



SLOVENSKI STANDARD

SIST EN 50486:2008

01-september-2008

Oprema za uporabo v avdio in video sistemih pri vhodih

Equipment for use in audio and video door-entry systems

Einrichtungen für Audio- und Video-Hauskommunikationssysteme

Matériel destiné à être utilisé dans les systèmes de portiers électroniques audio et vidéo

Ta slovenski standard je istoveten z: EN 50486:2008

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97.120	Avtomatske krmilne naprave za dom	Automatic controls for household use

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EUROPEAN STANDARD
NORME EUROPÉENNE
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EN 50486

May 2008

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Equipment for use in audio and video door-entry systems

Matériel destiné à être utilisé
dans les systèmes de portiers
électroniques audio et vidéo

Einrichtungen für Audio- und Video-
Hauskommunikationssysteme

This European Standard was approved by CENELEC on 2008-03-01. CENELEC 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.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

This European Standard was prepared by the Technical Committee CENELEC TC 79, Alarm systems.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50486 on 2008-03-01.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2009-03-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2011-03-01

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1 Scope

This European Standard specifies the requirements for equipment installed in audio and video door-entry systems.

This European Standard is not applicable to security systems, anti-theft, anti-attack devices and CCTV surveillance systems, and access control systems for use in security applications.

This European Standard sets out the following system requirements:

- safety and electromagnetic compatibility (EMC) compliance;
- audio specifications;
- video specifications;
- environmental conditions;
- vandal resistance.

Devices integrated into other systems shall also comply with the requirements of those systems (e.g. telephone system or alarm systems).

2 Normative references

The following referenced documents are indispensable for the application 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 60065	<i>Audio, video and similar electronic apparatus – Safety requirements</i> (IEC 60065)
EN 60068-2-1	<i>Environmental testing – Part 2-1: Tests – Test A: Cold</i> (IEC 60068-2-1)
EN 60068-2-2	<i>Environmental testing – Part 2-2: Tests – Test B: Dry heat</i> (IEC 60068-2-2)
EN 60068-2-30	<i>Environmental testing – Part 2-30: Tests – Test Db: Damp heat, cyclic (12 h + 12 h cycle)</i> (IEC 60068-2-30)
EN 60529	<i>Degrees of protection provided by enclosures (IP Code)</i> (IEC 60529)
EN 60950-1	<i>Information technology equipment – Safety – Part 1: General requirements</i> (IEC 60950-1, mod.)
EN 61000-6-1	<i>Electromagnetic compatibility (EMC) – Part 6-1: Generic standards – Immunity for residential, commercial and light-industrial environments</i> (IEC 61000-6-1)
EN 61000-6-3	<i>Electromagnetic compatibility (EMC) – Part 6-3: Generic standards – Emission standard for residential, commercial and light-industrial environments</i> (IEC 61000-6-3)
EN 62262	<i>Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)</i> (IEC 62262)

3 Terms and definitions

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

3.1 Equipment for audio and video door-entry systems

3.1.1

external audio station

equipment for requesting access through the associated door, containing components to allow audible communication between itself and compatible internal station(s), containing a facility to initiate communication with the internal station(s)

3.1.2

external video station

equipment containing components (e.g. a video camera) to allow visual observation of an area by compatible internal station(s), containing a facility to initiate a video connection with the internal station(s)

3.1.3

external audio/video station

combination of the two components defined in 3.1.1 and 3.1.2

3.1.4

internal audio station

equipment containing components to allow audible communication between itself and compatible station(s), containing a facility to receive and to indicate an incoming call from compatible stations

3.1.5

internal video station

equipment containing components (e.g. a monitor) to allow observation of activity at compatible external video station(s), containing a facility to receive and to indicate an incoming call from compatible stations

3.1.6

internal audio/video station

combination of the two components described in 3.1.4 and 3.1.5

3.1.7

power supply

part of a door entry system that provides power for the system or any part thereof

3.1.8

accessories

ancillary devices connected to audio and video door entry systems, providing extra functionality, e.g. to open a door

3.1.9

anti-vandalism station

equipment with special characteristics to resist physical attack

3.2 Functions

3.2.1

call

signal from one station (source) requesting communication with a remote station (destination)

3.2.2**audio communication**

bi-directional voice communication between two or more compatible stations

3.2.3**video communication**

colour or monochrome video information sent from source station to destination station

3.2.4**another communication**

set of actions made to interchange non audio or video information between two or more suitable stations

3.2.5**door opener command**

signal sent from one station to activate a door release (e.g. an electrical lock)

3.2.6**accessories activation**

signal sent from one station to operate one or more accessories

3.3 Environmental conditions

Components shall be suitable for use in one of the following environmental classes:

3.3.1**environmental class A1 'wide range indoor'**

environmental influences normally experienced indoors when the temperature is not well maintained (e.g. in corridors, halls or staircases and where condensation can occur on windows and in unheated storage areas or warehouses where heating is intermittent)

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3.3.2**environmental class B1 'normal range indoor'**

environmental influences normally experienced indoors when the temperature is well maintained (e.g. in a residential or commercial property)

3.3.3**environmental class A2 'wide range outdoor'**

environmental influences normally experienced out of doors when components are fully exposed to the weather

3.3.4**environmental class B2 'normal range outdoor'**

environmental influences normally experienced out of doors when components are not fully exposed to the weather

3.4 Other definitions**3.4.1****Larsen effect**

acoustic loop between a microphone and a loudspeaker, amplifying the sound of the microphone resulting in a high pitched 'whistle'

4 General specifications

4.1 Safety requirements

Equipment for audio and video door-entry systems shall comply with the requirements of EN 60065 or EN 60950-1.

4.2 EMC requirements

4.2.1 Emission

Equipment for audio and video door-entry systems shall be so constructed that they do not emit excessive electric or electromagnetic disturbances in their environment.

Compliance is checked by the requirements and tests according to EN 61000-6-3.

4.2.2 Immunity

Equipment for audio and video door-entry systems shall be so constructed that they withstand the effects of mains borne perturbations, magnetic disturbances, and electromagnetic disturbances, which may occur in the normal use.

Compliance is checked by the requirements and tests according to EN 61000-6-1.

4.3 Minimum functions

Each device shall provide at least the following functionality described in Table 1.

Table 1 – Minimum functions

	Call	Audio communication	Video communication	Door opener command
External audio station	Initiate	Generate/Receive		
External video station	Initiate		Generate	
External audio/video station	Initiate	Generate/Receive	Generate	
Internal audio station	Receive/Indicate ^a	Generate/Receive		Initiate
Internal video station	Receive/Indicate ^a		Receive	Initiate
Internal audio/video station	Receive/Indicate ^a	Generate/Receive	Receive	Initiate

^a There are no restrictions on the method of call indication except an audible signal shall be present. This function can be temporarily disabled.

Compliance is checked by inspection of the product descriptions and/or installation instructions and by the tests of Clause 7.

5 Audio specifications

5.1 Larsen effect

The design or recommended installation of the system shall be such as to prevent Larsen effects. The compliance shall be tested as described in A.4.

5.2 Frequency response

The difference between the highest and lowest measurement of acoustic pressure level described in A.3.2 should not be greater than 25 dB.

5.3 Acoustic pressure levels in normal condition

5.3.1 Acoustic pressure level value generated by hands-free devices (DML)

The acoustic pressure level value (Lpm/dB) generated by hands-free devices shall be ≥ 65 dB SPL. The level is determined by the test method described in A.3.7. The values are determined by the test method described in A.3.1.

5.3.2 Acoustic pressure level value generated by devices with handset

The acoustic pressure level value generated by handset devices shall be ≥ 77 dB SPL. The level is determined by the test method described in A.3.8. The values are determined by the test method described in A.3.1.

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5.4 Call level

The acoustic call indicator shall guarantee a level of acoustic pressure ≥ 73 dB(A). The values are determined by the method described in A.5.1.

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5.5 Safety acoustic pressure levels

In any operational state, the acoustic pressure level generated by the call indicator shall not exceed 120 dB(A). The test method is described in A.5.2.

6 Video specifications – General requirements

- Sensitivity: 0 lx environmental (see A.6.2 for the test method).
- Minimum resolution:
 - screen size > 4 inches: 200 television lines or the equivalent of 2,5 MHz (see A.6.3 for the test method);
 - screen size ≤ 4 inches: 130 television lines (as defined by the screen manufacturer's specification).
- Grey scale: eight levels of the grey scale (see A.6.4 for the test method).
- Minimum focus distance: 0,3 m (see A.6.5 for the test method).
- Maximum geometric distortion: 20 % (see A.6.6 for the test method).
- Colour (when applicable): all colours on the chart shall be correctly visible (see A.6.7 for the test method).

7 Environmental requirements

These requirements are described in Table 2. These devices shall be suitable for use in one of the following classes: class A1 wide range indoor or class B1 normal range indoor, class A2 wide range outdoor or class B2 normal range outdoor. The compliance shall be checked as described in Table 2.

Table 2 – Environmental requirements

Device under test	Test	Reference	Severities	Duration
Class A1 wide range indoor	Test A: Cold	EN 60068-2-1	Temp. = -5 °C	16 h
	Test B: Dry heat	EN 60068-2-2	Temp. = 40 °C Variant 2	16 h
	Test Db: Damp heat cyclic (12 + 12 h cycle)	EN 60068-2-30	Temp. = 40 °C N° of cycles = 2	2 days
	IP degree	EN 60529	IP30	-
Class B1 normal range indoor	Test A: Cold	EN 60068-2-1	Temp. = 5 °C	16 h
	Test B: Dry heat	EN 60068-2-2	Temp. = 40 °C Variant 2	16 h
	Test Db: Damp heat cyclic (12 + 12 h cycle)	EN 60068-2-30	Temp. = 40 °C N° of cycles = 2	2 days
	IP degree	EN 60529	IP30	-
Class A2 wide range outdoor	Test A: Cold	EN 60068-2-1	Temp. = -25 °C	16 h
	Test B: Dry heat	EN 60068-2-2	Temp. = 55 °C Variant 2	16 h
	Test Db: Damp heat cyclic (12 + 12 h cycle)	EN 60068-2-30	Temp. = 55 °C N° of cycles = 2	2 days
	IP degree	EN 60529	IP44	-
Class B2 normal range outdoor	Test A: Cold	EN 60068-2-1	Temp. = -10 °C	16 h
	Test B: Dry heat	EN 60068-2-2	Temp. = 40 °C Variant 2	16 h
	Test Db: Damp heat cyclic (12 + 12 h cycle)	EN 60068-2-30	Temp. = 40 °C N° of cycles = 2	2 days
	IP degree	EN 60529	IP33	-

Before, during and after the tests, the device(s) shall continue to perform the minimum functions as indicated in Table 1 and operate as specified in the instruction manual.