

RAUDTEEALASED ELEKTROONIKASEADMED. VEEREMI
LIIKUMISANDMETE TALLETAMISE PARDASÜSTEEMID.
OSA 2: VASTAVUSE KATSETAMINE

Electronic railway equipment - On board driving data
recording system - Part 2: Conformity testing

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 62625-2:2016 sisaldab Euroopa standardi EN 62625-2:2016 ingliskeelset teksti.	This Estonian standard EVS-EN 62625-2:2016 consists of the English text of the European standard EN 62625-2:2016.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 09.09.2016.	Date of Availability of the European standard is 09.09.2016.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 45.060

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:
Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

ICS 45.060

English Version

**Electronic railway equipment - On board driving data recording
system - Part 2: Conformity testing
(IEC 62625-2:2016)**

Matériel électronique ferroviaire - Système embarqué
d'enregistrement de données de conduite - Partie 2: Essais
de conformité
(IEC 62625-2:2016)

Elektronische Betriebsmittel für Bahnen - Bordsystem zur
Fahrdatenaufzeichnung - Teil 2: Konformitätsprüfungen
(IEC 62625-2:2016)

This European Standard was approved by CENELEC on 2016-03-02. 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.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



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

European foreword

The text of document 9/2081/FDIS, future edition 1 of IEC 62625-2, 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 62625-2:2016.

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) 2017-03-09
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2019-09-09

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

Endorsement notice

The text of the International Standard IEC 62625-2:2016 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 61025	NOTE	Harmonized as EN 61025.
ISO/IEC 9646 (series)	NOTE	Harmonized as EN 9646 (series).
ISO/IEC 17000	NOTE	Harmonized as EN 17000.

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 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60571	-	Railway applications - Electronic-equipment used on rolling stock		-
IEC 61375	series	Electronic railway equipment - Train communication network (TCN) -- Part 1: General architecture	EN 61375	series
IEC 62498-1	-	Railway applications - Environmental-conditions for equipment - Part 1: Equipment on board rolling stock		-
IEC 62625-1	2013	Electronic railway equipment - On board driving data recording system -- Part 1: System specification	EN 62625-1	2013
ISO/IEC 8824	series	Information technology -- Abstract Syntax-Notation One (ASN.1): Specification of basic notation		series

Annex ZZ

(informative)

Relationship between this European Standard and the Essential Requirements of EU Directive 2008/57/EC

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and within its scope the standard covers all relevant essential requirements as given in Annex III of the EC Directive 2008/57/EC (also named as New Approach Directive 2008/57/EC Rail Systems: Interoperability).

Once this standard is cited in the Official Journal of the European Union under that Directive and has been implemented as a national standard in at least one Member State, compliance with the clauses of this standard given in Table ZZ.1 relating to the 'rolling stock - locomotives and passenger rolling stock' subsystem of the rail system in the European Union, confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding Essential Requirements of that Directive and associated EFTA regulations.

**Table ZZ.1 - Correspondence between this European Standard, the RST LOC&PAS TSI
(published in the Official Journal L 356 on 12 December 2014, p. 228) and Directive
2008/57/EC**

Clauses of this European Standard	Chapter / § / points / of RST LOC&PAS TSI	Essential Requirements (ER) of Directive 2008/57/EC	Comments
Clauses 1 to 7 are applicable	4.2.9.6 device Recording	2. Requirements specific to each sub-subsystem 2.4. Rolling Stock 2.4.3. Technical compatibility 2.4.4 Controls	

WARNING: Other requirements and other EU Directives may be applicable to the products falling within the scope of this standard.

CONTENTS

FOREWORD	5
INTRODUCTION	7
1 Scope	8
2 Normative references	8
3 Terms, definitions, abbreviations, acronyms, and conventions.....	8
3.1 Terms and definitions.....	8
3.2 Abbreviations and acronyms	9
4 Conformity testing	10
4.1 Overview	10
4.1.1 General	10
4.1.2 Applicability	10
4.1.3 Methodology.....	10
4.2 Implementation conformity statements.....	13
4.2.1 General	13
4.2.2 FICS and SICS	13
4.2.3 IXIT	13
5 Functional requirements conformity testing	14
5.1 Implementation statement for functional requirements conformity testing	14
5.1.1 General	14
5.1.2 Record train data	14
5.1.3 Ensure on board protection of recorded data	14
5.1.4 Ensure retrieval of recorded data	15
5.1.5 Recorded data analysis.....	15
5.1.6 List of provided optional functions	15
5.2 Standardized test methods for functional requirements	16
6 System requirements conformity testing.....	26
6.1 Implementation statement for system requirements conformity testing	26
6.1.1 General	26
6.1.2 ODDRS mode	26
6.1.3 Recording performance.....	26
6.1.4 Environment	26
6.1.5 Availability and reliability.....	26
6.1.6 Security of records.....	27
6.1.7 Maintainability and diagnostic	27
6.1.8 Recorded data survivability	27
6.1.9 Recording resolution and frequency	27
6.1.10 Time of day and date	28
6.1.11 Train location.....	29
6.1.12 The unit of train speed	29
6.1.13 Input requirements.....	29
6.1.14 Software identification and upgrading.....	30
6.1.15 Replacement time of ODDR unit.....	30
6.1.16 Power consumption.....	30
6.1.17 Data interface to subsystems and service interface	30
6.1.18 Optional mode switching time.....	31

6.2	Standardized test methods for system requirements	31
7	Arrangements for ODDR Unit type test.....	44
7.1	Type test with the integrated ODDRS	44
7.1.1	General	44
7.1.2	Equivalent signal generator, power supply.....	44
7.1.3	Setup of the test environment.....	45
Annex A	(informative) FICS and SICS structure and instruction	46
A.1	FICS and SICS pro-forma.....	46
A.1.1	General	46
A.1.2	Abbreviations used in FICS and SICS tables	46
A.2	FICS and SICS tables	46
A.2.1	Identification of FICS and SICS.....	46
A.2.2	Identification of the implementation under test.....	46
A.2.3	Identification of the IUT supplier.....	47
A.2.4	Identification of the standards	47
A.2.5	Global statement of conformity.....	48
A.2.6	Level of conformity.....	48
A.2.7	FICS and SICS tables structure.....	48
Annex B	(informative) Methods for testing the parameter values of the protection capability.....	50
B.1	Overview	50
B.2	General procedure	50
B.3	Detailed procedure.....	50
B.3.1	Protection capability code FA.....	50
B.3.2	Protection capability code FB.....	51
B.3.3	Protection capability code SA.....	51
B.3.4	Protection capability code SB.....	52
B.3.5	Protection capability code PA.....	52
B.3.6	Protection capability code CA.....	52
B.3.7	Protection capability code CB.....	53
B.3.8	Protection capability code IA.....	53
B.3.9	Protection capability code IB.....	53
B.3.10	Protection capability code HA.....	54
B.3.11	Protection capability code MA	54
Bibliography		55
Figure 1	– Conformity testing process	11
Figure 2	– Test configurations at the integrated type test	45
Figure B.1	– Impact shock waveform.....	52
Table 1	– FICS pro-forma “Record train data”.....	14
Table 2	– FICS pro-forma “Ensure on board protection of recorded data”	15
Table 3	– FICS pro-forma “Ensure retrieval of recorded data”	15
Table 4	– FICS pro-forma “Recorded data analysis”	15
Table 5	– FICS pro-forma “List of provided optional functions”.....	15
Table 6	– Standardized test methods for functional requirements	17
Table 7	– SICS pro-forma “ODDRS mode”	26

Table 8 – SICS pro-forma “Recording performance”	26
Table 9 – SICS pro-forma “Environment”	26
Table 10 – SICS pro-forma “Availability and reliability”	27
Table 11 – SICS pro-forma “Security of records”	27
Table 12 – SICS pro-forma “Maintainability and diagnostic”	27
Table 13 – SICS pro-forma “Recorded data survivability”	27
Table 14 – SICS pro-forma “Recording resolution and frequency”	28
Table 15 – SICS pro-forma “Time of day and date”	29
Table 16 – SICS pro-forma “Train location”	29
Table 17 – SICS pro-forma “The unit of train speed”	29
Table 18 – SICS pro-forma “Input requirements”	30
Table 19 – SICS pro-forma “Software identification and upgrading”	30
Table 20 – SICS pro-forma “Replacement time of ODDR unit”	30
Table 21 – SICS pro-forma “Power consumption”	30
Table 22 – SICS pro-forma “Data interface to subsystems and service interface”	31
Table 23 – SICS pro-forma “Optional mode switching time”	31
Table 24 – Standardized test methods for system requirements	32
Table A.1 – FICS and SICS identification table	46
Table A.2 – IUT identification table	47
Table A.3 – IUT supplier identification table	47
Table A.4 – Applicable standards identification table	47
Table A.5 – Global statement table	48
Table A.6 – FICS and SICS tables format	49