

© Copyright SEK. Reproduction in any form without permission is prohibited.

Larmsystem – Inbrotts- och överfallslarm – Del 3: Centralapparater

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

Som svensk standard gäller europastandarden EN 50131-3:2009. Den svenska standarden innehåller den officiella engelska språkversionen av EN 50131-3:2009.

Nationellt förord

Tidigare fastställd svensk standard SS 447 06 13-3, utgåva 1, 2004, gäller ej fr o m 2012-02-01.

Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a säkerhet, prestanda, dokumentation, utförande och skötsel av elprodukter, elanläggningar och metoder. Genom att utforma sådana standarder blir säkerhetskraven tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

SEK är Sveriges röst i standardiseringsarbetet inom elområdet

SEK Svensk Elstandard svarar för standardiseringen inom elområdet i Sverige och samordnar svensk medverkan i internationell och europeisk standardisering. SEK är en ideell organisation med frivilligt deltagande från svenska myndigheter, företag och organisationer som vill medverka till och påverka utformningen av tekniska regler inom elektrotekniken.

SEK samordnar svenska intressenters medverkan i SEKs tekniska kommittéer och stödjer svenska experters medverkan i internationella och europeiska projekt.

Stora delar av arbetet sker internationellt

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

Standardiseringsarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

Var med och påverka!

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

SEK Svensk Elstandard

Box 1284
164 29 Kista
Tel 08-444 14 00
www.elstandard.se

English version

**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

Alarmanlagen -
Einbruch- und Überfallmeldeanlagen -
Teil 3: Melderzentrale

This European Standard was approved by CENELEC on 2009-02-01. 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, 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

Central Secretariat: avenue Marnix 17, B - 1000 Brussels

Foreword

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

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 50131-3 on 2009-02-01.

This European Standard supersedes CLC/TS 50131-3:2003.

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) 2010-02-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2012-02-01

EN 50131 will consist of the following parts, under the general title *“Alarm systems – Intrusion and hold-up systems”*:

Part 1	System requirements
Part 2-2	Intrusion detectors - Passive infrared detectors
Part 2-3	Requirements for microwave detectors
Part 2-4	Requirements for combined passive infrared and microwave detectors
Part 2-5	Requirements for combined passive infrared and ultrasonic detectors
Part 2-6	Opening contacts (magnetic)
Part 2-7-1	Intrusion detectors – Glass break detectors (acoustic)
Part 2-7-2	Intrusion detectors – Glass break detectors (passive)
Part 2-7-3	Intrusion detectors – Glass break detectors (active)
Part 3	Control and indicating equipment
Part 4	Warning devices
Part 5-3	Requirements for interconnections equipment using radio frequency techniques
Part 6	Power supplies
Part 7	Application guidelines
Part 8	Security fog device/systems

Introduction

This document is based on the revision of the Technical Specification originally edited by the CENELEC TC 79/WG 3, then submitted to the formal vote and finally approved by CENELEC as CLC/TS 50131-3 on 2003-05-19.

The work done by WG 3 is the result of the comments raised by the National Committees, members of CENELEC and of harmonisation with EN 50131-1:2006 + A1:2009 prepared by TC 79/WG 1; for this reason the reader has to take into account EN 50131-1:2006 + A1:2009, which has to be considered as a “master” document for this EN 50131-3.

Repetition of definitions and requirements contained in EN 50131-1 have been eliminated from this EN 50131-3, in order to minimise conflict in the event of changes to EN 50131-1, except 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 EN 50131-1 requirements against this EN 50131-3 and tests has been included in Annex D.

Contents

Introduction	3
1 Scope	6
2 Normative references	7
3 Definitions and abbreviations	7
3.1 Definitions	7
3.2 Abbreviations	10
4 Equipment attributes	10
4.1 General	10
4.2 Functionality	11
5 CIE construction	11
6 Security grade	11
7 Environmental performance	11
7.1 Requirements	11
7.2 Environmental and EMC tests	11
8 Functional requirements	12
8.1 Inputs	12
8.2 Outputs	13
8.3 Operation	13
8.4 Processing	18
8.5 Indication	19
8.6 Notification outputs	20
8.7 Tamper security (detection/protection)	21
8.8 Interconnections	23
8.9 Timing	24
8.10 Event recording	24
8.11 Power supply	25
9 Product documentation	25
9.1 Installation and maintenance	25
9.2 Operating instructions	26
10 Marking and labelling	26
11 Tests	26
11.1 Test conditions	27
11.2 Test procedures	28
11.3 Reduced functional test	28
11.4 Functional tests	29
11.5 Access level	40
11.6 Authorization requirements	41
11.7 Operational tests	46
11.8 Tamper security tests	56
11.9 Substitution tests	59
11.10 Testing of I&HAS timing performance	59
11.11 Testing for interconnections	60
11.12 Event log	61
11.13 Marking and documentation	62
11.14 Environmental and EMC tests	63
Annex A (informative) Interconnection types	65
Annex B (informative) Summary of timing requirements	67
Annex C (normative) Use of non-I&HAS interface	68

Annex D (informative) Summary of function cross references.....69

Figures

Figure A.1 – Specific wired interconnections	65
Figure A.2 – Non-specific wired interconnections	65
Figure A.3 – Wire-free interconnections	66

Tables

Table 1 – Recognition of additional fault conditions	12
Table 2 – Recognition of biometric keys	15
Table 3 – Time intervals for methods of authorization used in combination	15
Table 4 – Detection of repeated invalid authorization attempts	16
Table 5 – Monitoring of processing	19
Table 6 – Indications supplementary to those of EN 50131-1	20
Table 7 – Tamper protection	22
Table 8 – Tamper detection.....	22
Table 9 – Tool dimension for tamper detection	23
Table 10 – Removal from mounting	23
Table 11 – Additional events to be included in event log	24
Table 12 – Reduced functional test.....	29
Table 13 – Tests of the processing of intruder signals or messages.....	30
Table 14 – Tests of the processing of hold-up signals or messages	32
Table 15 – Tests of the processing of tamper signal or messages.....	33
Table 16 – Test of processing of fault signals or messages	35
Table 17 – Test of processing of masking signals or messages.....	37
Table 18 – Test of processing of reduction of range signals or messages	38
Table 19 – Test of CIE processing in the presence of non-I&HAS inputs	40
Table 20 – Test of the access to the functions and controls	41
Table 21 – Test for disabling user input device by invalid keys	45
Table 22 – Test for generation of tamper by invalid keys	46
Table 23 – Test of setting procedure.....	47
Table 24 – Test of prevention of setting and overriding of prevention of setting procedure	48
Table 25 – Test for unsetting procedure	50
Table 26 – Test of setting and/or unsetting automatically at pre-determined times.....	52
Table 27 – Inhibit and isolate functions	53
Table 28 – Verification of test functions	54
Table 29 – Test of CIE process monitoring	55
Table 30 – Test of availability of indications.....	56
Table 31 – Test of event log	62
Table 32 – Environmental and EMC tests.....	64
Table B.1 – Timing table.....	67
Table C.1 – Conditions for use of non-I&HAS interface for control and indicating purposes	68
Table D.1 – Cross references.....	69
Bibliography.....	73

1 Scope

This standard 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 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 European Standard EN 50131-1, *“Alarm Systems – Intrusion and hold-up systems – System requirements”*. 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.

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

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.