2019		+ A1	2020
IEC 61140	2016	Protection against electric shock - Common aspects for installation and equipment	EN 61140	2016
IEC 61439-1	2020	Low-voltage switchgear and controlgear assemblies - Part 1: General rules	EN IEC 61439-1	2021

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<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61439-7	2022	Low-voltage switchgear and controlgear assemblies - Part 7: Assemblies for specific applications such as marinas, camping sites, market squares, electric vehicle charging stations	EN IEC 61439-7	2023
IEC 61540 (mod)	1997	Electrical accessories - Portable residual current devices without integral overcurrent protection for household and similar use (PRCDs)	HD 639 S1	2002
+ A1	1998		+ A1	2003
-	-		+ corrigendum Jul.	2003
-	-		+ A2	2010
IEC 61557-8	2014	Electrical safety in low voltage distribution systems up to 1 000 V a.c. and 1 500 V d.c. - Equipment for testing, measuring or monitoring of protective measures - Part 8: Insulation monitoring devices for IT systems	EN 61557-8	2015
IEC 61558-1	2017	Safety of transformers, reactors, power supply units and combinations thereof - Part 1: General requirements and tests	EN IEC 61558-1	2019
IEC 61558-2-4	2021	Safety of transformers, reactors, power supply units and combinations thereof - Part 2-4: Particular requirements and tests for isolating transformers and power supply units incorporating isolating transformers for general applications	EN IEC 61558-2-4	2025
IEC 61643 series		Low-voltage surge protective devices	EN IEC 61643	series
IEC 61643-11	-	Low-voltage surge protective devices - Part 11: Surge protective devices connected to AC low-voltage power systems - Requirements and test methods	EN IEC 61643-11	-
IEC 61643-21	-	Low voltage surge protective devices - Part 21: Surge protective devices connected to telecommunications and signalling networks - Requirements and test methods	EN IEC 61643-21	-
IEC 61851-1	2017	Electric vehicle conductive charging system - Part 1: General requirements	EN IEC 61851-1	2019
IEC 61851-21-2	2018	Electric vehicle conductive charging system - Part 21-2: Electric vehicle requirements for conductive connection to an AC/DC supply - EMC requirements for off board electric vehicle charging systems	EN IEC 61851-21-2	2021
IEC 61851-24	2023	Electric vehicle conductive charging system - Part 24: Digital communication between a DC EV supply equipment and an electric vehicle for control of DC charging	EN IEC 61851-24	2024
IEC 62196-1	2022	Plugs, socket-outlets, vehicle connectors and vehicle inlets - Conductive charging of electric vehicles - Part 1: General requirements	EN IEC 62196-1	2022

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<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 62196-3	2022	Plugs, socket-outlets, vehicle connectors and vehicle inlets - Conductive charging of electric vehicles - Part 3: Dimensional compatibility requirements for DC and AC/DC pin and contact-tube vehicle couplers	EN IEC 62196-3	2022
IEC/TS 62196-3-1	2020	Plugs, socket-outlets, vehicle connectors and vehicle inlets - Conductive charging of electric vehicles - Part 3-1: Vehicle connector, vehicle inlet and cable assembly for DC charging intended to be used with a thermal management system	-	-
IEC 62368-1	2023	Audio/video, information and communication technology equipment - Part 1: Safety requirements	EN IEC 62368-1	2024
IEC 62423 (mod)	2009	Type F and type B residual current operated circuit-breakers with and without integral overcurrent protection for household and similar uses	EN 62423	2012
-	-		+ A11	2021
-	-		+ A12	2022
IEC 62262	-	Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)	EN 62262	-
IEC 62477-1	2022	Safety requirements for power electronic converter systems and equipment - Part 1: General	EN IEC 62477-1	2023
IEC 62893-4-1	2020	Charging cables for electric vehicles of rated voltages up to and including 0,6/1 kV - Part 4-1: Cables for DC charging according to mode 4 of IEC 61851-1 - DC charging without use of a thermal management system	-	-
IEC Guide 115	-	Application of measurement uncertainty to conformity assessment activities in the electrotechnical sector	-	-
ISO 2719	2016	Determination of flash point - Pensky-Martens closed cup method	-	-
ISO 6469-3	2018	Electrically propelled road vehicles - Safety specifications - Part 3: Electrical safety	-	-
ISO 7000	-	Graphical symbols for use on equipment - Registered symbols	-	-
ISO 7010	-	Graphical symbols - Safety colours and safety signs - Registered safety signs	-	-
ISO 15118-2	2014	Road vehicles - Vehicle-to-grid communication interface - Part 2: Network and application protocol requirements	EN ISO 15118-2	2016
ISO 15118-3	-	Road vehicles - Vehicle to grid communication interface - Part 3: Physical and data link layer requirements	EN ISO 15118-3	-

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<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO 17409	2020	Electrically propelled road vehicles - Conductive power transfer - Safety requirements	-	-
DIN SPEC 70121	2014	Electromobility - Digital communication between a DC EV charging station and an electric vehicle for control of DC charging in the combined charging system	-	-
OECD 301 B	-	OECD Guideline for testing of chemicals	-	-

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**Electric vehicle conductive charging system –
Part 23: DC electric vehicle supply equipment**

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