

Australian/New Zealand Standard™

**Electrical apparatus for the detection  
and measurement of flammable gases**

**Part 5: Performance requirements for  
group II apparatus indicating a volume  
fraction up to 100% gas**



**S t a n d a r d s** Australia



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## **AS/NZS 61779.5:2000**

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This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL/14, Electrical Equipment in Hazardous Areas. It was approved on behalf of the Council of Standards Australia on 17 December 1999 and on behalf of the Council of Standards New Zealand on 24 January 2000. It was published on 23 February 2000.

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# Australian/New Zealand Standard™

## **Electrical apparatus for the detection and measurement of flammable gases**

### **Part 5: Performance requirements for group II apparatus indicating a volume fraction up to 100% gas**

Originated in Australia as part of AS 1827—1975.  
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## PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL/14, Electrical Equipment in Hazardous Areas, to supersede, in part, AS 2275, *Combustible gas detection instruments for use in explosive atmospheres: Part 1—1979, General requirements for explosion protection of electrical apparatus and systems*, and Part 2—1979, *Performance requirements*.

This Standard is identical with and has been reproduced from IEC 61779-5:1998 *Electrical apparatus for the detection and measurement of flammable gases—Part 5: Performance requirements for group II apparatus indicating a volume fraction up to 100% gas*.

The objective of this Standard is to provide general requirements and test methods for manufacturers, testing authorities and certifying bodies concerned with electrical apparatus for the detection and measurement of flammable gases.

In January 1997, the IEC commenced numbering its Standards from 60000 by adding 60000 to the number of each existing Standard. This coordinates IEC numbering with ISO numbering. During the transition period an IEC Standard might be identified by its new number or its old number (for example, IEC 60050 or IEC 50).

This Standard is part of a series covering electrical apparatus for detection and measurement of flammable gases which comprises the following:

## AS/NZS

- 61779 Electrical apparatus for the detection and measurement of flammable gases
- 61779.1 Part 1: General requirements and test methods
- 61779.2 Part 2: Performance requirements for group I apparatus indicating a volume fraction up to 5% methane in air
- 61779.3 Part 3: Performance requirements for group I apparatus indicating a volume fraction up to 100% methane in air
- 61779.4 Part 4: Performance requirements for group II apparatus indicating a volume fraction up to 100% lower explosive limit
- 61779.5 Part 5: Performance requirements for group II apparatus indicating a volume fraction up to 100% gas (this Standard)
- 61779.6 Part 6: Guide for the selection, installation, use and maintenance of apparatus for the detection and measurement of flammable gases

As this Standard is reproduced from an International Standard a full point should be substituted for a comma when referring to a decimal marker.

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## STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

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**Australian/New Zealand Standard****Electrical apparatus for the detection and  
measurement of flammable gases  
Part 5: Performance requirements for group II  
apparatus indicating a volume fraction up to 100% gas**

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**1 Scope**

**1.1** This part of AS/NZS 61779 specifies requirements for group II (as defined in part 1) 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 requirements and test methods applicable to the apparatus covered by this standard are specified in part 1.

**1.2** This standard is restricted to apparatus intended for the detection and measurement of volume ratios of combustible gas or vapour in air in volume fractions from 0% to 100% .

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

NOTE 2 – Although apparatus of the types covered by this standard may be suitable for detecting a wide range of combustible gases, particular gases (e.g. methane or propane) are specified in part 1 as the components of the test gases for the purpose of practical convenience. The performance requirements specified in this standard should therefore be considered with caution when the apparatus is used to detect other combustible gases, as some parameters – such as time of response – will be modified.

**2 Definitions**

For the purpose of this part of AS/NZS 61779, the definitions given in part 1 apply.

**3 General requirements**

The apparatus shall comply with the general requirements specified in part 1 and with the performance requirements specified in clause 4 of this standard.

Compliance shall be determined in accordance with the appropriate test requirements and methods, including initial calibration, specified in part 1.

It shall be verified that the contents of the manufacturer's instruction manual are in accordance with the requirements specified in part 1.

**4 Performance requirements****4.1 General**

The normal conditions for tests are specified in 4.3 of part 1. Compliance shall be determined in accordance with the test methods specified in 4.4 of part 1.