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

EESTI STANDARDIKESKUS
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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 60079-29-3:2014 sisaldab Euroopa standardi EN 60079-29-3:2014 ingliskeelset teksti.	This Estonian standard EVS-EN 60079-29-3:2014 consists of the English text of the European standard EN 60079-29-3:2014.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 20.06.2014.	Date of Availability of the European standard is 20.06.2014.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 29.260.20

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60079-29-3

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English Version

Explosive atmospheres - Part 29-3: Gas detectors - Guidance on functional safety of fixed gas detection systems (IEC 60079-29-3:2014)

Atmosphères explosives - Partie 29-3: Détecteurs de gaz - Recommandations relatives à la sécurité fonctionnelle des systèmes fixes de détection de gaz (CEI 60079-29-3:2014)

Explosionsfähige Atmosphäre - Teil 29-3: Gasmessgeräte - Leitfaden zur funktionalen Sicherheit von ortsfesten Gaswarnsystemen (IEC 60079-29-3:2014)

This European Standard was approved by CENELEC on 2014-05-01. 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 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

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Foreword

The text of document 31/1105A/FDIS, future edition 1 of IEC 60079-29-3, prepared by IEC TC 31, Equipment for explosive atmospheres, was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60079-29-3:2014.

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)	2015-02-01
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2017-05-01

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

– IEC 60079-0, Explosive atmospheres – Part 0: Equipment – General requirements
– IEC 60079-29-1, Explosive atmospheres – Part 29-1: Gas detectors – Performance requirements of detectors for flammable gases
– IEC 60079-29-2, Explosive atmospheres – Part 29-2: Gas detectors – Selection, installation, use and maintenance of detectors for flammable gases and oxygen
– IEC 60079-29-4, Explosive atmospheres – Part 29-4: Gas detectors – Performance requirements of open path detectors for flammable gases

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

Endorsement notice

The text of the International Standard IEC 60079-29-3:2014 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 standards indicated:

IEC 60079-1	NOTE	Harmonised as EN 60079-10-1.
IEC 61511-1	NOTE	Harmonised as EN 61511-1.
IEC 61511-2	NOTE	Harmonised as EN 61511-2.
IEC 61511-3	NOTE	Harmonised as EN 61511-3.

Annex ZA
(normative)
Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When 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.cenelec.eu

Publication	Year	Title	EN/HD	Year
IEC 60079-29-1 (mod)	-	Explosive atmospheres -- Part 29-1: Gas detectors - Performance requirements of detectors for flammable gases	EN 60079-29-1 +AA	-
IEC 60079-29-2	2007	Explosive atmospheres -- Part 29-2: Gas detectors - Selection, installation, use and maintenance of detectors for flammable gases and oxygen	EN 60079-29-2	2007
			+EN 60079-29-2:2007/corrigendum Dec. 2007	2007
IEC 60079-29-4 (mod)	-	Explosive atmospheres -- Part 29-4: Gas detectors - Performance requirements of open path detectors for flammable gases	EN 60079-29-4 +AA	-
IEC 61508	series	Functional safety of electrical/electronic/programmable electronic safety-related systems	EN 61508	series

CONTENTS

EXPLOSIVE ATMOSPHERES –

Part 29-3: Gas detectors – Guidance on functional safety of fixed gas detection systems

1 Scope

This International standard gives guidance for the design and implementation of a fixed gas detection system, including associated and/or peripheral gas detection equipment, for the detection of flammable gases/vapours and Oxygen when used in a safety-related application in accordance with IEC 61508 and IEC 61511. This International standard also applies to the detection of toxic gases.

Other parts of this international standard and pertinent local, national and international standards separately specify the performance requirements of a gas detector and a gas detection control unit (logic solver). These standards are commonly known as Metrological Performance Standards and are concerned with the accuracy of the measured value, the overall system performance, but not the device or system integrity with respect to the safety function. This international standard applies to the integrity of the safety function.

NOTE In certain jurisdictions, it can be a requirement for a Certification Body to certify the performance of equipment for the measurement of flammable gases, vapours, toxic gases and/or Oxygen used in life safety applications.

This international standard sets out safety-related considerations of fixed gas detection systems, including associated and/or peripheral gas detection equipment in terms of the framework and philosophy of IEC 61508, and introduces the particular requirements demanded by a fixed gas detection system as shown in Figure 2.

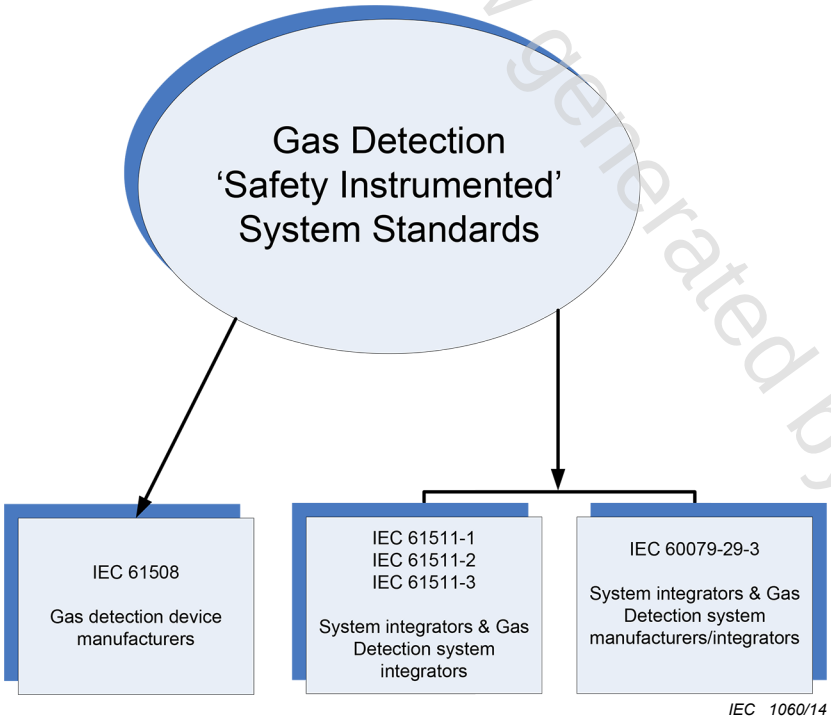

Figure 2 – Related Safety Instrumented System Standards