ICS 29.260.20 SLOVENSKÁ TECHNICKÁ NORMA Apríl 2026

STN	**Výbušné atmosféry Časť 29-0: Detektory plynu Všeobecné požiadavky a skúšobné metódy**	**STN EN IEC 60079-29-0** 33 2320

Explosive atmospheres - Part 29-0: Gas detection equipment - General requirements and test methods

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 03/26

Obsahuje: EN IEC 60079-29-0:2026, IEC 60079-29-0:2025

Oznámením tejto normy sa od 31.01.2029 ruší
STN EN 60079-29-1 (33 2320) z júna 2017

STN EN 60079-29-4 (33 2320) z decembra 2010

STN EN 50104 (37 8330) z februára 2020

obsahuje farebné strany

142277

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 60079-29-0

January 2026

ICS 29.260.20

Supersedes EN 60079-29-4:2010; EN 60079-29-1:2016; EN 60079-29-1:2016/A1:2022; EN 60079-29-1:2016/A11:2022

English Version

Explosive atmospheres - Part 29-0: Gas detection equipment - General requirements and test methods (IEC 60079-29-0:2025)

Atmosphères explosives - Partie 29-0: Détecteurs de gaz - Exigences générales et méthodes d'essai (IEC 60079-29-0:2025)

Explosionsgefährdete Bereiche - Teil 29-0: Gaswarngeräte - Allgemeine Anforderungen und Prüfverfahren und mögliche ergänzende Normenteile. (IEC 60079-29-0:2025)

This European Standard was approved by CENELEC on 2026-01-01. 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 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.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 31/1889/FDIS, future edition 1 of IEC 60079-29-0, prepared by TC 31 "Equipment for explosive atmospheres" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60079-29-0:2026.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2027-01-31
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2029-01-31

This document supersedes EN 60079-29-4:2010, EN 60079-29-1:2016 and EN 50104:2019 and all of its amendments and corrigenda (if any).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 60079-29-0:2025 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standard indicated:

IEC 60079-29-1	NOTE	Approved as EN 60079-29-1
IEC 60079-29-3	NOTE	Approved as EN 60079-29-3
IEC 60079-29-4	NOTE	Approved as EN 60079-29-4
ISO 6142-1	NOTE	Approved as EN ISO 6142-1
ISO 6145-1	NOTE	Approved as EN ISO 6145-1
ISO 6145-4	NOTE	Approved as EN ISO 6145-4
ISO 6145-5	NOTE	Approved as EN ISO 6145-5
ISO 6145-6	NOTE	Approved as EN ISO 6145-6
ISO 6145-7	NOTE	Approved as EN ISO 6145-7
ISO 6145-9	NOTE	Approved as EN ISO 6145-9
ISO 6145-10	NOTE	Approved as EN ISO 6145-10
ISO 20581	NOTE	Approved as EN 482

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cencenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60079-29-2	-	Explosive atmospheres - Part 29-2: Gas detectors - Selection, installation, use and maintenance of detectors for flammable gases and oxygen	EN 60079-29-2	-
IEC 62990-2	-	Workplace atmospheres - Part 2: Gas detectors - Selection, installation, use and maintenance of detectors for toxic gases and vapours	EN IEC 62990-2	-
IEC 60068-2-6	-	Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	-
IEC 60079-0	-	Explosive atmospheres - Part 0: Equipment - General requirements	EN IEC 60079-0	-
IEC 60529	-	Degrees of protection provided by enclosures (IP Code)	-	-
IEC 61000-4-29	-	Electromagnetic compatibility (EMC) - Part 4-29: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations on d.c. input power port immunity tests	EN 61000-4-29	-
IEC 61326-1	-	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements	EN IEC 61326-1	-
IEC 62990-1	-	Workplace atmospheres - Part 1: Gas detectors - Performance requirements of detectors for toxic gases	-	-
ISO/IEC 80079-20-1	-	Explosive atmospheres - Part 20-1: Material characteristics for gas and vapour classification - Test methods and data	EN ISO/IEC 80079-20-1	-

IEC 60079-29-0

Edition 1.0 2025-11

INTERNATIONAL STANDARD

Explosive atmospheres -
Part 29-0: Gas detection equipment - General requirements and test methods

ICS 29.260.20 ISBN 978-2-8327-0860-6

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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Explosive atmospheres - Part 29-0: Gas detection equipment - General requirements and test methods

FOREWORD

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IEC 60079-29-0 has been prepared by the IEC technical committee 31: Equipment for explosive atmospheres. It is an International Standard.

This first edition of IEC 60079-29-0 cancels and replaces the second edition of 60079-29-1 published in 2016 and its Amendment 1:2020, and the first edition of IEC 60079-29-4 published in 2009. In addition, IEC 60079-29-0 Type TX-SM cancels and replaces Type SM of the first edition of IEC 62990-1; however, Type TX-HM will remain within the standard.

The text of this International Standard is based on the following documents:

Draft	Report on voting
31/1889/FDIS	31/1935/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

Users of this document are advised that interpretation sheets clarifying the interpretation of this document can be published. Interpretation sheets are available from the IEC webstore and can be found in the "history" tab of the page for each document.

A list of all parts in the IEC 60079-29 series, published under the general title *Explosive atmospheres*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

– reconfirmed,
– withdrawn, or
– revised.

INTRODUCTION

This part of IEC 60079-29 specifies general requirements, test methods and acceptance criteria that apply to flammable, oxygen and toxic gas detection equipment intended to detect gases and vapours and to provide an indication, alarm or other output function for personnel or property protection in industrial and commercial applications. This part of IEC 60079-29 was developed for the purpose of aligning requirements and test methods of gas detection equipment within a single consolidated document for consistency.

Although a wide range of conditions can be encountered in practice, this document specifies requirements to be fulfilled by gas detection equipment when tested under prescribed laboratory conditions.

General and performance requirements for Type TX-HM gas detection equipment intended for occupational exposure measurement in the region of Occupational Exposure Limit Values are set out in IEC 62990-1.

Consideration needs to also be given to the following relevant international standards:

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

IEC 62990-2, *Workplace atmospheres - Part 2: Gas detectors - Selection, installation, use and maintenance of detectors for toxic gases and vapours*

IEC 60079-29-3, *Explosive atmospheres - Part 29-3: Gas detectors - Guidance on functional safety of fixed gas detection systems*

1 Scope

This part of IEC 60079-29 specifies general requirements, test methods and acceptance criteria that apply to flammable, oxygen and toxic gas detection equipment intended to detect gases and vapours and to provide an indication, alarm or other output function for personnel or property protection in industrial and commercial applications.

NOTE 1 The term gas detection equipment is often referred to as the term gas detector.

NOTE 2 The terms 'gas' and 'gases' used in this document are also intended to include 'vapour' and 'vapours'.

This document applies to the following gas detection equipment:

– Gas detection equipment Type "FL" intended for the detection of flammable gases:
  - Type FL-Group I, in mines susceptible to firedamp;
  - Type FL-Group II, in locations other than mines susceptible to firedamp; and
  - Type FL-OP, open path gas detection equipment for flammable gases.
– Gas detection equipment Type "O2" intended for the detection of oxygen:
  - Type O2-DE, detection of oxygen deficiency or oxygen enrichment; and
  - Type O2-IN, inertisation as measuring function for explosion protection.

NOTE 3 Inertisation is an explosion protection technique where an explosive atmosphere is purged with inert gas.

– Gas detection equipment Type "TX" intended for the detection of toxic gases:
  - Type TX-SM, detection in areas for safety monitoring applications and typically using alarm signalling;
  - Type TX-HM, occupational exposure measurement in the region of occupational exposure limit values; and

NOTE 4 Type TX-HM gas detection equipment performance requirements reside in IEC 62990-1.

  - Type TX-OP, open path gas detection equipment for toxic gases.

NOTE 5 This document addresses equipment giving a level of performance suitable for general purpose applications. Specific applications might require particular tests or evaluations that are additional to and separate from the compliance with this document.

NOTE 6 Although the focus of this document is gas detection equipment for use in 'explosive atmospheres', this document can be applicable to detection in areas not formally classified as 'explosive atmospheres'.

NOTE 7 Refrigerant gas detection equipment used for life, health and safety area monitoring are within the scope of this document or IEC 62990-1.

This document is not applicable to equipment:

– used for medical applications;
– used only in laboratories for analysis or measurement;
– used only for process monitoring or control purposes (such as a gas analyser);
– used in the domestic environment;
– used in environmental air pollution monitoring;
– used for flue gas analysis;
– used for sampling systems external to the gas detection equipment;
– with samplers and concentrators such as sorbents or paper tape having an irreversible indication;
– consisting of a passive optical receiver without a dedicated optical source;
– equipment within the scope of IEC 60335-2-40 and IEC 60335-2-89.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

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

IEC 62990-2, *Workplace atmospheres - Part 2: Gas detectors - Selection, installation, use and maintenance of detectors for toxic gases and vapours*

IEC 60068-2-6, *Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)*

IEC 60079-0, *Explosive atmospheres - Part 0: Equipment - General requirements*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 61000-4-29, *Electromagnetic compatibility (EMC) - Part 4-29: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations on d.c. input power port immunity tests*

IEC 61326-1, *Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements*

IEC 62990-1, *Workplace atmospheres - Part 1: Gas detectors - Performance requirements of detectors for toxic gases*

ISO/IEC 80079-20-1, *Explosive atmospheres - Part 20-1: Material characteristics for gas and vapour classification - Test methods and data*