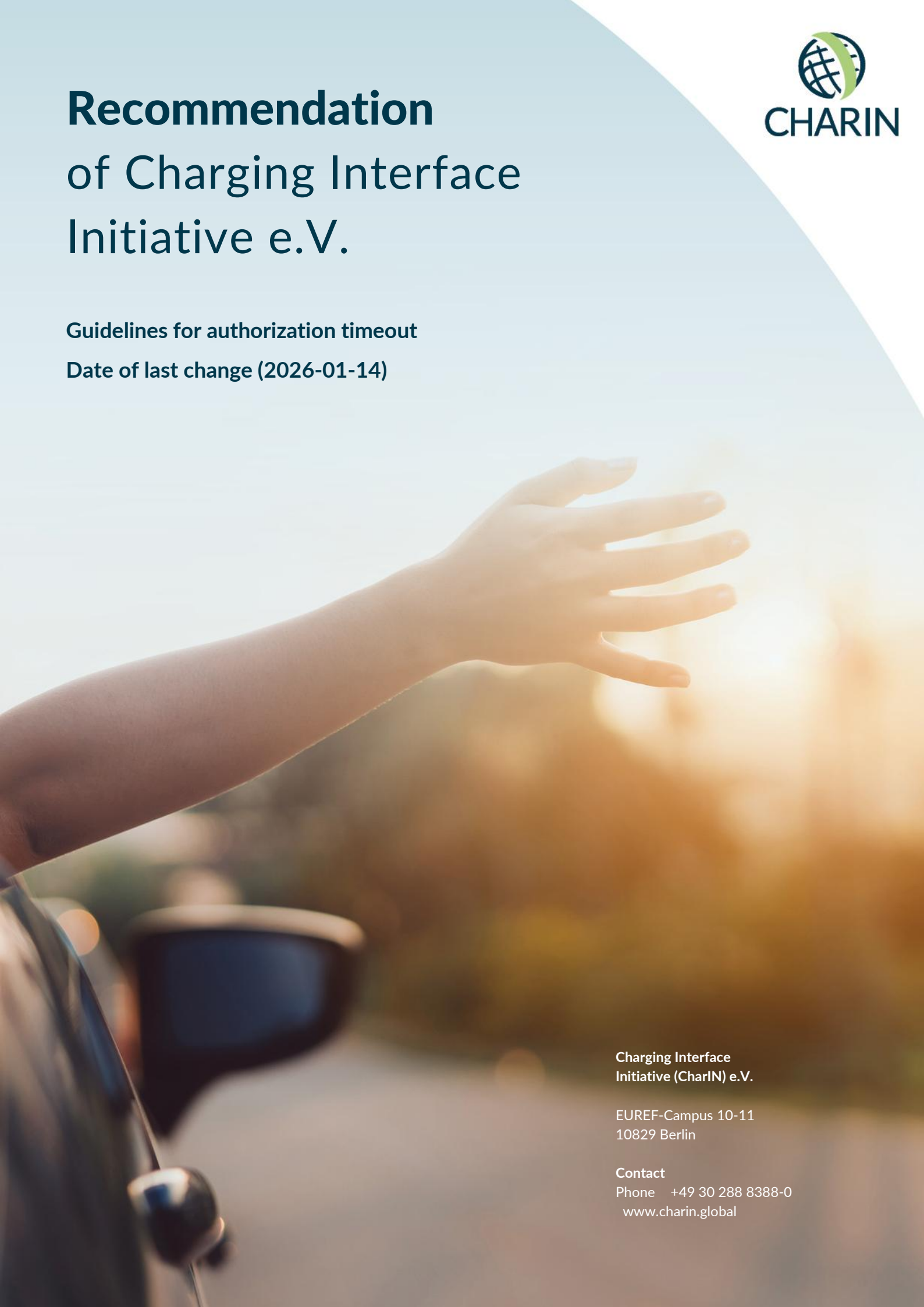


Recommendation of Charging Interface Initiative e.V.

Guidelines for authorization timeout

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Charging Interface
Initiative (CharIN) e.V.

EUREF-Campus 10-11
10829 Berlin

Contact

Phone +49 30 288 8388-0
www.charin.global



Contents

1. Introduction	3
2. Background	3
3. Recommended authorization timeout range.....	3
4. Recommendation for user-initiated Stop / Cancel function.....	4
5. Locking behavior during authorization.....	4
6. Alignment with ISO 15118-2 Edition 2 and Field experience.....	5
7. Reference	5

1. Introduction

This document provides recommendations to harmonize **authorization timeout behavior** and **user-initiated stop functionality** between Electric Vehicles (EVs) and Electric Vehicle Supply Equipment (EVSEs).

It aims to improve **interoperability** and **user experience** during the authorization phase, building upon **ISO 15118-2 Edition 2** and **field experience** collected by CharIN members.

2. Background

Field observations and interoperability testing have revealed significant variation in **authorization timeout implementations** between EVs and EVSEs.

Although ISO 15118 specifies timing parameters, real-world behavior often diverges, leading to **authorization failures** and inconsistent user experiences.

Recent field data and OEM feedback indicate that **short timeout values (e.g., 60 seconds)** are insufficient for payment confirmation or authentication, while **extended timeouts (120–300 seconds)** considerably reduce failures.

3. Recommended authorization timeout range

Parameter	Recommended Range	Reference Standards	Remarks
Authorization Timeout	120 – 300 seconds	ISO 15118-2 Ed. 2, V2G_EVCC_Ongoing_Timeout (140 s); DIN 70121, V2G_EVCC_ReadyToCharge_Timeout (150 s)	Based on field validation and extended implementations

- A minimum of 120 seconds provides sufficient time for user actions (e.g., app or card payment).
- A maximum of 300 seconds ensures flexibility for complex payment processes and improved interoperability.
- Extending beyond 300 seconds is not recommended to maintain responsiveness and avoid session uncertainty.

This recommendation represents a balanced compromise between standard alignment and field-proven performance.

4. Recommendation for user-initiated Stop / Cancel function

To enhance **user control and safety** during extended authorization periods:

- Recommendation: EVSEs and EVs should provide a “Stop” or “Cancel” function during the authorization phase.
- Expected behavior:
 - The user may abort authorization at any time.
 - Upon cancellation, the EV/EVSE shall stop communication in a standard compliant way and, where applicable, unlock the connector.
 - Following a user-initiated abort, the EVSE should send the corresponding ISO 15118-2 response message with an appropriate ResponseCode value as defined in ISO 15118-2 Ed. 2, Table 112 (for example, a FAILED_ code), so that both EV and EVSE can process the abort consistently and then orderly close the TLS session.
 - The HMI should provide clear feedback that authorization was stopped.

This feature prevents unnecessary waiting during long authorization periods and improves overall user satisfaction.

It is considered a **product design recommendation**, not a change to ISO 15118 communication requirements.

5. Locking behavior during authorization

Locking behavior differs across regional and technical contexts (e.g., detachable cables in Europe vs. fixed cables in North America).

To ensure safety and flexibility:

- No specific locking behavior is mandated by this guideline.
- However, systems should ensure that a user-initiated stop triggers in a standard compliant way the termination of authorization and, where applicable, permits cable removal.

6. Alignment with ISO 15118-2 Edition 2 and Field experience

This guideline aligns with:

- **ISO 15118-2 Edition 2:** extended authorization timing to 140 seconds.
- **DIN/TS 70121:** comparable timeout of 150 seconds.
- **Field implementations:** successful extensions to 300 seconds demonstrating improved interoperability and reduced timeout errors.

CharIN's recommendation therefore reflects both **standard compliance and field validation** to foster harmonized behavior across EV and EVSE implementations.

7. Reference

This document was created by the focus group Charging Communication and within the Subgroup of Field issues of the CharIN association.

The Focus group Charging Communication supports development, specification and tests of charging communication. It closes gaps and provides recommendations for communication protocols of the electric vehicle (EV) charging system.

The Field issues subgroup collects and analyzes real-world field issues related to charging communication. It provides feedback for continuous improvement of standards and implementations. It documents and categorizes issues to support troubleshooting and root cause analysis. It shares findings through position papers and whitepapers with other CharIN groups and standardization bodies. And it supports the development of best practices and technical recommendations.

Document Status:

This position paper represents the consensus reached within the Field issues subgroup as of November 2025. It is intended to support ongoing standardization efforts and facilitate stakeholder discussions.

Referenced Standards:

- ISO 15118-2 Ed. 2
- DIN/TS 70121

Contributors:

- Xi Zhang (EcoG)
- Peter Thompson (ChargePoint)
- Michael Schwaiger (BMW)
- Kai Rieger-Grothaus (Shell)
- Celine Rüdiger (Ferchau)
- Magnus Ilisch (Mercedes-Benz)
- George Gao (Schneider Electric)
- Fabian Eisele (Vector)
- Emmanuel Dubois (Eaton)
- Devraj Dutt (Jaguar Land Rover)
- Wenhua Cheng (Volvo Group)
- Anaïs Bonnard (CharIN e.V.)