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JIS E 3801-1 : 2018

(JREEA/JSA)

Train control system using radio communication—Part 1: General requirement and functional requirements

ICS 45.020

Reference number : JIS E 3801-1 : 2018 (E)

Date of Establishment: 2009-04-20
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Technical Committee on Railways and Rolling Stock

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In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

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Foreword

This Japanese Industrial Standard has been revised by the Minister of Land, Infrastructure, Transport and Tourism through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by Japan Railway Electrical Engineering Association (JREEA)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14.

Consequently **JIS E 3801-1**:2009 is replaced with this Standard.

It should be noted that being in conformance with this Standard may come under the use of the patent rights held by the following:

Title of invention: Train control device

Patent number: 3451543 Date of registration: 2003-07-18

Patent holder: Hitachi, Ltd. Kandasurugadai 4-6, Chiyoda-ku, Tokyo

East Japan Railway Company Yoyogi 2-2-2, Shibuya-ku, Tokyo

Name of invention: Wireless train of the train interval control system

Patent number: 3574917 Date of registration: 2004-07-16

Patent holder: Hitachi, Ltd. Kandasurugadai 4-6, Chiyoda-ku, Tokyo

East Japan Railway Company Yoyogi 2-2-2, Shibuya-ku, Tokyo

The relevant holders of the above-mentioned patent rights have indicated an intention of granting license to anyone under the nondiscriminatory and reasonable conditions, except to the other relevant holders of the patent rights related to this Standard who will not grant their licenses under the same conditions.

It should be noted that following this Standard does not always refer to granting a free license.

There is the possibility that some parts of this Standard may conflict with patent rights other than mentioned above. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights.

The "patent rights" as mentioned here include patent right, application for a patent after opening to the public or utility model right.

JIS E 3801 series consists of the following 3 parts under the general title "*Train control system using radio communication*":

Part 1: General requirement and functional requirements

Part 2: System requirements

Part 3: Interface requirements (to be established)

Train control system using radio communication— Part 1: General requirement and functional requirements

1 Scope

This Japanese Industrial Standard specifies the general requirements and functional requirements for train control systems using radio communication [Japan radio train control system (JRTC)] that communicates control information related to safety on railways between the wayside and train using radio communication. This Standard is also applicable to special railways such as guide rail type railways.

Functions of the train control system that ensure safe movement of trains or car (hereafter referred to as "trains, etc.") are divided into the following five functions:

a) Ensure safe route to prevent derailment or collision of trains, etc. at crossings, turnouts, or other locations.

b) Ensure safe separation of trains to prevent trains from moving outside safe route and colliding with each other.

c) Ensure safe speeds to prevent trains from exceeding speed limit or moving to a route other than the safe route and to keep safe separation of trains.

d) Ensure safe movement of trains passing through level crossings.

e) Ensure safe movement of trains against obstacles on the track, etc.

This Standard applies to a system with automated functions in **a**) to **c**). However, it does not apply to automatic train operation without onboard staff.

Furthermore, this Standard also applies to systems that perform automatic operation regarding acceleration, coasting, and deceleration between stations and stopping within constraints of the above functions.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS C 60068-1 *Environmental testing—Part 1: General and guidance*

JIS E 3013 *Glossary of terms of railway signalling*

IEC 62236-1 *Railway applications—Electromagnetic compatibility—Part 1: General*

IEC 62236-2 *Railway applications—Electromagnetic compatibility—Part 2: Emission of the whole railway system to the outside world*

IEC 62236-3-1 *Railway applications—Electromagnetic compatibility—Part 3-1: Rolling stock—Train and complete vehicle*

IEC 62236-3-2 *Railway applications—Electromagnetic compatibility—Part 3-2: Rolling stock—Apparatus*