SLOVENSKI STANDARD
SIST-TS CLC/TS 50398:2009

01-oktober-2009

Nadomeġļa:
SIST-TS CLC/TS 50398:2003

Alarmni sistemi - Kombinirani in integrirani alarmni sistemi - Splošne zahteve

Alarm systems - Combined and integrated alarm systems - General requirements

Alarmanlagen - Kombinierte und integrierte Alarmanlagen - Allgemeine Anforderungen

Systèmes d'alarme - Systèmes d'alarme combinés et intégrés - Règles générales

Ta slovenski standard je istoveten z: **CLC/TS 50398:2009**

ICS:

13.320 Alarmni in opozorilni sistemi Alarm and warning systems

SIST-TS CLC/TS 50398:2009 **en**

TECHNICAL SPECIFICATION

SPÉCIFICATION TECHNIQUE

TECHNISCHE SPEZIFIKATION

CLC/TS 50398

February 2009

ICS 13.320

Supersedes CLC/TS 50398:2002

English version

Alarm systems - Combined and integrated alarm systems - General requirements

Systèmes d'alarme - Systèmes d'alarme combinés et intégrés - Règles générales

Alarmanlagen - Kombinierte und integrierte Alarmanlagen - Allgemeine Anforderungen

This Technical Specification was approved by CENELEC on 2008-11-14.

CENELEC members are required to announce the existence of this TS in the same way as for an EN and to make the TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force.

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CENELEC

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

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Ref. No. CLC/TS 50398:2009 E

Foreword

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

The text of the draft was circulated for voting in accordance with the CEN/CENELEC Internal Regulations, Part 2, Subclause 11.3.3.3 and was approved by CENELEC as CLC/TS 50398 on 2008-11-14.

This Technical Specification supersedes CLC/TS 50398:2002.

The following date was fixed:

– latest date by which the existence of the CLC/TS has to be announced at national level (doa) 2009-05-14

Contents

Introduction

This Technical Specification describes the general requirements and configuration types for combined and integrated alarm systems which shall apply when one or more of the applications being integrated is an alarm application. In this document, the wording 'combined and integrated alarm system' is synonymous with 'integrated alarm system', which will mostly be used in the document.

The prime considerations of this Technical Specification are to ensure that the individual alarm standards, requirements or guidelines are applied when they form a part of an integrated system solution with each other or with other (specified or unspecified) applications.

This document provides additional information relating to initial system design, planning, installation, commissioning, operation and maintenance for such combined and integrated alarm systems.

1 Scope

This Technical Specification specifies the requirements for alarm systems combined and integrated with other systems which may or may not be alarm systems.

This Technical Specification defines requirements, related to integration, in order to complement the individual alarm application standards and to provide clarification where there is conflict.

Alarm transmission systems are excluded from the scope of this Technical Specification.

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 54 series, *Fire detection and fire alarm systems*

EN 50130 series, *Alarm systems*

EN 50131 series, *Alarm systems – Intrusion and hold-up systems*

EN 50132 series, *Alarm systems – CCTV surveillance systems for use in security applications*

EN 50133 series, *Alarm systems – Access control systems for use in security applications*

EN 50134 series, *Alarm systems – Social alarm systems*

EN 50136 series, *Alarm systems – Alarm transmission systems and equipment*

EN 60073:2002, *Basic and safety principles for man-machine interface, marking and identification – Coding principles for indicators and actuators* (IEC 60073:2002)

3 Definitions

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

3.1
additional facility
facility which is not standard-required by any of the applications of the integrated alarm system

3.2
alarm
warning of the presence of a hazard to life, property or the environment

3.3
alarm application
application intended for the protection of life, property or the environment, such as

– intrusion and hold-up alarm system,
– social alarm system,
– lift alarm system
– environmental alarm system,
– closed circuit television used for security and surveillance,
– access control system,
– fire detection, fire alarm and fire protection systems

NOTE 1 This list may be extended, to follow the scope of CLC/TC 79 and CEN/TC 72.

NOTE 2 Examples of an environmental alarm may include a warning of toxic effluent leaking or a storage tank about to overflow.

3.4
alarm receiving centre
continuously manned centre to which information concerning the status of one or more alarm systems is reported

3.5
alarm company
organization which provides services for alarm systems

3.6
alarm condition
condition of an alarm system, or part thereof, which results from the response of the system to the presence of a hazard

3.7
alarm system
electrical installation which responds to the manual or automatic detection of the presence of a hazard

3.8
alarm transmission equipment
equipment which is used primarily for the transmission of alarms from the alarm system interface at the supervised premises to the annunciation equipment interface at the alarm receiving centre. It may also transmit information or commands from the alarm receiving centre to one or more alarm systems

NOTE This does not include equipment provided by a PTT (Public and Private Telephone Transmission) or other general telecommunications equipment (for example modems) where these are used primarily for alarm transmission.

3.9
alarm transmission system
equipment and network used to transfer information concerned with the state of one or more alarm systems to one or more alarm receiving centres

3.10
application
all related facilities used for a specific purpose

NOTE Such as the detection and warning in the event of fire, lighting control, etc.

3.11
application standard
standard relevant to a specific application

3.12
central control facility – CCF
equipment used for control and/or indicating purposes in type 1 configuration, which is connected to one or more dedicated systems and which is normally manned by operating personnel

NOTE For example a computer at a supervised location. The CCF is an additional facility (and not the standard-required control and indicating equipment) for at least one of the applications.

3.13
command signal
instruction or command that affects one or more systems

3.14
common device
device which is shared by two or more applications

3.15
common facility
facility which is shared by two or more applications

NOTE A common facility may be additional for two or more applications, it may be standard-required for two or more applications or it may be additional for one or more applications and standard-required for other applications.

3.16
common transmission path
transmission path used by two or more applications

3.17
dedicated device
device used by a single application

3.18
dedicated system
system used for a single application

3.19
dedicated transmission path
transmission path used solely within one application

3.20
facility
hardware or software which enable a system to fulfil one or more functions

NOTE For example a transmission path, a processing element, displays.

3.21
fault condition
condition of a system which prevents a system or part thereof from functioning as designed

3.22
fault signal
message generated due to the presence of a fault condition

3.23
integrated alarm system
system having one or more common facilities with at least one being an alarm application

NOTE 1 The alarm transmission system is not considered as a part of an integrated alarm system.

NOTE 2 Dedicated systems only connected via a unidirectional output device without any data communications, for example relay, are not considered as being part of integrated alarm systems.

3.24
integrity
ability of an application to function as designed including the measure of immunity from influences which could affect correct operation

3.25
log book
record book or its electronic equivalent into which all relevant details of the system, its performance and its maintenance can be entered in a relatively secure manner for later retrieval by authorised organizations

3.26
non-alarm application
application intended to provide control and not intended primarily for the protection of life, property or the environment

NOTE For example: heating and ventilating; energy management; building management; lighting.

3.27
processing element
facility to perform mathematical or logical operations on data according to programmed instructions in order to obtain the required functions

3.28
standard-required facility
facility necessary to fulfil a requirement of an application standard

NOTE A standard-required facility may be shared by two or more applications. In this case this facility may be a standard-required facility for one application but additional for another application.

3.29
tamper condition
condition of an alarm system in which tampering has been detected

3.30
transmission path
communication route used to convey information within the integrated alarm system

4 General description and fundamental principles

4.1 General

Three configurations or types of integrated alarm systems are specified.

- Type 1 is applicable for the combination and integration of dedicated alarm systems and dedicated non-alarm systems.
- Type 2A is applicable for the combination and integration of alarm systems and non-alarm systems using common transmissions paths, common devices and common facilities. A single fault in any one application has no adverse affect on any another alarm application. To achieve this redundancy is needed.
- Type 2B is applicable for the combination and integration of alarm systems and non alarm systems using common transmissions paths, common devices and common facilities. A single fault in one application may have an adverse affect on other alarm applications.

4.2 Standards

For integrated alarm systems the standards relevant to each application shall apply.

Common facilities shall comply with all application standards for which they are standard-required. The most severe integrity requirement of each of the standards shall apply.

The common facilities not covered by the application standards shall meet the requirements of this Technical Specification.

Dedicated facilities shall comply with the relevant application standards.

4.3 Configuration types of integrated alarm systems

4.3.1 Type 1

A type 1 configuration is a combination of two or more dedicated systems. These dedicated systems are connected to common additional facilities, for example interconnected via additional transmission paths.

In a type 1 configuration the standard-required facilities in an alarm application, in any condition, shall not be adversely affected by any other dedicated system or any additional facilities in any operating condition.

Examples of such configurations are given in Figures 1, 2 and 3.

NOTE In the examples given in this clause, the dotted lines indicate those parts of each application, which comply with their application standard, if they exist.

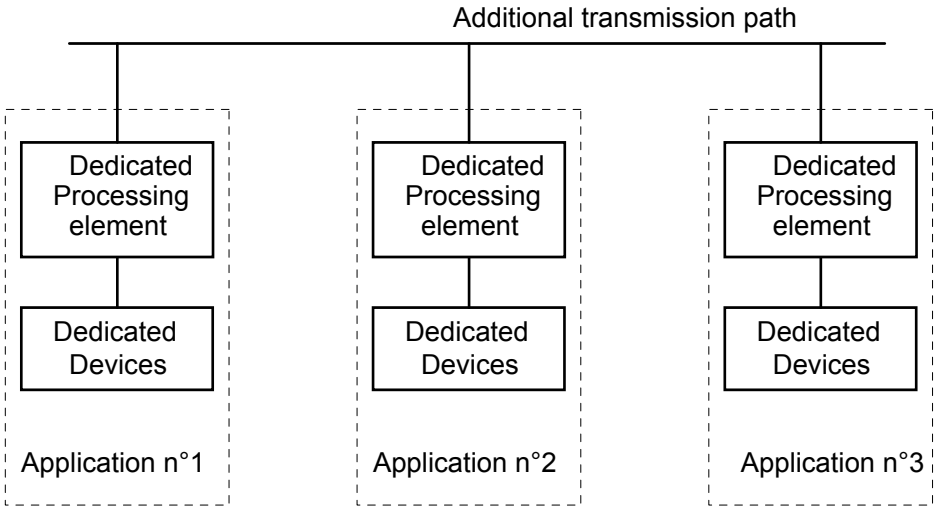

Figure 1 – First example of type 1 configuration

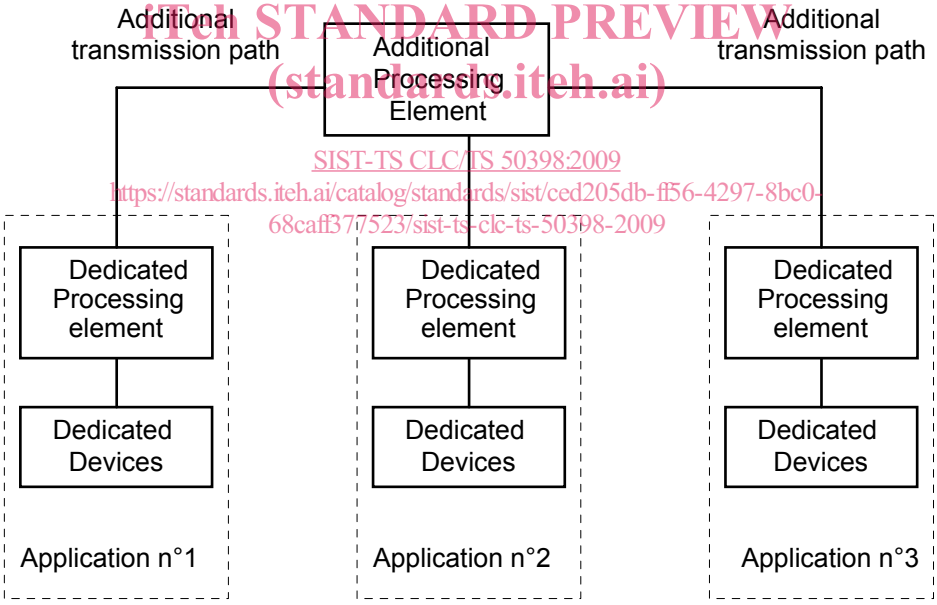

Figure 2 – Second example of type 1 configuration
Class 1 CCF