

**ARiSO**

AUSTRALIAN RAIL INDUSTRY  
STANDARDS ORGANISATION

**AS 7527**

Rolling Stock Event Recorders

STANDARDS



Advancing safety and productivity

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This ARISO product has been developed using input from rail experts from across the rail industry and represents good practice for the industry. The reliance upon or manner of use of this ARISO product is the sole responsibility of the user who is to assess whether it meets their organisation's operational environment and risk profile.

Development of this Standard was prepared by an Australian Rail Industry Standards Organisation (ARISO) Development Group consisting of representatives from the following organisations:

Alstom, ARTC, Australian Transport Safety Bureau, Circuitlink, EngAnalysis, KiwiRail, Pichi Richi Railway Preservation Society Inc, Queensland Rail, and TfNSW.

The Rolling Stock Standing Committee verified that ARISO's accredited process was followed in developing the product, before the ARISO Board approved the document for publication.

ARISO 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  
Australian Rail Industry Standards Organisation

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## Document history

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2026	18 June 2026	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
Australian Rail Industry Standards Organisation Board	18 June 2026

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## Preface

This standard was prepared by the Event Recorders Development Group, overseen by the ARISO Rolling Stock Standing Committee.

The review updates AS 7527 to match current technology and better security needs. It adds stronger rules for cybersecurity and protecting data. It also includes more types of data, such as for remote vehicles, GPS, and passenger safety. This document sets clearer rules for data accuracy, timing, and how long data must be kept. It also requires regular checks and good maintenance of the system.

## Objective

The objective of this Standard is to describe the performance and technical requirements for event recorders installed in locomotives, self-propelled passenger, and infrastructure maintenance rolling stock.

The primary purpose of the requirements is to ensure that event recorders fitted to rolling stock capture a minimum set of appropriate data for the use of Rolling Stock Operators (RSO), Rail Infrastructure Managers (RIM), maintainers and investigators in the forensic investigations of rail incidents.

## Compliance

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

- (a) Requirements.
- (b) Recommendations.
- (c) Permissions.
- (d) 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.

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.

**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'.

ARISO Standards identify known hazards relevant to the railway industry. Appendix A provides a non-exhaustive list of hazards relevant to the scope of this Standard.

**Appendices** in ARISO 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.

## Commentary

### *Commentary C Preface*

This Standard includes a commentary on some of the clauses. The commentary directly follows the relevant clause, is designated by 'C' preceding the clause number and is printed in italics in a box. The commentary is for information and guidance and does not form part of the Standard.

AS 7527 PREVIEW ONLY

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## Section 1 Scope and general

### 1.1 Scope

This document applies to the design, construction and maintenance of new, modified and existing self-propelled locomotives, passenger, autonomous automatic rolling stock and infrastructure maintenance rolling stock capable of operating in travel mode at speeds greater than 30km/h.

It is recommended that rolling stock not fitted with event recorders as specified in this document, or fitted with event recorders that record on tape, should be assessed and, where practical, modified to meet the requirements of this document.

The document is not specifically intended to cover rolling stock used on light rail, cane railway, monorail and heritage railways operating on isolated networks, but items from this document may be applied to such systems as deemed appropriate by the relevant RSO.

This document does not apply to:

- the operation of rolling stock in regard to network safeworking rules and route standards; or
- other system-specific recording functions that are governed by separate standards, including but not limited to ETCS Juridical Recording Units (JRUs) specified in ERA SUBSET-027

#### Commentary C1.1

The term Event Recorder includes other devices which perform the same function such as Data Logger.

### 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 7511:2020, *Onboard train protection systems*
- AS/NZS ISO 8601.2:2021, *Date and time - Representations for information interchange, Part 2: Extensions*
- EN 62625-1:2013, *Electronic railway equipment - On board driving data recording system - Part 1: System specification*
- AS IEC 62443:2024, *Cybersecurity*
- IEEE 1482.1:2013, *IEEE Standard for Rail Transit Vehicle Event Recorders*
- PD CLC/TS 50701:2023, *Railway applications. Cybersecurity*

#### NOTE:

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

### 1.3 Defined terms and abbreviations

For the purposes of this document, the following terms and definitions apply:

#### 1.3.1

**electronically controlled pneumatic (ECP)**

**electronically controlled pneumatic brakes (ECPB)**

braking system that uses electronic signals to control air brakes simultaneously across all vehicles