

SLOVENSKI STANDARD

SIST EN 60079-29-2:2008

01-september-2008

Nadomešča:
SIST EN 50073:2000

Eksplozivne atmosfere - 29-2. del: Javljalniki plina - Izbira, vgradnja, uporaba in vzdrževanje (IEC 60079-29-2:2007)

Explosive atmospheres -- Part 29-2: Gas detectors - Selection, installation, use and maintenance of detectors for flammable gases and oxygen

Explosionsfähige Atmosphäre -- Teil 29-2: Gasmessgeräte - Auswahl, Installation, Einsatz und Wartung von Geräten für die Messung von brennbaren Gasen und Sauerstoff

Atmosphères explosives -- Partie 29-2: Détecteurs de gaz - Sélection, installation, utilisation et maintenance des détecteurs de gaz inflammables et d'oxygène

Ta slovenski standard je istoveten z: EN 60079-29-2:2007

ICS:

13.320	Alarmni in opozorilni sistemi	Alarm and warning systems
29.260.20	Električni aparati za eksplozivna ozračja	Electrical apparatus for explosive atmospheres

SIST EN 60079-29-2:2008 en,fr,de

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EUROPEAN STANDARD

EN 60079-29-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2007

ICS 29.260.20

English version

**Explosive atmospheres -
Part 29-2: Gas detectors -
Selection, installation, use and maintenance of detectors
for flammable gases and oxygen
(IEC 60079-29-2:2007)**

Atmosphères explosives -
Partie 29-2: Détecteurs de gaz -
Sélection, installation, utilisation
et maintenance des détecteurs
de gaz inflammables et d'oxygène
(CEI 60079-29-2:2007)

Explosionsfähige Atmosphäre -
Teil 29-2: Gasmessgeräte -
Auswahl, Installation, Einsatz und
Wartung von Geräten für die Messung
von brennbaren Gasen und Sauerstoff
(IEC 60079-29-2:2007)

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SIST EN 60079-29-2:2008

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.

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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

The text of document 31/696/FDIS, future edition 1 of IEC 60079-29-2, prepared by IEC TC 31, Equipment for explosive atmospheres, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60079-29-2 on 2007-11-01.

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 60079-29-1, Explosive atmospheres – Part 29-1: Gas detectors – Performance requirements of detectors for flammable gases.

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

Annex ZA has been added by CENELEC.

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The text of the International Standard IEC 60079-29-2:2007 was approved by CENELEC as a European Standard without any modification.

[SIST EN 60079-29-2:2008](https://standards.iteh.ai/catalog/standards/sist/6c5dc836a7c9/sist-en-60079-29-2-2008)

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IEC 60079-19	NOTE	Harmonized as EN 60079-19:2007 (not modified).
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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-426	- ¹⁾	International Electrotechnical Vocabulary (IEV) - Chapter 426: Electrical apparatus for explosive atmospheres	-	-
IEC 60079-0 (mod)	- ¹⁾	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements	EN 60079-0	2006 ²⁾
IEC 60079-10	- ¹⁾	Electrical apparatus for explosive gas atmospheres - Part 10: Classification of hazardous areas	EN 60079-10	2003 ²⁾
IEC/TR 60079-20	- ¹⁾	Electrical apparatus for explosive gas atmospheres - Part 20: Data for flammable gases and vapours, relating to the use of electrical apparatus	-	-
IEC 60079-29-1 (mod)	- ¹⁾	Explosive atmospheres - Part 29-1: Gas detectors - Performance requirements of detectors for flammable gases	EN 60079-29-1	2007 ²⁾

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

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IEC 60079-29-2

Edition 1.0 2007-08

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Explosive atmospheres –
Part 29-2: Gas detectors – Selection, installation, use and maintenance of
detectors for flammable gases and oxygen

Atmosphères explosives –
Partie 29-2: Détecteurs de gaz – Sélection, installation, utilisation et
maintenance des détecteurs de gaz inflammables et d'oxygène

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE
CODE PRIX

XD

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

EXPLOSIVE ATMOSPHERES –

**Part 29-2: Gas detectors –
Selection, installation, use and maintenance of detectors for flammable
gases and oxygen**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 60079-29-2 has been prepared by IEC technical committee 31: Equipment for explosive atmospheres.

This first edition of IEC 60079-29-2 cancels and replaces the first edition of IEC 61779-6:1999 and constitutes a technical revision.

The main changes with respect to the previous edition are listed below:

- Introduction was modified to provide a reference table for application of the particular document sections to specific job related functions.
- Clause 4 (Basic information on the properties, behaviour, and detection of gases and vapours) was added for user guidance on characteristics of gases and vapours.

INTRODUCTION

Flammable gas detection apparatus may be used whenever there is the possibility of a hazard to life or property caused by the accumulation of a flammable gas-air mixture. Such apparatus can provide a means of reducing the hazard by detecting the presence of a flammable gas and issuing suitable audible or visual warnings. Gas detectors may also be used to initiate precautionary steps (for example plant shutdown, evacuation, and operation of fire extinguishing procedures).

Apparatus may be used to monitor a gas atmosphere below the lower flammable limit in circumstances where accumulation of gas may result in a concentration of the gas/air mixture to potentially explosive levels. Performance requirements for gas detecting apparatus for such purposes are set out in IEC 60079-29-1.

However performance capability alone cannot ensure that the use of such apparatus will properly safeguard life or property where flammable gases may be present. The level of safety obtained depends heavily upon correct selection, installation, calibration and periodic maintenance of the apparatus, combined with knowledge of the limitations of the detection technique required. This cannot be achieved without responsible informed management.

An additional hazard to life is the toxicity of some gases and of the vapours of all liquids except water. It is not generally appreciated that all flammable vapours are potentially toxic at concentration levels which are very small fractions of their respective lower flammable limits. Apparatus covered by the IEC 60079-29-1 is not specifically intended for toxic protection, and additional personal protection precautions will normally be needed where personnel could be exposed to toxic vapours.

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Portable apparatus covered by the IEC 60079-29-1 and the IEC 60079-29-2 commonly have additional detectors for specific toxic gases and also for oxygen deficiency. Users are cautioned that even mild oxygen deficiency may be due to toxic concentrations of some other gas or vapour, which may not be detectable or adequately detected by the apparatus in use.

General requirements for the handbook or manual of any particular flammable gas detection apparatus are specified in IEC 60079-29-1. This standard provides some necessary background knowledge on the points mentioned above.

This standard has been specifically written to cover all the functions necessary to go from the need for gas detection all the way through ongoing maintenance of a successful gas detection operation. Different clauses are appropriate for different tasks within this range of operations. Each clause has been written as stand-alone as far as practicable. This meant that some information is repeated in different clauses but with a different emphasis.

The following table gives a broad suggestion as to the most relevant clauses to the typically tasks to be performed.

	Definitions	Basic information properties of gas and vapours	Measuring principles	Selection of apparatus	Behaviour of gas releases	Design and installation of fixed gas detection systems	Use of portable and transportable flammable gas detection apparatus	Training of operational personnel	Maintenance, routines procedures General administrative control	Measuring principles (full detail) (normative)	Environmental parameters (informative)
Function (Clause)	3	4	5	6	7	8	9	10	11	Annex A	Annex B
Authorities	+	+++	+++	+	+	-	-	-	+	-	-
General management	+	+++	+++	+	+	-	-	+	+	-	+
Selection	+++	+++	+	+++	+++	+	++	-	+	+++	+++
Design engineering / management	+++	+++	+	+++	+++	+++	-	-	-	+++	+++
Installation engineering / management	+++	+++	+	++	+++	+++	-	-	-	+++	+++
Installation, technical	++	+++	++	++	++	++	-	-	-	+	++
Commissioning	+++	+++	++	+	++	+++	++	+	-	-	-
Operations management	++	+++	++	+	+	++	++	+++	+++	+	+++
Operation training	+++	+++	+	+	+	+++	+++	+++	+++	+++	+++
Servicing / Calibration	+++	+++	-	-	-	++	++	+	+++	++	++
Repair	++	+++	++	-	-	+	+	+	+++	++	-
<p>“+++” Essential “++” Advisable “+” Useful “-” Not applicable</p> <p>NOTE It should be noted that Clause 5 is a simplified version of Annex A.</p>											

This standard makes recommendations how to establish maintenance and calibration intervals. In certain countries there are general or industry-specific regulations that are mandatory and those shall be followed as a minimum requirement.