

Australian/New Zealand Standard™

**Grid connection of energy systems via
inverters**

Part 2: Inverter requirements



AS/NZS 4777.2:2015

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-042, Renewable Energy Power Supply Systems and Equipment. It was approved on behalf of the Council of Standards Australia on 17 September 2015 and on behalf of the Council of Standards New Zealand on 21 August 2015. This Standard was published on 9 October 2015.

The following are represented on Committee EL-042:

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Australian PV Association
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Clean Energy Council
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AS/NZS 4777.2:2015

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-042, Renewable Energy Power Supply Systems and Equipment, to supersede AS 4777.2—2005, *Grid connection of energy systems via inverters, Part 2: Inverter requirements*, and AS 4777.3—2005, *Grid connection of energy systems via inverters, Part 3: Grid protection requirements*, twelve months after its publication. During this twelve month period, this edition or AS 4777.2—2005 and AS 4777.3—2005 may be utilized.

The objective of this Standard is to specify minimum performance and safety requirements for the design, construction and operation of inverters intended for use in inverter energy systems for the injection of electric power through an electrical installation into the grid.

This Standard is part of a series on the grid connection of energy systems via inverters. The series is as follows:

AS/NZS

- 4777 Grid connection of energy systems via inverters
- 4777.1 Part 1: Installation requirements
- 4777.2 Part 2: Inverter requirements (this Standard)

There are many differences between this and the previous edition. They include but are not limited to the following:

- (a) Inclusion of a balance requirement for multiple phase systems.
- (b) Revised set-points and limits to match electricity distributor requirements.
- (c) Inclusion of provisions for demand response and power quality response modes.

NOTE: The demand response provisions in this Standard follow the framework in the AS/NZS 4755 series demand response capabilities and supporting technologies for electrical products. At present there is no overlap in the scope of AS/NZS 4777.2 and AS/NZS 4755. However, if in future a new part of the AS/NZS 4755 series is to be published that covers some of the products or functions within the scope of this Standard, it is intended that the coverage of the demand response aspects of those products or functions will then reference the relevant parts of AS/NZS 4755. This would be achieved by a future amendment to AS/NZS 4777.2.

- (d) Inclusion of requirements for electrical safety in accordance with IEC 62109-1 and IEC 62109-2.
- (e) Inclusion of requirements for multiple mode inverter operation and requirements for systems with energy storage to meet electrical safety requirements in accordance with AS 62040.1.1.

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

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