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Alarmni sistemi - Sistemi za varovanje zunanjih meja - 1. del: Splošne zahteve

Alarm systems - External perimeter security systems - Part 1: System requirements

Alarmanlagen Alarmanlagen - Externe Perimeter Sicherheitsanlagen - Teil 1: Systemanforderungen

Systèmes d'alarme - Systèmes de sécurité de périmètre externes - Partie 1: Exigences système

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Systèmes d'alarme - Systèmes de sécurité de périmètre externes - Partie 1: Exigences système

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Contents

European foreword

This document (CLC/TS 50661-1:2017) has been prepared by CLC/TC 79 “Alarm systems”.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Introduction

This Technical Specification applies to External and Perimeter Security Systems.

This Technical Specification is a specification for External and Perimeter Security Systems (EPSS) to provide detection of intruders in external areas outside enclosed buildings installed in the perimeter outside buildings. It includes four self protection grades, four environmental classes and four performance categories.

At the time of writing there is a desire to develop a series of standards for EPSS. This first version of this technical specification is intended to create a framework to enable development of the other parts of the series. In particular this will include the application guidelines and the detector component standards. It is expected that during the development of these other parts enhancements to the system requirements will be identified.

The purpose of an EPSS is to enhance the security of the supervised premises. To maximize its effectiveness an EPSS should be integrated with appropriate physical security devices and procedures. This is particularly important to higher grade EPSS.

This technical specification is intended to assist insurers, intruder alarm companies, customers, the police and other relevant organisations in achieving a complete and accurate specification of the supervision required in particular premises, but it does not specify the type of technology, the extent or degree of detection, nor does it necessarily cover all of the requirements for a particular installation.

All references to the requirements for EPSS refer to basic minimum requirements and the designers of such installed EPSS should take into account the nature of the premises, the value of the contents, the degree of risk of intrusion, the threat to personnel and any other factors which may influence the choice of grade and performance category of an EPSS.

Recommendations for design, planning, operation, installation and maintenance are given in Application Guidelines CLC/prTS 50661-7 (to be developed).

This technical specification makes allowance for the EPSS designer to vary the design of the system according to whether the site is usually staffed when the EPSS is in use or continuously staffed and whether the staff use an internal monitoring station (see definitions) or response is initiated from an alarm receiving centre.

In the context of this technical specification “external” refers to an area, which is not wholly enclosed inside a building, within which it is desired to detect intruders. The perimeter is typically a physical boundary to a site. In some cases the EPSS may include detection devices outside of the physical boundary (e.g. fence) that are used to provide an early warning of possible intrusion or in combination with perimeter detection devices to verify a likely crossing of the perimeter.

This technical specification is not intended to be used for testing individual EPSS components. Requirements for testing individual EPSS components are given in the relevant component standards (to be developed).

1 Scope

This Technical Specification specifies the requirements for security systems to provide detection of intruders in external areas outside enclosed buildings.

For enclosed buildings EN 50131-1 should be applied. CLC/TS 50661-1 may be used for unenclosed buildings such as roofed storage areas where an intruder and hold-up alarm system is not suitable.

This Technical Specification specifies performance requirements for installed EPSS but does not include requirements for designing, planning, installation, operation or maintenance.

These requirements also apply to EPSS sharing means of detection, interconnection, control, communication and power supplies with other applications.

This Technical Specification references requirements for system components according to the environment where they are expected to operate as designed. These environmental conditions are classified.

This Technical Specification does not deal with requirements for compliance with EC regulatory Directives, such as the RED Directive, EMC Directive, Low Voltage Directive, etc. except that it specifies the equipment operating conditions for EMC susceptibility testing as required by EN 50130-4.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 50130-5, *Alarm systems - Part 5: Environmental test methods*

EN 50131-6, *Alarm systems - Intrusion and hold-up systems - Part 6: Power supplies*

prEN 50398-1:2016, *Alarm systems - Combined and integrated systems - Part 1: General requirements*

EN 50136-1, *Alarm systems - Alarm transmission systems and equipment - Part 1: General requirements for alarm transmission systems*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

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

3.1.1
access level
level of access to particular functions of an EPSS

3.1.2
actuator
component (e.g. motor, solenoid) of the EPSS or associated system that causes a change to a mechanism (e.g. movement, rotation, release of a lock) in response to a control signal or message from the EPSS

3.1.3
alarm
warning of the presence of a hazard to life, property or the environment

3.1.4
alarm condition
condition of an EPSS, or part thereof, which results from the response of the system to the presence of a hazard

3.1.5
alarm level
alarm level gives an indication for the procedural response by the user weighting the event based factors with the protection level

Note 1 to entry: This Technical Specification doesn't specify the procedural response but users should assign an alarm level for each necessary response.

Note 2 to entry: The assigned response may be different for each zone or layer of the EPSS.

3.1.6
alarm receiving centre
continuously manned centre to which information concerning the status of one or more EPSS is reported

3.1.7
alarm system
electrical installation which responds to the manual or automatic detection of the presence of a hazard

3.1.8
alarm transmission path
route an ATS alarm message travels between an individual EPSS and the annunciation equipment at its associated ARC

3.1.9
alarm transmission system
equipment and network used to transfer information from one or more EPSS to one or more alarm receiving centres

Note 1 to entry: Alarm transmission systems exclude local direct connections, i.e. interconnections between parts of an EPSS which do not require an interface to transform the EPSS information into a form suitable for transmission.

3.1.10
alert indication
audible and/or visual indication, available at access level 1 indicating that further indication(s) are available to users at access levels 2A, 2B, 3 or 4

3.1.11
alternative power source
power source capable of powering the EPSS for a predetermined time when a prime power source is unavailable

3.1.12
ancillary control equipment
equipment used for supplementary control purposes

3.1.13
area
independently controlled part of the EPSS (e.g. group of zones, detection points)

3.1.14
authorisation
permission to gain access to the various control functions of an EPSS

3.1.15
authorisation codes
mechanical or logical keys which permit access to EPSS functions

3.1.16
availability of interconnection
condition when an interconnection is capable of conveying a signal or message

3.1.17
controller
equipment that process EPSS information based on predefined rules (e.g. algorithm)

3.1.18
data storage
memory of event data and system configuration settings

3.1.19
demoting
action of either downgrade protection level or unset

decrease of the protection level of all or part of an EPSS

Note 1 to entry demoting may be achieved by changing the status from set to unset.

3.1.20
detection point
smallest monitored element in an EPSS provided by a detector. A detection point has a defined location such as a volume or section of perimeter

3.1.21
detector
device designed to generate an event in response to the sensing of predefined condition (e.g. presence of a person)

Note 1 to entry: A detector can provide a number of detection points.

3.1.22
detection point

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Note 1 to entry A detector can provide a number of detection points.

3.1.23
disqualification
fault status due to environmental conditions (e.g. fog for infrared curtains)“ was added

3.1.24
dynamic tracking function
ability to identify and visualize the location and direction of a person/object continuously

3.1.25
entry/exit route
route by which authorised entry or exit to the supervised premises or part thereof may be achieved

3.1.26
event
condition arising from the operation of an EPSS e.g. promoting/demoting or the functioning of an EPSS, e.g. alarm signal or message

3.1.27
event recording
storage of events arising from the operation e.g. promoting or demoting of an EPSS or the functioning of an EPSS for future analysis

3.1.28
fault condition
condition of an alarm system which prevents an EPSS or parts thereof from functioning normally

3.1.29
false alarm
triggered alarm caused by unidentified condition (e.g. technical interference)

3.1.30
fault signal/message
information generated due to the presence of a fault

3.1.31
indication
information (in audible, visual or any other form) provided to assist the user in the operation of an EPSS

3.1.32
inhibit
status of a part of an EPSS in which an alarm condition cannot be notified, such status remaining until the EPSS or part thereof passes from the set to the unset status

3.1.33
interconnection
means by which messages and/or signals are communicated between EPSS components

3.1.34
internal elements
parts of EPSS components located inside the housing of the component (whether or not the component is located inside or outside a building)

3.1.35
internal monitoring station
staffed facility under the responsibility of the user (e.g. control room)

3.1.36
isolation
status of a part of an alarm system in which an alarm condition cannot be notified, such status remaining until deliberately cancelled

3.1.37
layer
detection point or aggregation of detection points (see 5.4)

Note 1 to entry: Typically an intruder is expected to pass several layers.

Note 2 to entry: The following layers might exist:

layer 0: outside the perimeter

layer 1: perimeter line (fence)

layer 2: space inside the perimeter excluding the building and layer 3

layer 3: proximity of a building

3.1.38
logical key
information used by an authorized user to gain access to restricted functions or parts of a CIE

EXAMPLE: PIN code, magnetic card or similar, biometric key.

3.1.39
masked
condition whereby a detector cannot function as intended e.g. the field of view of a movement detector is blocked or the detector mechanism of a detector is compromised

Note 1 to entry: For the purpose of this standard the terms “masked” and “masking” are considered interchangeable.

3.1.40
message
series of signals routed via interconnections which include identification, function data and the various means for providing its own integrity, immunity and proper reception

3.1.41
metadata
additional data generated and transferred in conjunction with an event (e.g. location, direction of / size of event of the event source). Purpose of the metadata is to provide information in order to evaluate the event severity

Note 1 to entry This data could be part of the installation parametrizing.

3.1.42
normal condition
state of all or part of an EPSS where no fault, tamper or alarm conditions exist

3.1.43
notification
audible, visual or any other form of information requiring response following an event detected by the EPSS (e.g. by warning device, by alarm transmission systems)

3.1.44
nuisance alarm
triggered alarm due to identified condition e.g. environmental condition

3.1.45
operator
authorised individual (a user) using an EPSS for its intended purpose

3.1.46
override
intervention, by a user, to permit setting when an EPSS is not in a normal condition

3.1.47
power supply
part of an alarm system which provides power for an EPSS or any part thereof

3.1.48
prime power source
power source used to support an EPSS under normal working conditions

3.1.49
promoting
increase of the protection level of all or part of an EPSS

Note 1 to entry promoting may be achieved by changing the status from unset to set.