Amendment 1 - May 1988

AS 3129—1985
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3129—1985

APPROVAL AND TEST SPECIFICATION—
ELECTRIC FENCE CONTROLLERS

PUBLISHED BY THE STANDARDS ASSOCIATION OF AUSTRALIA
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The following interests are represented on Committee EL/2:

Australian Consumers Association

Australian Electrical and Electronic Manufacturers Association

Confederation of Australian Industry

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AMENDMENT No 1
to
AS 3129—1985
APPROVAL AND TEST SPECIFICATION—
ELECTRIC FENCE CONTROLLERS

REVISED TEXT

The 1985 edition of AS 3129 is amended as follows; the amendments should be inserted in the appropriate place.

SUMMARY: The following sections of the Standard are covered by this Amendment: Clauses 8, 8A, 12.13, and Table 1.

Published on 9 May 1988.

AMDT No 1 MAY 1988

Page 5. Table 1.

Add the following new items to the table:

(f) Between live parts of the fence circuit and other metal parts and between metal enclosures and other metal parts of the controller, including either metal foil wrapped around the supply cable flexible cord inside inlet bushings, cord anchorages and the like, or a metal rod of the same diameter as the cable or cord, inserted in its place, if the maximum peak voltage of the output voltage measured during the test of Clause 12.3 is:		
• up to and including 5000 V	15	15
• over 5000 V up to and including 7000 V	25	25
• over 7000 V	30	25
(g) Between metal enclosures and external parts of the output terminals	50	25

This Amendment forms part of the Specification on publication.

AMDT No 1 MAY 1988

Page 8. Clause 12.13.

Delete this Clause and *substitute* the following:

12.13 Determination of ignitability and combustion propagation. This test shall be carried out in accordance with the provisions of Clause 6.1 of AS 3100 with values in Clause 6.1.1.2 for (a) and (b) as follows:

(a) 850 °C for 30 s.

(b) 750 °C for 30 s.

This Amendment forms part of the Specification on publication.

AMDT No 1 MAY 1988

Page 5. Clause 8.

Delete this Clause and NOTE. and *substitute* the following:

8 TRANSFORMERS. Isolation between the supply mains and the fence circuit may be achieved by the incorporation of a double wound transformer situated either in the input circuit or the fence circuit. If such transformers are incorporated in both circuits, at least one of these transformers must provide the required degree of isolation.

Circuits connected between the input terminals and the primary side of the transformer providing the required degree of isolation are considered to be connected to the supply mains, and circuits connected between the output terminals and the secondary side of this transformer are considered to belong to the fence circuit.

Examples of construction which comply with the requirements for windings of this Clause are as follows:

(a) Windings on separate spools of adequate insulating material, rigidly fixed with respect to each other and to the core of the transformer.

(b) Windings on a single spool with a partition wall, both of adequate insulation material, provided that spool and partition wall are pressed or moulded in one piece, or that pushed on partition walls have an intermediate sheath or covering over the joint between the spool and the partition wall.

(c) Concentric windings on cheekless formers, provided that—

  (i) each layer of the winding is interleaved with adequate insulating material projecting beyond the end turns of each layer;

  (ii) one or more separate sheets of adequate insulating material of adequate thickness are provided between the input winding and the output windings; and

  (iii) the windings are impregnated with a hard baking or other suitable material which fully penetrates the interstices and effectively seals off the end turns.

The insulation between the input winding and the output winding of the transformers used for the isolation of the fence circuit, if of a single layer, shall have a thickness of not less than 2 mm. However, the thickness of this insulation need not be 2 mm if it is applied in thin sheet form and consists of at least three layers. In this case, when 2/3 of the total number of layers or, if this does not result in a whole number, the nearest whole number of layers below 2/3 of the total number of layers, are placed in contact, they shall withstand the electric strength test specified in Clause 12.9.

8A Radio interference suppression devices. Any radio interference suppression device shall comply with AS 3145.

This Amendment forms part of the Specification on publication.

PREFACE

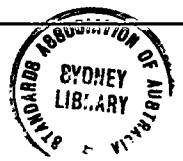
This standard was prepared by Committee EL/2, Electrical Approvals Standards.

It is one of a series of approval and test specifications issued by the Association. These specifications are accompanied by a general specification AS 3100, containing definitions and general requirements for electrical materials and equipment. The purpose of these specifications is to outline conditions which must be met to secure approval for the sale and use of electrical equipment in Australia. Only safety matters and related conditions are covered.

This edition was published to incorporate into the specification Amendment Nos 1 to 3 to AS 3129—1981 and to effect changes to Clauses 12.3, 12.9, 12.11 Table 4, and Appendix A with regard to an increase in the output voltage and associated test requirements. Also a list of referenced documents has been added to Clause 1 and a note with regard to the AS Mark added to Clause 11.1.

This standard supersedes AS 3129—1981 from date of publication.

The Association desires to call attention to the fact that this standard does not purport to include all the necessary provisions of a contract.



STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

APPROVAL AND TEST SPECIFICATION— ELECTRIC FENCE CONTROLLERS

This specification shall be read in conjunction with AS 3100. (See also Clause 3, below.)

1. SCOPE AND REFERENCED DOCUMENTS.

1.1 Scope. This specification prescribes safety requirements for electric fence controllers intended for electrical operation by direct or alternating current at low or medium voltage.

1.2 Referenced documents. The following documents are referred to in this standard:

1.2.1 *Standards.*

AS 1939 Classification of Degrees of Protection Provided for Electrical Materials and Equipment.

1.2.2 *Approval and test specifications.*

AS 3100 Definitions and General Requirements for Electrical Materials and Equipment

AS 3109 Appliance Couplers for Household and Similar General Purposes

AS 3121 Insulating Mouldings

AS 3145 Radio Interference Suppression Devices

AS 3191 Electric Flexible Cords

2 DEFINITIONS. For the purpose of this specification the following definitions apply:

2.1 Electric fence controller—an appliance intended to regulate and control the supply of electrical energy to electric fences.

2.2 Electric fence—a conductor energized through an electric fence controller and arranged as a barrier to animals.

2.3 Fence circuit—the circuit within the controller intended to energize the fence.

3 COMPLIANCE WITH SPECIFICATIONS.

3.1 General requirements of AS 3100. This specification shall be read in conjunction with AS 3100, and the appropriate provisions of AS 3100 shall apply to the construction of the electric fence controller and the insulation and safeguarding of parts which normally carry current.

3.2 Specific requirements of this specification. An electric fence controller shall be deemed to comply with this specification only if it complies with all the requirements of this specification and passes the tests specified herein.

3.3 Requirements of other specifications. Components incorporated in a controller which are depended upon for safety shall comply with the appropriate requirements of any relevant approval and test specification unless such requirements are varied herein.

4 MECHANICAL CONSTRUCTION.

4.1 Enclosing case. The controller shall have an enclosing case made of a suitable grade of insulating material. Any insulating moulding used in the construction of the casing shall be not inferior to the class of moulding specified in AS 3121 in relation to the temperature at which the moulding is required to operate when the electric fence controller is tested in accordance with Clause 12.5. In addition, any insulating material used in the construction of the casing shall meet the requirements of Clause 12.13.

The enclosing case shall be of robust construction and of adequate mechanical strength complying with Clause 12.6.

The enclosing case shall be designed to prevent the ingress of water in accordance with the requirements of AS 1939, designation IPX3.

4.2 Materials. Materials liable to atmospheric corrosion shall be adequately protected.

4.3 Components. If the controller incorporates components such as removable valves and discharge tubes which may require periodic replacement or components which are arranged for adjustment by the user, such components shall be accessible by the removal of a cover which removal shall require the use of a tool. The removal of this cover shall not render accessible to contact by the standard test finger, live parts (including supply terminals) or parts which are likely to become live in the event of breakdown of functional insulation, except that this shall not apply to the output of the controller. Any further cover or any separate cover over the supply terminals shall be removable only by the use of tools.

NOTE: A fence controller incorporating only solid state components is considered not to require periodic replacement of components.

Metal parts separated by double insulation (see Clause 5.4 of AS 3100) or by one layer and an air gap, from live parts shall not be considered likely to become alive in the event of a defect, provided that they comply with the requirements of Clause 12.9 and Table 4.

Where removable components are used, their identification details shall be displayed in a clear and permanent manner inside the removable cover or covers.

With the exception of the controller fence circuit terminals and the components mentioned above, all components shall be contained in one or more substantial dust-proof enclosures which are tamper-resistant to the extent that partial destruction of the enclosures, or of their means of closing, is necessary to allow access to live parts.

Bolts, screws, and other devices for fixing the controller to its support shall not be used to secure internal parts, and live parts shall not be secured directly to the outside wall of the case.

4.4 Terminals. The fence circuit terminals shall be accessible without the removal of covers.

It shall be possible to connect the fence circuit leads and the supply connections to the controller after it