SLOVENSKI STANDARD
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Inteligentni transportni sistemi - e-Varnost - 5. del: e-Klic za dvokolesna motorna vozila UN/ECE kategorij L1 in L3

Intelligent transport systems - eSafety - Part 5: eCall for UNECE category L1 and L3 Powered Two-Wheeled Vehicles

Intelligente Verkehrssysteme - eSicherheit - Teil 5: eCall für motorisierte Zweiräder der UNECE-Fahrzeugklassen L1 und L3

Systèmes de transport intelligents - ESafety - Partie 5 : ECall pour les véhicules à deux roues motorisés des catégories UNECE L1 et L3

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EUROPÄISCHE NORM

**DRAFT
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English Version

Intelligent transport systems - eSafety - Part 5: eCall for UNECE category L1 and L3 Powered Two-Wheeled Vehicles

Systèmes de transport intelligents - ESafety - Partie 5 : ECall pour les véhicules à deux roues motorisés des catégories UNECE L1 et L3

Intelligente Verkehrssysteme - eSicherheit - Teil 5: eCall für motorisierte Zweiräder der UNECE-Fahrzeugklassen L1 und L3

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 278.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Ref. No. prEN 17249-5:2024 E

prEN 17249-5:2024 (E)

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European foreword

This document (prEN 17249-5:2024) has been prepared by Technical Committee CEN/TC 278 "Intelligent transport systems", the secretariat of which is held by NEN.

This document is currently submitted to the CEN Enquiry.

This document will supersede CEN/TS 17249-5:2022.

NOTE   This document is complementary to EN 16072 and EN 15722 and presents adaptation requirements for the provision of eCall for Powered Two Wheels Vehicles.

prEN 17249-5:2024 (E)

Introduction

In accordance with European Regulation 2015/758, after 31st March 2018, all new model Category M1/N1 vehicles will be, as a result of European Regulation, equipped with 112-eCall.

The eCall Regulation at the time of developing this deliverable covers only M1 and N1 Category vehicles (cars and vans). The European Commission's "ICT Rolling Plan" states the objective "Action 1 Develop technical specification/standards for the implementation of eCall in vehicles of categories other than M1 and N1 and for other user types, taking into account requirements included within type approval regulation as well as ongoing activities in this area (pilots, CEF, …)." And it goes on to explain "… for the extension to other vehicle types and services, such as Heavy-Duty Vehicles, Power Two Wheel Vehicles and other classes of vulnerable road users".

See CEN/TR 17249-1:2018.

Powered Two Wheel Vehicle (vehicle mounted) 112-eCall, using OEM systems included during the manufacture of the vehicle, present challenges to the eCall paradigm in that, in case of an accident, the rider is likely to be separated from the vehicle, usually by some distance. eCall equipment mounted on P2WVs is also subjected to far harsher environmental exposure than its in-car counterparts, and providing equipment, such as speakers, that will last and reliably operate for the lifetime of the vehicle, presents a significant challenge. This document takes these issues into account as a variation of the requirements specified for Category M1 and N1 vehicles and, in particular, does not provide the requirement for two-way voice dialogue in all models. Other features that characterize eCall are maintained as optional. An optional additional data element (or, in the future, a specific bit in the MSD) that enables the PSAP to identify where voice communications are possible or not, is added.

This document defines the additional high-level service requirements for the provision of eCall to Powered Two Wheel Vehicles of UNECE Category L1 and L3 (vehicle mounted). As with the existing provisions for eCall for Category M1/N1 vehicles, and other specifications in this series, these are specified within the paradigm of being OEM fit equipment supplied with new vehicles.

NOTE   The provision of eCall for vehicles via the aftermarket (post sales and registration), and the operational requirements for any such aftermarket solution for vehicle and will be the subject of other work, that will use the specifications of this document as a principle reference point.

1 Scope

In respect of 112-eCall (operating requirements defined in EN 16072), this document defines adaptations to eCall specifications defined in EN 16072 and other related documents to enable the provision of eCall for Powered Two Wheel Vehicles.

As with the existing provisions for eCall for Category M1/N1 vehicles, these are specified within the paradigm of being OEM fit equipment supplied with new vehicles.

For the purposes of the present document, the P2WV 'L' categories, as defined in Directive 2002/24/EC, Regulation (EU) No 168/2013, UNECE and as referenced/specified in EN 15722 apply.

This document includes only the requirements for Category L1 and L3 P2WV (vehicle based) with the exception of L1e-A (powered cycle), although other documents can subject other 'L' subcategories to use this document. Other Technical Specifications may be prepared for other UNECE category 'L' variants.

This document is based on and substitutes CEN/TS 17249-5:2022, following results achieved in sAFE project (sub-activity 3.5) [11] to obtain a specification allowing a more practical implementation of eCall for P2WVs.

The specifications herein relate only to the provision of pan-European eCall, and does not provide specifications for third party service provision of eCall. Other than in the 112-eCall paradigm, which involves a direct call from the vehicle to the most appropriate PSAP, third party service provision involves the support of an intermediary third-party service provider before the call is forwarded to the PSAP.

NOTE   The provision of eCall for vehicles via the aftermarket (post sales and registration), and the operational requirements for any such aftermarket solution. will be the subject of other work, that will use the specifications of this document as a principle reference point.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

EN 15722, *Intelligent transport systems — ESafety — ECall minimum set of data*

prEN 16072:2023, *Intelligent transport systems — ESafety — Pan-European eCall operating requirements*

EN 16454, *Intelligent transport systems — ESafety — ECall end to end conformance testing*

EN 17870, *Intelligent transport systems — ESafety — eCall Additional Dataconcept for equipment limitations*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at https://www.electropedia.org/

— ISO Online browsing platform: available at https://www.iso.org/obp/

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3.1
112
single European emergency call number supporting *Teleservice 12*

[SOURCE: ETSI/TS 122 003]

3.2
data
representations of static or dynamic objects in a formalized manner suitable for communication, interpretation, or processing by humans or by machines

Note 1 to entry: In packet switched networks, voice is carried in packets of data.

3.3
data concept
any of a group of *data* structures (i.e. object class, property, value domain, *data elements,* message, interface dialogue, *association*) referring to abstractions or things in the natural world that can be identified with explicit boundaries and meaning and whose properties and behaviour all follow the same rules

3.4
data element
single unit of information of interest (such as a fact, proposition, observation, etc.) about some (entity) class of interest (e.g. a person, place, process, property, concept, state, event) considered to be indivisible in a particular context

3.5
112 eCall
eCall
emergency call which is generated either automatically via activation of in-vehicle sensors or manually by the *vehicle occupants* (or person(s) riding on a vehicle that is not fitted with an enclosed compartment and/or (a) seatbelt(s)), and which, when activated, provides notification and relevant location information to the most appropriate '*Public Safety Answering Point'*, by means of *mobile wire*less communications *networks,* carries a defined standardized '*Minimum Set of Data'* [MSD] and additional data notifying that there has been an incident that requires response from the emergency services, and if equipped establishes an audio channel between rider or pillion nearby and the most appropriate '*Public Safety Answering Point'*

3.6
eCall in-vehicle system
in vehicle system
IVS
'in-vehicle equipment' for the purposes of eCall (eCall in-vehicle equipment) only and not any other in-vehicle equipment provided for purposes other than eCall

3.7
MSD
minimum set of data
direct, timely data content of an eCall message to the PSAP operator receiving the emergency call containing information about the location of the incident, providing detail characterising the vehicle, and potentially sometimes also providing additional data that is deemed relevant, as defined in EN 15722

3.8
Powered Two-Wheeled Vehicle
(P2WV)
Vehicle categories L1 and L3 with the exception of L1e-A (powered cycle)

[SOURCE: UNECE and Regulation (EU) No 168/2013]

3.9
pan-European eCall
eCall sent directly using the emergency call facility in the mobile network as defined by ETSI to work throughout European Union Member States (in the case of GSM/UMTS circuit switched networks: *Teleservice 12*)

3.10
Public Safety Answering Point
(PSAP)
physical location working on behalf of the national authorities where emergency calls are first received under the responsibility of a public authority or a private organization recognized by the national government

3.11
quadricycle
quad
UNECE Category (UNECE ECE/TRANS/WP.29/78/Rev.4) L6 and L7: vehicle with four wheels and powered by a propulsion as listed in greater detail in Regulation (EU) No 168/2013

3.12
rider
person riding on a vehicle that is not fitted with an enclosed compartment and/or (a) seatbelt(s)

3.13
pillion
passenger on P2VW

3.14
vehicle manufacturer
entity which first assembles the vehicle and provides *eCall* equipment as part of its specification and subsequently sells the vehicle directly or via an agent

4   Symbols and abbreviations

For the purposes of this document, the following symbols and abbreviations apply.

EC   European Commission

ETSI   European Telecommunications Standards Institute

GSM   Global System for Mobile communications

IMS   IP Multimedia Subsystem

IVS   *in-vehicle system (also referred to eCall in-vehicle system [3.7]*

MSD   *minimum set of data* (EN 15722)

P2WV   Powered Two-Wheeled Vehicle

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PSAP	*Public Safety Answering Point*
TPS	third party service
TS	Technical Specification
UMTS	universal mobile telecommunication system

5 Conformance

Conformance to the requirements of this document for *eCall* using packet switched IMS and circuit switched systems is to be found in EN 17240 and applicable requirements of EN 16454 respectively, amended as described in Clause 8.

6 Context

This document is based on the description of an eCall session as defined in EN 16072 and providing data as determined in EN 15722 and EN 17870. This deliverable provides specifications to extend the scope of eCall to benefit incidents involving powered vehicles (e.g. petrol, electrical, fuel cell etc.) hereinafter referred to as P2WV. The document is limited to Category L1 and L3 vehicles, excluding pedal powered vehicles (Category L1e-A (powered cycles)).

This categorization is based on:

UNECE (https://www.unece.org/trans/main/wp29/wp29wgs/wp29gen/wp29resolutions.html/) and Regulation (EU) No 168/2013 categorization of motor vehicles.

The general context of the provision of eCall for P2WV is described in CEN/TR 17249-1:2018 in its general provisions, and particularly in its Clause 13, which is specific to P2WVs.

7 eCall requirements for P2WV

7.1 Context

Within this paradigm, the *eCall* equipment (the IVS) is fitted during manufacture or before the point of first sale by or under the control of the original equipment manufacturer. *eCall* characteristics and provisions are defined in several EU Regulations, notably Regulation (EU) 2015/758 concerning type-approval requirements for the deployment of the eCall in-vehicle system based on the 112 service and Regulation (EU) 2018/858. *eCall* operating requirements are provided in EN 16072, and the "minimum set of data" requirements are defined in EN 15722.

7.2 Activation of an eCall

7.2.1 Automatic eCall

7.2.1.1 General

The *eCall* IVS for P2WVs shall support automatically initiated eCall as specified in EN 16072, which means that the IVS shall automatically activate an eCall in case of a severe incident. In addition to the core eCall standards, specific requirements need to be met for P2WVs.

7.2.1.2 Determining incident severity

The vehicle incident evaluation and triggering algorithms for eCall initiation, is to be designed to minimize unnecessary deployments and false calls, and to adapt to triggering conditions. Algorithms often consider such parameters as, for example: vehicle acceleration/deceleration (angular