



NSAI
Standards

Irish Standard
I.S. EN 50436-1:2014

Alcohol interlocks - Test methods and performance requirements -- Part 1: Instruments for drink-driving-offender programs

I.S. EN 50436-1:2014

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

This document is based on:

EN 50436-1:2014

Published:

2014-01-10

*This document was published
under the authority of the NSAI
and comes into effect on:*

2014-02-14

ICS number:

43.040.10

71.040.40

NOTE: If blank see CEN/CENELEC cover page

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

EUROPEAN STANDARD

EN 50436-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2014

ICS 43.040.10; 71.040.40

Supersedes EN 50436-1:2005

English version

**Alcohol interlocks -
Test methods and performance requirements -
Part 1: Instruments for drink-driving-offender programs**

Ethylotests anti-démarrage -
Méthodes d'essais et exigences de
performance -
Partie 1: Appareils pour programmes de
lutte contre la conduite en état d'ivresse

Alkohol-Interlocks -
Prüfverfahren und Anforderungen an das
Betriebsverhalten -
Teil 1: Geräte für Programme mit
Trunkenheitsfahrern

This European Standard was approved by CENELEC on 2013-10-21. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B - 1000 Brussels

Contents

	Page
Foreword	5
Introduction	6
1 Scope	7
2 Normative references	7
3 Terms and definitions	8
4 General requirements	10
4.1 Blocking and not-blocking	10
4.2 Influence on the vehicle motor	10
4.3 Tampering	10
4.4 Concentration limit.....	10
4.5 Mouthpiece	10
4.6 Readiness	10
4.7 Data memory, download and evaluation	10
4.8 Retests	11
4.9 Recall.....	11
4.10 Override function	11
4.11 Combination with other systems	11
4.12 Communication integrity	12
4.13 Wireless communication	12
4.14 Basic functionality.....	12
5 General test methods	12
5.1 Samples	12
5.2 Preparation of alcohol interlock before testing	13
5.3 Sequence of tests.....	13
5.3.1 Alcohol interlock	13
5.3.2 Accessory devices.....	13
5.4 Normal conditions for tests.....	13
5.5 Functional test	14
6 Electrical tests	14
6.1 General.....	14
6.2 Supply voltage	15
6.3 Excess supply voltage	15
6.4 Short-circuit	15
6.5 Reversed polarity.....	15
6.6 Low-power-consumption state	15
6.7 Electrical disturbances (not applicable to parts of the alcohol interlock integrated into other vehicle systems).....	16
6.7.1 Supply lines	16

	Page
6.7.2 Lines other than supply lines	16
6.8 Electrostatic discharge	16
6.9 Electromagnetic compatibility	16
6.10 Functional test under normal conditions	17
7 Calibration curve	17
8 Durability tests	17
8.1 Temperature cycles	17
8.2 Condensed water	17
8.3 Vibrations	17
8.4 Drop test	18
9 Environmental tests	18
9.1 General	18
9.2 Temperature	18
9.3 Temperature and supply voltage	18
9.4 Temperature and humidity	19
9.5 Warm-up time	19
9.5.1 Temperature 20 °C	19
9.5.2 Temperature -5 °C	19
9.5.3 Temperature -20 °C	20
9.6 Pressure	20
9.7 Protection by enclosure	20
10 Breath sample	21
10.1 Volume	21
10.2 Flow	21
10.3 Exhalation time	21
10.4 Response time	21
11 Analytical specificity	21
11.1 Test gases	21
11.2 Cigarette smoke	22
12 Manipulation and circumvention	22
12.1 General	22
12.2 Pressurised air	23
12.3 Providing of the sample with a mouthpiece attached	23
12.4 Providing of the sample without a mouthpiece attached	23
12.5 Obstruction of the mouthpiece	24
12.6 Filter	24
12.7 Condensation	24
12.8 Water	24
12.9 Putting out of service	24
12.10 Removal of handset	25

	Page
12.11 Bypass	25
13 Timer	25
13.1 Start period	25
13.2 Restart period	26
13.3 Service reminder	26
13.4 Calibration interval	26
14 Long term behaviour	26
15 Instructions	27
15.1 Instructions for installation (applicable to alcohol interlocks for aftermarket installation only)	27
15.2 Instructions for use	27
15.3 Instructions for servicing the alcohol interlock	28
16 Test report	28
17 Labelling and marking	28
Annex A (normative) Description of events	29
Annex B (informative) Performance testing	33
Bibliography	34

Foreword

This document (EN 50436-1:2014) 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 at national level by publication of an identical national standard or by endorsement (dop) 2014-10-21
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2016-10-21

This document supersedes EN 50436-1:2005.

EN 50436-1:2014 includes the following significant technical changes with respect to EN 50436-1:2005:

- Clause 3: definitions are added for mouthpiece, data memory, supply voltage, calibration interval, service reminder, recall, manufacturer and aftermarket installation.
- Clause 4: requirements for communication integrity, wireless communication and basic functionality are added.
- Sub-clauses 5.1 and 5.3.2: accessory devices are included.
- Sub-clause 5.5: the requirement in test type 3 is modified.
- Clause 6: tests with 24 V power supply are added.
- Sub-clause 6.8: the chapter electrical discharge is added.
- Clause 7: the requirement for the calibration curve is increased.
- Clause 8: the references to basic standards are updated.
- Clause 9: the chapter for environmental tests is revised, the references to basic standards are updated, and tests for 24 V power supply are added.
- Clause 10: the chapter for breath sample with volume, flow, exhalation time and response time is revised.
- Clause 12: manipulation and circumvention is completely revised.
- Normative Annex A with requirements for the description of events is added.
- Informative Annex B with performance testing is added.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] 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. EN 50436 series specifies test methods and essential performance requirements for alcohol interlocks and gives guidance for decision makers, purchasers and users.

The content and requirements of this part of EN 50436 are based on the experience and necessities of drink driving offender programmes in different countries over several decades. Therefore, alcohol interlocks used in programmes for drink driving offenders should comply with this European Standard.

Alcohol interlocks for general preventive use are the subject of EN 50436-2. General preventive use, which concerns a much larger number of drivers and vehicles, applies to both professional and private drivers of motor vehicles.

The purpose of EN 50436 series is to specify essential performance requirements and to provide the respective test methods for available technologies. The technology of alcohol interlocks continues to evolve, and further innovations can be expected. These could be considered in new parts or revisions of this European Standard.

1 Scope

This European Standard specifies test methods and performance requirements for breath alcohol controlled alcohol interlocks. It covers alcohol interlocks intended to be used in programmes for drink driving offenders as well as in programmes monitored or controlled in a comparable way.

This European Standard is directed at test laboratories and manufacturers of alcohol interlocks. It defines requirements and test procedures for type testing.

Several parameters (such as alcohol concentration or breath volume) are specified in this European Standard for the purpose of type testing according to this standard only. However, it may be necessary due to national regulations or depending on user requests to set the values of the prescribed parameters differently when the alcohol interlocks are in use.

This European Standard also applies to alcohol interlocks integrated into other control systems of the vehicle as well as to accessory devices connected to the alcohol interlock.

This European Standard does not apply to

- alcohol interlocks intended for general preventive use (see EN 50436-2),
- instruments measuring the alcohol concentration in the ambient air in the vehicle,
- alcohol interlocks not having a mouthpiece,
- methods of installation and connections to the vehicle.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 60068-2-78, *Environmental testing – Part 2-78: Tests – Test Cab: Damp heat, steady state (IEC 60068-2-78)*

EN 60529, *Degrees of protection provided by enclosures (IP Code) (IEC 60529)*

ISO 7637-2, *Road vehicles – Electrical disturbances from conduction and coupling – Part 2: Electrical transient conduction along supply lines only*

ISO 7637-3, *Road vehicles – Electrical disturbances by 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 16750-1, *Road vehicles – Environmental conditions and testing for electrical and electronic equipment – Part 1: General*

ISO 16750-2:2010, *Road vehicles – Environmental conditions and testing for electrical and electronic equipment – Part 2: Electrical loads*

ISO 16750-3:2007, *Road vehicles – Environmental conditions and testing for electrical and electronic equipment – Part 3: Mechanical loads*

ISO 16750-4:2010, *Road vehicles – Environmental conditions and testing for electrical and electronic equipment – Part 4: Climatic loads*

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- Looking for additional Standards? Visit Intertek Inform Infostore
 - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-