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Edition 1.0 2018-08

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Maritime navigation and radiocommunication equipment and systems – Bridge alert management –
Part 2: Alert and cluster identifiers and other additional features

Matériels et systèmes de navigation et de radiocommunication maritimes – Gestion des alertes à la passerelle –
Partie 2: Identifiants d'alerte et de groupe et autres caractéristiques supplémentaires

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS – BRIDGE ALERT MANAGEMENT –

Part 2: Alert and cluster identifiers and other additional features

FOREWORD

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The text of this International Standard is based on the following documents:

FDIS	Report on voting
80/893/FDIS	80/896/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

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A list of all parts in the IEC 62923 series, published under the general title *Maritime navigation and radiocommunication equipment and systems – Bridge alert management*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

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INTRODUCTION

This document is written to support the implementation of IEC 62923-1, through the definition of harmonized machine readable alert identifiers that can be used to facilitate the implementation of responsibility transfer.

References are made to IEC 62923-2 in other standards. Many IEC standards involve alert communications to which bridge alert management principles apply. This includes interconnections between equipment to transfer alerts. Many standards define alerts for which alert identifiers could be applied to enable machine-reading of these alerts.

It is important to coordinate the alert identifiers, to maintain machine-readability and to prevent double use of an identifier. Due to the development of standards, it is important to maintain this list.

This edition of the document contains the alert identifiers which have defined at the time of publication. As bridge alert management is introduced into maritime navigation and radiocommunication equipment, alert identifiers will be added into equipment standards. It is intended that later editions of this document will include the alert identifiers subsequently defined in the equipment standards.

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MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS – BRIDGE ALERT MANAGEMENT –

Part 2: Alert and cluster identifiers and other additional features

1 Scope

This part of IEC 62923 specifies standard alert identifiers and reserved cluster identifiers to be used when applying bridge alert management. The intent is to reduce the number of different identifiers used for similar alerts as much as possible.

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.

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*

IMO, *International Convention for the safety of life at sea (SOLAS),1974 as amended*

IMO A.481(XII), *Principles of safe manning*

IMO MSC.128(75), *Performance standards for a bridge navigational watch alarm system (BNWAS)*

IMO FSS Code, *International Code of Fire Safety Systems*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 62923-1 apply.

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

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

4 Alert identifiers

4.1 Requirements

When defining alerts listed in Annex A, the corresponding alert identifiers defined in Annex A shall be used.

Alerts not listed in Annex A shall be assigned an alert identifier in the range 10000 to 9999999.

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The manufacturer shall provide a list of all alerts in the EUT, together with their assigned alert identifiers.

4.2 Method of test and required results

Confirm by inspection of manufacturer's documentation that:

- if the manufacturer has defined alerts listed in Annex A, the corresponding alert identifiers are assigned as specified in Annex A; and
- if the manufacturer has defined alerts not listed in Annex A, the corresponding alert identifiers are assigned within the range 10000 to 9999999.

If applicable, cause up to 5 alerts listed in Annex A and confirm by observation that the reported ALF messages are indicating the appropriate identifier.

If applicable, cause up to 10 alerts not listed in Annex A and confirm by observation that the reported ALF messages are indicating an identifier in the range 10000 to 9999999.

5 Reserved cluster identifiers

5.1 Requirements

When defining clusters (see IEC 62923-1), the cluster identifiers defined in Annex B shall be used for their intended purpose. Only when the cluster identifiers defined in Annex B are not applicable, the free range of cluster identifiers as defined in IEC 62923-1 shall be used.

The manufacturer shall provide a list of all alerts in the EUT, together with their assigned cluster identifiers.

5.2 Method of test and required results

Confirm by inspection of manufacturer's documentation that cluster identifiers are used as specified in Annex B. If the clusters defined in Annex B are not applicable, confirm by inspection that the cluster identifiers are used in the free range of cluster identifiers as defined in IEC 62923-1.

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Annex A
(normative)

Alert identifiers

A.1 General

Table A.1 defines the standard alert identifiers. This table gives the definition of each alert, which is to be considered as guidance for assigning an appropriate alert title. Also, the reason for each alert is described.

In the definition, the text between angle brackets <example> shall be replaced with the appropriate information for the specific situation.

EXAMPLE

Definition: <device> empty

Reason for alert: no cookies in the jar

Suggested alert title: cookie jar empty

NOTE 1 Guidance for the formulation of an appropriate alert title and alert description text is given in IEC 62923-1.

The range of alert identifiers below number 0100 is reserved for emergency alerts only.

Starting from 0300, alert identifiers are issued in blocks per alert, as alerts could occur in different priorities, due to the situation in which they occur.

Of the alert identifiers above 0300:

- numbers ending with 1, 4 and 7 will be used for the priority alarm;
- numbers ending with 2, 5 and 8 will be used for the priority warning;
- numbers ending with 3, 6 and 9 will be used for the priority caution.

NOTE 2 Where Table A.1, Table A.2 and Table A.3 in the column "Purpose" use the word "alarm" due to formulations used in a related IMO document the requirements of IEC 62923-1, IMO or the individual equipment standard could result in an actual alert priority other than "alarm".

Table A.2 and Table A.3 further indicate how those alert identifiers map to the alerts specified by IMO or by the individual equipment standards.

NOTE 3 All alerts of individual equipment standards that have published alert identifiers will be included in future editions of this document.

Where the tables also indicate numbers between brackets, for example (110), these represent legacy alert identifiers, which could be encountered by equipment already in the market before publishing of this document. These legacy alert identifiers should not be transmitted by equipment compliant with this document for alerts raised by that equipment, except if this is a configurable option for backwards compatibility.

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Table A.1 – Standard alert identifiers

Standard alert identifier	Priority	Alert definition (title has ≤16 characters)	Purpose
0001	Emergency alarm	<General emergency>	General emergency alarm activated. Operator has to initiate general emergency procedures immediately.
0004	Emergency alarm	Fire <location>	Fire alarm activated. Operator has to initiate fire emergency procedures immediately.
0007	Emergency alarm	<Medium> <space>	Fire-extinguishing discharge imminent. E.g. CO2 EngineRoom – Discharge imminent: evacuate space.
0011	Emergency alarm	<Location> flooding	Water level main alarm. Operator has to initiate water-ingress procedures immediately.
0014	Emergency alarm	<Door> closing	A watertight door or hatch is power-operated to close.
3002	Warning	Lost <interface>	The system has lost communication with a connected system. E.g. a wiring cut.
3003	Caution		The system has lost communication with a connected system.
3005	Warning	Invalid <data>	Improper information received. E.g. ECDIS "different geodetic datum".
3006	Caution		Improper information received. E.g. IEC 61162-1 sentence has invalid fields.
3007	Alarm	Lost <function>	One of the main functions of the system had to be stopped. The operator has to select an alternative immediately. E.g. INS has lost collision avoidance function.
3008	Warning		One of the main functions of the system had to be stopped. The operator has to select an alternative. E.g. GNSS 'no calculation of position'.
3009	Caution		One of the main functions of the system had to be stopped. The operator has to select an alternative. E.g. AIS 'MKD lost'.
3012	Warning	Doubtful <input>	The integrity check has failed. E.g. the position monitor detects an integrity failure.
3013	Caution		The integrity check has failed. E.g. the position monitor detects an integrity failure.
3014	Alarm	Lost <input>	A main function has lost essential sensor input. E.g. the last position sensor is lost.
3015	Warning		A main function has lost essential sensor input.
3016	Caution		A main function has lost essential sensor input. E.g. a standby TCS has lost input such that it cannot be activated.
3019	Caution	Wrong <input>	An operator setting is inconsistent when compared to other information. E.g. INS "different thresholds entered".
3021	Alarm	<Power> fail	Power failure (generic). E.g. power failure of steering gear pump 1.
3022	Warning		Power failure (generic). E.g. TCS "failure or reduction in power supply".
3023	Caution		Power failure (generic) E.g. charging voltage or current out of limits.

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Standard alert identifier	Priority	Alert definition (title has ≤16 characters)	Purpose
3024	Alarm	<Control limit>	A system detects that a control limit has been exceeded. E.g. the cross-track distance is too large.
3025	Warning		A system detects that a control limit has been exceeded. E.g. off heading.
3026	Caution		A system detects that a control limit has been exceeded.
3027	Alarm	<Course change>	Wheel-over imminent.
3028	Warning		
3031	Alarm	<Threshold>	A system detects that an operator threshold has been exceeded. E.g. TCS "course difference".
3032	Warning		
3035	Warning	<Look ahead>	Look ahead function detects a condition that in due course may violate the safety of the ship. E.g. Crossing navigational hazard.
3036	Caution		
3038	Warning	<Critical point>	Approaching critical point as specified by the operator.
3042	Warning	<Target store>	Target processing/display/capacity have been exceeded.
3043	Caution		Target processing/display/capacity is about to be exceeded.
3044	Alarm	CPA/TCPA <ID>	Collision danger detected.
3048	Warning	New Target <ID>	A new target detected.
3052	Warning	Lost target <ID>	An acquired target has been lost.
3055	Warning	<Input quality>	The quality of the input is reduced. E.g. GNSS "loss of differential signal".
3056	Caution		
3061	Alarm	<System> fault	The system's self-check has detected a fault (generic).
3062	Warning		
3065	Warning	<Threshold>	A system detects that it is outside its operating range. E.g. TCS "low speed".
3067	Alarm	<Remote control> fail	Remote control is no longer possible. E.g. propulsion machinery has a remote control failure.
3071	Alarm	<Failure imminent>	Imminent slowdown or shutdown of system. E.g. imminent slowdown or shutdown of propulsion system.
3074	Alarm	Shutdown <system>	Automatic shutdown of system. E.g. automatic shutdown of propulsion machinery.
3077	Alarm	<OOW attention>	Fault requiring action or attention of the officer on watch (generic).
3078	Warning		Fault requiring action or attention of the officer on watch (generic).
3079	Caution		Fault requiring action or attention of the officer on watch (generic). E.g. paper low in printer.
3081	Alarm	<Door> opening	A closed watertight door or hatch is opening.

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Standard alert identifier	Priority	Alert definition (title has ≤16 characters)	Purpose
3084	Alarm	<Gas detected>	Dangerous gas detected. E.g. hydrocarbon gas detection in a tanker's cargo pump rooms.
3087	Alarm	<Fire detected>	Fire detection in periodically unattended, automated or remotely controlled machinery space.
3091	Alarm	Lost <system>	A system that monitors the presence of another critical system detects the loss of that other system. E.g. loss of required ventilation.
3094	Alarm	<Fire-ext. active>	A fixed local application fire-extinguishing system has been activated.
3097	Alarm	<Personnel alert>	Personnel alert activated.
3101	Alarm	<Fire detected>	Fire detected or detected that an automatic sprinkler has been activated.
3104	Alarm	<Smoke detected>	Smoke detected.
3108	Warning	<Locating device>	Active locating device detected.
3113	Caution	<Input> in fallback	Lost primary function, fallback is in use. E.g. AIS 'Sync in fallback'.
3115	Warning	Impaired radio	Lost functionality of a radio link, causing loss of information. E.g. antenna tuning error.
3116	Caution		Lost functionality of a radio link, causing loss of information. E.g. AIS channel 1 inoperative.
3119	Caution	Missing <data>	A data output signal is missing due to loss of external data source. E.g. AIS: Input missing for transmitting ROT.
3122	Warning	<Message received>	A message is received from a communication system. E.g. a distress or urgency call from GMDSS equipment.
3123	Caution		A message is received from a communication system. E.g. maritime safety information from GMDSS equipment.

A.2 Alert identifiers for IMO mandatory alerts

IMO resolution A.1021(26), Table 10.1.1, lists the required alerts to be located on the navigation bridge. An excerpt of this table, including added unique alert identifiers at alert source, is reproduced as Table A.2.

Where an equipment applies alerts listed in Table A.2, the standard alert identifiers in Table A.2 shall be used by the equipment for these alerts.

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