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Third edition
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Fire detection and alarm systems —

Part 7: Point-type smoke detectors using scattered light, transmitted light or ionization

Systèmes de détection et d'alarme d'incendie —

Partie 7: Détecteurs de fumée ponctuels utilisant le principe de la diffusion de la lumière, de la transmission de la lumière ou de l'ionisation



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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).

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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 third edition cancels and replaces the second edition (ISO 7240:2011), which has been technically revised.

The main change compared to the previous edition is the introduction of requirements and tests/assessment methods for a new detector technology: open detectors. Definitions for open detectors and traditional closed detectors have been included in [Clause 3](#).

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

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Introduction

This document is based on a draft prepared by the European Committee for Standardization's CEN/TC 72, *Automatic fire detection systems*.

A fire detection and alarm system is required to function satisfactorily not only in the event of fire, but also during and after exposure to conditions likely to be met in practice, including corrosion, vibration, direct impact, indirect shock and electromagnetic interference. Specific tests are intended to assess the performance of the smoke detectors under such conditions.

This document is not intended to place any other restrictions on the design and construction of such detectors.

This edition of this document introduces a requirement for smoke detectors that operate on the scattered or transmitted light principle to be marked with one of two possible nominal response threshold value bands. This marking provides for a clearer choice of response values so that the risk of unwanted alarms may be decreased in installations where unfavourable environmental conditions are present.

NOTE For some test fires, smoke detectors that operate on the scattered or transmitted light principle and that have been factory set to the upper response threshold value band can fall outside one of the classification limits given in ISO/TS 7240-9.

This edition of this document introduces additional requirements for optical smoke detectors with the sensing volume(s) outside the enclosure.