SVENSK STANDARD SS-EN 50617-2

Fastställd	Utgåva	Sida	Ansvarig kommitté
2016-02-17	1	1 (1+63)	SEK TK 9

Järnvägstillämpningar – Tekniska parametrar för fordonsdetekterande system för det transeuropeiska järnvägsnätet – Del 2: Axelräknare

Railway Applications – Technical parameters of train detection systems for the interoperability of the trans-European railway system – Part 2: Axle counters

Som svensk standard gäller europastandarden EN 50617-2:2015. Den svenska standarden innehåller den officiella engelska språkversionen av EN 50617-2:2015*).

*) Corrigendum, January 2016 till EN 50617-2:2015 är inarbetat i standarden.

ICS 29.280.00

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EUROPEAN STANDARD

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Railway Applications - Technical parameters of train detection systems for the interoperability of the trans-European railway system - Part 2: Axle counters

Applications ferroviaires - Paramètres techniques des systèmes de détection des trains - Partie 2: Compteurs d'essieux

Bahnanwendungen - Technische Parameter von Gleisfreimeldesystemen - Teil 2: Achszähler

This European Standard was approved by CENELEC on 2015-03-09. 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.

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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

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SEK Svensk Elstandard

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Foreword

This document (EN 50617-2:2015) has been prepared by CLC/SC 9XA "Communication, signalling and processing systems" of CLC/TC 9X "Electrical and electronic applications for railways".

The following dates are fixed:

• latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2016-03-09
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2018-03-09

The contents of the corrigendum of January 2016 have been included in this copy.

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 relationship with EU Directive 2008/57/EC amended by Commission Directive 2011/18/EU, see informative Annex ZZ, which is an integral part of this document.

This document is Part 2 of the EN 50617 series, which consists of the following parts under the common title "*Railway Applications - Technical parameters of train detection systems*":

- Part 1: Track circuits;
- Part 2: Axle counters.

Introduction

The working group CENELEC/SC9XA WGA4-2 has developed the limits for electromagnetic compatibility between rolling stock and train detection systems, specifically track circuits and axle counter systems, and correspondingly published two technical specifications: CLC/TS 50238-2 and CLC/TS 50238-3. These limits and associated measurement methods are based on characteristics of existing systems that are well established and still put forward for signalling renewals by infrastructure managers.

To meet the requirements for compatibility between train detection systems and rolling stock in the future and to achieve interoperability and free movement within the European Union, it is necessary to define a “FrM” and a complete set of interface requirements.

Track circuits and axle counter systems, are an integral part of the CCS trackside subsystem in the context of the Rail Interoperability Directive. The relevant basic parameters are enumerated in the CCS and LOC&PAS TSI and specified in the mandatory Specification CCS TSI Index 77 “Interfaces between Control-Command and Signalling Trackside and other Subsystems”. This standard refers whenever needed to the mandatory specification.

The already published specifications CLC/TS 50238-2 and CLC/TS 50238-3 can be used to ascertain conformity of individual train detection systems to the requirements of the TSIs and to the Notified National Rules, which will be in place for the parameters still declared “open points” in CCS TSI Index 77.

The requirements defined in this standard are either compliant with those of CCS TSI Index 77 or can be used as input information for the closure of open points of the CCS TSI Index 77. Where applicable, the standard should refer to the rolling stock FrM in the TSI CCS and the parameter values defined in the CCS TSI Index 77.

1 Scope

This European Standard specifies parameters for the design and usage of axle counter systems.

For this, the standard specifies the technical parameters of axle counter systems associated with the magnetic field limits for RST in the context of interoperability. In addition test methods are defined for establishing the conformity and the performance of axle counter products.

The specified parameters are structured and allocated according to their basic references as follows:

- Axle counter system parameters

- Train based parameters

- Track based parameters

- Environmental and other parameters

Each parameter is defined by a short general description, the definition of the requirement, the relation to other standards and a procedure to show the fulfilment of the requirement as far as necessary. An overview on the safety relevance of each parameter is given – in the context of this European Standard – in a separate table.

This European Standard is intended to be used to assess compliance of axle counter systems and other forms of wheel sensors used for train detection, in the context of the European Directive on the interoperability of the trans-European railway system and the associated technical specification for interoperability relating to the control-command and signalling track-side subsystems.

The frequency bands and rolling stock emission limits are currently defined in the axle counter FrM as specified in the CCS TSI Index 77.

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.

EN 50121-4, *Railway applications — Electromagnetic compatibility — Part 4: Emission and immunity of the signalling and telecommunications apparatus*

EN 50124-2, *Railway applications — Insulation coordination — Part 2: Overvoltages and related protection*

EN 50125-3:2003, *Railway applications — Environmental conditions for equipment — Part 3: Equipment for signaling and telecommunications*

EN 50126 (all parts), *Railway applications — The specification and demonstration of Reliability, Availability, Maintainability and Safety (RAMS)*

EN 50128, *Railway applications — Communication, signalling and processing systems — Software for railway control and protection systems*

EN 50129, *Railway applications — Communications, signalling and processing systems — Safety related electronic systems for signalling*

EN 50238-1, *Compatibility between rolling stock and train detection systems — Part 1: General*

EN 60068-2-1, *Environmental testing — Part 2-1: Tests — Tests A: Cold (IEC 60068-2-1)*

EN 60068-2-2, *Environmental testing — Part 2-2: Tests — Test B: Dry heat (IEC 60068-2-2)*

EN 60068-2-30, *Environmental testing — Part 2-30: Tests - Test Db: Damp heat, cyclic (12 h + 12 h cycle) (IEC 60068-2-30)*

EN 60529, *Degrees of protection provided by enclosures (IP Code) (IEC 60529)*

EN 61000 (all parts), *Electromagnetic compatibility (EMC) (IEC 61000, all parts)*

CCS TSI Index 77, *ERTMS/ETCS UNIT — Interfaces between control-command and signalling trackside and other subsystems*

UNISIG SUBSET-023, *Glossary of UNISIG Terms and Abbreviations*

UNISIG SUBSET-036, *FFFIS for Eurobalise*

UNISIG SUBSET-085, *Test Specification for Eurobalise FFFIS*