BS 376-2:2015

BSI Standards Publication

Railway signalling symbols –

Part 2: Specification for symbols for circuit diagrams

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Contents

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 40, an inside back cover and a back cover.

Foreword

Publishing information

This part of BS 376 is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 30 April 2015. It was prepared by Technical Committee GEL/9/1, *Signalling and communications,* under the Technical Committee GEL/9, *Railway electrotechnical applications*. A list of organizations represented on this committee can be obtained on request to its secretary.

Supersession

This part of BS 376 supersedes BS 376-2:1954 *Railway Signalling Symbols – Part 2: Wiring symbols and written circuits,* which is withdrawn.

Relationship with other publications

BS 376 is issued in two parts, namely:

- BS 376, Railway signalling symbols – Part 1: *Specification for schematic symbols*

  Part 1 shows schematic symbols designed for use on railway layout plans to show the signalling requirements.

- BS 376, Railway signalling symbols – Part 2: *Symbols for circuit diagrams – Specification*

  Part 2 (this part) shows the actual apparatus used, with its electrical connections and simplified wiring diagrams.

Information about this document

This is a full revision of the standard, updated to current practice.

This standard has its origins in a specification published by the Railway Signal Association in the USA in 1911, by which date a scheme of symbols and nomenclature for electrically operated apparatus had evolved, using both written circuits and wiring symbols. Subsequent issues of the standard have sought to be backward-compatible with the original scheme, since signalling documentation is maintained for the whole life of the signalling.

A standard system of nomenclature and labelling of wires is specified.

Typical applications are illustrated in Annex A.

If a symbol required for railway signalling purposes does not appear in this standard, the symbol should be taken from an appropriate British Standard or International Standard.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is "shall".

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Requirements in this standard are drafted in accordance with *The BSI guide to standardization – Section 2: Rules for the structure, drafting and presentation of British Standards*, subclause **11.3.1**, which states, "Requirements should be expressed using wording such as: 'When tested as described in Annex A, the product shall ...'". This means that only those products that are capable of passing the specified test will be deemed to conform to this standard.

This part of BS 376-2 shows railway signalling symbols for written circuits and the traditional wiring symbols in tables side by side.

When necessary, to avoid confusion, diagrams may be marked with the following reference:

Symbols to BS 376-2:2015

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

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1 Scope

This British Standard specifies the symbols to be used on railway signalling circuit diagrams but does not provide guidance on their application.

It also gives a standard system of nomenclature and labelling of wires such that each wire can be readily identified with that shown on the circuit diagram.

This British Standard does not cover symbols for high voltage power distribution, telecommunications or electronic products. These are covered in IEC 60617 or an appropriate British Standard.

This British Standard does not include proprietary systems and specialized applications.

NOTE 1 The symbols in this British Standard provide for apparatus in general use. Wiring symbols have been designed so that they can be combined together where one does not represent the complete device. In this British Standard, where certain elements are added for illustrative purposes, they are shown by dashed lines. If additional information is required to support the symbol, a "#" may be used to reference a note on the diagram.

NOTE 2 The size of symbols as drawn are in proportion but are not necessarily relative to one another; nor do they give the specific size to be used. The relative thickness of lines may also be varied, e.g. for contact elements.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 7645, *Code for designation of colours*

BS 8586, *Pin codes for BR 930 series relays – Specification*

3 Terms and definitions

For the purposes of this part of BS 376, the following terms and definitions apply.

3.1 biased (relay, device)
two-position electromagnetic device, being either:

a) a polar device in which the armature in the de-energized state is driven in a specified direction (normal or reverse) by magnetism, gravity or spring; or

b) a neutral device operating only when current flows through the coil in a specified direction (known as "d.c. biased")

3.2 normal (state)
display or position of a piece of apparatus in a designated state (usually its quiescent state)

3.3 polar (relay, device)
two- or three-position electromagnetic device with two energized states (normal and reverse) depending upon the direction or phase of the current flowing through the coil

NOTE A two-position device can either stick in its last operated position, or be biased in the de-energised state.