Australian Standard®

Battery chargers for lead-acid batteries—Domestic type

Part 1: Battery chargers for vented cells

This Australian Standard was prepared by Committee EL/5, Secondary Batteries. It was approved on behalf of the Council of Standards Australia on 9 August 1994 and published on 17 October 1994.

The following interests are represented on Committee EL/5:

Australian Automobile Association
Australian Automotive Aftermarket Association
Australian Chamber of Commerce and Industry
Australian Electrical and Electronic Manufacturers Association
Australian Lead Development Association
Department of Defence, Australia
Electricity Supply Association of Australia
Federal Chamber of Automotive Industries, Australia
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Part 1: Battery chargers for vented cells

First published as AS 2401— 1980.
Second edition 1988.
Revised and redesignated AS 2401.1 — 1994.

PUBLISHED BY STANDARDS AUSTRALIA
(STANDARDS ASSOCIATION OF AUSTRALIA)
1 THE CRESCENT, HOMEBUSH, NSW 2140
ISBN 0 7262 9223 0

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL/5 on Secondary Batteries to supersede AS 2401—1988, *Battery chargers for lead-acid batteries—Household type*.

It is issued as an Australian Standard. The Committee proposes that a Joint Standard be prepared at the next revision.

It applies to domestic battery chargers used for charging lead-acid batteries of the automotive type and vented lead-acid batteries used in semi-traction applications.

The electrical safety requirements for domestic battery chargers are not covered by this Standard but are specified in AS 3100, *Approval and test specification—General requirements for electrical equipment*, and AS 3193, *Approval and test specification—Transformer type battery chargers*.

Consideration has been given to the charging conditions which influence battery service life. The requirements stipulated are intended to ensure optimum battery life. Since the ripple content of the d.c. output of a battery charger is an important factor in battery service life, a ripple requirement has been stipulated.

This Standard contains only minor changes to AS 2401—1988, the most significant of which are—

(a) the requirement for a maximum percentage ripple current of 25%; and

(b) the requirement that the maximum temperature of accessible parts shall not exceed the values specified in AS 3100.

This Standard is the first part of a two-part Standard. A proposed second part is to cover battery chargers for sealed cells.

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STANDARDS AUSTRALIA

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Part 1: Battery chargers for vented cells

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE This Standard specifies requirements for battery chargers intended for domestic or similar situations and used for emergency or infrequent charging of vented lead-acid batteries of the automotive type, generally complying with AS 2149.

This Standard does not apply to battery chargers—

(i) having an input rating greater than 2.5 kVA;

(i) used for charging sealed cells;

(iii) used for float charging; and

(iv) embodied in appliances and not provided with an accessible outlet; and

(v) for batteries used in cyclic applications.

NOTES:

1 AS 4044, specifies requirements for the charging of float-type stationary batteries.

2 Battery chargers complying with this Standard are not suitable for charging batteries for an extended time, i.e. they are suitable only for the recharging of batteries.

1.2 REFERENCED DOCUMENTS The documents below are referred to in this Standard:

AS

1042 Direct-acting indicating electrical measuring instruments and their accessories

1044 Limits and methods of measurement of radio interference characteristics of household electrical appliances, portable tools and similar electrical apparatus

1939 Degrees of protection provided by enclosures for electrical equipment (IP Code)

2149 Starter batteries—Lead-acid

3100 Approval and test specification—General requirements for electrical equipment

3193 Approval and test specification—Transformer type battery chargers

4044 Battery chargers for stationary batteries

1.3 DEFINITIONS For the purpose of this Standard, the definitions below apply:

1.3.1 Battery charger (charger)—a device which when connected to a low-voltage mains supply provides a d.c. supply source suitable for charging lead-acid batteries.

1.3.2 Nominal charging voltage—the d.c. charging voltage of the charger as given on the nameplate. This may be the nominal voltage of the battery to be charged, e.g. 6, 12, 24 or 48 V.

1.3.3 Rated charging current—the average d.c. charging current of the charger as given on the nameplate.