



# SLOVENSKI STANDARD

## SIST EN 50131-10:2014

01-september-2014

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### Alarmni sistemi - Sistemi za javljanje vloma in ropa - 10. del: Aplikacijsko specifične zahteve za oddajno-sprejemne naprave v nadzorovanih prostorih

Alarm systems - Intrusion and hold-up systems - Part 10: Application specific requirements for Supervised Premises Transceiver (SPT)

Alarmanlagen - Einbruch- und Überfallmeldeanlagen - Teil 10: Anwendungsspezifische Anforderungen an Übertragungseinrichtungen (ÜE)

Systèmes d'alarme - Systèmes d'alarme contre l'intrusion et les hold-up - Partie 10: Exigences d'application spécifiques pour les transmetteurs des locaux surveillés

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**Ta slovenski standard je istoveten z: EN 50131-10:2014**

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13.310	Varstvo pred kriminalom	Protection against crime
13.320	Alarmni in opozorilni sistemi	Alarm and warning systems

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EUROPEAN STANDARD

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## Alarm systems - Intrusion and hold-up systems - Part 10: Application specific requirements for Supervised Premises Transceiver (SPT)

Systèmes d'alarme - Systèmes d'alarme contre l'intrusion et les hold-up - Partie 10: Exigences d'application spécifiques pour les transmetteurs des locaux surveillés

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European Committee for Electrotechnical Standardization  
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Europäisches Komitee für Elektrotechnische Normung

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

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## Foreword

This document (EN 50131-10:2014) has been prepared by CLC/TC 79 "Alarm systems".

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2015-03-10
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2017-03-10

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.

The EN/TS 50131 series consists 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 <sup>1)</sup>	Alarm verification – Methods and principles
Part 10	Application specific requirements for Supervised Premises Transceiver (SPT)

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1) At draft stage.

## Introduction

This European Standard should be read in conjunction with EN/TS 50136 series, particularly EN 50136-2, and includes requirements for Supervised Premises Transceivers (SPT) specific to Intrusion and hold-up alarm system (I&HAS) applications.

EN 50131-1 requires that notification be by warning device (WD) and/or alarm transmission system (ATS). The SPT is the equipment that forms part of the ATS and provides the interface to the I&HAS. A WD is a local means of notification whereas the SPT is a means of initiating notification at a distance through Annunciation Equipment (AE), via a network and Receiving Centre Transceiver (RCT).

EN 50131-1 in particular states the Alarm Transmission System (ATS) performance criteria to be used with an I&HAS according to its security grade.

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## 1 Scope

This European Standard specifies requirements for SPT used in I&HAS to transmit alarm and other messages to a location remote from the supervised premises.

NOTE 1 Requirements for the transmission of alarms are given in the EN/TS 50136 series of standards. EN 50136-2 gives requirements for SPT for use in any type of alarm system (e.g. fire, social care, intrusion, etc).

This European Standard gives specific requirements for SPT used in Intrusion and Hold-up Alarm Systems (I&HAS) and should be used in combination with EN 50136-2.

The requirements of this European Standard apply to different types of SPT including separate SPT, SPT located within the housings of other I&HAS components and also when the SPT functionality is integrated with the CIE or other parts of an I&HAS.

NOTE 2 To facilitate the differing requirements this European Standard includes a categorisation with three types (X, Y and Z).

This European Standard does not give requirements for the ATS network or performance.

## 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 50130-4, *Alarm systems – Part 4: Electromagnetic compatibility – Product family standard: Immunity requirements for components of fire, intruder hold up, CCTV, access control and social alarm systems*

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

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

EN 50131-3, *Alarm Systems – Intrusion and hold-up systems – Part 3 Control and indicating equipment*

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

EN 50136-1:2012, *Alarm systems – Alarm transmission systems and equipment – Part 1: General requirements for alarm transmission systems*

EN 50136-2:2013, *Alarm systems – Alarm transmission systems and equipment – Part 2: Requirements for Supervised Premises Transceiver (SPT)*

EN 60068-1:1994, *Environmental testing – Part 1: General and guidance (IEC 60068-1:1994)*

EN 60068-2-75, *Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests (IEC 60068-2-75)*

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

EN 62262, *Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code) (IEC 62262)*

### 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 EN 50136-1:2012 and the following apply.

##### 3.1.1

##### **average current consumption**

average of all current consumed by the SPT during one hour of normal functioning, including the transmission of an alarm once every five minutes, using the transmission technology with the highest current consumption

##### 3.1.2

##### **peak current consumption**

maximum momentary current consumed by the SPT

##### 3.1.3

##### **External Power Source**

energy supply external to the I&HAS which may be non-continuous

Note 1 to entry: Refer to EN 50131-6. External Power Source (EPS) is applicable to types A and type B PS only. Typically, EPS is provided by mains AC.

#### 3.2 Abbreviations

For the purposes of this document, the following abbreviations apply:

<b>AC</b>	Alternating Current
<b>AE</b>	Annunciation Equipment
<b>APS</b>	Alternative Power Source
<b>ATS</b>	Alarm Transmission System
<b>CIE</b>	Control and Indicating Equipment
<b>EMC</b>	Electromagnetic Compatibility
<b>EPS</b>	External Power Source
<b>EUT</b>	Equipment Under Test
<b>I&amp;HAS</b>	Intruder and Hold-up Alarm Systems
<b>PS</b>	Power Supply
<b>RCT</b>	Receiving Centre Transceiver
<b>SD</b>	Storage Device
<b>SPT</b>	Supervised Premises Transceiver
<b>WD</b>	Warning Device

### 4 General requirements

#### 4.1 Additional functions

Functions additional to the mandatory functions specified in this European Standard may be included providing that they do not influence the correct operation of the mandatory functions.



## 4.2 Equipment features

I&HAS SPT shall include features for the detection of input status, generation of output signals (to the CIE) and indications required to be compatible with EN 50131-1 and EN 50136-2

## 4.3 SPT structure

The SPT may be in a single housing or be distributed in multiple housings, and may be housed with other I&HAS components (e.g. CIE). The functionality of the SPT may be fully or partly integrated with other components of an I&HAS (e.g. CIE). The I&HAS specific functionality of the SPT may be provided separately from the generic alarm transmission functionality (i.e. functionality within the scope of EN 50136-2) or the two sets of functions may be combined (e.g. using a single processor). This standard defines three types of SPT according to this structure.

Type X – The SPT is a self-contained unit within its own housing.

Type Y – The SPT is a device intended to be installed inside a housing of another I&HAS component. For the purposes of conforming to this standard the housing shall be that of a CIE (conforming to EN 50131-3) or the PS (conforming to EN 50131-6).

Type Z – This type of SPT is one in which the CIE and SPT are integrated and the SPT cannot function independently.

NOTE The Generic alarm transmission functionality is that related to the requirements of EN 50136 series and the I&HAS specific functionality is that for the EN 50131 series

See Annex A.

## 5 Security grade

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The SPT shall comply with one of the four security grades described in EN 50131-1 (with grade 1 being the lowest and grade 4 being the highest).

## 6 Environmental performance

### 6.1 Requirements

The SPT shall be suitable for use in one of the environmental classes defined in EN 50131-1.

### 6.2 Environmental tests

EN 50130-5 describes environmental test methods relevant to I&HAS components. The tests applicable are specified in 10.7 of this European Standard.

EN 50130-4 specifies EMC susceptibility tests relevant to I&HAS components. The operating conditions for these tests are specified in 10.7 of this European Standard.

## 7 Functional requirements

### 7.1 Tamper

#### 7.1.1 General

All terminals and means of mechanical and electronic adjustment shall be located within the housing in which the SPT is or will be located. The housing(s) shall be provided with the means to prevent access to internal elements to minimize the risk of tampering, according to the grade of the SPT.

NOTE For Type Y and Z SPT, tamper requirements are detailed in EN 50131-3 or EN 50131-6 (as applicable to the housing used) and may not be required to be tested under the requirements detailed within this European Standard.

Provision shall be made to allow adequate fixing of the housing to the mounting surface.

#### 7.1.2 Tamper protection

The construction of the SPT housing(s) shall meet the tamper protection requirements of EN 50131-1 and the impact requirements of the appropriate grade according to Table 1.

Access to the inside of the SPT housing shall require the use of an appropriate tool.

Table 1 – Tamper protection

	Grade 1	Grade 2	Grade 3	Grade 4
Severity level (IK code) (design specification) (re: EN 62262)	04	06	06	06
Impact energy (Joule) (test condition)	0,5	1	1	1

#### 7.1.3 Tamper detection

##### 7.1.3.1 General

A tamper signal or message shall be generated according to the requirements specified in Table 2 and before access can be gained to override the detection or interfere with the functionality of the SPT.

Table 2 – Tamper detection

Tamper detection	Grade 1	Grade 2	Grade 3	Grade 4
Access to the inside of the housing	M	M	M	M
Removal from mounting	OP	OP	M	M
Removal from mounting (wire free)	OP	M	M	M
<b>Key</b> M = Mandatory    OP = Optional				

### 7.1.3.2 Access to the housing

Opening the SPT housing by normal means shall generate a tamper signal or message.

The housing shall not permit the introduction of tools of dimensions as specified in Table 3 to defeat the tamper detection before it has operated.

**Table 3 – Tool dimension for tamper detection**

	Grade 1	Grade 2	Grade 3	Grade 4
Steel rod as specified in EN 60529, with diameter	2,5 mm	2,5 mm	1 mm	1 mm
Flat bar of dimension	10 mm × 1 mm × $L$ , with $L > 300$ mm	10 mm × 1 mm × $L$ , with $L > 300$ mm	5 mm × 0,5 mm × $L$ , with $L > 300$ mm	5 mm × 0,5 mm × $L$ , with $L > 300$ mm
Steel wire of tensile strength 650 MPa - 825 MPa and dimensions	N/A	N/A	1 mm Ø x 300 mm	1 mm Ø x 300 mm

In grades 1 and 2 only, this requirement does not include insertion of the tool via indicators or operating controls.

### 7.1.3.3 Removal from mounting

Attempts to remove the SPT from its mounting surface for a distance greater than that defined in Table 4 shall generate a tamper signal or message according to Table 2.

It shall not be possible to defeat the removal from mounting detection by sliding a 25 mm × 1 mm ×  $L$  (with  $L > 300$  mm) blade or by use of pliers (of thickness 5 mm and reach 150 mm) between the mounting surface and the SPT.

**Table 4 – Removal from mounting**

	Grade 1	Grade 2	Grade 3	Grade 4
Maximum distance before tamper detection	10 mm	10 mm	5 mm	5 mm

## 7.2 Monitoring of substitution

Grade 4 SPT shall provide means for the CIE to monitor substitution of the SPT as required by EN 50131-1:2006, 8.7.3 and 8.7.4.

NOTE This requirement refers to the ability of the CIE to determine that the SPT has not been substituted. There are separate requirements in EN 50136-1 related to detection of substitution of the SPT and protection of the information transmitted by the ATS.

## 7.3 Wireless interconnections

Wireless communication between CIE and SPT shall fulfill the requirements of EN 50131-5-3.