

**Plahvatusohtlikud keskkonnad. Osa 29-1:
Gaasidetektorid. Põlevgaasidetektorite
toimivusnõuded**

Explosive atmospheres -- Part 29-1: Gas
detectors - Performance requirements of
detectors for flammable gases

EESTI STANDARDI EESSÕNA**NATIONAL FOREWORD**

<p>Käesolev Eesti standard EVS-EN 60079-29-1:2008 sisaldab Euroopa standardi EN 60079-29-1:2007 ingliskeelset teksti.</p>	<p>This Estonian standard EVS-EN 60079-29-1:2008 consists of the English text of the European standard EN 60079-29-1:2007.</p>
<p>Standard on kinnitatud Eesti Standardikeskuse 31.01.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p>	<p>This standard is ratified with the order of Estonian Centre for Standardisation dated 31.01.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p>
<p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 23.11.2007.</p>	<p>Date of Availability of the European standard text 23.11.2007.</p>
<p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>The standard is available from Estonian standardisation organisation.</p>

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Võtmesõnad: detection, electrical apparatus, flammable gases, measurement

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Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:
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English version

**Explosive atmospheres -
Part 29-1: Gas detectors -
Performance requirements of detectors for flammable gases
(IEC 60079-29-1:2007, modified)**

Atmosphères explosives -
Partie 29-1: Détecteurs de gaz -
Exigences d'aptitude à la fonction
des détecteurs de gaz inflammables
(CEI 60079-29-1:2007, modifiée)

Explosionsfähige Atmosphäre -
Teil 29-1: Gasmessgeräte -
Anforderungen an das Betriebsverhalten
von Geräten für die Messung
brennbarer Gase
(IEC 60079-29-1:2007, modifiziert)

This European Standard was approved by CENELEC on 2007-11-01. 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, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the 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

The text of document 31/695/FDIS, future edition 1 of IEC 60079-29-1, prepared by IEC TC 31, Equipment for explosive atmospheres, was submitted to the IEC-CENELEC parallel vote.

A draft amendment, 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, containing common modifications to document 31/695/FDIS was submitted to the formal vote.

The combined texts of document 31/695/FDIS and the draft amendment prAA were approved by CENELEC as EN 60079-29-1 on 2007-11-01.

This European Standard supersedes EN 61779-1:2000 + A11:2004, EN 61779-2:2000, EN 61779-3:2000, EN 61779-4:2000 and EN 61779-5:2000.

The main changes with respect to the EN 61779 series are listed below:

- Subclause 4.2.3 (Alarm or output functions) was modified to ensure alarm devices cannot be adjustable outside their measuring range and to include requirements for de-activation of alarm devices;
- Subclause 4.2.7 (Stand-alone gas detection apparatus for use with separate control units) was added to allow separate evaluation of detection apparatus providing an industry recognized output signal;
- Subclause 4.2.8 (Separate control units for use with stand-alone gas detection apparatus) was added to allow separate evaluation of control unit apparatus using an industry recognized input signal;
- Subclause 4.2.9 (Software-controlled apparatus) was added to the document for improved evaluation of software. The added text is based upon the guiding principles and requirements of EN 50271;
- Subclause 5.2.1.1 was modified to require the center wavelength of the optical filters of two apparatus at the minimum and maximum limit of this standard;
- Subclause 5.2.1.2 was modified to allow the order of testing within each block to be conducted at the discretion of the test laboratory;
- Subclause 5.3.11 (Communications options) was added to ensure maximum transaction rates are applied during testing;
- Subclause 5.3.12 (Gas detection apparatus as part of systems) was added to ensure maximum transaction rates are applied during testing;
- Subclause 5.4.6 (Alarm set point(s)) was modified to include text related to alarms that are activated at decreasing concentrations;
- Subclause 5.4.10 (Air velocity) was modified to include testing at 3 m/s and 6 m/s;
- Subclause 5.4.16 (Time of response) was modified to exclude recovery time test requirements for Group II apparatus with a volume fraction up to 100 % LFL indication;
- Subclause 5.4.18 (High gas concentration operation above the measuring range) was modified to define the sequence of tests;
- Annex A (Performance requirements) has undergone major modifications by eliminating the gas/vapour table and replacing the annex with the performance requirements of Parts 2 to 5 of EN 61779. Additionally, performance requirements of Parts 2 to 5 of EN 61779 were adjusted for consistency as appropriate. The intent of this change is to condense Parts 1 to 5 of EN 61779 within a single standard.

This part of EN 60079-29 is to be used in conjunction with the following standards:

- EN 60079-0, Electrical apparatus for explosive gas atmospheres – Part 0: General requirements
- EN 60079-29-2, Explosive atmospheres – Part 29-2: Gas detectors – Selection, installation, use and maintenance of detectors for flammable gases and oxygen.

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) 2008-11-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2010-11-01

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 94/9/EC. See Annex ZZ.

Annexes ZA and ZZ have been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60079-29-1:2007 was approved by CENELEC as a European Standard with agreed common modifications as given below.

COMMON MODIFICATIONS

1 Scope

Delete NOTE 1 and **renumber** NOTE 2 to NOTE 4 as NOTE 1 to NOTE 3.

2 Normative references

Add the following undated references:

EN 50270, *Electromagnetic compatibility - Electrical apparatus for the detection and measurement of combustible gases, toxic gases or oxygen*

EN 50271, *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*

Delete IEC 61000-4-1.

Delete IEC 61000-4-3.

Delete IEC 61000-4-4.

3 Terms and definitions

In the 1st paragraph **replace** "IEC 60079-0" with "EN 60079-0".

4 General requirements

4.1.2 At the end of the 1st paragraph **replace** "... in the other relevant parts of the IEC 60079 series." with "...in the appropriate regulations for explosion protection".

In the 2nd paragraph **replace** "... of these other parts of IEC 60079" with "... of the appropriate regulations for explosion protection".

4.1.3 **Replace** by "Void".

4.2.9 **Replace** Subclauses 4.2.9.1 to 4.2.9.6 by:

The apparatus shall fulfil the requirements of EN 50271.

4.3 In the 1st paragraph **replace** "IEC 60079-0" with "EN 60079-0".

Delete the NOTE.

4.4 In the NOTE between c) and d) **replace** "IEC 60079-29-2" with "EN 60079-29-2".