SLOVENSKI STANDARD

SIST EN 61996-2:2007

januar 2007

Pomorska navigacijska in radiokomunikacijska oprema in sistemi - Ladijski zapisovalnik podatkov o plovbi (VDR) - 2. del: Poenostavljeni zapisovalnik podatkov o plovbi (S-VDR) - Zahteve za lastnosti, preskusne metode in zahtevani rezultat preskušanja (IEC 61996-2:2006)

(istoveten EN 61996-2:2006)

Maritime navigation and radiocommunication equipment and systems - Shipborne voyage data recorder (VDR) - Part 2: Simplified voyage data recorder (S-VDR) - Performance requirements, methods of testing and required test results (IEC 61996-2:2006)

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English version

Maritime navigation and radiocommunication equipment and systems - Shipborne voyage data recorder (VDR) Part 2: Simplified voyage data recorder (S-VDR) - Performance requirements, methods of testing and required test results

(IEC 61996-2:2006)

Matériels et systèmes de navigation et de radiocommunication maritimes - Enregistreurs des données du voyage (VDR) de bord
Partie 2: Enregistreur des données du voyage simplifié (S-VDR) - Exigences de fonctionnement, méthodes d'essai et résultats d'essai exigibles
(CEI 61996-2:2006)

Navigations- und Funkkommunikationsgeräte und -systeme für die Seeschifffahrt - Fahrtdatenaufzeichnungsgerät auf Seeschiffen (VDR)
Teil 2: Vereinfachtes Fahrtdatenaufzeichnungsgerät (S-VDR) - Leistungsanforderungen - Prüfverfahren und geforderte Prüfergebnisse
(IEC 61996-2:2006)

This European Standard was approved by CENELEC on 2006-05-01. 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 two official versions (English and 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, 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

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

Ref. No. EN 61996-2:2006 E

Foreword

The text of document 80/430/FDIS, future edition 1 of IEC 61996-2, 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 61996-2 on 2006-05-01.

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)	2007-02-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2009-05-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61996-2:2006 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 60936-1	NOTE	Harmonized as EN 60936-1:2000 (not modified).
IEC 60936-3	NOTE	Harmonized as EN 60936-3:2002 (not modified).
ISO/IEC 11674	NOTE	Harmonized as EN ISO 11674:2001 (not modified).
ISO 8728	NOTE	Harmonized as EN ISO 8728:1998 (not modified).

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.

Publication	Year	Title	EN/HD	Year
IEC 60068-2-27	1987	Environmental testing - Part 2: Tests - Test Ea and guidance: Shock	EN 60068-2-27	1993
IEC 60268-16	2003	Sound system equipment - Part 16: Objective rating of speech intelligibility by speech transmission index	EN 60268-16	2003
IEC 61672-1	2002	Electroacoustics - Sound level meters - Part 1: Specifications	EN 61672-1	2003
IEC 60945	2002	Maritime navigation and radiocommunication equipment and systems - General requirements - Methods of testing and required test results	EN 60945	2002
IEC 61097-2	2002	Global maritime distress and safety system (GMDSS) - Part 2: COSPAS-SARSAT EPIRB - Satellite emergency position indicating radio beacon operating on 406 MHz - Operational and performance requirements, methods of testing and required test results	-	-
IEC 61097-7	1996	Global maritime distress and safety system (GMDSS) - Part 7: Shipborne VHF radiotelephone transmitter and receiver - Operational and performance requirements, methods of testing and required test results	-	-
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)]	Maritime navigation and radiocommunication equipment and systems - Digital interfaces - Part 2: Single talker and multiple listeners, high-speed transmission	EN 61162-2	1998[2)]
IEC 61260	1995	Electroacoustics - Octave-band and fractional-octave-band filters	EN 61260	1995

[1)] Undated reference.

[2)] Valid edition at date of issue.

Publication	Year	Title	EN/HD	Year
IMO A.658(16)	-[1)]	Use and fitting of retro-reflective materials on life-saving appliances	-	-
IMO A.662(16)	-[1)]	Performance standards for float-free release and activation arrangements for emergency radio equipment	-	-
IMO 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 A.810(19)	-[1)]	Performance standards for float-free satellite emergency position-indicating radio beacons (EPIRBs) operating on 406 MHz	-	-
IMO A.830(19)	-[1)]	Code on alarms and indicators	-	-
IMO A.861(20)	-[1)]	Performance standards for shipborne voyage data recorders (VDRs)	-	-
IMO MSC.81(70)	-[1)]	Testing of life saving appliances	-	-
IMO MSC.163(78)	-[1)]	Performance standards for shipborne simplified voyage data recorders (S-VDR)	-	-
IMO	1974	International Convention on Safety of Life at Sea (SOLAS)	-	-
ITU-R M.633-3	2004	Transmission characteristics of a satellite emergency position-indicating radiobeacon (satellite EPIRB) system operating through a low polar-orbiting satellite system in the 406 MHz band.	-	-
Eurocae:ED56A Amendment 1	-[1)]	Minimum operational performance specification (MOPS) for cockpit voice recorder system	-	-
VESA	1996	Video electronics standards association - Discrete monitor timings standard 1.0, Revision 0.7 (DMT)	-	-
SAE AS 8045	1988	Minimum performance standard for underwater locating devices (acoustic) (self-powered)	-	-

INTERNATIONAL STANDARD

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First edition
2006-03

Maritime navigation and radiocommunication equipment and systems – Shipborne voyage data recorder (VDR) –

Part 2: Simplified voyage data recorder (S-VDR) – Performance requirements, methods of testing and required test results

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MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS – SHIPBORNE VOYAGE DATA RECORDER (VDR) –

Part 2: Simplified voyage data recorder (S-VDR) – Performance requirements, methods of testing and required test results

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of 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, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). 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. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.

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8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.

9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61996-2 has been prepared by IEC technical committee 80: Maritime navigation and radiocommunication equipment and systems.

This standard cancels and replaces IEC PAS 61996-2 published in 2005. This first edition constitutes a technical revision and additionally incorporates new IMO recommendations on means for extracting data from the S-VDR.

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

FDIS	Report on voting
80/430/FDIS	80/439/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.

IEC 61996 consists of the following parts under the general title *Maritime navigation and radiocommunication equipment and systems – Shipborne voyage data recorder (VDR)*:

Part 1: Performance requirements, methods of testing and required test results

Part 2: Simplified voyage data recorder (S-VDR) – Performance requirements, methods of testing and required test results.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result 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,
- withdrawn,
- replaced by a revised edition, or
- amended.

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

INTRODUCTION

The S-VDR has been introduced by IMO for fitting to existing ships as a simplified alternative to the voyage data recorder (VDR) which is required for all new ships.

This part of IEC 61996 provides information on the testing requirements for S-VDR as defined in IMO performance standard MSC.163(78).

The specification for S-VDR differs significantly from that for VDR in two areas:

a) the requirements for monitoring certain sensors are reduced when the data is not provided in IEC 61162 format, and

b) the requirements for the protective S-VDR capsule are different from the VDR capsule, both for the fixed and float-free versions.

Annex B provides a cross-reference between this standard and IEC 61996-1 to aid test houses who may already have test results for VDRs which are being submitted as S-VDRs.

Subsequent to publishing the performance standard for S-VDR, MSC.163(78), in 2004, the IMO sub-committee on Safety of Navigation (NAV) at its fifty-first session in June 2005, discussed the issue of download and playback of information. Recognising that after an accident there is a need for investigators to be able to download the stored data and playback the information from VDRs/S-VDRs without delay, the sub-committee agreed on recommended means for extracting stored data for investigation authorities as SN/Circ.246. This Circular is reproduced as Annex C and its recommendations are referenced in this standard.

MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS – SHIPBORNE VOYAGE DATA RECORDER (VDR) –

Part 2: Simplified voyage data recorder (S-VDR) – Performance requirements, methods of testing and required test results

1 Scope

This part of IEC 61996 specifies the minimum performance requirements, technical characteristics and methods of testing, and required test results, for simplified shipborne voyage data recorders (S-VDRs) as required by IMO MSC.163(78). It takes into account IMO resolution A.694(17) and is associated with IEC 60945. When a requirement in this standard is different from IEC 60945, the requirement in this standard takes precedence.

NOTE All text of this standard, whose wording is identical to that of IMO MSC.163(78) or A.861(20) is printed in *italics,* and the Resolution and associated performance standard paragraph numbers are indicated in brackets.

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 60068-2-27:1987, *Environmental testing – Part 2: Tests – Test Ea and guidance: Shock*

IEC 60268-16:2003, *Sound system equipment – Part 16: Objective rating of speech intelligibility by speech transmission index*

IEC 61672-1:2002, *Electroacoustics – Sound level meters – Part 1: Specifications*

IEC 60945:2002, *Maritime navigation and radiocommunication equipment and systems – General requirements – Methods of testing and required test results*

IEC 61097-2:2002, *Global maritime distress and safety system (GMDSS) – Part 2: COSPAS SARSAT EPIRB – Satellite emergency position-indicating radio beacon operating on 406 MHz – Operational and performance requirements, methods of testing and required test results*

IEC 61097-7:1996, *Global maritime distress and safety system (GMDSS) – Part 7: Shipborne VHF radiotelephone transmitter and receiver – Operational and performance requirements, methods of testing and required test results*

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 61260:1995, *Electroacoustics – Octave-band and fractional-octave-band filters*

IMO A.658(16): *Use and fitting of retro-reflective materials on life-saving appliances*

IMO A.662(16): *Performance standards for float-free release and activation arrangements for emergency radio equipment*

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 A.810(19): *Performance standards for float-free satellite emergency position-indicating radio beacons (EPIRBs) operating on 406 MHz*

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

IMO A.861(20): *Performance standards for shipborne voyage data recorders (VDRs)*

IMO MSC.81(70): *Testing of life saving appliances*

IMO MSC.163(78): *Performance standards for shipborne simplified voyage data recorders (S-VDR).*

IMO:1974, *International Convention for the Safety of Life at Sea (SOLAS), as amended*

ITU-R M.633-3:2004, *Transmission characteristics of a satellite emergency position-indicating radiobeacon (satellite EPIRB) system operating through a low polar-orbiting satellite system in the 406 MHz band*

Eurocae: ED56A Amendment 1 – *Minimum operational performance specification (MOPS) for cockpit voice recorder system*

VESA:1996, *Video electronics standards association – Discrete monitor timings standard 1.0, Revision 0.7 (DMT)*

SAE AS 8045:1988, *Engineering Society for advancing mobility land sea air and space – Minimum performance standard for underwater locating devices – acoustic-self-powered*

3 Terms, definitions and abbreviations

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

3.1 Definitions

3.1.1
activation of a suitable alarm
mutable audible alarm and persistent visual indication, given according to the requirements of IMO A.830(19) but with an audible level in the range of 55 dBA to 65 dBA

3.1.2
combined EPIRB/S-VDR capsule
a single unit which meets all the requirements of a satellite EPIRB (as required by the carriage requirements of SOLAS IV) and all the requirements of a S-VDR (as required by the carriage requirements of SOLAS V)

3.1.3
bridge work station
position at which a person is expected to be when performing one of the normal bridge duties at, for example, the following work stations:

- centre line conning
- bridge wing(s)
- main radar
- chart table
- helms
- communication

3.1.4
data
any item of information received by the S-VDR for recording, including numerical values, text and audio or radar signals, except where specifically stated or the context dictates otherwise

3.1.5
dedicated reserve power source (MSC.163(78) 4.5)
secondary battery, with suitable automatic charging arrangements, dedicated solely to the S-VDR, of sufficient capacity to operate it as required by 4.5.3

3.1.6
final recording medium (MSC.163(78) 4.3)
any item of hardware on which the data is recorded such that access to it would enable the data to be recovered and played back by use of suitable equipment

3.1.7
playback equipment (MSC.163(78) 4.4)
any equipment, compatible with the recording medium and the format used during recording, employed for recovering the data. It includes also the display or presentation hardware and software that is appropriate to the original data source equipment

3.1.8
recorder (S-VDR) (MSC.163(78) 4.1)
complete system, including any items required to interface with the sources of input data, for processing and encoding the data, the final recording medium in its capsule, the power supply and dedicated reserve power source

3.1.9
resolution
smallest detectable increment between two values

3.1.10
sensor (MSC.163(78) 4.2*)*
any unit external to the S-VDR to which the S-VDR is connected and from which it obtains data to be recorded

3.2 Abbreviations

AIS	Automatic identification system
ALR	IEC 61162 sentence: Set alarm state
DPT	IEC 61162 sentence: Depth relative to the transducer
DTM	IEC 61162 sentence: Geodetic datum reference
EPFS	Electronic position fixing system
EPIRB	Emergency position-indicating radio beacon