BRITISH STANDARD

BS 5070-1: 1988

Incorporating Amendment No. 1

Engineering diagram drawing practice —

Part 1: Recommendations for general principles

UDC 744:003.63:62

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the General Mechanical Engineering Standards Committee (GME/-) to Technical Committee GME/4 upon which the following bodies were represented:

Amalgamated Union of Engineering Workers
(Technical and Supervisory Section)
British Engine Group of SMMT
British Paper and Board Industry Federation
British Railways Board
British Standards Society
Drawing Office Material Manufacturers' and Dealers' Association
Electricity Supply Industry in England and Wales
Electronic Engineering Association
Engineering Equipment and Materials Users' Association
Federation of Manufacturers of Construction Equipment and Cranes
Gauge and Tool Makers' Association
Institution of Electrical Engineers
Institution of Electronic and Radio Engineers
Institution of Engineering Designers
Institution of Mechanical Engineers
Institution of Production Engineers
Ministry of Defence
Post Office
Society of British Aerospace Companies Limited
Telecommunication Engineering and Manufacturing Association
United Kingdom Atomic Energy Authority

The following bodies were also represented in the drafting of the standard, through subcommittees and panels:

British Shipbuilders
British Telecommunications plc
GAMBICA (BEAMA Ltd.)
Independent Broadcasting Authority
British Coal Corporation

This British Standard, having been prepared under the direction of the General Mechanical Engineering Standards Committee, was published under the authority of the Board of BSI and comes into effect on
29 February 1988

First published as BS 5070, May 1974
First revision as BS 5070: Part 1 February 1988

The following BSI references relate to the work on this standard:
Committee reference GME/4
Draft for comment 84/75487 DC

ISBN 0 580 15346 0

Amendments issued since publication

Amd. No.	Date of issue	Comments
8190	August 1994	Indicated by a sideline in the margin

Contents

Foreword

This Part of BS 5070 has been prepared under the direction of the General Mechanical Engineering Standards Committee and, together with Parts 2 and 3[1)], supersedes BS 5070:1974 which is now withdrawn. The 1974 edition set out recommendations for drawing practice to be followed in preparing engineering diagrams in all fields of engineering with a view to securing uniformity between one drawing office and another in the same industry. It also aimed to increase uniformity between one field of engineering and another in the basic principles involved and in the designations for different types of diagram.

Attention is drawn to BS 5070 being a companion standard to BS 308; the latter covers engineering drawing practice used in a wide range of engineering disciplines. Commonly, as a diagram can be called a "drawing" and a drawing can be called a "diagram", it is useful to summarize the difference in the scopes of these standards. BS 308 covers what are commonly accepted to be drawings that define shape, size and form. BS 5070 covers the drawing of diagrams that are normally associated with flow of one sort or another and which relate components (usually indicated by symbols) functionally one to another by the use of lines, but do not depict their shape, size or form; neither do they in general indicate physical connections or locations.

From experience with the 1974 edition it was decided that for this first revision, whilst bearing in mind the long term aim of uniformity of conventions, there was a need for more comprehensive treatment of the varying requirements of differing industries and for more careful attention to their presentation. BS 5070 is therefore now revised in Parts by which the practice and conventions of several disciplines and industries are collected into three groups. Part 1 covers general principles common to all subsequent Parts, which in turn deal particularly with electro-technology; control, flow and systems; and logic.

This standard gives recommendations for the drawing of engineering diagrams using the symbols given in relevant British Standards. It does not itself originate symbols. The diagrams in this standard contain symbols as they appear in the particular standards current at the time this publication was prepared. However, although every effort has been made to ensure that correct and current symbols have been used, it has to be recognized that the particular symbols standards are themselves subject to periodic review. It is therefore stressed that the relevant symbols standards, and not this standard, have to be consulted to obtain definitive symbols.

The recommendations of this standard have been established having regard to the requirements of microfilming. Diagrams prepared in accordance with this standard should be suitable for microfilming and reduced-size reproduction techniques.

During the course of this revision particular attention has been paid to developments in computer aided machine draughting and it has been established that such machines are currently capable of complying with this standard. Any minor exceptions due to the limitations of a particular system would not be expected to prejudice the understanding of a diagram otherwise claimed to comply with this standard.

It is recognized that though this standard is published in a number of Parts, there may be instances when certain recommendations and descriptions are repeated. This has been kept to a minimum and it is hoped that all the needs of any specialized engineering discipline are contained in the Part of this standard that deals with those specific needs.

[1)] An additional Part 4 is also in preparation.

This Part of this standard deals with general principles of diagram drawing including types, basic preparation and presentation. It is the base document from which the other Parts are developed.

Part 3 of this standard deals with a variety of non-electrical diagrams including those concerned with control and flow; transfer of materials (both solids and fluids, i.e. liquids, vapours and gases); and energy transfer (hydraulic, pneumatic and mechanical). Part 4 of this standard deals with logic diagrams.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 12, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

Notes on the presentation of this standard

NOTE 1 The figures illustrating the text in this standard are independent and each is selected solely for its simplicity and clarity to illustrate only the text to which it relates. They are not the only possible examples and they are not intended as design examples or to be full working diagrams, but otherwise are drawn according to the basic recommendations of this standard.

NOTE 2 Numerical values of components given in the figures throughout are arbitrarily chosen to assist in illustrating the point under consideration; they are typical and are not given as recommendations.

NOTE 3 In the figures in this standard, a convention is adopted of using capital letters for notes that would appear as part of the drawing and lower case letters are used for notes explaining the point under consideration in relation to the text. An exception to this may be found in some diagrams where unit symbols are customarily written in lower case.

1 Scope

This Part of BS 5070 gives recommendations for the general principles of presentation and practice to be applied to engineering diagrams of all types that depict by the use of graphic symbols the function of a system or the relationship between components and parts.

Other Parts of this British Standard give recommendations and specific definitions that are appropriate to particular engineering disciplines.

Electrotechnology diagrams are not covered.

NOTE 1 The relevant Part of BS 5775 should be complied with for the correct application of units and symbols for quantities.
NOTE 2 The titles of the publications referred to in this standard are listed on the inside back cover.

2 Definitions

For the purposes of this Part of BS 5070 the following definitions apply.

2.1
line

a graphic convention showing how devices (represented by symbols) are connected. A variety of types of line, some with embellishments, are used to represent connections having different functions

2.2
symbol

a symbolic graphic convention representing a discrete manufactured device contributing to the function of a system or circuit

3 Principal types of diagrams

This standard deals with the presentation and practice to be used in the production of diagrams. For the purpose of this standard a diagram is defined as a drawing that shows symbols connected by lines. The symbols usually depict function rather than physical shape and the diagram depicts a fluid type flow.

Different engineering disciplines use a variety of diagrams that fall within the bounds of the above description and within each discipline there are different types of diagram each with a specific purpose. Each Part of this standard covers a particular field of engineering and particular types of diagram are defined within those Parts.

The following list shows the different types of diagrams covered by Parts 3 and 4 of this standard. The relevant Part carries definitions of each type of diagram together with specific uses and recommendations for that diagram in that field of engineering.

Part 3 (Mechanical/fluid flow diagrams)
Block diagram
Flow diagram
Circuit diagram (fluid)
Piping/system diagram
Piping and instrumentation diagram
installation diagram
Supplementary diagram

Part 4 (Logic)[2)]
Logic diagram
Logic circuit diagram

4 Drawing sheets

4.1 Sizes

4.1.1 *General*. It is recommended that ISO A series drawing sheet sizes be used as specified in BS 3429. The sizes of these sheets are given in Table 1. Sizes larger than A0 should be exceptional.

Table 1 — Recommended drawing sheet sizes (trimmed)

Designation	Size	Minimum border width from drawing frame to edge of sheet
	mm	mm
A0	841 × 1 189	20
A1	594 × 841	20
A2	420 × 594	10
A3	297 × 420	10
A4	210 × 297	10

4.1.2 *Selection of drawing sheet size*. The choice of drawing sheet size should be decided after taking into account the following points:

a) the volume and complexity of the design;

b) the requirements of handling and filing;

c) the level of knowledge of the user;

d) the environment of use;

e) the requirements of computer aided design (CAD);

f) the limitations of reduced-size reproductions.

4.1.3 *Multi-sheet diagram*. All sheets of a multi-sheet document should be numbered in such a manner that will relate them to one another by:

a) including the number of sheets on the first sheet and not on subsequent sheets; or

[2)] Logic systems powered by electrical energy are covered by BS EN 61082-1.

b) including the number of sheets on every sheet, e.g. sheet 1 of 5 or sheet 3 of 5; or

c) an index sheet or drawing list.

4.1.4 *Elongated sheet sizes*. When a sheet of greater length is needed, one of the sizes given in Table 2 should be used.

Table 2 — Special elongated sheet sizes

Designation	Dimensions mm
A3 × 3	420 × 891
A3 × 4	420 × 1 189
A4 × 3	297 × 630
A4 × 4	297 × 841

4.2 Formats

4.2.1 *General*. Drawing sheets have two formats as follows.

a) *Landscape*: intended to be viewed with the longest side of the drawing sheet horizontal, see Figure 1(a).

b) *Portrait*: intended to be viewed with the longest side of the drawing sheet vertical, see Figure 1(b).

4.2.2 *Trimming marks*. Trimming marks may be provided in the borders at four corners of the sheet in order to facilitate trimming. These marks can be in the form of right-angled isosceles triangles or alternatively two short strokes at each corner[3] (see Figure 1).

4.2.3 *Borders and frames*

4.2.3.1 *General*. It is recommended that all sheets should include a frame to enclose the drawing area together with the title block and other standard information. The frame should be symmetrical with the edges of the sheet. The minimum widths of these borders are shown in Table 1. In the majority of cases the values shown are sufficiently large to allow for gripping during printing. The frame should accommodate such marks as are necessary for microfilming procedures as given in BS 5536 and other reduced-size reproduction techniques.

4.2.3.2 *Frame lining*. Lines forming the frame should be continuous and of a minimum thickness of 0.5 mm.

4.2.3.3 *Grid system or zoning*. The provision of a grid reference system is recommended for all sizes of drawing sheets, in order to permit easy location on the drawing of details, changes, etc.

The number of divisions should be divisible by two and be chosen in relation to the complexity of the drawing. It is recommended that the length of any side of the rectangles comprising the grid should not be less than 25 mm and not more than 75 mm.

The grid reference system lines should be drawn as short lines of 0.5 mm minimum thickness (see Figure 1).

The rectangles of the grid should be referenced by means of capital letters down the vertical edges beginning at the top and numerals along the horizontal edges beginning at the left-hand side of the sheet. The references may be repeated on the opposite sides.

The letters and numerals should be placed in the borders, close to the frame at a minimum distance of 5 mm from the edges of the trimmed sheet, and should be written in upright characters (see Figure 1).

4.2.3.4 *Centring marks*. Centring marks should be provided to facilitate positioning of the drawing for reproduction processes including microfilming. They should extend from the edges of the sheet to the frame and beyond by approximately 5 mm (see Figure 1 and also BS 5536).

4.2.3.5 *Orientation marks*. An orientation mark may be provided in the form of a triangular arrowhead located on that centring mark adjacent to and pointing toward the intended position of the drawing user[4] (see Figure 1).

4.2.3.6 *Print folding marks*. Folding marks, where required, may be indicated according to the method of folding employed.

4.2.4 *Title block*

4.2.4.1 *General*. The title block is that area of the drawing sheet which contains the information required for the identification, administration and interpretation of the diagram and should preferably be placed in the lower right-hand corner of the drawing frame (see Figure 1). The drawing or diagram number may also appear elsewhere on the drawing sheet for convenience.

[3] ISO 5457-1980, published by the international Organization for Standardization (ISO), originates this option.

[4] ISO 5457-1980 calls for two orientation marks, the second mark being placed either on the left-hand or the right-hand vertical frame according to whether the sheet is an X (horizontal format) or a Y (vertical format) type respectively.

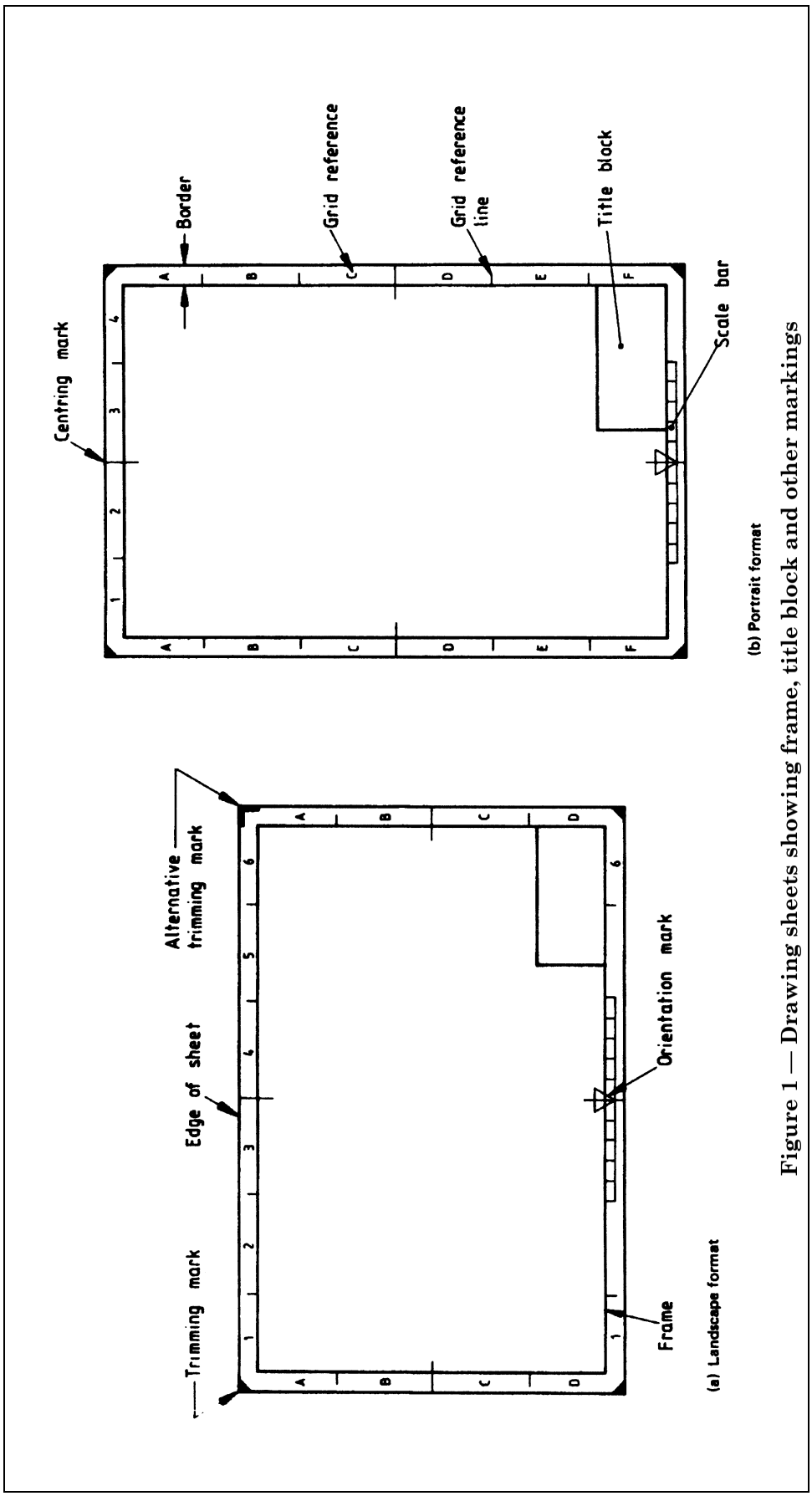


Figure 1 — Drawing sheets showing frame, title block and other markings

4.2.4.2 *Basic information*. It is recommended that provision be made for basic information such as the following.

a) Name of company or organization.

b) Drawing (diagram) number.

c) Descriptive title.

d) Date of drawing.

e) Signature(s), e.g. drawn by, authorized by.

f) Original scale (if appropriate).

g) Copyright clause.

h) Reference to standards and/or related specifications.

i) Sheet number.

j) Number of sheets.

k) Issue information.

4.2.4.3 *Supplementary information*. The following list gives additional or supplementary information which should be considered for inclusion in the drawing format. The list is not necessarily comprehensive.

a) Sheet size.

b) First used on.

c) Similar to.

d) Supersedes.

e) Superseded by.

5 Principles of application

5.1 Layout

5.1.1 A diagram should be arranged so that a reader is able quickly and easily to understand its meaning, whether the drawing details the operation of an equipment, the connection of an apparatus or the layout of an installation.

Time spent in improving the layout of a diagram will be rewarded by the time saved by its users, particularly those working under stress to restore essential services.

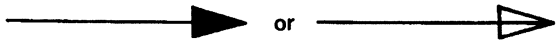
5.1.2 The parts of a diagram should be evenly spaced. Large spaces should be avoided except where they aid the presentation or when allowance is made for anticipated additions.

5.1.3 It is recommended that each diagram should be drawn on a separate sheet. If, however, it is necessary for more than one diagram to be drawn on one sheet, care should be taken to ensure that each is clearly identified.

5.1.4 Where there is a clear sequence of cause-to-effect, diagrams should be so drawn that this sequence is shown from left-to-right and/or top-to-bottom. For example, the input to a device or installation should be at the left hand and the outputs of a device or installation should be at the right hand. Where this is impracticable the sequence should be clearly indicated by arrows.

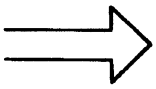
In general only three types of arrowhead should be used on diagrams for all purposes.

a) Arrowheads at the end of a line should be closed with an included angle of 30° thus:



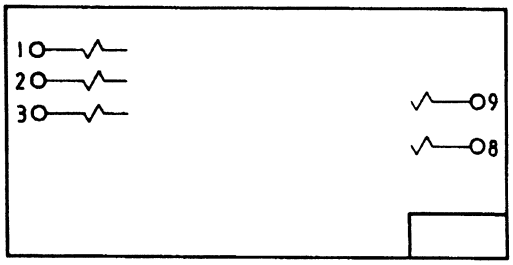
b) Arrowheads included in lines should be open and with an included angle of 60° thus:

c) Broad outline arrowheads should have an included angle of 90° thus:

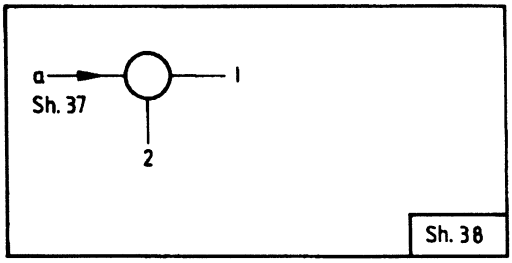


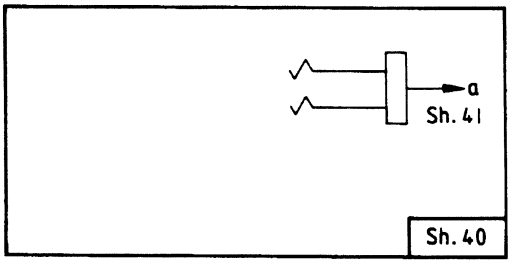
5.1.5 Lines representing connections, conductors, pipes, trunking, etc. between symbols should be straight with a minimum of cross-overs and changes of direction. Individual circuits, flow paths, etc. should be arranged horizontally or vertically. Oblique crossing lines may be used to connect corresponding elements in symmetrical layouts.

5.1.6 Terminal points and the ends of lines entering or leaving a diagram should be identified clear of any other details. Lines entering or leaving a diagram should preferably be close to the border of the drawing sheet and carry the same identification on both sheets (see Figure 2).



(a) Terminal points





(b) Lines entering and leaving a drawing sheet

Figure 2 — Terminal points and lines entering and leaving a drawing sheet

5.2 Operational state

When the purpose of a diagram is to show the arrangement and function of a device, an equipment or an installation, all contacts, valves, gates, switches, etc., should be shown in the "shelf" condition, i.e. with the circuits isolated, coils de-energized and all other component parts without pressure, flow, temperature level, etc.
Power-operated devices will therefore be shown in the OFF position or in a position consistent with the power being OFF. Manual switches should be shown in the OFF position where one exists, or in positions consistent with the power being OFF; similarly valves should be shown in the de-energized or unpowered condition where an appropriate symbol exists. When this rule cannot be applied, it is essential that explanatory notes should be added.

To avoid ambiguity a special indication on diagram, e.g. by note, is needed:

a) for apparatus which may rest in any one of two or more positions or states;

b) if it is essential to show a circuit, device or equipment in a particular operated position or state;

c) when the purpose of a diagram is to show an arrangement only, e.g. in the field of process plant, the state of an equipment such as a valve is not normally shown, but nevertheless attention may be drawn to the state of particular items, such as valves which have a special safety function.

Devices for emergency, standby, alarm, etc. should be shown in the positions they occupy during normal service, or in a specific defined condition, e.g. aircraft on the ground. Devices should be shown in normal positions and not in test positions.

5.3 Linework and common line conventions[5)]

5.3.1 *Thickness of lines*. The thickness of lines should be selected from the range 0.25, 0.35, 0.5, 0.7, 1.0, 1.4 and 2.0 mm.

Where different line thicknesses are used on a diagram, thicker lines should be increased progressively by a factor of two.

Lines should be sharp and dense, in order to obtain good reproduction, since most diagrams will be reduced in size when printed.

It is recommended that the minimum space between parallel lines should not be less than twice the thickness of the thicker line and not less than 1 mm.

[5)] Throughout this standard the term line refers to a line on a diagram and not to a pipe, wiring run, etc.

Apart from the line thickness inherent in certain graphic symbols, it may be necessary to emphasize or distinguish circuit flow paths, functions, etc. when different line thicknesses may be used for conductor symbols, flow paths, connections, etc. (see Figure 3).

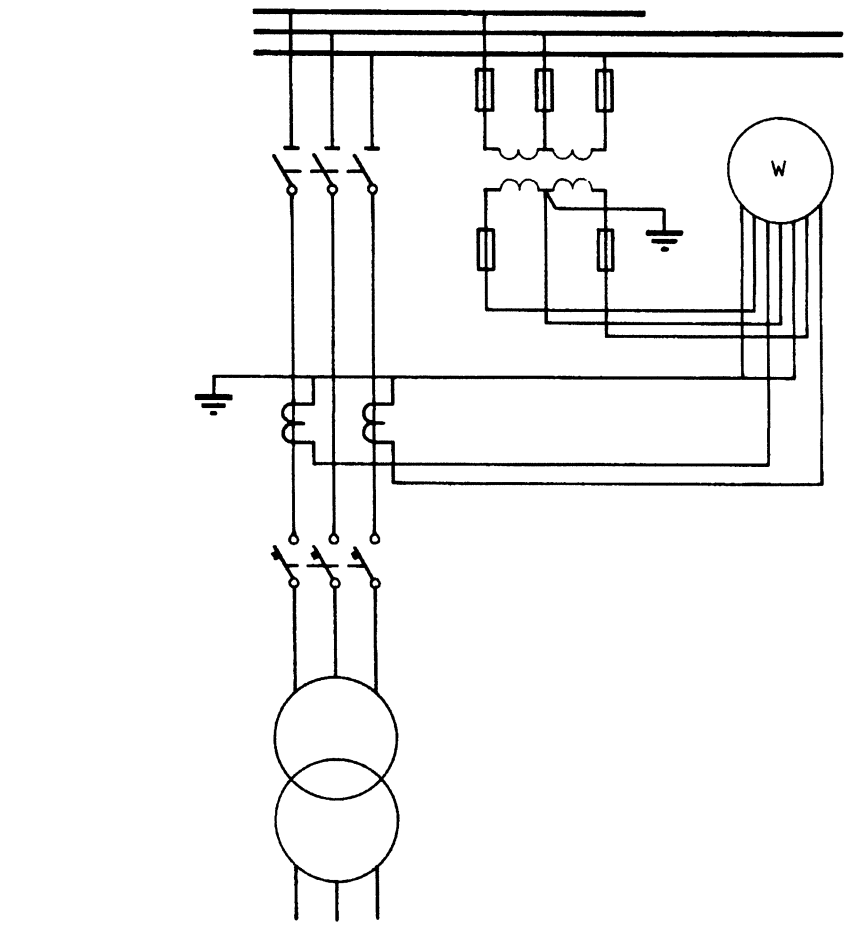
5.3.2 *Types of lines*. The normal application of types of lines is shown in Table 3. Specific applications of types of lines are given in the relevant Parts of this standard that pertain to particular engineering disciplines.

A line should not change direction at a point where it crosses another line nor should it cross over a junction between other lines.

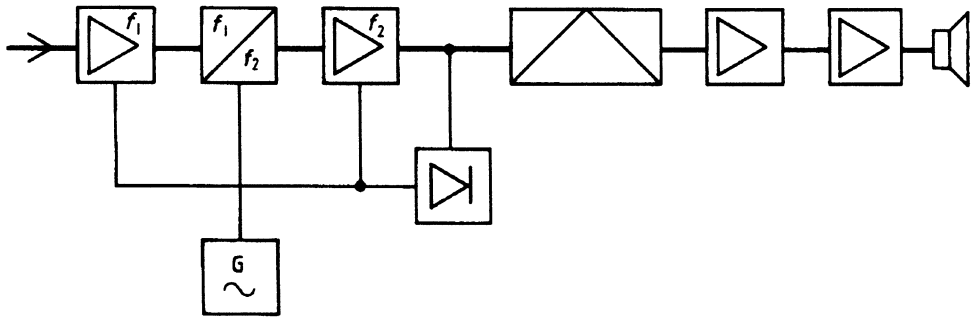
A line representing a connection should be straight for at least 3 mm before it changes direction or meets a connecting point. A line between symbols should not be less than 6 mm in length. These dimensions are related to the symbol sizes in the respective British Standard.

Table 3 — General types of lines

Line	Description	Normal application
———	Continuous	Primary lines main contents of a diagram
— — — — — — —	Short dashed	Secondary lines mechanical connections planned extension
—— - —— - ——	Chain	Physical boundaries
- - —·— - - ——	Chain, double dashed	Grouping of components



(a)



(b)

NOTE The fact that this diagram is electrical, and therefore not covered by this standard, does not detract from its usefulness in clearly illustrating the subject of **5.3.1**.

Figure 3 — Use of thicker lines for emphasis

5.3.3 *Connecting lines*. Connecting lines, whether single or in groups, should be easily identifiable. The identification, which should preferably be slightly above the line, may also serve to indicate its destination (see Figure 4).

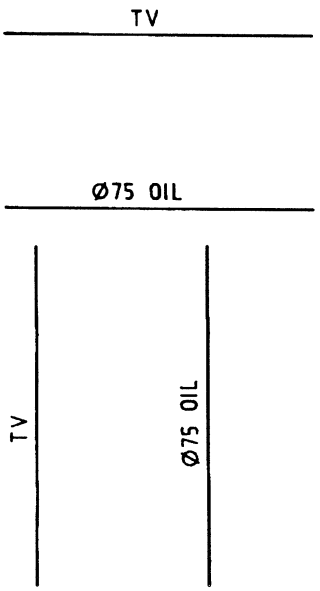


Figure 4 — Line identification

5.3.4 *Multi-line representation* (see Figure 5). Each conductor, flow path, connection, etc. is represented by a single line. Where there are a number of parallel lines they should be arranged according to their functions in groups separated from each other by spaces that are preferably twice that between the lines of the group. Where there are more than four paths shown as parallel lines in a functional group, they should be grouped in arbitrary groups of three either from the top (or left). The bottom (or right) group may consist of one, two or three lines.

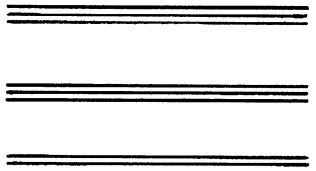


Figure 5 — Line grouping

5.3.5 *Single-line representation*. Two or more conductors, flow paths, connections, etc. are represented by a single line. Single-line representation may be used on a multi-line diagram (see Figure 6). The essential purpose of a single-line representation is to avoid the multiplicity of parallel lines.

Figure 6 — Single line representation on a multi-line diagram

5.3.6 *Number of conductors, pipes, paths, etc.* In single-line representation the number of conductors, pipes, paths, etc. should be indicated where necessary. Examples of how this can be done are given in Figure 7.

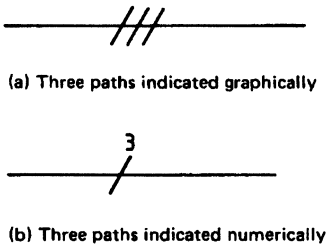


Figure 7 — Indication of number of paths in single-line representation

5.3.7 *Omitting lines*. When a line representing an interconnection crosses a relatively large part of a diagram, most of the line may be omitted and the connections indicated by suitable references placed at the ends or on short lines from the component, enclosure, etc. (see Figure 8).

In the example shown in Figure 8 it is essential to ensure correct interconnections. Cables or pipe ends and terminating points should be unambiguously identified.

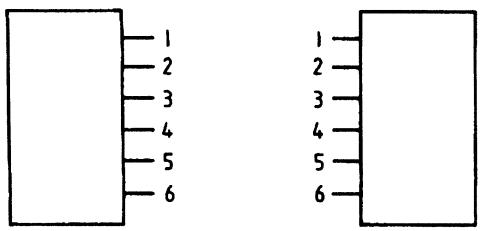


Figure 8 — Omitting lines

5.3.8 *Common line representation*. When appreciable lengths of lines follow parallel paths, they may be shown as one common line with the individual end connections or branches numbered or annotated (see Figure 9). Arcs of circles, or angles, as shown in Figure 9, may be used to clarify the routing. The direction of the arcs or sloping lines should be such as to lead the eye in the direction in which the connection enters or leaves the common line.

5.3.9 *Junctions and cross-overs*. Methods of representing junctions and cross-overs are given in the relevant British Standards depicting the symbols for a specific engineering discipline and detailed recommendations are given in the Part of this British Standard that is concerned with that specific discipline.

6 Lettering

6.1 Style

No particular style is recommended for lettering as the aim should be to achieve legible and unambiguous characters. Vertical or inclined characters are suitable for general use but the presentation should be consistent on any one drawing or set of drawings. Capital letters are preferred to lower case as they are less congested and are less likely to be misread when reduced in size. It is recommended that lower case lettering be restricted to instances where they form part of a standard symbol, code or abbreviation.

6.2 Height

The height of capital letters and numerals should be chosen from the series 2.5, 3.5, 5, 7, 10, 14 and 20 mm.

Table 4 lists the minimum recommended character heights for a drawing sheet size.

Table 4 — Minimum character height for capital letters and numerals

Application	Drawing sheet size	Minimum character height
		mm
Drawing (diagram) number, etc.	A0, A1, A2 and A3	7
	A4	5
Notes, annotations and designations	A0	3.5
	A1, A2, A3 and A4	2.5

The corresponding body height of lower case letters is one step lower in the series given above, i.e. a capital height of 5 mm corresponds to a lower case letter body height of 3.5 mm. It is recommended that lower case lettering is not used in association with a capital letter height of 2.5 mm.

The stroke thickness of the characters should be 0.1 times the character height and the clear space between characters and parts of characters should be at least twice the stroke thickness.

The space between lines of lettering should not be less than half the character height but, in the case of titles, etc., closer spacing may be unavoidable.

6.3 Orientation of lettering

All notes, designations, annotations, etc. should be placed so that they can be read from the same direction as the format of the diagram or from the right-hand side. (In general the format of a diagram is such as when the title block is positioned at the bottom right-hand corner of the drawing sheet.)

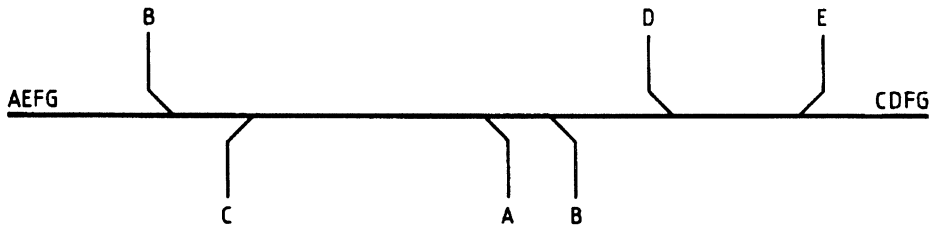


Figure 9 — Connections entering and leaving in common line representation

7 Graphical symbols

7.1 General

The symbols used should be specified in the relevant standard for that subject. This could be a British Standard or an international standard published by ISO or IEC (International Electrotechnical Commission). The standard used should be stated on the diagram or in associated documentation. The use of other symbols to indicate specific requirements should always be attended by a note or legend indicating the application.

7.2 Choice of symbol

Where a British Standard shows alternative forms of symbols, the basic rule for the choice of a symbol should be:

a) to use the simplest form of symbol adequate for the particular purpose of the diagram;

b) to use the preferred form wherever possible;

c) to use the chosen form consistently throughout the same set of diagrams or technical documentation.

7.3 Symbol size

In the majority of cases, the meaning of a symbol is defined by its form. The size and line thicknesses do not, as a rule, affect the meaning of the symbol. The size and proportions of symbols recommended for diagrams are those used in the relevant British Standards which in general allow reading by the unaided eye after $\sqrt{2}$: 1 linear reduction. If a greater ratio of reduction is required, special precautions should be taken. The relative sizes of symbols should be maintained except where it is necessary to enlarge a symbol to give it emphasis.

7.4 Orientation of symbols

The orientation of the majority of symbols does not affect their meaning. Unless otherwise stated, symbols may be turned or mirror-imaged to avoid bends or cross-overs in connecting lines. Where, however, a symbol or part of the symbol is derived from the characteristics of a device, or the meaning of a symbol is dependent upon its orientation, e.g. dependent upon the force of gravity, the symbol or that part of the symbol should not be turned or mirror-imaged. Waveforms and stylized presentation of data should be shown the way they normally appear.

7.5 Detached representation

Detached representation was originally developed in electrical engineering as an aid to the understanding of complicated circuit diagrams. It is also applicable in other fields, and its use is recommended.

The method is an extension of the principle that a circuit diagram takes no account of the physical layout. A symbol representing a component is divided into circuit elements which are used separately in positions in the diagram determined by their function. The lengths of interconnecting lines and the number of cross-overs are thereby greatly reduced.

In detached representation, the separated circuit elements have to be related to each other.

7.6 British Standards specifying symbols

Symbols are specified in the following British Standards:

BS 1553, BS 1646, BS 2917, BS 3238, BS 3939 and British Standard M 24.

7.7 Annotations

Identifying component references and/or values, numerical data, etc. should be placed adjacent to each symbol, or alternatively tabulated elsewhere in the diagram or in a table.

8 Explanatory notes

8.1 Explanatory notes should be used where the meaning cannot be conveniently conveyed by other means. Abbreviations in such notes should comply with the relevant British Standard.

8.2 Where a simple note does not suffice, additional information, e.g. variables and alternative conditions, should preferably be given in tabular form.

8.3 Notes should be numbered and grouped together, leaving space where practical for additions.

8.4 Reference to a note or table should be given at the appropriate point in the diagram.

8.5 In the case of multi-sheet diagrams, all notes of a general character should preferably appear on sheet 1 and other notes on the sheets to which they refer. It is recommended that the number of each note should consist of the sheet number on which it appears, followed by a point number. The latter should start at 1 on each sheet,
e.g. 1.1, 1.2 ...., 2.1, 2.2 ...., 3.1, 3.2 ...., etc.

9 Use of colour

9.1 General

It is sometimes advantageous for diagrams, especially those for system manuals, to be prepared with the use of colours to differentiate between the various functions, circuits, flow, etc. The production methods needed to produce a coloured diagram are beyond the scope of this standard but careful consideration should be given to the many factors involved before proceeding with the preparation of coloured diagrams.

As a general guide if colours are to be employed, functional stages should be printed on a pale coloured background. Yellow and blue are suitable for this purpose because of the good legibility of black printing on these colours. Two colours can be used for two levels of functional grouping and yellow and blue have the advantage that a third level is readily available by overprinting to yield green.

9.2 Colour coding

Where it is required to indicate in a diagram the use of colour to designate or identify a service function, circuit, etc. reference should be made to the particular British Standard that defines the use of colour in the relevant engineering discipline. Where no standardized colour abbreviation recommendations exist, the following should be used.

Colour	Abbreviation
Black	BK
Blue	BU
Brown	BN
Green	GN
Grey	GY
Orange	OG
Red	RD
Violet	VT
White	WH
Yellow	YE

10 Marking

It is recommended that drawings produced in compliance with this standard should bear a statement to that effect.

blank

Publications referred to

BS 308, *Engineering drawing practice*[6].
BS 1553, *Specification for graphical symbols for general engineering.*
BS 1646, *Symbolic representation for process measurement control functions and instrumentation.*
BS 2917, *Specification for graphical symbols used on diagrams for fluid power systems and components.*
BS 3238, *Graphical symbols for components of servo-mechanisms.*
BS 3429, *Specification for sizes of drawing sheets.*
BS 3939, *Guide for graphical symbols for electrical power, telecommunications and electronics diagrams.*
BS 5070, *Engineering diagram drawing practice.*
BS 5070-3, *Recommendations for mechanical/fluid flow diagrams*[6].
BS 5070-4, *Recommendations for logic diagrams*[6][7].
BS 5536, *Specification for preparation of technical drawings and diagrams for microfilming.*
BS 5775, *Specification for quantities, units and symbols.*
British Standard M 24, *Graphical symbols for aircraft hydraulic and pneumatic systems.*
ISO 5457*, Technical drawings — Sizes and layout of drawing sheets.*
BS EN 61082-1, *Preparation of documents used in electrotechnology — Part 1 General requirements.*

[6] Referred to in the foreword only.
[7] In preparation.

BSI — British Standards Institution

BSI is the independent national body responsible for preparing British Standards. It presents the UK view on standards in Europe and at the international level. It is incorporated by Royal Charter.

Revisions

British Standards are updated by amendment or revision. Users of British Standards should make sure that they possess the latest amendments or editions.

It is the constant aim of BSI to improve the quality of our products and services. We would be grateful if anyone finding an inaccuracy or ambiguity while using this British Standard would inform the Secretary of the technical committee responsible, the identity of which can be found on the inside front cover. Tel: 020 8996 9000. Fax: 020 8996 7400.

BSI offers members an individual updating service called PLUS which ensures that subscribers automatically receive the latest editions of standards.

Buying standards

Orders for all BSI, international and foreign standards publications should be addressed to Customer Services. Tel: 020 8996 9001. Fax: 020 8996 7001.

In response to orders for international standards, it is BSI policy to supply the BSI implementation of those that have been published as British Standards, unless otherwise requested.

Information on standards

BSI provides a wide range of information on national, European and international standards through its Library and its Technical Help to Exporters Service. Various BSI electronic information services are also available which give details on all its products and services. Contact the Information Centre. Tel: 020 8996 7111. Fax: 020 8996 7048.

Subscribing members of BSI are kept up to date with standards developments and receive substantial discounts on the purchase price of standards. For details of these and other benefits contact Membership Administration. Tel: 020 8996 7002. Fax: 020 8996 7001.

Copyright

BSI
389 Chiswick High Road
London
W4 4AL