SLOVENSKI STANDARD
oSIST prEN 50695:2020

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Splošni javni krizni alarmni sistem, komunikacijski sistem za pomorske aplikacije

Public-address-general-emergency-alarm-system, communication-system for marine applications

Lautsprecher-Durchsage-System-General-Notfallalarm-System, Kommunikations-System für Marine-Anwendungen

Ta slovenski standard je istoveten z: prEN 50695:2019

ICS:

13.320	Alarmni in opozorilni sistemi	Alarm and warning systems
47.020.99	Drugi standardi v zvezi z ladjedelništvom in konstrukcijami na morju	Other standards related to shipbuilding and marine structures

oSIST prEN 50695:2020 **en,fr,de**

EUROPEAN STANDARD

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ICS

English Version

Public-address-general-emergency-alarm-system, communication-system for marine applications

To be completed

Lautsprecher-Durchsage-System-General-Notfallalarm-System, Kommunikations-System für Marine-Anwendungen

This draft European Standard is submitted to CENELEC members for enquiry.
Deadline for CENELEC: 2020-02-21.

It has been drawn up by CLC/BTTF 157-1.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CENELEC 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.

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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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Contents

Page

European foreword

This document (prEN 50695:2019) has been prepared by CLC/BTTF 157-1 “Public address and general emergency alarm systems”.

This document is currently submitted to the Enquiry.

The following dates are proposed:

• latest date by which the existence of this document has to be announced at national level	(doa)	dor + 6 months
• latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	dor + 12 months
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	dor + 36 months (to be confirmed or modified when voting)

The EU-Commission has received requests from stakeholders for the development of standards for public address and general emergency alarm systems (entry A.2/1.5 in Annex A.2 of Directive 96/98/EC as amended by Commission Directive (EU) 2015/559) and therefore requests the European standardization organisations start the development of the respective standards.

The development of standards for public address and general emergency alarm systems is necessary because these systems are very important for safety on board and they are exposed to specific conditions (e.g. moisture, salt) which do not occur in other circumstances. The legislative provisions will detail the modalities for assessing those equipment.

The availability of testing standards will allow these products to be included in the scope of Directive 2014/90/EU, which in turn will allow them to be conformity assessed by a notified body and to affix the wheel mark.

Introduction

Public Address and General Emergency Alarm Systems have the primary purpose to inform persons on board of vessels of emergency situations, and to enable the ship's officers relay voice messages to persons on board those vessels in emergency situations.

EN 50695 has been written in pursuit of a request of the European Commission for a standard on equipment for Public Address and General Emergency Alarm Systems (PA-, GA- and PAGA-systems). The European Commission issued this request with the intention of taking this standard on board the Implementing Regulations belonging to the Marine Equipment Directive (MED), with the aim to enable and require MED certification for equipment for Public Address and General Emergency Alarm Systems (PA-, GA- and PAGA-systems). This will ensure that such equipment complies with all applicable requirements to that equipment set by the International Maritime Organization (IMO) in SOLAS 1974 and the LSA-code, before it is installed on board a vessel.

Equipment compliant with this standard, certified according to the Marine Equipment Directive, can thus be used to engineer and install a Public Address and General Emergency Alarm System on board a vessel flying the flag of a EU member state.

EN 50695 has been designed to make use of existing standards where possible, and specifies clarifications of requirements in other standards, additional requirements and methods of test and required test results where necessary to satisfy the IMO requirements.

This document is focussed on the MED approval of components.

1 Scope

This document describes operational and performance requirements, methods of testing and required test results for components of Public-Address-Systems (PA), General-Emergency Alarm Systems (GA) and Public-Address General-Emergency Alarm Systems (PAGA) for marine applications (ships) in support of the requirements of IMO for such systems, while it is up to the manufacturer to define the components to be type approved together or separately, to build up a system.

NOTE 1 This part of the document does not include system engineering for installation on board nor installation requirements.

This document refers as much as possible to relevant established standards. Where relevant standards do not exist or are not precise enough, this document will describe additionally own operational and performance requirements, methods of testing and required test results.

NOTE 2 All text of this document, whose wording is identical to that of IMO circular MSC.808 or to SOLAS convention requirements, is printed in italics, and the resolution and associated paragraph numbers are indicated in brackets.

Table 1 describes the applicable IMO requirements for each combination of vessel category and type of system.

Table 1 — Requirement matrix

	GA	PA	PAGA
Cargo	SOLAS II-2/12 .1 and .2 SOLAS III/6.4 LSA Code 7.2.1 Res. A.1021(26) 5.10	LSA Code 7.2.2	SOLAS II-2/12 .1 and .2 SOLAS III/6.4 LSA Code 7.2 Res. A.1021(26) 5.8
Passenger ship (not SRtP)	SOLAS II-2/12 .1 and .2 SOLAS III/6.4 LSA Code 7.2.1 Res. A.1021(26) 5.10	SOLAS II-2/12 .1 and .3 SOLAS III/6.5 LSA Code 7.2.2 MSC/Circ.808	SOLAS II-2/12 .1, .2 and .3 SOLAS III/6.4, 6.5 LSA Code 7.2 A.1021(26) 5.8 MSC/Circ.808.
Passenger ship (SRtP)	SOLAS II-2/12 .1 and .2 SOLAS III/6.4 LSA Code 7.2.1 Res. A.1021(26) 5.10	SOLAS II-2/12 .1 and .3 SOLAS III/6.5 LSA Code 7.2.2 MSC/Circ.808 SOLAS II-2/21&22 MSC.1/Circ.1369/Add.1	SOLAS II-2/12 .1, .2 and .3 SOLAS III/6.4, 6.5 LSA Code 7.2 Res. A.1021(26) 5.8 MSC/Circ.808 SOLAS II-2/21&22 MSC.1/Circ.1369/Add.1

Each clause of this document is applicable for all ships type if not explicitly stated otherwise.

Each clause of this document indicates for which type of system it is applicable.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

EN IEC 60268-4:2008, *Sound system equipment - Part 4: Microphones (IEC 60268-4:2008)*

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

EN 61162-1, *Maritime navigation and radio communication equipment and systems, - Digital interfaces, Part 1: -Single talker and multiple listeners (IEC 61162-1)*

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

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

EN 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 62288)*

EN IEC 62923-1, *Maritime navigation and radiocommunication equipment and systems - Bridge alert management - Part 1: Operational and performance requirements, methods of testing and required test results (IEC 62923-1)*

IEC 60268-1, *Sound system equipment - Part 1: General*

3 Terms, definitions and abbreviations

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1 Terms and definitions

3.1.1
Public Address system
PA system
electronic system comprising microphones, amplifiers, loudspeakers, and related equipment to increase and distribute the volume (loudness) of a live spoken human voice, or other acoustic sound source, into areas

3.1.2
general emergency alarm system
GA system
equipment to distribute audible signals used on board ships in times of emergency

3.1.3
Public-Address-General-Emergency-Alarm system
PAGA system
equipment which has the functions and performance of both a PA system and a GA system

3.1.4
control station
human machine interface (e.g. panel) for the operator to use the system

3.1.5
alarm
high-priority alert
(MSC 302/A) *Condition requiring immediate attention and action by the bridge team, to maintain the safe navigation and safe operation of the ship*

3.1.6
redundancy
duplication of critical components or functions of a system with the intention of increasing reliability

3.1.7
Emergency Public Address
Emergency PA
voice announcement used to supplement general emergency alarm having priority over the general emergency alarm

3.1.8
public address
voice announcement

3.1.9
general emergency alarm
audible signal used on board ships to indicate an emergency situation, summoning passengers and crew to muster stations and to initiate the actions included in the muster list

3.1.10
alert
(MSC 302/A) *announcement of abnormal situations and conditions requiring attention*

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

3.1.11
bridge alert management
(MSC.302/A) overall concept for management, handling and harmonized presentation of alerts on the bridge

3.1.12
Central Alert Management System
CAM System
combined functionality of CAM and CAM-HMI

Note 1 to entry: CAM-HMI means: *(MSC.302/A) human machine interface for* centralized *presentation and handling of alerts on the bridge*

3.1.13
CAM means
(MSC.302/A) functionality for the management of the presentation of alerts on the CAM-HMI, the communication of alert states between CAM-HMI and navigational systems and sensors. The functions may be centralized or partly centralized in subsystems and interconnected via a standardized alert-related communication

3.1.14
loop
transmission-path between amplifiers and loudspeakers and between controllers and active loudspeakers

Note 1 to entry: A loop may be an open or closed loop.

3.2 Abbreviations

EMC	Electro Magnetic Compatibility
EUT	Equipment under Test
GA	General Alarm / General Emergency Alarm
IEC	International Electrotechnical Commission
IMO	International Marine Organization
MSC	Maritime Safety Committee
LSA	International Life-Saving Appliance
SOLAS	Safety of Life At Sea
PA	Public Address
PA/GA	Public Address - General Alarm
RMS	Root Mean Square
THD	Total Harmonic Distortion
SNR	Signal to Noise Ratio

4 Generic Performance, Safety, Marine Environmental and EMC

4.1 Applicability

Applicable to all components of the PA, GA or PA/GA system, including optional features, for all ship types.

4.2 Requirement

Further to the requirements of SOLAS 1974 V/17 and IMO Resolutions A.813(19) and A.694(17), in addition to the requirements of this standard all components of the EUT shall comply with EN 60945.

For the purpose of EN 60945, where for a component of the EUT no applicable definitions for performance test and performance check are stated in an IEC or EN equipment standard, the following definitions apply:

- Performance test: Perform any operator action in the EUT and confirm by non-quantitative observation that the system is still operative. Where no operator action is available in the EUT (e.g. a speaker), activate a primary function of the EUT (e.g. to produce sound) and confirm by non-quantitative observation that the system is still operative.

- Performance check: Identical to the performance test.

For all components of the EUT, the manufacturer shall declare the EN 60945 environment category to which the components are successfully tested. The manufacturer's documentation that will be available with the equipment shall reflect the applicable EN 60945 environment categories. The applicable category may also be marked on the equipment.

The manufacturer's documentation that will be available with the equipment shall reflect the compass safe distances of all components of the EUT. The compass safe distance shall also be marked on the equipment.