

# SVENSK STANDARD

## SS-ISO 6469-2:2018

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### **Eldrivna vägfordon – Säkerhetskrav – Del 2: Funktionskrav (ISO 6469-2:2018, IDT)**

### **Electrically propelled road vehicles – Safety specifications – Part 2: Vehicle operational safety (ISO 6469-2:2018, IDT)**

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Vi erbjuder våra kunder allt som rör standarder och deras tillämpning. Hos oss kan du köpa alla publikationer du behöver – allt från enskilda standarder, tekniska rapporter och standardpaket till handböcker och onlinetjänster. Genom vår webbtjänst e-nav får du tillgång till ett lättnavigerat bibliotek där alla standarder som är aktuella för ditt företag finns tillgängliga. Standarder och handböcker är källor till kunskap. Vi säljer dem.

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Den internationella standarden ISO 6469-2:2018 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av ISO 6469-2:2018.

Denna standard ersätter SS-ISO 6469-2:2009, utgåva 2.

The International Standard ISO 6469-2:2018 has the status of a Swedish Standard. This document contains the official version of ISO 6469-2:2018.

This standard supersedes the Swedish Standard SS-ISO 6469-2:2009, edition 2.

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*Information about the content of the standard is available from the Swedish Standards Institute (SIS), telephone +46 8 555 520 00. Standards may be ordered from SIS, who can also provide general information about Swedish and foreign standards.*

Denna standard är framtagen av kommittén för EI- och hybridfordon, SIS/TK 517.

Har du synpunkter på innehållet i den här standarden, vill du delta i ett kommande revideringsarbete eller vara med och ta fram andra standarder inom området? Gå in på [www.sis.se](https://www.sis.se) - där hittar du mer information.



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## SS-ISO 6469-2:2018 (E)

### Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 37, *Electrically propelled vehicles*.

This third edition cancels and replaces the second edition (ISO 6469-2:2009), which has been technically revised. The main changes compared to the previous edition are as follows:

- clarification of the single-point failure definition and related measures;
- improvement of the operational safety requirements for the driving-enabled mode;
- elimination of marking requirements;
- clear requirements for connection of the vehicle to an external electric power supply;
- simplification of EMC requirements.

# Electrically propelled road vehicles — Safety specifications —

## Part 2: Vehicle operational safety

### 1 Scope

This document specifies requirements for operational safety specific to electrically propelled road vehicles, for the protection of persons inside and outside the vehicle.

NOTE 1 Relevant requirements for motorcycles and mopeds are described in ISO 13063.

This document does not provide comprehensive safety information for manufacturing, maintenance and repair personnel.

This document does not consider specific aspects of driving automation features.

NOTE 2 For definition of the term “driving automation features”, see SAE J3016.

### 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.

ISO 11451 (all parts), *Road vehicles — Vehicle test methods for electrical disturbances from narrowband radiated electromagnetic energy*

### 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

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

#### 3.1 auxiliary electric system

vehicle system, other than for vehicle propulsion, that operates on electric energy

#### 3.2 case A

connection of an *EV* (3.7) to the supply network with a plug and cable permanently attached to the *EV*

#### 3.3 case B

connection of an *EV* (3.7) to the a.c. supply network with a cable assembly detachable at both ends

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### 3.4

#### case C

connection of an *EV* (3.7) to the a.c. supply network utilizing a cable and vehicle connector permanently attached to the EV charging station

### 3.5

#### driving-enabled mode

operating mode in which the vehicle can be moved by its own propulsion system by one action

Note 1 to entry: Examples for this action are: pressure to the accelerator pedal, activation of an equivalent control, release of the brake system.

### 3.6

#### electric drive

combination of traction motor, power electronics and their associated controls for the conversion of electric to mechanical power and vice versa

### 3.7

#### electrically propelled vehicle

##### EV

vehicle with one or more *electric drive(s)* (3.6) for vehicle propulsion

### 3.8

#### fuel cell stack

assembly of two or more fuel cells that are electrically connected

### 3.9

#### fuel cell system

system, typically containing the following subsystems: *fuel cell stack* (3.8), air processing, fuel processing, thermal management, water management, and their control

### 3.10

#### fuel cell vehicle

##### FCV

*electrically propelled vehicle* (3.7) with a *fuel cell system* (3.9) as the power source for vehicle propulsion

Note 1 to entry: An FCV may also have a RESS or another power source for vehicle propulsion.

### 3.11

#### maximum working voltage

highest value of a.c. voltage (rms) or of d.c. voltage that can occur under any normal operating conditions according to the manufacturer's specifications, disregarding transients and ripples

### 3.12

#### propulsion system

combination of power source and powertrain for vehicle propulsion

### 3.13

#### rechargeable energy storage system

##### RESS

rechargeable system that stores energy for delivery of electric energy for *the electric drive* (3.6)

EXAMPLE Batteries, capacitors.

### 3.14

#### vehicle connector

part of a *vehicle coupler* (3.15) integral with or intended to be attached to the cable assembly