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BSI Standards Publication

Intelligent transport systems – eSafety

Part 5: eCall for UNECE Category L1 and L3 powered two-wheeled vehicles

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National foreword

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European foreword

This document (CEN/TS 17249-5:2019) has been prepared by Technical Committee CEN/TC 278 “Intelligent transport systems”, the secretariat of which is held by NEN.

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

NOTE This document is complementary to EN 16072 and EN 15722 and presents adaptation requirements for the provision of eCall for powered two wheel vehicles.

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to announce this Technical Specification: 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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Introduction

In accordance with European Regulation, from 31st March 2018, all new model Category M1/N1 vehicles will be, as a result of European Regulation, from 2018, equipped with 112-eCall (3.2). Other model Category M1/N1 vehicles may be voluntarily equipped with 112-eCall (3.2).

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" (2017) 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 vehicles types and services, such as Heavy Duty Vehicles, Power two wheel vehicles or Hazardous Goods tracking, and other classes of vulnerable road users".

See CEN/TR 17249-1.

Powered two wheel vehicle (vehicle mounted) 112-eCall (3.2), using OEM systems included during the manufacture of the vehicle, present challenges to the eCall paradigm, in that in an accident, the rider is likely to be separated from the vehicle, usually by a considerable 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 problem. This document takes these issues into account as a variation of the requirements specified for Category M1 and N1 vehicles by providing equipment to enable assistance responders to hear background sounds, but does not provide the requirement for two-way voice dialogue in all models, although this may be possible for some vehicle model designs. Other features that characterize eCall are maintained. An optional additional data element 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 aftermarket vehicles will be the subject of other work, and in respect of the operational requirements for any such aftermarket solutions for vehicles, will use the specifications of this document as a principle reference point.

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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 (vehicle centred).

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 powered two wheel vehicles (vehicle based) with the exception of L1e-A (powered cycle), although CEN/TS 17249-6 may reference other 'L' subcategories to use this document. (It will be noted that the categories L1 to L7 include 2, 3 and 4 wheel types e.g. motorcycles, tricycles and quadricycles.)

NOTE 1 Other Technical Specifications may be prepared for other UNECE category 'L' variants.

NOTE 2 The provision of eCall for vehicles via the aftermarket (post sale and registration) will be the subject of other work, and in respect of the operational requirements for any such aftermarket solutions for powered two wheel vehicles (vehicle centred), will use the specifications of this document as a principle reference point.

NOTE 3 The 112-eCall paradigm involves a direct call from the vehicle to the most appropriate PSAP. (Third party service provision by comparison, involves the support of an intermediary third party service provider before the call is forwarded to the PSAP.) The specifications herein relate only to the provision of 112-eCall or IMS-112-eCall (3.10), and do not provide specifications for third party service provision of eCall.

NOTE 4 Some of the elements of this document will require further in depth analysis before they can be implemented in a European Standard. These elements are included in this document however to document the current state of development of a European Standard. The current state of development on these elements justifies their inclusion in this document, but further assessment and analysis might require an amendment before implementation into a European Standard. (This is a normal evolution from a Technical Specification to a European Standard.)

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 15722:2015, *Intelligent transport systems — ESafety — ECall minimum set of data*

EN 16062, *Intelligent transport systems — ESafety — eCall high level application requirements (HLAP) using GSM/UMTS circuit switched networks*

EN 16072:2015, *Intelligent transport systems — ESafety — Pan-European eCall operating requirements*

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

CEN/TS 17184, *Intelligent transport systems — eSafety — eCall High level application Protocols (HLAP) using IMS packet switched networks*

CEN/TS 17240, *Intelligent transport systems — ESafety — ECall end to end conformance testing for IMS packet switched based systems*

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CEN/TR 17249-1, *Intelligent transport systems — eSafety — Part 1: Extending eCall to other categories of vehicle*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 15722:2015 and the following apply.

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

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
112
single European emergency call number supporting Teleservice 12

[SOURCE: ETSI/TS 122 003]

3.2
112-eCall
'eCall' provided by a 'Teleservice 12' mobile communication network, as defined in EN 16072 and EN 16062 or CEN/TS 17184

3.3
beneficiary
person or group that receives benefits of the service

3.4
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.

3.5
data concept
any of a group of *data* structures (i.e. object class, property, value domain, *data elements* *(3.6)*, 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

3.6
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

3.7
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 wir*eless

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