

**Elektromagnetiline ühilduvus. Elektriseadmed
põlevate gaaside, toksiliste gaaside ja hapniku
avastamiseks ja mõõtmiseks**

Electromagnetic compatibility - Electrical apparatus for
the detection and measurement of combustible gases,
toxic gases or oxygen

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 50270:2007 sisaldab Euroopa standardi EN 50270:2006 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 17.01.2007 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 24.11.2006.

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This Estonian standard EVS-EN 50270:2007 consists of the English text of the European standard EN 50270:2006.

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Võtmesõnad:

Standardite reprodutseerimis- ja levitamiseõigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonilisse süsteemi või edastamine ükskõik millises vormis või millisel teel on keelatud ilma Eesti Standardikeskuse poolt antud kirjaliku loata.

Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:
Aru 10 Tallinn 10317 Eesti; www.evs.ee; Telefon: 605 5050; E-post: info@evs.ee

English version

**Electromagnetic compatibility -
Electrical apparatus for the detection and measurement
of combustible gases, toxic gases or oxygen**

Compatibilité électromagnétique -
Appareils de détection et de mesure
de gaz combustible, de gaz toxique
et d'oxygène

Elektromagnetische Verträglichkeit -
Elektrische Geräte für die Detektion
und Messung von brennbaren Gasen,
toxischen Gasen oder Sauerstoff

This European Standard was approved by CENELEC on 2006-06-01. 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.

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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 50270 on 2006-06-01.

This European Standard supersedes EN 50270:1999.

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) 2007-06-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2009-06-01

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and covers essential requirements of EC Directive 89/336/EEC. See Annex ZZ.

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1 Scope

This European Standard specifies requirements for the electromagnetic compatibility (EMC) for electrical apparatus for the detection and measurement of combustible gases, toxic ¹⁾ gases or oxygen. This standard applies to apparatus intended for use in residential, commercial and light-industrial environments as well as to apparatus intended for use in industrial environments. The apparatus may be AC-, DC- or battery powered.

This European Standard is also applicable to apparatus which is intended for use in hazardous areas which may contain explosive or potentially explosive atmospheres. It covers only normal operation and does not cover safety requirements related to EMC phenomena.

This standard specifies requirements for immunity tests in relation to continuous and transient, conducted and radiated disturbances including electrostatic discharges and also for emission tests. The test requirements are specified for each port considered.

These requirements have been selected to ensure an adequate level of compatibility for apparatus at the appropriate locations. The levels do not, however, cover extreme cases, which may occur at any location, but with an extremely low probability of occurrence.

NOTE In special cases, situations will arise where the level of disturbances may exceed the levels specified in this standard, e.g. where an apparatus is installed in proximity to industrial, scientific or medical (ISM) equipment as specified in EN 55011 or where a hand-held transmitter is used in close proximity to an apparatus. In these instances special mitigation measures may have to be employed.

Apparatus falling within the scope of this European Standard is classified as follows by the following types.

- Type 1: apparatus intended for use in residential, commercial and light-industrial environments, as described in EN 61000-6-1 and EN 61000-6-3.
- Type 2: apparatus intended for use in industrial environments, as described in EN 61000-6-2 and EN 61000-6-4.

This European Standard does not apply to any of the following:

- apparatus intended for the detection of dusts or mists in air;
- scientific or laboratory based apparatus used only for analysis or measurement;
- apparatus used exclusively for process measurement purposes;
- apparatus for medical purposes;
- apparatus intended for the direct measurement of automotive exhaust gases.

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 45544 series	Workplace atmospheres - Electrical apparatus used for direct detection and direct concentration measurement of toxic gases and vapours
EN 50020	Electrical apparatus for potentially explosive atmospheres Intrinsic safety 'i'
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 50241 series	Specification for open path apparatus for the detection of combustible or toxic gases and vapours

¹⁾ The word 'toxic' is used in accordance with its dictionary definition and includes 'harmful', 'toxic' and 'very toxic' meanings.

EN 50291	Electrical apparatus for the detection of carbon monoxide in domestic premises: Test methods and performance requirements
EN 50379 Series	Specification for portable electrical apparatus designed to measure combustion flue gas parameters of heating appliances
EN 55011	Industrial, scientific and medical (ISM) radio-frequency equipment - Radiodisturbance characteristics - Limits and methods of measurement (CISPR 11, mod.)
EN 55022	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement (CISPR 22, mod.)
EN 55024:1998	Information technology equipment - Immunity characteristics - Limits and methods of measurement (CISPR 24:1997, mod.)
EN 61000-4-2:1995	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measuring techniques - Electrostatic discharge immunity test (IEC 61000-4-2:1995)
EN 61000-4-3:2006	Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test (IEC 61000-4-3:2006)
EN 61000-4-4:2004	Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test (IEC 61000-4-4:2004)
EN 61000-4-5:2006	Electromagnetic Compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test (IEC 61000-4-5:2005)
EN 61000-4-6:1996	Electromagnetic compatibility (EMC) - Part 4-6: Testing and measuring techniques - Immunity to conducted disturbances, induced by radio frequency fields (IEC 61000-4-6:1996)
EN 61000-4-8:1993	Electromagnetic compatibility (EMC) - Part 4-8: Testing and measuring techniques - Power-frequency magnetic field immunity test (IEC 61000-4-8:1993)
EN 61000-4-11:2004	Electromagnetic compatibility (EMC) - Part 4-11: Testing and measuring techniques - Voltage dips, short interruptions and voltage variations immunity tests (IEC 61000-4-11:2004)
EN 61000-6-1:2001	Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments (IEC 61000-6-1:1997, mod.)
EN 61000-6-2:2005	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments (IEC 61000-6-2:2005)
EN 61000-6-3:2001	Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments (CISPR/IEC 61000-6-3:1996, mod.)
EN 61000-6-4:2001	Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments (IEC 61000-6-4:1997, mod.)
EN 61779 Series	Electrical apparatus for the detection and measurement of flammable gases (IEC 61779 series)
IEC 60050 -161	International Electrotechnical Vocabulary Chapter 161: Electromagnetic compatibility