



DRAFT TANZANIA STANDARD

(Draft for comments only)

Alarm systems –

Part 1: Environmental test methods

TANZANIA BUREAU OF STANDARDS

0 National Foreword

This draft Tanzania Standard is being prepared by the Manned Security Systems Technical Committee of the Tanzania Bureau of Standards (TBS), under the supervision of the Electrical Engineering Divisional Standards Committee (EEDC)

This draft Tanzania Standard is an adoption of the International Standard IEC 62599-1:2010 *Alarm systems – Part 1: Environmental test methods*, which has been prepared by the International Electrotechnical Commission (IEC).

Terminology and conventions

Some terminologies and certain conventions are not identical with those used in Tanzania Standards; Attention is drawn especially to the following:

- 1) The comma has been used as a decimal marker for metric dimensions. In Tanzania Standards, it is current practice to use “full point” on the baseline as the decimal marker.
- 2) Where the words “International Standard(s)” appear, referring to this standard they should read “Tanzania Standard(s)”.

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Alarm systems –
Part 1: Environmental test methods**

**Systèmes d'alarme –
Partie 1: Méthodes d'essais d'environnement**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ALARM SYSTEMS –

Part 1: Environmental test methods

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 62599-1 has been prepared by IEC technical committee 79: Alarm and electronic security systems.

This standard is based on EN 50130-5 (1995) and its amendments 1 (1998) and 2 (2003).

The text of this standard is based on the following documents:

FDIS	Report on voting
79/276/FDIS	79/292/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62599 series, under the general title *Alarm systems*, can be found on the IEC website.

The IEC 62599 series currently comprises this Part 1, covering environmental test methods, and Part 2, which deals with EMC immunity requirements.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

The purpose of environmental testing is to demonstrate that the equipment can operate correctly in its service environment and that it will continue to do so for a reasonable time. Alarm system equipment is, however, installed in many very different environments and it would be impractical to test every aspect of the most extreme conceivable environmental conditions.

The tests and severities listed in this part of IEC 62599 are, therefore, intended to provide a practical series of tests to determine the ability of the equipment to withstand the failure mechanisms most likely to be produced by the environment, in which that type of equipment can be expected to be installed (i.e. the normal service environment). This part includes only service environments, which relate to equipment installed in general industrial/commercial premises. Hence it should be noted that, additional precautions may be necessary, in particular installations, where some aspects of the environment can be identified as being unusually severe. A special additional severity has been added to the cold test, to cater for the especially cold conditions found in the very north of Europe.

The tests are intended to demonstrate failures due to realistic service environments. However, some significant failure mechanisms are brought about by changes which occur slowly under these realistic service conditions. In order to make tests in a practical and economic time, it is sometimes necessary to accelerate these changes by intensifying the conditions (e.g. by increasing the level of an environmental parameter or by increasing the time or frequency of its application).

The tests in this standard are therefore divided into two types:

Operational tests

In these tests, the specimen is subjected to test conditions, which correspond to the service environment. The object of these tests is to demonstrate the ability of the equipment to withstand and operate correctly in the normal service environment and/or to demonstrate the equipment's immunity to certain aspects of that environment. The specimen is therefore operational, its condition is monitored and it may be functionally tested during the conditioning for these tests.

Endurance tests

In these tests, the specimen may be subjected to conditions more severe than the normal service environment in order to accelerate the effects of the normal service environment. The object of these tests is to demonstrate the equipment's ability to withstand the long-term effects of the service environment. Since the test is intended to study the residual rather than the immediate effects of test conditioning, the specimen is not normally supplied with power or monitored during the conditioning period.

This standard is intended to act as a source document for environmental tests, which can be referred to in product-specific standards for components of alarm systems which fall within its scope. In order to obtain consistency between these standards, the working groups drafting the product-specific standards should select the tests and severities recommended for the appropriate equipment and environmental classes, unless there are good technical reasons to do otherwise.

ALARM SYSTEMS –

Part 1: Environmental test methods

1 Scope

This part of IEC 62599 specifies environmental test methods to be used for testing the system components of the following alarm systems, intended for use in and around buildings:

- a) access control systems, for security applications;
- b) alarm transmission systems ¹;
- c) CCTV systems, for security applications;
- d) combined and/or integrated systems;
- e) intruder and hold-up alarm systems;
- f) remote receiving and/or surveillance centres;
- g) social alarm systems.

This part specifies three equipment classes (fixed, movable and 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

- 1) 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),
- 2) 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, indicated in the relevant subclauses. For more general guidance and background information on environmental testing reference should be made to IEC 60068-1 and IEC 60068-3.

This standard does not specify

- i) the requirements or performance criteria to be applied, which should be specified in the relevant product standard,
- ii) special tests only applicable to a particular device (e.g. the effects of turbulent air draughts on ultrasonic movement detectors),
- iii) basic safety requirements, such as protection against electrical shocks, unsafe operation, insulation coordination and related dielectric tests,
- iv) tests relating to deliberate acts of damage or tampering.

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.

IEC 60068-1:1988, *Environmental testing – Part 1: General and guidance*

IEC 60068-2-1:2007, *Environmental testing – Part 2-1: Tests – Test A: Cold*

IEC 60068-2-2:2007, *Environmental testing – Part 2-2: Tests – Test B: Dry heat*

IEC 60068-2-5:1975, *Environmental testing – Part 2-5: Tests – Test Sa: Simulated solar radiation at ground level*

IEC 60068-2-6:2007, *Environmental testing – Part 2-6: Tests – Test Fc: Vibration, sinusoidal*

IEC 60068-2-14:2009, *Environmental testing – Part 2-14: Tests – Test N: Change of temperature*

IEC 60068-2-18:2000, *Environmental testing – Part 2-18: Tests – Test R and guidance: Water*

IEC 60068-2-27:2008, *Environmental testing – Part 2-27: Tests – Test Ea and Guidance: Shock*

IEC 60068-2-30:2005, *Environmental testing – Part 2-30 Test Db: Damp heat, cyclic (12 h + 12 h cycle)*

IEC 60068-2-31:2008, *Environmental testing – Part 2-31: Tests – Test Ec: Rough handling shocks, primarily for equipment-type specimens*

IEC 60068-2-42:2003, *Environmental testing – Part 2-42: Tests – Test Kc: Sulphur dioxide test for contacts and connections*

IEC 60068-2-52:1996, *Environmental testing – Part 2-52: Tests – Test Kb: Salt mist, cyclic (sodium chloride solution)*

IEC 60068-2-75:1997, *Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests*

IEC 60068-2-78:2001, *Environmental testing – Part 2-78: Tests – Test Cab: Damp heat, steady state*

IEC 60529:1989, *Degrees of protection provided by enclosures (IP Code)*
Amendment 1 (1999)

IEC 62262:2002, *Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)*

3 Terms, definitions and abbreviations

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