SVENSK STANDARD

SS-EN IEC 61980-2, utg 1:2024

Fastställd	Sida	Ansvarig kommitté
2024-02-21	1 (97)	SEK TK 69

System för trådlös energiöverföring för elfordon – Del 2: Särskilda fordringar på kommunikation och händelser i system med trådlös energiöverföring

Electric vehicle wireless power transfer (WPT) systems – Part 2: Specific requirements for MF-WPT system communication and activities

Som svensk standard gäller europastandarden EN IEC 61980-2:2023. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 61980-2:2023.

Nationellt förord

Europastandarden EN IEC 61980-2:2023

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 61980-2, First edition, 2023 - Electric vehicle wireless power transfer (WPT) systems – Part 2: Specific requirements for MF-WPT system communication and activities**

utarbetad inom International Electrotechnical Commission, IEC.

ICS 43.120.00

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Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 61980-2

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Supersedes CLC IEC/TS 61980-2:2020

English Version

Electric vehicle wireless power transfer (WPT) systems - Part 2: Specific requirements for MF-WPT system communication and activities (IEC 61980-2:2023)

Systèmes de transfert de puissance sans fil (WPT) pour véhicules électriques - Partie 2: Exigences spécifiques pour la communication et les activités des systèmes MF-WPT (IEC 61980-2:2023)

Kontaktlose Energieübertragungssysteme (WPT) für Elektrofahrzeuge - Teil 2: Besondere Anforderungen an die Kommunikation und Aktivitäten von MF-WPT-Systemen (IEC 61980-2:2023)

This European Standard was approved by CENELEC on 2023-06-07. 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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye 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

Ref. No. EN IEC 61980-2:2023 E

European foreword

The text of document 69/881/FDIS, future edition 1 of IEC 61980-2, prepared by IEC/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 61980-2:2023.

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)	2024-03-07
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2026-06-07

This document supersedes CLC IEC/TS 61980-2:2020 and all of its amendments and corrigenda (if any).

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 Standardization Request given to CENELEC by the European Commission and the European Free Trade Association.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 61980-2:2023 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 60038:2009 NOTE Approved as EN 60038:2011

ISO 15118 (series) NOTE Approved as EN ISO 15118 (series)

ISO 19363:2020 NOTE Approved as EN ISO 19363:2021 (not modified)

Annex A
(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.

Publication	Year	Title	EN/HD	Year
IEC 61980-1	-	Electric vehicle wireless power transfer (WPT) systems - Part 1: General requirements	EN IEC 61980-1	-
IEC 61980-3	2022	Electric vehicle wireless power transfer (WPT) systems - Part 3: Specific requirements for magnetic field wireless power transfer systems	EN IEC 61980-3	2022
ISO 15118-8	2020	Road vehicles - Vehicle to grid communication interface - Part 8: Physical layer and data link layer requirements for wireless communication	EN ISO 15118-8	2020
ISO 15118-20	-	Road vehicles - Vehicle to grid communication interface - Part 20: 2nd generation network layer and application layer requirements	EN ISO 15118-20	-

IEC 61980-2

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Electric vehicle wireless power transfer (WPT) systems – Part 2: Specific requirements for MF-WPT system communication and activities

Systèmes de transfert de puissance sans fil (WPT) pour véhicules électriques – Partie 2: Exigences spécifiques pour la communication et les activités des systèmes MF-WPT

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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ELECTRIC VEHICLE WIRELESS POWER TRANSFER (WPT) SYSTEMS –

Part 2: Specific requirements for MF-WPT system communication and activities

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.
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IEC 61980-2 has been prepared by IEC technical committee 69: Electrical power/energy transfer systems for electrically propelled road vehicles and industrial trucks. It is an International Standard.

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

Draft	Report on voting
69/881/FDIS	69/896/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

In this document, the following print types are used:

- compliance statement: *italic type*;
- transitions in the state diagrams for infrastructure and vehicle: **bold type**;
- states: **bold type**.

A list of all parts of the IEC 61980 series, published under the general title *Electric vehicle wireless power transfer (WPT) systems*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under 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.

IMPORTANT – The "colour inside" logo on the cover page of this document indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

The IEC 61980 series is published in separate parts according to the following structure:

– IEC 61980-1 covers general requirements for electric road vehicle (EV) wireless power transfer (WPT) systems including general background and definitions. (e.g. efficiency, electrical safety, EMC, EMF);

– IEC 61980-2 specifically applies to magnetic field wireless power transfer (MF-WPT) for electric road vehicles (EV) and covers specific system requirements including activities and communication between the electric road vehicle side and the off-board side including general background and definitions;

– IEC 61980-3 covers specific power transfer requirements for the off-board side of magnetic field wireless power transfer systems for electric road vehicles (e.g. efficiency, electrical safety, EMC, EMF).

Requirements for on-board side of MF-WPT for electric road vehicles are covered in ISO 19363.

This document has a structure that is independent of IEC 61980-1.

Reference to "technology specific parts" always refer to other parts of the IEC 61980 series.

ELECTRIC VEHICLE WIRELESS POWER TRANSFER (WPT) SYSTEMS –

Part 2: Specific requirements for MF-WPT system communication and activities

1 Scope

This part of IEC 61980 addresses communication and activities of magnetic field wireless power transfer (MF-WPT) systems.

The requirements in this document are intended to be applied for MF-WPT systems according to IEC 61980-3 and ISO 19363.

The aspects covered in this document include

– operational and functional characteristics of the MF-WPT communication system and related activities, and

– operational and functional characteristics of the positioning system.

The following aspects are under consideration for future documents:

– requirements for two- and three-wheel vehicles;

– requirements for MF-WPT systems supplying power to EVs in motion;

– requirements for bidirectional power transfer.

NOTE Any internal communication at supply device or EV device is not in the scope of this document.

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 61980-1, *Electric vehicle wireless power transfer (WPT) systems – Part 1: General requirements*

IEC 61980-3:2022, *Electric vehicle wireless power transfer (WPT) systems – Part 3: Specific requirements for magnetic field wireless power transfer systems*

ISO 15118-20, *Road vehicles – Vehicle to grid communication interface – Part 20: 2nd generation network layer and application layer requirements*

ISO 15118-8:2020, *Road vehicles – Vehicle to grid communication interface – Part 8: Physical layer and data link layer requirements for wireless communication*