
Pomorska navigacijska in radiokomunikacijska oprema in sistemi - Sistem elektronske karte (ECS) - Obratovalne in tehnične zahteve, preskusne metode in pričakovani rezultati preskušanja (IEC 62376:2010)

Maritime navigation and radiocommunication equipment and systems - Electronic chart system (ECS) - Operational and performance requirements, methods of testing and required test results (IEC 62376:2010)

iTeh STANDARD PREVIEW
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Navigations- und Funkkommunikationsgeräte und -systeme für die Seeschifffahrt - Elektronisches Kartensystem (ECS) - Betriebs- und Leistungsanforderungen, Prüfverfahren und geforderte Prüfergebnisse (IEC 62376:2010)

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Matériels et systèmes de navigation et de radiocommunication maritimes - Système constitué par les cartes électroniques (ECS) - Exigences d'exploitation et de fonctionnement, méthodes d'essai et résultats d'essai exigés (CEI 62376:2010)

Ta slovenski standard je istoveten z: EN 62376:2011

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**Maritime navigation and radiocommunication equipment and systems -
Electronic chart system (ECS) -
Operational and performance requirements, methods of testing and
required test results
(IEC 62376:2010)**

Matériels et systèmes de navigation et de
radiocommunication maritimes -
Système constitué par les cartes
électroniques (ECS) -
Exigences d'exploitation et de
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Navigations- und
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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

The text of document 80/598/FDIS, future edition 1 of IEC 62376, prepared by IEC/TC 80, Maritime navigation and radiocommunication equipment and systems, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62376 on 2011-01-02.

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

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2011-10-02
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2014-01-02

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 62376:2010 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 61162 series	NOTE	Harmonized in EN 61162 series (not modified).
IEC 61162-2	NOTE	Harmonized as EN 61162-2.
IEC 61993-2:2002	NOTE	Harmonized as EN 61993-2:2002 (not modified).
IEC 62252:2004	NOTE	Harmonized as EN 62252:2004 (not modified).
IEC 62287-1:2006	NOTE	Harmonized as EN 62287-1:2006 (not modified).
ISO 9241-12:1998	NOTE	Harmonized as EN ISO 9241-12:1998 (not modified).

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60945	2002	Maritime navigation and radiocommunication equipment and systems - General requirements - Methods of testing and required test results	EN 60945	2002
IEC 61162-1	-	Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 1: Single talker and multiple listeners	EN 61162-1	-
IEC 61162-3	-	Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 3: Serial data instrument network	EN 61162-3	-
IEC 61174	2008	Maritime navigation and radiocommunication equipment and systems - Electronic chart display and information system (ECDIS) - Operational and performance requirements, methods of testing and required test results	EN 61174	2008
IEC 62288	2008	Maritime navigation and radiocommunication equipment and systems - Presentation of navigation-related information on shipborne navigational displays - General requirements, methods of testing and required test results	EN 62288	2008
IEC 62388	2007	Maritime navigation and radio-communication equipment and systems - Shipborne radar - Performance requirements, methods of testing and required test results	EN 62388	2008
IHO S-52 Annex A	2008	IHO Presentation Library for ECDIS	-	-
IHO S-60	2003	User's Handbook on Datum Transformations involving WGS 84	-	-
IHO S-61	1999	Product specification for raster navigational charts (RNC)	-	-

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**Maritime navigation and radiocommunication equipment and systems –
Electronic chart system (ECS) – Operational and performance requirements,
methods of testing and required test results**

[SIST EN 62376:2011](https://standards.iteh.ai/catalog/standards/sist/c4889a10-dba7-4883-90de-e9879ed58746/sist-en-62376-2011)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MARITIME NAVIGATION AND RADIOCOMMUNICATION
EQUIPMENT AND SYSTEMS –**
**Electronic chart system (ECS) –
Operational and performance requirements,
methods of testing and required test results**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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IEC 62376 has been prepared by IEC technical committee 80: Maritime navigation and radiocommunication equipment and systems.

The text of this standard is based on the following documents:

FDIS	Report on voting
80/598/FDIS	80/604/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

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MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS –

Electronic chart system (ECS) – Operational and performance requirements, methods of testing and required test results

1 Scope

This International Standard specifies the minimum operational and performance requirements and methods of testing for ECS. ECSs are designed or adapted for use as navigation information systems on vessels not required to comply with Chapter V of the International Convention for the Safety of Life at Sea (SOLAS).

Different types of vessels, for example, a non-SOLAS passenger vessel, a small fishing vessel or a recreational vessel, which operate in different environments, need to be equipped with navigational systems providing functionality to meet their needs. If the full functionality of ECDIS according to IEC 61174 is considered to be unnecessary, ECS may be suitable for a navigation information system for these vessels. Governments may consider requiring the carriage of ECS for these vessels under local arrangements.

In order to provide a standard that can be used to apply different levels of navigational functionality, three classes of ECS are defined.

- Class “A” ECS are designed or adapted for use as a primary navigation information system. <https://standards.iteh.ai/catalog/standards/sist/c4889a10-dba7-4883-90de-9879ed58746/sist-en-62376-2011>
- Class “B” ECS are designed or adapted for use as a navigation information system where less navigational functionality is required than Class “A”.
- Class “C” ECS are designed or adapted for use as a navigation information system with minimal functionality intended to plot and monitor a vessel’s position.

Within this International Standard, the beginning of each paragraph indicates the applicability to ECS Class(es). Paragraphs marked “(A B C)” apply to all Classes; paragraphs marked “(A B)” or “(B C)” apply only to those specific combinations of Classes; and paragraphs marked “(A)”, “(B)” or “(C)” apply only to those individual Classes.

For a Class “A” and Class “B” ECS, adequate back-up arrangements may be required to ensure safe navigation in the event of an ECS failure. For a Class “A” ECS, an additional Class “A” ECS may be used as the back-up. Alternatively, Class “B” ECS are intended to meet the minimum requirements for adequate back-up arrangements for Class “A” ECS. For a Class “B” ECS, an additional Class “B” ECS may be used as the back-up. Class “C” ECS are not intended to meet the minimum requirements for adequate back-up arrangements for Class “A” or Class “B” ECS.

Guidance for testing ECS is given in Annex A.

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.

IEC 60945:2002, *Maritime navigation and radiocommunication equipment and systems – General requirements – Methods of testing and required test results*

IEC 61162-1, *Maritime navigation and radiocommunication equipment and systems – Digital interfaces – Part 1: Single talker and multiple listeners*

IEC 61162-3, *Maritime navigation and radiocommunication equipment and systems – Digital interfaces – Part 3: Serial data instrument network*

IEC 61174:2008, *Maritime navigation and radiocommunication equipment and systems – Electronic chart display and information system (ECDIS) – Operational and performance requirements, methods of testing and required test results*

IEC 62288:2008, *Maritime navigation and radiocommunication equipment and systems – Presentation of navigation related information on shipborne navigational displays – General requirements, methods of testing and required test results*

IEC 62388:2007, *Maritime navigation and radiocommunication equipment and systems – Shipborne radar – Performance requirements, methods of testing and required test results*

IHO S-52 Annex A:2008, *IHO ECDIS Presentation Library*

IHO S-60:2003 (as amended through 2008), *User's handbook on datum transformation involving WGS 84*

IHO S-61:1999, *Product specification for raster navigational charts*

3 Terms and definitions

[SIST EN 62376:2011](https://standards.iteh.ai/catalog/standards/sist/c4889a10-dba7-4883-90de-e9879ed58746/sist-en-62376-2011)

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

3.1

automatic identification system

AIS

system which complies with the requirements set forth in Annex 3 to IMO resolution MSC.74(69) and further specified in IEC 61993-2 (i.e. for AIS Class-A) or IEC 62287-1 (i.e. for AIS Class-B “CS”)

3.2

consistent common reference point

CCRP

location on own ship to which measurements such as own ship position, heading, attitude, and target range, bearing, relative course, relative speed, closest point of approach (CPA) or time to closest point of approach (TCPA) are referenced, typically the conning position of the ship

NOTE An alternative location (or multiple locations) may be used as necessary where clearly indicated or distinctively obvious, for example, the origin of the reference axis of the ship.

3.3

electronic chart display and information system

ECDIS

navigation information system which, with adequate back-up arrangements, can be accepted as complying with the up-to-date chart required by regulations V/19 and V/27 of the 1974 SOLAS Convention, as amended, by displaying selected information from a system electronic navigational chart (SENC) with positional information from navigation sensors to assist the mariner in route planning and route monitoring, and, if required, display additional navigation-

related information as set forth in IMO resolution MSC.232(82) and further specified in IEC 61174

3.4

ECDIS display base

level of information which cannot be removed from the ECDIS display, consisting of information which is required at all times in all geographic areas and all circumstances

NOTE It is not intended to be sufficient for safe navigation.

3.5

ECDIS standard display

level of information that should be shown when a chart is first displayed on ECDIS

NOTE The level of the information it provides for route planning or route monitoring may be modified by the user according to the user's needs.

3.6

electronic chart system

ECS

navigation information system which complies with the requirements specified in this standard but does not comply with all of the requirements specified for ECDIS

3.7

electronic chart database

standards-compliant electronic chart database derived from Nautical Charts and Nautical Publications (for example, ENCs, RNCs, and ISO 19379 ECS databases)

3.8

electronic navigational chart

ENC

database standardised as to content, structure and format according to IHO S-57 Appendix B.1 and issued by, or on the authority of, a government

3.9

electronic position fixing system

EPFS

receiver for a radio navigation system capable of automatically and continuously updating own ship's position

3.10

inland electronic navigational chart

inland ENC

database standardised as to content, structure and format according to IHO S-57 Appendix B.1 and further specified in the Product Specification for Inland ENC published by the Inland ENC Harmonization Group (IEHG) and issued by, or on the authority of, a government for use onboard vessels transiting inland waterways

3.11

nautical chart and/or nautical publication

special-purpose map or book, or a specially compiled database from which such a map or book is derived, issued by, or on the authority of, a government and designed to meet the requirements of marine navigation

3.12

notice to mariners

NtM

periodic publication, issued by, or on the authority of, a government, providing information used to update nautical charts and/or nautical publications