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Fire detection and alarm systems —

Part 4: Power supply equipment

Systèmes de détection et d'alarme d'incendie —
Partie 4: Équipement d'alimentation électrique

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 21, *Equipment for fire protection and fire fighting*, Subcommittee SC 3, *Fire detection and alarm systems*.

This second edition cancels and replaces the first edition (ISO 7240-4:2003), which has been technically revised.

The main changes compared to the previous edition are as follows:

— this document has been reformatted and modified to comply with the current ISO structure for standards;

— a reference has been made to power ratings in place of current ratings as this is better with custom and practice of product specifications; however, it is expected that these new values can be derived from previous test results quoted in voltage and current;

— the time limits for notification of some PSU faults have been added;

— an optional dry heat, (operational) test has been added.

A list of all the parts in the ISO 7240 series can be found on the ISO website.

Introduction

This document is based on ISO 7240-4:2003.

The power supply function (see ISO 7240-1:2014, Figure 1, item L), within a fire detection and alarm system (FDAS) installed in and around buildings, is provided by power supply equipment (PSE). The PSE provides power to all parts of the FDAS, either by direct connection or through one function to another function.

This document is drafted on the basis of mandatory functions, which are to be provided on all the PSE and optional functions (with requirements) which may be provided. It is intended that the options be used for specific applications and to meet the fire detection and alarm system design objectives. Each optional function is included as a separate entity, with its own set of associated requirements, in order to permit the PSE with different combinations of functions to comply with this document. Other functions associated with fire detection and fire alarm may also be provided, even if not specified in this document.

Fire detection and alarm systems —

Part 4:
Power supply equipment

1 Scope

This document specifies requirements, test methods and performance criteria for power supply equipment (PSE) for use in fire detection and alarm systems installed in buildings.

For the testing of other types of the PSE, this document is intended to be used only for guidance. The PSE with special characteristics, developed for specific risks, are not covered in this document.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

ISO 7240-1:2014, *Fire detection and alarm systems — Part 1: General and definitions*

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

IEC 60068-2-1, *Environmental testing — Part 2: Tests. Tests A: cold*

IEC 60068-2-6, *Environmental testing — Part 2: Tests. Test Fc: vibration (sinusoidal)*

IEC 60068-2-47, *Environmental testing — Part 2: Test methods — Mounting of components, equipment and other articles for vibration, impact and similar dynamic tests*

IEC 60068-2-75, *Environmental testing — Part 2: Tests — Test Eh: Hammer tests*

IEC 60068-2-78, *Environmental testing — Part 2-78: Tests – Test Cab: Damp heat, steady state*

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

IEC 60721-3-3:1994, *Classification of environmental conditions — Part 3: Classification of groups of environmental parameters and their severities —Section 3: Stationary use and weatherprotected locations*

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

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 7240-1 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at https://www.electropedia.org/

— ISO Online browsing platform: available at https://www.iso.org/obp