

English Version

Intelligent transport systems - eSafety - Part 3: eCall for Coaches and buses

Systèmes de transport intelligents - eSafety - Partie 3 :
eCall pour les autocars et autobus

Intelligente Verkehrssysteme - ESicherheit - Teil 3:
ECall für Reisebusse und Busse

This Technical Specification (CEN/TS) was approved by CEN on 12 October 2018 for provisional application.

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European foreword

This document (CEN/TS 17249-3:2018) 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 Coaches and Buses.

According to the CEN/CENELEC Internal Regulations, the national standards organizations 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.

Introduction

As a result of European Regulation, from 2018, all new model Category M1/N1 vehicles will be equipped with 112- eCall. Other model Category M1/N1 vehicles may be voluntarily equipped with 112-eCall.

The current eCall Regulation 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 goes on to explain "*...for the extension to other vehicles types and services, such as Heavy Duty Vehicles, Power Two Wheelers or Hazardous Goods tracking, and other classes of vulnerable road users*".

See CEN/TR 17249-1 for context.

The EC CEF project I_HeERO has also addressed the issues relating to eCall for HGVs, coaches and buses and vehicle centric solutions for powered two wheel vehicles (P2W) and have passed these results to CEN/TC 278 PT1507 who are charged to provide specifications for the provision of eCall for Heavy Goods Vehicles, coaches and buses, agricultural tractors, and powered two-wheel vehicles.

Coaches and *buses* present two different challenges for eCall, and, despite the fact that the same vehicle model could be used either as a *coach* or a *bus*, require different information. In the case of *long distance coaches*, European regulations require that *passengers* use seat belts, so it is possible to establish the number of seats in use, which will approximate to the number of *passengers* on board. *Coach* trips are usually booked in advance, and the *coach* operator therefore also has a *passenger list* with information that could be very valuable to the emergency responders, especially for *coaches* operating abroad, but must respect privacy regulations. *Bus* trips, by comparison, involve semi-random unplanned *Hop-on/hop-off* characteristics, with little or no use of seat belts.

This document provides determination for the provision of eCall to *coaches* and *buses*. 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.

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 *coaches* and *buses*, 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 additional specifications for the provision of eCall for *coaches* and *buses*.

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.

NOTE 1 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 *coaches* and *buses*, will use the specifications of this document as a reference point.

NOTE 2 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*, and do not provide specifications for third party service provision of eCall, although in the case of *112-eCall* or *IMS-112-eCall* for *coaches*, links to third party provision of service aspects (such as *passenger lists*) may be required.

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*

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*

CEN/TR 17249-1:2018, *Intelligent transport systems – eSafety – Part 1: Extending eCall to other categories of vehicle*

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

3.1

112-eCall

circuit switched eCall using the single European emergency call number supporting Teleservice 12

3.2

bus

coach making frequent stops with semi-random unplanned Hop-on/hop-off characteristics, with little or no use of seat belts; passengers may sit or stand and passenger movement is allowed

3.3

coach

vehicle of UNECE Category M2 or M3, designed and constructed for the carriage of passengers, comprising more than eight seats in addition to the driver's seat

3.4

collision

bus or coach impacts with a vehicle or object or is impacted by another vehicle or object

3.5

data

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

3.6

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

3.7

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

3.8

driver

operator in control of the coach or bus and managing its movements on the road

3.9

eCall

emergency call which is generated either automatically via activation of in-vehicle sensors or manually by the vehicle occupants, and which, when activated, provides notification and relevant location information to the most appropriate Public Safety Answering Point, by means of mobile wireless communications networks, carries a defined standardized minimum set of data (MSD) notifying that there has been an incident that requires response from the emergency services, and establishes an audio channel between the occupants of the vehicle and the most appropriate Public Safety Answering Point

3.10

eCall service

end-to-end emergency service to connect occupants of an affected vehicle to the most appropriate PSAP via an audio link across a PLMN together with the transfer of a minimum set of data to the PSAP