

**Elektrilise ajamiga maantee sõidukid.  
Spetsiifilised ohutusnõuded. Osa 2:  
Funktsionaalsed ohutusvahendid ja  
kaitsemeetmed tõrgete vastu.**

Electrically propelled road vehicles - Specific requirements for safety - Part 2: Functional safety means and protection against failures

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 1987-2:2000 sisaldab Euroopa standardi EN 1987-2:1997 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 11.01.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 1987-2:2000 consists of the English text of the European standard EN 1987-2:1997.</p> <p>This document is endorsed on 11.01.2000 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b></p> <p>Käesolev Euroopa standard määrab kindlaks kõik elektrilise ajamiga sõidukitesse puutuvad spetsiifilised nõuded, mis tagavad sõiduki ohutuse nii sõiduki kasutajale kui ka sõidukit ümbritsevale keskkonnale igas mõttes (jalakäijaile, keskkonna kaitsmisele heitmete eest jne.). Standard ei kehti välisesse elektrivõrku ühendatud sõidukite hooldustööde ja spetsiifiliste nõuete kohta.</p>	<p><b>Scope:</b></p>
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ICS 43.120

**Võtmesõnad:** elektrisõidukid, informatsioon, kaitsmine, konstrueerimine, maanteesõidukid, ohud, ohutusmeetmed, ohutusnõuded, tehnilised andmed, tõrge, tööomaduste hindamine, õnnetuste ennetamine, ärakasutamine

ICS 43.120

Descriptors: Road vehicles, electrically propelled vehicles, safety requirements.

**English version**

**Electrically propelled road vehicles**

Specific requirements for safety

Part 2: Functional safety means and protection against failures

Véhicules routiers à propulsion  
électrique - Prescriptions parti-  
culières pour la sécurité - Partie 2:  
Mesures de sécurité fonctionnelle et  
protection contre les défaillances

Elektrisch angetriebene Straßenfahr-  
zeuge – Besondere Festlegungen für  
die Sicherheit - Teil 2: Funktionelle  
Sicherheitsvorkehrungen und Schutz  
gegen Fehler

This European Standard was approved by CEN on 1997-05-23.

CEN 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 Central Secretariat or to any CEN member.

The European Standards exist in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

**CEN**

European Committee for Standardization  
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## Foreword

This European Standard has been prepared by Technical Committee CEN/TC 301 "Electrically propelled road vehicles", the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 1997, and conflicting national standards shall be withdrawn at the latest by December 1997.

EN 1987 consists of the following parts, under the general title "Electrically propelled road vehicles - Specific prescriptions for safety" :

- Part 1: On board energy storage;
- Part 2: Functional safety means and protection against failure;
- Part 3: Protection of users against electrical hazards.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

## **1 Scope**

This European standard specifies all requirements specific to the electrically propelled vehicles in order to remain safe both for the users of the vehicle and for the environment of the vehicle (pedestrian, nature protection against pollution etc.). This standard does not apply to maintenance operations and specific requirement for the vehicle connected to an external power supply.

This part deals with functional safety means and protection against failures, thus defining the minimum rules to follow in the design of the electric vehicle and the specific hazards to avoid due to the electrical drive aspects of the vehicle.

## **2 Normative references**

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

ISO 11451, Road vehicles - Electrical disturbances by narrowband radiated electromagnetic energy - Vehicle test methods.

## **3 Definitions**

For the purposes of this standard, the following definitions apply.

### **3.1 Drive system**

The drive system includes all electric traction motors and the power control units for these motors ; not the on-board electric power source, e.g. the traction battery, and not auxiliary electronic devices and converters, e.g. DC/DC/-converter, on-board charger (unless it is common with the inverter/motor controller).

### **3.2 Drive direction control**

The drive direction control is a specific device physically actuated by the driver in order to select the drive direction of the vehicle (forwards or backwards). Examples are lever or push-button switch.

### **3.3 Auxiliary functions**

The auxiliary functions are those which are common between internal combustion engine and electric vehicles, for instance lighting.

### **3.4 Auxiliary network**

The auxiliary network is the electrical circuit of lower working voltage than power circuit, supplying the auxiliary functions of the vehicle (lighting, warning, windscreen motor, etc.), and its nominal voltage is usually 12 V or 24 V.