

---

---

**Ships and marine technology —  
Graphical symbols for computer-  
based incident response systems**

STANDARDSISO.COM : Click to view the full PDF of ISO 23120:2022



STANDARDSISO.COM : Click to view the full PDF of ISO 23120:2022



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2022

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

|                                          | Page |
|------------------------------------------|------|
| Foreword.....                            | iv   |
| Introduction.....                        | v    |
| 1 Scope.....                             | 1    |
| 2 Normative references.....              | 1    |
| 3 Terms and definitions.....             | 1    |
| 4 Type and use of graphical symbols..... | 2    |
| 4.1 General.....                         | 2    |
| 4.2 Graphical symbols.....               | 2    |
| 4.3 Use of graphical symbols.....        | 6    |
| Bibliography.....                        | 8    |

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*, Subcommittee SC 8, *Ship design*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## Introduction

This document has been developed in order to standardize graphical symbols used in shipborne computer-based incident response systems. Typically, incident response systems are used in emergency situations and concise and intuitive representation of information is very important. Well-designed standard graphical symbols can avoid confusion and misunderstanding of information and the graphical symbols in this document are designed for such purpose.

STANDARDSISO.COM : Click to view the full PDF of ISO 23120:2022

[STANDARDSISO.COM](https://standardsiso.com) : Click to view the full PDF of ISO 23120:2022

# Ships and marine technology — Graphical symbols for computer-based incident response systems

## 1 Scope

This document specifies the graphical symbols and representations for onboard incidents, response activities and boundaries and path as well as their usage. The graphical symbols are designed to be used for representing related information in shipborne computer-based incident response systems.

## 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.

ISO 3941, *Classification of fires*

## 3 Terms and definitions

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

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

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

### 3.1

#### **graphical symbol**

visually perceptible figure which is used for the purpose of transmitting information independent of the medium of language

### 3.2

#### **damage**

physical harm that impairs the value, usefulness, or normal function of the vessel

### 3.3

#### **incident**

event that results in or may result in injury or ill-health to people, *damage* (3.2) or loss to property, materials or the environment, or a loss of a business opportunity

Note 1 to entry: Unlike an accident, incident does not necessarily result in actual injury or damage.

### 3.4

#### **incident response system**

set of tools that is intended to control an *incident* (3.3)

### 3.5

#### **computer-based**

software implementation of functionality that includes human machine interfaces for input and output

### 3.6

#### **fire**

rapid oxidation of a material in the exothermic chemical process of combustion, releasing heat, light, and various reaction products

## 3.7

**flooding**

liquid entering the vessel uncontrolled

## 3.8

**state**

progress of handling the incident

## 4 Type and use of graphical symbols

### 4.1 General

A computer-based incident response system shall employ, where applicable, the graphical symbols described in this document. Where this document provides no appropriate symbol, another symbol may be used. However, such symbol shall not be easily confused with the graphical symbols defined in this document and shall follow the same generic principles applied in this document with regard to colours, shapes and states.

### 4.2 Graphical symbols

**4.2.1** The graphical symbols shall be of a suitable size and resolution to ensure they are clearly understandable to the user under all ambient light conditions and shall be at least 6 mm by 6 mm. Generally, graphical symbols shall not be framed.

**4.2.2** See [Table 1](#) for the graphical symbols for incidents to be plotted on the computer-based incident response system.

**4.2.3** See [Table 2](#) for the graphical symbols for response activities to be plotted on the computer-based incident response system.

**4.2.4** See [Table 3](#) for the graphical representations for boundaries and paths to be plotted on the computer-based incident response system.

**4.2.5** A computer-based incident response system shall employ, where applicable, the graphical representations described in [Table 1](#), [Table 2](#) and [Table 3](#). While each graphical symbol is designed in black and white according to the IEC 80416 series, coloured versions are also available for fire- and flooding-related symbols for a more intuitive understanding.

**Table 1 — List of graphical symbols for incidents**

| No. | Symbol                                                                              | Name | Symbol Registration No | Coloured version                                                                    | Comments on use                                                                                                                                                                                                                                                                                                                       |
|-----|-------------------------------------------------------------------------------------|------|------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A.1 |  | fire | ISO 7000-3852          |  | <p>To indicate the location of fire and identify the fire type.</p> <p>A character in the middle shall be plotted to describe the type of fire: a question mark (?) for unknown fire type or a letter for the fire class as described in ISO 3941.</p> <p>Red colour may be used for flame symbol for more intuitive recognition.</p> |

Table 1 (continued)

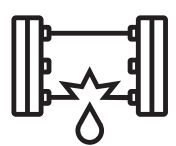
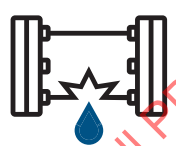
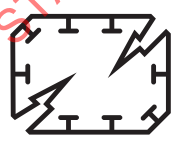
| No. | Symbol                                                                              | Name                     | Symbol Registration No | Coloured version                                                                  | Comments on use                                                                                                                                                                                                                                                                           |
|-----|-------------------------------------------------------------------------------------|--------------------------|------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A.2 |    | smoke                    | ISO 7000-3853          |  | To indicate the location of smoke and identify the smoke type.<br><br>A question mark (?) shall be placed in the centre for unknown type. No character shall be placed in the symbol to indicate white smoke. The symbol shall be filled with solid black colour to indicate black smoke. |
| A.3 |    | flooding                 | ISO 7000-3854          |  | To indicate the location where flooding is occurring or has occurred.<br><br>The colour of water drops may be blue for more intuitive recognition.                                                                                                                                        |
| A.4 |    | pipe rupture             | ISO 7000-3855          |  | To indicate a pipe rupture has occurred and possibly its location.<br><br>The colour of water drop may be blue for more intuitive recognition.                                                                                                                                            |
| A.5 |   | toxic spill              | ISO 7000-3856          |                                                                                   | To indicate a toxic spill has occurred and possibly its location.                                                                                                                                                                                                                         |
| A.6 |  | hole in deck             | ISO 7000-3857          |                                                                                   | To indicate that a hole is present on a deck.                                                                                                                                                                                                                                             |
| A.7 |  | debris;<br>fragmentation | ISO 7000-3858          |                                                                                   | To indicate debris or fragmentation is present.                                                                                                                                                                                                                                           |
| A.8 |  | structural damage        | ISO 7000-3751          |                                                                                   | To indicate that structural damage has occurred.                                                                                                                                                                                                                                          |
| A.9 |  | pipe blocked             | ISO 7000-3859          |                                                                                   | To indicate a pipe is blocked and possibly its location.                                                                                                                                                                                                                                  |

**Table 1** (continued)

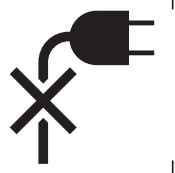
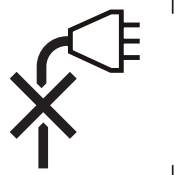
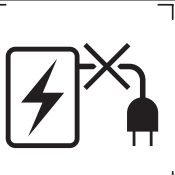
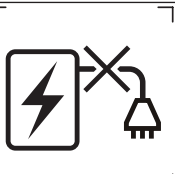
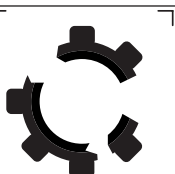
| No.        | Symbol                                                                              | Name                           | Symbol Registration No | Coloured version | Comments on use                                                                                                  |
|------------|-------------------------------------------------------------------------------------|--------------------------------|------------------------|------------------|------------------------------------------------------------------------------------------------------------------|
| A.10<br>a) |    | electrical power lost A        | ISO 7000-3860A         |                  | To indicate the loss of electrical power.<br>A and B versions are available according to the plug type.          |
| A.10<br>b) |    | electrical power lost B        | ISO 7000-3860B         |                  |                                                                                                                  |
| A.11       |    | communication lost             | ISO 7000-3861          |                  | To indicate the loss of communication.                                                                           |
| A.12<br>a) |   | backup power lost A            | ISO 7000-3862A         |                  | To indicate the loss of backup or emergency power.<br>A and B versions are available according to the plug type. |
| A.12<br>b) |  | backup power lost B            | ISO 7000-3862B         |                  |                                                                                                                  |
| A.13       |  | mechanical damage to equipment | ISO 7000-3863          |                  | To indicate the equipment has mechanical damage.                                                                 |
| A.14       |  | injuries or death              | ISO 7000-3864          |                  | To indicate the location of an injured or dead person.                                                           |

Table 2 — List of graphical symbols for response activities

| No. | Symbol                                                                              | Name                           | Symbol Registration No | Coloured version                                                                    | Comments on use                                                                                                                                                                                                                                                                   |
|-----|-------------------------------------------------------------------------------------|--------------------------------|------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| B.1 |    | boundary cooling               | ISO 7000-3865          |    | <p>To indicate a boundary is being cooled to reduce heat transfer.</p> <p>The position of flame, wall, and water may be repositioned to intuitively show the hot and cooled sides of the wall.</p> <p>Red colour for flame symbol may be used for more intuitive recognition.</p> |
| B.2 |    | rescue alarm                   | ISO 7000-3866          |                                                                                     | To indicate the location where the rescue alarm was sounded.                                                                                                                                                                                                                      |
| B.3 |    | fire damper                    | ISO 7000-3867          |    | <p>To indicate the location where fire damper was closed.</p> <p>Red colour for flame symbol may be used for more intuitive recognition.</p>                                                                                                                                      |
| B.4 |  | disconnecter; isolator         | IEC 60417-6169-1-      |                                                                                     | <p>To identify the circuit-breaker that provides disconnection and isolation for the installation downstream.</p> <p>This symbol can be used to indicate the equipment or device which has been electrically isolated.</p>                                                        |
| B.5 |  | intentional blocking of pipe   | ISO 7000-3868          |                                                                                     | To indicate the pipe is intentionally blocked or closed to stop the flow.                                                                                                                                                                                                         |
| B.6 |  | damage control and repair team | ISO 7000-3869          |                                                                                     | To indicate the location of the damage control and repair team.                                                                                                                                                                                                                   |
| B.7 |  | firefighting team              | ISO 7000-3870          |  | <p>To indicate the location of the firefighting team.</p> <p>Red colour for flame symbol may be used for more intuitive recognition.</p>                                                                                                                                          |
| B.8 |  | medical team                   | ISO 7000-3871          |                                                                                     | To indicate the location of the medical team.                                                                                                                                                                                                                                     |

**Table 3 — List of graphical representations for boundaries and paths**

| No. | Symbol                                                                               | Name                          | Comments on use                                                                                                                              |
|-----|--------------------------------------------------------------------------------------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| C.1 |     | fire incident area            | To indicate an area where a fire incident occurred. The illustration is used to form a boundary of the fire incident area.                   |
| C.2 |     | fire containment area         | To indicate a fire incident area which is contained.                                                                                         |
| C.3 |     | flooding incident area        | To indicate an area where a flooding incident occurred. The illustration is used to form a boundary of the flooding incident area.           |
| C.4 |     | water tightened flooding area | To indicate a flooding area which is contained by water tightening.                                                                          |
| C.5 |     | closed zone                   | To indicate an area which is closed such that no entrance to the area is allowed. The illustration is used to form a boundary of closed zone |
| C.6 | a)  | route, beginning              | a), b) and c) shall be combined to mark a route from the beginning to the end.                                                               |
|     | b)  | route, path                   |                                                                                                                                              |
|     | c)  | route, end                    |                                                                                                                                              |

### 4.3 Use of graphical symbols

**4.3.1** The presentation of the graphical symbols and the states of the related incidents shall comply with the following requirements. An example of the presentation of a graphical symbol with multiple states is shown in [Table 4](#).

**4.3.2** When an incident is reported, the related symbol shall be plotted on the deck plan of the computer-based incident response system at the incident location. If plotting the symbol on the incident location is not feasible, the symbol shall be placed outside the deck plan, near to the incident location, and shall be clearly linked to the incident location.

**4.3.3** When the incident is confirmed by the crew or any other means, a line at the bottom of the symbol shall be plotted as shown in [Table 4](#). If the incident is reported by human, the incident is considered as in confirmed state immediately skipping the reported state.

**4.3.4** When the incident is being dealt with (engaged), a straight line from the left end of the bottom line to the top central point above the incident symbol shall be drawn as shown in [Table 4](#).

**4.3.5** When all the incident response activities are completed successfully, and the incident is resolved, a straight line from the right end of the bottom line to the top central point above the incident symbol is drawn to form a triangle surrounding the incident symbol as shown in [Table 4](#).