

© Copyright SEK. Reproduction in any form without permission is prohibited.

## Elektriska apparater för detektering av kolmonoxid i hemmiljö, husvagnar och båtar – Vägledning vid val, installation, användning och underhåll

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

Som svensk standard gäller europastandarden EN 50292:2013. Den svenska standarden innehåller den officiella engelska språkversionen av EN 50292:2013.

### Nationellt förord

Tidigare fastställd svensk standard SS-EN 50292, utgåva 1, 2002, gäller ej fr o m 2016-07-15.

---

ICS 13.320.00

---

Denna standard är fastställd av SEK Svensk Elstandard,  
som också kan lämna upplysningar om **sakinnehållet** i standarden.  
Postadress: Box 1284, 164 29 KISTA  
Telefon: 08 - 444 14 00.  
E-post: [sek@elstandard.se](mailto:sek@elstandard.se). Internet: [www.elstandard.se](http://www.elstandard.se)

---

### *Standarder underlättar utvecklingen och höjer elsäkerheten*

Det finns många fördelar med att ha gemensamma tekniska regler för bl a mätning, säkerhet och provning och för utförande, skötsel och dokumentation av elprodukter och elanläggningar.

Genom att utforma sådana standarder blir säkerhetsfordringar tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

### *SEK är Sveriges röst i standardiseringsarbetet inom elområdet*

SEK Svensk Elstandard svarar för standardiseringen inom elområdet i Sverige och samordnar svensk medverkan i internationell och europeisk standardisering. SEK är en ideell organisation med frivilligt deltagande från svenska myndigheter, företag och organisationer som vill medverka till och påverka utformningen av tekniska regler inom elektrotekniken.

SEK samordnar svenska intressenters medverkan i SEKs tekniska kommittéer och stödjer svenska experters medverkan i internationella och europeiska projekt.

### *Stora delar av arbetet sker internationellt*

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

Standardiseringsarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

### *Var med och påverka!*

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

### **SEK Svensk Elstandard**

Box 1284  
164 29 Kista  
Tel 08-444 14 00  
[www.elstandard.se](http://www.elstandard.se)

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.

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

**CENELEC**

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

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

<b>Contents</b>	<b>Page</b>
Foreword .....	3
Introduction.....	4
1 Scope .....	5
2 Normative references .....	5
3 Terms and definitions .....	5
4 Sources of carbon monoxide .....	7
4.1 General information .....	7
4.2 Normal exposure levels .....	7
4.3 Burning of carbonaceous materials for heating and cooking .....	7
4.4 Uncontrolled burning .....	8
4.5 Tobacco smoking .....	8
4.6 Internal combustion engines.....	8
4.7 Migration of CO.....	8
5 Installation.....	8
5.1 General .....	8
5.2 Location of the apparatus.....	8
5.3 Types of apparatus.....	10
6 Executive functions (type A apparatus only).....	11
6.1 General .....	11
6.2 Shut-off valve.....	11
6.3 Ventilation fan.....	11
6.4 Mains electrical switch.....	11
6.5 Remote alarm .....	11
6.6 Additional visual alarm .....	12
6.7 Link between detector and ancillary device .....	12
7 Advice to the user.....	12
7.1 Use of alarm .....	12
7.2 Manufacturer's instructions .....	12
7.3 Location.....	12
7.4 Power supply .....	12
7.5 Indicators.....	12
7.6 Alarms.....	13
7.7 Maintenance .....	13
7.8 Lifetimes .....	13
8 Emergency actions.....	13
Annex A (informative) Health effects .....	15
A.1 Toxic effects.....	15
A.2 Chronic effects on high risk groups.....	16
A.3 Normal COHb levels .....	17
A.4 Tobacco smoking .....	17
Annex B (informative) Philosophy of setting alarm points .....	18
Bibliography.....	20

## 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.

## 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.

## 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*