

**AUTOMAAATNE
TULEKAHJUSIGNALISATSIOONISÜSTEEM. OSA 25:
RAADIOLINKE KASUTAVAD KOMPONENDID**

**Fire detection and fire alarm systems - Part 25:
Components using radio links**

EESTI STANDARDI EESSÕNA**NATIONAL FOREWORD**

See Eesti standard EVS-EN 54-25:2008 sisaldab Euroopa standardi EN 54-25:2008 ingliskeelset teksti.	This Estonian standard EVS-EN 54-25:2008 consists of the English text of the European standard EN 54-25:2008.
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English Version

Fire detection and fire alarm systems - Part 25: Components using radio links

Systèmes de détection et d'alarme incendie - Partie 25:
Composants utilisant des liaisons radioélectriques

Brandmeldeanlagen - Teil 25: Bestandteile, die
Hochfrequenz-Verbindungen nutzen

This European Standard was approved by CEN on 20 January 2008.

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Foreword

This document (EN 54-25:2008) 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of an identical text or by endorsement, at the latest by September 2008, and conflicting national standards shall be withdrawn at the latest by March 2011.

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

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

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 ionisation*
- *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 assessment of system components*
- *Part 14: Guidelines for planning, design, installation, commissioning, use and maintenance*
- *Part 15: Point detectors using a combination of detected fire phenomena*
- *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: Line-type heat detectors*
- *Part 23: Fire alarm devices – Visual alarms*
- *Part 24: Components of voice alarm systems – Loudspeakers*
- *Part 25: Components using radio links*
- *Part 26: Point fire detectors using carbon monoxide sensors¹⁾*
- *Part 27: Duct smoke detectors¹⁾*

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

1) Under preparation.

Introduction

The aim of this European Standard is to define additional requirements to other parts of EN 54 and tests that allow radio fire detection systems and components complying with them to be at least efficient and stable as wired fire detection systems and components complying with the current requirements of cable based systems in the EN 54 standards.

System and component aspects are dealt with in this European Standard because it is difficult to describe the components of a radio-linked system separately.

Capacity limitations with respect to the use of radio components may be specified in national technical rules or guidelines.

Technical aspects of the assessment of frequencies, bands and channels should be considered.

1 Scope

This European Standard specifies requirements, test methods and performance criteria for components used in fire alarms systems, installed in and around buildings, which use radio frequency links (RF links) to communicate. It also provides requirements for the evaluation of conformity of the components to the requirements of this European Standard.

Where components work together and this requires knowledge of the system design, this document also specifies requirements on the system.

When the fire detection and fire alarm systems (FDAS) use wired and RF links, the relevant parts of EN 54 apply together with this document. Requirements relevant to wire links are superseded or modified by those included in this European Standard.

This document does not restrict:

- the intended use of radio spectrum, e.g. frequency, power output of devices;
- the allowed maximum number of the components using RF links within the FDAS or one transmission path and/or RF link;
- the allowed maximum number of the components affected by loss of one transmission path and/or RF link.

These requirements relate to national regulations and can vary from member state to member state.

2 Normative references

The following referenced documents are indispensable for the application 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 54-2, *Fire detection and fire alarm systems — Part 2: Control and indicating equipment*

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 detectors*

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

EN 50130-4, *Alarm systems — Part 4: Electromagnetic compatibility — Product family standard: Immunity requirements for components of fire, intruder and social alarm systems*

EN 60068-2-1, *Environmental testing — Part 2-1: Tests — Tests A: Cold (IEC 60068-2-1:2007)*

EN 60068-2-2, *Basic environmental testing procedures — Part 2-2: Tests — Tests B: Dry heat (IEC 60068-2-2:1974 + IEC 60068-2-2A:1976)*

EN 60068-2-6, *Environmental testing — Part 2-6: Tests — Tests Fc: Vibration (sinusoidal) (IEC 60068-2-6:1995 + Corrigendum 1995)*

EN 60068-2-27, *Basic environmental testing procedures — Part 2: Tests — Test Ea and guidance: Shock (IEC 60068-2-27:1987)*

EN 60068-2-30, *Environmental testing — Part 2-30: Tests — Test Db: Damp heat, cyclic (12 h + 12 h cycle) (IEC 60068-2-30:2005)*

EN 60068-2-42, *Environmental testing — Part 2-42: Test methods — Test Kc: Sulphur dioxide test for contacts and connections (IEC 60068-2-42:2003)*

EN 60068-2-78, *Environmental testing — Part 2-78: Tests — Test Cab: Damp heat, steady state (IEC 60068-2-78:2001)*

EN 300113-1 V 1.4.1:2002, *Electromagnetic compatibility and Radio spectrum Matters (ERM) — Land mobile service — Radio equipment intended for the transmission of data (and/or speech) using constant or non-constant envelope modulation and having an antenna connector — Part 1: Technical characteristics and methods of measurement*

EN 300220-1 V 1.3.1:2000, *Electromagnetic compatibility and Radio spectrum Matters (ERM) — Short range devices — Radio equipment to be used in the 25 MHz to 1000 MHz frequency range with power levels ranging up to 500 mW — Part 1: Technical characteristics and test methods*

EN ISO 9001, *Quality management systems — Requirements (ISO 9001:2000)*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in the relevant part of EN 54 and the following apply.

3.1.1

antenna

element of a radio component of the fire detection and fire alarm system (FDAS) that allows coupling between the component and the media where radio frequency (RF) waves are propagated

3.1.2

assigned band

frequency band within which the equipment is authorised to operate

3.1.3

site attenuation

degradation of the RF signal due to either path loss or a change in the environment of the FDAS after its installation

NOTE Site attenuation can be changed by e.g. installation or relocation of reflection or absorption materials.

3.1.4

autonomous power source

independent power supply equipment (i.e. without any link with the public power supply or an equivalent system) not rechargeable during operation and able by itself to allow the supplied component to run

NOTE An autonomous power source is e.g. a primary battery.

3.1.5

base station

transceiver in the system which communicates with a certain number of components

3.1.6

collision

simultaneous transmissions, from two or more transmitters belonging to the same system, of sufficient signal strength to cause, by mutual interaction, corruption or obliteration of the information carried by the RF signals