FINAL DRAFT
International Standard

ISO/FDIS 14617-2

Graphical symbols for diagrams —

Part 2: Graphical symbols

Symbols graphiques pour schémas —
Partie 2: Symbols graphiques

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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 document 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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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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.

This document was prepared by Technical Committee ISO/TC 10, *Technical product documentation*, Subcommittee SC 10, *Process plant documentation*.

This second edition cancels and replaces the first edition (ISO 14617-2:2002) and ISO 14617-3:2002, ISO 14617-4:2002, ISO 14617-5:2002, ISO 14617-6:2002, ISO 14617-7:2002, ISO 14617-8:2002, ISO 14617-9:2002, ISO 14617-10:2002, ISO 14617-11:2002, ISO 14617-12:2002, ISO 14617-13:2004, ISO 14617-14:2004 and ISO 14617-15:2002, which have been merged and technically revised.

The main changes are as follows:

— adding of new basis and supplementary symbols developed for ISO 10628-2 and ISO 14084-2;

— establishing a new clause for vacuum technology as referred to withdrawn ISO 3753:1977, DIN 28401:2022, and JIS Z 8207:1999. This is because vacuum technology utilizes many unique pumps, gauges, and so on;

— deletion of symbols, which were duplicated from previous parts or “electrotechnical like”. Technological outdated symbols, especially within instrumentation and control, were also deleted;

— the numbers of symbol examples were reduced for simplification;

— removal of terms and definitions from Clause 3, which can be found in ISO 14617-1;

— most graphical symbols for fluid power diagrams, e.g. fluid power valves, have been removed because they defined in ISO 1219-1;

— symbols of measurement and control functions were removed;

— ”GSD” was added in front of registration numbers defined in a previous version of the ISO 14617 series;

— annexes have reconstructed.

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.

Introduction

ISO/TC 10 prepares standards for diagrams including graphical symbols, which together with standards prepared by other ISO committees and the IEC constitute the basis for preparation of diagrams.

The interrelations between these standards are summarized in ISO 14617-1.

Graphical symbols for diagrams —

Part 2:
Graphical symbols

1 Scope

This document specifies graphical symbols for diagrams related to industrial components, products and processing.

This document constitutes a symbol library, from which users can use the symbols or created symbol examples for use in diagrams (see Tables 1 to 149).

General rules and guidance for the preparation and presentation of graphical symbols are given in ISO 14617-1. Application rules for the symbols are shown in normative Annex A.

This document does not apply to:

— graphical symbols for fluid power objects, see ISO 1219-1 (the collective application standard of the ISO 14617 series);

— symbols of measurement and control functions such as mathematical functions and process functions;

— graphical symbols for electrotechnical objects, see the IEC 60617 database.

Symbols deleted from the previous edition of the ISO 14617 series are summarized in informative Annex B as a reference. The alphabetic index of symbols defined in this standard is shown in informative Annex C.

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 15519-2, *Specifications for diagrams for process industry — Specifications for diagrams for process industry — Part 2: Measurement and control*

ISO 80000 (all parts), *Quantities and units*

IEC 60027, *Letter symbols to be used in electrical technology — Part 2: Telecommunications and electronics*

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

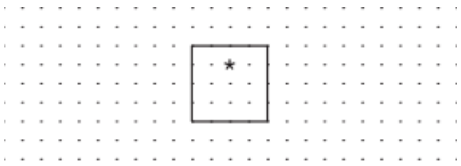
— IEC Electropedia: available at https://www.electropedia.org/

4 General application symbols

4.1 Components, devices, functional units, equipment, plants and functions

4.1.1 Basic symbols

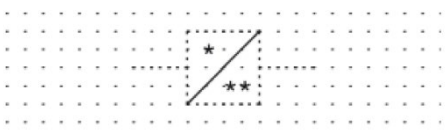
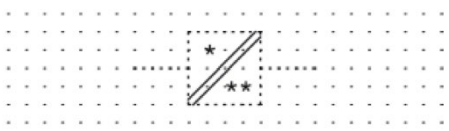
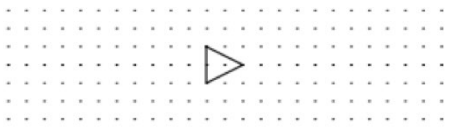
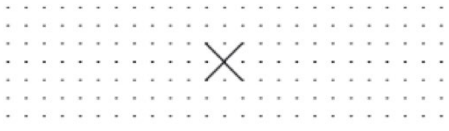
Table 1 — Components, devices, functional units, equipment, plants and functions — Basic symbols

Entry No.	Reg. No.	Symbol graphics	Symbol names and references
4.1.1.1	GSD 101		Envelope, functional unit, equipment, plant, function
			Envelop is defined in IEC 60050-531-23-01.
			R101 (see Annex A)

4.1.2 Supplementary symbols

4.1.2.1 General functions

Table 2 — Components, devices, functional units, equipment, plants and functions — Supplementary symbols — General functions

Entry No.	Reg. No.	Symbol graphics	Symbol names and references
4.1.2.1.1	GSD 111		Conversion
			The definition is in IEC 60050-551-11-02 and IEC 60050-601-01-07.
			R111 (see Annex A)
4.1.2.1.2	GSD 113		Conversion without connection
			R111 (see Annex A)
4.1.2.1.3	GSD 115		Amplification
4.1.2.1.4	GSD 119		Magnetic field effect
4.1.2.1.5	GSD 121		Proximity effect