SLOVENSKI STANDARD
SIST EN 15213-4:2013

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Inteligentni transportni sistemi - Sistemi za odkrivanje ukradenih vozil - 4. del: Vmesnik in zahteve za potrebe sistema za komunikacijo dolgega dosega

Intelligent transport systems - After-theft systems for the recovery of stolen vehicles - Part 4: Interface and system requirements in terms of long range communication system

Intelligente Transportsysteme - Systeme für das Wiederfinden gestohlener Fahrzeuge - Teil 4: Schnittstellen- und Systemanforderungen für Weitbereichskommunikationsysteme

Systèmes de transport intelligents - Systèmes intervenant après un vol pour la récupération des véhicules - Partie 4: Spécifications d'interface et de système pour les communications à longue portée

Ta slovenski standard je istoveten z: **EN 15213-4:2013**

ICS:

13.310	Varstvo pred kriminalom	Protection against crime
35.200	Vmesniška in povezovalna oprema	Interface and interconnection equipment
43.040.15	Avtomobilska informatika. Vgrajeni računalniški sistemi	Car informatics. On board computer systems

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EUROPEAN STANDARD

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English Version

Intelligent transport systems - After-theft systems for the recovery of stolen vehicles - Part 4: Interface and system requirements in terms of long range communication system

Systèmes de transport intelligents - Systèmes intervenant après un vol pour la récupération des véhicules - Partie 4: Spécifications d'interface et de système pour les communications à longue portée

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Foreword

This document (EN 15213-4:2013) has been prepared 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of an identical text or by endorsement, at the latest by December 2013, and conflicting national standards shall be withdrawn at the latest by December 2013.

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 CEN/TS 15213-4:2006.

It is derived from a suite of CEN Technical Specifications CEN/TS 15213-1 to -6 inclusive dealing with the tracking and recovery of stolen vehicles. Parts 1 to 5 inclusive have been upgraded to EN status without change. CEN/TS 15213-6:2011 remains a valid Technical Specification as of the date of this publication and will be considered for EN status in due course. All these documents remain related and should be read in conjunction according to the type of technology, product or service being considered.

EN 15213 consists of the following parts:

— EN 15213-1, *Intelligent transport systems — After-theft systems for the recovery of stolen vehicles — Part 1: Reference architecture and terminology*;

— EN 15213-2, *Intelligent transport systems — After-theft systems for the recovery of stolen vehicles — Part 2: Common status message elements*;

— EN 15213-3, *Intelligent transport systems — After-theft systems for the recovery of stolen vehicles — Part 3: Interface and system requirements in terms of short range communication system*;

— EN 15213-4, *Intelligent transport systems — After-theft systems for the recovery of stolen vehicles — Part 4: Interface and system requirements in terms of long range communication system* (the present document);

— EN 15213-5, *Intelligent transport systems — After-theft systems for the recovery of stolen vehicles — Part 5: Messaging interface*;

— CEN/TS 15213-6, *Road transport and traffic telematics — After-theft services for the recovery of stolen vehicles — Part 6: Test procedures*[1)].

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1) Part 6 awaits final evaluation and ratification as EN and until such time remains a valid part of this EN as CEN/TS 15213-6:2011.

Introduction

This European Standard was developed by CEN/TC 278 "Road transport and traffic telematics", Working Group 14 (WG 14) on the subject of After Theft Systems for Vehicle Recovery (ATSVR).

WG 14 comprised representatives and experts from police, insurance associations (CEA), car manufacturers, transport associations, vehicle rental associations and ATSVR system and product providers. The work was also in cooperation with Europol and the European Police Cooperation Working Group (EPCWG).

This European Standard was developed to define an architecture within guidelines from CEN/TC 278 through which a level of interoperability can be achieved between Systems Operating Centres (SOC) and Law Enforcement Agencies (LEA), both nationally and internationally.

This will provide minimum standards of information and assurance to users as to the functionality of systems, thereby enabling the recovery of vehicles, detection of offenders and a reduction in crime.

This European Standard refers to the potential development of systems to enable law enforcement agencies to remotely slow and/or stop the engines of stolen vehicles. This situation remains and further information is available in 2012 CEN publication N2643 Feasibility Report on Remote Slow and Stop Technology, available from CEN/TC 278.

This document should be read in conjunction with EN 15213-1 which provides the preliminary framework for ATSVR concepts.

1 Scope

This European Standard specifies the characteristics required to operate the Long Range ATSVR Architecture.

An ATSVR consists of various elements that communicate and interact through a range of interfaces in accordance with standard procedures and protocols in order to facilitate the recovery of stolen vehicles. These processes may involve a human operator.

ATSVR elements include an OBE installed in the vehicles, a range of Detecting Equipment and one or more System Operating Centres. One or more supporting Infrastructure Networks provide communications to support the ATSVR. The ATSVR location function may also include one or more supporting Position Reference Sources.

The LR systems use an interface that allows the Detection Equipment to operate some ATSVR Functions at distances greater than the direct line of sight. These LR systems are generally operated with ATSVR Location Functions using long-range communications.

This European Standard permits existing proprietary systems to operate using these interface specifications at ATSVR application level.

The main subject areas are:

a) definition of classes and categories;

b) interoperability and compatibility of systems at:

   1) functional level;

   2) information level;

   3) performance level;

c) identification of communications supporting infrastructures;

d) specification of compatible interfaces for ATSVR applications;

e) restriction of specifications to:

   1) application level;

   2) operating level;

   3) user level.

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 15213-1:2013, *Intelligent transport systems — After-theft systems for the recovery of stolen vehicles — Part 1: Reference architecture and terminology*

EN 15213-3:2013, *Intelligent transport systems — After-theft systems for the recovery of stolen vehicles — Part 3: Interface and system requirements in terms of short range communication system*

ISO/TS 21609, *Road vehicles — (EMC) guidelines for installation of aftermarket radio frequency transmitting equipment*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 15213-1:2013 and EN 15213-3:2013 apply.

4 Symbols and abbreviations

DE	Detection Equipment
LEA Law	Enforcement Agency (see EN 15213-1)
LR	Long Range
OBE	On Board Equipment
SOC	System Operating Centre
SR	Short Range

5 Requirements for Long Range Operations

5.1 LR ATSVR Architecture

An LR ATSVR consists of various equipment elements that communicate and interact through communication network interfaces in accordance with standard procedures and protocols to facilitate the recovery of a stolen vehicle. These processes may involve a human operator.

ATSVR elements include an OBE installed in the vehicle, a range of Detecting Equipment and one or more SOC's. One or more supporting communications network interfaces facilitates the interactions that support the various ATSVR functions. The ATSVR location function may also include one or more supporting Position Reference Sources.

5.2 The LR ATSVR Process

The process begins with the theft of the vehicle. Following theft or suspected theft, the first possible function is to indicate that the theft has occurred. Following this, the status of the target vehicle, i.e., whether the target vehicle has been stolen or not, shall be confirmed by the user or by other appropriate personnel; this status shall then be acknowledged by an LEA. This then becomes a Registered Stolen Vehicle.

The vehicle should then be located by the ATSVR, and if moving, tracked or homed onto by the system in order to facilitate LEA or ATSVR service personnel to close range with the target vehicle. By closing range with the target vehicle, they will more easily be able to recognise the vehicle. Once recognised, the target vehicle shall be accurately discriminated as the target vehicle from other surrounding vehicles.

This process facilitates the selection of the target vehicle for closer examination by LEA or ATSVR personnel in order to confirm the identity of the target vehicle as the stolen vehicle. The process of establishing identity may require an additional query and response through ATSVR databases.

This process can, under controlled circumstances, be assisted by the degradation of the capabilities of the target vehicle.

5.3 The LR ATSVR Functions

5.3.1 General

There are three basic ATSVR functions:

a) Detection of a Registered Stolen Vehicle;

b) Location of a Registered Stolen Vehicle;

c) Identification of a Registered Stolen Vehicle.

5.3.2 LR Detection Function

This function provides the automatic or semi-automatic detection of the location of a Registered Stolen Vehicle. This may be done by Signaling or by Consulting.

Detection by Signaling is when the OBE has been activated by a signal from an external source. This activation may come from a mobile or stationary source, which may be local to the vehicle (Short Range) or at a distance from the vehicle (Long Range). Once activated, the OBE transmits a signal that can be picked up by ATSVR Detection Equipment located either locally or at a distance from the vehicle. The transmitted signal may contain other relevant information.

Detection by Consulting is when an external item of DE interrogates the OBE and the OBE responds by transmitting data to the DE. The DE then compares the received data with a database of Registered Stolen Vehicles; a data match confirms that a Registered Stolen vehicle is present and further action can take place.

5.3.3 LR Location Function

Once the Registered Stolen vehicle has been detected the location can be established by one of the following functions:

— location by using direct geographic co-ordinates;

— location by using indirect geographical co-ordinates;

— location by using homing techniques.

Location by direct or indirect geographic co-ordinates is the process that establishes the general or precise location of the vehicle at a given point in time. This allows entitled persons to carry out their defined tasks.

Homing (also known as Tracing or Relative Positioning) is the process that periodically updates the range and direction of the detected vehicle from an intercepting vehicle over a period of time. Thus allowing entitled personnel to approach or intercept the detected vehicle without the necessary use of landmarks or absolute geographic references.

Tracking is the process that periodically updates location and other information on the detected vehicle over a period of time and allows entitled personnel to monitor, approach or intercept the detected vehicle.

5.3.4 LR Identification Function

This function allows the unequivocal identification of a vehicle as being the Registered Stolen Vehicle. This may be by means of a secure process that allows the unique vehicle data to be read; e.g. VIN, registration number, and other data, e.g. theft status, model, colour and if relevant, position.

Discrimination is the process that enables entitled personnel to unambiguously differentiate the detected vehicle from other surrounding vehicles.

Recognition is the process that enables entitled personnel to correctly select the detected vehicle through visual observation based on knowledge of the vehicle particulars such as make, model, colour and other specific observable features.

Indirect Identification results from data coming from a central or remote data bank, whilst Direct Identification is that resulting from data coming from the OBE.

5.3.5 Remote Degradation Function (optional)

This function provides the possibility to degrade from a remote site the vehicle's performance using either long or short-range transmission techniques. Short-range communication may be preferable as some countries require that the vehicle be in the direct line of sight of authorised personnel to trigger this function.

Regulations for these devices will be developed according to the laws of each country. However, this EN seeks to establish the main principles currently requested by the LEA's. These are:

a) Use of the system and the resulting engine degradation shall not lead to the contravention of the vehicle or road transport legislation in the country where it is to be operated. Differences in legislation, in different countries shall be taken into account.

b) System shall not compromise the safety of the vehicle, or any other vehicle. It shall only influence the intended vehicle and no other, irrespective of the system or system operator (anti-collision protection).

c) For safety reasons, the device shall not switch off the engine or have any influence on the braking, steering or safety of the vehicle. Subject to these requirements a slow degradation of power that the engine can generate is permissible. The degradation time may be as long as 30 min to 60 min until a steady low power state is reached. This permits the driver to park the vehicle safely, without endangering passing traffic.

d) There shall be a positive identification of the vehicle and confirmation that it is actually stolen.

e) Systems may only be activated by a person authorised by the LEA or a relevant government department. Some countries may require the vehicle to be in the direct line of sight of such an authorised person to trigger this function.

f) ATSVR companies should indemnify, in writing, each LEA where it is intended that the system will operate. The indemnity shall cover the LEA and their officers and servants, against any claim under any course of action made by any person in respect of:

   1) personal injury (including death) caused as a result of the use of the tracking/remote engine degradation system;

   2) any loss, damage, expense, personal injury (including death), wrongful arrest, prosecution or charge caused by negligent operation of the system by the SOC, or by any malfunction of the system which results in a vehicle being wrongly identified as stolen.

This section does not inhibit the use of the Prohibit Engine Start function when the vehicle is in Engine Off mode.

5.3.6 LR Theft Indication Function

This function provides the possibility to transmit a warning or alert from the OBE to an SOC, indicating in a DE, that the transmitting vehicle may have been stolen.

6 Vehicle Tracking System Parameters

6.1 Attack Resistance

It shall be possible to install the system, including the antenna so that it is hidden from sight.

6.2 Technical Specification

The vehicle battery shall normally power the system.

The system shall have its own back up battery.

The back up battery (a device that powers the device in the event that the main vehicle supply is interrupted), shall be able to maintain the system in active mode for a minimum of 5 h.

The back up battery shall be able to maintain the system in power saving mode for a minimum of 48 h.

The quiescent current drain of the system shall be less than 20 milliamps when the OBE is inactive.

6.3 Activation of the ATSVR Process

The ATSVR Process may only be initiated by an SOC for the purpose of ATSVR where that SOC has an agreement with an LEA or another SOC that has such an agreement.

A SOC shall only initiate the ATSVR Process when:

— it has been confirmed with a LEA that the vehicle has been stolen;

— the standard operational procedures of the SOC have been followed.

A SOC may initiate the ATSVR Process for testing purposes with the prior agreement of the appropriate LEA.

6.4 Deactivation of the ATSVR Process

The ATSVR Process may only be stopped by a duly *authorised* SOC.

A SOC shall only deactivate the ATSVR Process when:

— requested by a LEA for valid operational reasons;

— following the standard operational procedures of the SOC; or

— following the successful recovery of the stolen vehicle.

6.5 Functional Specification

Where the system is capable of providing its position to the SOC:

— time of the position report shall be known;

— system shall continue to update its position at regular intervals or as required by the LEA.

The system's operational area shall be clearly identified (for clarification, this does not refer to a radio coverage map, but rather restrictions on the operational area due to policy e.g. restriction of operation to an individual country).