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Road vehicles — Vehicle-to-grid communication interface —

Part 2: Network and application protocol requirements

*Véhicules routiers — Interface de communication entre véhicule et réseau électrique —
Partie 2: Exigences du protocole d'application et du réseau*

ICS: 43.120

This document is circulated as received from the committee secretariat.

This draft is submitted to a parallel vote in ISO and in IEC.

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 31, *Data communication*.

This second edition cancels and replaces the first edition (ISO 15118-2:2014), which has been technically revised.

The main changes compared to the previous edition are as follows:

- General corrections identified and resolved by the “ISO 15118-2 User Group” (most, if not all, of these corrections are already included in existing implementations in the field, since the underlying issues were identified during the various Testing Symposium events);
- Clarifications, to make the intended functionality more clear:
 - How to properly use the ChargingProfile;
 - Interaction between ISO 15118-2 and IEC 61851;
 - How to use multiple Contract Certificates.
- Other improvements:
 - Remove definition of certificate lifetimes, should be defined by PKI;
 - Align TCP behaviour (timeouts, retries, ...) with ISO 15118-20.

A list of all parts in the ISO 15118 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The pending energy crisis and necessity to reduce greenhouse gas emissions has led the vehicle manufacturers to a very significant effort to reduce the energy consumption of their vehicles. They are presently developing vehicles partly or completely propelled by electric energy. Those vehicles will reduce the dependency on oil, improve the global energy efficiency and reduce the total CO₂ emissions for road transportation if the electricity is produced from renewable sources. To charge the batteries of such vehicles, specific charging infra-structure is required.

Much of the standardization work on dimensional and electrical specifications of the charging infrastructure and the vehicle interface is already treated in the relevant ISO or IEC groups. However, the question of information transfer between the EV and the EVSE has not been treated sufficiently.

Such communication is necessary for the optimization of energy resources and energy production systems so that vehicles can recharge in the most economical or most energy efficient way. It is also required to develop efficient and convenient billing systems to cover the resulting micro-payments. The necessary communication channel may serve in the future to contribute to the stabilization of the electrical grid as well as to support additional information services required to operate electric vehicles efficiently and economically.