SLOVENSKI STANDARD
SIST EN 61375-2-2:2012

01-oktober-2012

Železniške elektronske naprave - Komunikacijsko omrežje vlaka - 2-2. del: Preskus skladnosti žičnega podatkovnega vodila vlaka WTB (IEC 61375-2-2:2012)

Electronic railway equipment - Train communication network - Part 2-2: WTB - Wire Train Bus conformance testing (IEC 61375-2-2:2012)

Elektronische Betriebsmittel für Bahnen – Zug-Kommunikations-Netzwerk (TCN) - Teil 2-2: Wire Train Bus Konformitätsprüfung (IEC 61375-2-2:2012)

Matériel électronique ferroviaire - Réseau embarqué de train (TCN) - Partie 2-2: Bus de train filaire - Essais de conformité (CEI 61375-2-2:2012)

Ta slovenski standard je istoveten z: **EN 61375-2-2:2012**

ICS:

45.020	Železniška tehnika na splošno	Railway engineering in general

SIST EN 61375-2-2:2012 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

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English version

Electronic railway equipment - Train communication network (TCN) - Part 2-2: Wire Train Bus conformance testing

(IEC 61375-2-2:2012)

Matériel électronique ferroviaire - Réseau embarqué de train (TCN) - Partie 2-2: Bus de Train Filaire - Essais de conformité
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Elektronische Betriebsmittel für Bahnen - Zug-Kommunikations-Netzwerk (TCN) - Teil 2-2: Wire Train Bus Konformitätsprüfung
(IEC 61375-2-2:2012)

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CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 61375-2-2:2012 E

Foreword

The text of document 9/1643/FDIS, future edition 1 of IEC 61375-2-2, 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 61375-2-2:2012.

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)	2013-04-26
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2015-07-26

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 61375-2-2:2012 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 61375-1	NOTE	Harmonized as EN 61375-1.

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	-	Electronic equipment used on rail vehicles	-	-
IEC 60807	Series	Rectangular connectors for frequencies below 3 MHz	-	-
IEC 61375-2-1	-	Electronic railway equipment - Train communication network (TCN) - Part 2-1: Wire Train Bus (WTB)	EN 61375-2-1	-
ISO/IEC 7498	Series	Information technology - Open Systems Interconnection - Basic Reference Model	-	-
ISO/IEC 9646-1	1994	Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts	-	-
ISO/IEC 9646-7	1995	Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements	-	-
UIC CODE 556	-	Information transmission in the train (train-bus)	-	-

Annex ZZ
(informative)

Coverage of Essential Requirements of EU Directives

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 EU Directive 2008/57/EC.

Compliance with this standard provides one means of conformity with the specified essential requirements of the Directive concerned.

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

IEC 61375-2-2

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Electronic railway equipment – Train communication network (TCN) – Part 2-2: Wire Train Bus conformance testing

Matériel électronique ferroviaire – Réseau embarqué de train (TCN) – Partie 2-2: Bus de Train Filaire – Essais de conformité

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTRONIC RAILWAY EQUIPMENT – TRAIN COMMUNICATION NETWORK (TCN) –

Part 2-2: Wire Train Bus conformance testing

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 61375-2-2 has been prepared by IEC technical committee 9: Electrical equipment and systems for railways.

This first edition cancels the clauses of IEC 61375-2, first edition, published in 2007, relevant to the specification of WTB conformance testing and constitutes a technical revision.

It was prepared taking into account IEC 61375-2-1, first edition.

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

FDIS	Report on voting
9/1643/FDIS	9/1667/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 of IEC 61375 series, under the general title *Electronic railway equipment – Train communication network (TCN)*, 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

TCN is an International Standard with the aim of defining interfaces so as to achieve plug-in compatibility:

a) between equipment located in different consists, and

b) between equipment and devices located within the same consist.

One of the key success factors for the deployment of any technology is the standardisation and ensuring interoperability among various implementations. To facilitate interoperability a conformance test should be implemented.

In this part of IEC 61375, the TCN hierarchical structure deals with the train bus called the Wire Train Bus (WTB).

No other busses are taken into consideration even though they are foreseen by IEC 61375.

WTB has real-time protocols, which offer two communication services:

c) process variables, a distributed, real-time database, periodically refreshed through broadcasting;

d) messages, transmitted on demand either as:

   0. unicast messages (point-to-point) or/and
   1. multicast messages.

WTB has a network management, which allows debugging, commissioning and maintenance over the network.

This standard is structured into 8 clauses and 2 annexes.

The clauses and annexes are listed and briefly described in Table 1.

Table 1 – Document structure

Clause	Description
1 Scope	This clause describes the scope of this standard..
2 Normative references	This clause lists the normative references.
3 Terms and definitions, abbreviations, conventions	This clause introduces basic terms and abbreviations not reported in IEC 61375-2-1.
4 Conformance test: approach, requirements and boundaries	This clause is an overview of the methods of TCN implementation verification that are available to the developer and regulatory personnel. Supplies information concerning the ICS and IXITpPro-forma(s).
5 Conformance test of a WTB node, WTB trunk cable, WTB jumper cables, WTB extension cables	Contents: All tests on WTB are classified by nodes related to WTB itself and MVB only. The main contents are: the WTB PICS and PIXIT; the WTB test suites; the WTB test procedures.
6 Conformance test of RTP	This clause lists the tests covered in Clauses 3 and 4 fulfilling the real time protocol.
7 Conformance test of a WTB-equipped consist	This clause covers the Physical Layer while the Services given by the WTB node are covered by the previous clauses. Application profiles are covered by other bodies, like communication profile as described in UIC CODE 556.
8 Conformance test of NM	Partially covered by Clauses 3 and 4. Remaining parts are not covered.
Annex A – Test laboratory and client role	This annex is normative.
Annex B – Test suites standard instrumentation	This annex is informative.