SLOVENSKI STANDARD
SIST EN 50130-5:2011

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Alarmni sistemi - 5. del: Metode za preskušanje vplivov okolja

Alarm systems - Part 5: Environmental test methods

Alarmanlagen - Teil 5: Methoden für Umweltprüfungen

Systèmes d'alarme - Partie 5: Méthodes d'essai d'environnement

Ta slovenski standard je istoveten z: EN 50130-5:2011

ICS:

13.320	Alarmni in opozorilni sistemi	Alarm and warning systems
19.040	Preskušanje v zvezi z okoljem	Environmental testing

SIST EN 50130-5:2011 **en,fr,de**

EUROPEAN STANDARD

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English version

Alarm systems - Part 5: Environmental test methods

Systèmes d'alarme - Partie 5: Méthodes d'essai d'environnement

Alarmanlagen - Teil 5: Methoden für Umweltprüfungen

This European Standard was approved by CENELEC on 2011-06-13. 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, Croatia, 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

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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 50130-5 on 2011-06-13.

This document supersedes EN 50130-5:1998.

The main changes with respect to EN 50130-5:1998 are listed below:

1) updating of the referenced base standards to the latest editions, this updating has caused changes therefore in the test methods used in several clauses.

2) Clauses 8 and 9 have had changes made to the requirements in class IV limits.

3) Clause 27 was removed.

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)	2012-06-13
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2014-06-13

This European Standard is part of the EN 50130 series of standards. This series is intended to give the requirements applicable to alarm systems in general (e.g. the environmental test methods, in this case, and EMC immunity requirements in the case of EN 50130-4). The following associated series of European standards are intended to give the other requirements (e.g. performance requirements), which are applicable to the specific types of alarm systems:

- EN 50131 Alarm systems – Intrusion and hold-up systems;
- EN 50132 Alarm systems – CCTV surveillance systems for use in security applications;
- EN 50133 Alarm systems – Access control systems for use in security applications;
- EN 50134 Alarm systems – Social alarm systems;
- EN 50136 Alarm systems – Alarm transmission systems and equipment;
- CLC/TS 50398 Alarm systems – Combined and integrated alarm systems – General requirements.

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1 Scope

This European Standard specifies environmental test methods to be used for testing the system components of the following alarm systems, intended for use in and around buildings:

- intruder alarm systems;
- hold-up alarm systems;
- social alarm systems;
- CCTV systems, for security applications;
- access control systems, for security applications;
- alarm transmission systems [1].

This European Standard specifies three equipment classes (fixed, movable & portable equipment) and four environmental classes.

The environmental classes only include the general service environments envisaged for equipment installed in typical residential, commercial and industrial environments. It may be necessary for the product standard to require additional or different environmental tests or severities where

a) there could be specific environmental problems (e.g. some different severities may be required for break glass detectors stuck to glass windows, due to the local extremes of temperature and humidity),

b) the test exposure falls within the intended detection phenomenon of the detector (e.g. during a vibration test on a seismic detector).

In order to provide reproducible test methods and to avoid the proliferation of technically similar test methods, the test procedures have been chosen, where possible, from internationally accepted standards (e.g. IEC publications). For specific guidance on these tests, reference should be made to the appropriate document, which is indicated in the relevant sub-section. For more general guidance and background information on environmental testing, reference should be made to EN 60068-1 and to the EN 60068-3 series.

This European Standard does not specify

a) the requirements or performance criteria to be applied, which should be specified in the relevant product standard,

b) special tests only applicable to a particular device (e.g. the effects of turbulent air draughts on ultrasonic movement detectors),

c) basic safety requirements, such as protection against electrical shocks, unsafe operation, insulation coordination and related dielectric tests,

d) tests relating to deliberate acts of damage or tampering.

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[1] Apart from equipment which is part of a public communication network.

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 60068-1:1994	Environmental testing – Part 1: General and guidance (IEC 60068-1:1988 + corr. Oct. 1988 + A1:1992)
EN 60068-2-1:2007	Environmental testing – Part 2-1: Tests – Test A: Cold (IEC 60068-2-1:2007)
EN 60068-2-2:2007	Environmental testing – Part 2-2: Tests – Test B: Dry heat (IEC 60068-2-2:2007)
EN 60068-2-5:1999	Environmental testing – Part 2-5: Tests – Test Sa: Simulated solar radiation at ground level (IEC 60068-2-5:1975)
EN 60068-2-6:2008	Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal) (IEC 60068-2-6:2007)
EN 60068-2-14:2009	Environmental testing – Part 2-14: Tests – Test N: Change of temperature (IEC 60068-2-14:2009)
EN 60068-2-18:2001	Environmental testing – Part 2-18: Tests – Tests R and guidance: Water (IEC 60068-2-18:2000)
EN 60068-2-27:2009	Environmental testing – Part 2-27: Tests – Test Ea and guidance: Shock (IEC 60068-2-27:2008)
EN 60068-2-30:2005	Environmental testing – Part 2-30: Tests – Test Db: Damp heat, cyclic (12 h + 12 h cycle) (IEC 60068-2-30:2005)
EN 60068-2-31:2008	Environmental testing – Part 2-31: Tests – Test Ec: Rough handling shocks, primarily for equipment-type specimens (IEC 60068-2-31:2008)
EN 60068-2-42:2003	Environmental testing – Part 2-42: Tests – Test Kc: Sulphur dioxide test for contacts and connections (IEC 60068-2-42:2003)
EN 60068-2-52:1996	Environmental testing – Part 2-52: Tests – Test Kb: Salt mist, cyclic (sodium chloride solution) (IEC 60068-2-52:1996)
EN 60068-2-75:1997	Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests (IEC 60068-2-75:1997)
EN 60068-2-78:2001	Environmental testing – Part 2-78: Tests – Test Cab: Damp heat, steady state (IEC 60068-2-78:2001)
EN 60529:1991 + corr. May. 1993 + A1:2000	Degrees of protection provided by enclosures (IP Code) (IEC 60529:1989 + A1:1999)
EN 62262:2002	Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code) (IEC 62262:2002)

3 Terms and definitions

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

3.1
intruder alarm system
alarm system to detect and indicate the presence, entry or attempted entry of an intruder into supervised premises

3.2
hold-up alarm system
alarm system designed to permit the deliberate creation of an alarm condition in the case of a hold-up

3.3
social alarm system
alarm system providing facilities to summon assistance for use by persons, who can be considered to be living at risk

3.4
fixed equipment
equipment fastened to a support or otherwise secured in a specific location, or equipment not provided with a carrying handle and having such a mass that it cannot easily be moved

EXAMPLE An intruder alarm system control panel screwed to the wall.

3.5
movable equipment
equipment which is not fixed equipment and which is not normally in operation while the location is changed

EXAMPLE A local unit or controller for a social alarm system, which is placed on a table top.

3.6
portable equipment
equipment designed to be in operation while being carried

EXAMPLE Access control "smart card" badge, electronic key, social alarm trigger device carried by the user.

3.7
preconditioning
treatment of a specimen, before conditioning, with the object of removing or partly counteracting the effects of its previous history

3.8
conditioning
exposure of a specimen to environmental conditions in order to determine the effect of such conditions on the specimen

3.9
recovery
treatment of a specimen, after conditioning, in order that the properties of the specimen may be stabilised before measurement

4 Environmental classes

This European Standard specifies the tests and severities to be used for each of the following environmental classes:

I **Indoor but restricted to residential/office environment**
(e.g. living rooms and offices)

II **Indoor in general**
(e.g. sales floors, shops, restaurants, stairways, manufacturing and assembly areas, entrances and storage rooms)

III **Outdoor but sheltered from direct rain and sunshine, or indoor with extreme environmental conditions**
(e.g. garages, lofts, barns and loading bays)

IV **Outdoor in general**

Classes I, II, III and IV are progressively more severe, and therefore class IV equipment may be used in class III applications, etc.

A special suffix "A" can be added to classes III & IV, to cater for the especially cold conditions found in the very north of Europe. The environmental classes IIIA & IVA are identical to classes III & IV, respectively, apart from the conditioning temperature in the Cold (operational) and Temperature change (operational) tests. The testing for classes IIIA & IVA shall therefore be conducted as for classes III & IV, respectively, except for these tests, in which the lower conditioning temperature, indicated in the appropriate tables (see 10.3.4 & 11.3.4), shall be used.

5 Standard laboratory conditions

Unless otherwise specified, the atmospheric conditions in the laboratory shall be the standard atmospheric conditions for measurements and tests, specified in EN 60068-1:1994, 5.3.1, as follows:

- temperature: 15 °C to 35 °C;
- relative humidity: 25 % to 75 %;
- air pressure: 86 kPa to 106 kPa.

NOTE If variations in these parameters have a significant effect on a measurement, then such variations should be kept to a minimum during a series of measurements carried out as part of one test on one specimen.

6 Tolerances

Unless otherwise stated, the tolerances for the environmental test parameters shall be as given in the basic reference standards for the test (e.g. the relevant part of the EN 60068-2 series).

7 Information to be included in the relevant product standard

The following information, which is required to conduct the environmental tests, shall be included in the relevant product standard making reference to this standard:

a) the equipment class (fixed, movable or portable - see Clause 3);

b) the mounting arrangements for the specimen;

c) any deviations from the specified test procedure(s) or test severity(ies);

d) any initial measurements or inspections, to be made before the conditioning (e.g. a functional test);

e) the state of the specimen required during the conditioning (e.g. the configuration and operating conditions);

f) any monitoring of the specimen and any measurements or inspections to be made during the conditioning (e.g. a functional test, where possible);

g) any final measurements or inspections to be made after the conditioning (e.g. a functional test and a visual inspection) and any special recovery conditions required before these measurements;

h) the pass/fail criteria;

i) the test schedule, which gives the allocation of specimens to each test.

The following points should be taken into account during the drafting of the product standard making reference to this standard:

- the information, a) to h) above, may differ from test to test or between types of tests (e.g. between Operational & Endurance tests);

- for some types of equipment, it may not be possible to make the usual functional test during the conditioning of some of the tests, due to limitations imposed on the equipment (e.g. being placed inside an environmental chamber). It may therefore be necessary to conduct a reduced functional test or to omit the functional test during conditioning. In other tests, it is not possible to do a functional test during conditioning, due to the transitory or changing nature of the conditioning;

- the product standards should indicate whether any memory back up batteries should remain connected during endurance tests, and if so whether the memory contents should be retained.

8 Dry heat (operational)

8.1 Object of the test

The object of the test is to demonstrate the ability of the equipment to function correctly at high ambient temperatures, which may occur for short periods in the anticipated service environment.

8.2 Principle

The test consists of exposing the specimen to the high temperature for sufficient time to allow temperature stability to be reached, and for functional tests and/or monitoring to be conducted. 'Free air' conditions are simulated for heat dissipating specimens to allow for self heating effects.

8.3 Test procedure

8.3.1 General

The test apparatus and procedure shall generally be as described in EN 60068-2-2:2007.

The tests with gradual changes in temperature shall be used. Test Bd shall be used for heat dissipating specimens (as defined in EN 60068-2-2) and test Bb shall be used for non heat dissipating specimens.

The dry heat operational test may be combined with the dry heat endurance test by omitting the recovery and the functional test in between.