JOINT CANADA-UNITED STATES
NATIONAL STANDARD

# ANSI/CAN/UL/ULC 338:2025

## STANDARD FOR SAFETY

# Vehicle Theft Deterrent Equipment and Systems: Electronic Immobilization System and Aftermarket Installation Requirements

ANSI/UL 338-2025

## SCC FOREWORD

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UL Standard for Safety for Vehicle Theft Deterrent Equipment and Systems: Electronic Immobilization System and Aftermarket Installation Requirements, ANSI/CAN/UL/ULC 338

Third Edition, Dated June 24, 2025

***Summary of Topics***

***This new Third edition of ANSI/CAN/UL/ULC 338, dated June 24, 2025, has been issued to reflect the latest ANSI and SCC approval dates and to incorporate the proposal dated March 28, 2025.***

The new requirements are substantially in accordance with Proposal(s) on this subject dated March 28, 2025.

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# ANSI/CAN/UL/ULC 338:2025

## Standard for Vehicle Theft Deterrent Equipment and Systems: Electronic Immobilization System and Aftermarket Installation Requirements

First Edition – May, 1998
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**Third Edition**

**June 24, 2025**

This ANSI/CAN/UL/ULC Safety Standard consists of the Third Edition.

The most recent designation of ANSI/UL 338 as an American National Standard (ANSI) occurred on June 24, 2025. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page, Preface or SCC Foreword.

This Standard has been designated as a National Standard of Canada (NSC) on June 24, 2025.

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# Preface

This is the Third Edition of ANSI/CAN/UL/ULC 338, Standard for Vehicle Theft Deterrent Equipment and Systems: Electronic Immobilization System and Aftermarket Installation Requirements.

ULSE is accredited by the American National Standards Institute (ANSI) and the Standards Council of Canada (SCC) as a Standards Development Organization (SDO).

This Standard has been developed in compliance with the requirements of ANSI and SCC for accreditation of a Standards Development Organization.

This ANSI/CAN/UL/ULC 338 Standard is under continuous maintenance, whereby each revision is approved in compliance with the requirements of ANSI and SCC for accreditation of a Standards Development Organization. In the event that no revisions are issued for a period of four years from the date of publication, action to revise, reaffirm, or withdraw the standard shall be initiated.

In Canada, there are two official languages, English and French. All safety warnings must be in French and English. Attention is drawn to the possibility that some Canadian authorities may require additional markings and/or installation instructions to be in both official languages.

This Third Edition joint American National Standard and National Standard of Canada is based on, and now supersedes, the Second Edition of ULC 338.

Comments or proposals for revisions on any part of the Standard may be submitted at any time. Proposals should be submitted via a Proposal Request in the Collaborative Standards Development System (CSDS) at https://csds.ul.com.

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This Edition of the Standard has been formally approved by the Technical Committee (TC) on Automobile Theft Deterrent Equipment and Systems, TC S300V.

This list represents the TC S300V membership when the final text in this Standard was balloted. Since that time, changes in the membership may have occurred.

**TC S300V Membership**

| NAME | AFFILIATION | CATEGORY | REGION |
|---|---|---|---|
| R. Phillips (Chair) | Vehicle Road Safety Solutions (VRSS) | General Interest | Canada |
| G. Baker | General Motors | Producer | USA |
| A. Bonilla | NYPD | Authorities Having Jurisdiction / Regulator | USA |
| N. Bradley | Missouri State Highway Patrol | Authorities Having Jurisdiction / Regulator | USA |
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This Standard is intended to be used for conformity assessment.

The intended primary application of this Standard is stated in its scope. It is important to note that it remains the responsibility of the user of the standard to judge its suitability for this particular application.

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## INTRODUCTION

### 1 Scope

1.1 The requirements of this Standard cover the following items regardless of the propulsion system used:

a) Passenger cars;

b) SUVs;

c) Light-duty trucks and vans [under 3,107 kg (6,850 pounds)];

d) Medium-duty vehicles [3,108 – 4,536 kg (6,851 – 10,000 pounds)];

e) Heavy-duty vehicles [over 4,536 kg (10,000 pounds)];

f) Heavy equipment; and

g) Motorcycles.

1.2 The requirements of this Standard do not cover the following items:

a) Aircraft;

b) Watercraft; and

c) Power sport (e.g., recreational or off-road vehicles).

1.3 Both original equipment manufacturer (OEM) systems and aftermarket systems shall meet the requirements of this Standard.

1.4 Electronic immobilization systems shall be passively armed, and once armed, they shall prevent the unauthorized movement of the vehicle under its own power.

1.5 As an optional protection mechanism, these requirements cover the addition of alarm warning functions, where permitted, to the core immobilization system in order to protect the vehicle's contents and to protect the electronic immobilization system.

1.6 An electronic immobilization system, as covered by these requirements, consists of one or more assemblies of electrical components designed to prevent the unauthorized movement of the vehicle under its own power.

1.7 A component of an electronic immobilization system or alarm warning system, where permitted, such as attachment plug, siren, horn, switch, transponder, remote transmitter, wire, etc., shall comply with the requirements for that component, except that such requirements be modified if appropriate for the particular application.

1.8 Installation of the electronic aftermarket immobilization system shall be in accordance with the system manufacturer's instructions, and any accessory parts shall be per the specifications outlined by the aftermarket manufacturer using their licensed installers that are in good standing, having met requirements of this Standard.

1.9 All aftermarket manufacturers shall demonstrate their systems meet all applicable requirements in this Standard with on-vehicle testing to verify they function as designed in accordance with this document.

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1.10 The requirements also provide a set of clear best practices and installation processes for licensed installers and installation facilities handling the installation of aftermarket immobilizers, licensed installers, and installation processes.

## 2 Units of Measurement

2.1 Values stated without parentheses are the requirements. Values in parentheses are explanatory or approximate information.

## 3 Referenced Publications

3.1 The documents shown below are referenced in the text of this Standard. Unless otherwise stated elsewhere in this Standard, such reference shall be considered to indicate the edition and/or revisions of the document available at the date on which the Committee approved this Standard.

3.2 The following publications are referenced in this Standard:

BSI PAS 1885, *The Fundamental Principles of Automotive Cyber Security. Specification (British Standard)*

ASTM B117, *Standard Practice for Operating Salt Spray (Fog) Apparatus*

ECE/TRANS/WP.29/2020/79, *UN Regulation on uniform provisions concerning the approval of vehicles with regard to cyber security and of their cybersecurity management systems*

FIPS 140-2, *Security Requirements for Cryptographic Modules*

NIST Special Publication 800-53, *Initial Public Draft, Security, and Privacy Controls for Information Systems and Organizations for secure database management*

IEC 60068-2-27, *Environmental Testing – Part 2-27: Tests – Test Ea and guidance Shock*

ISO 7637-1, *Road vehicles – Electrical disturbances from conduction and coupling – Part 1: Definitions and general considerations*

ISO 7637-3, *Road vehicles – Electrical disturbances from conduction and coupling – Part 3: Electrical transient transmission by capacitive and inductive coupling via lines other than supply lines*

ISO 10605, *Road vehicles – Test methods for electrical disturbances from electrostatic discharge*

ISO 11451-1, *Road vehicles – Vehicle test methods for electrical disturbances from narrowband radiated electromagnetic energy – Part 1: General principles and terminology*

ISO 11451-2, *Road vehicles – Vehicle test methods for electrical disturbances from narrowband radiated electromagnetic energy – Part 2: Off-vehicle radiation sources*

ISO 11451-3, *Road vehicles – Vehicle test methods for electrical disturbances from narrowband radiated electromagnetic energy – Part 3: On-board transmitter simulation*

ISO 11451-4, *Road vehicles – Vehicle test methods for electrical disturbances from narrowband radiated electromagnetic energy – Part 4: Harness excitation methods*

ISO 11452-1, *Road vehicles – Component test methods for electrical disturbances from narrowband radiated electromagnetic energy – Part 1: General principles and terminology*

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ISO 11452-2, *Road vehicles – Component test methods for electrical disturbances from narrowband radiated electromagnetic energy – Part 2: Absorber-lined shielded enclosure*

ISO 11452-3, *Road vehicles – Component test methods for electrical disturbances from narrowband radiated electromagnetic energy – Part 3: Transverse electromagnetic (TEM) cell*

ISO 11452-4, *Road vehicles – Component test methods for electrical disturbances from narrowband radiated electromagnetic energy – Part 4: Harness excitation methods*

ISO 11452-5, *Road vehicles – Component test methods for electrical disturbances from narrowband radiated electromagnetic energy – Part 5: Stripline*

ISO 11452-7, *Road vehicles – Component test methods for electrical disturbances from narrowband radiated electromagnetic energy – Part 7: Direct radio frequency (RF) power injection*

ISO/IEC 17020, *Conformity assessment – Requirements for the operation of various types of bodies performing inspection*

ISO/IEC 17065, Conformity assessment – Requirements for bodies certifying products, processes and services

ISO/SAE 21434, *Road vehicles – Cybersecurity engineering*

UN Regulation No. 155, *Uniform provisions concerning the approval of vehicles with regards to cyber security and cyber security management system*

SAE J3061, *Cybersecurity Guidebook for Cyber-Physical Vehicle Systems*

UL 2900-1, *Software Cybersecurity for Network- Connectable Products, Part 1: General Requirements*

UL 5500, *Remote Software Updates*

## 4 Glossary

4.1 For the purpose of this Standard, the following definitions apply:

4.2 ACTIVE ARMING – The intentional arming of the electronic immobilization system with direct operator intervention.

4.3 AFTERMARKET VEHICLE THEFT DETERRENT DEVICE – A vehicle theft deterrent device available for installation that was not fitted at OEM vehicle assembly.

4.4 ARM – To engage or activate the electronic immobilization system.

4.5 CAN bus – A controller area network (CAN bus) is a vehicle electrical architecture designed to allow microcontrollers and devices to communicate with each other’s applications without a host computer.

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4.6 CODE GRABBING – The unauthorized interception via a receiver of a secure disarming combination transmitted remotely by an authorized user.

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