



Institut luxembourgeois de la normalisation
de l'accréditation, de la sécurité et qualité
des produits et services

ILNAS-EN 60950-23:2006

**Information technology equipment -
Safety -- Part 23: Large data storage
equipment**

Matériels de traitement de l'information -
Sécurité -- Partie 23: Matériels de grande
taille pour le stockage des données

Einrichtungen der Informationstechnik -
Sicherheit -- Teil 23: Große Einrichtungen
zur Datenspeicherung

04/2006



National Foreword

This European Standard EN 60950-23:2006 was adopted as Luxembourgish Standard ILNAS-EN 60950-23:2006.

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English version

**Information technology equipment -
Safety
Part 23: Large data storage equipment
(IEC 60950-23:2005)**

Matériels de traitement de l'information -
Sécurité
Partie 23: Matériels de grande taille
pour le stockage des données
(CEI 60950-23:2005)

Einrichtungen der Informationstechnik -
Sicherheit
Teil 23: Große Einrichtungen
zur Datenspeicherung
(IEC 60950-23:2005)

This European Standard was approved by CENELEC on 2005-12-01. 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, 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: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 108/144/FDIS, future edition 1 of IEC 60950-23, prepared by IEC TC 108, Safety of electronic equipment within the field of audio/video, information technology and communication technology, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60950-23 on 2005-12-01.

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) 2006-12-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2010-12-01

This Part 23 of EN 60950 is intended to be used with EN 60950-1. The subclauses of EN 60950-1 apply as is reasonable. Where safety aspects are similar to those of Part 1, the relevant Part 1 clause or subclause is shown for reference in parentheses after the clause or subclause title in Part 23. Where a requirement in Part 23 refers to a requirement or criterion of Part 1, a specific reference to EN 60950-1 is made.

EN 60950 consists of the following parts, under the general title *Information technology equipment – Safety*:

- Part 1: General requirements;
- Part 21: Remote power feeding;
- Part 22: Equipment installed outdoors;
- Part 23: Large data storage equipment.

In this standard, the following print types are used:

- requirements proper and normative annexes: roman type;
- *compliance statements and test specifications: italic type*;
- notes in the text and in tables: smaller roman type;
- terms that are defined in Clause 2 and in EN 60950-1: SMALL CAPITALS.

Annex ZA has been added by CENELEC.

The contents of the corrigendum of October 2008 have been included in this copy.

Endorsement notice

The text of the International Standard IEC 60950-23:2005 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60204-1	NOTE	Harmonized as EN 60204-1:1997 (not modified).
IEC 60204-11	NOTE	Harmonized as EN 60204-11:2000 (not modified).
ISO 10218	NOTE	Harmonized as EN 775:1992 (modified).

Annex ZA

(normative)

Normative references to international publications with their corresponding European publications

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 amendment) applies.

NOTE When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60073	2002	Basic and safety principles for man-machine interface, marking and identification - Coding principles for indicators and actuators	EN 60073	2002
IEC 60947-5-5	1997	Low-voltage switchgear and controlgear Part 5-5: Control circuit devices and switching elements - Electrical emergency stop device with mechanical latching function	EN 60947-5-5	1997
IEC 60950-1 (mod)	2005	Information technology equipment - Safety Part 1: General requirements	EN 60950-1	2006
IEC 61058-1 (mod)	- ¹⁾	Switches for appliances Part 1: General requirements	EN 61058-1	2002 ²⁾

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

**NORME
INTERNATIONALE
INTERNATIONAL
STANDARD**

**CEI
IEC**

60950-23

Première édition
First edition
2005-09

**Matériels de traitement de l'information –
Sécurité –**

**Partie 23:
Matériels de grande taille pour
le stockage des données**

**Information technology equipment –
Safety –**

**Part 23:
Large data storage equipment**



Numéro de référence
Reference number
CEI/IEC 60950-23:2005

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**INFORMATION TECHNOLOGY EQUIPMENT –
SAFETY –****Part 23: Large data storage equipment**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60950-23 has been prepared by IEC technical committee 108: Safety of electronic equipment within the field of audio/video, information technology and communication technology.

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

FDIS	Report on voting
108/144/FDIS	108/150/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 standard is to be used in conjunction with IEC 60950-1.

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

IEC 60950 consists of the following parts, under the general title *Information technology equipment – Safety*:

- Part 1: General requirements
- Part 21: Remote power feeding
- Part 22: Equipment installed outdoors
- Part 23: Large data storage equipment

In this standard, the following print types are used:

- requirements proper and normative annexes: roman type;
- *compliance statements and test specifications: italic type*;
- notes in the text and in tables: smaller roman type;
- terms that are defined on Clause 2 and in IEC 60950-1: SMALL CAPITALS.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result 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

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

INFORMATION TECHNOLOGY EQUIPMENT – SAFETY –

Part 23: Large data storage equipment

1 Scope

This part of IEC 60950 specifies requirements for information technology equipment (ITE) with self contained data storage systems that contain hazardous moving parts. These data storage systems are typically large enough to permit a person to enter completely, however, the systems also include similar large equipment permitting complete limb or head access to the area containing hazardous moving parts. These requirements are additional to the relevant requirements in IEC 60950-1. The maximum three dimensional reach of a cartridge accessory assembly typically has a minimum motion envelop of 0,75 m³ or more.

The equipments shall be installed in a RESTRICTED ACCESS LOCATION, such as a data centre. The exceptions for 2.1.3 and 4.5.4 noted in 1.2.7.3 of IEC 60950-1 do not apply to this Part 23.

NOTE 1 An example of equipment covered by this scope is an automated information mass storage and retrieval system that uses integral hazardous moving parts for the handling of recorded media (for example, tape cartridges, tape cassettes, optical disks, etc.) and similar functions.

This standard is not applicable to equipment with non-self-contained hazardous moving parts, such as robotic equipment installed in an industrial environment.

NOTE 2 For standards related to robotic equipment in an industrial environment, see IEC 60204-1, IEC 60204-11 and ISO 10218.

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 60947-5-5:1997, *Low-voltage switchgear and controlgear – Part 5-5: Control circuit devices and switching elements – Electrical emergency stop device with mechanical latching function*

IEC 60950-1:2005, *Information technology equipment – Safety – Part 1: General requirements*

IEC 60073:2002, *Basic and safety principles for man-machine interface, marking and identification - Coding principles for indicators and actuators*

IEC 61058-1, *Switches for appliances – Part 1: General requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60950-1 and the following apply.

NOTE Defined terms are printed in SMALL CAPS where they occur in the text.

3.1

work cell

space within the equipment of such size that a person may completely or partially (for example, entire limb or head) enter and where mechanical hazards may be present

NOTE A WORK CELL may contain more than one compartment. A compartment can be used for either operational or service purposes.

4 Protection of persons in the work cell

During normal use, no hazards within the meaning of IEC 60950-1 shall be accessible at an outer ENCLOSURE of the equipment.

The equipment shall be provided with safeguards to reduce the risk of injury due to hazardous moving parts in the WORK CELL. For protection against other hazards, the WORK CELL shall be treated as an OPERATOR ACCESS AREA.

NOTE 1 Examples of safeguards include interlocks, barriers and awareness signals, together with designated procedures and training.

NOTE 2 The design should take into account the fact that some authorities may require installation of fire detection and extinguishing systems in WORK CELLS.

Access to a WORK CELL or any of its compartments shall be controlled by either of the following methods:

- Method 1 – No key or TOOL is needed to gain entry to the WORK CELL. Interlocks meeting the requirements of 2.8 of IEC 60950-1 shall be provided to prevent access to the WORK CELL while power is available to the hazardous moving parts in that compartment. Power to the moving parts shall not be restored until the doors are closed and latched.
- Method 2 – A key or TOOL shall be used to gain and control access to the WORK CELL, and access to the WORK CELL shall be prevented while power is available to the hazardous moving parts in that compartment. The operating and servicing instructions, as appropriate, shall specify that the key or TOOL must be carried by the person while in the WORK CELL.

NOTE 3 The key or TOOL may be used as the means to remove power before access to the WORK CELL or compartment.

Opening of the interlocked access door into any compartment of a WORK CELL containing hazardous moving parts, or an access door between a compartment containing hazardous moving parts and one that has been disabled, shall automatically remove drive power from those moving parts and fully stop them without the need of software control within 3 s.

Except as permitted in 5.1, it shall not be possible to start or restart the system until all relevant access doors are closed and latched.