SLOVENSKI STANDARD

SIST EN 62065:2004

julij 2004

Maritime navigation and radiocommunication equipment and systems - Track control systems - Operational and performance requirements, methods of testing and required test results (IEC 62065:2002)

ICS 47.020.70

Referenčna številka
SIST EN 62065:2004(en)

EUROPEAN STANDARD **EN 62065**

NORME EUROPÉENNE

EUROPÄISCHE NORM June 2002

ICS 47.020.70

English version

Maritime navigation and radiocommunication equipment and systems - Track control systems - Operational and performance requirements, methods of testing and required test results

(IEC 62065:2002)

Matériels et systèmes de navigation et de radiocommunication - Systèmes de contrôle de route - Exigences opérationnelles et de fonctionnement, méthodes d'essais et résultats exigés (CEI 62065:2002)

Navigations- und Funkkommunikationsgeräte und -systeme für die Seeschifffahrt - Bahnregelungssysteme - Betriebs- und Leistungsanforderungen, Prüfverfahren und geforderte Prüfergebnisse (IEC 62065:2002)

This European Standard was approved by CENELEC on 2002-05-01. CENELEC 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 CENELEC 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 CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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

CENELEC
European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Ref. No. EN 62065:2002 E

Foreword

The text of document 80/331/FDIS, future edition 1 of IEC 62065, 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 62065 on 2002-05-01.

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) 2003-02-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2005-05-01

Annexes designated "normative" are part of the body of the standard.
Annexes designated "informative" are given for information only.
In this standard, annexes A, G, I and ZA are normative and annexes B, C, D, E, F, H and J are informative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 62065:2002 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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 (including amendments).

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

Publication	Year	Title	EN/HD	Year
IEC 60945	- [1]	Maritime navigation and radiocommunication equipment and systems - General requirements - Methods of testing and required test results	EN 60945	1997 [2]
IEC 61108-1	- [1]	Global navigation satellite systems (GNSS) Part 1: Global positioning system (GPS) - Receiver equipment - Performance standards, methods of testing and required test results	EN 61108-1	1996 [2]
IEC 61108-2	- [1]	Part 2: Global navigation satellite system (GLONASS) - Receiver equipment - Performance standards, methods of testing and required test results	EN 61108-2	1998 [2]
IEC 61162-1	- [1]	Maritime navigation and radiocommunication equipment and systems - Digital interfaces Part 1: Single talker and multiple listeners	EN 61162-1	2000 [2]
IEC 61162-2	- [1]	Part 2: Single talker and multiple listeners, high-speed transmission	EN 61162-2	1998 [2]
ISO 9000	Series	Quality management and quality assurance standards	EN ISO 9000	Series

[1] Undated reference.

[2] Valid edition at date of issue.

Publication	Year	Title	EN/HD	Year
IMO Resolution A.694(17)	- [1)]	General requirements for shipborne radio equipment forming part of the global maritime distress and safety system (GMDSS) and for electronic navigational aids	-	-
IMO Resolution A.830(19)	- [1)]	Code on alarms and indicators	-	-
IMO Resolution MSC.74(69) Annex 2	- [1)]	Recommendations on performance standards for Track control systems	-	-

INTERNATIONAL STANDARD

IEC 62065

First edition
2002-03

Maritime navigation and radiocommunication equipment and systems – Track control systems – Operational and performance requirements, methods of testing and required test results

International Electrotechnical Commission, 3, rue de Varembé, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch

Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

PRICE CODE XC

For price, see current catalogue

SOMMAIRE

INTERNATIONAL ELECTROTECHNICAL COMMISSION

_____

MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS – TRACK CONTROL SYSTEMS –

Operational and performance requirements, methods of testing and required test results

FOREWORD

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62065 has been prepared by IEC technical committee 80: Maritime navigation and radiocommunication equipment and systems. It was developed in cooperation with ISO TC8 SC6.

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

FDIS	Report on voting
80/331/FDIS	80/339/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 3.

Annexes A, G and I form an integral part of this standard.

Annexes B, C, D, E, F, H and J are for information only.

The committee has decided that the contents of this publication will remain unchanged until 2006. At this date, the publication will be

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

MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS – TRACK CONTROL SYSTEMS –

Operational and performance requirements, methods of testing and required test results

1 Scope

This International Standard specifies the minimum operational and performance requirements, methods of testing and required test results conforming to performance standards adopted by the IMO in resolution MSC.74(69) Annex 2 Recommendations on Performance Standards for Track Control Systems. In addition it takes into account IMO resolution A.694 to which IEC 60945 is associated. When a requirement of this standard is different from IEC 60945, the requirement in this standard shall take precedence.

NOTE All text of this standard that is identical to that in IMO resolution MSC.74(69), Annex 2, is printed in *italics* and the resolution (abbreviated to – A2) and paragraph numbers are indicated in brackets i.e. (A2/3.3).

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

IEC 61108-1, *Global navigation satellite systems (GNSS) – Part 1: Global positioning system (GPS) – Receiver equipment – Performance standards, methods of testing and required test results*

IEC 61108-2, *Maritime navigation and radiocommunication equipment and systems – Global navigation satellite systems (GNSS) – Part 2: Global navigation satellite system (GLONASS) Receiver equipment – Performance standards, methods of testing and required test results*

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

IEC 61162-2, *Maritime navigation and radio communication equipment and systems – Digital interfaces – Part 2: Single talker and multiple listeners, high speed transmission*

ISO 9000, *Quality management and quality assurance standards*

IMO Resolution A.694(17), *General requirements for shipborne radio equipment performing part of the GMDSS and for electronic navigational aids*

IMO Resolution A.830(19), *Code on alarms and indicators*

IMO MSC.74(69) Annex 2, *Recommendations on performance standards for Track control systems*

3 Definitions and abbreviations

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

3.1 Definitions

3.1.1
active track
track activated for track control

3.1.2
alarm
audio and visual signal announcing a condition requiring attention. The audio continues until acknowledged. The acoustic noise pressure of the alarm is at least 75 dBA but not greater than 85 dBA at a distance of 1 m (IEC 60945). The visual indication continues until the alarm condition is removed

3.1.3
along track speed control
automatic control of the ship's speed during track control based on a pre-planned track

3.1.4
assisted turn
manoeuvre of a ship from one straight leg to the next automatically controlled by a pre-set radius or rate of turn but not based on the ship's position

3.1.5
back-up navigator
any individual, generally an officer, who has been designated by the ships master to be on call if assistance is needed on the bridge

3.1.6
consistent common reference system
sensor input data, providing identical and obligatory reference pertaining to position, course, heading, bearing, speed, velocity, etc. and horizontal datum to different sub-systems within an integrated navigation system

3.1.7
course
for marine navigation, course is the horizontal direction in which a vessel is steered or intended to be steered, expressed as angular distance from north, usually 000° at north, clockwise through 360°.[1]

3.1.8
course difference limit
maximum difference between track course and heading before an alarm is activated

3.1.9
cross track distance **(also known as cross track error)**
perpendicular distance of the ship from the track including direction (negative if the ship is left of the intended track)

3.1.10
cross-track limit
maximum cross track distance before an alarm is activated

---

[1] 360° is indicated as 000°.

3.1.11
curved track
non-straight track between two straight legs

3.1.12
fall-back arrangements
automatic reaction of the system to a failure to provide the best possible functionality

3.1.13
FROM-waypoint
the last passed waypoint

3.1.14
great circle sailing
sailing on the intersection of the earth surface and a plane containing the points A, B and the centre of the sphere

3.1.15
heading
the horizontal direction in which a ship actually points or heads at any instant, expressed in angular units from a reference direction, usually from 000° at the reference direction clockwise through 360° [2]

3.1.16
heading control
control of the ship's heading

3.1.17
***heading monitor* function**
Monitoring the actual heading sensor by an independent second source

3.1.18
indication
visual display of any message to the user which may be accompanied by a low intensity acoustic signal to gain attention

3.1.19
leg
line between two waypoints defining the track

3.1.20
main conning position
place on the bridge with a commanding view providing the necessary information and equipment for the conning officer to carry out his functions

3.1.21
minimum manoeuvring speed for track control
lowest fore/aft speed through the water at which the track control system is capable of maintaining its performance within the specified accuracy limits. The value depends on the ship's design and loading and on the present environmental conditions

3.1.22
NEXT-waypoint
the waypoint following the TO-waypoint

---

[2] 360° is indicated as 000°.