

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

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**Explosive atmospheres –  
Part 15: Equipment protection by type of protection "n"**

**Atmosphères explosives –  
Partie 15: Protection du matériel par mode de protection « n »**



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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**EXPLOSIVE ATMOSPHERES –****Part 15: Equipment protection by type of protection "n"**

## FOREWORD

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International Standard IEC 60079-15 has been prepared by IEC technical committee 31: Equipment for explosive atmospheres.

This fourth edition cancels and replaces the third edition, published in 2005, and constitutes a technical revision.

The significant technical changes with respect to the previous edition are as follows:

- addition of equipment protection levels;
- removal of the requirements for energy-limited "nL" and associated energy limited apparatus "[nL]";
- removal of the requirements for encapsulated Devices "nC";
- requirements for electrical connections expanded and clarified;
- requirements for luminaire ballasts expanded and clarified;
- requirements for evaluation and testing of motor rotors clarified;

- 15 kV limit for equipment protection by type of protection "n" added;
- spacing requirement for voltages above 10 kV modified;
- requirements for restricted breathing enclosures modified;
- modification to requirements for motor rotors and stators;
- addition of Annex A (informative);
- undated references to IEC 60079-0 included.

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

FDIS	Report on voting
31/833/FDIS	31/853/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 International Standard is to be read in conjunction with IEC 60079-0.

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

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

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

## EXPLOSIVE ATMOSPHERES –

### Part 15: Equipment protection by type of protection "n"

#### 1 Scope

This part of IEC 60079 specifies requirements for the construction, testing and marking for Group II electrical equipment with type of protection, "n" intended for use in explosive gas atmospheres. This standard applies to electrical equipment where the rated voltage does not exceed 15 kV r.m.s. a.c. or d.c.

This part of IEC 60079 is applicable to non-sparking electrical equipment and also to electrical equipment with parts or circuits producing arcs or sparks or having hot surfaces which, if not protected in one of the ways specified in this standard, could be capable of igniting a surrounding explosive gas atmosphere. This standard describes several different methods by which this can be achieved which may be combined with other methods described in IEC 60079-0.

This standard supplements and modifies the general requirements of IEC 60079-0, except as indicated in Table 1. Where a requirement of this standard conflicts with a requirement of IEC 60079-0, the requirement of this standard takes precedence.

**Table 1 – Relationship of this part to IEC 60079-0**

Clause of IEC 60079-0			IEC 60079-0 clause application to IEC 60079-15		
Ed. 5.0 (2007) (informative)	Ed. 6.01 (future edition) (informative)	Clause / Subclause title (normative)	Protected sparking nC	Non sparking nA	Restricted breathing nR
4	4	Equipment grouping	Applies	Applies	Applies
4.1	4.1	Group I	Excluded	Excluded	Excluded
4.2	4.2	Group II	Applies	Applies	Applies
4.3	4.3	Group III	Excluded	Excluded	Excluded
4.4	4.4	Equipment for a particular explosive atmosphere	Applies	Applies	Applies
5.1	5.1	Environmental influences	Applies	Applies	Applies
5.1.1	5.1.1	Ambient temperature	Applies	Applies	Applies
5.1.2	5.1.2	External source of heating or cooling	Applies	Applies	Applies
5.2	5.2	Service temperature	Applies	Applies	Applies
5.3.1	5.3.1	Determination of maximum surface temperature	Applies	Applies	Applies
5.3.2.1	5.3.2.1	Group I electrical equipment	Excluded	Excluded	Excluded

<sup>1</sup> Under consideration.