



**SLOVENSKI STANDARD**  
**SIST-TS CLC/TS 50131-9:2014**  
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**Alarmni sistemi - Sistemi za vpad v klic in zadržanje klica - 9. del: Preverjanje alarmov - Metode in načela**

Alarm systems – Intrusion and hold up systems - Part 9: Alarm verification - Methods and principles

Alarmanlagen - Einbruch- und Überfallmeldeanlagen - Teil 9: Alarmvorprüfung - Verfahren und Grundsätze

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13.320	Alarmni in opozorilni sistemi	Alarm and warning systems

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**CLC/TS 50131-9**

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English Version

## Alarm systems - Intrusion and hold-up systems - Part 9: Alarm verification - Methods and principles

Systèmes d'alarme - Systèmes d'alarme contre l'intrusion et les hold-up - Partie 9: Vérification d'alarme - Méthodes et principes

Alarmanlagen - Einbruch- und Überfallmeldeanlagen - Teil 9: Alarmvorprüfung - Verfahren und Grundsätze

This Technical Specification was approved by CENELEC on 2014-04-11.

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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

**Contents**

page

<b>Foreword</b> .....	<b>4</b>
<b>Introduction</b> .....	<b>- 5 -</b>
<b>1 Scope</b> .....	<b>- 6 -</b>
<b>2 Normative references</b> .....	<b>- 6 -</b>
<b>3 Terms, definitions and abbreviations</b> .....	<b>- 6 -</b>
3.1 Terms and definitions .....	- 6 -
3.2 Abbreviations .....	- 9 -
<b>4 Overview</b> .....	<b>- 9 -</b>
<b>5 Parameter variation</b> .....	<b>- 10 -</b>
<b>6 General recommendations for I&amp;HAS incorporating alarm verification</b> .....	<b>- 10 -</b>
6.1 General .....	- 10 -
6.2 Setting and unsetting .....	- 10 -
6.3 Indications .....	- 10 -
6.4 Processing and Notification .....	- 10 -
6.5 Event recording .....	- 11 -
6.6 Restore .....	- 12 -
6.7 Documentation .....	- 12 -
6.8 Hold-up alarms .....	- 12 -
<b>7 Sequential verification of intruder alarms</b> .....	<b>- 12 -</b>
7.1 General .....	- 12 -
7.2 Recommendations for system requirements .....	- 13 -
7.3 Installation guidelines .....	- 14 -
7.4 ARC responses .....	- 15 -
<b>8 Sequential verification of hold-up alarms</b> .....	<b>- 15 -</b>
8.1 Recommendations for system requirements .....	- 15 -
8.2 Installation guidelines .....	- 15 -
8.3 ARC responses .....	- 15 -
<b>9 Audible alarm verification</b> .....	<b>- 16 -</b>
9.1 System design factors .....	- 16 -
9.2 Installation guidelines .....	- 16 -
9.3 ARC responses .....	- 17 -
<b>10 Visual alarm verification</b> .....	<b>- 17 -</b>
10.1 System design factors .....	- 17 -
10.2 Installation guidelines .....	- 17 -
10.3 ARC responses .....	- 17 -
<b>11 ATS faults</b> .....	<b>- 18 -</b>
11.1 System design factors .....	- 18 -
11.2 Installation guidelines .....	- 18 -
11.3 ARC responses .....	- 18 -
<b>Annex A (informative) Equipment specifications</b> .....	<b>- 19 -</b>
A.1 General .....	- 19 -
A.2 Control and indicating equipment .....	- 19 -
A.3 Multi-output combined detectors .....	- 20 -
A.4 Multi-action hold-up device .....	- 20 -
A.5 Audible alarm verification equipment .....	- 21 -
A.6 Visual alarm verification equipment .....	- 22 -
<b>Annex B (informative) Equipment test procedures</b> .....	<b>- 24 -</b>
B.1 CIE .....	- 24 -
B.2 Multi-output combined detectors .....	- 26 -
B.3 Audible alarm verification equipment .....	- 26 -
B.4 Visual alarm verification equipment .....	- 27 -
<b>Bibliography</b> .....	<b>- 28 -</b>

**Figures and Tables**

Figure 1 – Time line of completed sequentially verified alarm sequence .....	- 12 -
Figure 2 – Time line of unverified alarm sequence .....	- 13 -
Table 1 – Types of alarm permitted to contribute to a sequentially verified intruder alarm .....	- 13 -
Table A.1 – Tamper protection, tamper detection and environmental recommendations for audible alarm verification equipment.....	- 22 -
Table A.2 – Tamper protection, tamper detection and environmental recommendations for visual alarm verification equipment.....	- 23 -
Table B.1 – CIE tests for alarm verification functions ( <i>1 of 3</i> ) .....	- 24 -

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## Foreword

This document (CLC/TS 50131-9:2014) has been prepared by CLC/TC 79 "Alarm systems".

EN 50131 (all parts) 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 (acoustics)
- Part 2-7-2 Intrusion detectors – Glass break detectors (passive)
- Part 2-7-3 Intrusion detectors – Glass break detectors (active)
- Part 2-8 Intrusion detectors – Shock detectors
- Part 2-9 <sup>1)</sup> Intrusion detectors – Active infrared detectors
- Part 3 Control and indicating equipment
- Part 4 Warning devices
- Part 5-1 <sup>1)</sup> Requirements for wired interconnection for I&HAS equipments located in supervised premises
- Part 5-3 Requirements for interconnections equipment using radio frequency techniques
- Part 5-4 System compatibility testing for I&HAS equipments located in supervised premises
- Part 6 Power supplies
- Part 7 Application guidelines
- Part 8 Security fog device/systems
- Part 9 Alarm verification – Methods and principles
- Part 10 Application specific requirements for Supervised Premises Transceiver (SPT)

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

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<sup>1)</sup> At draft stage.

## Introduction

Unwanted alarms have been a significant problem for response authorities throughout Europe. Alarm verification (also known as “Confirmation”) is one means developed to reduce this problem.

Development of alarm verification technologies has been carried out nationally on an “as needed” basis, resulting in different methods and practices being used – thus negating the benefits of having common European Standards for Intrusion and Hold-up Alarm Systems (I&HAS) and associated components.

This specification provides a basis for use of the technology that could be applied to verification of intruder and hold-up alarms such that countries that wish to do so could introduce alarm verification measures in a way that will permit later standardisation across Europe.

It provides a framework with limited options for the design, manufacture and testing of equipment (especially CIE) whilst enabling a multiplicity of implementations, thus removing the restrictions to trade imposed by the use of conflicting national recommendations.

The framework includes all methods in current use. Newly developed methods could be added to this specification, or its principles used to derive guidance for the implementation of such methods.

Alarm verification technology does not supersede the need for best practice in the design and installation of such systems, but supplements the requirements of EN 50131-1 in order to increase the probability that an alarm notified to an ARC by an Intrusion and Hold-up Alarm System may be considered to be genuine.

This European Technical Specification contains recommendations affecting a number of standards and application guidelines for both systems and products. There are a number of reasons for this:

- to group all relevant recommendations in a single document to simplify reference by those wishing to introduce an implementation of alarm verification;
- to allow alarm verification to be tested before review and eventual incorporation into European Standards;
- to recommend the additional product requirements necessary to provide the additional functionality for an installed I&HAS to meet these recommendations (see Annex A), pending incorporation of these recommendations into EN 50131 (or other) product standards;
- it should also be noted that some aspects of alarm verification do not have a related standard (e.g. audible and visual methods and related equipment).

Methods of reducing unwanted alarms specific to entry and exit procedures will be detailed in a future standard.

## 1 Scope

This European Technical Specification is available for use where alarm verification methods are considered necessary. It provides recommendations for the addition and use of alarm verification technology in Intrusion and Hold-up Alarm Systems (I&HAS) installed to comply with EN 50131-1.

These recommendations should be incorporated into the respective standards in the EN 5013x series.

This Technical Specification does not detail methods of alarm verification relying solely on Alarm Receiving Centre (ARC) procedures, but does not preclude their use.

This Technical Specification describes alarm verification methods that could be applied and details applicable to system and equipment design. The framework limits the range of options in order to provide for local regulations and circumstances, whilst permitting a standardised approach to equipment design.

This Technical Specification also provides (in Annex A) recommendations for equipment in order to permit the manufacture of standardised equipment to provide the functionality needed by an I&HAS incorporating alarm verification technology.

The associated guidelines for use in ARCs to monitor notification from such I&HAS can be found in EN 50518-3.

NOTE Alarm verification may also be referred to as “alarm confirmation”.

## 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 50131-1:2006, *Alarm systems — Intrusion and hold-up systems — Part 1: System requirements*

CLC/TS 50131-7:2010, *Alarm systems — Intrusion and hold-up systems — Part 7: Application guidelines*

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

EN 50518-3:2013, *Monitoring and alarm receiving centre — Part 3: Procedures and requirements for operation*

## 3 Terms, definitions and abbreviations

### 3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 50131-1:2006 and the following apply.

#### 3.1.1

##### **abort signal or message**

signal or message from an I&HAS identifiable at with the ARC to indicate that an authorised user has performed an action on the I&HAS to report that the previously notified alarm should be cancelled

#### 3.1.2

##### **alarm verification**

process to provide information additional to a notified alarm, which increases the probability that the alarm should be considered genuine

[SOURCE: EN 50518-3:2013]



**3.1.3****audible alarm verification**

verification of an intruder or hold-up alarm by sound received from the supervised premises

**3.1.4****audio listening device**

device converting sound waves into electrical energy suitable for transmission from the supervised premises

EXAMPLE Microphone

Note 1 to entry: This device may be integrated into its associated detector.

**3.1.5****audio monitoring device**

device activated by sounds above a specified threshold and which, after activation, carries out the functionality of an audio listening device (See Annex A)

**3.1.6****automatic reinstatement**

process of I&HAS terminating an alarm verification time sequence if no sequentially verified alarm has occurred, in readiness for the possibility of a new unverified alarm

**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

[SOURCE: EN 50131-3:2009]

**3.1.8****imaging device**

device that converts an optical image into an electrical signal

EXAMPLE Camera

Note 1 to entry: This device may be integrated into its associated detector.

[SOURCE: EN 50132-7:2012, 3.1.21]

**3.1.9****multi-action hold-up device**

device consisting of two (or more) different operating mechanisms whose processed outputs are independently communicated to the CIE for use in sequentially verified HAS

**3.1.10****multi-output combined detector**

detector consisting of two (or more) separate sensors whose processed outputs are configured to communicate independently to the CIE for use in sequentially verified IAS

Note 1 to entry: The multiple sensors may be of the same technology (see A.3).

Note 2 to entry: For the purposes of this document, if a multi-output combined detector includes one or more single-output combined detectors, such single-output combined detectors should each be considered equivalent to a single sensor.

**3.1.11****notified alarm**

alarm that has been notified to the ARC in accordance with EN 50131-1

**3.1.12****sequential alarm verification**

verification of an intruder or hold-up alarm by using sequence of alarms originating from different detectors or hold-up devices to lead to designation of an alarm as verified

Note 1 to entry: Permitted detection combinations are recommended in 7.2.2 (intruder) and 8.1.2 (hold-up).

Note 2 to entry: Time lines illustrating the operation of a sequentially verified intruder alarm are included in Clause 7.

Note 3 to entry: Multi-output detection devices may be used instead of separate detectors (see 7.3.2).

**3.1.13****single-output combined detector**

detection device consisting of two (or more) separate intrusion detection sensors whose outputs are configured to be processed and communicated to the CIE as one signal or message

**3.1.14****unverified alarm**

intruder or hold-up alarm that has not yet been sequentially, visually or audibly verified

**3.1.15****alarm verification time**

pre-determined time following an unverified alarm, during which a sequentially verified alarm may be generated

Note 1 to entry: If no sequentially verified alarm has been generated during this time, automatic reinstatement takes place.

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**3.1.16****verified alarm**

alarm considered genuine as a result of the use of alarm verification

Note 1 to entry: According to the method in use, the designation as verified may be carried out by the CIE or by the ARC operator.

**3.1.17****video monitoring device**

device detecting variations within a video signal, interpreting those above a specified threshold as evidence of movement

EXAMPLE Processing integrated into an imaging device

Note 1 to entry: See Annex A.

**3.1.18****visual alarm verification**

verification of an intruder alarm by images received from the supervised premises

### 3.2 Abbreviations

For the purposes of this document, the abbreviations given in EN 50131-1:2006 and the following apply.

- ALD Audio Listening Device
- AMD Audio Monitoring Device
- HUA Hold-Up Alarm
- VMD Video Monitoring Device

The following abbreviations are extracted from EN 50131-1:

- ACE Ancillary Control Equipment
  - ARC Alarm Receiving Centre
  - ATS Alarm Transmission System
  - CIE Control and Indicating Equipment
  - CLC CENELEC
  - HAS Hold-up Alarm System
  - IAS Intruder Alarm System
  - I&HAS Intrusion and Hold-up Alarm System
  - SPT Supervised Premises Transceiver
  - WD Warning Device
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### 4 Overview

It is not necessary that the entire supervised premises include means of alarm verification where this is not appropriate.

Where appropriate, different methods of alarm verification may be used for different parts of the same I&HAS.

The alarm verification principles and methods described in this document are as follows:

- |  |               |
|--|---------------|
| – General recommendations                    | See Clause 6  |
| – Sequential verification of intruder alarms | See Clause 7  |
| – Sequential verification of hold-up alarms  | See Clause 8  |
| – Audible alarm verification                 | See Clause 9  |
| – Visual alarm verification                  | See Clause 10 |
| – ATS faults                                 | See Clause 11 |
| – Equipment specifications                   | See Annex A   |
| – Equipment Test Procedures                  | See Annex B   |

Any specification based on this document should specify which methods of alarm verification are permitted and which options and parameter limits are to be implemented

If other methods of alarm verification are to be used, relevant principles should be drawn from this specification.

Consideration should be given to the recommendations that sequential alarm verification be operational when audible or visual alarm verification is in use in IAS and that a telephone call-back procedure from the ARC be available when audible or visual alarm verification is used for HAS.

## 5 Parameter variation

This specification includes requirements offering a range of values for certain parameters to suit the needs of different sites or countries, which should be applied within the limits stated within each requirement.

## 6 General recommendations for I&HAS incorporating alarm verification

### 6.1 General

The following recommendations are additional to EN 50131-1 and related product standards and should be considered for all I&HAS using alarm verification, at all security grades (except where stated).

### 6.2 Setting and unsetting

There should be provision to warn a user of failure to complete the setting procedure (Refer to EN 50131-3:2009, 8.3.3.3).

Consideration should be given to the methods of entry and exit employed, to further minimize unwanted alarms.

### 6.3 Indications

The indication requirements of EN 50131-1:2006, 8.5, should be met by an I&HAS using alarm verification.

NOTE 1 If setting is carried out external to the supervised premises using a digital key, the provisions of EN 50131-3:2009, 8.3.2.2.2, are applicable.

The following indications, additional to those shown in EN 50131-1:2006, Table 8 and EN 50131-3:2009, Table 6, should be provided by I&HAS using sequential alarm verification:

- unverified alarm;
- sequentially verified alarm;
- automatic reinstatement;
- detector inhibited at automatic reinstatement (including, at grades 3 and 4, identification of detector).

If the unverified alarm or sequentially verified alarm is generated by a tamper condition, this should be separately identified, as required by EN 50131-1, for I&HAS grades 3 and 4.

NOTE 2 The requirement of EN 50131-1 (Table 8) for an “intruder alarm” indication is met by the “unverified alarm.”

### 6.4 Processing and Notification

The processing requirements and timing performance specified in EN 50131-1:2006, 8.4 and 8.9, should apply to each alarm condition individually.

The use of a dual path alarm transmission system should be considered in order to maximize the ability to transmit a second signal to the ARC. (See also Clause 11.)