
Maritime navigation and radiocommunication equipment and systems - Radar plotting aids - Part 3: Electronic plotting aid (EPA) - Performance requirements - Methods of testing and required test results (IEC 60872-3:2000)

Maritime navigation and radiocommunication equipment and systems - Radar plotting aids -- Part 3: Electronic plotting aid (EPA) - Performance requirements - Methods of testing and required test results

iTeh STANDARD PREVIEW

Navigations- und Funkkommunikations-geräte und -systeme für die Seeschifffahrt - Radar-Plöthilfen -- Teil 3: Elektronische Plöthilfe (EPA) - Leistungsanforderungen - Prüfverfahren und geforderte Prüfergebnisse

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Matériels et systèmes de navigation et de radiocommunication maritimes - Aides de pointage radar -- Partie 3: Aide de pointage électronique (EPA) - Exigences de fonctionnement - Méthodes d'essai et résultats d'essai exigés

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**Maritime navigation and radiocommunication equipment and systems -
Radar plotting aids
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Methods of testing and required test results
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Matériels et systèmes de navigation et
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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.

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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

Foreword

The text of document 80/251/FDIS, future edition 1 of IEC 60872-3 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 60872-3 on 2000-11-01.

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) 2001-11-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2003-11-01

Annexes designated "normative" are part of the body of the standard. In this standard, annexes A to D and ZA are normative. Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60872-3:2000 was approved by CENELEC as a European Standard without any modification.

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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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60872-1	1998	Maritime navigation and radiocommunication equipment and systems - Radar plotting aids Part 1: Automatic radar plotting aids (ARPA) - Methods of testing and required test results	EN 60872-1	1998
IEC 60872-2	1999	Part 2: Automatic tracking aids (ATA) - Methods of testing and required test results	EN 60872-2	1999
IEC 60936-1	1999	Maritime navigation and radiocommunication equipment and systems - Radar Part 1: Shipborne radar - Performance requirements - Methods of testing and required test results	EN 60936-1	2000
IEC 60945	1996	Maritime navigation and radiocommunication equipment and systems - General requirements - Methods of testing and required test results	EN 60945	1997
IEC 61023	1999	Maritime navigation and radiocommunication equipment and systems - Marine speed and distance measuring equipment (SDME) - Performance requirements - Methods of testing and required test results	EN 61023	1999
IEC 61162	Series	Maritime navigation and radiocommunication equipment and systems - Digital interfaces	EN 61162	Series
ISO 11606	2000	Ships and marine technology Marine electromagnetic compasses	-	-
ISO 9000	Series	Quality management and quality assurance standards	EN ISO 9000	Series

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IMO A.694	1991	General requirements for shipborne radio equipment forming part of the global maritime distress and safety system (GMDSS) and for electronic navigational aids	-	-
IMO A.823	1995	Performance standards for automatic radar plotting aids (ARPAs)	-	-
IMO A.824	1995	Performance standards for devices to indicate speed and distance	-	-
IMO MSC/Circular 603	1993	Guidelines on display sizes and techniques for navigational purposes	-	-
IMO MSC.64(67)	1996	Annex 4 - Performance standards for radar equipment	-	-
IMO MSC.86(70)	1998	Annex 2 - Performance standards for marine transmitting magnetic heading devices (TMHDs)	-	-
IHO S-52	1996	Specifications for chart content and display aspects of ECDIS	-	-

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Part 3:

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Performance requirements –

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Exigences de fonctionnement – Méthodes d'essai et résultats d'essai exigés

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MARITIME NAVIGATION AND RADIOCOMMUNICATION
EQUIPMENT AND SYSTEMS – RADAR PLOTTING AIDS –**
**Part 3: Electronic plotting aid (EPA) –
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 60872-3 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
80/251/FDIS	80/274/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, B, C and D form an integral part of this standard.

The committee has decided that the contents of this publication will remain unchanged until 2008. At this date, the publication will be

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

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

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MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS – RADAR PLOTTING AIDS –

Part 3: Electronic plotting aid (EPA) -- Performance requirements – Methods of testing and required test results

1 Scope

This part of IEC 60872 specifies the minimum operational and performance requirements, methods of testing and test results for equipment that complies with performance standards not inferior to those adopted by the International Maritime Organization (IMO) in resolution MSC.64 (67) Annex 4 – Appendix 2. In addition, this standard takes account of IMO Resolution A.694 and is associated with IEC 60945.

When a requirement in this standard is different from IEC 60945, the requirement in this standard takes precedence.

The electronic plotting aid for manual direct plotting is intended for small ships fitted with either a gyrocompass or a transmitting marine electromagnetic compass conforming to ISO 11606 or a transmitting magnetic heading device conforming to IMO MSC.86(70) – annex 2, and a speed and distance measuring equipment (SDME) conforming to IMO Resolution A.824 and IEC 61023. This plotting aid is not suitable for ships classed as high-speed craft.

All texts in this standard, the wording of which is identical to that in IMO resolution MSC.64 (67) Annex 4 – Appendix 2, are printed in *italics* and the resolution and paragraph numbers are indicated in brackets.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 60872. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of IEC 60872 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60872-1:1998, *Maritime navigation and radiocommunication equipment and systems – Radar plotting aids – Part 1: Automatic radar plotting aid (ARPA) – Methods of testing and required test results*

IEC 60872-2:1999, *Maritime navigation and radiocommunication equipment and systems – Radar plotting aids – Part 2: Automatic tracking aid (ATA) – Methods of testing and required test results*

IEC 60936-1:1999, *Maritime navigation and radiocommunication equipment and systems – Radar – Part 1: Shipborne radar – Performance requirements - Methods of testing and required test results*

IEC 60945:1996, *Maritime navigation and radiocommunication equipment and systems – General requirements – Methods of testing and required test results*

IEC 61023:1999, *Maritime navigation and radiocommunication equipment and systems – Marine speed and distance measuring equipment (SDME) – Performance requirements – Methods of testing and required test results*

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

ISO: 11606, *Ships and marine technology – Marine electromagnetic compasses*

ISO 9000 (all parts), *Quality management and quality assurance standards*

IMO Resolution A.694:1991, *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.823:1995, *Performance standards for automatic radar plotting aids (ARPAs)*

IMO Resolution A.824:1995, *Performance standards for devices to indicate speed and distance*

IMO MSC/Circular 603:1993, *Guidelines on display sizes and techniques for navigational purposes*

IMO MSC.64(67):1996, Annex 4 – *Performance standards for radar equipment, and Appendix 2 – Electronic plotting aids*

IMO MSC.86(70):1998, Annex 2 – *Performance standards for marine transmitting magnetic heading devices (TMHDs)*

IHO S-52: 1996, *Specifications for chart content and display aspects of ECDIS*

3 Performance requirements

3.1 Introduction

3.1.1 The electronic plotting aid (EPA) shall, in order to improve the standard of collision avoidance at sea:

- .1 reduce the workload of observers by enabling them to obtain information about plotted targets so that they can perform as well with several separate targets as they can by manually plotting a single target;
- .2 provide continuous, accurate and rapid situation evaluation.

3.1.2 The radar facilities provided by an EPA display shall comply with those clauses of IEC 60936-1 appropriate to its mode of use.

3.1.3 In addition to the general requirements contained in IEC 60945, the EPA shall comply with the following minimum requirements.

3.1.4 Additional ARPA or ATA facilities, not mandated in this EPA standard, may be provided. Such facilities shall comply with IEC 60872-1 and IEC 60872-2 as applicable.