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Marin navigerings- och kommunikationsutrustning – Digitala gränssnitt – Del 1: En sändare och flera mottagare

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

Som svensk standard gäller europastandarden EN 61162-1:2011. Den svenska standarden innehåller den officiella engelska språkversionen av EN 61162-1:2011.

Nationellt förord

Europastandarden EN 61162-1:2011

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- **IEC 61162-1, Fourth edition, 2010 - Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 1: Single talker and multiple listeners**

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English version

**Maritime navigation and radiocommunication equipment and systems -
Digital interfaces -
Part 1: Single talker and multiple listeners
(IEC 61162-1:2010)**

Matériels et systèmes de navigation et de
radiocommunication maritimes -
Interfaces numériques -
Partie 1: Emetteur unique et récepteurs
multiples
(CEI 61162-1:2010)

Navigations- und
Funkkommunikationsgeräte und -systeme
für die Seeschifffahrt -
Digitale Schnittstellen -
Teil 2: Ein Datensender und mehrere
Datenempfänger,
Hochgeschwindigkeitsübertragung
(IEC 61162-1:2010)

This European Standard was approved by CENELEC on 2011-01-01. 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, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

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 80/606/FDIS, future edition 4 of IEC 61162-1, 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 61162-1 on 2011-01-01.

This European Standard supersedes EN 61162-1:2008.

The main changes with respect to EN 61162-1:2008 are listed below:

- in Table 1 the “comment” block delimiter has been renamed “TAG” block delimiter;
- new identifiers have been added to Table 4;
- the following sentences have been removed from 8.3 as they are not used by other standards prepared by IEC technical committee 80: ALM and MLA which described almanac data from satellite navigation systems, DCN which described DECCA data, DSI and DSR which controlled the DSC transponder, GLC and LCD which described LORAN data, and GMP which supported land use of map projections;
- new sentences CBR, GFA, HBT, NAK, MEB, POS, TTD and VER have been added;
- corrections have been made to the following sentences: ABK, BBM, DOR, FIR, SSD, TUT, and VTG;
- extra fields have been added to AIR to support further ITU messages;
- new fields have been added to GBS, GRS, GSA and GSV to support new satellite navigation systems;
- a new navigational status indicator has been added to GNS and RMC;
- a new sentence status flag had been added to DDC, FSI, HSC and NRM;
- three additional tests have been added to Annex B.

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:

- | | | |
|--|-------|------------|
| <ul style="list-style-type: none"> – latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement | (dop) | 2011-10-01 |
| <ul style="list-style-type: none"> – latest date by which the national standards conflicting with the EN have to be withdrawn | (dow) | 2014-01-01 |

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61162-1:2010 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 61023	NOTE Harmonized as EN 61023.
IEC 61075	NOTE Harmonized as EN 61075.

IEC 61097-1	NOTE	Harmonized as EN 61097-1.
IEC 61108 series	NOTE	Harmonized in EN 61108 series (not modified).
IEC 61108-1	NOTE	Harmonized as EN 61108-1.
IEC 61108-2	NOTE	Harmonized as EN 61108-2.
IEC 61108-3	NOTE	Harmonized as EN 61108-3.
IEC 61108-4	NOTE	Harmonized as EN 61108-4.
IEC 61174	NOTE	Harmonized as EN 61174.
IEC 61993-2	NOTE	Harmonized as EN 61993-2.
IEC 61996 series	NOTE	Harmonized in EN 61996 series (not modified).
IEC 61996-1	NOTE	Harmonized as EN 61996-1.
IEC 61996-2	NOTE	Harmonized as EN 61996-2.
IEC 62065	NOTE	Harmonized as EN 62065.
IEC 62252	NOTE	Harmonized as EN 62252.
IEC 62287-1	NOTE	Harmonized as EN 62287-1.
IEC 62288	NOTE	Harmonized as EN 62288.
IEC 62320-1	NOTE	Harmonized as EN 62320-1.
IEC 62320-2	NOTE	Harmonized as EN 62320-2.
IEC 62388	NOTE	Harmonized as EN 62388.
ISO 8728	NOTE	Harmonized as EN ISO 8728.
ISO 9875	NOTE	Harmonized as EN ISO 9875.
ISO 11606	NOTE	Harmonized as EN ISO 11606.
ISO 11674	NOTE	Harmonized as EN ISO 11674.

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 61162-2	1998	Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 2: Single talker and multiple listeners, high-speed transmission	EN 61162-2	1998
ISO/IEC 8859-1	1998	Information technology - 8-bit single-byte coded graphic character sets - Part 1: Latin alphabet No.1	-	-
ITU-T X.27/V.11	1996	Electrical characteristics for balanced double-current interchange circuits operating at data signalling rates up to 10 Mbit/s	-	-

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INTRODUCTION

International standard IEC 61162 is a four part standard which specifies four digital interfaces for application in marine navigation, radiocommunication and system integration. The four parts are:

- IEC 61162-1 Single talker and multiple listeners;
- IEC 61162-2 Single talker and multiple listeners, high speed transmission;
- IEC 61162-3 Multiple talkers and multiple listeners – Serial data instrument network;
- IEC 61162-4 Multiple talkers and multiple listeners – Ship systems interconnection.

IEC technical committee 80 interface standards are developed with input from manufacturers, private and government organisations and equipment operators. The information is intended to meet the needs of users at the time of publication, but users should recognise that as applications and technology change, interface standards should change as well. Users of this standard are advised to immediately inform the IEC of any perceived inadequacies therein.

The first edition of IEC 61162-1 was published in 1995. The second edition published in 2000 removed some sentences which were no longer in use, added some new sentences and included details of the ship equipment defined in IMO resolutions together with appropriate sentences for communication between them. This information was subsequently removed from the third edition when it became the practice to specify the sentence formatters in the individual standards for equipment.

The third edition published in 2007 introduced a re-arrangement of the text and new sentences particularly to support the Automatic Identification System and the Voyage Data Recorder. The third edition also introduced a further type of start of sentence delimiter. The conventional delimiter "\$" was retained for the conventional sentences which are now called parametric sentences. The new delimiter "!" identifies sentences that conform to special purpose encapsulation.

This fourth edition removes some sentences which are not in use, adds some new sentences for new applications and makes some corrections and additions. In particular the sentences of relevance to satellite navigation receivers have been expanded to facilitate the description of new satellite systems.

Liaison has been maintained with NMEA and this edition has been aligned where appropriate with NMEA 0183 version 4.00.

MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS – DIGITAL INTERFACES –

Part 1: Single talker and multiple listeners

1 Scope

This part of IEC 61162 contains the requirements for data communication between maritime electronic instruments, navigation and radiocommunication equipment when interconnected via an appropriate system.

This part of IEC 61162 is intended to support one-way serial data transmission from a single talker to one or more listeners. This data is in printable ASCII form and may include information such as position, speed, depth, frequency allocation, etc. Typical messages may be from about 11 to a maximum of 79 characters in length and generally require transmission no more rapidly than one message per second.

The electrical definitions in this standard are not intended to accommodate high-bandwidth applications such as radar or video imagery, or intensive database or file transfer applications. Since there is no provision for guaranteed delivery of messages and only limited error checking capability, this standard should be used with caution in all safety applications.

For applications where a faster transmission rate is necessary, reference should be made to IEC 61162-2.

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 61162-2:1998, *Maritime navigation and radiocommunication equipment and systems – Digital interfaces – Part 2: Single talker and multiple listeners, high-speed transmission*

ISO/IEC 8859-1:1998, *Information technology – 8-bit single-byte coded graphic character sets – Part 1: Latin alphabet No.1*

ITU-T X.27/V.11:1996, *Electrical characteristics for balanced double-current interchange circuits operating at data signalling rates up to 10 Mbit/s*