



National Standards Authority of Ireland

IRISH STANDARD

I.S. EN 50058:1998

ICS 75.180

**ELECTRICAL APPARATUS FOR THE
DETECTION AND MEASUREMENT OF
COMBUSTIBLE GASES PERFORMANCE
REQUIREMENTS FOR GROUP 11
APPARATUS INDICATING UP TO 100% (V/V)
GAS**

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Descriptors: Electrical apparatus, explosive atmosphere, explosive atmosphere other than mines, detector, measuring apparatus, flammable gas, combustible gas, characteristic

English version

**Electrical apparatus for the detection
and measurement of combustible gases
Performance requirements for Group II apparatus
indicating up to 100 % (v/v) gas**

Appareils électriques de détection et de
mesure des gaz combustibles
Règles de performances des appareils
du Groupe II pouvant indiquer jusqu'à
100 % (v/v) de gaz

Elektrische Geräte für das Aufspüren
und die Messung brennbarer Gase
Anforderungen an das Betriebsverhalten
von Geräten der Gruppe II mit einem
Meßbereich bis zu 100 % (V/V) Gas

This European Standard was approved by CENELEC on 1998-04-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

This European Standard has been prepared by the CENELEC Subcommittee SC 31-9, Electrical apparatus for the detection and measurement of combustible gases to be used in industrial and commercial potentially explosive atmospheres, of Technical Committee CENELEC TC 31, Electrical apparatus for explosive atmospheres.

The text of the draft was approved by CENELEC as EN 50058 on 1990-12-10. The CENELEC Technical Board approved the publication of a new edition on 1998-04-01 (D95/079).

This European Standard replaces EN 50058:1991.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 1999-01-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 1999-01-01

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and covers essential requirements of EC Directive 94/9/EC.

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1 Scope

1.1 This European Standard specifies performance requirements for Group II (as defined in EN 50054) portable, transportable and fixed apparatus for the detection and measurement of combustible gas or vapour concentrations with air. The apparatus, or parts thereof, may be installed or used in potentially explosive atmospheres, other than mines susceptible to firedamp (i.e. Group I). The general requirements and test methods applicable to the apparatus covered by this European Standard are specified in EN 50054.

1.2 This European Standard is restricted to apparatus intended for the detection and measurement of volume ratios of combustible gas or vapour in air from 0 % (v/v) to 100 % (v/v).

NOTE 1: Apparatus covered by this European Standard will normally be intended to operate in volume ratios greater than 100 % LEL.

NOTE 2: Although apparatus of the types covered by this European Standard may be suitable for detecting a wide range of combustible gases, particular gases (e.g. methane or propane) are specified in EN 50054 as the components of the test gases for the purpose of practical convenience. The performance requirements specified in this European Standard must therefore be regarded with caution when the apparatus is used to detect other combustible gases, as some parameters - such as time of response - will be modified.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to the European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 50054 1998 Electrical apparatus for the detection and measurement of combustible gases
General requirements and test methods

3 Definitions

For the purposes of this European Standard, the definitions given in EN 50054 apply.

4 General requirements

The apparatus shall comply with the general requirements specified in clause 4 of EN 50054

5 Performance requirements

5.1 General

The normal conditions for test are specified in subclause 5.3 of EN 50054. Compliance shall be determined in accordance with the test methods specified in subclause 5.4 of EN 50054.

5.2 Unpowered storage

After being submitted to the conditions specified in subclause 5.4.2 of EN 50054, the apparatus shall meet the requirements specified in 5.3 to 5.25 of this European Standard.

5.3 Calibration curve (not applicable to alarm only apparatus)

5.3.1 Calibration curve

Each of the three indications (after correction using the manufacturer's calibration curves, if necessary) obtained from these true volume ratios shall not differ from these volume ratios by more than ± 5 % of the measuring range or ± 10 % of the indication, whichever is greater.

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