

Alcohol interlocks - Test methods and performance requirements - Part 4: Connection and digital interface between the alcohol interlock and the vehicle

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 50436-4:2019 sisaldab Euroopa standardi EN 50436-4:2019 ingliskeelset teksti.	This Estonian standard EVS-EN 50436-4:2019 consists of the English text of the European standard EN 50436-4:2019.
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English Version

**Alcohol interlocks - Test methods and performance requirements  
- Part 4: Connection and digital interface between the alcohol  
interlock and the vehicle**

Ethylotests antidémarrage - Méthodes d'essais et exigences de performance - Partie 4: Connexion et interface numérique entre l'éthylotest antidémarrage et le véhicule

Alkohol-Interlocks - Prüfverfahren und Anforderungen an das Betriebsverhalten - Teil 4: Verbindung und digitale Schnittstelle zwischen dem Alkohol-Interlock und dem Fahrzeug

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Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

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

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## European foreword

This document (EN 50436-4:2019) has been prepared by CLC/BTTF 116-2 "Alcohol Interlocks".

The following dates are fixed:

- latest date by which this document has to be implemented (dop) 2019-12-10  
at national level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2021-12-10

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

## Introduction

The purpose of alcohol interlocks is to enhance traffic safety by preventing persons with alcohol concentrations exceeding a set limit value from driving a motor vehicle. The European Standard series EN 50436 specifies test methods and essential performance requirements for alcohol interlocks and gives guidance for decision makers, purchasers and users.

There are several areas in which alcohol interlocks may be used:

- installed in a vehicle as a general preventive measure for the promotion of traffic safety, on a voluntary base or required legally in certain vehicles (e.g. vehicles for children transport), or
- in vehicles as ordered by a court or an administrative authority as part of a drink-driving offender programme, or
- for persons subject to a medical or rehabilitation programme.

Alcohol interlocks are often intended for after-market installation. For this purpose they have to be connected to the electrical circuits of the vehicle.

This installation of an alcohol interlock shall not interfere with the proper performance of the vehicle, shall not impair the safety and security of the vehicle, and shall be as easy and as fast as possible. Additionally, the installation costs should be low in relation to the total cost of the alcohol interlock.

Therefore, it is desirable to have a standardised interface between alcohol interlocks and vehicles.

The alcohol interlock suppliers shall detail all the information that they will use/send. All used data/information shall respect the cyber security protocol and rules of the vehicle.

NOTE A new standard ISO/SAE 21434 to define requirements for cybersecurity engineering is under preparation.

All data required by the alcohol interlock from the vehicle shall be defined clearly and not be transferred outside the vehicle if this digital communication is used.

## 1 Scope

This document specifies the interface between an alcohol interlock for production and aftermarket installation and a vehicle. It details the modes of electrical connections, the assignment of electrical connection lines as well as the information to be exchanged between the vehicle and the alcohol interlock.

This document is applicable to alcohol interlocks for drink-driving-offender programmes (as in EN 50436-1) as well as to alcohol interlocks for general preventive use (as in EN 50436-2).

This document is mainly directed at manufacturers of alcohol interlocks and at vehicle manufacturers.

This document is referenced in EN 50436-7 and provides details of the preferred data bus connection suggested therein.

NOTE This standard describes the information exchange using a LIN connection.

## 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.

EN 50436-1:2014, *Alcohol interlocks – Test methods and performance requirements – Part 1: Instruments for drink-driving-offender programs*

EN 50436-2:2014, *Alcohol interlocks – Test methods and performance requirements – Part 2: Instruments having a mouthpiece and measuring breath alcohol for general preventive use*

EN 50436-7:2016, *Alcohol interlocks – Test methods and performance requirements – Part 7: Installation document*

ISO 17987:2016 (series), *Road vehicles – Local Interconnect Network (LIN)*

ISO 26262 (series), *Road vehicles – Functional safety*

## 3 Definitions

For the purposes of this document, the terms and definitions given in EN 50436-1:2014 and EN 50436-7:2016 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

### 3.1

#### **motor**

motor includes combustion engine, electric motor or hybrid power unit

### 3.2

#### **odometer**

instrument that indicates distance travelled by the vehicle

### 3.3

#### **passed breath test**

breath test for which the user provided an accepted breath sample having a breath alcohol concentration below the breath alcohol concentration limit