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Australian Standard™

Uninterruptible power systems (UPS)

Part 1.1: General and safety requirements for UPS used in operator access areas

Standards Australia

This Australian Standard was prepared by Committee EL-027, Power Electronics. It was approved on behalf of the Council of Standards Australia on 29 July 2003 and published on 3 October 2003.

The following are represented on Committee EL-027:

Australian Electrical and Electronic Manufacturers Association

Australian Communications Authority

Bureau of Steel Manufacturers of Australia

Electricity Supply Association of Australia

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PREFACE

This Standard was prepared by the Standards Australia Committee EL-027, Power Electronics.

The objective of this Standard is to provide designers, manufacturers, owners and operators with general and safety requirements for Uninterruptible Power Systems (UPS) with a low voltage a.c. output intended to be installed in operator accessible areas.

This Standard is identical with, and has been reproduced from, IEC 62040-1-1:2002, *Uninterruptible power systems (UPS), Part 1-1: General and safety requirements for UPS used in operator access areas* including Corrigendum 1 (December 2002). This Standard is to be read in conjunction with AS/NZS 60950.1 *Information technology equipment—Safety, Part 1: General requirements*.

To assist users of this Standard, the definitions for connection of the supply and insulation classes from AS/NZS 60950.1 have been added as notes to clauses 3.4 and 3.8 respectively.

This Standard is part of a series, which consists of the following:

AS	
62040	Uninterruptible power systems (UPS)
62040.1.1	Part 1.1: General and safety requirements for UPS used in operator access areas (this Standard)
62040.1.2	Part 1.2: General and safety requirements for UPS used in restricted access locations
62040.2	Part 2: Electromagnetic compatibility (EMC) requirements
62040.3	Part 3: Method of specifying the performance and test requirements

The terms ‘normative’ and ‘informative’ are used to define the application of the annex to which they apply. A normative annex is an integral part of a standard, whereas an informative annex is only for information and guidance.

As this Standard is reproduced from an International Standard, the following applies:

(a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.

(b) In the source text ‘this international standard’ should read ‘this Australia Standard’.

(c) A full point should be substituted for a comma when referring to a decimal marker.

CONTENTS

Page

NOTES

STANDARDS AUSTRALIA

Australia Standard

Uninterruptible power systems (UPS)

Part 1.1: General and safety requirements for UPS used in operator access areas

1 Scope and specific applications

1.1 Scope

This standard applies to electronic **uninterruptible power systems** (**UPS**) with an electrical energy storage device in the d.c. link. It is to be used with IEC 60950-1 which is referred to in this standard as "RD".

When any item is referred to by the phrase "The definitions or the provisions of item/RD apply", this phrase is intended to mean that the definitions or provisions in that item of IEC 60950-1 apply, except any which are clearly inapplicable to uninterruptible power systems. National requirements additional to those in IEC 60950-1 apply and are found as notes under relevant clauses of the RD.

The primary function of the **UPS** covered by this standard is to ensure continuity of an alternating power source. The **UPS** may also serve to improve the quality of the power source by keeping it within specified characteristics.

This standard is applicable to **UPS** which are movable, stationary, fixed or for building-in, for use on low-voltage distribution systems and intended to be installed in any **operator** accessible area. It specifies requirements to ensure safety for the **operator** and layman who may come into contact with the equipment and, where specifically stated, for the **service person**.

This standard is intended to ensure the safety of installed **UPS**, both as a single **UPS** unit or as a system of interconnected **UPS** units, subject to installing, operating and maintaining the **UPS** in the manner prescribed by the manufacturer.

This standard does not cover d.c. supplied electronic ballasts (IEC 60924 and IEC 60925), **UPS** intended to be installed in separated electrical locations and **UPS** based on rotating machines.

The relevant general and safety requirements for **UPS** installed in restricted access locations are given in IEC 62040-1-2; electromagnetic compatibility (EMC) requirements and definitions are given in IEC 62040-2.

1.2 Specific applications

Even if this standard does not cover all types of **UPS**, it may be taken as a guide for such equipment. Requirements additional to those specified in this standard may be necessary for specific applications, for example:

– **UPS** intended for operation while exposed, for example, to extremes of temperature; to excessive dust, moisture, or vibration; to flammable gases; to corrosive or explosive atmospheres;