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**BS EN 50292:2013**



**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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This British Standard is the UK implementation of EN 50292:2013. It supersedes BS EN 50292:2002 which is withdrawn.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 secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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English version

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

Appareils 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 2013-07-15. 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.

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**CENELEC**

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

**Management Centre: Avenue Marnix 17, B - 1000 Brussels**

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## Foreword

This document (EN 50292:2013) 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) 2014-07-15
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2016-07-15

This document supersedes EN 50292:2001.

EN 50292:2013 includes the following significant technical changes with respect to EN 50292:2001 (various minor changes have also been made).

- Title and definitions are revised to be more general, i.e. to cover domestic premises, boats and caravans. This is a result of the splitting of EN 50291 into EN 50291-1 and EN 50291-2.
- In 4.3.1 of EN 50292:2001, incorrect terminology "warm air systems" is replaced by "ducted air heaters" (in 4.3.2 of EN 50292:2013).
- In 4.7, a more general title replaces the previous one as CO migration applies not only to multi-occupancy and multi-storey buildings but also to any premises connected to other premises, such as semi-detached and terrace premises, where the migration of CO is possible.
- In 5.2.1 and 5.2.2, the use of caravans and boats is included in installation/location information.
- In 5.3, an additional type of apparatus is added, capable of identifying lower concentrations of CO than would be needed to trigger an alarm. Such features are available in certain products, and may be useful to some at-risk groups, especially people who have respiratory health issues.
- In 6.2, the text is modified so that triggering a shut-off valve should be on the main gas supply, ideally at the gas meter/cylinder outlet, so that the entire installation is isolated (and not only individual appliances as stated in the previous version), as the source may not be that appliance.
- In 6.4, the text is modified to state that it is more important that the gas supply is isolated rather than the electrical supply. There is no need to make an exception for a gas appliance with an electrical connection. The carbon monoxide detection apparatus should not be used to operate the mains electrical switch, since such action may create unnecessary hazard for occupants of the premises.
- A new subclause 7.1 "Use of alarm" is added. It includes the requirement to advise the user that a CO alarm does not replace the correct installation, commissioning and regular maintenance by a competent person. This is required in the instruction booklet by EN 50291-1:2010, 4.7.4, item 'n'.

NOTE This was already stated in the introduction to EN 50292 but it is emphasised in the new 7.1.

- In 7.5, text relating to hydrogen interference is added.
- In Clause 8, recommendation to isolate the emergency control valve for gas installations is added.
- In Clause 8, text advising that the Gas Emergency Service Provider should be contacted in the first instance is added.
- A new Figure A.1 is added, showing CO-concentration and exposure time curves for various COHb levels including 2,5 % COHb (the protection level recommended by WHO).
- In A.2, text about health effects on vulnerable groups, derived from WHO, is added.
- Figure B.1 is modified to illustrate how alarm set points in EN 50291-1 align with the 2,5 % and 5 % COHb curves, providing a more practical rationale rather than the previous theoretical one.

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## Introduction

This European Standard 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. 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 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 a smoke alarm.

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## 1 Scope

This European Standard 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 should be read in conjunction with EN 50291-1 and EN 50291-2 together with any additional relevant national or local regulations.

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

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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*

## 3 Terms and definitions

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

### 3.1

#### **domestic premises**

any house or building, or part thereof, residential park homes, or non-recreational boats such as canal barges, being the place of residence or home of a household, family or person

### 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

### 3.5

#### **continuous operation**

apparatus that is continuously powered with continuous or intermittent automatic sensing