

This is a preview of "BS EN ISO 13297:2014". [Click here to purchase the full version from the ANSI store.](#)

BS EN ISO 13297:2014



BSI Standards Publication

Small craft — Electrical systems — Alternating current installations

bsi.

...making excellence a habit.™

This is a preview of "BS EN ISO 13297:2014". [Click here to purchase the full version from the ANSI store.](#)

This British Standard is the UK implementation of EN ISO 13297:2014. It supersedes BS EN ISO 13297:2012 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee GME/33, Small craft.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2014. Published by BSI Standards Limited 2014

ISBN 978 0 580 86141 3

ICS 47.020.60; 47.080

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 December 2014.

Amendments issued since publication

Date	Text affected
------	---------------

This is a preview of "BS EN ISO 13297:2014". [Click here to purchase the full version from the ANSI store.](#)

EUROPÄISCHE NORM

December 2014

ICS 47.080

Supersedes EN ISO 13297:2012

English Version

Small craft - Electrical systems - Alternating current installations (ISO 13297:2014)

Petits navires - Systèmes électriques - Installations à
courant alternatif (ISO 13297:2014)

Kleine Wasserfahrzeuge - Elektrische Systeme -
Wechselstromanlagen (ISO 13297:2014)

This European Standard was approved by CEN on 13 September 2014.

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 CEN-CENELEC Management Centre or to any CEN 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 CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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 United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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

This is a preview of "BS EN ISO 13297:2014". [Click here to purchase the full version from the ANSI store.](#)

Foreword

This document (EN ISO 13297:2014) 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 2015, and conflicting national standards shall be withdrawn at the latest by June 2015.

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 13297:2012.

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.

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

According to the CEN-CENELEC Internal Regulations, the national standards organizations 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 13297:2014 has been approved by CEN as EN ISO 13297:2014 without any modification.

This is a preview of "BS EN ISO 13297:2014". [Click here to purchase the full version from the ANSI store.](#)

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 Directive 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 relevant 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/sub-clauses Of this European Standard	Corresponding annexes/ Paragraphs of Directive 94/25/EC as amended 2003/44/EC	Comments
All clauses	Annex IA, Clause 5.3 Electrical systems	The scope of this standard is limited to the design, construction and installation of low-voltage alternating current electrical systems which operate at nominal voltages of less than 250 V single phase
Clause 11.12	Annex IA, Clause 5.6.1 Fire protection	In respect of avoiding wiring above hot areas of machines
Annex B	Annex IA, Clause 2.5 Owner's manual	

WARNING: Other requirements and other EU Directives may be applicable to the product(s) falling within the scope of this standard.

This is a preview of "BS EN ISO 13297:2014". [Click here to purchase the full version from the ANSI store.](#)

Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 General requirements	4
5 Marking	6
6 Ignition sources	7
7 Overcurrent protection	7
7.1 General.....	7
7.2 Supply circuits.....	8
7.3 Branch circuits.....	8
8 Ground-fault protection/earth-leakage protection	8
9 Appliances and equipment	9
10 System wiring	9
11 Conductor and cable installation	10
12 Panel boards (switchboards)	11
13 Socket outlets	12
14 Power source options	12
15 Inverters and inverter/chargers	13
Annex A (normative) Conductor requirements	15
Annex B (normative) Instructions to be included with owner's manual	17
Annex C (informative) Recommended system tests	18
Annex D (informative) Typical a.c. system diagrams	19
Bibliography	27

This is a preview of "BS EN ISO 13297:2014". Click here to purchase the full version from the ANSI store.

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).

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).

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 meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 188, *Small craft*.

This fourth edition cancels and replaces the third edition (ISO 13297:2012), of which it constitutes a minor revision. The main changes are:

- deletion of Annex E;
- replacement of [Annex D](#);
- correction of references in [14.1](#) indent e) by replacing 4.8 with [4.7](#) and in [14.3](#) by replacing 4.6 with [4.7](#);
- update of reference to ISO 10133.

This is a preview of "BS EN ISO 13297:2014". Click here to purchase the full version from the ANSI store.

Small craft — Electrical systems — Alternating current installations

IMPORTANT — The colours represented in the electronic file of this document can be neither viewed on screen nor printed as true representations. Although the copies of this document printed by ISO have been produced to correspond (with an acceptable tolerance as judged by the naked eye) to the requirements of ISO 3864-4, it is not intended that these printed copies be used for colour matching. Instead, consult ISO 3864-4, which provides colorimetric and photometric properties together with, as a guideline, references from colour order systems.

1 Scope

This International Standard specifies the requirements for the design, construction and installation of low-voltage alternating current electrical systems which operate at nominal voltages of less than 250 V single phase on small craft of hull length up to 24 m.

Additional information to be included in the owner's manual is listed in [Annex B](#).

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.

ISO 7010, *Graphical symbols — Safety colours and safety signs — Registered safety signs*

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

ISO 10133, *Small craft — Electrical systems — Extra-low-voltage d.c. installations*

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

IEC 60079-0, *Explosive atmospheres — Part 0: General requirements*

IEC 60309-2, *Plugs, socket-outlets and couplers for industrial purposes — Part 2: Dimensional interchangeability requirements for pin and contact-tube accessories*

IEC 60446, *Basic and safety principles for man-machine interface marking and identification — Identification of conductors by colours or numerals*

IEC 60529:1989, *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

craft's earth

protective ground

connection, provided for safety purposes, that is established by a conducting connection with the common ground/earth (potential of the earth's surface)