IEC 62642-3

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

Alarm systems – Intrusion and hold-up systems – Part 3: Control and indicating equipment

Systèmes d'alarme – Systèmes d'alarme contre l'intrusion et les hold-up – Partie 3: Equipement de contrôle et de signalisation

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ALARM SYSTEMS – INTRUSION AND HOLD-UP SYSTEMS –

Part 3: Control and indicating equipment

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 62642-3 has been prepared by IEC technical committee 79: Alarm and electronic security systems.

This standard is based on EN 50131-3 (2006).

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

FDIS	Report on voting
79/310/FDIS	79/321/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 of the IEC 62642 series can be found, under the general title *Alarm systems – Intrusion and hold-up systems*, on the IEC website.

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- withdrawn,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

This part 3 of the IEC 62642 series of standards gives requirements for control and indicating equipment used in intrusion and hold-up alarm systems. The other parts of this series of standards are as follows:

Part 1 System requirements
Part 2-2 Intrusion detectors – Passive infrared detectors
Part 2-3 Intrusion detectors – Microwave detectors
Part 2-4 Intrusion detectors – Combined passive infrared / microwave detectors
Part 2-5 Intrusion detectors – Combined passive infrared / ultrasonic detectors
Part 2-6 Intrusion detectors – Opening contacts (magnetic)
Part 2-71 Intrusion detectors – Glass break detectors – Acoustic
Part 2-72 Intrusion detectors – Glass break detectors – Passive
Part 2-73 Intrusion detectors – Glass break detectors – Active
Part 3 Control and indicating equipment
Part 4 Warning devices
Part 5-3 Interconnections – Requirements for equipment using radio frequency techniques
Part 6 Power supplies
Part 7 Application guidelines
Part 8 Security fog devices/systems

In order to insure the consistency of the whole IEC 62642 series, the terminology is defined at one place that is the master document IEC 62642-1 that gives general requirements concerning the intrusion system. Exception is made for specific terms to control and indicating equipment and where repetition is deemed essential for the clarity of this document.

Reference has been included to various implications arising from the detector standards. Full detail of the interconnection requirements could be the subject of a future standard.

A number of requirements are contained in this standard for which a formal test procedure can only be written by defining (and hence restricting) the technology by which the requirement is achieved. Accordingly, it has been recognised that such functions can be tested only by agreement between manufacturer and test house, according to documented information relating to how the required functionality has been achieved.

A table to cross reference IEC 62642-1 requirements against this standard and tests has been included in Annex D.

ALARM SYSTEMS – INTRUSION AND HOLD-UP SYSTEMS –

Part 3: Control and indicating equipment

1 Scope

This part of the IEC 62642 specifies the requirements, performance criteria and testing procedures for control and indicating equipment (CIE) intended for use in intrusion and hold-up alarm systems (I&HAS) installed in buildings. This document also applies to CIE to be used in IAS or HAS.

The CIE may incorporate processing functions of other I&HAS components or its processing requirements may be distributed among such components.

This standard specifies the requirements for CIE installed in buildings using specific or non-specific wired interconnections or wire-free interconnections. These requirements also apply to ancillary control equipment (ACE) that are installed inside or outside of the supervised premises and mounted in indoor or outdoor environments.

Where CIE shares means of detection, interconnection, control, communication, processing and/or power supplies with other applications, these requirements apply to I&HAS functions only.

This standard specifies performance requirements for CIE at each of the four security grades identified in the IEC 62642-1. Requirements are also specified for four environmental classes covering applications for indoor and outdoor locations.

This standard includes mandatory functions, which shall be provided on all CIE for the appropriate security grade, as well as optional functions that may additionally be provided.

NOTE In this standard reference to the term "I&HAS" is used throughout, except where there is specific need to differentiate between the IAS and HAS portions of a system. The term is intended to include IAS and HAS when such systems are installed separately.

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

IEC 60073, *Basic and safety principles for man-machine interface, marking and identification – Coding principles for indicators and actuators*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 62599-1, *Alarm systems – Part 1: Environmental test methods*

IEC 62599-2, *Alarm systems – Part 2: Electromagnetic compatibility – Immunity requirements for components of fire and security alarm systems*

IEC 62642-1:2010, *Alarm systems – Intrusion and hold-up systems – Part 1: System requirements*

IEC 62642-5-3, *Alarm systems – Intrusion and hold-up systems – Part 5-3: Interconnections – Requirements for equipment using radio frequency techniques*

EN 50131-6:2008, *Alarm systems – Intrusion and hold-up systems – Part 6: Power supplies*[1]

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in the IEC 62642-1, as well as the following, apply.

3.1.1
acknowledge
action of a user to accept an indication

3.1.2
alarm point
one or more detector(s) providing a common signal or message, at the CIE or at the ACE for the purpose of indication or processing

3.1.3
alarm signal or message
signal or message generated by an alarm point

3.1.4
biometric key
use of biometric characteristic by an authorized user to gain access to restricted functions or parts of a CIE

EXAMPLE: finger print or iris recognition.

3.1.5
conditioning
exposure of the Equipment Under Test (EUT) to environmental conditions in order to determine the effect of such conditions on the EUT

3.1.6
detector
device designed to generate an alarm signal or message in response to the sensing of an abnormal condition indicating the presence of a hazard

3.1.7
digital key
portable device containing digitally coded information used by an authorized user to gain access to restricted functions or parts of a CIE

EXAMPLE: magnetic card, electronic token or similar.

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1 The transformation of this document as IEC 62642-6 is under preparation.

3.1.8
entry route facility
means to ignore signals or messages from specified detectors during unsetting for a specified time period

3.1.9
entry time
time permitted for unsetting procedure where entry route is used

3.1.10
exit route facility
means to ignore signals or messages from specified detectors during setting for a specified period

3.1.11
external power source
EPS
energy supply external to the I&HAS which may be non-continuous

EXAMPLE: main power supply.

NOTE For Type A and Type B PS only. The EPS is derived as described in EN 50131-6.

3.1.12
fail to set
condition when defined setting procedure has not been completed within a specific time so that I&HAS is left in the "setting mode"

3.1.13
false acceptance rate
FAR
proportion of biometric verification transactions with wrongful claims of identity that are incorrectly accepted

3.1.14

false rejection rate
FRR
proportion of biometric verification transactions with truthful claims of identity that are incorrectly denied

3.1.15
interaction
any deliberate operation or act by the user to control or vary the function of the I&HAS

3.1.16
intrusion
entry into the supervised premises by an unauthorised person(s)

3.1.17
logical key
logical information used by an authorized user to gain access to restricted functions or parts of a CIE

EXAMPLE: PIN code, digital key, biometric key.

3.1.18
mechanical key
implement relying solely on physical shape to determine its uniqueness, used by an authorized user to gain access to restricted functions or parts of a CIE

3.1.19
non-I&HAS interface
device external to the I&HAS used to carry out some or all ACE functions

EXAMPLES: Computer, PDA.

3.1.20
operating mode
set, unset, setting and unsetting are the four operating modes

3.1.21
open by normal means
opening of the equipment housing by the procedure defined by the manufacturer

3.1.22
personal identification number
PIN code
code used by an authorised user to gain access to restricted functions or parts of a CIE (example, numeric or alphanumeric)

3.1.23
soak
an attribute of an alarm point such that signals or messages that normally create notifications are prevented from doing so, but continue to be recorded in the event log

3.1.24
storage device
SD
device which stores energy

EXAMPLE: a battery.

3.1.25
supervised premises transceiver
SPT
equipment at the supervised premises, including the interface to the I&HAS and the interface to the alarm transmission network.

3.1.26
test condition
condition of an alarm system in which the normal functions are modified for test purposes

3.1.27
user input
command generated by a deliberate user action

3.1.28
user input device
device used for user input

EXAMPLES: ACE, physical lock with electrical contacts.

3.2 Abbreviations

For the purposes of this document, the following abbreviations are used.

ACE ancillary control equipment
APS alternative power source
ARC alarm receiving centre
CIE control and indicating equipment
EPS external power source
EUT equipment under test
FAR false acceptance rate
FRR false rejection rate
HAS hold-up alarm system
IAS intrusion alarm system
I&HAS intrusion and hold-up alarm system
PDA personal digital assistant
PIN personal identification number
PS power supply
SD storage device
SPT supervised premises transceiver
WD warning device

4 Equipment attributes

4.1 General

CIE shall include attributes for the reception of signals and/or messages, processing the information, notification and indication as appropriate. The detailed requirements are provided in Clause 8.

NOTE If a function is provided that is optional for a particular grade and a claim of compliance is made, it should meet the applicable requirements for the grade for which compliance is claimed (if any are given). If there are no specifications for the function at the grade in question, the requirements for any higher grade (as identified by the manufacturer) apply.

Compliance with this standard shall be demonstrated by assessment of Clause 4 through to Clause 10 and the application of the tests of Clause 11.

Annex D provides a cross reference between the requirements of IEC 62642-1 and the requirements and tests of this standard.