



ABYC A-31 July, 2015

**Equipment Division Standard
Electrical Component Project Technical
Committee**

The ABYC Standards and Technical Information Reports for Small Craft are the product of a consensus of representatives of government, industry and public sectors. It is intended solely as a guide to aid manufacturers and the marine community in the design, construction, equipage and maintenance of small craft.

ABYC reviews each standard at least every five years at which time it may be reaffirmed, revised, or withdrawn. ABYC welcomes any written comments on the Standards and Technical Information Reports.

ABYC A-31

BATTERY CHARGERS AND INVERTERS

This is a preview of "ABYC A-31-2015". [Click here to purchase the full version from the ANSI store.](#)

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This list represents the membership at the time the Committee was balloted.

NOTE: Membership on a committee shall not in and of itself constitute an endorsement of ABYC or any document developed by the committee on which the member serves.

This standard was developed under procedures accredited as meeting the criteria for American National Standards. The Project Technical Committee that approved the standard was balanced to ensure that individuals from competent and concerned interests have had an opportunity to participate.

This standard, which is the result of extended and careful consideration of available knowledge and experience on the subject, is intended to provide minimum performance requirements.

ABYC's Project Technical Committee meetings are open to the public. All contact regarding standards activity, interpretations, or meeting attendance should be directed to the ABYC Technical Department at comments@abycinc.org.

ABYC and its committees do not "approve", "certify", or "endorse" any item, construction, or proprietary device.

REQUEST FOR INTERPRETATIONS

Upon written request, the Electrical Component PTC will render an interpretation of any requirement of the standard. The request for interpretation should be clear and unambiguous. Requests should be presented to the PTC in a manner in which they may be answered in a yes or no fashion.

The committee reserves the right to reconsider any interpretation when or if additional information which might affect it becomes available to the PTC. Persons aggrieved by an interpretation may appeal to the Committee for reinterpretation.

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A-31 BATTERY CHARGERS AND INVERTERS

Based on ABYC's assessment of the existing technology, and the problems associated with achieving the goals of this standard, ABYC recommends compliance with this standard for all boats, associated equipment, and systems manufactured after July 31, 2016.

31.1 PURPOSE

This standard is a guide for the design, construction, and installation of permanently installed marine alternating current (AC) battery chargers, power inverters and inverter/chargers.

31.2 SCOPE

31.2.1 This standard applies to:

31.2.1.1 permanently installed marine battery chargers powered by less than 300 volts AC providing current at a potential of 50 volts DC or less and

31.2.1.2 permanently installed DC to AC marine inverters supplying less than 300 volts AC at a frequency of 50 or 60 Hertz and

31.2.1.3 permanently installed inverter/chargers supplying less than 300 volts AC at a frequency of 50 or 60 Hertz.

NOTE: This standard does not apply to devices intended to supply DC loads without a battery.

31.3 REFERENCES

The following references form a part of this standard. Unless otherwise noted the latest version of the referenced standards shall apply.

31.3.1 ABYC - American Boat & Yacht Council, Inc. 613 Third Street, Suite 10, Annapolis, MD 21403. Phone: (410) 990-4460. Fax (410) 990-4466. Website: www.abycinc.org.

[ABYC A-1, Marine Liquefied Petroleum Gas \(LPG\) Systems](#)
[ABYC A-22, Marine Compressed Natural Gas \(CNG\) Systems](#)
[ABYC A-28, Galvanic Isolators](#)
[ABYC A-32, AC Power Conversion Equipment and Systems](#)
[ABYC C-1500, Ignition Protection for Marine Products](#)
[ABYC E-2, Cathodic Protection](#)
[ABYC E-11, AC and DC Electrical Systems on Boats](#)
[ABYC H-24, Gasoline Fuel Systems](#)
[ABYC T-5, Safety Signs and Labels](#)

31.3.2 CFR - Code of Federal Regulations and other government publications. May be obtained from the Superintendent of Documents, United States Government Information, PO Box 371954, Pittsburgh, PA 15250-7954. Phone: (202) 512-1800. Fax: (202) 512-2104. Website: www.access.gpo.gov/. An excerpted edition of the CFR is also available from ABYC, Inc.

33 CFR 183.410

31.3.3 IEC – International Electrotechnical Commission, 3, rue de Varembe, PO Box 131, CH – 1211 GENEVA 20, Switzerland. Phone: +41 22 919 0211. Fax: +41 22 919 0300. Website: www.iec.ch.

IEC Standard 60529, *Degrees of Protection Provided by Enclosures, Type IP65*

31.3.4 NEMA - National Electrical Manufacturer's Association, 1300 North 17th St, Suite 1847, Rosslyn, VA 22209. Phone: (703) 841-3200, Fax: (703) 841-5900. Website: www.nema.org

NEMA Standard 250, *Enclosures for Electrical Equipment (1000 V Maximum), Type 4X*

31.3.5 SAE International, 400 Commonwealth Drive, Warrendale, PA 15096. Phone: (724) 776-4841. Website: www.sae.org.