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Draft Indian Standard

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

Electrical Apparatus for Explosive Atmosphere
Sectional Committee, ETD 22

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NATIONAL FOREWORD

This draft Indian Standard which is identical with IEC 60079-29-3 “Explosive atmospheres – Part 29-3: Gas detectors – Guidance on functional safety of fixed gas detection systems” issued by the International Electrotechnical Commission (IEC) will be adopted by the Bureau of Indian Standards on the recommendation of the Electrical Apparatus for Explosive Atmosphere Sectional Committee.

This draft Indian 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 IS/IEC 61508 and IS/IEC 61511. This draft Indian standard also applies to the detection of toxic gases.

The text of IEC Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain terminologies and conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words ‘International Standard’ appear referring to this standard, they should be read as ‘Indian Standard’.
- b) Comma (,) has been used as a decimal marker, while in Indian Standards the current practice is to use a point (.) as the decimal marker.

In this standard, reference appears to International Standards for which Indian Standards also exists. The corresponding Indian Standards, which are to be substituted, are listed below along with their degree of equivalence for the editions indicated:

<i>International Standard</i>	<i>Corresponding Indian Standard</i>	<i>Degree of Equivalence</i>
IEC 60079-29-1, Explosive atmospheres – Part 29-1: Gas detectors – Performance requirements of detectors for flammable gases	IS/IEC 60079-29-1 : 2016 Explosive atmospheres Part 29 Gas detectors Section 1 Performance Requirements of Detectors for Flammable Gases	Identical
IEC 60079-29-2:2007, Explosive atmospheres – Part 29-2: Gas detectors – Selection, installation, use and maintenance of detectors for flammable gases and oxygen	IS/IEC 60079-29-2 : 2015 Explosive atmospheres: Part 29 gas detectors: Sec 2 selection, installation, use and maintenance of detectors for flammable gases and oxygen (First Revision)	Identical
IEC 60079-29-4, Explosive atmospheres – Part 29-4: Gas detectors – Performance requirements of open path detectors for flammable gases	IS/IEC 60079-29-4 : 2009 Explosive atmospheres: Part 29 gas detectors: Sec 4 performance requirements of open path detectors for flammable gases	Identical
IEC 61508 (all parts), Functional safety of electrical/electronic/programmable electronic safety-related systems	IS/IEC 61508 (all parts)	Identical
IEC 61508-1, Functional safety of electrical/electronic/programmable electronic safety-related systems – Part 1: General requirements	IS/IEC 61508-1 : 2010 Functional Safety of Electrical / Electronic / Programmable Electronic Safety-Related Systems Part 1 General Requirements (First Revision)	Identical
IEC 61508-2, Functional safety of electrical/electronic/programmable electronic safety-related systems – Part 2: Requirements for electrical/electronic/programmable electronic safety-related systems	IS/IEC 61508-2 : 2010 Functional safety of electrical/electronic/programmable electronic safety - Related systems: Part 2 requirements for electrical/electronic/programmable electronic safety related systems (First Revision)	Identical
IEC 61508-3, Functional safety of electrical/electronic/programmable electronic safety-related systems – Part 3: Software requirements	IS/IEC 61508-3 : 2010 Functional safety of electrical/electronic/programmable electronic safety-related systems : Part 3 Software requirements	Identical

Only the English language text has been retained while adopting it in this Indian Standard, and as such, the page numbers given here are not the same as in the IEC Publication.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated expressing the result of a test or analysis shall be rounded off in accordance with IS 2: 2022 'Rules for rounding of numerical values (Second Revision)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Note: The technical content of the document is not available on website. For details, please refer the corresponding IEC 60079-29-3: 2014 or kindly contact:

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