



# SLOVENSKI STANDARD

## SIST EN 62065:2014

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SIST EN 62065:2004

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**Pomorska plovba ter radiokomunikacijski sistemi in oprema - Sistemi za nadzor spremljanja - Obratovalne in zmogljivostne zahteve, preskusne metode in zahtevani rezultati preskušanja (IEC 62065:2014)**

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

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**Ta slovenski standard je istoveten z: EN 62065:2014**

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**ICS:**

47.020.70

Navigacijska in krmilna  
oprema

Navigation and control  
equipment

**SIST EN 62065:2014**

**en**

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EUROPEAN STANDARD

EN 62065

NORME EUROPÉENNE

EUROPÄISCHE NORM

May 2014

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Supersedes EN 62065:2002

English Version

Maritime navigation and radiocommunication equipment and systems - Track control systems - Operational and performance requirements, methods of testing and required test results  
(IEC 62065:2014)

Matériels et systèmes de navigation et de radiocommunication maritimes - Systèmes de contrôle de route - Exigences opérationnelles et de fonctionnement, méthodes d'essais et résultats exigés  
(CEI 62065:2014)

Navigations- und Funkkommunikationsgeräte und -systeme für die Seeschifffahrt - Bahnregelungssysteme - Betriebs- und Leistungsanforderungen, Prüfverfahren und geforderte Prüfergebnisse  
(IEC 62065:2014)

This European Standard was approved by CENELEC on 2014-03-13. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

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

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

## Foreword

The text of document 80/716/FDIS, future edition 2 of IEC 62065, prepared by IEC/TC 80 "Maritime navigation and radiocommunication equipment and systems" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62065:2014.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2014-12-13
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2017-03-13

This document supersedes EN 62065:2002.

EN 62065:2014 includes the following significant technical changes with respect to EN 62065:2002:

- alarms and warnings have been brought into line with the requirements for Bridge Alert Management;
- requirements for the category B system have been revised;
- the parameters of the ship models of Annex I have been adjusted to resemble more Newtonian-like behaviour and the tidal current has been modelled;
- a new Annex K has been added with interface requirements.

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

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## Endorsement notice

The text of the International Standard IEC 62065:2014 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 61108-4	NOTE	Harmonized as EN 61108-4.
IEC 61162-3	NOTE	Harmonized as EN 61162-3.
ISO 9000	NOTE	Harmonized as EN ISO 9000.
ISO 11674	NOTE	Harmonized as EN ISO 11674.

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

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.

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	-	Maritime navigation and radiocommunication equipment and systems - General requirements - Methods of testing and required test results	EN 60945	-
IEC 61162	Series	Maritime navigation and radiocommunication equipment and systems - Digital interfaces	EN 61162	Series
IEC 61162-1	-	Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 1: Single talker and multiple listeners	EN 61162-1	-
IEC 61162-2	-	Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 2: Single talker and multiple listeners, high-speed transmission	EN 61162-2	-
IEC 61924-2	-	Maritime navigation and radiocommunication equipment and systems - Integrated navigation systems - Part 2: Modular structure for INS - Operational and performance requirements, methods of testing and required test results	EN 61924-2	-
IEC 62288	-	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	-
IEC 62616	-	Maritime navigation and radiocommunication equipment and systems - Bridge navigational watch alarm system (BNWAS)	EN 62616	-
IMO MSC.74(69)	-	Annex 2, Recommendation on Performance Standards for Track Control Systems	-	-
IMO Resolution A.694 (17)	-	General requirements for shipborne radio equipment forming part of the Global Maritime Distress and Safety System (GMDSS) and for electronic navigational aids	-	-
IMO MSC.302(87)	-	Performance standards for Bridge Alert Management (BAM)	-	-

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Edition 2.0 2014-02

# INTERNATIONAL STANDARD



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

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## 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

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International Standard IEC 62065 has been prepared by IEC technical committee 80: Maritime navigation and radiocommunication equipment and systems.

This second edition cancels and replaces the first edition published in 2002 and constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- alarms and warnings have been brought into line with the requirements for Bridge Alert Management;
- requirements for the category B system have been revised;

- the parameters of the ship models of Annex I have been adjusted to resemble more Newtonian-like behaviour and the tidal current has been modelled;
- a new Annex K has been added with interface requirements.

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

FDIS	Report on voting
80/716/FDIS	80/729/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.

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).

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,
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- replaced by a revised edition, or
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## 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 Recommendation on Performance Standards for Track Control Systems. In addition, it takes into account IMO resolution A.694(17) to which IEC 60945 is associated.

When a requirement of this standard is different from IEC 60945, the requirement in this standard takes precedence. Also it takes into account IMO resolution MSC.302(87) on bridge alert management (BAM).

#### 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.

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

IEC 61162 (all parts), *Maritime navigation and radiocommunication equipment and systems – Digital interfaces*

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

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

IEC 61924-2, *Maritime navigation and radiocommunication equipment and systems – Integrated navigation systems – Part 2: Modular structure for INS – Operational and performance requirements, methods of testing and required test results*

IEC 62288, *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 62616, *Maritime navigation and radiocommunication equipment and systems – Bridge navigational watch alarm system (BNWAS)*

IMO MSC.74(69) Annex 2, *Recommendation on Performance Standards for Track Control Systems*

IMO resolution A.694(17), *General requirements for shipborne radio equipment forming part of the Global Maritime Distress and Safety System (GMDSS) and for electronic navigational aids*

IMO MSC.302(87), *Performance standards for bridge alert management (BAM)*

### 3 Terms, definitions and abbreviations

#### 3.1 Terms and definitions

For the purposes of this standard, the following terms and definitions apply

##### 3.1.1

##### **active track**

*track activated for track control*

##### 3.1.2

##### **alarm**

high-priority alert

Note 1 to entry: Condition requiring immediate attention and action by the bridge team, to maintain the safe navigation of the ship.

##### 3.1.3

##### **alert**

announcement of abnormal situations and conditions requiring attention

Note 1 to entry: Alerts are divided in four priorities: emergency alarms, alarms, warnings and cautions.

Note 2 to entry: Alerts are additionally classified in two different categories for navigational purposes: category A and category B as described in IMO resolution MSC.302(87).

Note 3 to entry: An alert provides information about a defined state change in connection with information about how to announce this event in a defined way to the system and the operator.

##### 3.1.4

##### **along-track speed control**

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

##### 3.1.5

##### **assisted turn**

manoeuvre of a ship automatically controlled by a pre-set radius or rate of turn but not based on the ship's position to perform an approximation of a curved track

##### 3.1.6

##### **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*

##### 3.1.7

##### **back-up navigator alarm**

signal automatically sent from the TCS to call assistance to the bridge when the officer of the watch fails to acknowledge certain alarms within a defined time period

Note 1 to entry: Note that the back-up navigator alarm does not represent an alarm as defined in 3.1.2.

##### 3.1.8

##### **consistent common reference system**

sub-system or function of a TCS for acquisition, processing, storage, surveillance and distribution of data and information providing identical and obligatory reference to sub-

systems and subsequent functions within a TCS and to other connected equipment, if available

### 3.1.9 course

for marine navigation, 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°

Note 1 to entry: 360° is indicated as 000°.

### 3.1.10 course difference limit

maximum difference between track course and heading before a warning is activated

### 3.1.11 cross-track distance

cross-track error

*perpendicular distance of a predefined point on the ship from the track including direction (negative if the ship is left of the intended track)*

### 3.1.12 cross-track limit

*maximum cross-track distance before an alarm is activated*

### 3.1.13 curved track

*non-straight track between two legs*

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### 3.1.14 fall-back arrangements

automatic reaction of the TCS by using data, function or hardware of degraded quality in relation to the failed one

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EXAMPLE Dead reckoning for position information, heading control in case of a failure of track control.

### 3.1.15 FROM-waypoint

*last passed waypoint*

### 3.1.16 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

### 3.1.17 heading

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°

Note 1 to entry: 360° is indicated as 000°.

### 3.1.18 heading control

*control of the ship's heading*