SLOVENSKÁ TECHNICKÁ NORMA

STN	**Inteligentné dopravné systémy. Dopravné a cestovné informácie (TTI). Správy TTI sprostredkované kódovaním údajov o cestnej premávke. Časť 1: Kódovací protokol pre rádiový dátový systém. Kanál dopravných informácií (RDS-TMC) používajúci ALERT-C (ISO 14819-1: 2013).**	**STN EN ISO 14819-1** 01 8548

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 (ISO 14819-1:2013)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Obsahuje: EN ISO 14819-1:2013, ISO 14819-1:2013

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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 (ISO 14819-1:2013)

Systèmes intelligents de transport - Informations sur le trafic et le tourisme via le codage de messages sur le trafic - Partie 1: Protocole de codage pour le système de radiodiffusion de données (RDS) - Canal de messages d'informations sur le trafic (RDS-TMC) avec ALERT-C(ISO 14819-1:2013)

Intelligente Transportsysteme - Verkehrs- und Reiseinformationen über Verkehrsmeldungskodierung - Teil 1: Kodierungsprotokoll für den digitalen Radiokanal für Verkehrsmeldungen (RDS-TMC) unter Nutzung von ALERT-C (ISO 14819-1:2013)

This European Standard was approved by CEN on 26 October 2013.

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Foreword

This document (EN ISO 14819-1:2013) has been prepared by Technical Committee ISO/TC 204 "Intelligent transport systems" in collaboration with Technical Committee CEN/TC 278 "Road transport and traffic telematics" the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2014, and conflicting national standards shall be withdrawn at the latest by June 2014.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 14819-1:2003.

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Endorsement notice

The text of ISO 14819-1:2013 has been approved by CEN as EN ISO 14819-1:2013 without any modification.

INTERNATIONAL
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14819-1

First edition
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Traffic and Traveller Information (TTI) — TTI messages via traffic message coding —

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

Informations sur le trafic et le tourisme (TTI) — Messages TTI via le codage de messages sur le trafic —

Partie 1: Protocole de codage sur le système de radiodiffusion de données (RDS) — Canal de messages d'informations sur le trafic (RDS-TMC) avec Alert-C

ISO 14819-1:2003(E)

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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.

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 14819-1 was prepared by the European Committee for Standardization (CEN) in collaboration with Technical Committee ISO/TC 204, *Intelligent transport systems*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

Throughout the text of this document, read "...this European Standard..." to mean "...this International Standard...".

ISO 14819 consists of the following parts, under the general title *Traffic and Traveller Information (TTI) — TTI messages via traffic message coding*:

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

— *Part 2: Event and information codes for Radio Data System — Traffic Message Channel (RDS-TMC)*

— *Part 3: Location referencing for ALERT-C*

ISO 14819-1:2003(E)

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Foreword

The text of the International Standard from Technical Committee ISO/TC 204 "Intelligent transport systems" of the International Organization for Standardization (ISO) a European Standard by Technical Committee CEN/TC 278, "Road transport and traffic telematics", the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2003, and conflicting national standards shall be withdrawn at the latest by November 2003.

This document supersedes ENV 12313-1:1998.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovak Republic, Spain, Sweden, Switzerland and the United Kingdom.

ISO 14819-1:2003(E)

INTRODUCTION

Traffic and traveller information may be disseminated through a number of services or means of communication, covering static displays, inter-active terminals and in-vehicle equipment.

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 standard focuses on the data specification for TTI messages, their network layer and their service layer, to be conveyed by the RDS-TMC feature, specified in IEC 62106:2000. Other standards are being developed by CEN/TC 278 Working Group 4 to cover TTI messages that may be conveyed by other carriers.

The following terms should be noted, to enable the TTI information chain to be more fully understood.

Data Service Provider: An organisation that manages any data service, by gathering data, processing data and selling the data service. A Data Service Provider then negotiates for the use of the necessary data bandwidth with a Broadcaster and/or Transmission Operator. A Data Service Provider is responsible for the "quality" of data to his customers and must provide suitable customer support. Editorial control over the data may be part of a "data bit-rate contract" agreement (for example an RDS-TMC service may require the Broadcaster to apply some editorial control, so that both RDS-TMC messages and other broadcast services, such as spoken or teletext traffic and travel information, possibly derived from more than one source, are not contradictory).

Programme Service Provider: An organisation that manages and originates programming and associated data for broadcast. This will often be carried out by a Broadcaster but allows for the subtle distinction, where a separate company is commissioned to produce a programme, together with associated data, e.g. text of teachers' notes for an educational series.

Broadcaster: A traditionally incorporated organisation responsible for a continuous strand of programmes, their quality and programme associated data, as well as responsible for overall co-ordination of "broadcast transmissions" (often a Broadcaster is the licensee of a national regulator). A Broadcaster may also be a Programme Service Provider and sometimes be a Data Service Provider.

Network Operator: An organisation contracted to supply both programme and data circuits interconnecting Data Service Provider, Programme Service Provider, Broadcaster and Transmission Operator. According to the connections, various protocols may be used, e.g. ALERT-C, EBU Universal Encoder Communications Protocol.

Transmission Operator: Organisation responsible for the actual transmission of the full broadcast signal including the audio programme, programme associated data and data services. Normally a Transmission Operator is contracted to perform the transmission task by a Broadcaster.

Broadcasters already provide valuable TTI services to motorists, in countries throughout Europe, using spoken reports and teletext information. Due to the widespread adoption of the Radio Data System, there is now the possibility of transmitting coded TTI messages digitally and "silently" using the RDS-TMC feature, which avoids the interruption of planned programmes. Potentially this has two advantages: messages can be decoded into the "language" of the user, regardless of location and many more messages can be made available.

The ALERT-C protocol defined in this specification supports a digital, silent broadcasting service for motorists, providing information about many kinds of traffic events. This includes roadworks, weather and traffic incident information relating to major national and international routes, regional routes and local or urban roads.

The present standard is based on the ALERT-C traffic message coding protocol, which was a major product of DRIVE Project V1029, "RDS Advice and Problem Location for European Road Traffic". The RDS-ALERT project aimed to define standards for RDS-TMC throughout Europe, working in conjunction with the European Broadcasting Union (EBU) and the European Conference of Ministers of Transport (ECMT).

Changes that have been made in the present document in comparison with earlier versions and the original ALERT-C proposal of 1990 are based on comments that have been received from many parties, and have been thoroughly discussed in CEN TC278 Sub-working group 4.1.

All aspects referring to location referencing were dealt with separately by CEN TC278 SWG7.3 in EN ISO 14819-3 and are not included in this document.

The RDS system is fully described in IEC 62106:2000 and it contains the 'hooks' to RDS-TMC, which is detailed in this standard. RDS type 3A groups are defined to carry the ODA identification and service and network layer information, while type 8A groups are defined to carry RDS-TMC message and location information.

Two methodologies are generally distinguished in the "RDS-TMC world":

The first approach is based on the idea of a universal ALERT-C service. This is possible if a continuous and inter-operable network of ALERT-C free-access services is in place in a country or around a continent.

The second approach allows a Data Service Provider to offer a value added service, generally a paid-for service, which will contain status-oriented messages according to the ALERT-Plus protocol and must also contain event-oriented messages according to the ALERT-C protocol. For historical reasons, two RDS-TMC Open Data Applications (ODA) have been defined. The first ODA only allows the implementation of the ALERT-C service. The second ODA takes into account both possible services (ALERT-C with ALERT-Plus), allowing operation of a universal service as well as an added value RDS-TMC service on the same transmitter. A service provider is thus able to offer the universal service, and to propose in parallel to his clients a more sophisticated information such as travel times. This additional service may be paid-for and encrypted while the basic ALERT-C service may remain free-access.

Message management issues were also felt to be an area where further discussion was required prior to 'fixing'. Concern has also been expressed about the desirability of fixing items where the wording had been deliberately left open pending field trial results. As a result of this, the term 'cycle' referred to in the fixed parts of the text, should not be considered as prescribing a rigid structure of cycles at this stage.

1   SCOPE

1.1 General Scope

The ALERT-C protocol is designed to provide mostly **event-orientated road end-user information** messages. Many "hooks" have been left for future development and indeed a **few status-orientated road end-user information** messages were included. This protocol is designed to be closely linked to the ALERT-Plus protocol, which is specifically designed for **status-orientated road end-user information**; both protocols may be available in the same RDS transmission. The ALERT-Plus protocol is specified in ENV 12313-4.

1.2 Content

The presentation section of the ALERT-C protocol specifies messages that may be presented to the user in accordance with the general requirements set out above. It defines the message structure and content, and its presentation to the end-user.

RDS-TMC messages are language-independent, and can be presented in the language of the user's choice. The ALERT-C protocol utilises a standardised Event List (EN ISO 14819-2) of event messages with their code values, which also includes general traffic problems and weather situations.

ALERT-C defines two categories of information within messages: basic and optional items. In principle, basic information is present in all messages. Optional information can be added to messages where necessary.

Standard RDS-TMC user messages provide the following five basic items of explicit, broadcast information:

1. **Event description**, giving details of road event situation, general traffic problems and weather situations (e.g. congestion caused by accident) and where appropriate its severity (e.g. resulting queue length).

2. **Location**, indicating the area, road segment or point location where the source of the problem is situated.

3. **Direction and Extent**, identifying the adjacent segments or specific point locations also affected by the incident, and where appropriate the direction of traffic affected.

4. **Duration**, giving an indication of how long the problem is expected to last.

5. **Diversion advice**, showing whether or not end-users are recommended to find and follow an alternative route.

Optional information can be added to any message using one or more additional RDS data groups. This optional addition can give greater detail or can deal with unusual situations. Any number of additional fields can in principle be added to each basic message, subject only to a maximum message length of five RDS data groups.

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