

**Väikelaevad. Elektrisüsteemid. Väikepinge  
alalisvoolupaigaldised (ISO 10133:2012)**

**Small craft - Electrical systems - Extra-low-voltage d.c.  
installations (ISO 10133:2012)**

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 10133:2012 sisaldab Euroopa standardi EN ISO 10133:2012 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 10133:2012 consists of the English text of the European standard EN ISO 10133:2012.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 19.12.2012.	Date of Availability of the European standard is 19.12.2012.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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ICS 47.080

Võtmesõnad: definitions, direct current installations, electrical equipment, electrical installations, low voltage installati, low-voltage installations, shipbuilding, ships, small craft, vessels,

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English Version

**Small craft - Electrical systems - Extra-low-voltage d.c.  
installations (ISO 10133:2012)**Petits navires - Systèmes électriques - Installations à très  
basse tension à courant continu (ISO 10133:2012)Kleine Wasserfahrzeuge - Elektrische Systeme -  
Kleinspannungs-Gleichstrom-(DC-)Anlagen (ISO  
10133:2012)

This European Standard was approved by CEN on 14 December 2012.

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EUROPÄISCHES KOMITEE FÜR NORMUNG**Management Centre: Avenue Marnix 17, B-1000 Brussels**

## Foreword

This document (EN ISO 10133:2012) has been prepared by Technical Committee ISO/TC 188 "Small craft".

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of an identical text or by endorsement, at the latest by June 2013, and conflicting national standards shall be withdrawn at the latest by June 2013.

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

This document supersedes EN ISO 10133:2000.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

### Endorsement notice

The text of ISO 10133:2012 has been approved by CEN as a EN ISO 10133:2012 without any modification.

## Annex ZA (informative)

### Relationship between this European Standard and the Essential Requirements of EU Directive 94/25/EC as amended by Directive 2003/44/EC

This European Standard has been prepared under a mandate given to CEN by the European Commission to provide one means of conforming to Essential Requirements of the New Approach Directive 94/25/EC as amended by 2003/44/EC.

Once this standard is cited in the Official Journal of the European Union under that Directive and has been implemented as a national standard in at least one Member State, compliance with the normative clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding Essential Requirements of that Directive and associated EFTA regulations.

**Table ZA.1 — Correspondence between this European Standard and Directive 94/25/EC as amended by Directive 2003/44/EC**

Clauses/subclauses of this European Standard	Essential requirements (ERs) of EU Directive 94/25/EC as amended by Directive 2003/44/EC	Qualifying remarks/Notes
5	Annex 1 A, 5.1.1	Relevant to battery stowage
4, 5, 6, 7, 8, 9, 10, 11, 12, Annex A	Annex 1 A, 5.3	Electrical system Excludes d.c. power generation and d.c. propulsion systems
12.1	Annex 1 A, 5.2.2 (a)	Ignition protection
7.11	Annex 1 A, 5.6.1	Fire protection
Annex B	Annex 1 A, 2.5	Owner's manual

**WARNING: Other requirements and other EU Directives may be applicable to the products falling within the scope of this standard.**

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# Small craft — Electrical systems — Extra-low-voltage d.c. installations

## 1 Scope

This International Standard establishes the requirements for the design, construction and installation of extra-low-voltage direct current (d.c.) electrical systems which operate at nominal potentials of 50 V d.c. or less on small craft of hull length up to 24 m. Conductors that are part of an outboard engine assembly and that do not extend beyond the outboard engine manufacturer's supplied cowling are not included.

Additional information to be included in the owner's manual is listed in Annex B.

## 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.

ISO 8846, *Small craft — Electrical devices — Protection against ignition of surrounding flammable gases*

ISO 10239, *Small craft — Liquefied petroleum gas (LPG) systems*

ISO 10240, *Small craft — Owner's manual*

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

## 3 Terms and definitions

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

### 3.1

#### **equipotential bonding conductor**

normally non-current-carrying conductor used to put various exposed conductive parts of electrical devices and extraneous conductive parts at a substantially equal potential

### 3.2

#### **engine negative terminal**

terminal on the engine, starter or solenoid to which the negative battery cable is connected

### 3.3

#### **main grounding**

#### **earthing point**

main point or bus that provides connection to the common ground for the d.c. negative conductor, for a.c. protective grounding conductors and neutral, where relevant, and where necessary functional grounding

NOTE It may include any conductive part of the wetted surface of the hull in permanent contact with the water, depending on the overall system design.

### 3.4

#### **ignition-protected equipment**

equipment designed and constructed to give protection against ignition of surrounding flammable gases

NOTE See ISO 8846.