

Specification for

Tractive armature direct current neutral track and line relays for railway signalling

Co-operating organizations

The Electrical Industry Standards Committee, under whose supervision this British Standard was prepared, consists of representatives from the following Government departments and scientific and industrial organizations:—

- Admiralty
- Air Ministry
- Association of Consulting Engineers Incorporated
- Association of Supervising Electrical Engineers
- British Electrical and Allied Industries Research Association
- British Electrical and Allied Manufacturers' Association*
- British Electrical Development Association
- British Electricity Authority and Area Boards
- British Railways*
- Cable Makers' Association
- Electric Lamp Manufacturers' Association*
- Electric Light Fittings Association
- Electrical Contractors Association (Incorporated)
- Electrical Contractors Association of Scotland
- Engineering Equipment Users' Association
- General Post Office
- Institution of Electrical Engineers*
- Ministry of Fuel and Power
- Ministry of Labour and National Service (Factory Department)
- Ministry of Supply
- Ministry of Works
- National Physical Laboratory
- North of Scotland Hydro-Electric Board
- Public Transport Association (Incorporated)
- Radio Industry Council

The Government department and scientific and industrial organizations marked with an asterisk in the above list, together with the following, were directly represented on the Committee entrusted with the preparation of this British Standard:—

- Crown Agents for the Colonies
- Federation of British Industries
- Institution of Railway Signal Engineers
- Ministry of Transport
- Office of the High Commissioner for New Zealand
- Individual manufacturers of Railway Signalling Apparatus

This British Standard, having been approved by the Electrical Industry Standards Committee and endorsed by the Chairman of the Engineering Divisional Council, was published under the authority of the General Council on 26 July 1950

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Foreword

This standard requires reference to the following British Standard:—

BS 442, *Terminals for electrical apparatus for railway signalling*.

This British Standard supersedes BS 452:1932, "*Tractive armature D.C. neutral track relays*" and BS 475:1932, "*Tractive armature D.C. neutral line relays*" and combines in one standard a revision of these two specifications. The main alterations are as follows:—

General. The definitions have been revised, and the numbering and order of the clauses have been modified.

The temperature range specified for insulating and transparent materials is now from -40°F . (-40°C .) to $+212^{\circ}\text{F}$. ($+100^{\circ}\text{C}$.).

The rated current for back contacts has been increased from 2 to 3 amperes.

The minimum specified armature torque in the direction of drop-away has been increased to 8 inch-ounces for four- and six-arm relays and 5.5 inch-ounces for two-arm relays.

Pick-up values are specified in terms of current in place of voltage and an appendix gives corresponding pick-up voltage limits, since it is appreciated that it is more convenient under service conditions to test in terms of voltage.

References to locking devices for transport have been deleted.

Additional appendices state the information to be supplied by the purchaser and make recommendations for terminal arrangement in future designs.

Track relays. Clauses have been added specifying the performance required from contacts under conditions of breaking current approximating to those occurring in normal operation, and specifying minimum contact pressures.

Ranges of pick-up value have been specified for two-, four- and six-arm relays in place of a common maximum value.

Grade II relays and 4-ohm relays are no longer recognized as standard.

Line relays. The currents and voltages specified for the breaking capacity of contacts have been modified to give conditions approximating to those occurring in normal operation.

The contact clearances specified for Class A relays have been reduced to the values specified for track relays.

The percentage release has been increased from 50 to 60 per cent for Class A relays.

The 2 000-ohm relay is no longer recognized as standard.

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 and ii, pages 1 to 6 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.