



SLOVENSKI STANDARD SIST EN 17355:2020

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Železniške naprave - Komunikacijske naprave za mestno železnico - Systemske zahteve

Railway applications - Communication device for urban rail - System requirements

Bahnanwendungen - Kommunikationseinrichtung für Fahrgäste für Schienennahverkehrsnetze - Systemanforderungen

Applications ferroviaires - Système de communication pour le rail urbain - Prescriptions relatives au système

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13.320	Alarmni in opozorilni sistemi	Alarm and warning systems
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EUROPEAN STANDARD

EN 17355

NORME EUROPÉENNE

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ICS 13.320; 45.060.01

English Version

Railway applications - Communication device for urban rail - System requirements

Applications ferroviaires - Système de communication
pour le rail urbain - Exigences système

Bahnwendungen - Kommunikationseinrichtung für
Fahrgäste städtischer Schienenbahnen -
Systemanforderungen

This European Standard was approved by CEN on 17 May 2020.

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European foreword

This document (EN 17355:2020) 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of an identical text or by endorsement, at the latest by February 2021, and conflicting national standards shall be withdrawn at the latest by February 2021.

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EN 17355:2020 (E)**1 Scope**

This document defines the following elements for urban rail rolling stock:

- the functional requirements for a communication device between passengers and driver or operations control centre (OCC);
- the dynamic behaviour of the communication device.

This document is applicable to the categories I to III of urban rail rolling stock defined in CEN/CLC Guide 26:

- (I) Metros;
- (II) Trams;
- (III) Light Rail.

NOTE 1 CEN/CLC Guide 26 defines metro, tram and light rail as public transport systems permanently guided at least by one rail, intended for the operation of local, urban and suburban passenger services with self-propelled vehicles and operated either segregated or not from general road and pedestrian traffic.

This document applies to urban rail rolling stock both with and without driver.

NOTE 2 The communication device is different from the PAS, but it can share some parts of the PAS to achieve its functionalities.

NOTE 3 The PAS is regarded as a safety relevant system whereas communication device is non-safety relevant aid to passengers.

2 Normative references

[SIST EN 17355:2020](#)

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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 16334-2, *Railway applications — Passenger alarm system — Part 2: System requirements for urban rail*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 16334-2 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 <https://www.iso.org/obp/ui>

3.1 authorized person

person involved in operational activities and who is authorized to deal with the situation following communication device operation

Note 1 to entry: An authorized person could be, for example, a staff member on duty either on the urban rail vehicle or at an OCC, as defined by operational rules.

3.2**communication device**

system used to enable passengers to speak with authorized persons

3.3**communication device interface**

interface used by passengers to communicate with authorized persons

3.4**driver only operation****DOO**

train without authorized persons on board, excluding the driver

3.5**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”.

3.6**staff on board operation****SOO**

train with authorized persons on board, excluding the driver

3.7**operations control centre****OCC**

centre from which operation of the line or the network is supervised and managed

[SOURCE: IEC 60050-821:2017, 01-64] <https://standards.iteh.ai/catalog/standards/sist/564346d5-9793-4444-93c0-3-6418b01a9c/sist-en-17355-2020>

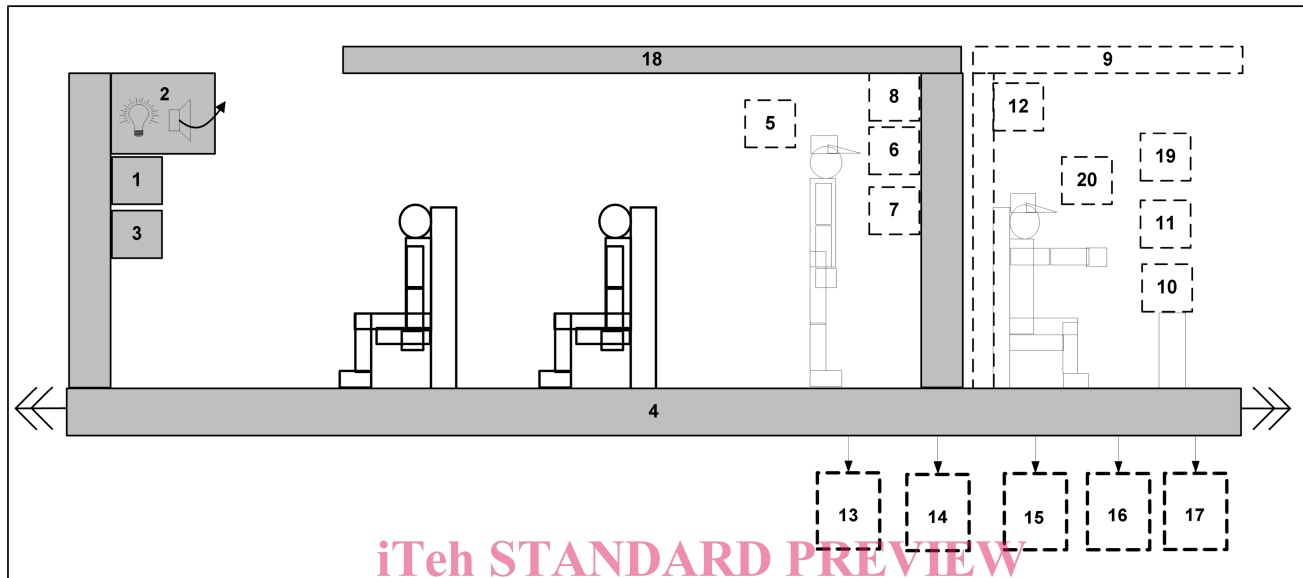
4 Symbols and abbreviations

For the purposes of this document, the following abbreviated terms apply.

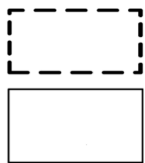
ComDev	Communication device (see 3.2)
PAS	Passenger alarm system (defined in EN 16334-2)
TCMS	Train control and monitoring system (see EN 16186-1)

5 Communication device interfaces overview

The communication device overview is summarized in Figure 1 in order to show an example of who is involved in the communication device operation. Figure 1 represents the different functions in interaction with the communication device and other train systems, as well as showing mandatory and optional functions.



Key



optional system

mandatory system

1	microphone / loudspeaker for the passenger	10	acknowledgement for the driver
2	visual and acoustic feedback	11	microphone / loudspeaker for the driver
3	communication device interface (e.g. push button)	12	driver / staff / OCC switch
4	communication device function	13	recorder
5	member of staff / authorized person	14	TCMS
6	microphone / loudspeaker of the staff	15	audio / intercom communication
7	acknowledgement button for the staff	16	link with the OCC
8	signal: communication request to the staff	17	other systems
9	driver's cab	18	passengers' area
		19	signal: communication request to the driver
		20	the driver

Figure 1 — Example of communication device general overview

6 Communication device function

6.1 General

For communication devices in urban rail rolling stock, the requirements set out in 6.2 to 6.4 shall apply.

An overview of the event sequence flowchart for the communication device operation is given in the informative Annex A.

In case if:

- the vehicle is being designed only to be operated as a single vehicle (no operation as multiple unit) and;
- a sufficient communication between passenger and an authorized person is technically possible (e.g. by means of an opening / window in the rear wall of the driver's cab);

a communication device as described in this document is optional.

6.2 Requirements

This subclause defines the communication device requirements:

- 1) The communication device shall have no interaction with the brake system;
- 2) The communication device shall not adversely interfere with the operation of the PAS;
- 3) The communication device shall enable the authorized person to talk to the location where a communication device interface has been operated;
- 4) Operation of the communication device interface by a passenger shall:
 - a) initiate a communication request with an authorized person;

NOTE "To initiate a communication" means starting the functionality to open the communication channel.

 - b) generate a signal to activate an alert at the location of the authorized person;
- 5) Local feedback: within a minimum of 1 s after the communication device interface has been operated, there shall be a local visual and audible indication that it has been operated. The local audible feedback shall stop once the communication channel is opened;
- 6) The maximum permitted technical delay between the communication device interface being operated and the alerting of the authorized person shall be 2 s. If the optional link to the OCC is used, the maximum permitted technical delay to trigger the train based subsystem that transmits the information to the OCC shall be 2 s. The same requirements apply to the technical delay in the return communication;
- 7) The communication device shall require an action by the authorized person to open the communication channel between the passenger and the authorized person;
- 8) It is permitted to use acknowledgement to indicate to the passenger that authorized persons are aware of the request before the communication channel is opened;
- 9) It is permitted to use the PAS "staff aware" light to indicate to the passenger that authorized persons are aware of the request before the communication channel is opened;