SLOVENSKI STANDARD
SIST EN 300 338-6 V1.2.1:2020

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Tehnične karakteristike in merilne metode za naprave, ki generirajo, oddajajo in sprejemajo digitalni selektivni klic (DSC) v pomorski mobilni storitvi, ki deluje v območju MF, MF/HF oziroma VHF - 6. del: Digitalni selektivni klic razreda M

Technical characteristics and methods of measurement for equipment for generation, transmission and reception of Digital Selective Calling (DSC) in the maritime MF, MF/HF and/or VHF mobile service - Part 6: Class M DSC

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Technical characteristics and methods of measurement for equipment for generation, transmission and reception of Digital Selective Calling (DSC) in the maritime MF, MF/HF and/or VHF mobile service; Part 6: Class M DSC

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Foreword

This European Standard (EN) has been produced by ETSI Technical Committee Electromagnetic compatibility and Radio spectrum Matters (ERM).

The present document is part 6 of a multi-part deliverable. Full details of the entire series can be found in part 1 [i.1].

National transposition dates	
Date of adoption of this EN:	29 May 2020
Date of latest announcement of this EN (doa):	31 August 2020
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	28 February 2021
Date of withdrawal of any conflicting National Standard (dow):	28 February 2022

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the ETSI Drafting Rules (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

1 Scope

The present document states the minimum requirements for devices using Digital Selective Calling (DSC) Class M, for Man Overboard (MOB). The present document defines the requirements for equipment that uses DSC alerting and signalling in the maritime mobile bands and particularly the GMDSS distress and safety channels. Such equipment is not intended to provide any subsequent communications or telephony facilities.

The present document is part 6 of a multi-part deliverable that covers the channel access rules and technical requirements applicable to these devices.

2 References

2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at https://docbox.etsi.org/Reference/.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are necessary for the application of the present document.

[1] Recommendation ITU-R M.493-15 (01/2019): "Digital selective-calling system for use in the maritime mobile service".

[2] ETSI EN 303 098: "Maritime low power personal locating devices employing AIS; Harmonised Standard for access to radio spectrum".

[3] Recommendation ITU-R M.585-8: "Assignment and use of identities in the maritime mobile service".

[4] Recommendation ITU-R M.821-1: "Optional expansion of the digital selective-calling system for use in the maritime mobile service".

[5] CENELEC EN 61108-1: "Maritime navigation and radiocommunication equipment and systems - Global navigation satellite systems (GNSS) - Part 1: Global positioning system (GPS) - Receiver equipment - Performance standards, methods of testing and required test results".

[6] CENELEC EN 61108-2: "Maritime navigation and radiocommunication equipment and systems - Global navigation satellite systems (GNSS) - Part 2: Global navigation satellite system (GLONASS) - Receiver equipment - Performance standards, methods of testing and required test results".

[7] CENELEC EN 61108-3: "Maritime navigation and radiocommunication equipment and systems - Global navigation satellite systems (GNSS) - Part 3: Galileo receiver equipment - Performance requirements, methods of testing and required test results".

2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

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The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

[i.1] ETSI EN 300 338-1: "Technical characteristics and methods of measurement for equipment for generation, transmission and reception of Digital Selective Calling (DSC) in the maritime MF, MF/HF and/or VHF mobile service; Part 1: Common requirements".

3 Definition of terms, symbols and abbreviations

3.1 Terms

For the purposes of the present document, the terms given in ETSI EN 300 338-1 [i.1] and the following apply:

acknowledged: automated procedure which indicates that the objective of the initial DSC message has been achieved

activation: initial triggering of the MoB device i.e. both parts of the two step procedure are performed

active mode: activated mode, transmitting in an emergency situation

class M: specific class of DSC functionality for use by man overboard devices

closed loop: individual transmission to own vessel

default: value selected or an action taken by the equipment software in the absence of any operator input

distress alert: name given to the single distress DSC message with the format symbol 112

distress DSC message: DSC message or acknowledgement containing the distress information

distress information: symbols within a DSC message describing a distress situation consisting of the MMSI of the vessel in distress, the nature of distress, the position of the vessel in distress, the UTC time of that position and the mode of subsequent communication

factory default: default value that is set by the manufacturer such that the field or behaviour is defined prior to any operator intervention

information characters: set of symbols in a DSC message that contains the items of interest for the recipient and is used to compute the ECC symbol that terminates the message

non distress DSC message: DSC messages or acknowledgements that do not have the format specifier or category of "distress"

open loop: transmitting to all ships (broadcast) 'using All ships call types'

symbol (as part of the DSC sentence): 7 binary bits of a 10 bit DSC word that have the information content

test mode: self-testing mode using an individual test call to own vessel

word (as part of the DSC sentence): 10 binary bits that make up the coded entities of a transmitted DSC message

NOTE: The 10 bits consist of a 7 bit "symbol" that gives the information content and 3 bit error check that gives the number of 0 binary bits in the 7 bit symbol.

3.2 Symbols

Void.

3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

AIS	Automatic Identification System
CIRM	Comité International Radio-Maritime
DSC	Digital Selective Calling
ECC	Error Check Character
GMDSS	Global Maritime Distress and Safety System
GMSK	Gaussian Minimum Shift Keying
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
HF	High Frequency
ID	IDentity
ITU	International Telecommunications Union
ITU-R	ITU - Radiocommunications sector
LBT	Listen Before Talk
MF	Medium Frequency
MMSI	Maritime Mobile Service Identity
MOB	Man Overboard
PM	Phase Modulation
UTC	Universal Time Co-ordinated
VHF	Very High Frequency
WGS	World Geodetic System

4 General requirements

4.1 General

Class M MOB devices are employed in situations of grave and imminent danger to persons that require immediate assistance from other vessels.

MOB devices shall be:

- Fitted with an internal electronic GNSS position fixing device.
- Fitted with a transceiver operating on VHF DSC channel 70.
- Fitted with an Automatic Identification System (AIS) transmitter operating in accordance with ETSI EN 303 098 [2] to provide radio location.
- Fitted with audio and visual indicators to designate operation of the MOB device, intrinsically safe MOB devices shall be fitted with a minimum of visual indicators.
- Capable of manual and automatic activation and manual deactivation.

4.2 Frequency of operation

The MOB device shall operate on 156,650 MHz (Channel 70), 160,975 MHz (AIS 1) & 161,025 MHz (AIS 2) only.

4.3 Class of emission

DSC: G2B Phase Modulation (PM) with digital information with a sub-carrier.

AIS: F1D GMSK 9 600 baud.