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DR. 92067
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AS 3129—1989

Amdt. 1 / 1992-03-16

S/S BY AS 3129.1,2,3 -1993
BUT THE 1989 ED. WILL BE
WITHDRAWN 2 YEARS FROM
DATE OF PUBLICATION

Australian Standard®

Approval and test specification—Electric-fence energizers

AS/NZS 3129
Approval and test specification—Electric fence energizers

AS/NZS 3129.1:1993
Safety requirements for mains-operated electric fence energizers
(In Professional Package 28A)
110pp *K*
Specifies essential safety requirements for approval and test purposes and is technically equivalent to IEC 1011:1989. Produced as a Joint Australian/New Zealand Standard.
Committee EL/2: Supersedes AS 3129—1989 and NZS/AS 6203:1987 which are to be withdrawn 2 years from date of publication: Draft for Comment DR 92067: Publication date 1993-10-11: ISBN 0 7262 8348 7.

AS/NZS 3129.2:1993
Safety requirements for battery-operated electric fence energizers suitable for connection to the supply mains
(In Professional Package 28A) 20pp *F*
Specifies essential safety requirements for approval and test purposes. It is to be read in conjunction with AS 3129.1 and is technically equivalent to IEC 1011-1:1989. Produced as a Joint Australian/New Zealand Standard.
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AS/NZS 3129.3:1993
Safety requirements for battery-operated fence energizers not for connection to the supply mains
(In Professional Package 28A)
16pp *EE*
Specifies essential safety requirements for approval and test purposes. It is to be read in conjunction with AS 3129.1 and is technically equivalent to IEC 1011-2:1990 and produced as a Joint Australian/New Zealand Standard.
Committee EL/2: Draft for Comment DR 92067: Publication date 1993-10-11: ISBN 0 7262 8350 9.

STANDARDS AUSTRALIA

C

This Australian Standard was prepared by Committee EL/2, Electrical Approvals Standards. It was approved on behalf of the Council of Standards Australia on 23 June 1989 and published on 13 November 1989.

The following interests are represented on Committee EL/2:

Australian Consumers Association

Australian Electrical and Electronic Manufacturers Association

Confederation of Australian Industry

Consumer Electronics Suppliers Association

Electrical Apparatus Approvals Authorities

Electrical testing laboratories

Electricity Supply Association of Australia

Institution of Engineers, Australia

AS 3129/Amdt 1/1992-03-16

STANDARDS AUSTRALIA

Amendment No. 1 to AS 3129—1989 Approval and test specification—Electric-fence energizers

REVISED TEXT

The 1989 edition of AS 3129 is amended as follows; the amendments should be inserted in the appropriate place.

SUMMARY: This Amendment applies to Clauses 7, 12.1, 12.4, 13.7, 13.9 to 13.12 and Table 4.

Published on 16 March 1992.

AMDT No. 1 MAR. 1992

Page 5 Clause 7

Delete the second paragraph.

This Amendment forms part of the Specification 12 months after publication.

AMDT No. 1 MAR. 1992

Page 6 Clause 12.1

1 Item (b), *delete* 'Voltage' and *substitute* 'Input voltage'.

2 Item (d), *add* the following:

or with the following symbols—

(i) ~ for the a.c. input

(ii) ⎓ for the d.c. input; or

(iii) ≂ for the a.c. and d.c input.

This Amendment forms part of the Specification 12 months after publication.

AMDT No. 1 MAR. 1992

Page 6 Clause 12.4

Add the following new clause:

12.4 Output terminals The fence circuit terminals shall be clearly and indelibly marked with—

(i) the words 'FENCE' and 'EARTH' in letters not less than 3 mm in height; or

(ii) the symbols ϟ and ⏚ for fence and earth, not less than 6 mm in height.

This Amendment forms part of the Specification 12 months after publication.

AMDT No. 1 MAR. 1992

Page 8 Clause 13.7

First paragraph, line 3, *delete* the words 'the most' and *substitute* the word 'an'.

This Amendment forms part of the Specification on publication.

AMDT No. 1 MAR. 1992

Page 8 Clause 13.9

Line 1, *delete* the term '(r.m.s.)'.

This Amendment forms part of the Specification on publication.

AMDT No. 1 MAR. 1992

Page 8 Table 4

1 Column 2 heading, *delete* the term '(r.m.s.)' and *substitute* '(peak)'.

2 Items (a) and (b), delete '4 500 V' and '1 000 V' and *substitute* '5 300 V' and '1 770 V', respectively.

3 *Delete* Item (e) and its Footnote.

4 *Delete* the words 'an r.m.s.' from Note 1 and *substitute* the word 'a'.

5 *Delete* the word 'body' in Note 2 and *substitute* 'enclosing case'.

This Amendment forms part of the Specification on publication.

AMDT No. 1 MAR. 1992

Page 8 Clause 13.10

Line 3, *delete* the words 'the most' and substitute the word 'an'.

This Amendment forms part of the Specification on publication.

AMDT No. 1 MAR. 1992

Page 9 Clause 13.11

1 First paragraph, line 7, *delete* the word 'for' and *substitute* 'or'.

2 *Delete* the second and third paragraphs and *substitute* the following:

Under these conditions the output shall comply with the requirements of Clause 13.3, except that when the duration of the intervals between the impulses is less than 1 s, the maximum discharged energy per second shall not exceed 8 J for a period of 3 min before the energizer is rendered inoperative. Any device which is used to disconnect the fence circuit shall be of the non-self-resetting type.

The test shall then be repeated with, in turn, every combination of two of the conditions in Items (a) and (c). Under these conditions the output shall comply with the requirements of Clause 13.3.

This Amendment forms part of the Specification on publication.

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AMDT No. 1 MAR. 1992

Page 9 Clause 13.12

Delete the second sentence and *substitute* the following sentence:

Under these conditions, the output shall not deviate in an unfavourable way by more than 10% from that orginally obtained except that the duration of the impulse shall not exceed the value specified in Clause 13.3.

This Amendment forms part of the Specification on publication.

Local Council may have bylaws or regs. CEO 910514

AS 3129—1989

Australian Standard®

Approval and test specification— Electric-fence energizers

First published as C129—1959.
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PREFACE

This Specification was prepared by the Standards Australia Committee on Electrical Approvals Standards to supersede AS 3129—1985, *Electric fence controllers*.

It is one of a series of Approval and Test Specifications issued by Standards Australia. 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 No 1 to AS 3129—1985 and to effect changes to Clauses 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, Tables 1, 2, and Appendix A with regard to appliance name, definitions, transformers, creepage distances and clearances, marking, tests and changes to clause numbering.

This Standard supersedes AS 3129—1985 from date of publication with the exception of Clause 12(g) which comes into effect 12 months from the date of publication.

Standards Australia desires to call attention to the fact that this Specification does not purport to include all the necessary provisions of a contract.

CONTENTS

STANDARDS AUSTRALIA

Australian Standard

Approval and test specification—Electric-fence energizers

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-energizers 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:

STANDARDS

AS

1939 Classification of degrees of protection provided by enclosures for equipment

APPROVAL AND TEST SPECIFICATIONS

AS

3100 Definitions and general requirements for electrical materials and equipment

3109 Appliance couplers for household and similar general purposes

3109.1 General requirements

3121 Insulating mouldings

3145 Radio interference suppression devices

3191 Electric flexible cords

2 DEFINITIONS. For the purpose of this Specification the definitions below apply.

2.1 Electric-fence energizer—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 energizer and arranged as a barrier to animals.

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

2.4 Impulse—that part of a single period of an energizer's output voltage occurring from when the instantaneous value first exceeds 12 V until the instantaneous value finally decreases below 12 V, irrespective of polarity.

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 energizer and the insulation and safeguarding of parts which normally carry current.

3.2 Specific requirements of this Specification. An electric-fence energizer 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 an energizer 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 energizer 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 energizer is tested in accordance with Clause 13.5. In addition, any insulating material used in the construction of the casing shall meet the requirements of Clause 13.13.

The enclosing case shall be of robust construction and of adequate mechanical strength complying with Clause 13.6.

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 energizer 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 energizer. Any further cover or any separate cover over the supply terminals shall be removable only by the use of tools.

NOTE: A fence energizer 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 13.9 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.