



# **Greenhouse and Energy Minimum Standards (Transformers and Electronic Step-down Converters for ELV Lamps) Determination 2012<sup>1</sup>**

*Greenhouse and Energy Minimum Standards Act 2012*

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I, MARK DREYFUS, Parliamentary Secretary for Climate Change and Energy Efficiency, make this Determination under section 23 of the *Greenhouse and Energy Minimum Standards Act 2012*.

Dated                      25 October 2012

MARK DREYFUS

Parliamentary Secretary for Climate Change and Energy Efficiency

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## 1 Name of Determination

This Determination is the *Greenhouse and Energy Minimum Standards (Transformers and Electronic Step-down Converters for ELV Lamps) Determination 2012*.

## 2 Commencement

This Determination comes into force on the day after it is registered.

## 3 Definitions

In this Determination:

*Act* means the *Greenhouse and Energy Minimum Standards Act 2012*.

*AS/NZS 4879.1:2008* means *Australian/New Zealand Standard 4879.1:2008 Performance of transformers and electronic step-down convertors for ELV lamps - Part 1: Test method - Energy performance*, as it existed on the date this Determination came into force.

*Note:* AS/NZS 4879.1:2008 is available from Standards Australia Limited.

*AS/NZS 4879.2:2010* means *Australian/New Zealand Standard 4879.2:2010 Performance of transformers and electronic step-down convertors for ELV lamps - Part 2: Minimum Energy Performance Standards (MEPS) requirements*, as it existed on the date this Determination came into force.

*Note:* AS/NZS 4879.2:2010 is available from Standards Australia Limited.

*Australian Standard* means a standard that is published by Standard Australia Limited denoted by the letters “AS” and identifying numbers and/or letters.

*Australian/New Zealand Standard* means a standard that is jointly published by Standards Australia and Standards New Zealand, is applicable in both countries and denoted by the letters “AS/NZS” and identifying numbers and/or letters.

*CIE Standard* means a standard that is published by, or on behalf of, the International Commission on Illumination.

*extra low voltage lighting converter* means a magnetic isolating transformer or electronic step-down converter used with extra low voltage lamps, which:

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- (a) receives an input from mains supply; and
  - (b) has a single extra low voltage output (either alternating current or direct current); and
  - (c) is sold with, or intended to be used with, an extra low voltage lamp(s) that constitutes the primary load; and
  - (d) is not a driver for use with a solid state light source; and
  - (e) is not an external power supply for use with a load other than an extra low voltage lamp.

*Note:* This definition is modified from the definition at clause 3.2 of AS/NZS4879.1:2008.

***extra low voltage*** means a voltage not exceeding 50 volt alternating current r.m.s or 120 volts ripple-free direct current.

*Note:* This is the same meaning as in clause 3.1 of AS/NZS4879.1:2008.

***IEC Standard*** means a standard that is published by, or on behalf of, the International Electrotechnical Commission.

***ripple-free*** means an r.m.s. ripple voltage not more than 10% of the direct current component. The maximum peak value does not exceed 140 volt for a nominal 120 volt ripple-free direct current system and 70 volt for a nominal 60 volt ripple-free direct current system.

*Note:* This is the same meaning as in clause 3.11 of AS/NZS 4879.1:2008.

***r.m.s*** means root mean square.

***standard*** means an Australian Standard, an Australian/New Zealand Standard, a CIE Standard, an IEC Standard or any other equivalent document.

*Note:* Several other words and expressions used in this Determination have the meaning given by section 5 of the Act. For example:

- category A product
- covered by
- family of models
- GEMS
- GEMS labelling requirements
- GEMS level requirements
- model
- product classes

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## 4 Interpretation

### *Applicable definitions of terms or phrases*

- (1) If a term or phrase is not defined under the Act, the Regulations to the Act or in this Determination, but the term is defined in a standard mentioned specifically in section 3 of this Determination, the term or phrase is to be read for the purposes of this Determination as having the meaning of the term under the relevant standard.

*Note:* Notwithstanding this, for convenience to users, the key terms for ascertaining if a product is covered by this Determination are defined in this Determination.

### *Applicable version of documents incorporated into Standards*

- (2) For the purposes of this Determination the applicable version of any document, including a standard, that:
  - (a) is referred to in a standard under the heading ‘Referenced Documents’, or under an equivalent heading in a standard; and
  - (b) must be applied to give effect to this Determination or a standard referred to in this Determination,

is the version of the document that existed at the date this Determination came into force.

*Note:* For example, clause 4.1 of AS/NZS 4879.2:2010 provides that at least one extra low voltage lighting converter shall be tested in accordance with AS/NZS 4879.1:2008. The applicable version of AS/NZS 4879.1:2008 is the version that existed at the date this Determination came into force.

## 5 Specified product classes covered by this Determination

- (1) This Determination covers extra low voltage lighting converters in the product classes set out in subsection (2) and that are:
  - (a) used in Class III luminaires; or
  - (b) used in SELV lighting systems with a rated load up to and including 500 Volt-ampere.

*Note:* This subsection reflects the scope specified in clauses 1.1, 1.2 and 4.2 of AS/NZS 4879.2:2010.

- (2) The product classes are as follows:

<b>Product class</b>	<b>Products covered by class</b>
1	Extra low voltage lighting converters with a rated power of less than or equal to 200 Volt-ampere.
2	Extra low voltage lighting converters with a rated power of greater than 200 Volt-ampere and less than or equal to 500 Volt-ampere.

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- (3) In this section:

*class III luminaire* means a luminaire in which protection against electric shock relies on electrical supply at SELV and in which voltages higher than those of SELV are not generated.

*Note:* This is the same meaning as in clause 3.12 of AS/NZS 4879.1:2008.

*SELV* means a voltage not exceeding 50 volts alternating current r.m.s. or 120 volts ripple free direct current between conductors, or between any conductor and earth, in a circuit which is isolated from the supply mains by means including a safety isolating transformer or convertor with separate windings.

*Note 1:* The voltage limit is not exceeded either at full load or no-load but it is assumed, for the purpose of this definition, that any transformer or convertor is operated at its rated supply voltage.

*Note 2:* This is the same meaning as in clause 3.11 of AS/NZS 4879.1:2008.

## 6 GEMS level requirements

### *Energy use and greenhouse gas production*

- (1) For paragraphs 24 (1) (a) and 25 (a) of the Act, the specified energy use requirements for products covered by this Determination are the requirements mentioned in clause 4.2 of AS/NZS 4879.2: 2010 in relation to the MEPS efficiency level at full load.

### *Conducting tests*

- (2) For paragraphs 24 (1) (a) and 25 (b) of the Act, the specified requirements for conducting tests for products covered by this Determination are the requirements mentioned in clause 4.1 of AS/NZS 4879.2:2010.

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## **7 GEMS labelling requirements**

### *Labelling and communication requirements*

For paragraphs 24 (1) (b), 26 (1) (a) and 26 (1) (b) of the Act, the specified labelling and communication requirements for products covered by this Determination are, where the supplier of a product covered by this Determination marks the product with an energy performance mark, the requirements mentioned in Appendix A of AS/NZS 4879.1:2008.

## **8 Other GEMS requirements**

### *High efficiency level*

- (1) Where the supplier of a product covered by this Determination claims that the product is “high efficiency”, “efficient” or “energy efficient”, for subsection 24 (2) and paragraph 27 (1) (a) of the Act the product must meet the efficiency level specified in clause 4.2 of AS/NZS 4879.2:2010 in relation to the high efficiency level at full load.

### *Product performance*

- (2) For subsection 24 (2) and paragraph 27 (1) (b) of the Act, the specified requirements relating to product performance for products covered by this Determination are the requirements mentioned in clause 5.5 of AS/NZS 4879.2:2010.

### *Conducting tests*

- (3) For subsection 24 (2) and paragraph 27 (1) (e) of the Act, the specified requirements for conducting tests for products covered by this Determination in relation to paragraph 27 (1) (b) are the requirements mentioned in clause 4.1 of AS/NZS 4879.2:2010.

## **9 Families of models**

- (1) For section 28 of the Act, the specified circumstances, in which 2 or more models from a single product class covered by this Determination are in the same family, are when the models:
  - (a) are of a single brand; and
  - (b) rely on the same test report that sets out the results of testing conducted in accordance with sections 6, 7 and 8 of this Determination; and
  - (c) have the same physical characteristics that are relevant to complying with sections 6, 7 and 8 of this Determination, including but not limited to the following:
    - (i) type (magnetic isolating transformer or electronic step-down converter); and

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- (d) have the same claimed energy performance characteristics that are relevant to complying with sections 6, 7 and 8 of this Determination, including but not limited to the following:
    - (i) efficiency at full load;
    - (ii) output power in watts.
  - (2) For subsection (1), a model cannot be a member of a family of models if its inclusion in that family would lead to the family consisting of more than 4 models.

## **10 Product Categories**

For section 29 of the Act, the products covered by this Determination are category A products.

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### **Note**

1. All legislative instruments and compilations are registered on the Federal Register of Legislative Instruments kept under the *Legislative Instruments Act 2003*. See <http://www.frli.gov.au>.