

AS/NZS 61779.1:2000
IEC 61779-1:1998
(Incorporating Amendment No. 1)

AS/NZS 61779.1:2000

Australian/New Zealand Standard™

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

**Part 1: General requirements and test
methods**



AS/NZS 61779.1:2000

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-014, 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.
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The following are represented on Committee EL-014:

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Australian/New Zealand Standard™

Electrical apparatus for the detection and measurement of flammable gases

Part 1: General requirements and test methods

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-014, 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 incorporates Amendment No. 1 (July 2005). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

This Standard is identical with and has been reproduced from IEC 61779:1998, *Electrical apparatus for the detection and measurement of flammable gases—Part 1: General requirements and test methods*.

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).

A reference to an International Standard identified in the Scope Clause by strikethrough (~~example~~) is replaced by a reference to the Australian or Australian/New Zealand Standard(s) listed immediately thereafter and identified by shading (example). Where the struck-through referenced document and the referenced Australian or Australian/New Zealand Standard are identical, this is indicated in parenthesis after the title of the latter.

In the case of identical Standards, the references to International Standards (in all parts of this Series) have been replaced in the text by the respective Australian/New Zealand Standards.

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

AS/NZS

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| 61779 | Electrical apparatus for the detection and measurement of flammable gases |
| 61779.1 | Part 1: General requirements and test methods (this Standard) |
| 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 |
| 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.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the annexes to which they apply. A normative annex is an integral part of a Standard, whereas an informative annex is only for information and guidance.

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INTRODUCTION

Guidance for the selection, installation, use and maintenance of gas detecting apparatus are set out in AS/NZS 61779.6: Electrical apparatus for the detection and measurement of flammable gases – Part 6: Guidelines for the selection, installation, use and maintenance of apparatus for the detection and measurement of flammable gases.

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australia/New Zealand Standard**Electrical apparatus for the detection and measurement of flammable gases**
Part 1: General requirements and test methods

1 General**1.1 Scope**

1.1.1 This part of AS/NZS 61779 specifies general requirements for construction and testing and describes the test methods that apply to portable, transportable and fixed apparatus for the detection and measurement of flammable gas or vapour concentrations with air. The apparatus, or parts thereof, are intended for use in potentially explosive atmospheres (see 2.1.8) and in mines susceptible to firedamp. This standard is supplemented by the following standards, concerning the specific requirements for the performance of the various types of apparatus:

~~IEC 61779-2: Performance requirements for group I apparatus indicating a volume fraction up to 5% methane in air~~

AS/NZS 61779.2: *Electrical apparatus for the detection and measurement of flammable gases, Part 2: Performance requirements for group I apparatus indicating a volume fraction up to 5% methane in air (identical to IEC 61779-2:1998)*

~~IEC 61779-3: Performance requirements for group I apparatus indicating a volume fraction up to 100% methane in air~~

AS/NZS 61779.3: *Electrical apparatus for the detection and measurement of flammable gases, Part 3: Performance requirements for group I apparatus indicating a volume fraction up to 100% methane in air (identical to IEC 61779-3:1998)*

~~IEC 61779-4: Performance requirements for group II apparatus indicating a volume fraction up to 100% lower explosive limit~~

AS/NZS 61779.4: *Electrical apparatus for the detection and measurement of flammable gases, Part 4: Performance requirements for group II apparatus indicating a volume fraction up to 100% lower explosive limit (identical to IEC 61779-4:1998)*

~~IEC 61779-5: Performance requirements for group II apparatus indicating a volume fraction up to 100% gas~~

AS/NZS 61779.5: *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 (identical to IEC 61779-5:1998)*

NOTE 1 – AS/NZS 61779.1, in association with the standards referred to above, is intended to provide for the supply of apparatus giving a level of safety and performance suitable for general purpose applications. However, for specific applications, a prospective purchaser (or an appropriate authority) may additionally require the apparatus to be submitted to particular tests or approval. For example, group I apparatus (i.e. apparatus to be used in mines susceptible to firedamp) may not be permitted to be used without the additional, prior approval of the relevant authority in mines under its jurisdiction. Such particular tests/approval are to be regarded as additional to and separate from the provisions of the standards referred to above and do not preclude certification to or compliance with these standards.

NOTE 2 – Group I and group II apparatus indicating up to a volume fraction of 100% methane and group II apparatus indicating up to a volume fraction of 100% gas are suitable for use only with the specific gases for which they have been calibrated.