

Symbols for Signalling Circuit Diagrams

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Synopsis

This standard defines the Symbols, Nomenclature and Presentation requirements to be used on Signalling Circuit Drawings.

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Symbols for Signalling Circuit Diagrams

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Symbols for Signalling Circuit Diagrams

Part A

Issue record

This standard will be updated when necessary by distribution of a complete replacement.

Amended or additional parts of revised pages will be marked by a vertical black line in the adjacent margin.

Issue	Date	Comments
1	November 1995	New Standard to replace BS376 Part 2:1954

Responsibilities and distribution

Controlled copies of this standard shall be complied with by all personnel who are responsible for Signalling Circuit Design, installation, commissioning, maintenance and faulting.

Compliance

The provisions of this Railway Group Standard are mandatory and compliance is required for all new circuit diagrams from 6th April 1996. Retrospective action is not mandatory and application is covered in Part B.

Health and Safety Responsibilities

In authorising this Standard Railtrack PLC makes no warranties, express or implied, that compliance with all or any of Railway Group Standards is sufficient on its own to ensure safe systems of work or operation. Each user is reminded of its own responsibilities to ensure health and safety at work and its individual duties under health and safety legislation.

Supply

Controlled and uncontrolled copies of this standard must be obtained from The Catalogue Secretary, Railtrack Safety & Standards Directorate, Floor 2, Fitzroy House, 355 Euston Road, London, NW1 3AG.

Telephone: 00 35903 or 0171 830 5903 (BT)

Facsimile: 00 35776 or 0171 830 5776 (BT)

Symbols for Signalling Circuit Diagrams

Part B

1 Purpose

To define the Symbols, Nomenclature and Presentation requirements to be used on all Signalling Circuit Diagrams to ensure that the correct information is always conveyed without ambiguity.

2 Scope

The symbols in this standard apply to all signalling circuit diagrams for use within the Railway Group.

The standard does not specify the information which shall be shown in any particular type of document.

3 Definitions

a.c.	Alternating Current.
d.c.	Direct Current.
Railway Group	Railtrack and all bodies whose activities are subject of a safety case accepted by Railtrack, together with those other organisations who are considered by the Safety and Standards Directorate to have the potential to make a significant contribution to railway safety and safe interworking as a result of their activities
Through Circuit	An external circuit drawn in entirety from the supply to destination. It shows contacts, equipment, and disconnection points at one or more remote sites, but without terminal allocations.
Relay Front and Back Contact(s)	The contact(s) made when the relay is in the energised and de-energised states respectively.
Polarised Relay Normal and Reverse Contact(s)	The contacts made when the relay is in the normal and reverse states respectively.

4 Application

The application of this standard is mandatory for new and redrawn diagrams. It applies at the discretion of the appropriate Infrastructure Controller to existing installations and their respective circuit diagrams where no confusion may occur in either design, installation, commissioning or maintenance by their usage.

Alterations to diagrams containing obsolete symbols shall be dealt with as follows;-

Either

a) The diagram shall be altered using previous conventions or symbols or

b) The diagram shall be redrawn to this standard

Mixing of new and old symbol conventions on an individual sheet is not permitted but symbols of more than one convention may be acceptable within a book of circuit diagrams.

Symbols for Signalling Circuit Diagrams

5 General

A circuit diagram is, generally, one in which each complete piece of apparatus is represented by one or more symbols, eg;- a direct current relay comprises a coil and at least one moving contact. The circuit diagram shall show wires connected to the coils of the relay and other wires to the contacts separately.

The circuit symbols provide for apparatus in general use, and have been so designed that they may be combined with each other where one does not adequately represent the complete device.

Nomenclature is essential for equipment and termination recognition, location, and labelling of the equipment.

The symbols and nomenclature shall be used consistently throughout the circuit diagrams.

Where old symbols are shown which are not included in Appendix H, a legend shall explain the meaning.

6 Symbols

The recognised symbols for use on signalling circuit diagrams reducing the need for extensive nomenclature or naming are shown in Appendices A/B/C.

7 Nomenclature for Circuit Diagrams

In order to provide a concise, suggestive, graphic code for marking units on a circuit diagram the following system shall make use of a designation made up of two parts, namely a Numerical/Alphabetical Prefix and an Alphabetical Term, and are shown in Appendix D.

Nomenclature for Electrical Supplies are shown in Appendix E.

The nomenclature for the identification of the colour of any piece of equipment, such as individual cores of a multicore cable, shall conform to Appendix F.

8 Circuitry Presentation

Circuitry and Symbols shall be depicted in a clear and consistent manner as described in Appendix G.

9 Items for which no standard symbol exists

If a symbol required for railway signalling purposes does not appear in this standard the symbol shall be taken from the British Standard BS3939 with a legend explaining its meaning.

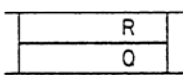

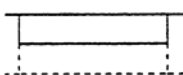
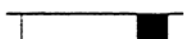
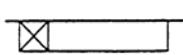
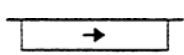
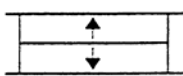
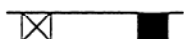












In certain instances neither the symbol nor the nomenclature can fully convey all the information required. In these cases a sign shall be used to indicate that reference to the notes on the diagram is necessary, eg;- #.

10 References

British Standard BS3939: Graphical symbols for electrical power, telecommunications and electronics diagrams: Parts 1-13: 1985.
Signalling Installation Handbook.




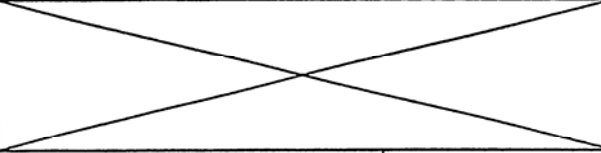

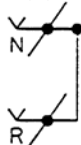


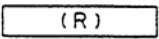
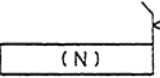






Symbols for Signalling Circuit Diagrams

Appendix A - Symbols

RELAYS AND RELAY CONTACTS			
Terminology	Symbol	Terminology	Symbol
Relay Coil, double wound. For a.c. relays: R – Control Winding, Q – Local Winding.		Relay Coil, single wound.	
Relay Coil, double wound with two windings. Dotted symbol indicates control circuit shown on separate sheet.		Relay Coil, slow to release.	
Relay Coil, slow to pick up.		Relay Coil, biased to energise only with voltage applied positive on left in example.	
Relay Coils, latched to remain in either position.		Relay Coil, slow operating. (both pickup and release)	
Generic Relay contact on non-polarised relay, front, the dot indicates the arm side of the contact.		Generic Relay contact on non-polarised relay, back.	
Relay Time Controlled contact, front.		Relay Time Controlled contact, back.	
Relay contact, on two position polarised relay Normal.		Relay contact, on two position polarised relay Reverse.	
Relay contact, on two position polarised relay biased to one position (Normal, arrow pointing left) in direction of arrow by magnetism, gravity or spring. Normal contact.		Relay contact, on two position polarised relay biased to one position (Normal, arrow pointing left) in direction of arrow by magnetism, gravity or spring. Reverse contact.	
Relay contact, on two position polarised relay biased to one position (Reverse, arrow pointing right) in direction of arrow by magnetism, gravity or spring. Normal contact.		Relay contact, on two position polarised relay biased to one position (Reverse, arrow pointing right) in direction of arrow by magnetism, gravity or spring. Reverse contact.	
Relay contact, on three position polarised relay, Normal contact.		Relay contact, on three position polarised relay, Reverse contact.	



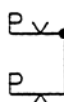












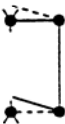
Symbols for Signalling Circuit Diagrams

Appendix A continued

RELAYS AND RELAY CONTACTS (continued)			
Terminology	Symbol	Terminology	Symbol
Relay contact, on three position polarised relay. De-energised contact.		Relay contact, dependent.	
Bridging contacts on non-polarised armature, both contacts closed during movement of armature.			
Contactor, fitted with magnetic blow out. Positive must be applied to the arrow.		Contacts on flasher relay	
Double Break contact, on non-polarised armature closed when magnet energises.		Double Break contact, on non-polarised armature closed when magnet de-energises.	
LEVER LOCKS AND CONTACTS			
Terminology	Symbol	Terminology	Symbol
Lever Lock, lock coil. eg: lock effective in reverse position of lever.		Lever Lock, lock coil with economiser contacts. eg: lock effective in normal position of lever.	
Lever Lock, lock proving contact in.		Lever Lock, circuit controller contact, eg: made when lever Normal – for other positions see Appendix B.	
Latch, Trigger or Catch handle contact, one way; Lever Normal, latch down contact.		Latch, Trigger or Catch handle contact, one way; Lever Reverse latch down contact.	
Latch, Trigger or Catch handle contact, one way; Lever Normal lifted contact.		Latch, Trigger or Catch handle contact, one way; Lever Reverse lifted contact.	

Symbols for Signalling Circuit Diagrams

Appendix A continued

MANUALLY OPERATED CONTACTS			
Terminology	Symbol	Terminology	Symbol
Plunger, push to break.		Plunger, push to make.	
Plunger, push to break and to make.		Tapper key, contact.	
Foot plunger.		Console / Panel Switch or Push Button eg: made when switch Normal – for other positions see Appendix C.	
Block Switch contact, circuit broken when signal box open.		Block Switch contact, circuit closed when signal box open. Arrow downwards indicates control.	
Block Switch, 3 position. Dotted position indicates intermediate position.		Manual Time Release, normal contact.	
Manual Time Release, makes after time.		Pole change contacts.	
Pole change contacts with open position.		Tumbler/Toggle switch, one way normally closed.	
Tumbler/Toggle switch, two way, normally closed and normally open.		Switch, make before break contact, normally closed and normally open.	







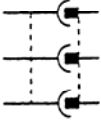
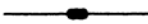















Symbols for Signalling Circuit Diagrams

Appendix A continued

MISCELLANEOUS CONTACTS			
Terminology	Symbol	Terminology	Symbol
Point Detection contact, made when points normal, independent contact.		Point Detection contact, made when points reverse, independent contact.	
Point Detection dependent contact, requiring cyclic proving eg: Micro-Switch Made when points Normal – N Made when points Not Normal – \bar{N}		Point Detection dependent contact, requiring cyclic proving eg: Micro-Switch Made when points Reverse – R Made when points Not Reverse – \bar{R}	
Detector contact, for bolt only, bolt in, Normal or Reverse. # – add N or R as appropriate.		Detector contact, for bolt only, bolt out.	
Point Detection contact, as above but requires points FPL bolt also includes machines.		Point Detection contact, as above but requires points FPL bolt also includes machines.	
Signal Arm, or Slot contact, makes when signal on. Add degrees as required.		Signal Arm, or Slot contact, makes when signal off. Add degrees as required.	
Trainstop contact, makes when arm raised.		Trainstop contact, makes when arm lowered.	
Electric Depression Bar. Makes when operated.		Electric Depression Bar. Breaks when operated.	
Treadle contact, opened. Makes when operated.		Treadle contact, closed. Breaks when operated.	
Switch, contacts made by insertion of a detachable hand crank or lever.		Switch, contacts broken by insertion of a detachable hand crank or lever.	
Circuit controller contact, including Motor Control contact etc. eg: made when Normal – for other positions see Appendix B.		Heat Operated contact, externally heated.	
Barrier contact. Add degrees from horizontal, e.g.		Switch, movable bridge circuit completing contact.	

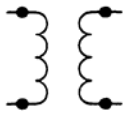
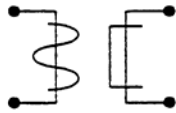
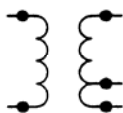
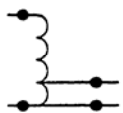


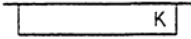
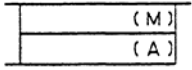




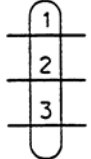


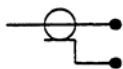
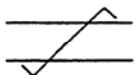
Symbols for Signalling Circuit Diagrams

Appendix A continued

EQUIPMENT			
Terminology	Symbol	Terminology	Symbol
Single Terminal.	•	Double Terminal eg IDF or rail mounted.	••
Single Terminal, binding post.	⊙	Conductor Plate eg Busbars, 4 way terminal.	
Double Terminal, with sliding disconnecting link.		Double Terminal, removable disconnecting link.	
Connection plug (male). Connection socket (female). Combined connection.	  	Multipole plug and socket.	
Solder / solder.		Solder / screw.	
Faston / solder.		Capacitor, (electrolytic) (open plate is positive).	
Capacitor, fixed.		Capacitor, variable (irrespective of the means of variation).	
Diode / Rectifier, half-wave.		TransZorb.	
Earth connection point, on equipment.		Earth rod.	
Battery.		Single cell.	
Resistor, (generic symbol) (inductive or non-inductive).		Resistor, variable (irrespective of the means of variation).	
Inductor, (generic symbol).		Inductor, variable (irrespective of the means of variation).	









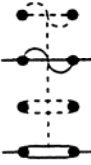



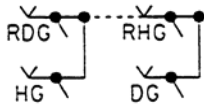
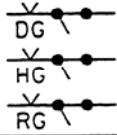

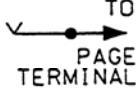
Symbols for Signalling Circuit Diagrams

Appendix A continued

EQUIPMENT (continued)			
Terminology	Symbol	Terminology	Symbol
Transformer.		Rectifier Set, single phase to d.c. (general symbol).	
Transformer with tapped output.		Auto-transformer.	
Current transformer.		Wire conductor.	
Coil, generic symbol. eg. Visual (needle) indicator = K, Visual (light) indicator = KE, Bell (buzzer or horn) audible indicator = X, Motor = M, Light (two pole) = E, AWS indicator = I, Suppressed /AWS indicator = (SUPP)I.		Light tripole, (M) – Main (A) – Auxiliary	
		Conductor joint within sealed units.	
Conductor or cable not connected and specially insulated.		Wire demarcation, eg: external on left, internal on right.	
Screened conductor.		Cable conductor and identification. Number represents cable core numbers, 3 in example.	 CABLE IDENT.. TYPE AND SIZE.
Coaxial cable with screen.			
Coaxial cable pair. If the coaxial structure is not maintained, the tangential line should be drawn only on the coaxial side.		Coaxial cable pair connected to terminals.	
Cable conductors, twisted pairs.			

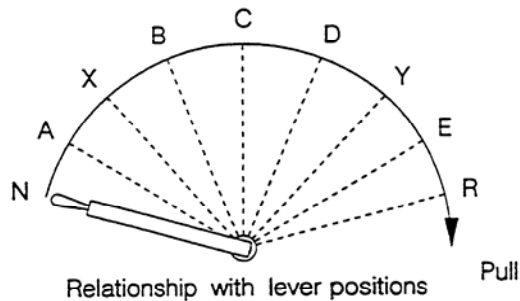
Symbols for Signalling Circuit Diagrams

Appendix A continued

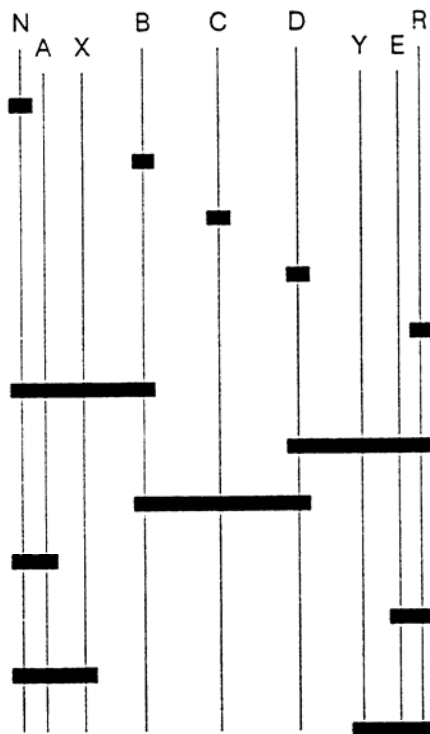
EQUIPMENT (continued)			
Terminology	Symbol	Terminology	Symbol
Fuse, free standing.		Link, on busbar.	
Fuse, affixed to busbar.		Busbar terminal.	
Carrier cartridge fuse, free standing.		Carrier cartridge link, free standing.	
Switch isolator (fuse switch) normally closed.		Switch isolator (non fused) normally open.	
Switch isolator unit.		Equipment enclosure or screen.	
Lightning arrester, 2 terminal.		Lightning arrester, 3 terminal.	
Searchlight signal. Single dependent contacts.		Searchlight signal. Independent contacts.	
Off page connector.		Off page connector.	

Appendix B - Circuit Controller contacts

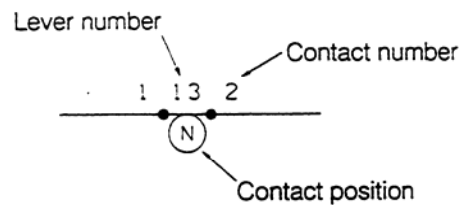
Symbols for Signalling Circuit Diagrams



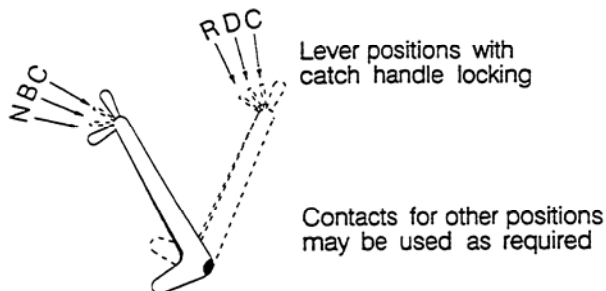
In the illustration below, A, X, Y, E positions, contacts are just broken at N, B, D, R.
NOTE. Heavy horizontal lines indicate portion of cycle of lever through which circuit is closed.



- (N) = Normal position
- (B) = Normal indication position
- (C) = Central position
- (D) = Reverse indication position
- (R) = Reverse position
- (NB)
- (RD)
- (BD)
- (NA)
- (RE)
- (NX)
- (RY)



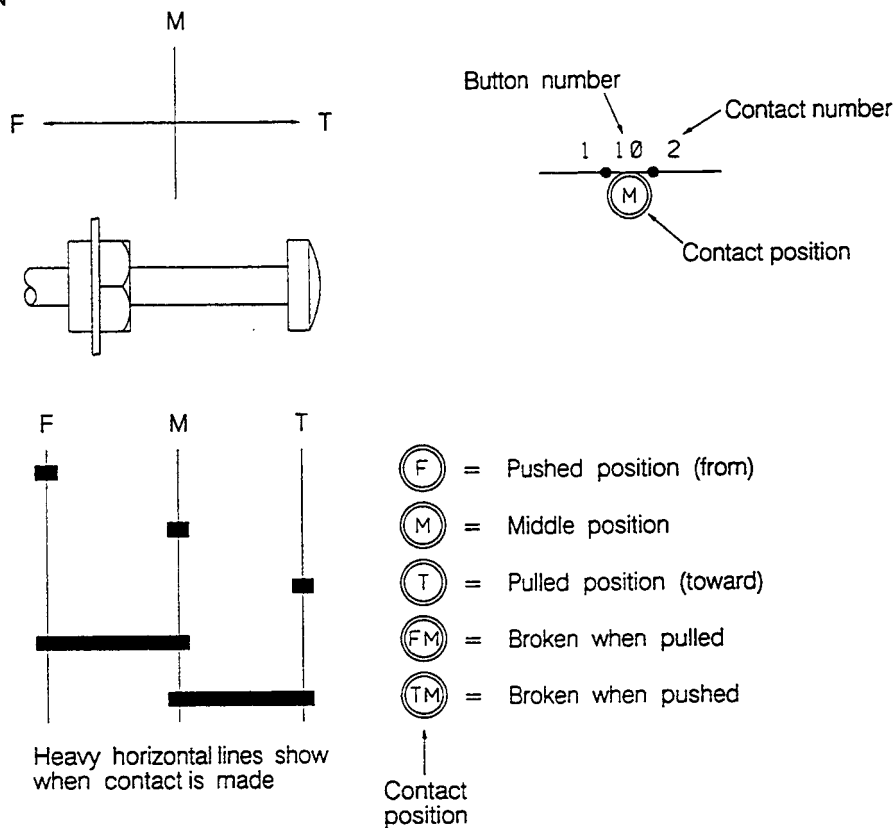
— The contact positions shown are only for example and other positions may be set as required by the circuit.



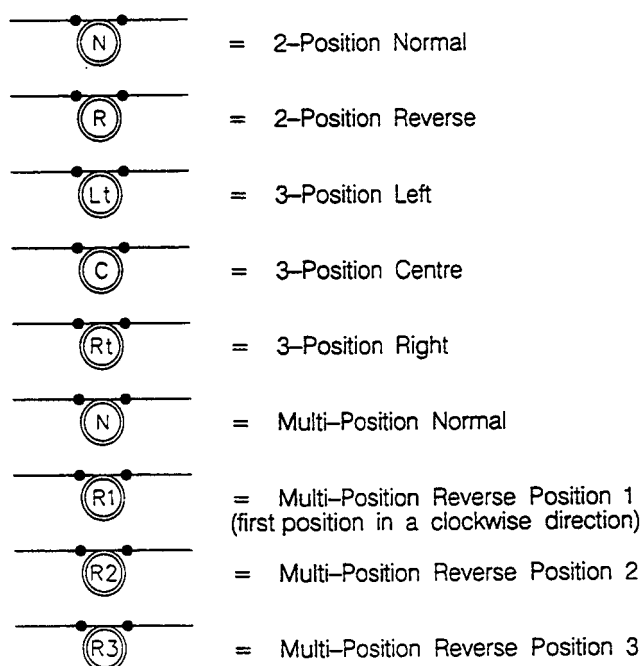
Note:- The levers with push / pull movement are not shown.

Symbols for Signalling Circuit Diagrams

PUSH BUTTON



ROTARY THUMB SWITCHES



Symbols for Signalling Circuit Diagrams

Appendix D - Meaning of letters and usage of Nomenclature for Circuit Diagrams

MEANING OF LETTERS			
Description Term [prefix letter]		Apparatus [last letter]	
A	Approach; Automatic; Relay Contact - Arm	A	Axle Counter
B	Block; Bolt; Relay Contact - Back;	B	Block Instrument
C	Checking or Proving; Coding	C	Contact
D	Clear [green]; Decoding; Relay Contact - De-energised		{no apparatus}
E	Light; Lamp; Heat (externally applied); Emergency; Earth	E	Light; Lamp; Earth
F	Fog; Flashing; Feed; Relay Contact - Front	F	Detonator Placers
f	Frequency	f	Fuse
G	Signal	G	Signal apparatus
	{no description term}	g	Lightning Arrester
H	Caution [yellow]	H	Capacitor
HH	Preliminary Caution [double yellow]		{no apparatus}
I	AWS	I	Inductor
J	Time [delayed action]	J	Rectifier; Diode
K	Indicating or detecting	K	Indicator Electro-mechanical
L	Locking; Left	L	Lock
M	Marker; Magnetic	M	Motor
N	Normal	N	Release; Hand operated switch; Push Button or Key
O	Retarding	O	Resistor; Heater
P	Repeating	P	Lever Latch or Trigger contact
Q	Treadle or Bar	Q	Local Coil of a Double Element Relay; Treadle; Bar
R	Reverse; Right; Danger [red]	R	Relay or contactor
Rx	Receiving	Rx	Receiver
S	Stick		{no apparatus}
T	Track Circuit	T	Transformer
	{no description term}	t	Terminal
Tx	Transmitting	Tx	Transmitter
U	Route	U	Unit
V	Trainstop	V	Trainstop apparatus
W	Points	W	Points operating apparatus
X	Audible annunciator; Level Crossing; Wrong Direction	X	Audible annunciator [bell,buzzer;horn etc]
Y	Slotting or disengaging	Y	Slotting or Disengaging apparatus
Z	Special (to be explained on plan)	Z	Special unit (to be explained on plan)

Symbols for Signalling Circuit Diagrams

Numerical/Alphabetical Prefix

The identification of individual signals, track circuits, points etc and their associated equipment shall be in accordance with other Signalling Principle Standards and shall form the prefix.

Where a letter is used to identify equipment [eg;- track circuits] these letters shall be separated by a single letter space from or placed immediately above the Alphabetical Term as in the section below.

Where confusion could arise the control number may be prefixed by the letters indicating the control point or locality;- HS10 YR, where HS = High Street Signal Box

Alphabetical Term

Consisting of one or more letters. Where used singly or finally it is used as a noun and designates the general kind of unit.

Combinations of nouns are acceptable separated by a / where the unit performs more than one duty;- eg; T/J for Transformer Rectifier.

Preceding letters, which are used as adjectives, denote the purpose of the unit.

Where more than one repeating relay is required in parallel and they are operated simultaneously over the controlling contact they shall be named by preceding the noun with a numerical index in brackets ();- AB TP(1)R; AB TP(2)R etc.

Where more than one repeating relay is required and they are operated in cascade, the second or subsequent relays shall be indicated as follows; AB TPR; AB T2PR etc.

Combination

As far as practicable in the list of nomenclatures (see Appendix D.; Meaning of Letters), assigned letters are suggested, either because they are the first letter in the words they represent [eg;- B in Block] or because of usage. However many letters stand for names which cannot be associated, and are arbitrary symbols only [eg;- J for Rectifier]. Some of the letters represent several different meanings of words, depending on their position with respect to numerals and other letters. The scheme nomenclature shall be used consistently so that there is no mistake in the meaning.

Where reference is to be made to the position of levers, switches, push buttons or any other movable device, the letters shall be used in brackets as an adjective, eg;- 74(NBDR)L.

In the case of an item where there is no actual designation, a descriptive word or abbreviation may be included in the brackets ().

Examples of combinations;-

10 DGE Electric Lamp illuminating clear aspect of signal No 10

10(6)UE Electric Lamp illuminating No6 indication of route indicator associated with signal No 10

10 GK Electro-mechanical Indicator showing signal No 10

Symbols for Signalling Circuit Diagrams

10 RGKE	Indicator light showing danger aspect of signal No 10
20 NWKE	Indicator light showing Normal position of points No 20
10(N)L	Lock effective in normal position of lever No 10
10(R)L	Lock effective in reverse position of lever No 10
10(NBDR)L	Lock effective in normal, normal indication, reverse indication, and reverse positions of lever No 10
AA TQ	Local Winding on track relay AA
10 VCR associated	Relay checking or proving the position of Trainstop with signal No 10
10 DR	Relay controlling the clear aspect of Signal No 10
10 HR	Relay controlling the caution aspect of signal No 10
10 JR control	Relay time or delayed action in connection with No 10
AB TPR	Relay repeating the relay of track circuit AB.
10A NLR	Normal Lock Relay for route A of Signal No 10
CD2 TR	Track Relay for Track Circuit CD section 2
B50 supply (positive side)	Connection of an individual wire to the busbar or terminal of a 50 Volt direct current supply
NX110 (return side)	Connection of an individual wire to the busbar or supply terminal of a 110 Volt alternating current supply
TB feed	Indicates supply connection to track circuit (positive or side)
RN	Indicates track circuit relay connection to rail (negative or return side)

Symbols for Signalling Circuit Diagrams

Appendix E - Nomenclature and usage of Nomenclature for Electrical Supply

Particulars of the supply for any circuit shall be indicated by the nomenclature at the origin of the circuit.

The voltage of the supply shall be indicated by numerals in the nomenclature.

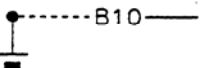
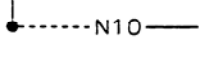
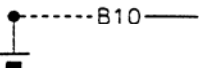
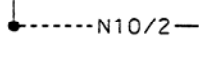
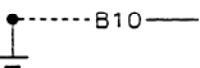
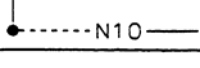
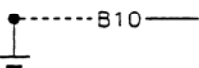
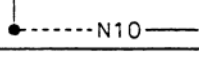
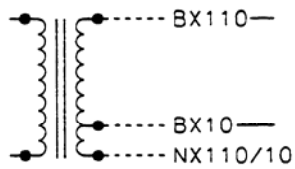
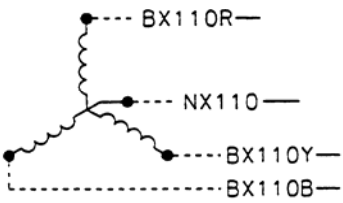
Where polyphase systems are used, symbols indicating the particular phase will follow the numeral. The use of the letters R,Y,B for the Red, Yellow and Blue phases and N for Neutral (Black) is recommended.

Nomenclature	Definition
B or (+)	Indicates connection by an individual wire to the busbar or supply terminal of a direct current system (positive side).
N or (-)	Indicates connection by an individual wire to the busbar or supply terminal of a direct current system (negative side).
BN	Indicates connection by an individual wire to the busbar or supply terminal of a direct current system at an intermediate point.
BX	Indicates connection by an individual wire to the busbar or supply terminal of an alternating current system (feed side).
NX	Indicates connection by an individual wire to the busbar or supply terminal of an alternating current system (return side).
(X)	Suffix indicates external supply.
(X1)	Suffix indicates first external supply.
(L)	Suffix indicates local supply.
CR	Indicates a wire common to a number of circuits each with separate sources of energy and insulated from earth (common return).
CRE	Indicates a wire common to a number of circuits each with separate sources of energy and connected to earth (common return earthed).
R	Indicates a wire which is an individual return to the source of energy.
F	Prefix Letter; Flashing supply normally only on positive side.
S	Prefix Letter; Steady supply.
N or NX	Indicates, in cable nomenclature, a wire returning to a supply.

Other combinations of the above nomenclature may be used as appropriate e.g. CBNX

Symbols for Signalling Circuit Diagrams

Appendix E continued

USAGE OF NOMENCLATURE FOR ELECTRICAL SUPPLY			
Terminology	Symbol	Terminology	Symbol
<p>B10 Indicates connection to the positive busbar or terminal of a 10V. d.c. battery.</p> <p>N10 Indicates connection to the negative busbar or terminal of a 10V. d.c. battery.</p>	 	<p>B10 or B2 Indicates connection to the positive busbar or terminal of a 10V. or 2V. d.c. common battery.</p> <p>N10 or N2 Indicates connection to the negative busbar or terminal of a 10V. or 2V d.c. common battery.</p>	 
<p>CR or CRE Indicates connection to the intermediate terminal or busbar of a $\pm 10V.$ d.c. battery and common to other circuits with separate sources of energy.</p>	 	<p>BN Indicates connection to a central intermediate terminal or busbar of a $\pm 10V.$ d.c. battery.</p>	 
<p>BX110 or BX10 Indicates connection to the feed busbar or terminal of a 110V. or 10V. a.c. common system.</p> <p>NX110 or NX10 Indicates connection to the return busbar or terminal of a 110V. or 10V. a.c. common system.</p>			
<p>BX110R, BX110Y, or BX110B Indicates connection to the 110V. feed busbar or terminal, phase R, Y or B, respectively of a three-phase a.c. system</p> <p>NX110 Indicates connection to the 110V. return neutral busbar or terminal of a three-phase, star-connected a.c. system</p>			

Symbols for Signalling Circuit Diagrams

Appendix F - Code for Designation of Colours

COLOUR	LETTER CODE
Black	BK
Blue (Including Light Blue)	BU
Brown	BN
Gold	GD
Green	GN
Grey (Slate)	GY
Orange	OG
Pink	PK
Red	RD
Silver	SR
Turquoise	TQ
Violet (Purple)	VT
White	WH
Yellow	YE
Green and Yellow	GNYE

Symbols for Signalling Circuit Diagrams

Appendix G - Circuitry Presentation

1 General

All the symbols, with abbreviated designations, shall be drawn, for clarity, in a straight horizontal line wherever possible and the symbols applied to it.

Each circuit shall have a unique name, generally suggested by the function of the circuit, or the number and name of the operated unit, and this shall be indicated when the circuit is either a through circuit or is incomplete.

Every piece of apparatus shall have a name, number and/or letter. Terminal numbers or letters shall always appear as a suffix to the main nomenclature.

Circuit diagrams and equipment markings shall be consistent.

Fuses and terminal blocks shall be consecutively numbered and named.

Terminations shall be further identified by the use of the suffix letters L for Left and R for Right where this is not apparent from the circuit presentation.

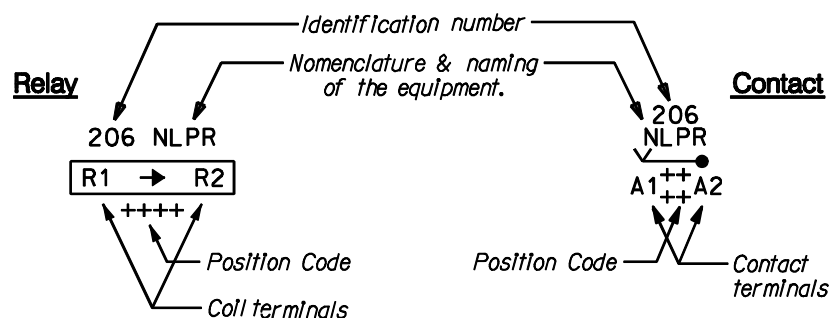
It is important that there shall be no doubt as to which terminal of a piece of apparatus a wire is connected.

For wire labelling see the Signalling Installation Handbook.

Where required, a position code to identify the location of the equipment may be shown.

2 Presentation of Symbols and Terminal Analysis

The equipment, for example, relays and relay contacts, shall be identified, named and analysed as follows:-



Symbols for Signalling Circuit Diagrams

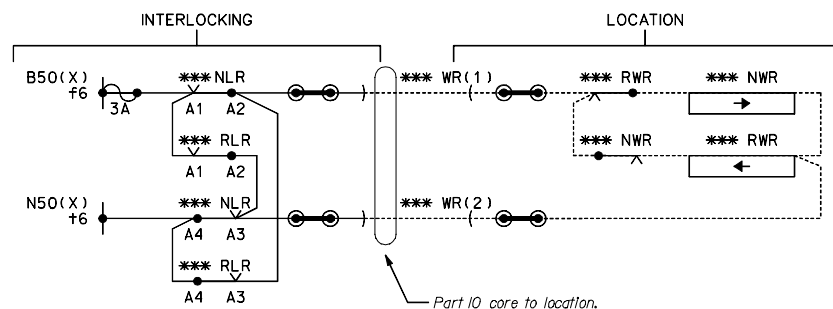
3 Through Circuits

A complete through circuit shall generally only be drawn once.

There may be instances where it is desirable to show the through circuit in more than one location and in these cases all other drawings must be comprehensively cross indexed.

A through circuit originating from or terminating in an interlocking shall be shown at the interlocking by solid lines for the circuitry within the interlocking and by dashed lines elsewhere.

All other through circuits (which may call intermediately in an interlocking) shall be shown at the destination location by solid lines for the circuitry within that destination location and by dashed lines elsewhere.



4 Analysis Presentation

To ensure the proper allocation of terminal and contact numbers consistent analysis sheets shall be used throughout the installation.

5 Presentation of alterations

Where Red and Green are used on circuit diagrams this shall indicate changes as follows ;-

RedNew and to be installed or commissioned.

GreenNo longer required and to be recovered.

These colours shall not be used for any other purposes in the circuit diagrams.

Other colours may be used where specially authorised and explained.

Symbols for Signalling Circuit Diagrams

Appendix H - Obsolete Symbols or Descriptions

Appendix H - Obsolete Symbols or Descriptions

OBSOLETE SYMBOLS OR DESCRIPTIONS			
Terminology	Symbol	Terminology	Symbol
Special contact. (Requires reference to notes). Add numerals if required. e.g. # ₂		Code transmitter. Note: number to indicate frequency.	
Coding contacts. Non-polarized.		Coding contacts. Polarized.	
Lever Lock, lock proving contact out.		Contactor, fitted with magnetic blow out. Positive must be applied to the arrow.	
Double terminal block.		Resistor, non-inductive.	
Connection to earth		Inductor, variable (irrespective of the means of variation).	
Resistor, variable (irrespective of the means of variation).		Transformer.	
Inductor with iron core.		Electric lamp, triple pole.	

