SLOVENSKI STANDARD
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Alkoholne zapore - Preskusne metode in zahtevane lastnosti - 4. del: Konektorji za električno povezavo med alkoholno zaporo in vozilom

Alcohol interlocks -Test methods and performance requirements -- Part 4: Connectors for the electrical connection between the alcohol interlock and the vehicle

Alkohol-Interlocks - Prüfverfahren und Anforderungen an das Betriebsverhalten -- Teil 4: Stecker für die elektrische Verbindung zwischen dem Alkohol-Interlock und dem Fahrzeug

Alcootests électroniques anti-démarrage - Méthodes d'essai et exigences de performance -- Partie 4: Connecteurs pour connexion électrique entre l'alcootest électronique et le véhicule

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13.200	Preprečevanje nesreč in katastrof	Accident and disaster control
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ICS

English version

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This draft European Standard is submitted to CENELEC members for CENELEC enquiry. Deadline for CENELEC: 2007-09-07.

It has been drawn up by CLC/BTTF 116-2.

If this draft becomes a European Standard, 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.

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CENELEC

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

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Foreword

This draft European Standard was prepared by the CENELEC BTTF 116-2, Alcohol interlocks.

It is submitted to the CENELEC enquiry.

Contents

Introduction

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

This installation of an alcohol interlock should not interfere with the proper performance of the vehicle and should 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 standardized interface between alcohol interlocks and vehicles.

1 Scope

This European Standard is part of a series of European Standards for alcohol interlocks:

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

– EN 50436-2 [1)] Alcohol interlocks - Test methods and performance requirements - Part 2: Instruments having a mouthpiece and measuring breath alcohol for general preventive use

– EN 50436-3 [2)] Alcohol interlocks - Test methods and performance requirements - Part 3: Guidance for selection, installation, use and maintenance

This European Standard specifies the interface between an alcohol interlock for aftermarket installation and the vehicle. It details the types of the connectors as well as the assignment of the connector pins.

This European Standard is applicable to alcohol interlocks for drink-driving-offender programs as well as to alcohol interlocks for general preventive use.

This European Standard is mainly directed to manufacturers of alcohol interlocks and to vehicle manufacturers.

2 Normative references

The following referenced documents are indispensable for the application 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 50436-1:2005, *Alcohol interlocks – Test methods and performance requirements – Part 1: Instruments for drink-driving-offender programs*

EN 50436-2 [1)], *Alcohol interlocks – Test methods and performance requirements – Part 2: Instruments having a mouthpiece and measuring breath alcohol for general preventive use*

Connector Catalog, *United States Council for Automotive Research (USCAR), Electrical Wiring Component Applications Partnership (EWCAP), http://ewcap.uscarteams.org/ConnectorCatalog.htm.*

3 Definitions

For the purposes of this document, the terms and definitions of EN 50436-1 and EN 50436-2 apply.

[1)] At draft stage. The original title 'Alcohol interlocks - Test methods and performance requirements - Part 2: Instruments measuring breath alcohol for general preventive use' has been revised after the enquiry stage.

[2)] At draft stage.

4 Connectors

The alcohol interlock shall have at the end of cable harnesses or directly at the instrument the following connectors:

– Connector 1: connector for voltage supply and starter relay,

– Connector 2: connector for information transfer between the alcohol interlock and the vehicle,

– Connector 3 (optional): connector for outputs after a certain event, for example in drink-driving-offender programs after not presenting a retest breath sample for activating the vehicle horn and/or vehicle lights.

The connectors shall have the properties given in Table 1.

Table 1 – Properties of the connectors

	Connector 1	Connector 2	Connector 3
Purpose	voltage supply	information transfer	outputs (optional)
Sealing	unsealed interface	unsealed interface	unsealed interface
Wire cross section	2,80 mm²	1,50 mm²	2,80 mm²
Plug and pin	male	male	male
Configuration	2 x 4	2 x 6	2 x 3
EWCAP type	280-U-008-2-A01	150-U-012-2-A01	280-U-006-2-A01

5 Pin assignment

5.1 Explanation

The pin assignment of the connectors has the purposes as explained in Table 2.

Table 2 – Purposes of the pin assignments

Purpose	Explanation	Connector	Pins
Output: alcohol interlock connected	Information from the alcohol interlock to the vehicle that an alcohol interlock is connected	2	1
Input: voltage supply, 12 V	Voltage supply for alcohol interlocks with 12 V nominal supply voltage to be continuously powered	1	1
Input: voltage supply, 24 V	Voltage supply for alcohol interlocks with 24 V nominal supply voltage to be continuously powered	1	2
Input: ground	Ground connection for voltage supply	1	4
Input: pre-heat, active high, 12 V	Temporary 12 V voltage supply to the alcohol interlock (for example, if the alcohol interlock is not powered as long as the vehicle is not be used, to restrict the power consumption)	1	5
Input: pre-heat, active high, 24 V	Temporary 24 V voltage supply to the alcohol interlock (for example, if the alcohol interlock is not powered as long as the vehicle is not be used, to restrict the power consumption)	1	6
Input: pre-heat, active low	Information from the vehicle to the alcohol interlock to prepare for a breath test (for example by opening or unlocking the vehicle door)	2	3
Input: ignition	Information from the vehicle to the alcohol interlock that the ignition is switched on	2	2
Input: engine run	Information from the vehicle to the alcohol interlock that the engine is running	2	4
Input: vehicle activity	Information from the vehicle to the alcohol interlock that the vehicle is moving	2	5
Input and output: starter	Connection of two external leads (for example by an internal relay in the alcohol interlock) after the delivery of an accepted breath sample with an alcohol concentration below the limit value for allowing the start of the vehicle motor by activating the starter relay	1	3, 7
Input and output: horn	Connection of two external leads (for example by an internal relay in the alcohol interlock) after a certain event (for example in drink-driving-offender programs for activating the vehicle horn after not presenting a retest breath sample)	3	1, 4
Input and output: lights	Connection of two external leads (for example by an internal relay in the alcohol interlock) after a certain event (for example in drink-driving-offender programs for activating the vehicle lights after not presenting a retest breath sample)	3	2, 5

5.2 Connector pin lists

The pins in the connectors 1, 2 and 3 shall have the respective assignments given in Tables 3, 4 and 5.

"Input" means an input from the vehicle to the alcohol interlock. "Output" means an output from the alcohol interlock to the vehicle.

Table 3 – Pin assignment of the connector 1

Pin	Purpose	Details	Pin	Purpose	Details
1	Input: voltage supply, 12 V	+ 12 V, max. 10 A (terminal 30)	5	Input: pre-heat, active high, 12 V	Preheat off: low Preheat on: + 12 V, max. 10 A
2	Input: voltage supply, 24 V	+ 24 V, max. 10 A (terminal 30)	6	Input: pre-heat, active high, 24 V	Preheat off: low Preheat on: + 24 V, max. 10 A
3	Input: starter	Connection to ignition switch (terminal 50) Current max. 15 A After accepted breath sample: potential-free connection with pin 7	7	Output: starter	Connection to starter relay Current max. 15 A After accepted breath sample: potential-free connection with pin 3
4	Input: ground	0 V (terminal 31)	8	free	–