



NSAI
Standards

Irish Standard
I.S. EN 60079-29-4:2010&AC:2010

Explosive atmospheres - Part 29-4: Gas detectors - Performance requirements of open path detectors for flammable gases

I.S. EN 60079-29-4:2010&AC:2010

Incorporating amendments/corrigenda/National Annexes issued since publication:

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I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

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EN 60079-29-4:2010

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National Foreword

I.S. EN 60079-29-4:2010&AC:2010 is the adopted Irish version of the European Document EN 60079-29-4:2010, Explosive atmospheres - Part 29-4: Gas detectors - Performance requirements of open path detectors for flammable gases

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

For relationships with other publications refer to the NSAI web store.

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In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

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IEC 60079-29-4
(First edition – 2009)

Explosive atmospheres –
Part 29-4: Gas detectors – Performance
requirements of open path detectors for
flammable gases

CEI 60079-29-4
(Première édition – 2009)

Atmosphères explosives –

Partie 29-4: DéTECTEURS de gaz – Exigences
d'aptitude à la fonction des détECTEURS de
gaz inflammables à chemin ouvert

C O R R I G E N D U M 1

Subclause 5.2.4.3, fourth line

Paragraphe 5.2.4.3, quatrième ligne

Instead of:

“10 mm/s”

Au lieu de :

“10 mm/s”

read:

“10 cm/s ± 5 cm/s”.

lire :

“10 cm/s ± 5 cm/s”.

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> |
|-------------------------|-------------|--|---------------|-------------|
| - | - | Electromagnetic compatibility - Electrical apparatus for the detection and measurement of combustible gases, toxic gases or oxygen | EN 50270 | - |
| - | - | 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 | EN 50271 | - |
| IEC 60079 | Series | Explosive atmospheres | EN 60079 | Series |
| IEC 60079-0 | - | Explosive atmospheres - Part 0: Equipment - General requirements | EN 60079-0 | - |
| IEC 60079-29-1 (mod) | - | Explosive atmospheres - Part 29-1: Gas detectors - Performance requirements of detectors for flammable gases | EN 60079-29-1 | - |
| IEC 60825-1 | - | Safety of laser products - Part 1: Equipment classification and requirements | EN 60825-1 | - |

Annex ZY
(informative)

**Significant changes between this European Standard and EN 50241-1:1999
and EN 50241-2:1999**

This European Standard supersedes EN 50241-1:1999 and EN 50241-2:1999.

The significant changes with respect to EN 50241-1:1999 and EN 50241-2:1999 are as listed below.

| | Type | | |
|---|-----------------------------|-----------|---|
| | Minor and editorial changes | Extension | Substantial change regarding ESR's ^a |
| Normative references: EN 60068-2-6 (vibration), removed, EN 50271 (software) added | X | | |
| Definitions: 3 modified, 3 added, 2 removed | X | | |
| General requirements 4.1 and 4.1.1 modified, 4.1.5 replaced by 4.3 (Software-controlled equipment, new), 4.2.2.4 (low battery indications) replaced within 4.2.4 (Fault signals, new) | X | | |
| General requirements and normal conditions for tests modified and extended (clauses 5.1, 5.2.4.1, 5.2.4.2, 5.3.2, 5.3.3, 5.3.7, 5.3.8, 5.3.11, 5.3.12) | X | | |
| Test method 5.4.2 (Unpowered storage) modified | X | | |
| Test method 5.4.3 (Calibration curve) modified | | X | X |
| Test method 5.4.4.1, 'Short term drift' test removed, replaced with 'Slow increase of gas volume ratio' for equipment with automatic drift compensation | | X | X |
| Test method 5.4.4.2 (Long term stability) modified | X | | |
| Test method 5.4.4.3, Long term stability (continuous duty, battery powered) test added | | X | X |
| Test method 5.4.4.4, Stability (spot reading equipment only) test added | | X | X |
| Test method 5.4.6 (Temperature variation) modified | X | | |
| Requirements for test 5.4.6 modified | X | | |
| Test method 5.4.7 removed (Pressure variation) | X | | |
| Test method 5.4.7 (Water vapour interference) modified | X | | |
| Requirements for test 5.4.7 modified | X | | |
| Test method 5.4.8 (Vibration) modified | X | | |
| Requirements for test 5.4.8 modified | X | | |
| Test method 5.4.9, Drop test for portable and transportable equipment added | | X | X |

| | Type | | |
|---|-----------------------------|-----------|---|
| | Minor and editorial changes | Extension | Substantial change regarding ESR's ^a |
| Test method 5.4.12, Minimum time to operate (spot reading equipment) test added | | X | X |
| Test method 5.4.13 removed (Power supply interruptions etc, now part of EMC requirement of EN 50270) | X | | |
| Test method 5.4.13, Battery capacity test added | | X | X |
| Test method 5.4.14 (Power supply variations) modified | X | | |
| Test method 5.4.16 removed (Attenuation of radiation, now part of 5.4.20, Long range operation) | X | | |
| Requirements for test 5.4.16 (now Recovery from power supply interruption) modified | X | | |
| Test method 5.4.19, Partial obscuration test added | | X | X |
| Requirements for test 5.4.20 (Long range operation) modified | X | | |
| Labelling and marking requirements modified | X | | |
| Annex A removed (atmospheric visibility) | X | | |
| New Annex A added (water vapour test apparatus) | X | | |
| Bibliography much reduced | X | | |
| The requirements of EN 50241-2 have been incorporated into the test methods of the new standard, thus combining the two previous standards into one | X | | |
| ^a ESR = Essential Health and Safety Requirements (Annex II of Directive 94/9/EC) | | | |

General conclusion on the change of the State of the Art by this standard

CENELEC/TC 31 as the responsible committee has concluded that this new edition contains substantial changes regarding the ESRs.

Annex ZZ
(informative)

Coverage of Essential Requirements of EC Directives

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European free Trade Association and within its scope the Standard covers only the following essential requirements given in Annex II, Clauses 1.5.5 to 1.5.8 of the EC Directive 94/9/EC:

- ER 1.5.5 to 1.5.7 – the essential safety requirements for devices with a measuring function for explosion protection
 - 1.5.5 is covered by 5.4 of this standard
 - 1.5.6 is covered by 4.2.1, 4.2.2, and 4.2.4
 - 1.5.7 is covered by 4.2.3 and 5.4
- ER 1.5.8 – the risks arising from software
 - 1.5.8 is covered by 4.3

Compliance with this standard provides one means of conformity with the specified essential requirements of the Directive concerned.

WARNING: Other requirements and other EC Directives can be applied to the products falling within the scope of this standard.



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INTERNATIONAL STANDARD

NORME INTERNATIONALE



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