

# SVENSK STANDARD

## SS-EN 16683:2016



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### **Järnvägar – Krav på utrustning för nödsignal och kommunikation**

### **Railway applications – Call for aid and communication device – Requirements**

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EUROPEAN STANDARD

**EN 16683**

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2015

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ICS 13.320; 45.060.01

English Version

## Railway applications - Call for aid and communication device - Requirements

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

Bahnanwendungen - Hilferufvorrichtung und Kommunikationseinrichtung für Fahrgäste - Anforderungen

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EUROPÄISCHES KOMITEE FÜR NORMUNG

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

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## European foreword

This document (EN 16683:2015) has been prepared by Technical Committee CEN/TC 256 “Railway applications”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2016, and conflicting national standards shall be withdrawn at the latest by June 2016.

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

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

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## 1 Scope

This European Standard specifies:

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

NOTE 1 The 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 separate 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 the PAS, but it can share some parts of the PAS to achieve its functionalities.

NOTE 4 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, 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*

prEN 16584 (all parts), *Railway applications — Design for PRM use — General requirements*

prEN 16585 (all parts), *Railway applications — Design for PRM use — Equipment and Components onboard Rolling Stock*

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

## 3 Terms, definitions and abbreviations

### 3.1 Terms and definitions

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

#### 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 enable passengers to inform an authorized person or the driver of a request for help



### **3.1.3**

#### **call for aid device**

##### **CFAD**

device used to trigger the CFA by a passenger

### **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**

system used to enable the passengers to speak to authorized persons

### **3.1.6**

#### **communication device interface**

interface 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 following abbreviated terms apply.

DMI	Driver machine interface
PAS	Passenger alarm system (defined in EN 16334)
PRM	Persons with disabilities and persons with reduced mobility
TCMS	Train control and monitoring system

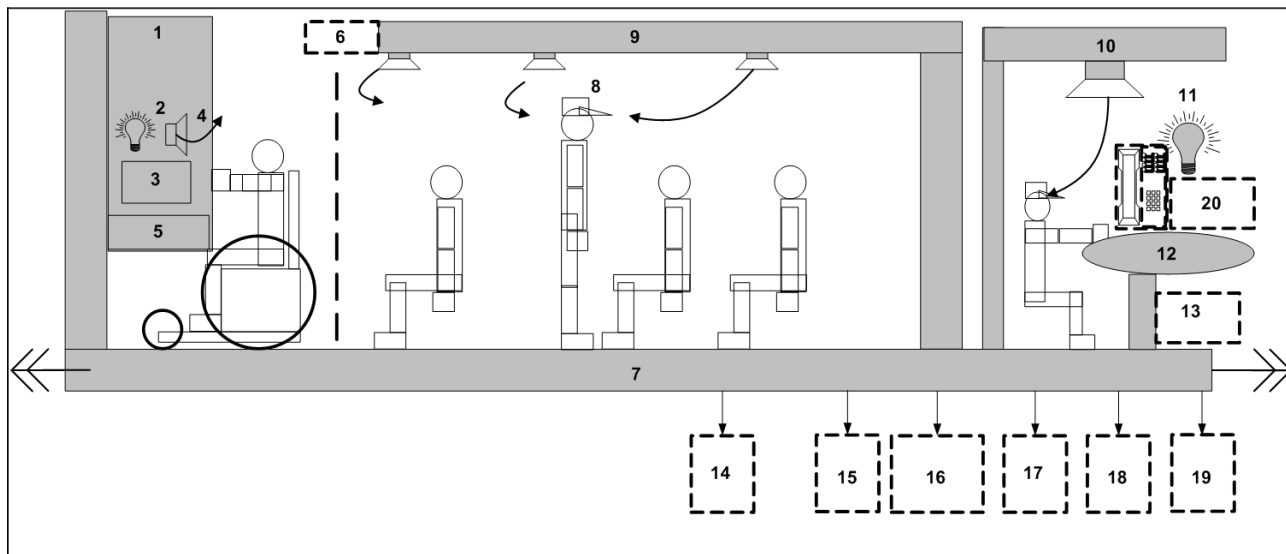
## 4 CFA

### 4.1 CFA interfaces overview

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

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

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



#### Key

<span style="display: inline-block; width: 15px; height: 10px; background-color: #cccccc; border: 1px solid black;"></span> shaded box - mandatory CFA system element	<span style="display: inline-block; width: 15px; height: 10px; border: 1px dashed black;"></span> dotted box - optional CFA system element
1 CFA passenger interface (includes 2, 3, 4 and 5)	11 visual and acoustic devices
2 visual and acoustic feedback	12 acknowledgement button
3 CFAD (push button)	13 remote reset command (active cab only)
4 microphone/loudspeaker	14 wireless link
5 resetting device	15 recorder
6 visual location	16 passenger information system
7 CFA Function	17 others
8 authorized persons (optional for D00)	18 TCMS
9 broadcast to inform the authorized persons on board that a CFAD has been operated	19 audio/intercom communication system
10 active driver cab or authorized persons area (if applicable)	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 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 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 European Standard. 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 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 design of the CFAD passenger interfaces shall comply with prEN 16584 (all parts) and prEN 16585 (all parts).

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;

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

**NOTE 2** Universal toilets are defined in the technical specification for interoperability for persons with reduced mobility (PRM TSI).

- 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.