SLOVENSKI STANDARD
SIST EN ISO 15118-20:2022/A1:2026

01-oktober-2026

Cestna vozila - Komunikacijski vmesnik med vozilom in omrežjem - 20. del: Zahteve za omrežno in aplikacijsko plast druge generacije - Dopolnilo A1 (ISO 15118-20:2022/Amd 1:2026)

Road vehicles - Vehicle to grid communication interface - Part 20: 2nd generation network layer and application layer requirements - Amendment 1: AC DER service, MCS service, and improved security concept (ISO 15118-20:2022/Amd 1:2026)

Straßenfahrzeuge - Kommunikationsschnittstelle zwischen Fahrzeug und Ladestation - Teil 20: Anforderungen der 2. Generation an das Netzwerk- und Anwendungsprotokoll - Ergänzung 1 (ISO 15118-20:2022/Amd 1:2026)

Véhicules routiers - Interface de communication entre véhicule et réseau électrique - Partie 20: Exigences des couches réseau et application de 2ème génération - Amendement 1: Titre manque (ISO 15118-20:2022/Amd 1:2026)

Ta slovenski standard je istoveten z: **EN ISO 15118-20:2022/A1:2026**

ICS:

35.100.05	Večslojne uporabniške rešitve	Multilayer applications
43.040.15	Avtomobilska informatika. Vgrajeni računalniški sistemi	Car informatics. On board computer systems

SIST EN ISO 15118-20:2022/A1:2026 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 15118-20:2022/A1

July 2026

ICS 43.120

English Version

Road vehicles - Vehicle to grid communication interface - Part 20: 2nd generation network layer and application layer requirements - Amendment 1: AC DER service, MCS service, and improved security concept (ISO 15118-20:2022/Amd 1:2026)

Véhicules routiers - Interface de communication entre véhicule et réseau électrique - Partie 20: Exigences des couches réseau et application de 2ème génération - Amendement 1: Service RED en CA, service MCS et concept de sécurité amélioré (ISO 15118-20:2022/Amd 1:2026)

Straßenfahrzeuge - Kommunikationsschnittstelle zwischen Fahrzeug und Ladestation - Teil 20: Anforderungen der 2. Generation an das Netzwerk- und Anwendungsprotokoll - Ergänzung 1 (ISO 15118-20:2022/Amd 1:2026)

This amendment A1 modifies the European Standard EN ISO 15118-20:2022; it was approved by CEN on 17 May 2026.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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

Ref. No. EN ISO 15118-20:2022/A1:2026 E

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European foreword

This document (EN ISO 15118-20:2022/A1:2026) has been prepared by Technical Committee ISO/TC 22 "Road vehicles" in collaboration with Technical Committee CEN/TC 301 “Road vehicles” the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by January 2027, and conflicting national standards shall be withdrawn at the latest by January 2027.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

Any feedback and questions on this document should be directed to the users’ national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

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Endorsement notice

The text of ISO 15118-20:2022/Amd 1:2026 has been approved by CEN as EN ISO 15118-20:2022/A1:2026 without any modification.

International Standard

ISO 15118-20

Road vehicles — Vehicle to grid communication interface —

Part 20: 2nd generation network layer and application layer requirements

AMENDMENT 1: AC DER service, MCS service, and improved security concept

Véhicules routiers — Interface de communication entre véhicule et réseau électrique —

Partie 20: Exigences des couches réseau et application de 2ème génération

AMENDEMENT 1: Service RED en CA, service MCS et concept de sécurité amélioré

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2026-07

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Foreword

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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 document 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 jointly by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 31, *Data communication*, Technical Committee IEC/TC 69, *Electrical power/energy transfer systems for electrically propelled road vehicles and industrial trucks*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 301, *Road vehicles*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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.

Road vehicles — Vehicle to grid communication interface —

Part 20:
2nd generation network layer and application layer requirements

AMENDMENT 1: AC DER service, MCS service, and improved security concept

Clause 2, Normative references

Add the following references at the end of the clause:

ISO 15118-10:2025, *Road vehicles — Vehicle to grid communication interface — Part 10: Physical layer and data link layer requirements for single-pair Ethernet*

IEC 61851-23-3:2025, *Electric vehicle conductive charging system - Part 23-3: DC electric vehicle supply equipment for Megawatt charging systems*

Clause 3, Terms and definitions

Add the following terms and definitions at the end of the clause:

3.72
charge enable state
CE state
state according to the charge enable function defined in IEC 61851-23-3

3.73
megawatt charging system
MCS
charging system according to IEC 61851-23-3

3.74
area EPS
area electric power system as defined in IEEE 1547

3.75
cease to energize
cessation of active power delivery under steady-state and transient conditions and limitation of reactive power exchange

Note 1 to entry: After the cessation is over, the EV is allowed to return immediately into service without following the enter service rules.

3.76
distributed energy resource
DER
source of electric power that is not directly connected to a bulk power system

EXAMPLE Generators and energy storage technologies capable of exporting active power to the electrical grid.

Note 1 to entry: An interconnection system or a supplemental DER device that is necessary for compliance with this document is part of a DER.

3.77
enter service
set of parameters that defines how to start energizing or re-energizing the electric power system

Note 1 to entry: If voltage and frequency values are not within the desired range, the *distributed energy resource (DER)* (3.76) will not be allowed to start injecting power to the grid/electric power system.

3.78
frequency droop curve
parameterized curve of the frequency-watt function

Note 1 to entry: The parameters include a frequency dB (dead band) and a unitless factor k which defines the rate of power output change due to the frequency change. This operation limits active power generation or consumption when the line frequency deviates from nominal by a specified amount.

3.79
level 1 charging
charging with a maximum power between 1 kW and 1,8 kW, via a standard 120 Vrms AC single phase outlet

Note 1 to entry: This power limit is only applicable in the United States of America.

3.80
level 2 charging
charging with a maximum power between 3 kW and 22 kW, via a dedicated AC charger

Note 1 to entry: In the United States of America the voltage supplied is typically 240 Vrms AC whereas in Europe is 230 Vrms AC.

3.81
may trip region
region of voltage or frequency within which the EV is allowed to *cease to energize* (3.75) and to *trip* (3.88) the connection

Note 1 to entry: The region is defined by a piecewise linear curve demarcating the boundary for voltage or frequency.

3.82
momentary cessation region
region of voltage or frequency within which the EV will temporarily *cease to energize* (3.75) (inject power to) an electric power system in response to a disturbance of the applicable voltages or the system frequency

Note 1 to entry: When entering this region, the EV will retain the capability of immediate restoration of the output of operation when the applicable voltages and the system frequency return to within the defined ranges.

Note 2 to entry: The region is defined by a piecewise linear curve demarcating the boundary for voltage or frequency.

3.83
must trip region
region of voltage or frequency within which the EV must *cease to energize* (3.75) and must *trip* (3.88) the connection

Note 1 to entry: The region is defined by a piecewise linear curve demarcating the boundary for voltage or frequency.

3.84
open loop response time
time to ramp up to 90 % of the new target in response to the step change of the control input signal

3.85
permit service
setting that indicates whether a *distributed energy resource (DER)* (3.76) is allowed to enter or remain in service

3.86
return to service
enter service (3.77) following recovery from a *trip* (3.88)

3.87
ride-through
ability to withstand voltage or frequency disturbances inside defined limits and to continue operating as specified

3.88
trip
inhibition of immediate *return to service* (3.86)

Note 1 to entry: Once the *distributed energy resource (DER)* (3.76) has permission to come back to service, it shall follow the *enter service* (3.77) rules.

Clause 4, Abbreviated terms

Add the following abbreviations to the list:

CE charge enable

CL charge loop

DER distributed energy resource (in the context of AC DER)

MCS megawatt charging system

Modify the existing abbreviation DER as follows:

DER distinguished encoding rules (in the context of X.509v3 certificates)

5.2

Replace the entire subclause including its title with the following subclause:

5.2 Requirement and provision structure

This document uses the requirement structure defined here. Also, important provisions that are no requirements (“shall”), but permissions (“may”) or recommendations (“should”) use the structure defined here. A unique number identifies each individual requirement or provision defined in this document. Systematic and ordered requirement (provision) structure enables readers to find the target requirement (provision) number easily.

The following format is applied for newly added and updated requirements or provisions:

"[V2G20-"XXXX"]" "requirement/provision text", where:

— "V2G20" represents this document;

— “XXXX” represents the unique requirement or provision number consisting of four digits starting from 1 000;

— "requirement/provision text" includes the actual text of the requirement or provision.

— For purely AC DER or MCS specific requirements, an identifier is added as follows: "[V2G20-"XXXX"] [DER]" or "[V2G20-"XXXX"] [MCS]”, respectively.

EXAMPLE 1 **[V2G20-0000]** This shall/may/should be an example requirement introduced in this document.

The following format is applied for requirements taken over from ISO 15118-2 Ed.1:

[“V2G20”-"YYY"] "requirement/provision text", where:

— "V2G20" represents this document;

— “YYY” represents the unique requirement or provision number as already defined in ISO 15118-2 Ed.1;

— "requirement/provision text" is the same text as specified in ISO 15118-2 Ed.1.

EXAMPLE 2 **[V2G20-000]** This shall/may/should be an example requirement originally defined in ISO 15118-2 Ed.1.

Clause 6

Replace Figure 2 with this figure:

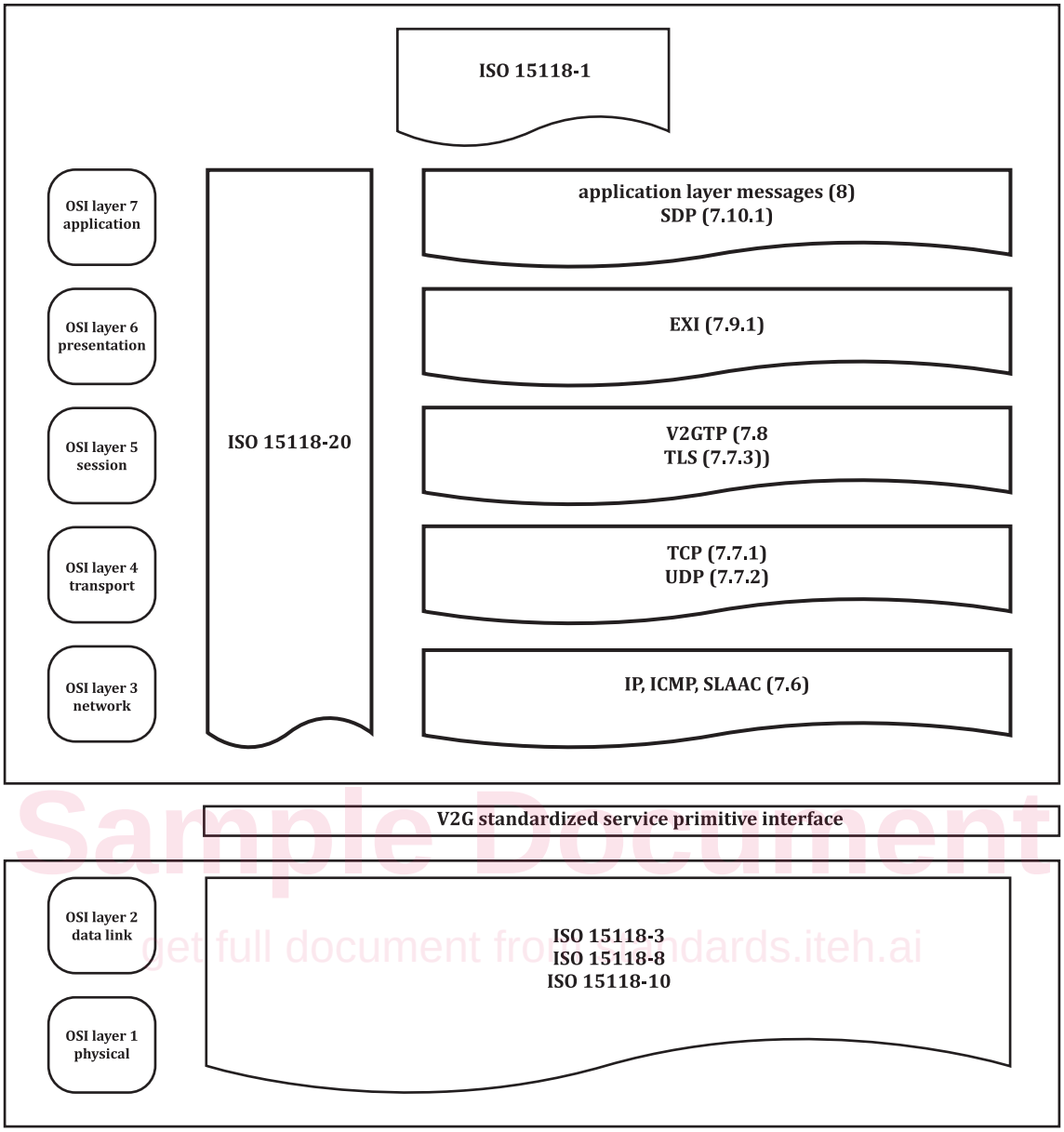

Figure 2 — Vehicle to grid communication document overview

7.3.2

Replace Table 2 with this table: