

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

Alarm systems – Intrusion and hold-up systems –  
Part 6: Power supplies  
**ITIH STANDARD PREVIEW**  
**(standards.iteh.ai)**

Systèmes d'alarme – Systèmes d'alarme contre l'intrusion et les hold-up –  
Partie 6: Alimentation  
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Alarm systems – Intrusion and hold-up systems –  
Part 6: Power supplies  
**STANDARD PREVIEW**  
(standards.iteh.ai)

Systèmes d'alarme – Systèmes d'alarme contre l'intrusion et les hold-up –  
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**ALARM SYSTEMS –  
INTRUSION AND HOLD-UP SYSTEMS –**

**Part 6: Power supplies**

**FOREWORD**

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International Standard IEC 62642-6 has been prepared by IEC technical committee 79: Alarm and electronic security systems.

This standard is based on EN 50131-6 (2008).

The text of this standard is based on the following documents:

FDIS	Report on voting
79/326/FDIS	79/335/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of the IEC 62642 series can be found, under the general title *Alarm systems – Intrusion and hold-up systems*, on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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## INTRODUCTION

This Part 6 of the IEC 62642 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. The other parts of this series of standards are as follows:

- 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 2-71 Intrusion detectors – Glass break detectors – Acoustic
- Part 2-72 Intrusion detectors – Glass break detectors – Passive
- Part 2-73 Intrusion detectors – Glass break detectors – Active
- Part 3 Control and indicating equipment
- Part 4 Warning devices
- Part 5-3 Interconnections – Requirements for equipment using radio frequency techniques
- Part 6 Power supplies
- Part 7 Application guidelines
- Part 8 Security fog devices (systems)

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# ALARM SYSTEMS – INTRUSION AND HOLD-UP SYSTEMS –

## Part 6: Power supplies

### 1 Scope

This part of the IEC 62642 series specifies the requirements, performance criteria and testing procedures for power supplies (PS) to be used as part of Intrusion and Hold up Alarm Systems (I&HAS). 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 control and indicating equipment (CIE).

This International 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 IEC 62642-1. 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.

IEC 60065, *Audio, video and similar electronic apparatus – Safety requirements*

IEC 60068-1:1988, *Environmental testing – Part 1: General and guidance*

IEC 60950 (all parts), *Information technology equipment – Safety*

IEC 61000-6-3, *Electromagnetic compatibility (EMC) – Part 6-3: Generic standards – Emission standard for residential, commercial and light-industrial environments*

IEC 62599-1, *Alarm systems – Part 1: Environmental test methods*

IEC 62599-2, *Alarm systems – Part 2: Electromagnetic compatibility – Immunity requirements for components of fire and security alarm systems*

IEC 62642-1:2010, *Alarm systems – Intrusion and hold-up systems – Part 1: System requirements*

IEC 62642-3, *Alarm systems – Intrusion and hold-up systems – Part 3: Control and indicating equipment*

### 3 Terms, definitions and abbreviations

#### 3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 62642-1, as well as the following apply.

##### 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.

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##### 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

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### 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

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### 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 d.c. 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 document, the following abbreviations apply.

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
a.c.	alternating current
d.c.	direct current

**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 IEC 62642-1. Storage devices required to meet the I&HAS standby requirements as specified in IEC 62642-1 may be distributed in more than one PS.