SLOVENSKI STANDARD
SIST EN 62625-1:2014

01-januar-2014

Železniške elektronske naprave - Sistem registriranja podatkov o vožnji vlaka - 1. del: Specifikacija sistema

Electronic railway equipment - On board driving data recording system - Part 1: System specification

Matériel électronique ferroviaire - Système embarqué d'enregistrement de données de conduite - Partie 1: Spécification du système

Ta slovenski standard je istoveten z: **EN 62625-1:2013**

ICS:

03.220.30	Železniški transport	Transport by rail
45.020	Železniška tehnika na splošno	Railway engineering in general

SIST EN 62625-1:2014 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62625-1

November 2013

ICS 45.060

English version

Electronic railway equipment - On board driving data recording system - Part 1: System specification

(IEC 62625-1:2013)

Matériel électronique ferroviaire - Système embarqué d'enregistrement de données de conduite - Partie 1: Spécification du système (CEI 62625-1:2013)

Elektronische Betriebsmittel für Bahnen - Bordsystem zur Fahrdatenaufzeichnung - Teil 1: Systemspezifikation (IEC 62625-1:2013)

This European Standard was approved by CENELEC on 2013-10-17. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 9/1820/FDIS, future edition 1 of IEC 62625-1, prepared by IEC/TC 9 "Electrical equipment and systems for railways" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62625-1:2013.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2014-07-17
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2016-10-17

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Endorsement notice

The text of the International Standard IEC 62625-1:2013 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60571	-	Railway applications - Electronic equipment used on rolling stock	EN 50155	-
IEC 61375	Series	Electronic railway equipment - Train communication network (TCN)	EN 61375	Series
IEC 62498-1	-	Railway applications - Environmental conditions for equipment - Part 1: Equipment on board rolling stock	EN 50125-1	-
ISO/IEC 8824	Series	Information technology - Abstract Syntax Notation One (ASN.1): Specification of basic notation	-	-

IEC 62625-1

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Electronic railway equipment – On board driving data recording system – Part 1: System specification

Matériel électronique ferroviaire – Système embarqué d'enregistrement de données de conduite – Partie 1: Spécification du système

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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ELECTRONIC RAILWAY EQUIPMENT – ON BOARD DRIVING DATA RECORDING SYSTEM –

Part 1: System specification

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 62625-1 has been prepared by IEC technical committee 9: Electrical equipment and systems for railways.

The text of this standard is based on the following documents:

FDIS	Report on voting
9/1820/FDIS	9/1844/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62625 series, published under the general title *Electronic railway equipment – On board driving data recording system*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

In the railway market over the last decade, the demand for event recorders onboard of trains, metros and trams, has continuously increased. The operators are asking for more and more recorders beyond the simple recording of speed, distance and elapsed time. Consequently, many national safety authorities in many countries around the world require the installation of on board event recording system. Herein some examples are listed:

- In Japan, the Ministry of Land, Infrastructure and Transport revised "Shorei (The Ministerial regulation of Japan)" in 2006 for implementing juridical recorder. This regulation requires the railway authorities having constant operational requirements to install juridical recorders.
- In the USA, the Federal Railroad Administration issued in 2005 the “Final Rule 49 CFR Part 229”. The rule requires that the leading locomotives of all the USA trains are equipped with compliant event recorders.
- In the UK, the regulation GM/RT 2472 requires that the majority of trains operating on the network rail controlled by infrastructure are fitted with a compliant on train data recorder.
- In Europe, the technical specifications for interoperability for the control-command system and for Operation require the implementation of a Juridical Recording Unit when running on the trans european network (TEN) (Directive 2008/57/EC of the European parliament and of the council).

Today, it is necessary to set a common specification that can be referred to by the regulations issued by each national safety authority to harmonize these requirements, to simplify the rolling stock design and to ensure a cost effective implementation. The aim of this standard is to fulfil this target.

In addition to the usual benefits of standardization for the railway stakeholders (e.g. cost reduction), this standard has the following benefit:

- Achievement of a specification of a worldwide juridical event recorder that respects the minimum requirements necessary for the interoperability of trains crossing the borders of countries around the world (e.g. Europe, Asia, USA/Canada).
- The goals of the on board driving data recording system are to enable the checking of train operation according to the driving rules through recording the events of train operation. According to national laws, this checking can be used for enquiry after an accident or incident or for the regular monitoring of the driver’s ability and qualification to operate the train.

ELECTRONIC RAILWAY EQUIPMENT – ON BOARD DRIVING DATA RECORDING SYSTEM –

Part 1: System specification

1 Scope

This part of IEC 62625 covers the specification of an on board driving data recording system for the purpose of recording data about the operation of the train. The data refers both to the driver behaviour and the on board systems behaviour to support systematic safety monitoring as a means of preventing incidents and accidents.

The data is recorded in a way that is suitable for identifying cause and where possible consequence, such that the data is suitable:

- for investigative use in case of accidents and incidents;
- to monitor the appropriate actions of drivers.

The conformance test procedure will be covered by a future standard in the IEC 62625 series.

This standard specifies the requirements for a universal recording system that is applicable to all types of rail vehicles.

Requirements and responsibilities for the management and retention of the data to ensure that its integrity is maintained once it has been extracted from the recording device lie outside the scope of this standard.

Application of this standard is subsidiary to the responsibility of the transport authority and the safety regulatory authority and to the specific laws and decrees where the ODDRS (on board driving data recording system) is deployed.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60571, *Railway applications – Electronic equipment used on rolling stock*

IEC 61375 (all parts), *Electronic railway equipment – Train communication network (TCN)*

IEC 62498-1, *Railway applications – Environmental conditions for equipment – Part 1: Equipment on board rolling stock*

ISO/IEC 8824 (all parts), *Information technology – Abstract Syntax Notation One (ASN.1)*

3 Terms, definitions, abbreviations, acronyms, and conventions

3.1 Terms and definitions

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

3.1.1
accident
an unintended event or series of events that results in death, injury, loss of a system or service, or environmental damage

Note 1 to entry: Accidents are divided into the following categories: collisions, derailments, level crossing accidents, accidents to persons caused by rolling stock in motion, fires and others.

3.1.2
consist
single vehicle or a group of vehicles which are not separated during normal operation

Note 1 to entry: Train set and rake of coaches are synonyms.

Note 2 to entry: A consist may contain one or more traction units.

EXAMPLE The vehicles of a consist are steadily connected in a workshop, and automatic couplers are mounted at both ends of the consist to facilitate the coupling and de-coupling of complete consists in the workshop or during operation.

3.1.3
incidents
any occurrence, other than accident or serious accident, associated with the operation of trains and which may affect the safety of operation

3.1.4
monitoring data
data related to the monitoring of the driver competence

3.1.5
non-volatile storage medium
memory and the relevant interface circuitry, which store the data for investigative use in case of accidents and incidents

Note 1 to entry: The non-volatile storage medium may be protected.

3.1.6
ODDR unit
physical unit which implements the ODDRS

Note 1 to entry: ODDRS may be implemented by one or more ODDR units.

3.1.7
resolution
smallest change in the measurand, or stored quantity, which causes a perceptible change in the indication

[SOURCE: IEC 60050-311:2001, 311-03-10, modified]

3.1.8
train safety functions
technical barrier to prevent a hazard to become an accident during the train operation