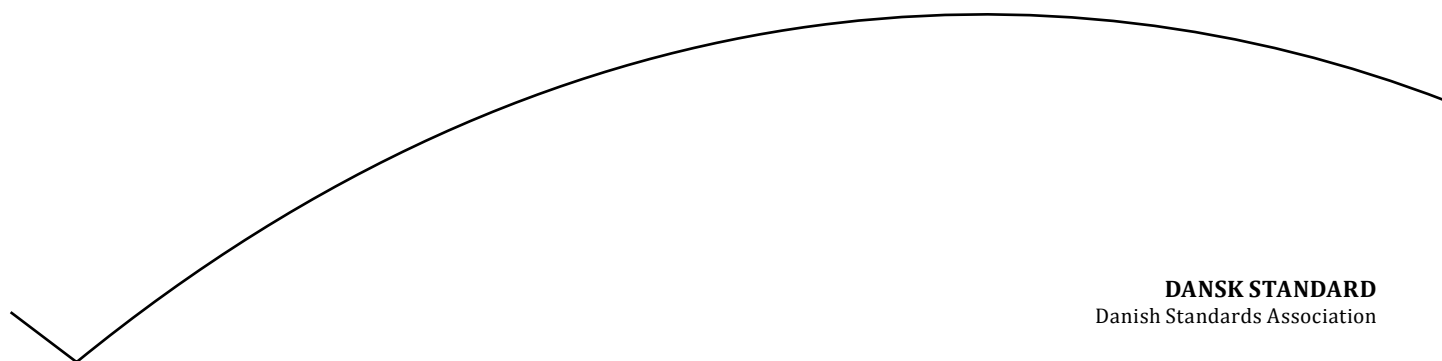


Elektriske lavspændingsinstallationer – Del 7-722: Bestemmelser for særlige installationer eller områder – Forsyninger til elkøretøjer

Low-voltage electrical installations – Part 7-722: Requirements for special installations or locations – Supplies for electric vehicles



DANSK STANDARD
Danish Standards Association

Göteborg Plads 1
DK-2150 Nordhavn

Tel: +45 39 96 61 01

Tel: +45 39 96 61 01

dansk.standard@ds.dk

www.ds.dk

DS projekt: M319374
ICS: 43.120; 91.140.50

Første del af denne publikations betegnelse er:

DS/HD, hvilket betyder, at det er en europæisk harmoniseringsdokument, der har status som dansk standard.

Denne publikations overensstemmelse er:

IDT med: IEC 60364-7-722:2018

IDT med: HD 60364-7-722:2018

DS-publikationen er på engelsk.

Denne publikation erstatter: [DS/HD 60364-7-722:2016](#)

DS-publikationstyper

Dansk Standard udgiver forskellige publikationstyper.

Typen på denne publikation fremgår af forsiden.

Der kan være tale om:

Dansk standard

- standard, der er udarbejdet på nationalt niveau, eller som er baseret på et andet lands nationale standard, eller
- standard, der er udarbejdet på internationalt og/eller europæisk niveau, og som har fået status som dansk standard

DS-information

- publikation, der er udarbejdet på nationalt niveau, og som ikke har opnået status som standard, eller
- publikation, der er udarbejdet på internationalt og/eller europæisk niveau, og som ikke har fået status som standard, fx en teknisk rapport, eller
- europæisk præstandard

DS-håndbog

- samling af standarder, eventuelt suppleret med informativt materiale

DS-hæfte

- publikation med informativt materiale

Til disse publikationstyper kan endvidere udgives

- tillæg og rettelsesblade

DS-publikationsform

Publikationstyperne udgives i forskellig form som henholdsvis

- fuldtekstpublikation (publikationen er trykt i sin helhed)
- godkendelsesblad (publikationen leveres i kopi med et trykt DS-omslag)
- elektronisk (publikationen leveres på et elektronisk medie)

DS-betegnelse

Alle DS-publikationers betegnelse begynder med DS efterfulgt af et eller flere præfikser og et nr., fx **DS 383**, **DS/EN 5414** osv. Hvis der efter nr. er angivet et **A** eller **Cor**, betyder det, enten at det er et **tillæg** eller et **rettelsesblad** til hovedstandard, eller at det er indført i hovedstandard.

DS-betegnelse angives på forsiden.

Overensstemmelse med anden publikation:

Overensstemmelse kan enten være IDT, EQV, NEQ eller MOD

- **IDT:** Når publikationen er identisk med en given publikation.
- **EQV:** Når publikationen teknisk er i overensstemmelse med en given publikation, men præsentationen er ændret.
- **NEQ:** Når publikationen teknisk eller præsentationsmæssigt ikke er i overensstemmelse med en given standard, men udarbejdet på baggrund af denne.
- **MOD:** Når publikationen er modificeret i forhold til en given publikation.

This is a preview of "DS/HD 60364-7-722:20...". Click here to purchase the full version from the ANSI store.

HARMONISIERUNGSDOKUMENT

December 2018

ICS 43.120; 91.140.50

Supersedes HD 60364-7-722:2016

English Version

Low-voltage electrical installations - Part 7-722: Requirements
for special installations or locations - Supplies for electric
vehicles
(IEC 60364-7-722:2018 , modified)

Installations électriques à basse tension - Partie 7-722:
Exigences pour les installations et emplacements spéciaux
- Alimentation des véhicules électriques
(IEC 60364-7-722:2018 , modifiée)

Errichten von Niederspannungsanlagen - Teil 7-722:
Anforderungen für Betriebsstätten, Räume und Anlagen
besonderer Art - Stromversorgung von Elektrofahrzeugen
(IEC 60364-7-722:2018 , modifiziert)

This Harmonization Document was approved by CENELEC on 2018-08-27. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for implementation of this Harmonization Document at national level.

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

This Harmonization Document exists in three official versions (English, French, German).

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, Serbia, 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: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 64/2285/FDIS, future edition 2 of IEC 60364-7-722, prepared by IEC/TC 64 "Electrical installations and protection against electric shock" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as HD 60364-7-722:2018.

A draft amendment, which covers common modifications to IEC 60364-7-722 (64/2285/FDIS), was prepared by CLC/TC 64, "Electrical installations and protection against electric shock" and approved by CENELEC.

The following dates are fixed:

- latest date by which this document has to be (dop) 2019-08-27
implemented at national level by publication
of an identical national standard or by
endorsement
- latest date by which the national standards (dow) 2021-08-27
conflicting with this document have to be
withdrawn

HD 60364-7-722:2018 supersedes HD 60364-7-722:2016.

Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 60364-7-722:2018 are prefixed "Z".

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC 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.

This is a preview of "DS/HD 60364-7-722:20...". Click here to purchase the full version from the ANSI store.

Endorsement notice

The text of the International Standard IEC 60364-7-722:2018 was approved by CENELEC as a European Standard with agreed common modifications.

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

IEC 60309-4:2006	NOTE Harmonized as EN 60309-4:2007 (modified).
IEC 60364-5-51:2005	NOTE Harmonized as HD 60364-5-51:2009 (modified).
IEC 60364-5-53	NOTE Harmonized as HD 60364-5-53.
IEC 61557-9	NOTE Harmonized as EN 61557-9.
ISO 17409:2015	NOTE Harmonized as EN ISO 17409:2017 (not modified).

COMMON MODIFICATION

722.53 Selection and erection of electrical equipment-Isolation, switching and control

This title is modified as: *Selection and erection of electrical equipment – Switchgear and controlgear.*

722.530.3 General and common requirements

This subclause is renumbered as Subclause 722.530.4.

722.530.3.101

This subclause is renumbered as Subclause 722.530.4.101.

722.530.3.102

This subclause is renumbered as Subclause 722.530.4.102.

722.531 Devices for protection against indirect contact by automatic disconnection of supply

This title is modified as: *Devices for protection against electric shock by automatic disconnection of the supply*

722.531.2 Residual current protective devices

This clause is renumbered as clause 722.531.3: and its title is modified as: *Residual current devices (RCDs)*

722.531.2.101

This subclause is renumbered as Subclause 722.531.3.101.

In the NOTE, replace 722.531.2.101 by 722.531.3.101.

722.531.2.1.1

This subclause is renumbered as Subclause 722.531.3.1.

Replace the contents of this subclause by:

The first paragraph is replaced by:

RCD shall disconnect all live conductors.

This is a preview of "DS/HD 60364-7-722:20...". Click here to purchase the full version from the ANSI store.

722.531.3 Insulation monitoring device

This subclause is renumbered as Subclause 722.538.1: and its title is modified as: *Insulation monitoring devices for IT systems (IMD)*.

722.531.3.101

This subclause is renumbered as Subclause 722.538.1.101

722.535 Co-ordination of various protective devices

This subclause is renumbered as Subclause 722.536 and the title is modified as: *Coordination of electric equipment for protection, isolation, switching and control*.

722.535.3 Discrimination between residual current protective devices

This subclause is renumbered as Subclause 722.536.4.1.4.1, the title is modified as: *General requirements*.

Replace the contents of this subclause by:

Add the following:

Where required for service reasons, selectivity shall be maintained between the RCD protecting a connecting point and an RCD installed upstream

722.551.7.2

Replace the contents of this subclause by:

Item ii) is replaced by

ii) the socket-outlet or vehicle connector shall comply with EN 62196 series; and

This is a preview of "DS/HD 60364-7-722:20...". Click here to purchase the full version from the ANSI store.

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 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 60269	series	Low-voltage fuses	HD 60269	series
IEC 60309-1	1999	Plugs, socket-outlets and couplers for industrial purposes - Part 1: General requirements	EN 60309-1	1999
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	series	Low-voltage electrical installations	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	2017
+A1	2017		+A11	2017
IEC 60364-8-2 ¹	-	Low-voltage electrical installations - Part 8-2: Prosumer's low-voltage electrical installations	HD 60364-8-2 ²	-
IEC 60898	series	Electrical accessories - Circuit-breakers for overcurrent protection for household and similar installations	-	-
IEC 60947-2	-	Low voltage switchgear and controlgear - Part 2: Circuit-breakers	EN 60947-2	-
IEC 60947-6-2	-	Low-voltage switchgear and controlgear - Part 6-2: Multiple function equipment - Control and protective switching devices (or equipment) (CPS)	EN 60947-6-2	-
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	-
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	-

¹ Under preparation. Stage at the time of publication IEC RFDIS 60364-8-2:2018.

² At draft stage.

This is a preview of "DS/HD 60364-7-722:20...". Click here to purchase the full version from the ANSI store.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61557-8	-	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	-
IEC 61558-2-4	-	Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V - Part 2-4: Particular requirements and tests for isolating transformers and power supply units incorporating isolating transformers	EN 61558-2-4	-
IEC 61851	series	Electric vehicle conductive charging system	EN 61851	series
IEC 61980	series	Electric vehicle wireless power transfer (WPT) systems	EN 61980/ CLC/TS 61980	series
IEC 62196	series	Plugs, socket-outlets, vehicle connectors and vehicle inlets - Conductive charging of electric vehicles	EN 62196	series
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 62196-3	-	Plugs, socket-outlets, vehicle connectors and vehicle inlets - Conductive charging of electric vehicles - Part 3: Dimensional compatibility and interchangeability requirements for d.c. and a.c./d.c. pin and contact-tube vehicle couplers	EN 62196-3	-
IEC/TS 62196-4	-	Plugs, socket-outlets, vehicle connectors and vehicles inlet - Conductive charging of electric vehicles - Part 4: Dimensional compatibility and interchangeability requirements for d.c. pin and contact-tube accessories for class II or class III applications		-
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 62955	-	Residual direct current detecting device (RDC-DD) to be used for mode 3 charging of electric vehicles	-	-

This is a preview of "DS/HD 60364-7-722:20...". Click here to purchase the full version from the ANSI store.

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 Harmonization Document.

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

<u>Clause</u>	<u>Special national condition</u>
722.1	In Norway , the requirements of this part of HD 60364 do not apply to circuits intended to supply energy to electric vehicles where the rated charging current is less or equal to 5 A.
722.3.3	In Germany , definition 722.3.3 is deleted
722.31	In Germany , following note apply NOTE: In Germany see also the requirements of the DSO regarding unsymmetric load.
722.311	In Germany , the following note is deleted: Note: For this application the demand factor of the final circuit supplying the connecting point (e.g. the socket-outlet) is equal to 1
722.314.101	In Norway , where a connecting point for private use shall be installed in an existing installation, e.g. for a dwelling or similar locations, an existing circuit may be used for such purpose, provided the risk is accepted by the installation owner.
722.415.2	In France , a new subclause is added: For outdoor installations, this additional protection shall also be installed taking into account the risk of simultaneous access to extraneous exposed conductive parts.
722.512.2.101	In Germany , where the connection point is installed outdoors, the equipment shall be selected with a degree of protection of at least IPX4 in order to protect against water splashes
722.512.2.102	In Germany , Where the connecting point is installed outdoors, the equipment shall be selected or provided with a degree of protection of at least IP4X in order to protect against the ingress of small objects
722.512.2.103	In Germany , equipment installed in public areas and car park sites shall be protected against mechanical damage (impact of medium severity). Protection of the equipment shall be afforded by one or more of the following: – the position or location shall be selected to avoid damage by any reasonably foreseeable impact; – local or general mechanical protection shall be provided.
722.531.2.101	In Norway , RCDs protecting each connecting point in accordance to 722.411.3.3 shall comply at least with the requirements of RCD type B and a rated residual operating current not exceeding 30 mA.
722.55.101.1	In Norway , where the connecting point is a: - socket-outlet, it shall be in accordance with EN 60309-2 or EN 62196-2, and - vehicle connector, it shall be in accordance EN 62196-1

This is a preview of "DS/HD 60364-7-722:20...". [Click here to purchase the full version from the ANSI store.](#)

<u>Clause</u>	<u>Special national condition</u>
722.55.101.1	In Switzerland , for charging currents of more than 8 A (2 kVA), the use of plugs and socket-outlets according to EN 60309-2 is recommended for Mode 1 and Mode 2 connections.
722.55.101.3	In Germany , 722.55.101.3 does not apply.
722.55.103	In Norway , EV charging stations shall be located in such a distance from any "Ex-zone" that charging cannot take place inside the EX-zone.
722.55.104	In Norway , where the connecting point is intended to be connected by an in-cable control box, the connection point shall be provided with means to fasten the in-cable control box in order to offload the mechanical stresses on the contacts in the socket-outlet due to the weight of the in-cable control box.

This is a preview of "DS/HD 60364-7-722:20...". Click here to purchase the full version from the ANSI store.

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 CENELEC national member.

This Harmonization Document does not fall under any Directive of the EC.

In the relevant CENELEC countries these A-deviations are valid instead of the provisions of the Harmonization Document until they have been removed.

<u>Clause</u>	<u>Deviation</u>
---------------	------------------

Austria

Regulations for electrical low voltage installations, statutory order BGBl. II/223/2010, issued 12. July 2010

722.411.3.3	See for AT Subclause 722.415.1.
-------------	---------------------------------

722.415.1	To add the subclause and the following text
-----------	---

Except circuits protected by electrical separation (see 722.413), circuits supplying connection points shall be additionally protected by RCDs having a rated residual operating current not exceeding 30 mA. Devices selected shall disconnect all live conductors including the neutral (see 722.531.2). The function of fault protection for the circuit shall be fulfilled separately

722.512.2.101	To add the following text:
---------------	----------------------------

In case of the plug (according to national standards or IEC 60884-1) is plugged in and a degree of protection of IPX4 cannot be reached additional measures shall be provided to protect the connecting point against splashing water from all directions.

France

722	In France, special requirements apply (Décret n°2017-26 du 12 janvier 2017)
-----	---

722.55.101.1	In France according "Décret 2017-26 du 12 Janvier 2017 » for each connecting point, related to the delivery point of a building, until 32A socket-outlet or vehicle connector shall be provided with shutter.
--------------	---

Spain

722	In Spain, according to the Royal Decree 1053/2014, special requirements apply to the electrical installations for the supply of electric vehicles.
-----	--

722.443.4	In Spain, according to the Royal Decree 1053/2014, Clause 6.4 of the ITC-BT-52, all the circuits intended to supply energy to electric vehicles must be protected against transient and temporary overvoltages.
-----------	---

This is a preview of "DS/HD 60364-7-722:20...". Click [here](#) to purchase the full version from the ANSI store.

This is a preview of "DS/HD 60364-7-722:20...". Click here to purchase the full version from the ANSI store.



Edition 2.0 2018-09

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Low-voltage electrical installations –
Part 7-722: Requirements for special installations or locations – Supplies for
electric vehicles**

**Installations électriques à basse tension –
Partie 7-722: Exigences pour les installations et emplacements spéciaux –
Alimentation des véhicules électriques**

This is a preview of "DS/HD 60364-7-722:20...". Click here to purchase the full version from the ANSI store.



THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2018 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

IEC Catalogue - webstore.iec.ch/catalogue

The stand-alone application for consulting the entire bibliographical information on IEC International Standards, Technical Specifications, Technical Reports and other documents. Available for PC, Mac OS, Android Tablets and iPad.

IEC publications search - webstore.iec.ch/advsearchform

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and also once a month by email.

Electropedia - www.electropedia.org

The world's leading online dictionary of electronic and electrical terms containing 21 000 terms and definitions in English and French, with equivalent terms in 16 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary

67 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: sales@iec.ch.

A propos de l'IEC

La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC

Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Catalogue IEC - webstore.iec.ch/catalogue

Application autonome pour consulter tous les renseignements bibliographiques sur les Normes internationales, Spécifications techniques, Rapports techniques et autres documents de l'IEC. Disponible pour PC, Mac OS, tablettes Android et iPad.

Recherche de publications IEC - webstore.iec.ch/advsearchform

La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études,...). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Just Published - webstore.iec.ch/justpublished

Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et aussi une fois par mois par email.

Electropedia - www.electropedia.org

Le premier dictionnaire en ligne de termes électroniques et électriques. Il contient 21 000 termes et définitions en anglais et en français, ainsi que les termes équivalents dans 16 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

Glossaire IEC - std.iec.ch/glossary

67 000 entrées terminologiques électrotechniques, en anglais et en français, extraites des articles Termes et Définitions des publications IEC parues depuis 2002. Plus certaines entrées antérieures extraites des publications des CE 37, 77, 86 et CISPR de l'IEC.

Service Clients - webstore.iec.ch/csc

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: sales@iec.ch.

This is a preview of "DS/HD 60364-7-722:20...". Click here to purchase the full version from the ANSI store.



Edition 2.0 2018-09

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Low-voltage electrical installations –
Part 7-722: Requirements for special installations or locations – Supplies for
electric vehicles**

**Installations électriques à basse tension –
Partie 7-722: Exigences pour les installations et emplacements spéciaux –
Alimentation des véhicules électriques**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 43.120; 91.140.50

ISBN 978-2-8322-6035-7

Warning! Make sure that you obtained this publication from an authorized distributor. Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.
--

CONTENTS

FOREWORD.....	3
INTRODUCTION.....	5
722 Supplies for electric vehicles	6
722.1 Scope	6
722.2 Normative references	6
722.3 Terms and definitions	7
722.31 Purposes, supplies and structure	8
722.311 Maximum demand and diversity	8
722.312 Conductor arrangement and system earthing	9
722.314 Division of installation.....	9
722.4 Protection for safety	9
722.41 Protection against electric shock.....	9
722.411 Protective measure: automatic disconnection of supply	9
722.413 Protective measure: electrical separation	10
722.44 Protection against voltage disturbances and electromagnetic disturbances.....	10
722.443 Protection against transient overvoltages of atmospheric origin or due to switching	10
722.444 Measures against electromagnetic influences.....	10
722.5 Selection and erection of electrical equipment.....	10
722.51 Common rules	10
722.511 Compliance with standards	10
722.512 Operational conditions and external influences.....	11
722.53 Selection and erection of electrical equipment – Isolation, switching and control.....	11
722.530 Introduction	11
722.531 Devices for protection against indirect contact by automatic disconnection of supply	11
722.533 Devices for protection against overcurrent	12
722.535 Co-ordination of various protective devices	13
722.54 Earthing arrangements and protective conductors	13
722.543 Protective conductors	13
722.55 Other equipment.....	13
722.551 Low voltage generating sets	14
722.6 Verification	14
Annex A (informative) List of notes concerning certain countries	16
Bibliography	25

This is a preview of "DS/HD 60364-7-722:20...". [Click here to purchase the full version from the ANSI store.](#)

INTERNATIONAL ELECTROTECHNICAL COMMISSION

LOW-VOLTAGE ELECTRICAL INSTALLATIONS –

Part 7-722: Requirements for special installations or locations – Supplies for electric vehicles

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.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60364-7-722 has been prepared by IEC technical committee 64: Electrical installations and protection against electric shock.

This second edition cancels and replaces the first edition published in 2015. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) introduction of requirements for electrical installations incorporating wireless power transfer systems;
- b) clarification of the requirements regarding the protective measure placing out of reach in order to allow the use of pantographs in areas accessible to the public;
- c) introduction of requirements covering the case where the EV may operate as a source in parallel with other sources.

This is a preview of "DS/HD 60364-7-722:20...". [Click here to purchase the full version from the ANSI store.](#)

The text of this International Standard is based on the following documents:

FDIS	Report on voting
64/2285/FDIS	64/2318/RVD

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

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

A list of all parts in the IEC 60364 series, published under the general title *Low voltage electrical installations*, can be found on the IEC website.

The reader's attention is drawn to the fact that Annex A lists all of the "in-some-country" clauses on differing practices of a less permanent nature relating to the subject of this standard.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

This is a preview of "DS/HD 60364-7-722:20...". [Click here to purchase the full version from the ANSI store.](#)

INTRODUCTION

For the purpose of this part of IEC 60364 (IEC 60364-7-722) the requirements of the general Parts 1 to 6 of IEC 60364 apply.

The IEC 60364-7-7XX parts of IEC 60364 contain particular requirements for special installations or locations which are based on the requirements of the general parts of IEC 60364 (IEC 60364-1 to IEC 60364-6). These IEC 60364-7-7XX parts are considered in conjunction with the requirements of the general parts.

The particular requirements of this part of IEC 60364 supplement, modify or replace certain of the requirements of the general parts of IEC 60364 being valid at the time of publication of this part. The absence of reference to the exclusion of a part or a clause of a general part means that the corresponding clauses of the general part are applicable (undated reference).

Requirements of other 7XX parts being relevant for installations covered by this part also apply. This part may therefore also supplement, modify or replace certain of these requirements valid at the time of publication of this part.

The clause numbering of this part follows the pattern and corresponding references of IEC 60364. The numbers following the particular number of this part are those of the corresponding parts, or clauses of the other parts of the IEC 60364 series, valid at the time of publication of this part, as indicated in the normative references of this document (dated reference).

If requirements or explanations additional to those of the other parts of the IEC 60364 series are needed, the numbering of such items appears as 722.101, 722.102, 722.103, etc.

In the case where new or amended general parts with modified numbering were published after this part was issued, the clause numbers referring to a general part in this Part 722 may no longer align with the latest edition of the general part. Dated references should be observed.

LOW-VOLTAGE ELECTRICAL INSTALLATIONS –

Part 7-722: Requirements for special installations or locations – Supplies for electric vehicles

722 Supplies for electric vehicles

722.1 Scope

The particular requirements of this document apply to

- circuits intended to supply energy to electric vehicles, and
- circuits intended for feeding back electricity from electric vehicles.

Circuits covered by this document are terminated at the connecting point.

NOTE 1 The requirements for EV supply equipment for conductive charging and the relevant charging modes are described in IEC 61851 (all parts). The requirements for EV supply equipment for wireless power transfer are described in IEC 61980 (all parts).

NOTE 2 This document does not cover the assessment of the risk of explosion due to the possible production of hydrogen/other flammable gases during the battery recharging phase.

722.2 Normative references

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.

IEC 60269 (all parts), *Low voltage fuses*

IEC 60309-1:1999, *Plugs, socket-outlets and couplers for industrial purposes – Part 1: General requirements*

IEC 60309-2, *Plugs, socket-outlets and couplers for industrial purposes – Part 2: Dimensional interchangeability requirements for pin and contact-tube accessories*

IEC 60364 (all parts), *Low-voltage electrical installations*

IEC 60364-4-41:2005, *Low-voltage electrical installations – Part 4-41: Protection for safety – Protection against electric shock*

IEC 60364-4-41:2005/AMD1:2017

IEC 60364-8-2, *Low-voltage electrical installations – Part 8-2: Prosumer's low-voltage electrical installations*¹

IEC 60898 (all parts), *Electrical accessories – Circuit-breakers for overcurrent protection for household and similar installations*

IEC 60947-2, *Low-voltage switchgear and controlgear – Part 2: Circuit-breakers*

¹ Under preparation. Stage at the time of publication IEC RFDIS 60364-8-2:2018.

This is a preview of "DS/HD 60364-7-722:20...". [Click here to purchase the full version from the ANSI store.](#)

IEC 60947-6-2, *Low-voltage switchgear and controlgear – Part 6-2: Multiple function equipment – Control and protective switching devices (or equipment) (CPS)*

IEC 61008-1, *Residual current circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs) – Part 1: General rules*

IEC 61009-1, *Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBOs) – Part 1: General rules*

IEC 61557-8, *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*

IEC 61558-2-4, *Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V – Part 2-4: Particular requirements and tests for isolating transformers and power supply units incorporating isolating transformers*

IEC 61851 (all parts), *Electric vehicle conductive charging system*

IEC 61980 (all parts), *Electric vehicle wireless power transfer (WPT) systems*

IEC 62196 (all parts), *Plugs, socket-outlets, vehicle connectors and vehicle inlets – Conductive charging of electric vehicles*

IEC 62196-1, *Plugs, socket-outlets, vehicle connectors and vehicle inlets – Conductive charging of electric vehicles – Part 1: General requirements*

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*

IEC 62196-3, *Plugs, socket-outlets, vehicle connectors and vehicle inlets – Conductive charging of electric vehicles – Part 3: Dimensional compatibility and interchangeability requirements for d.c. and a.c./d.c. pin and contact-tube vehicle couplers*

IEC TS 62196-4, *Plugs, socket-outlets, vehicle connectors and vehicles inlet – Conductive charging of electric vehicles – Part 4: Dimensional compatibility and interchangeability requirements for DC pin and contact-tube accessories for class II or class III applications²*

IEC 62262, *Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)*

IEC 62423, *Type F and type B residual current operated circuit-breakers with and without integral overcurrent protection for household and similar uses*

IEC 62955, *Residual direct current detecting device (RDC-DD) to be used for mode 3 charging of electric vehicle*

² Under preparation. Stage at the time of publication IEC TS BPUB 62196-4:2018.