

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 61924-2:2012)

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**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 61924-2:2012)**

Matériels et systèmes de navigation et de
radiocommunication maritimes -
Systèmes de navigation intégrés -
Partie 2: Structure modulaire
pour les INS -
Exigences d'exploitation et de
fonctionnement, méthodes et résultats
d'essais exigés
(CEI 61924-2:2012)

Navigations- und
Funkkommunikationsgeräte und -systeme
für die Seeschifffahrt -
Integrierte Navigationssysteme -
Teil 2: Modulare Struktur für INS -
Betriebs- und Leistungsanforderungen,
Prüfverfahren und geforderte
Prüfergebnisse
(IEC 61924-2:2012)

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 80/677/FDIS, future edition 1 of IEC 61924-2, 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 61924-2:2013.

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) 2013-10-09
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2016-01-09

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

IEC 60812:2006	NOTE	Harmonized as EN 60812:2006 (not modified).
IEC 61924:2006	NOTE	Harmonized as EN 61924:2006 (not modified).
ISO 9241-12	NOTE	Harmonized as EN ISO 9241-12.

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 + corr. April	2002 2008	Maritime navigation and radiocommunication equipment and systems - General requirements - Methods of testing and required test results	EN 60945	2002
IEC 61162	Series	Maritime navigation and radiocommunication equipment and systems - Digital interfaces	EN 61162	Series
IEC 61162-1	2010	Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 1: Single talker and multiple listeners	EN 61162-1	2011
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 61162-3	-	Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 3: Serial data instrument network	EN 61162-3	-
IEC 61162-450	-	Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 450: Multiple talkers and multiple listeners - Ethernet interconnection	EN 61162-450	-
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 62065	2002	Maritime navigation and radiocommunication equipment and systems - Track control systems - Operational and performance requirements, methods of testing and required test results	EN 62065	2002
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
IEC 62616 + corr. August	2010 2012	Maritime navigation and radiocommunication equipment and systems - Bridge navigational watch alarm system (BNWAS)	EN 62616	2010

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO 11674	2006	Ships and marine technology - Heading control systems	-	-
IMO 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/ICAO	-	International Aeronautical and Maritime Search and Rescue Manual (IAMSAR Manual) Volume 3	-	-
IMO MSC/Circular 982	-	Guidelines on ergonomic criteria for bridge equipment and layout	-	-
IMO MSC.191(79)	-	Performance standards for the presentation of navigation-related information on shipborne navigational displays	-	-
IMO MSC.232(82)	-	Adoption of the revised performance standards for electronic chart display and information systems (ECDIS)	-	-
IMO MSC.252(83)	-	Performance Standards for Integrated Navigation Systems (INS)	-	-
IMO MSC.302(87)	-	Performance standards for Bridge Alert Management (BAM)	-	-

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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

1 Scope

This part of IEC 61924 specifies the minimum requirements for the design, manufacture, integration, methods of testing and required test results for an integrated navigation system (INS) to comply with the International Maritime Organization (IMO) requirements of Resolution MSC.252(83). In addition, it takes account of IMO Resolution A.694(17) to which IEC 60945 is associated. When a requirement in this standard is different from IEC 60945, the requirement of this standard takes precedence.

NOTE 1 IEC 61924:2006 specifies the minimum requirements for the design, manufacture, integration, methods of testing and required test results for an integrated navigation system to comply with the earlier IMO requirements of Resolution MSC 86(70), Annex 3. Integrated navigation systems in accordance with IEC 61924:2006 are not suitable for installation after 1 January 2011.

NOTE 2 All text of this standard, whose wording is identical to that in IMO Resolution MSC.252(83) will be printed in *italics* and the Resolution and paragraph number indicated between brackets.

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 60945:2002, *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 61162-1:2010, *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 61162-3, *Maritime navigation and radiocommunication equipment and systems – Digital interfaces – Part 3: Serial data instrument network*

IEC 61162-450, *Maritime navigation and radiocommunication equipment and systems – Digital interfaces – Part 450: Multiple talkers and multiple listeners – Ethernet interconnection*

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 62065:2002, *Maritime navigation and radiocommunication equipment and systems – Track control systems – 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*

IEC 62616:2010, *Maritime navigation and radiocommunication equipment and systems – Bridge navigational watch alarm system (BNWAS)*

IMO 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/ICAO, *International Aeronautical and Maritime Search and Rescue Manual (IAMSAR Manual) Volume 3*

IMO MSC/Circ.982, *Guidelines on ergonomic criteria for bridge equipment and layout*

IMO MSC.191(79), *Performance standards for presentation of navigation-related information on shipborne navigational displays*

IMO MSC.232(82), *Revised performance standards for Electronic Chart Display and Information Systems (ECDIS)*

IMO MSC.252(83), *Performance Standards for Integrated Navigation Systems (INS)*

IMO MSC.302(87), *Performance standards for Bridge Alert Management (BAM)*

ISO 11674:2006, *Ships and marine technology – Heading control systems*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

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

3.1.1

accuracy

degree of conformance between the estimated or measured parameter value at a given time and its true parameter value at that time

3.1.2

added value

functionality and information, which are provided by the INS, in addition to the requirements of the performance standard for the individual equipment

3.1.3

aggregated alert

alert indicating the existence of multiple individual alerts of the same kind