AS 4741—2010

Australian Standard®

Testing of connections to low voltage electricity networks

This Australian Standard® was prepared by Committee EL-052, Electrical Energy Networks, Construction and Operation. It was approved on behalf of the Council of Standards Australia on 17 September 2010.
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- Australian Council of Trade Unions
- Australian Services Union
- CIGRE
- Communications, Electrical and Plumbing Union
- Consumers' Federation of Australia
- Electrical Regulatory Authorities Council
- Energy Networks Association
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- National Electrical and Communications Association
- National Generators Forum

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- ActewAGL
- Communications Electrical Plumbing Union (ETU)
- Department of Water and Energy (NSW)
- ENERGEX
- Energy Safe Victoria
- Energy Australia
- Ergon Energy Corporation
- Horizon Power
- Integral Energy
- Powercor Australia
- Western Power

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Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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PREFACE

This Standard was prepared by the Standards Australia Subcommittee EL-052-02, Low Voltage Polarity Testing, for Committee EL-052, Electrical Energy Networks, Construction and Operation.

This Standard may be applied through legislative requirements made in each State and Territory of Australia; however this Standard should not be applied on a mandatory basis for at least 12 months after publication to allow for the implementation of training and the procurement of equipment.

The objective of this Standard is to set the minimum safety principles to test for correct polarity or neutral connection integrity within a low voltage electricity network and to a customer electrical installation supplied from that network.

This Standard is published with the approval of the combined State and Territory energy distributors, regulators and transmitters and is structured such that it may be suitable for legislation and regulation.

The term ‘informative’ has been used in this Standard to define the application of the appendix to which it applies. An ‘informative’ appendix is for information and guidance.

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

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard sets out the minimum principles and tests required to confirm that the connections within a low voltage electricity network affecting the polarity or neutral integrity of the electricity network or supply to any electrical installation from that network are correct.

This Standard applies to both permanent and temporary arrangements.

The tests included in this Standard are—

(a) polarity;

(b) neutral integrity;

(c) phase rotation; and

(d) phasing confirmation.

The requirements listed in this Standard apply to testing the connections at the following points:

(i) Substations.

(ii) Lighting schemes.

(iii) Service lines.

(iv) Generators.

(v) Metering equipment.

(vi) Point of supply to the electrical installation.

(vii) Main switchboard of an electrical installation.

This Standard does not cover the following:

(A) Traction systems.

(B) Direct current systems.

(C) High voltage systems.

(D) Extra-low voltage systems.

(E) Inspection or compliance of electrical installations to wiring Standards and requirements in accordance with AS/NZS 3000.

(F) Non-multiple earth neutral systems.

