IEC 61980-2

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

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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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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

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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- withdrawn,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.

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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*