



SLOVENSKI STANDARD

oSIST prEN 16683:2023

01-september-2023

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

Railway applications - Call for aid and communication device - Requirements for heavy rail vehicles

Bahnanwendungen - Hilferufvorrichtung und Kommunikationseinrichtung für Fahrgäste - Anforderungen für Vollbahnfahrzeuge

Applications ferroviaires - Dispositifs d'appel à l'aide et de communication à disposition des passagers - Prescriptions pour véhicules ferroviaires lourds

Ta slovenski standard je istoveten z: prEN 16683

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35.240.60	Uporabniške rešitve IT v prometu	IT applications in transport
45.060.01	Železniška vozila na splošno	Railway rolling stock in general

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Will supersede EN 16683:2015

English Version

Railway applications - Call for aid and communication device - Requirements for heavy rail vehicles

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This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 256.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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prEN 16683:2023 (E)**European foreword**

This document (prEN 16683:2023) 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 will supersede EN 16683:2015.

In comparison with the previous edition EN 16683:2015, the following technical modifications have been made:

- the scope has been updated and explicitly does not cover urban rail;
- the normative references have been updated;
- Clause 3 (Terms, definitions and abbreviations) has been updated;
- the CFA (Clause 4) description and requirements have been reviewed to remove ambiguities;
- a new subclause 4.11 on CFAD passenger interface design requirements was added;
- subclause 5.5 is now Clause 6 and has been slightly rephrased;
- Annex C has been rewritten;
- Annex ZA has been updated.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s) / Regulation(s).

For relationship with EU Directive(s) / Regulation(s), see informative Annex ZA, which is an integral part of this document.

1 Scope

This document covers heavy rail rolling stock.

This document does not cover urban rail rolling stock.

NOTE 1 EN 17355 covers communication device requirements for urban rail rolling stock.

This document specifies:

- the functional requirements for a Call For Aid and Communication device;
- the dynamic analysis of the Call For Aid system.

NOTE 2 In a formation of vehicles where one complies with this document with one that does not, it is possible that the call for aid is not fully functional.

NOTE 3 The Call For Aid function is separate from the Passenger Alarm System (PAS), which is provided to deal with emergency situations. The PAS is described in EN 16334-1.

NOTE 4 The communication device can be different from the PAS, but it can share some or all parts of the PAS to achieve its functionalities.

NOTE 5 The PAS is regarded as a safety relevant system whereas the CFA and communication device are non-safety relevant aids to passengers.

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.

prEN 16584-1:2024, *Railway applications — Design for PRM use — General requirements — Part 1: Contrast*

prEN 16584-2:2024, *Railway applications — Design for PRM use — General requirements — Part 2: Information*

prEN 16584-3:2024, *Railway applications — Design for PRM use — General requirements — Part 3: Optical and friction characteristics*

prEN 16585-1:2024, *Railway applications — Design for PRM use — Equipment and components onboard rolling stock - Part 1: Toilets*

prEN 16585-2:2024, *Railway applications — Design for PRM use — Equipment and components on board rolling stock - Part 2: Elements for sitting, standing and moving*

prEN 16585-3:2024, *Railway applications — Design for PRM use — Equipment and components on board rolling stock - Part 3: Clearways and internal doors*

prEN 17343:2023, *Railway applications — General terms and definitions*

3 Terms, definitions and abbreviations

For the purposes of this document, the following terms, definitions and abbreviations and the ones in prEN 17343:2023 apply.

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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 Terms and definitions**3.1.1****authorized person**

operational people authorized to deal with the situation following CFAD or communication device operation

Note 1 to entry: An authorized person could be, for example, either staff on the train or at a call centre as defined by operating rules

3.1.2**call for aid****CFA**

system used to inform an authorized person or the driver of a request for individual help

Note 1 to entry: The TSI PRM defines CFA location in wheelchair accessible areas

3.1.3**call for aid device****CFAD**

device used to trigger the CFA by a PRM, or any other passenger, which does not necessarily include communication functions

3.1.4**CFAD operated**

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

3.1.5**communication device**

device used to enable the passengers to speak to authorized persons

3.1.6**communication device interface**

equipment used by the passenger to speak to authorized persons

3.1.7**driver only operation****DOO**

train without authorized persons on board, except the driver

3.1.8**public address****PA**

system used by authorized persons to broadcast to the passenger areas

Note 1 to entry: This is also known as audible communication system

3.1.9**sleeping car attendant**

dedicated authorized person who is responsible for sleeping car(s) during night operation

3.1.10**staff on board operation****SOO**

train with authorized persons on board in addition to the driver

3.2 Abbreviations

For the purposes of this document, the abbreviated terms in Table 1 apply.

Table 1 — Abbreviations

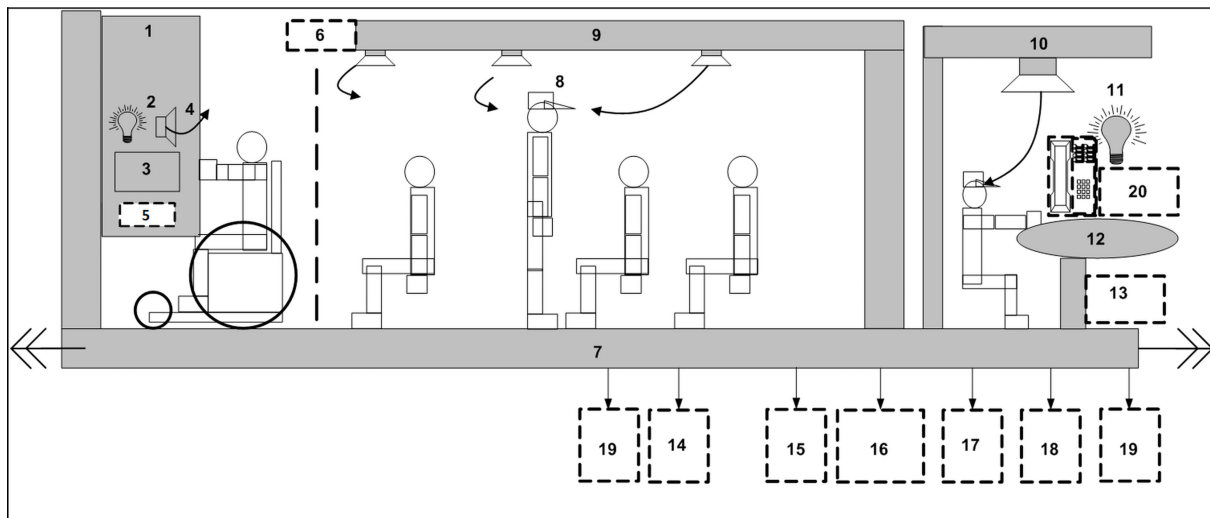
CFA	Call for aid
CFAD	Call for aid device
DMI	Driver machine interface
DOO	Driver only operation
PA	Public address
PAS	Passenger alarm system (defined in EN 16334)
PRM	Persons with disabilities and persons with reduced mobility
SOO	Staff on board operation
TCMS	Train control and monitoring system

4 CFA**4.1 CFA elements overview**

The CFA overview is summarized, as an example, by Figure 1 to show the different CFA system elements and their interaction through the train. It also shows those elements considered mandatory and those considered optional.

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

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Key

■ shaded box - mandatory CFA system element

□ dotted box - optional CFA system element

- 1 CFA passenger interface (includes 2, 3, 4 and 5)
- 2 visual feedback
- 3 CFAD (push button)
- 4 acoustic feedback
- 5 resetting device
- 6 visual location (mandatory for universal toilets and sleeping compartments with CFA)
- 7 CFA function
- 8 authorized persons (optional for DOO)
- 9 broadcast to inform the authorized persons on board that a CFAD has been operated
- 10 active driver cab or authorized persons area (if applicable)
- 11 visual and acoustic devices
- 12 acknowledgement button
- 13 remote reset command by authorized person
- 14 wireless link
- 15 recorder
- 16 passenger information system
- 17 others
- 18 TCMS
- 19 audio/intercom communication system
- 20 location of operated CFAD

Figure 1 — Example of CFA general overview

4.2 CFA general requirements

The CFA shall have no interaction with the brake system.

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

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

For units designed to always be operated with authorized persons 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 document. In this situation any action by the driver during CFA operation should not be required.

For units designed to be operated always by the driver alone (DOO), the active driver cab shall be provided with the functionality to deal with the CFA operation, as set out in this document. An external call centre may be advised in parallel to the driver.

NOTE The above requirements are to prevent the CFA having a direct impact on the driver's ability to control the train.

For units designed to be operated as DOO or SOO, a device may be provided to suspend the active driver cab CFA functionality when authorized persons are 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).

This document 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, e.g. for monitoring, investigation, etc.

The design of the CFAD passenger interfaces shall comply with prEN 16584-1:2024, prEN 16584-2:2024, prEN 16584-3:2024, prEN 16585-1:2024, prEN 16585-2:2024 and prEN 16585-3:2024.

At the locations where the 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.

4.3 Basic CFA

4.3.1 Minimum requirements of the basic CFA

The aim of the basic CFA is to indicate to the authorized person that a CFAD has been operated. As a minimum the following requirements shall be fulfilled:

- an acoustic signal shall be broadcast within the vehicle and other vehicles connected to alert the authorized persons;
- for the CFAD in a sleeping compartment and universal toilets, there shall be a visible signal outside these rooms but inside the vehicle where the CFAD has been activated;

NOTE 1 For example, flashing the occupied light for universal toilet.

NOTE 2 Universal toilets are specified in the technical specification for interoperability for persons with reduced mobility (PRM TSI [1]).

- the basic CFA shall be available in all train modes where passengers are allowed to be on the vehicle;
- the basic CFA does not include a communication channel or feedback of authorized persons acknowledgement.

NOTE 3 This is deemed to be the minimum requirements to comply with the PRM TSI.