
**Intelligent transport systems — Traffic
and travel information messages via
traffic message coding —**

Part 1:
**Coding protocol for Radio Data
System-Traffic Message Channel (RDS-
TMC) using ALERT-C**

*Systèmes de transport intelligents — Informations sur le trafic et les
déplacements via le codage de messages sur le trafic —*

*Partie 1: Protocole de codage pour le système de radiodiffusion de
données - canal de messages d'informations sur le trafic (RDS-TMC)
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 204, *Intelligent transport systems*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 278, *Intelligent transport systems*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 14819-1:2013), which has been technically revised. The main changes compared to the previous edition are as follows:

- Additional tuning variants have been added to allow referencing of TMC services using the 64 MHz to 88 MHz band.
- The method of encrypting an RDS-TMC service, previously separately specified in ISO 14819-6, has been merged into this document as [Clause 8](#). Consequently, some renumbering of sections has occurred and encryption-specific terms, definitions and abbreviated terms have been added in [Clause 3](#).
- In some places the text has been improved and/or rearranged for greater clarity. Several typographical and grammatical errors have been corrected.

A list of all parts in the ISO 14819 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

0.1 General

Traffic and traveller information (TTI) can be disseminated through a number of services and means of communication to the end user, including static displays (e.g. variable message signs), broadcast audio to car radios, broadcast data services to in-vehicle equipment (e.g. installed navigation systems) and to nomadic device terminals (e.g. portable navigation device).

For all such services, the data to be disseminated and the message structure involved in the various interfaces require clear definition and standard formats, in order to allow competitive products to operate with any received data.

This document describes the data specification for TTI messages, together with their network layer and their service layer, which shall be conveyed by the RDS-TMC feature, specified in the IEC 62106 series.

The TTI information chain, from event to end-user, is quite complex and the Traveller Information Services Association (TISA) value chain shown in [Figure 1](#) helps to explain the key components.



Figure 1 — Traveller Information Services Association TTI value chain

Several entities (e.g. companies, businesses) take part in one or more activities to complete the activities shown in the value chain. These are described below for improved understanding:

Service provider: An organization that constructs a data service, by gathering data, processing data and supplying the data service. A service provider negotiates for the use of the necessary data bandwidth with a Broadcaster and/or Transmission Operator. A service provider is responsible for the "quality" of the data to its customers and should provide suitable customer support.

Broadcaster: A traditionally incorporated organization responsible for a continuous strand of audio programmes and their quality. A broadcaster may also be responsible for the overall co-ordination of "broadcast transmissions" (often a Broadcaster is the licensee of a national regulator). A Broadcaster may also be a service provider.

TTI services for travellers, using spoken radio reports and in-vision reports, occupy broadcast air-time and whilst valuable to some, they are considered less useful by others. Furthermore, only some are useful for travellers on the move. Due to the widespread adoption of the Radio Data System, in VHF/FM broadcasting on Band II there is the possibility of transmitting coded TTI messages digitally and "silently" using the RDS-TMC feature, which avoids the interruption of planned programmes. This TTI delivery method has several advantages: TTI messages can be decoded into the language of the end user, regardless of location, more messages can be made available and planned broadcast programme interruption is avoided. Thus, using RDS-TMC makes the delivery of TTI messages more timely and topical.

0.2 ALERT-C protocol

The ALERT-C protocol defined in this document supports a data broadcasting service for travellers, providing information about many kinds of traffic and travel events. Messages include traffic incident information relating to national and regional routes and some urban roads and other information required by a traveller, such as roadworks and weather information.

The ALERT-C protocol utilizes a standardized Event List of event messages with their code values, which also includes general traffic problems and weather situations. Being transmitted as a series of codes, RDS-TMC messages are language-independent and are presented in the language of the user's choice.