PD ISO/TR 13184-1:2013

BSI Standards Publication

Intelligent transport systems — Guidance protocol via personal ITS station for advisory safety systems

Part 1: General information and use case definitions

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee EPL/278, Intelligent transport systems.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Intelligent transport systems — Guidance protocol via personal ITS station for advisory safety systems —

Part 1: General information and use case definitions

Systèmes intelligents de transport — Protocole d'orientation par station ITS personnelle pour systèmes à avis de sécurité —

Partie 1: Information générale et définition des cas d'usage

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ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

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Foreword

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The committee responsible for this document is ISO/TC 204, *Intelligent transport systems.*

ISO 13184 consists of the following parts, under the general title *Intelligent transport systems — Guidance protocol via personal ITS station for advisory safety systems*:

— *Part 1: General information and use cases definitions*

The following parts are under preparation:

— *Part 2: Road guidance protocol (RGP) requirements and specification*

— *Part 3: Protocol conformance test cases*

Introduction

This part of ISO 13184 specifies the requirements of a real-time decision support system for guidance information, designed to enhance mobility and vehicle safety and to provide a parking guide service using personal ITS stations. The purpose of the system is to transmit guidance or warning messages to drivers and pedestrians in real time, enhance the user's convenience, and avoid congestion in parking facilities by preventing accidents and enabling easy parking.

In addition, an application level guidance protocol for crossroads, safety warning and parking bay guidance services between roadside ITS stations, installed at the road side, and user's personal ITS stations, is defined.

This part of ISO 13184 considers a protocol, which covers all subjects related to traffic safety, including pedestrians and vehicle drivers. Therefore, this protocol describes how the safety-related services are provided using personal ITS stations.

This system is based on the following assumptions:

— Personal ITS stations have limited resources. Therefore, the protocol is designed in such way that it can be implemented with limited resources.

— The use cases related to the safety warning and parking bay guidance services can be classified in various ways. Also, these use cases can be enabled or disabled depending on the specific circumstances of roads and parking bays. Therefore, the protocol is designed to be flexible and extendable, which enables to add or delete use cases conveniently.

— The protocol contains core data elements to configure the messages transmitted by personal ITS stations and roadside ITS stations. The major use case includes safety warning at the road and the parking bay guidance.

— The protocol provided by this part of ISO 13184 does not take the network or transport level protocol into account. Instead, only the application level protocol for the safety warning and parking bay guidance services are presented.

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Intelligent transport systems — Guidance protocol via personal ITS station for advisory safety systems —

Part 1: General information and use case definitions

1 Scope

This part of ISO 13184 specifies guidance information protocol to provide real-time decision support system to drivers or pedestrians using personal ITS stations:

Reference architecture for the real-time decision support system

This reference architecture provides a general structure for real-time decision support systems and the method of message exchange between the personal ITS station and the roadside ITS station. This reference architecture is used to build the interconnections between personal ITS stations and roadside ITS stations.

Design method of application protocols for light-weighted devices

This method is a flexible application protocol for safety warning and parking guidance services. Unlike many other application protocols in the ITS and Telematics domains, this protocol makes the client part independent of use cases for supporting light-weighted devices.

Use cases at the road and parking bays for warning and parking guide

This part of ISO 13184 describes the use cases applicable to the communication services between personal ITS stations and roadside ITS stations for the purposes of providing safety warning and parking guidance.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 21217, *Intelligent transport systems — Communications access for land mobiles (CALM) — Architecture*

3 Terms, definitions, symbols and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO°21217 and the following apply.

3.1.1
document type definition
DTD
set of mark-up declarations that define a document type of SGML-family Mark-up languages (SGML, XML, HTML)