



SLOVENSKI STANDARD

SIST EN 50131-6:2008

01-julij-2008

Nadomešča:

SIST EN 50131-6:1999

Alarmni sistemi - Sistemi za javljanje vloma in ropa - 6 del: Napajalniki

Alarm systems - Intrusion and hold-up systems -- Part 6: Power supplies

Alarmanlagen - Einbruch- und Überfallmeldeanlagen -- Teil 6: Energieversorgungen

Systèmes d'alarme - Systèmes d'alarme contre l'intrusion et les hold-up -- Partie 6:
Alimentation

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Ta slovenski standard je istoveten z: **EN 50131-6:2008**

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ICS:

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

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EUROPEAN STANDARD

EN 50131-6

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2008

ICS 13.310

Supersedes EN 50131-6:1997

English version

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

Systèmes d'alarme -
Systèmes d'alarme contre l'intrusion
et les hold-up -
Partie 6: Alimentation

Alarmanlagen -
Einbruch- und Überfallmeldeanlagen -
Teil 6: Energieversorgungen

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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.

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CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 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 50131-6 on 2007-12-01.

This European Standard supersedes EN 50131-6:1997 + corrigendum April 1998.

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) 2008-12-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2010-12-01

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 Intrusion detectors – Microwave detectors
- Part 2–4 Intrusion detectors – Combined passive infrared / Microwave detectors
- Part 2–5 Intrusion detectors – Combined passive infrared / Ultrasonic detectors
- Part 2–6 Intrusion detectors – 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 devices

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Introduction

This European Standard deals with power supplies (PS) of intrusion and hold-up alarm systems (I&HAS) installed in buildings. It includes devices that are installed inside or outside of the supervised premises and mounted in indoor or outdoor environments.

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1 Scope

This European Standard specifies the requirements, performance criteria and testing procedures for PS to be used as part of Intrusion and Hold up Alarm Systems. The PS shall either be an integral part of an I&HAS component or stand-alone. The control functions of the PS may be incorporated as part of the PS device, or may be provided by another I&HAS component e.g. a CIE.

This European Standard is not applicable when the PS requirements for I&HAS components are included within the relevant product standard.

The requirements correspond to each of the four security grades given in the European Standard EN 50131-1, Alarm systems - Intrusion and hold-up systems - Part 1: System requirements. Requirements are also given for four environmental classes covering applications in internal and outdoor locations.

This standard covers mandatory functions which shall be provided on all PS and optional functions which may be provided.

Other functions associated with I&HAS not specified in this standard may be provided. Such functions shall not affect the requirements of any mandatory or optional functions.

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>
EN 50130-4		Alarm systems - Part 4: Electromagnetic compatibility - Product family standard: Immunity requirements for components of fire, intruder and social alarm systems
EN 50130-5		Alarm systems - Part 5: Environmental test methods
EN 50131-1		Alarm systems - Intrusion and hold-up systems - Part 1: System requirements
EN 60065		Audio, video and similar electronic apparatus - Safety requirements (IEC 60065)
EN 60068-1		Environmental testing - Part 1: General and guidance (IEC 60068-1)
EN 60529		Degrees of protection provided by enclosures (IP code) (IEC 60529)
EN 60950	Series	Information technology equipment - Safety (IEC 60950 series, partly modified)
EN 61000-6-3		Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments (CISPR/IEC 61000-6-3)
EN 62262		Degrees of protection provided by enclosure for electrical equipment against external mechanical impacts (IK code) (IEC 62262)

3 Definitions and abbreviations

3.1 Definitions

For the purposes of this European Standard, the following definitions apply in addition to those given in EN 50131-1.

3.1.1

alternative power source (APS)

power source capable of powering the I&HAS for a predetermined time when the EPS is unavailable

3.1.2

APS operating period

period during which the APS is supporting an I&HAS when the EPS has been lost

3.1.3

deep discharge protection

protection which avoids damage to the storage device when the level of discharge is beyond the level specified by the storage device manufacturer

3.1.4

external power source (EPS)

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

NOTE 1 For types A and type B PS only.

NOTE 2 The EPS is provided by the PPS or the SPPS.

3.1.5

float charging

a condition of the SD where a charging voltage is applied to hold the SD at nominally 100 % charge

3.1.6

independent power outputs

individual power output to the I&HAS having its own protection against short circuit and overload. Each output may have provision for more than one connection

3.1.7

low output voltage

voltage below the minimum power output voltage

3.1.8

maximum power output voltage

maximum rated voltage of the PS at each independent power output as specified by the PS manufacturer under normal operating conditions

3.1.9

minimum power output voltage

minimum rated voltage of the PS at each independent power output as specified by the PS manufacturer under normal operating conditions

3.1.10

normal operating condition

conditions applying when the PS is mounted according to the PS manufacturer's instructions, within the range of the designated environmental class, the applied load is within the rated output, the SD has sufficient charge to maintain the minimum power output voltage and for type A and type B, any applied and available EPS is within specified range

NOTE Normal operating condition of a PS includes APS operation.

3.1.11**open by normal means**

opening of the equipment housing by the procedure defined by the manufacturer

3.1.12**over-voltage protection**

protection of the PS output against excessive high output voltage due to failure of one or more PS components under normal operating conditions

3.1.13**power output**

output of the PS that supplies energy to the I&HAS

3.1.14**power supply (PS)**

device that stores, provides and also modifies or isolates (electrical) power for an I&HAS or part thereof, comprising of a PU and SD as a minimum

3.1.15**power supply failure**

a condition in which a SD failure or a PU failure is present

3.1.16**power unit (PU)**

device that provides and also modifies or isolates (electrical) power for an I&HAS or part thereof and for the SD if required

3.1.17**power unit failure**

a condition of the PU where it cannot supply the rated power output and/or for a PS type A cannot recharge the SD

3.1.18**prime power source (PPS)**

energy source capable of supporting the I&HAS for extended periods e.g. mains supply

3.1.19**rated output**

the total continuous output current that can be supplied by the PS to the I&HAS through its independent power outputs under normal operating conditions

3.1.20**ripple**

oscillating voltage superimposed onto the dc voltage at an independent output

3.1.21**standby period**

time period during which the APS is capable of supporting an I&HAS in the event of failure of the EPS

3.1.22**storage device (SD)**

device which stores energy e.g. a battery

3.1.23**storage device – failure**

a condition of the SD where it cannot supply the rated power output of the PS at the minimum power output voltage

3.1.24

storage device – low voltage

voltage specified by the PS manufacturer which indicates that the storage device is nearly discharged

3.1.25

supplementary prime power source (SPPS)

energy source independent of the PPS capable of supporting the I&HAS for extended periods e.g. standby generator

3.2 Abbreviations

For the purposes of this European Standard the following abbreviations are used:

APS	Alternative Power Source
CIE	Control and Indicating Equipment
EPS	External Power Source
I&HAS	Intruder and Hold-up Alarm System
PPS	Prime Power Source
PS	Power Supply
PU	Power Unit
SD	Storage Device
SPPS	Supplementary Prime Power Source
ac	alternating current
dc	direct current

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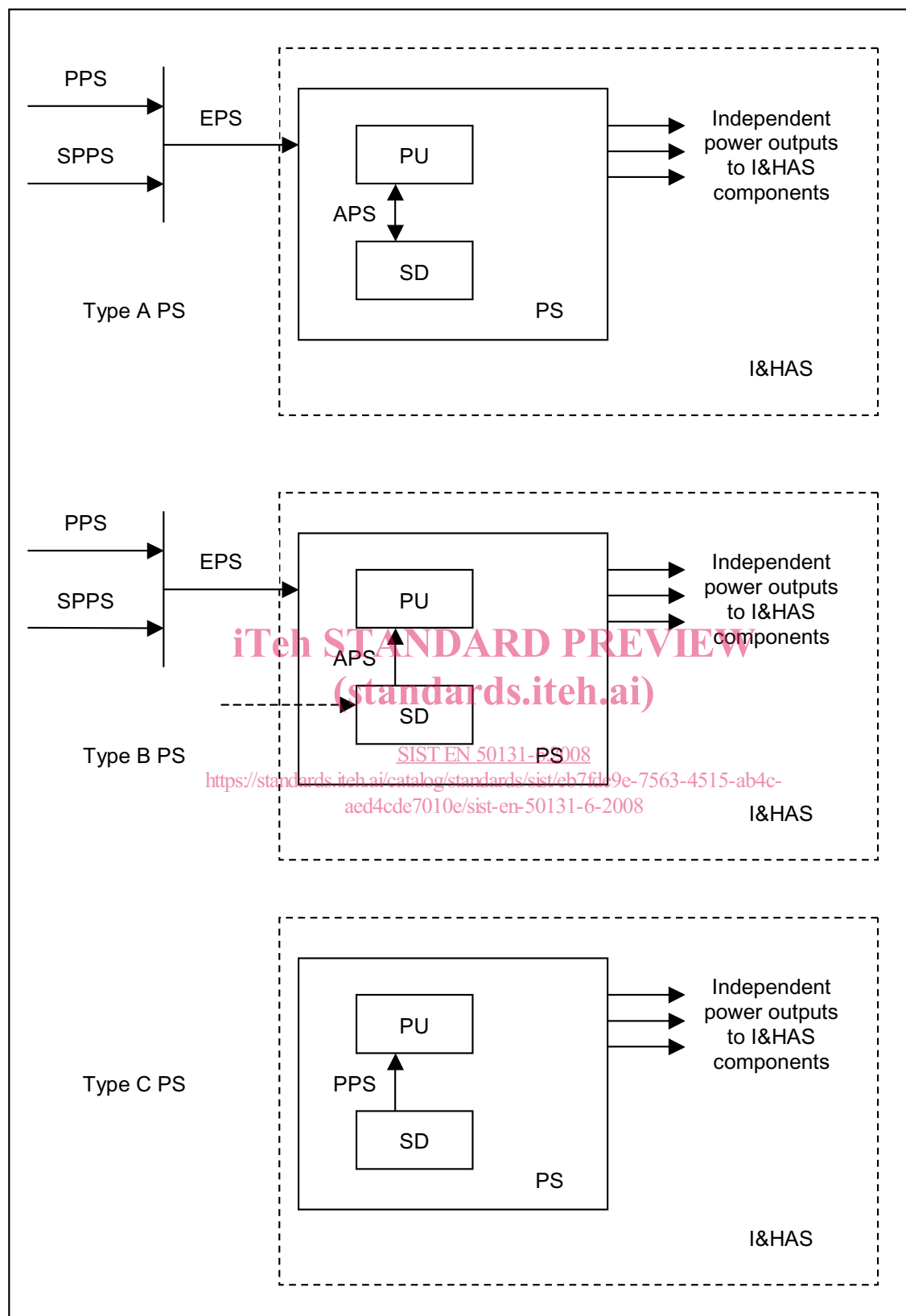
4 Functional requirements

4.1 General

The PS shall supply power to the components of the I&HAS continuously.

There are three types of PS, which are independent of security grade. These types are illustrated in Figure 1.

The PS types are defined in EN 50131-1. Storage devices required to meet the I&HAS standby requirements as specified in EN 50131-1 may be distributed in more than one PS.



NOTE For PS types A and B, where there is no SPPS, the PPS and EPS are identical.

Figure 1 — Power Supply Types

Depending upon the security grade and PS type, the PS shall have the functionality as defined in Table 1. If a function is provided that is optional for a particular grade and a claim of compliance is made, it shall meet the applicable requirements for the grade for which compliance is claimed.

Table 1 — Power Supply Functions

Function	Grade	PS Type		
		A	B	C
Detection of Loss of EPS	1 – 4	M	M	n/a
Detection of Storage Device – Low Voltage	1 – 4	M	M	M
Detection of Storage Device – Failure	1 – 2	Op	Op	n/a
	3 – 4	M	Op	n/a
Detection of Low Output Voltage	1 – 2	Op	Op	n/a
	3 – 4	M	M	n/a
Detection of Power Unit failure	1 – 2	Op	Op	n/a
	3 – 4	M	M	n/a
Over-voltage Protection	1 – 2	Op	Op	Op
	3 – 4	M	M	Op
Short Circuit Protection	1 – 4	M	M	M
Overload Protection	1 – 4	M	M	M
SD Deep Discharge Protection ^a	1 – 2	Op	Op	n/a
	3 – 4	M	M	n/a
Remote Test	1 – 3	Op	Op	n/a
	4	M	Op	n/a
Tamper Security	1 – 4	M	M	M

^a Where Deep Discharge will damage the SD.
M = Mandatory
Op = Optional
n/a = Not applicable

4.2 Monitoring of PS

The PS shall generate fault signals or messages for communication to the CIE according to Table 2.

Monitoring signals or messages shall be fail safe such that total loss of function of the PS will be recognised as a fault condition by the I&HAS.