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TECHNICAL REPORT

colour inside

Graphical symbols for electrical equipment in medical practice



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Graphical symbols for electrical equipment in medical practice

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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GRAPHICAL SYMBOLS FOR ELECTRICAL EQUIPMENT IN MEDICAL PRACTICE

FOREWORD

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IEC TR 60878 has been prepared by subcommittee 62A: Common aspects of electrical equipment used in medical practice, of IEC technical committee 62: Electrical equipment in medical practice. It is a Technical Report.

This fourth edition cancels and replaces the third edition published in 2015. This fourth edition constitutes a technical revision.

The main changes compared with IEC TR 60878:2015 are as follows:

- A total of 109 new symbols and safety signs that have been identified since the publication of the third edition have been added. For identification, the number of the new symbol or safety sign is printed in red followed by "New".
- Of the symbols and safety signs in the third edition, 14 have changes in their title or description. For identification, the number of a modified symbol or safety sign is printed in red followed by "Mod".

The text of this Technical Report is based on the following documents:

Draft	Report on voting
62A/1472/DTR	62A/1483/RVDTR

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this Technical Report is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The "colour inside" logo on the cover page of this document indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

The contents of the corrigendum 1 (2023-02) have been included in this copy.

INTRODUCTION

This document is a collection of all graphical symbols used on medical electrical equipment. It is intended for the easy finding of a certain symbol and related ones in one single source, concentrating on this special field of application. For those more general symbols, for which the application on medical electrical equipment is subject to certain restrictions, these are pointed out in a section of the symbol description table headed “Further comments by IEC/TC 62”.

This is not just “a collection of some symbols”. The presented symbols should:

- comply with the drafting rules expressed in ISO/IEC 80416,
- use symbol elements in a consistent manner to facilitate user understanding and minimize errors, and
- sufficiently differ in appearance from each other, to avoid any confusion.

GRAPHICAL SYMBOLS FOR ELECTRICAL EQUIPMENT IN MEDICAL PRACTICE

1 Scope

This document provides a compilation, for easy reference, of graphical symbols (graphics, title, description) and safety signs for medical electrical equipment. The graphical symbols are grouped in sections according to their specific field of application (see Clause 4).

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 60417, *Graphical symbols for use on equipment*, available at http://www.graphical-symbols.info/equipment

IEC 60601-1, *Medical electrical equipment – Part 1: General requirements for basic safety and essential performance*

IEC 60601-1-8:2006, *Medical electrical equipment – Part 1-8: General requirements for basic safety and essential performance – Collateral Standard: General requirements, tests and guidance for alarm systems in medical electrical equipment and medical electrical systems*
IEC 60601-1-8:2006/AMD1:2012
IEC 60601-1-8:2006/AMD2:2020

IEC 60601-2-18:2009, *Medical electrical equipment – Part 2-18: Particular requirements for the basic safety and essential performance of endoscopic equipment*

IEC 60601-2-22:2019, *Medical electrical equipment – Part 2-22: Particular requirements for basic safety and essential performance of surgical, cosmetic, therapeutic and diagnostic laser equipment*

IEC 60601-2-83:2019, *Medical electrical equipment – Part 2-83: Particular requirements for the basic safety and essential performance of home light therapy equipment*

IEC 60825-1:2014, *Safety of laser products – Part 1: Equipment classification and requirements*

IEC 61140, *Protection against electric shock – Common aspects for installation and equipment*

IEC 62056-21, *Electricity metering – Data exchange for meter reading, tariff and load control – Part 21: Direct local data exchange*

IEC 62570:2014, *Standard practice for marking medical devices and other items for safety in the magnetic resonance environment*

ISO 361, *Basic ionizing radiation symbol*

ISO 3166-1, *Codes for the representation of names of countries and their subdivisions – Part 1: Country codes*

ISO 3864-1, *Graphical symbols – Safety colours and safety signs – Part 1: Design principles for safety signs and safety markings*

ISO 7000, *Graphical symbols for use on equipment – Registered symbols* (available from: http://www.graphical-symbols.info/equipment)

ISO 7001, *Graphical symbols – Public information symbols*

ISO 7010, *Graphical symbols – Safety colours and safety signs – Registered safety signs*

ISO 8601-1, *Date and time – Representations for information interchange – Part 1: Basic rules*

ISO 15223-1:2021, *Medical devices – Symbols to be used with information to be supplied by the manufacturer – Part 1: General requirements*

3 Terms and definitions

No terms and definitions are listed in this document.

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.electropdeia.org

4 General

This document primarily identifies graphical symbols published in IEC 60417 or in ISO 7000, and safety signs published in ISO 7010, and a few public information symbols in ISO 7001. A reference to the corresponding symbol or safety sign number is given.

NOTE 1 Reference numbers below 5 000 refer to ISO 7000, while reference numbers from 5 000 up refer to IEC 60417.

Some graphical symbols essential for compliance with other standards issued by IEC technical committee 62 or its subcommittees are also listed. They are identified by symbol numbers in the following format: **<standard>-####**, e.g. **60601-2-18-101** for graphical symbol No. 101 of IEC 60601-2-18.

NOTE 2 These symbols will be formally included in a future edition of IEC 60417 or ISO 7000. Some of the graphical symbols from these standards have been redrawn according to the basic design principles of ISO/IEC 80416 (all parts) for inclusion in this document.

In this document, symbols are ordered by application area, as shown in Table 1.

Many of the symbols listed in this document have already been used for several years on equipment and will be familiar to experts in that field; the meaning of others will become clear when viewed in context on the equipment itself, but it shall be appreciated that it is impossible to make self-evident the meaning of all symbols on complex equipment. In such cases, user training will be needed to ensure proper recognition. To avoid critical errors, it can be necessary to validate that properly trained users can correctly recognize the graphical symbol's meaning when viewed in the context.

However, it is strongly recommended that the meaning of all graphical symbols used on equipment be explained in the equipment's accompanying documents.