

TULEKAHJU AVASTAMISE JA TULEKAHJUST
ALARMEERIMISE SÜSTEEM. OSA 1: SISSEJUHATUS

Fire detection and fire alarm systems - Part 1:
Introduction

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 54-1:2021 sisaldab Euroopa standardi EN 54-1:2021 ingliskeelset teksti.	This Estonian standard EVS-EN 54-1:2021 consists of the English text of the European standard EN 54-1:2021.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 23.06.2021.	Date of Availability of the European standard is 23.06.2021.
Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

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English Version

Fire detection and fire alarm systems - Part 1: Introduction

Systèmes de détection et d'alarme incendie - Partie 1 :
Introduction

Brandmeldeanlagen - Teil 1: Einleitung

This European Standard was approved by CEN on 23 May 2021.

CEN 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 CEN-CENELEC Management Centre or to any CEN 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 CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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European foreword

This document (EN 54-1:2021) has been prepared by Technical Committee CEN/TC 72 “Fire detection and fire alarm systems”, the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 2021, and conflicting national standards shall be withdrawn at the latest by December 2021.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 54-1:2011.

The main changes compared to the previous edition are listed below:

- a) addition of further terms;
- b) deletion of Section 5 (Compliance);
- c) addition of informative Annex B with examples of distributed CIE, distributed VACIE and network of CIEs;
- d) editorial changes.

EN 54, *Fire detection and fire alarm systems*, is currently composed of the following parts:

- *Part 1: Introduction*
- *Part 2: Control and indicating equipment*
- *Part 3: Fire alarm devices — Sounders*
- *Part 4: Power supply equipment*
- *Part 5: Heat detectors — Point heat detectors*
- *Part 7: Smoke detectors — Point smoke detectors using scattered light, transmitted light or ionization*
- *Part 10: Flame detectors — Point detectors*
- *Part 11: Manual call points*
- *Part 12: Smoke detectors — Line detectors using an optical light beam*
- *Part 13: Compatibility and connectability assessment of system components*
- *Part 14: Guidelines for planning, design, installation, commissioning, use and maintenance (CEN/TS 54-14)*
- *Part 16: Voice alarm control and indicating equipment*
- *Part 17: Short-circuit isolators*

- *Part 18: Input/output devices*
- *Part 20: Aspirating smoke detectors*
- *Part 21: Alarm transmission and fault warning routing equipment*
- *Part 22: Resettable line type heat detectors*
- *Part 23: Fire alarm devices — Visual alarm devices*
- *Part 24: Components of voice alarm systems — Loudspeakers*
- *Part 25: Components using radio links*
- *Part 26: Carbon monoxide detectors — Point detectors*
- *Part 27: Duct smoke detectors*
- *Part 28: Non-resettable line type heat detectors*
- *Part 29: Multi-sensor fire detectors — Point detectors using a combination of smoke and heat sensors*
- *Part 30: Multi-sensor fire detectors — Point detectors using a combination of carbon monoxide and heat sensors*
- *Part 31: Multi-sensor fire detectors — Point detectors using a combination of smoke, carbon monoxide and optionally heat sensors*
- *Part 32: Guidelines for the planning, design, installation, commissioning, use and maintenance of voice alarm systems (CEN/TS 54-32)*

For the current status of published standards refer to <https://www.cen.e>.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This document gives the necessary information for the intended use of the series of EN 54 standards. The EN 54 series applies to fire detection and fire alarm systems for buildings and civil engineering works composed of several components that communicate for the purpose of detecting fire at the earliest practicable moment, and:

- to give audible and/or visible signals to the occupants of the building who might be at risk from a fire;
- to provide remote fire alarms to organizations having authority to take care of buildings and their environment;
- to give signals to initiate, in the event of a fire, the operation of other fire protection and equipment/systems.

The EN 54 series specifies:

- product characteristics, test methods and performance criteria against which the effectiveness and reliability of the component parts of fire detection and fire alarm systems can be assessed and declared;
- requirements for compatibility and connectability of components when combined into a system;
- guidelines for application of fire detection and fire alarm systems in buildings and civil engineering works.

The EN 54 series may be used for other applications e.g. mines and ships, but one should consider the specific nature of each application before use. Additional performance and environmental tests might be necessary. This does not preclude the manufacture or use of systems having special characteristics suitable for the protection of specific risks against specific hazards.

As this revision of the standard includes terms and definitions collated from specific parts of EN 54, there can now be some duplication of terms and definitions in other parts. This situation will be corrected in future revisions of the different parts of EN 54 so that definitions are defined only once and are applied consistently throughout the series.

The functions of a fire detection and fire alarm system may be grouped to form subsystems such as a fire detection subsystem and a voice alarm subsystem.

As the system is required to function satisfactorily, not only under fire conditions, but also when exposed to conditions likely to be met in practice, the tests specified in the EN 54 series are intended to assess the performance of the components and the system under such conditions.

The performance of components is assessed from the results obtained in the specified tests. This performance does not ensure that this component will necessarily function correctly when connected with another component also conforming to the relevant part of EN 54 (e.g. control and indicating equipment with a fire detector), unless both components have been assessed together in accordance with EN 54-13.

1 Scope

This document defines the terms and definitions that are used throughout the EN 54 series of standards. It gives the principles on which each part of the series has been based and describes the functions carried out by the components of a fire detection and fire alarm system.

This document applies to fire detection and fire alarm systems for buildings and civil engineering works.

This document does not apply to smoke alarm devices which are covered by EN 14604.

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.

EN 54 (all parts), *Fire detection and fire alarm systems*

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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>

3.1 access level

one of several states of equipment in which selected

- controls can be operated;
- manual operations can be carried out;
- indications are visible; and/or
- information can be obtained and changed.

[SOURCE: ISO 7240-1:2014, 2.1.3, modified]

3.2 addressable device

device that can be individually identified at the CIE

3.3 aerosol tunnel smoke tunnel

test arrangement, producing a well-controlled increase of an artificial aerosol for the purpose of a reproducible assessment of the response behaviour of a smoke detector

3.4 ancillary equipment

equipment which supports fire related functions not currently defined in EN 54