SLOVENSKI STANDARD
SIST EN 62290-1:2014

01-november-2014

Železniške naprave - Komandno-kontrolni sistemi za upravljanje urbanega prometa - 1. del: Sistemska načela in osnovni koncepti (IEC 62290-1:2014)

Railway applications - Urban guided transport management and command/control systems - Part 1: System principles and fundamental concepts

Ta slovenski standard je istoveten z: **EN 62290-1:2014**

ICS:

03.220.30	Železniški transport	Transport by rail
45.060.01	Železniška vozila na splošno	Railway rolling stock in general

SIST EN 62290-1:2014 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62290-1

September 2014

ICS 45.060

Supersedes EN 62290-1:2006

English Version

Railway applications - Urban guided transport management and command/control systems - Part 1: System principles and fundamental concepts (IEC 62290-1:2014)

Applications ferroviaires - Systèmes de contrôle/commande et de gestion des transports guidés urbains - Partie 1: Principes système et concepts fondamentaux (CEI 62290-1:2014)

Bahnanwendungen - Betriebsleit- und Zugsicherungssysteme für den städtischen schienengebundenen Personennahverkehr - Teil 1: Systemgrundsätze und grundlegende Konzepte (IEC 62290-1:2014)

This European Standard was approved by CENELEC on 2014-08-14. 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

Foreword

The text of document 9/1913/FDIS, future edition 2 of IEC 62290-1, 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 62290-1:2014.

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)	2015-05-14
– latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2017-08-14

This document supersedes EN 62290-1:2006.

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.

Endorsement notice

The text of the International Standard IEC 62290-1:2014 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 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.

Publication	Year	Title	EN/HD	Year
IEC 62236	series	Railway applications - Electromagnetic compatibility	-	-
IEC 62278	-	Railway applications - Specification and demonstration of reliability, availability, maintainability and safety (RAMS)	-	-
IEC 62279	-	Railway applications - Communications, signalling and processing systems - Software for railway control and protection systems	-	-
IEC 62280	-	Railway applications - Communication, signalling and processing systems - Safety related communication in transmission systems	-	-
IEC 62290-2	-	Railway applications - Urban guided transport management and command/control systems - Part 2: Functional requirements specification	EN 62290-2	-
IEC 62425	-	Railway applications - Communication, signalling and processing systems - Safety related electronic systems for signalling	-	-

IEC 62290-1

Edition 2.0 2014-07

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Railway applications – Urban guided transport management and command/control systems –
Part 1: System principles and fundamental concepts

Applications ferroviaires – Systèmes de contrôle/commande et de gestion des transports guidés urbains –
Partie 1: Principes système et concepts fondamentaux

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE
CODE PRIX
V

ICS 45.060

ISBN 978-2-8322-1648-4

Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

RAILWAY APPLICATIONS – URBAN GUIDED TRANSPORT MANAGEMENT AND COMMAND/CONTROL SYSTEMS –

Part 1: System principles and fundamental concepts

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.
2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
6) All users should ensure that they have the latest edition of this publication.
7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62290-1 has been prepared by IEC technical committee 9: Electrical equipment and systems for railways.

This second edition cancels and replaces the first edition issued in 2006. It constitutes a technical revision.

The main technical changes with regard to the previous edition are as follows:

– removing the concept of grade of line (GOL),
– putting IEC 62290-1 in line with IEC 62290-2.

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

FDIS	Report on voting
9/1913/FDIS	9/1941/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 62290 series, under the general title: *Railway applications – Urban guided transport management and command/control systems*, can be found on the IEC website. (See also introduction to this standard.)

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.

INTRODUCTION

IEC 62290 standard series specifies the functional, system and interface requirements for the command, control, and management systems intended to be used on urban, guided passenger transport lines and networks. This series does not apply to lines that are operated under specific railway regulations, unless otherwise specified by the authority having jurisdiction.

These systems are designated here as Urban Guided Transport Management and Command/Control Systems (UGTMS). UGTMS cover a wide range of operations needs from non-automated (GOA1) to unattended (GOA4) operation. A line may be equipped with UGTMS on its full length or only partly equipped.

This series does not specifically address security issues. However, aspects of safety requirements may apply to ensuring security within the urban guided transit system.

The main objective of this series is to achieve interoperability, interchangeability and compatibility.

This series is a recommendation for those transport authorities wishing to introduce interoperable, interchangeable and compatible equipment.

It is the responsibility of the transport authority concerned in accordance with the authority having jurisdiction to decide on how to apply this series and to take into account their particular needs.

IEC 62290 series is also intended to support applications for upgrading existing signalling and command control systems. In this case, interchangeability and compatibility could be ensured only for the additional UGTMS equipment. Checking the possibility for upgrading existing equipment and the level of interoperability is the responsibility of the transport authority concerned.

Application of the series should take into account the differences between the various networks operated in different nations. Those differences include operational and regulatory requirements as well as different safety cultures.

This series defines a catalogue of UGTMS requirements split into mandatory and optional functions. The functions used are based on the given grade of automation. By fulfilling the requirements, a supplier can create one or more generic applications including all mandatory functions and all or a subset of optional functions. A generic application will achieve interoperability within the defined specific application conditions. Customising a generic application will create a specific application taking into account of local conditions like track layout and headway requirements. It is the choice of supplier and transport authority to add additional functions to a generic or specific application. These additional functions are not described in this series.

According to IEC 62278, it is the responsibility of the transport authority, in agreement with the authority having jurisdiction, to decide, taking into account their risk acceptance principles to conduct specific hazard and risk analysis for each specific application. The safety levels for the functions of each specific application have to be determined by a specific risk analysis.

Terms such as "safety related command", "safety conditions", "safe station departure" are mentioned without having performed any hazard analysis.

Standard series IEC 62290 is intended to consist of four parts:

– Part 1 “System principles and fundamental concepts” provides an introduction to the standard and deals with the main concepts, the system definition, the principles and the