



UL 60079-29-1

STANDARD FOR SAFETY

Explosive Atmospheres – Part 29-1:
Gas Detectors – Performance
Requirements of Detectors for
Flammable Gases

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UL Standard for Safety for Explosive Atmospheres – Part 29-1: Gas Detectors – Performance Requirements of Detectors for Flammable Gases, UL 60079-29-1

Second Edition, Dated May 31, 2019

Summary of Topics

Adoption of IEC 60079-29-1, Explosive Atmospheres – Part 29-1: Gas Detectors – Performance Requirements of Detectors for Flammable Gases (second edition, issued by IEC July 2016) as a new IEC-based UL standard, UL 60079-29-1 with US Differences.

As noted in the Commitment for Amendments statement located on the back side of the title page, UL and FM are committed to updating this harmonized standard jointly.

The new requirements are substantially in accordance with Proposal(s) on this subject dated November 9, 2018 and February 15, 2019.

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FM Approvals LLC
ANSI/FM 60079-29-1-2019
Second Edition



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UL 60079-29-1
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Explosive Atmospheres – Part 29-1: Gas Detectors – Performance Requirements of Detectors for Flammable Gases

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Commitment for Amendments

This standard is issued jointly by FM Approvals LLC and Underwriters Laboratories Incorporated (UL). Comments or proposals for revisions on any part of the standard may be submitted to FM Approvals or UL at any time. FM and UL will issue revisions to this standard by means of a new edition or revised or additional pages bearing their date of issue.

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This ANSI/UL Standard for Safety consists of the Second Edition. The most recent designation of ANSI/UL 60079-29-1 as an American National Standard (ANSI) occurred on May 31, 2019. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page (front and back), or the Preface. The National Difference Page and IEC Foreword are also excluded from the ANSI approval of IEC-based standards. Any other portions of this ANSI/UL standard that were not processed in accordance with ANSI/UL requirements are noted at the beginning of the impacted sections.

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PREFACE

This is the harmonized FM and UL standard for Explosive Atmospheres – Part 29-1: Gas Detectors – Performance Requirements of Detectors for Flammable Gases. It is the second edition of FM 60079-29-1 and the second edition of UL 60079-29-1.

This harmonized standard is based on IEC Publication 60079-29-1: second edition, Explosive Atmospheres – Part 29-1: Gas Detectors – Performance Requirements of Detectors for Flammable Gases issued July 2016. IEC publication 60079-29-1 is copyrighted by the IEC.

Efforts have been made to synchronize the UL edition number with that of the corresponding IEC standard with which this standard is harmonized. As a result, one or more UL edition numbers have been skipped to match that of the IEC edition number.

At the time of this publication, IEC 60079-29-1, Edition 2 is available from IEC in English only.

This harmonized standard was prepared by FM Approvals LLC (FM) and Underwriters Laboratories Inc. (UL).

This standard is considered suitable for use for conformity assessment within the stated scope of the standard.

Application of Standard

Where reference is made to a specific number of samples to be tested, the specified number is to be considered a minimum quantity.

Note: Although the intended primary application of this standard is stated in its scope, it is important to note that it remains the responsibility of the users of the standard to judge its suitability for their particular purpose.

Level of Harmonization

This standard adopts the IEC text with national differences.

This standard is published as an identical standard for FM and UL.

An identical standard is a standard that is exactly the same in technical content except for national differences resulting from conflicts in codes and governmental regulations. Presentation is word for word except for editorial changes.

All national differences from the IEC text are included in the FM and UL versions of the standard. While the technical content is the same in each organization's version, the format and presentation may differ.

Interpretations

The interpretation by the standards development organization of an identical or equivalent standard is based on the literal text to determine compliance with the standard in accordance with the procedural rules of the standards development organization. If more than one interpretation of the literal text has been identified, a revision is to be proposed as soon as possible to each of the standards development organizations to more accurately reflect the intent.

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The following people served as members of STP 9200 and participated in the review of this standard:

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National Differences

National Differences from the text of International Electrotechnical Commission (IEC) Publication 60079-29-1, Explosive Atmospheres – Part 29-1: Gas Detectors – Performance Requirements of Detectors for Flammable Gases, copyright 2016, are indicated by notations (differences) and are presented in bold text.

There are five types of National Differences as noted below. The difference type is noted on the first line of the National Difference in the standard. The standard may not include all types of these National Differences.

D1 – These are National Differences which are based on **basic safety principles and requirements**, elimination of which would compromise safety for consumers and users of products.

D2 – These are National Differences from IEC requirements based on existing **safety practices**. These requirements reflect national safety practices, where empirical substantiation (for the IEC or national requirement) is not available or the text has not been included in the IEC standard.

DC – These are National Differences based on the **component standards** and will not be deleted until a particular component standard is harmonized with the IEC component standard.

DE – These are National Differences based on **editorial comments or corrections**.

DR – These are National Differences based on the **national regulatory requirements**.

Each national difference contains a description of what the national difference entails. Typically one of the following words is used to explain how the text of the national difference is to be applied to the base IEC text:

Addition / Add – An addition entails adding a complete new numbered clause, subclause, table, figure, or annex. Addition is not meant to include adding select words to the base IEC text.

Deletion / Delete – A deletion entails complete deletion of an entire numbered clause, subclause, table, figure, or annex without any replacement text.

Modification / Modify – A modification is an altering of the existing base IEC text such as the addition, replacement or deletion of certain words or the replacement of an entire clause, subclause, table, figure, or annex of the base IEC text.

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FOREWORD

INTERNATIONAL ELECTROTECHNICAL COMMISSION

EXPLOSIVE ATMOSPHERES – Part 29-1: Gas detectors – Performance requirements of detectors for flammable gases

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 nongovernmental 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 60079-29-1 has been prepared by IEC technical committee 31: Equipment for explosive atmospheres.

This second edition of IEC 60079-29-1 cancels and replaces the first edition of IEC 60079-29-1:2007 series and constitutes a technical revision.

Significant technical changes between IEC 60079-29-1, Edition 1 (2007), and IEC 60079-29-1, Edition 2 (2016), is as listed below:

Significant changes with respect to IEC 60079-29-1:2007