RISSB
RAIL INDUSTRY SAFETY AND STANDARDS BOARD

STANDARDS

AS 7715

Train Detection

Australian STANDARD

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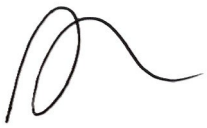
Development of this Standard was prepared by a Rail Industry Safety and Standards Board (RISSB) Development Group consisting of representatives from the following organisations:

ARTC, VLIne, TfNSW, Sydney Metro, Rio Tinto, Central Queensland University, WSP NZ, BHP, ARC Infrastructure, Blue Tongue, JMD Railtech, Andromeda, QR, and PTA.

The Train Control Systems Standing Committee verified that RISSB's accredited process was followed in developing the product, before the RISSB Board approved the document for publication.

RISSB wishes to acknowledge the positive contribution of subject matter experts in the development of this Standard. Their efforts ranged from membership of the Development Group through to individuals providing comments on a draft of the Standard during the open review.

I commend this Standard to the Australasian rail industry as it represents industry good practice and has been developed through a rigorous process.



Alan Fedda
Chief Executive Officer
Rail Industry Safety and Standards Board

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Document details

First published as: AS 7715:2016

ISBN: 978 1 76175 253 7

Document history

Publication Version	Effective Date	Reason for and Extent of Change(s)
2025	27 June 2025	This document has been reviewed to ensure it remains relevant and applicable. The latest review assessed the content, confirming that while updates were made to align with current industry practices, technologies, and regulatory requirements, the original authorship and copyright have been acknowledged as required.

Approval

Name	Date
Rail Industry Safety and Standards Board	27 June 2025

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Preface

This Standard was prepared by the Train Detection Development Group, overseen by the RISSB Train Control Systems Standing Committee.

Objective

The objective of this Standard is to provide the Australian rail industry with a set of mandatory and recommended requirements for the detection of all trains/rolling stock/rail vehicles to ensure that the signalling system receives reliable, accurate, sufficient and up-to-date information regarding the position and movement of all detectable trains/rolling stock/rail vehicles necessary for the safe control of the railway.

The Standard addresses the requirements of the train detection system for the use of signallers and other operators. It spans accuracy and detail of train detection information and sufficiency of update frequency such that the signaller or other operator can safely control the movement of trains, including (so far is reasonably practical) during periods of failure.

The use of this Standard will allow a uniform approach to be applied to the design, installation, set up, testing and commissioning, modification, use, fault finding and disposal of train detection systems.

The Standard is intended to –

- provide a uniform basis for compliance with ONRSR Rail Safety National Law;
- be adaptable to different railway environments; and
- identify the risks (hazards) being controlled.

This Standard specifies the accepted criteria to be employed when designing, procuring, installing, maintaining, fault finding and monitoring train detection systems to ensure technical and safety integrity.

Compliance

There are four types of provisions contained within Australian Standards developed by RISSB:

(b) Requirements.
(c) Recommendations.
(d) Permissions.
(e) Constraints.

Requirements – it is mandatory to follow all requirements to claim full compliance with the Standard. Requirements are identified within the text by the term ‘shall’.

Recommendations – do not mention or exclude other possibilities but do offer the one that is preferred. Recommendations are identified within the text by the term ‘should’.

Recommendations recognize that there could be limitations to the universal application of the control, i.e. the identified control is not able to be applied, or other controls are more appropriate or better.

Permissions – conveys consent by providing an allowable option. Permissions are identified within the text by the term ‘may’.

Constraints – provided by an external source such as legislation. Constraints are identified within the text by the term ‘must’.

For compliance purposes, where a recommended control is not applied as written in the Standard it could be incumbent on the adopter of the Standard to demonstrate their actual method of controlling the risk as part of their WHS or Rail Safety National Law obligations. Similarly, it could also be incumbent on an adopter of the Standard to demonstrate their method of controlling the risk to contracting entities or interfacing organisations where the risk may be shared.

RISSB Standards address known hazards within the railway industry. Hazards, and clauses within this Standard that address those hazards, are listed in Appendix A.

Appendices in RISSB Standards may be designated either normative or informative. A normative appendix is an integral part of a Standard and compliance with it is a requirement, whereas an informative appendix is only for information and guidance.

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Section 1 Scope and general

1.1 Scope

This Standard specifies the safety, functional and maintenance requirements for any member or participant of the Australian rail industry that is involved in any phase of the life cycle (as per the structure of the Standard) for train detection systems both rail-based and on train.

This Standard applies to all railways over 600 mm track gauge and can be used in miniature railways and amusement railways, sugar cane, tourist and heritage.

This Standard provides the minimum requirements for the application design of train detection systems. It does not preclude the application of higher performance standards (e.g., based on local experience and good engineering practice which can be contained in the management of train detection systems standards, codes, guidelines and procedures of rail transport operators).

A train detection system is equipment and systems forming part of, or providing input to, the interlocking system to detect:

(a) the presence or absence of detectable rolling stock within the limits of a track section;

(b) that a train has reached, is passing, or has passed a specific position; or

(c) supplementary functions such as speed measurement.

1.2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document:

- AS 1085.12, *Railway Track Materials - Insulated Joint Assemblies*
- AS 1141, *Methods for sampling and testing aggregates*
- AS 2758.7, *Aggregates and rock for engineering purposes Railway ballast*
- AS 7501, *Rolling Stock compliance certification*
- AS 7505, *Signalling Detection and Interface*
- AS 7514, *Wheels*
- AS 7633, *Railway Infrastructure: Clearances*
- AS 7638, *Railway Infrastructure: Earthworks*
- AS 7639, *Track structure and support*
- AS 7640, *Railway Infrastructure – Rail Management*
- AS 7651, *Axle Counters*
- AS 7722, *EMC Management*
- IEC 62053 (EN13509), *Electricity Metering Equipment (AC) – Particular Requirements*
- IEC 62280 (EN50159), *Railway applications – Communication, signalling and processing systems – Safety-related communication in transmission systems*
- IEC 62425 (EN50129), *Railway applications – Communication, signalling and processing systems – Safety related electronic systems for signalling*

NOTE:

Documents for informative purposes are listed in a Bibliography at the back of the Standard.