

English Version

**Fire detection and fire alarm systems - Part 14: Guidelines  
for planning, design, installation, commissioning, use and  
maintenance**

Guide d'application pour la planification, la conception,  
l'installation, la mise en service, l'exploitation et la  
maintenance des systèmes de détection et d'alarme  
incendie

Brandmeldeanlagen - Teil 14: Leitfaden für Planung,  
Projektierung, Montage, Inbetriebsetzung, Betrieb und  
Instandhaltung

This Technical Specification (CEN/TS) was approved by CEN on 2 March 2018 for provisional application.

This Technical Specification (CEN/TS) was corrected and reissued by the CEN-CENELEC Management Centre on 7 November 2018.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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## European foreword

This document (CEN/TS 54-14:2018) has been prepared by Technical Committee CEN/TC 72 “Fire detection and fire alarm systems”, the secretariat of which is held by BSI.

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 CEN/TS 54-14:2004.

Compared to CEN/TS 54-14:2004, the following main changes have been made:

- all facts and figures of Annex A have been transferred into the main text and modernized;
- Table A.1 was modified to incorporate new technologies;
- new detector technologies e.g. multi sensor detectors or radio-linked detectors were incorporated;
- new requirements for cabling;
- all requirements for certification were eliminated;
- Annex D: Maintenance routine is new;
- Annex E: Commissioning checklist is new.

EN 54, *Fire detection and fire alarm systems*, consists 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 detectors;*
- *Part 7: Smoke detectors — Point 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 beam;*
- *Part 13: Compatibility assessment of system components;*
- *Part 14: Guidelines for planning, design, installation, commissioning, use and maintenance [CEN Technical Specification];*
- *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 alarms 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 [currently at voting stage];*
- *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: Planning, design, installation, commissioning, use and maintenance of voice alarm systems [CEN Technical Specification].*

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

## Introduction

Guidelines and standards for the planning, design, installation, commissioning, use and maintenance of a fire detection and fire alarm system are published by many different organizations within Europe.

This document is intended as a template to be used in the drafting, review and revision of any such national standards and guidelines. It is intended that this technical specification will assist in the harmonization of practice and standards of fire detection and fire alarm systems throughout Europe.

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## 1 Scope

This document provides guidelines for the application of automatic fire detection and fire alarm systems in and around buildings. The guideline covers planning, design, installation, commissioning, use and maintenance of the systems.

The guidelines cover systems intended for the protection of life and/or the protection of property. The guidelines cover systems with a control and indicating equipment and at least one manual call point or one fire detector. In the event of a fire the systems may be capable of providing signals to initiate the operation of ancillary equipment (such as fixed fire extinguishing systems) and other precautions and actions (such as machinery shutdown or remote transmission of alarms). These guidelines do not cover the ancillary services themselves or ancillary circuits to interface with them.

The guidelines do not cover systems combining fire alarm functions with other non-fire related functions.

The guidelines do not recommend whether or not an automatic fire detection and/or fire alarm system should be installed in any given premises.

These guidelines should be used by appropriately competent persons. However, guidance is also given to other persons purchasing or using a fire detection and / or fire alarm system.

Smoke alarms according to EN 14604 are not fire detection and fire alarm systems.

## 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 54-1:2011, *Fire detection and fire alarm systems — Part 1: Introduction*

EN 54-2:1997, *Fire detection and fire alarm systems — Part 2: Control and indicating equipment*

EN 54-3, *Fire detection and fire alarm systems — Part 3: Fire alarm devices — Sounders*

EN 54-4, *Fire detection and fire alarm systems — Part 4: Power supply equipment*

EN 54-5, *Fire detection and fire alarm systems — Part 5: Heat detectors — Point heat detectors*

EN 54-7, *Fire detection and fire alarm systems — Part 7: Smoke detectors — Point detectors using scattered light, transmitted light or ionization*

EN 54-10, *Fire detection and fire alarm systems — Part 10: Flame detectors — Point detectors*

EN 54-11, *Fire detection and fire alarm systems — Part 11: Manual call points*

EN 54-12, *Fire detection and fire alarm systems — Part 12: Smoke detectors — Line detectors using an optical beam*

EN 54-16, *Fire detection and fire alarm systems — Part 16: Voice alarm control and indicating equipment*

EN 54-20, *Fire detection and fire alarm systems — Part 20: Aspirating smoke detectors*

EN 54-21, *Fire detection and fire alarm systems — Part 21: Alarm transmission and fault warning routing equipment*

EN 54-22, *Fire detection and fire alarm systems — Part 22: Resettable line-type heat detectors*

EN 54-23, *Fire detection and fire alarm systems — Part 23: Fire alarm devices — Visual alarm devices*

EN 54-24, *Fire detection and fire alarm systems — Part 24: Components of voice alarm systems - Loudspeakers*

EN 54-25, *Fire detection and fire alarm systems — Part 25: Components using radio links*

EN 54-27, *Fire detection and fire alarms systems — Part 27: Duct smoke detectors*

EN 54-28, *Fire detection and fire alarm system — Part 28: Non-resettable line-type heat detectors*

EN 54-29, *Fire detection and fire alarm systems — Part 29: Multi-sensor fire detectors - Point detectors using a combination of smoke and heat sensors*

CEN/TS 54-32, *Fire detection and fire alarm systems — Part 32: Planning, design, installation, commissioning, use and maintenance of voice alarm systems*

EN 16763:2017, *Services for fire safety systems and security systems*

EN 50200:2015, *Method of test for resistance to fire of unprotected small cables for use in emergency circuits*

EN 61672-1, *Electroacoustics — Sound level meters — Part 1: Specifications (IEC 61672 1)*

BS 8434-2, *Methods of test for assessment of the fire integrity of electric cables. Test for unprotected small cables for use in emergency circuits. BS EN 50200 with a 930° flame and with water spray*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 54-1:2011 and the following apply.

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

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

#### 3.1

##### **acceptance**

decision that the installed system meets the requirements of a previously agreed specification

#### 3.2

##### **alarm load**

maximum power (normally electrical) that might be required under the fire condition

#### 3.3

##### **approval**

acceptance by a third party that the installed system satisfies the requirements of the third party