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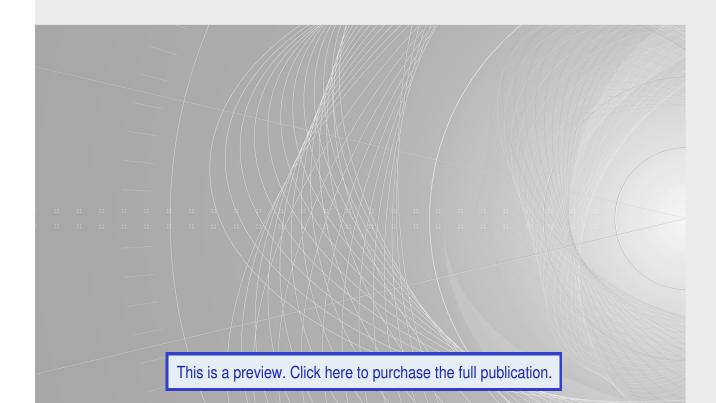


Explosive atmospheres –

Part 28: Protection of equipment and transmission systems using optical radiation

Atmosphères explosives -

Partie 28: Protection du matériel et des systèmes de transmission utilisant le rayonnement optique





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IEC Central Office Tel.: +41 22 919 02 11 3, rue de Varembé Fax: +41 22 919 03 00

CH-1211 Geneva 20 info@iec.ch Switzerland www.iec.ch

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

EXPLOSIVE ATMOSPHERES -

Part 28: Protection of equipment and transmission systems using optical radiation

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International Standard IEC 60079-28 has been prepared by IEC technical committee 31: Equipment for explosive atmospheres.

This second edition cancels and replaces the first edition, published in 2006, and constitutes a technical revision.

The significance of the changes between IEC 60079-28, Edition 2.0 (2015) and IEC 60079-28, Edition 1.0 (2006), is as listed below:

Significance of changes with respect to IEC 60079-28:2006

		Туре		
Significant Changes	Clause	Minor and editorial changes	Extension	Major technical changes
Scope: Expansion to include Group III and EPLs Da, Db and Dc	1		х	
Scope: Clarification and list of exclusions for optical radiation sources	1		х	
Normative references: Deletion of IEC 60079-10, and addition of IEC 60050-426 and 60050-731	2	х		
Terms and definitions: Some definitions not used in the standard deleted. New definitions added.	3	х		
General requirements: Introduction of an ignition hazard assessment moved to 4, statement for presence of absorbers added, Explanation of EPLs deleted	4	х		
Table 1: EPLs versus protection types moved from 5.5 to 5.1, table modified and extended	5.1	х	х	
Structure of Table 2 changed and extended explanation in the notes, but with the same limit values	5.2.2.1	х		
Table 3 for Group III added	5.2.2.1		Х	
Table 4 replaces Figure 1 for better application	5.2.2.1	х		
Detailed requirements for the measurement of optical power added	5.2.2.2		х	
Detailed requirements for the measurement of optical irradiance added	5.2.2.3		х	
Requirements for the assessment of optical pulses for Group II much more detailed	5.2.3.1 5.2.3.2 5.2.3.3 5.2.3.4	х		
Requirements for the assessment of optical pulses for Group I and Group III added	5.2.3.5		х	
Ignition tests: Notes 1 and 2 added	5.2.4	х		
Over-power/energy fault protection: Title changed and wording modified for clarity	5.2.5	х		
Radiation inside optical fibre or cable: requirements added, e.g. pull test	5.3.2			C1
Radiation inside enclosures: IP 6X enclosures, "p" or "t" enclosures added	5.3.3		х	
Optical system with interlock "op sh" Table 3 deleted, Figure 1 with interlock cutoff delay times added	5.4		х	
Type verifications and tests: structure changed (editorial, without changing the requirements)	6	х		
Marking: markings required by IEC 60079-0 deleted. Examples of marking: example with combination of op is with other types of protection added	7	х		
Ignition hazard assessment: Flow chart in Figure C.1 modified for better understanding	Annex C	х		
Old Annex E (Introduction of EPLs) deleted. New Annex E provides a flow chart for the assessment of pulses according to 5.2.3	Annex E	х		
Relevant IEC-Standards moved to Clause 2	Formerly Annex F	х		

Explanation of the Types of Significant Changes:

A) Definitions

1) Minor and editorial changes: - Clarification

Decrease of technical requirements

Minor technical changeEditorial corrections

These are changes which modify requirements in an editorial or a minor technical way. They include changes of the wording to clarify technical requirements without any technical change, or a reduction in level of existing requirement.

2) Extension: Addition of technical options

These are changes which add new or modify existing technical requirements, in a way that new options are given, but without increasing requirements for equipment that was fully compliant with the previous standard. Therefore, these will not have to be considered for products in conformity with the preceding edition.

3) Major technical changes: - addition of technical requirements

- increase of technical requirements

These are changes to technical requirements (addition, increase of the level or removal) made in a way that a product in conformity with the preceding edition will not always be able to fulfil the requirements given in the later edition. These changes have to be considered for products in conformity with the preceding edition. For these changes additional information is provided in clause B) below.

Note These changes represent current technological knowledge. However, these changes should not normally have an influence on equipment already placed on the market.

B) Information about the background of 'Major technical changes'

C1 For the protection concept "protected radiation op pr" some requirements like a pull test for optical fibres or cables have been added.

The text of this standard is based on the following documents:

FDIS	Report on voting
31/1178/FDIS	31/1193/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

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

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- · withdrawn,
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