

Svenska Elektriska Kommissionen, SEK

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Elektriska apparater för detektering och mätning av syre eller brännbara eller giftiga gaser – Särskilda fordringar på digitala apparater och apparater med programvara

*Electrical apparatus for the detection and measurement of
combustible gases, toxic gases or oxygen –
Requirements and tests for apparatus using software and/or digital technologies*

Som svensk standard gäller europastandarden EN 50271:2001. Den svenska standarden innehåller den officiella engelska språkversionen av EN 50271:2001.

Nationellt förord

Standarden används tillsammans med tillämplig standard för detektering och mätning av brännbara eller giftiga gaser eller syrgas.

ICS 13.320

Denna standard är fastställd av Svenska Elektriska Kommissionen, SEK, som också kan lämna upplysningar om **sakinnehållet** i standarden.
Postadress: SEK, Box 1284, 164 29 KISTA
Telefon: 08 - 444 14 00. Telefax: 08 - 444 14 30
E-post: sek@sekom.se. Internet: www.sekom.se

**Electrical apparatus for the detection and measurement of combustible gases, toxic gases or oxygen -
Requirements and tests for apparatus using software
and/or digital technologies**

Appareils électriques de détection et de mesure des gaz combustibles, des gaz toxiques ou de l'oxygène -
Exigences et essais pour les appareils utilisant un logiciel et/ou des technologies numériques

Elektrische Geräte für die Detektion und Messung von brennbaren Gasen, giftigen Gasen oder Sauerstoff -
Anforderungen und Prüfungen für Warngeräte, die Software und/oder Digitaltechnik nutzen

This European Standard was approved by CENELEC on 2001-05-01. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

This European Standard was prepared by SC 31-9, Electrical apparatus for the detection and measurement of combustible gases to be used in industrial and commercial potentially explosive atmospheres, of Technical Committee CENELEC TC 31, Electrical apparatus for explosive atmospheres.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50271 on 2001-05-01.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2002-06-01
 - latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2004-04-01
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1 Scope

This European Standard specifies requirements and tests for electrical apparatus for the detection and measurement of combustible gases, toxic¹ gases or oxygen using software and/or digital technologies. It is applicable to fixed, transportable and portable apparatus intended for use

- in domestic premises or
- in industrial applications where safety integrity levels 1 or 2 of IEC 61508 or safety categories 1 or 2 of EN 954-1 are required.

In industrial applications this standard is also applicable to apparatus which are intended for use in hazardous areas which may contain explosive or potentially explosive atmospheres.

This European standard supplements the requirements of the European Standards for the detection and measurement of combustible gases and vapours (e.g. EN 61779-1 to EN 61779-5, EN 50194), toxic gases (e.g. EN 45544, EN 50291) or oxygen (e.g. EN 50104).

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest of the publication referred to applies.

EN 954-1	Safety of machinery. Safety related parts of control systems - Part 1: General principles for design
EN 45544-1	Workplace atmospheres - Electrical apparatus used for the direct detection and direct concentration measurement of toxic gases and vapours Part 1: General requirements and test methods
EN 45544-2	Part 2: Performance requirements for apparatus used for measuring concentrations in the region of limit values
EN 45544-3	Part 3: Performance requirements for apparatus used for measuring concentrations well above limit values
EN 45544-4	Part 4: Guide for selection, installation, use and maintenance
EN 50104	Electrical apparatus for the detection and measurement of oxygen – Performance requirements and test methods
EN 50194	Electrical apparatus for the detection of combustible gases in domestic premises – Test methods and performance requirements
EN 50291	Electrical apparatus for the detection of carbon monoxide in domestic premises – Test methods and performance requirements
EN 61779-1	Electrical apparatus for the detection and measurement of flammable gases Part 1: General requirements and test methods

¹ For the purposes of this standard the word 'toxic' should be taken to include 'very toxic', 'toxic', 'harmful', 'corrosive', 'irritating', 'carcinogenic', 'mutagenic' and 'toxic to reproduction'.