SLOVENSKI STANDARD
oSIST prEN 16683:2014

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Železniške naprave - Naprava za klic v sili in naprave za sporočanje, namenjene potnikom - Zahteve

Railway applications - Call for aid and communication device - Requirements

Bahnanwendungen - Hilferufvorrichtung und Kommunikationseinrichtungen für Fahrgäste - Anforderungen

Applications ferroviaires - Dispositif de demande d'aide et de communication à disposition des passagers - Prescriptions

Ta slovenski standard je istoveten z: **prEN 16683**

ICS:

13.320	Alarmni in opozorilni sistemi	Alarm and warning systems
35.240.60	Uporabniške rešitve IT v transportu in trgovini	IT applications in transport and trade
45.060.01	Železniška vozila na splošno	Railway rolling stock in general

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EUROPEAN STANDARD

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English Version

Railway applications - Call for aid and communication device - Requirements

Applications ferroviaires - Dispositif de demande d'aide et de communication à disposition des passagers - Prescriptions

Bahnanweindungen - Hilferufvorrichtung und Kommunikationeinrichtungen für Fahrgäste - Ergänzendes Element

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

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Foreword

This document (prEN 16683:2013) has been prepared by Technical Committee CEN/TC 256 “Railway applications”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

Introduction

The aim of this European Standard is

— to describe the Call for Aid function used to permit a PRM to inform a member of the train staff or the driver of a request for help, and

— to describe the Communication device used to permit to the passengers to speak to authorized persons.

This European Standard has been developed for passenger trains which are in the field of Interoperability Directive 2008/57/EC. It may be used for other purpose.

1 Scope

This European Standard specifies the functional requirements of the Call For Aid and Communication device fitted in trains:

— the functional requirements for a Call For Aid and Communication device;

— the dynamic analysis of the Call For Aid system.

NOTE 1 Call For Aid function on existing vehicles may require modification to work in conjunction with vehicles that comply with this European Standard.

NOTE 2 The Call For Aid function is separated from the Passenger Alarm System (PAS), which is provided to deal with emergency situations. The PAS is described in EN 16334.

NOTE 3 The Communication device is different from PAS, but it can share some parts of the PAS to achieve its functionalities.

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 16334, *Railway Applications — Passenger Alarm System — System requirements*

ISO 3864-1, *Graphical symbols — Safety colours and safety signs — Part 1: Design principles for safety signs and safety markings*

3 Terms and definitions

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

3.1
CFA
Call For Aid system

3.2
Call For Aid Device
CFAD
device to trigger the CFA by passenger

3.3
Communication device
system used to permit to the passengers to speak to authorized persons

3.4
communication device interface
interface used by the passenger to speak to authorized persons

3.5
CFAD operated
operated CFAD (for example a push-button) when its passenger interface is manipulated in order to change its status and therefore to send an information to the CFA system

3.6
PAS
Passenger Alarm System as defined in prEN 16334

3.7
authorized person
operational people authorized to deal with the situation following CFAD or communication device operation (e.g. staff on the train or off the train at a call centre as defined by operating rules)

3.8
sleeping car attendant
dedicated member of staff who is responsible for sleeping car(s) during night operation

3.9
TCMS
Train Control and Management System

3.10
Staff Onboard Operation
SOO
train with authorized persons on board in addition to the driver

3.11
Driver Only Operation
DOO
train without authorized person on board, except the driver

3.12
public address
system also known as audible communication system, used by staff to make broadcast to the passenger areas

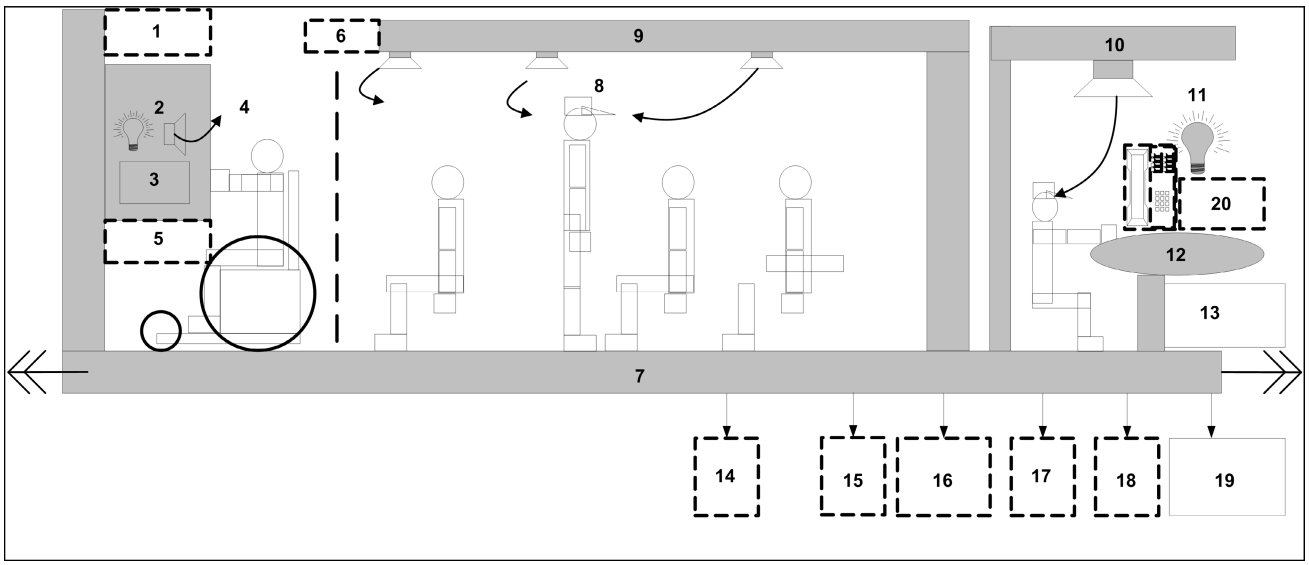
4 CFA

4.1 CFA interfaces overview

The CFA overview is summarised by Figure 1 — CFA general overview to show, as an example, who is involved in the CFA operation. It presents the different functions in interaction with it and the rest of the train, and which are mandatory or not.

NOTE CFA provision is primarily for PRM passenger, but it can be used by any passenger on the train.

The different elements are more precisely described in the following clauses.



Key

Mandatory system

Optional system

1	microphone/loudspeaker	9	advice the staff that an CFAD has been operated by a acoustic signal and its location	14	wireless link
2	CFAD			15	recorder
3	push button			16	Passenger Information System
4	visual and acoustic feedback	10	driver's cab or staff area	17	others
		11	visual and acoustic devices	18	TCMS
5	reseting device	12	acknowledgement button	19	audio/intercom communication
6	visual location	13	remote level command (active cab only)		
7	Call For Aid Function			20	location
8	member of staff				

Figure 1 — CFA general overview

4.2 CFA general requirements

— CFA shall have no interaction with the brake system.

— CFA shall not adversely interfere with the operation of PAS.

— CFA shall not adversely interfere with the operation of communication device.

— For units designed to be operated always with staff on board **[SOO]**, the facilities for the authorized person shall be provided with the functionality to deal with the CFA operation, as set out in this European Standard. In this situation any action by the driver during CFA operation should not be required.

— For units designed to be operated always by driver alone **[DOO]**, the active driver cab shall be provided with the functionality to deal with the CFA operation, as set out in this European Standard. An external control centre may be advised in parallel to the driver.

NOTE 1 The driver keeps the control of the train management.

— For units designed to be operated DOO or SOO, a device may be provided to suspend the active driver cab CFA functionality when staff is on board. The operating mode selected by the device for the CFA

should be consistent with the operating mode selected for door closing function (driver only operation or staff control).

NOTE 2 This European Standard does not define when suspending the active driver cab CFA functionality is permitted, as this shall be described through operational rules.

— All the changes of state of the CFA, including all the CFADs (operation, acknowledgement, reset, etc.), should be recorded.

— The CFAD shall be operable by the palm of a person's hand and shall not require a force exceeding 30 N to operate.

— At the locations where CFAD is provided, it is permitted to support this operation with a communication channel. In this case, the operation of the CFAD shall also provide the additional functions of the communication device as defined in Clause 5 and a separate passenger operated communication device is not needed.

The design of the CFAD is set out in Annex C.

4.3 Basic CFA

4.3.1 Local CFA devices

The basic CFA shall be available in all train modes where passengers are allowed to be on the vehicle.

The basic provision shall include:

— CFAD;

— Acoustic device for feedback;

— Visual indicators for feedback;

— Information labels explaining the CFA operations.

The basic CFA does not include a communication device or feedback of staff acknowledgement.

4.3.2 Minimum requirements of the basic CFA

The aim of basic CFA is to indicate to the staff that a CFAD has been operated:

— Broadcast acoustic signal within the vehicle and other vehicles connected to alert the staff;

— For the CFAD in a sleeping compartment and universal toilets, there shall be a visible signal outside these rooms but inside the vehicle.

NOTE For example, flashing the occupied light for universal toilet.

4.4 CFA isolation

Isolation of the function by intentional action shall only be possible by an authorized person.

NOTE 1 The operating rules associated with this isolation are outside the scope of this European Standard.

It should be possible to isolate individual devices composing the CFA (for example some CFAD) without affecting the overall availability of the CFA.

NOTE 2 The operating consequences of CFAD isolation are outside the scope of this European Standard.

Isolation of CFA shall be traceable. The staff and/or the driver shall be informed that part or all of the CFA has been isolated.

NOTE 3 Examples: sealed switch and note in incident report for the train, or recorded in an electronic system.

4.5 CFAD operation requirements

4.5.1 Actions at the CFAD location

The actions after the operation of a CFAD shall be:

— The output signal of a CFAD operation shall be sent to the CFA, and a confirmation of this action shall generate a local feedback (visual and audible) within 2 s;

— The output signal of a CFAD operation sent to the CFA shall be latched until reset;

— The audible local feedback signal shall have a maximum duration of 3 s. It can be one or several tones;

— Visual feedback shall be detectable by the passenger, until the CFAD is reset;

— If acknowledgement is required (see 4.8), visual feedback should change of state when the CFAD operation is acknowledged by authorized person. A label shall explain this change of status.

NOTE For example, the visual local feedback signal could be a switching on a flashing light at a frequency of less than 2 Hz, until CFAD operation is acknowledged. After acknowledgment, the flashing light becomes steady.

4.5.2 Actions at train level

4.5.2.1 General – All trains

The following requirements apply to SOO and DOO trains.

— After the operation of a CFAD within 5 s, the CFA shall initiate a CFA train broadcast audible signal.

— The CFA train broadcast audible signal shall be broadcast to all vehicles even if the train is operating as coupled multiple units.

— If the same CFAD is operated several times before being reset, only the first operation shall be taken into account by the CFA.

— To aid the staff dealing with the situation, tone signals or vocal coded messages can be used to indicate the location of the operated CFAD.

— For rolling stock intended to cross international boundaries, the audible signal for staff should be a tone signal as given in Annex A.

Specific additional requirements applicable to sleeping coaches are given in 4.6.

A Public Address broadcast announce by the driver shall suspend an ongoing CFA train broadcast audible signal.

The CFA can advise an external control centre.