AS/NZS 4755.3.2:2012

Australian/New Zealand Standard™

Demand response capabilities and supporting technologies for electrical products

Part 3.2: Interaction of demand response enabling devices and electrical products—Operational instructions and connections for devices controlling swimming pool pump-units

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-054, Remote Demand Management of Electrical Products. It was approved on behalf of the Council of Standards Australia on 19 April 2012 and on behalf of the Council of Standards New Zealand on 26 April 2012.
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The following are represented on Committee EL-054:

Air conditioning and Refrigeration Equipment Manufacturers Association of Australia
Australian Industry Group
Australian Institute of Refrigeration, Air conditioning and Heating
Consumer Electronics Suppliers Association
Consumers' Federation of Australia
Copper Development Centre Australia
CSIRO Energy Technology
Department of Climate Change and Energy Efficiency
Department of Resources, Energy and Tourism
Electricity Engineers' Association of New Zealand
Electricity Networks Association of New Zealand
Energy Networks Association
Energy Users Association of Australia
Refrigeration and Air Conditioning Association of New Zealand
Swimming Pool and Spa Association of Australia

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For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

This Standard was issued in draft form for comment as DR AS/NZS 4755.3.2.

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Part 3.2: Interaction of demand response enabling devices and electrical products—Operational instructions and connections for devices controlling swimming pool pump-units

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PREFACE

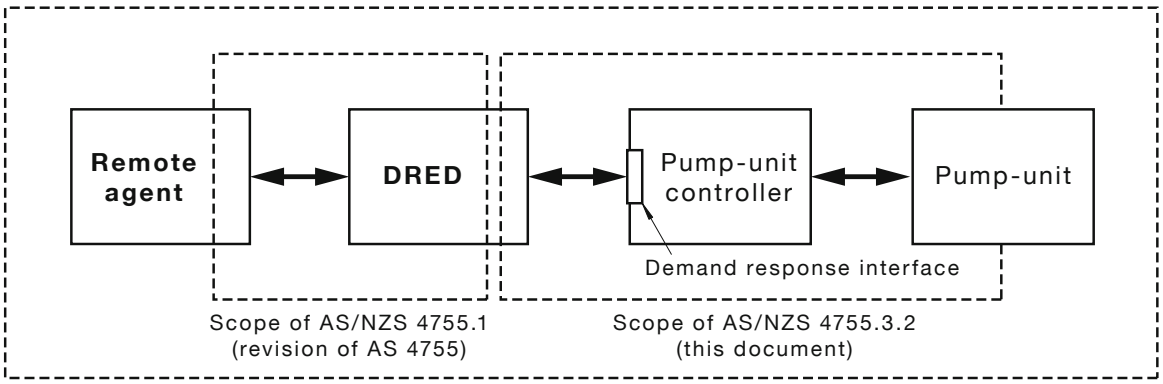
This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-054, Remote Demand Management of Electrical Products.

This Standard forms part of a series of Standards that is intended to define the nomenclature, architecture and operational instructions for systems that can be used to remotely control electrical products. AS 4755—2007 will be revised and re-designated to become AS/NZS 4755.1. When complete, the series will comprise the following:

AS/NZS		
4755	Demand response capabilities and supporting technologies for electrical products	
4755.1	Part 1:	Framework for demand response capabilities and requirements for demand response enabling devices (DREDs)
4755.3.1	Part 3.1:	Interaction of demand response enabling devices and electrical products—Operational instructions and connections for air conditioners
4755.3.2	Part 3.2:	Interaction of demand response enabling devices and electrical products—Operational instructions and connections for devices controlling swimming pool pump-units (this Standard)
4755.3.3	Part 3.3:	Interaction of demand response enabling devices and electrical products—Operational instructions and connections for electric and electric-boosted water heaters
4755.3.4	Part 3.4:	Interaction of demand response enabling devices and electrical products—Operational instructions and connections for charge/discharge controllers for electric vehicles and other energy storage devices
4755.3.5	Part 3.5:	Interaction of demand response enabling devices and electrical products—Operational instructions and connections for inverters and controllers for photovoltaic and other small-scale generators

The figure below depicts the structure of the AS/NZS 4755 series. This Standard (AS/NZS 4755.3.2) covers the interaction of pump-unit controllers with demand response enabling devices (DREDs) and with pump-units.

This Standard does not cover all aspects of construction and performance, which may be subject to other standards.



It is recommended that this Standard be read in conjunction with AS/NZS 4755.1.

The AS/NZS 4755 series creates a framework that will allow off-the-shelf equipment, communications technologies and electrical products to be integrated and adapted so that demand management solutions may be developed and deployed in a timely and economical fashion.

Although the series has been developed to support situations where demand response is initiated or managed by a remote agent, with the consent of the owner or user of the electrical product, there is no technical reason that prevents the owner or user taking direct responsibility for demand response, by managing the DRED independently of any remote agent, provided the DRED meets the requirements of AS/NZS 4755.1

This Standard pertains to a particular electrical product, the swimming pool pump-unit controller. The Standard—

(a) specifies a standard demand response interface on a pump-unit controller; and

(b) specifies a standard set of operational instructions for that pump-unit controller.

Detailed standards covering demand response operational instructions and interfaces with DREDS for other electrical products may also be prepared as needs are identified.

This Standard is intended to support demand response programs that optimize the operation of the electricity supply system and allow the efficient planning and use of capital equipment, while minimizing the risks to the amenity of swimming pool users.

Where pump-units with integral or separate controllers subject to this Standard are installed for use in pools where pump-unit operation is subject to health and safety requirements, or a user does not accept interruption to operation for other reasons, the demand response interfaces should not be used.

The costs and benefits of making this Standard mandatory are the subject of consideration by Australian and New Zealand Governments. If compliance were mandated, it would also be mandatory to register product details with the regulators of the national energy labelling and minimum energy performance standards program. Information about the status of this Standard and registration procedures (if required) is available at www.energyrating.gov.au.

Statements expressed in mandatory terms in notes to tables are deemed to be requirements of this Standard.

The term ‘normative’ has been used in this Standard to define the application of the appendix to which it applies. A ‘normative’ appendix is an integral part of a Standard.

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard defines a set of operational instructions that will meet the requirements of remote agents wishing to control the energy consumption of pump-units, and establishes a consistent approach to the method of connecting the demand response interface to the demand response enabling device (DRED).

Pump-unit controllers covered by this Standard include (but are not restricted to) the following:

(a) Controllers integral with pump-units within the scope of the AS 5102 series.

(b) Time clocks intended for installation between the mains electricity supply and the pool equipment.

(c) Sanitization controllers intended to regulate the operation of the pump-unit as well as the sanitizer.

(d) Heater controllers intended to regulate the operation of the pump-unit as well as the heater.

A pump-unit controller is not covered by this Standard if one or more of the following applies:

(i) It uses three-phase power.

(ii) It uses single phase power but is intended for hard-wired installation (according to the manufacturer's instructions) and is supplied without a plug.

(iii) It incorporates a chlorinator with an output of 50 g/h or greater.

1.2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS

62052.21 Electricity metering equipment (ac) - General requirements, tests and test conditions - Tariff and load control equipment (IEC 62052-21, Ed. 1.0 (2004) MOD)

4755 Framework for demand response capabilities and supporting technologies for electrical products

5102 Performance of household electrical appliances—Swimming pool pump-units (series)

5102.1 Part 1 : Energy consumption and performance