



**BSI Standards Publication**

**Electrical apparatus for the detection of  
carbon monoxide in domestic premises,  
caravans and boats — Guide on the selection,  
installation, use and maintenance**

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## National foreword

This British Standard is the UK implementation of EN 50292:2023. It supersedes BS EN 50292:2013, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee EXL/31/1, Gas detectors.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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## EUROPÄISCHE NORM

April 2023

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Supersedes EN 50292:2013

English Version

## Electrical apparatus for the detection of carbon monoxide in domestic premises, caravans and boats - Guide on the selection, installation, use and maintenance

Matériels électriques pour la détection de monoxyde de carbone dans les locaux à usage domestique, caravanes et bateaux - Guide de sélection, d'installation, d'utilisation et de maintenance

Elektrische Geräte für die Detektion von Kohlenmonoxid in Wohnhäusern, Caravans und Booten - Leitfaden für Auswahl, Installation, Benutzung und Instandhaltung

This European Standard was approved by CENELEC on 2023-03-20. CENELEC 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 CENELEC 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 CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.



European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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## European foreword

This document (EN 50292:2023) has been prepared by CLC/TC 216, "Gas detectors".

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2024-03-20
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2026-03-20

This document supersedes EN 50292:2013 and all of its amendments and corrigenda (if any).

EN 50292:2023 includes the following significant technical changes with respect to EN 50292:2013 (various minor changes have also been made):

- Document title revised to include applications that are similar to domestic premises;
- Section titles have been revised to be clearer;
- Normative references have been extended to include smoke and CO alarm standards;
- Clause 3, Definitions have been extended and revised, e.g. to bring in line with other standards;
- Clause 4, sources of carbon monoxide have been revised to include wood pellets, and ethanol;
- 4.3.1, included reference to Inversion weather conditions;
- 4.3.3, revised title and text to improve clarity;
- 4.5, include reference to other smoke emitting sources such as Shisha venues;
- 4.6, Revised;
- 4.7, Revised with reference to CO diffusion;
- 5.2, Title revised;
- 5.2.1, Title revised;
- 5.2.2, Title revised;
- 5.2.2, Content revised for easier reading and improved clarity;
- 5.2.2.1, revised to improve clarity and refence to other standards included;
- 5.2.2.2, New section covering wood pellets, wood chips and biomass briquettes added;
- 5.2.2.3, renumbered and revised Caravans and recreational craft;
- 5.2.3, title revised for improved clarity;
- 5.2.3.1, Revised throughout;

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- 5.2.3.2, Title revised, Text revised for improved clarity;
- 5.2.3.3, Title revised, Text revised for improved clarity;
- 5.2.3.4, Title revised, Text revised for improved clarity;
- 5.2.3.5, Revised with additional information on siting in caravans and recreational craft;
- 5.3, Revised to include reference to other standards;
- 5.4, New section referencing Special needs and Risk Groups;
- Clause 6, Title revised;
- 6.1, text revised to include references to other sections in this document;
- 6.3, Title revised and updated text in relation to ventilation systems;
- 6.4, Added examples on hazards;
- 6.5, Revised section;
- 6.6, title and text revised to reference to the principle of two senses for additional signalling;
- Clause 7, Title revised;
- 7.1, revised for improved clarity;
- 7.2, revised for improved clarity;
- 7.5, revised for improved clarity;
- 7.6, Revised title and updated text on nuisance alarms;
- 7.7, Complete revision of maintenance and lifetimes sections;
- Clause 8, Emergency actions moved to Annex C.

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

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

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## Introduction

This document is intended to be a guide for people who, in the course of their professional activities, are required to install apparatus for the detection of carbon monoxide (CO) in domestic premises and rooms with similar purposes. It is also aimed at anyone who might supply such detectors to members of the public for subsequent installation according to national regulations, so that advice may be given based on good engineering practice.

Apparatus for the detection of carbon monoxide are not a substitute for good installation and regular servicing of fuel burning appliances or regular cleaning of chimneys, although they may provide an added margin of reassurance for users. Domestic carbon monoxide detectors with or without some form of executive function may overcome fears of fuel safety and may be particularly beneficial in certain circumstances.

It is necessary to understand that carbon monoxide toxicity may have different consequences according to the physical condition of the individual. Thus, a carbon monoxide detector designed according to the EN 50291 series may not fully safeguard individuals with specific medical conditions.

Carbon monoxide detectors are not intended to be used as an alternative to smoke alarms.

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## 1 Scope

This document serves as a guide on the selection, installation, use and maintenance of apparatus for the detection of carbon monoxide, intended for continuous operation in a fixed installation in domestic premises, caravans and boats. This guide is intended to cover any type of domestic or residential accommodation, including leisure accommodation vehicles such as touring and static caravans, and motor homes; and recreational craft such as canal barges. Some static caravans are used as permanent dwellings; in such cases EN 50291-1 is appropriate. For all other types of caravan, EN 50291-2 is appropriate. This guide is read in conjunction with EN 50291-1 and EN 50291-2 together with any additional relevant national or local regulations.

This document refers to the installation of two types of apparatus:

- a) Type A apparatus, to provide a visual and audible alarm and an executive action in the form of an output signal that can be used to actuate directly or indirectly a ventilation or other ancillary device;
- b) Type B apparatus, to provide a visual and audible alarm only.

This document excludes apparatus for the detection of combustible gases (see EN 50244) and for industrial installations or commercial premises.

## 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 1775, *Gas supply - Gas pipework for buildings - Maximum operating pressure less than or equal to 5 bar - Functional recommendations*

EN 50291-1:2018, *Gas detectors - Electrical apparatus for the detection of carbon monoxide in domestic premises - Part 1: Test methods and performance requirements*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply:

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

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

### 3.1

#### **domestic premises**

house or building, or part thereof, residential park homes, or non-recreational boats such as canal barges, in which persons sojourn, reside or sleep as intended

### 3.2

#### **fixed installation**

apparatus which is intended to have all parts except replaceable batteries permanently installed

### 3.3

#### **sensor**

assembly in which the sensing element is housed that may contain associated circuit component

### 3.4

#### **sensing element**

device, the output of which will change in the presence of carbon monoxide