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TRACK CIRCUIT ADJUSTMENT RESISTORS

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British Railways Board

SPECIFICATION NO. 3000

TRACK CIRCUIT ADJUSTMENT RESISTORS

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FOREWORD

This Specification is issued by :- British Railways Board,
Director of S. & T. Engineering,
Materials Management Group,
Room 1103,
Rail House,
Crewe,
Cheshire. CW2 6EA.

from whom further copies may be obtained

BT (STD) 0270-532494
BT (STD) 0270-532345
BR (ETD) 05-32494
BR (ETD) 05-32345

Technical queries should be referred to:-

Director of Signals & Telecommunications Engineering
Macmillan house,
Paddington Station,
London, W2 1FT.

BT (STD) 071-922 6618
BR (ETD) 00-26618

REFERENCES

Reference in this specification is made to:-

British Railways Specifications

967 - Railway Signalling Apparatus Environmental Conditions.

British Railways Drawing

BRS-SM 295 - Modular Dimensions for small rack mounted equipment.

British Railways Booklet

8665 - BRB Supplier Quality Assurance Requirements

British Standards

5750 - Quality Systems.

Act of Parliament

Health & Safety at work, etc Act 1974.

Where this specification requires reference to British Standards, British Railways Specification, Drawings and DEF Standards, the latest issue shall apply unless specifically stated. It is the responsibility of the Manufacturer, Supplier or User to ensure that the latest issue of this specification and other relevant specifications and drawings are obtained and complied with.

For the purpose of this specification, the Engineer is the Director of Signal and Telecommunications Engineering, British Railways Board, or his appointed representative.

2. Construction

The unit shall consist of a number of resistors mounted within an assembly which can be accommodated in the space occupied by one relay module as shown in Figure 1. and drawing BRS-SM 295.

Vitreous wirewound resistors are preferred for this application. Where an alternative type of resistor is proposed, type approval shall be obtained, in writing, prior to its use.

- 2.3 The resistors shall be connected in series, provision being made for making connections to every intermediate junction and the ends of the "chain" of resistors. The layout of the resistors shall generally conform to that shown in Figure 2.
- 2.4 The junction points between resistors in the chain, and the ends of the chain, shall be brought out on front facing 2 B.A. studs, provided with two washers, and two nuts, and capable of securing two ring tongue connectors.

Connections will be made with the ring tongue connectors, and wire straps. Space shall be provided for bringing two leads, terminated in 2 B.A. ring tongue connectors, from the back of the unit to its front face, within the space detailed in clause 2.1. Any holes provided in metal, for this purpose, shall be grommetted.

The 2 B.A. studs shall be positioned such that there is adequate room to install nuts on them, with a nut runner, or a Box spanner, BR Catalogue No. 39/56555.

The 2 B.A. studs shall be positioned such that there is adequate space between them to install straps terminated in 2 B.A. ring tongue connectors.

When considering the positioning of the studs, it is to be assumed that the unit is installed between two other equipments which have a depth of 200mm.

- 2.6 The value of resistance between each pair of terminals shall be unambiguously displayed on the front panel.
- 2.7 Because a significant reduction in resistance is an unacceptable failure mode for this equipment, the method of construction must eliminate the possibility of a resistance segment being short circuited by any credible damage, component failure, extraneous metal components falling on to it, or growth of conductive paths. A suitable method would be a demountable, transparent, shield.
- 2.8 The construction of the unit shall limit the heat dissipated laterally. It is the intention that resistors rated at more than 5W, shall be installed remote from heat sensitive equipment.