



SLOVENSKI STANDARD
SIST EN IEC 62840-2:2019
01-maj-2019

Sistem menjave baterij električnih vozil - 2. del: Varnostne zahteve

Electric vehicle battery swap system - Part 2: Safety requirements

Batteriewechselsysteme für Elektrofahrzeuge - Teil 2: Sicherheitsanforderungen

Système d'échange de batterie pour véhicule électrique - Partie 2: Exigences de sécurité

Ta slovenski standard je istoveten z: EN IEC 62840-2:2019

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ICS:

43.120 Električna cestna vozila Electric road vehicles

SIST EN IEC 62840-2:2019 **en**

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EUROPEAN STANDARD

EN IEC 62840-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2019

ICS 43.120

English Version

**Electric vehicle battery swap system - Part 2: Safety requirements
(IEC 62840-2:2016)**

Système d'échange de batterie de véhicule électrique -
Partie 2: Exigences de sécurité
(IEC 62840-2:2016)

Batteriewechselsysteme für Elektrofahrzeuge - Teil 2:
Sicherheitsanforderungen
(IEC 62840-2:2016)

This European Standard was approved by CENELEC on 2016-11-08. 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.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN IEC 62840-2:2019 (E)**European foreword**

The text of document 69/420/FDIS, future edition 1 of IEC 62840-2, prepared by IEC/TC 69 "Electric road vehicles and electric industrial trucks" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62840-2:2019.

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) 2019-08-01
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-02-01

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The text of the International Standard IEC 62840-2:2016 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 60947-5-1 | NOTE | Harmonized as EN 60947-5-1. |
| IEC 61000 series | NOTE | Harmonized in EN 61000 series. |
| IEC 61851-1 | NOTE | Harmonized as EN 61851-1. |
| IEC 61851-21-2 | NOTE | Harmonized as EN 61851-21-2 ¹ . |
| IEC 61851-3 series | NOTE | Harmonized in CLC/TS 61851-3 series ¹ . |
| ISO 4413 | NOTE | Harmonized as EN ISO 4413 |
| ISO 4414 | NOTE | Harmonized as EN ISO 4414 |

¹ Under preparation. Stage at time of publication: CLC/prTS 61851 series.

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 60038 | - | IEC standard voltages | EN 60038 | - |
| IEC 60112 | - | Method for the determination of the proof and the comparative tracking indices of solid insulating materials | EN 60112 | - |
| IEC 60204-1 | - | Safety of machinery - Electrical equipment of machines - Part 1: General requirements | EN 60204-1 | - |
| IEC 60364 | series | Low-voltage electrical installations | HD 384 / HD 60364 | series |
| IEC 60364-4-41 (mod) | 2005 | Low-voltage electrical installations - Part 4-41: Protection for safety - Protection against electric shock | HD 60364-4-41 + A11 | 2007 |
| - | - | | | 2017 |
| IEC 60364-5-54 | - | Low-voltage electrical installations - Part 5-54: Selection and erection of electrical equipment - Earthing arrangements and protective conductors | HD 60364-5-54 | - |
| IEC 60364-7-722 | - | Low-voltage electrical installations - Part 7-722: Requirements for special installations or locations - Supplies for electric vehicles | HD 60364-7-722 | - |
| IEC/TS(TR) 60479 | series | Effects of current on human beings and livestock | - | - |
| IEC 60529 | - | Degrees of protection provided by enclosures (IP Code) | EN 60529 | - |
| IEC 60664-1 | 2007 | Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests | EN 60664-1 | 2007 |

EN IEC 62840-2:2019 (E)

| <u>Publication</u> | <u>Year</u> | <u>Title</u> | <u>EN/HD</u> | <u>Year</u> |
|--------------------|-------------|---|---------------|-------------|
| 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 60695-10-2 | - | Fire hazard testing - Part 10-2: Abnormal heat - Ball pressure test method | EN 60695-10-2 | - |
| IEC/TR 60755 | - | General requirements for residual current operated protective devices | - | - |
| IEC 60898-1 | - | Electrical accessories - Circuit-breakers for overcurrent protection for household and similar installations - Part 1: Circuit-breakers for a.c. operation | EN 60898-1 | - |
| IEC 60947-2 | - | Low voltage switchgear and controlgear - Part 2: Circuit-breakers | EN 60947-2 | - |
| IEC 60947-3 | - | Low-voltage switchgear and controlgear - Part 3: Switches, disconnectors, switch- disconnectors and fuse-combination units | EN 60947-3 | - |
| IEC 60947-4-1 | - | Low-voltage switchgear and controlgear - Part 4-1: Contactors and motor-starters - Electromechanical contactors and motor-starters | EN 60947-4-1 | - |
| IEC 60950-1 (mod) | 2005 | Information technology equipment - Safety - Part 1: General requirements | EN 60950-1 | 2006 |
| - | - | | + A11 | 2009 |
| + A1 (mod) | 2009 | | + A1 | 2010 |
| - | - | | + A12 | 2011 |
| - | - | | + AC | 2011 |
| + A2 (mod) | 2013 | | + A2 | 2013 |
| IEC 61000-6-7 | - | Electromagnetic compatibility (EMC) - Part 6-7: Generic standards - Immunity requirements for equipment intended to perform functions in a safety-related system (functional safety) in industrial locations | EN 61000-6-7 | - |
| IEC 61008 | series | Residual current operated circuit- breakers without integral overcurrent protection for household and similar uses (RCCB's) | EN 61008 | series |
| IEC 61008-1 | - | Residual current operated circuit- breakers without integral overcurrent protection for household and similar uses (RCCB's) - Part 1: General rules | EN 61008-1 | - |

| <u>Publication</u> | <u>Year</u> | <u>Title</u> | <u>EN/HD</u> | <u>Year</u> |
|--------------------|-------------|---|--------------|-------------|
| IEC 61009 | series | Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBOs) | EN 61009 | series |
| IEC 61009-1 | - | Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBOs) - Part 1: General rules | EN 61009-1 | - |
| IEC 61140 | - | Protection against electric shock - Common aspects for installation and equipment | EN 61140 | - |
| IEC 61439-1 | 2011 | Low-voltage switchgear and controlgear assemblies - Part 1: General rules | EN 61439-1 | 2011 |
| IEC 61508-1 | - | Functional safety of electrical/electronic/programmable electronic safety-related systems - Part 1: General requirements | EN 61508-1 | - |
| IEC 61511-1 | - | Functional safety - Safety instrumented systems for the process industry sector - Part 1: Framework, definitions, system, hardware and application programming requirements | EN 61511-1 | - |
| IEC 61784-3 | - | Industrial communication networks - Profiles - Part 3: Functional safety fieldbuses - General rules and profile definitions | EN 61784-3 | - |
| IEC 61810-1 | - | Electromechanical elementary relays - Part 1: General and safety requirements | EN 61810-1 | - |
| IEC 61851-23 | 2014 | Electric vehicle conductive charging system - Part 23: D.C. electric vehicle charging station | EN 61851-23 | 2014 |
| IEC 62052-11 | - | Electricity metering equipment (AC) - General requirements, tests and test conditions - Part 11: Metering equipment | EN 62052-11 | - |
| IEC 62262 | - | Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code) | EN 62262 | - |
| IEC 62423 | - | Type F and type B residual current operated circuit-breakers with and without integral overcurrent protection for household and similar uses | EN 62423 | - |
| IEC 62840-1 | 2016 | Electric vehicle battery swap system - Part 1: General and guidance | - | - |
| ISO 2972 | - | Numerical control of machines; Symbols | - | - |
| ISO 7000 | - | Graphical symbols for use on equipment - Registered symbols | - | - |

EN IEC 62840-2:2019 (E)

| <u>Publication</u> | <u>Year</u> | <u>Title</u> | <u>EN/HD</u> | <u>Year</u> |
|--------------------|-------------|--|----------------|-------------|
| ISO 10218-1 | - | Robots and robotic devices - Safety requirements for industrial robots - Part 1: Robots | EN ISO 10218-1 | - |
| ISO 10218-2 | - | Robots and robotic devices - Safety requirements for industrial robots - Part 2: Robot systems and integration | EN ISO 10218-2 | - |
| ISO 12405-1 | - | Electrically propelled road vehicles - Test specification for lithium-ion traction battery packs and systems - Part 1: High-power applications | - | - |
| ISO 13849-1 | - | Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design | EN ISO 13849-1 | - |
| ISO 14119 | - | Safety of machinery - Interlocking devices associated with guards - Principles for design and selection | EN ISO 14119 | - |

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IEC 62840-2

Edition 1.0 2016-10

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Electric vehicle battery swap system –
Part 2: Safety requirements**

**Système d'échange de batterie de véhicule électrique –
Partie 2: Exigences de sécurité**

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ELECTROTECHNICAL
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INTERNATIONALE

ICS 43.120

ISBN 978-2-8322-3632-1

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ELECTRIC VEHICLE BATTERY SWAP SYSTEM –**Part 2: Safety requirements**

FOREWORD

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International Standard IEC 62840-2 has been prepared by IEC technical committee 69: Electric road vehicles and electric industrial trucks.

The text of this standard is based on the following documents:

| FDIS | Report on voting |
|-------------|------------------|
| 69/420/FDIS | 69/433/RVD |

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

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

This standard is to be read in conjunction with IEC 62840-1:2016.