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Miniature Stop Light Unit (formerly RT/E/S/1003 I)

This temporary front sheet facilitates change to the new Network Rail Standards referencing nomenclature.

The Ref above will be formally allocated to this standard when it is next changed in the meantime the contents, date and issue number of this Network Rail Standard are **UNCHANGED and with immediate effect it should be referred to as “(new ref) formerly (old ref)”.**

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RAILTRACK LINE SPECIFICATION

MINIATURE STOP LIGHT UNIT

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Summary

This document has been prepared to define the detailed requirements for a “Miniature Stop Light” unit for use on a level crossing.

Issue/Revision Record

This specification will be updated when necessary by the distribution of a complete document. Amendments will be marked by vertical black line in the adjacent right hand margin. The latest issue of this standard shall be implemented immediately upon receipt.

Issue	Date	Comments
I	March 1997	New standard

Implementation

The requirements of this standard are mandatory. This document supersedes BRS-SE82 and shall be applied for all new works for design and implementation work undertaken on schemes for which the Signalling Scheme Plan is approved on or after 1 September 1997. Railtrack may determine that existing Miniature Warning Light (MWL) units be retained when the signalling in the vicinity is altered. Drawing BRS-SE82 may continue to be used for maintenance or like for like renewal of existing Miniature Warning Light units.

Superseded document reference number	Issue	Date
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Safety

All persons are reminded that all appropriate safety precautions must be observed when undertaking the work covered by this document.

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1. PURPOSE

This specification defines the detailed requirements for a Miniature Stop Light Unit for use at a level crossing.

2. SCOPE

This specification applies to a miniature stop light unit. It does not include the remote electrical controlling circuitry.

3. DEFINITIONS

Active Display Board	A display board used to provide information to the public and through which a defined light can be displayed.
Aspect	A valid visual indication of a signal as displayed to the crossing user.
Dichroic Reflector	A device in which incident light is partly transmitted and partly reflected and in which the transmitted and reflected components are spectrally selective and complimentary in spectral composition and together nearly equal in radiant power to the incident radiation.
Geometric Axis	A straight line passing through the centre of the signal aspect and perpendicular to it.
Phantom	A condition where a signal may appear to present a false illuminated signal to an approaching crossing user. This phenomenon is caused by the internal reflection of light within the signal when light from an external source (e.g. sunlight or vehicle head lamps) is incident upon the signal face when the signal light source(s) is/are extinguished.

4. ABBREVIATIONS

DGE(A)	Green signal lamp (Auxiliary)
DGE(M)	Green signal lamp (Main)
ER	Lamp detecting relay for changing to auxiliary lamp when the main filament is faulty
MTBF	Mean time between failure
RGE(A)	Red signal lamp (Auxiliary)
RGE(M)	Red signal lamp (Main)

Appendix F lists relevant Standards, Specifications and other documents.

5. INTRODUCTION

5.1 General Description

- 5.1.1 The Miniature Stop Light Unit described in this specification is provided for public use at user-worked crossings, footpath crossings and bridleway crossings. It consists of red and green lights, with the green light normally illuminated. An approaching train automatically reverts the lights from green to the red illumination.
- 5.1.2 The unit described in this specification shall use a configuration of quartz halogen lamps and mirrors.
- 5.1.3 The unit shall be capable of being mounted on top of a post, conforming to drawing BRS-SM 91, and shall incorporate a method of adjustment to enable the positioning of the unit for optimum sighting of the aspects.

5.2 Construction

- 5.2.1 The enclosure shall be of robust construction, weatherproof and corrosion resistant. The units shall be constructed such that with routine handling, a service life of 25 years in a railway environment can be expected.

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MINIATURE STOP LIGHT UNIT

- 5.2.2 The fully assembled unit shall conform to a level of protection consistent with IP65 as described in BS EN60529.
- 5.2.3 All enclosure surfaces, interior and exterior, shall be finished in matt black.
- 5.2.4 Paint or other coatings applied to surfaces shall not create fumes or degrade under conditions to be expected in a lineside railway environment.
- 5.2.5 Hoods shall be provided for each aspect to minimise phantom aspects and the signals being inadvertently observed by rail traffic. The length of a hood shall be nominally 200 mm, and shall be finished in matt black.

- 5.2.6 The design shall take all necessary steps to protect the equipment from vandalism and unauthorised access or operation.
- 5.2.7 For security purposes, the unit shall incorporate a suitable means for locking which shall be capable of using a 38 mm padlock with a 6 mm diameter shackle and 20 mm shackle clearance.
- 5.2.8 Where fixings are necessary to attach the unit to the post, these fixings shall be provided and supplied in a sealed plastic bag.

5.3 Unit Housing

- 5.3.1 The unit housing shall be capable of housing the optical units, as shown in Appendices A and C, the ERs, the transformers and a cable terminal block.
- 5.3.2 The unit shall be capable of mounting an active display board in accordance with Diagrams 107 or 108 of SI1996/1786.
- 5.3.3 The unit shall provide easy access to the optical units for lamp replacement, cleaning of the filters and general maintenance, without the need of removing the display board.
- 5.3.4 The external cable to the unit housing shall be 7 core 2.5 mm²(f) in accordance with GS/ES 0872, with provision made for the cable to enter the housing via the centre of the mounting post.
- 5.3.5 The cable entry to the unit shall be provided with a cable gland incorporating a strain relief boot.

6. OPTICAL REQUIREMENTS

6.1 Indications

- 6.1.1 The unit shall have two aspects: one red and one green. The red aspect shall be positioned above the green aspect, with the vertical centre lines of the aspects and the unit being coincident, as shown in Appendix A.
- 6.1.2 The lit area of each aspect shall be 100 mm (height) x 60 mm (width), the horizontal centre lines being 80 mm above and below the horizontal centre line of the housing.