March 2017

Customer Bulletin

California Energy Commission Battery Charger Efficiency Standards

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Summary

The California Energy Commission (CEC) has enacted efficiency standards for battery chargers sold or offered for sale in the State of California. With few exceptions, battery chargers manufactured after January 1, 2017 must meet these standards and be listed in the California Efficiency Database to be legally sold for use in California. Oregon has adopted nearly identical regulations that are also effective January 1, 2017.

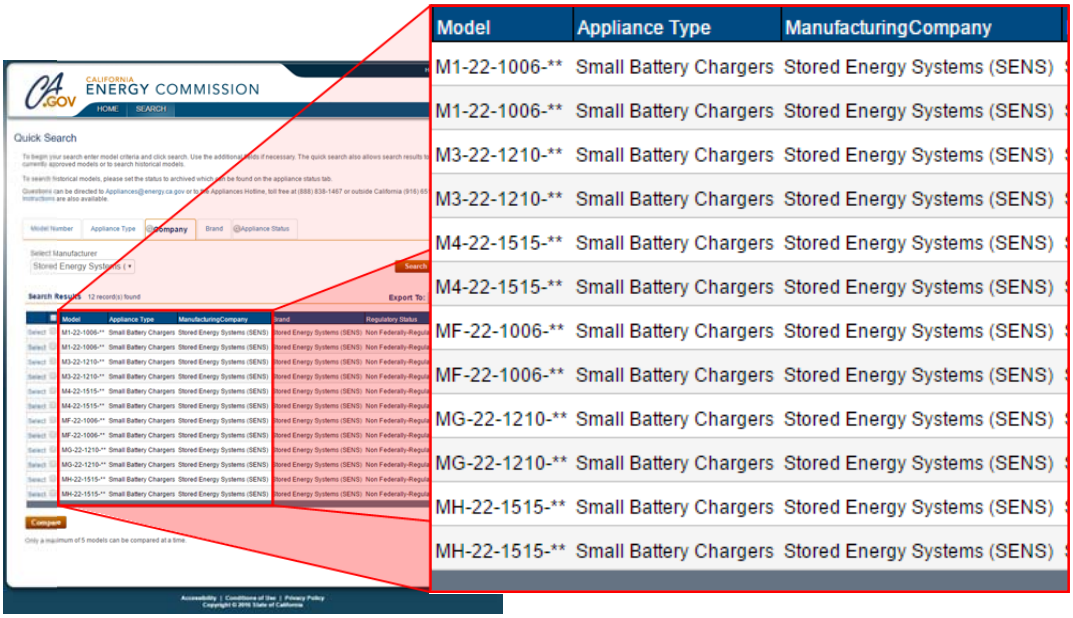
As of March, 2017 SENS MicroGenius 2 family constitutes the only genset battery chargers to meet the CEC's efficiency requirements and to be listed in the California Efficiency Database. SENS strongly recommends that customers with installations in California utilize MicroGenius 2 chargers.

Background

The Warren-Alquist act of 1974 gives the CEC the authority to regulate equipment efficiency standards. California was the first state in the country to adopt such standards, and over the years has adopted standards on more than 50 products, many of which have subsequently become federal standards. In 2012 California adopted standards for battery chargers.[1] According to the State, nearly two-thirds of the 8,000 gigawatt hours consumed by battery chargers in California in 2012 was wasted by inefficiency. The State expects to save nearly 2,200 gigawatt hours each year through the battery charger efficiency standards.[2] In addition to battery chargers, energy efficiency regulations cover other appliances such as air conditioners & heaters, household appliances, electric motors, distribution transformers, and consumer electronics.[3]

Battery Charger Certification

Certifying a battery charger involves testing the charger's performance at a test lab authorized by the State of California and then submitting the data to the CEC's Appliance Efficiency Program.[4] Once certified, approved battery chargers appear in the Appliance Efficiency Database.[5]



SENS MicroGenius 2 listings in CEC Efficiency Database

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Battery Charger Testing

The CEC's tests for small battery chargers (<2KW input) measure two aspects of charger performance: 1) the efficiency of the charger while recharging and maintaining the battery, and 2) the power consumed in standby mode when the charger is not supplying energy to the battery.[6] SENS MicroGenius 2 chargers, equipped with advanced Dynamic Boost™ and HELIX™ charging technologies performed exceptionally well on both tests, delivering 93% peak efficiency and maintenance mode power consumption of less than 3 watts.

Exceptions to the Charger Efficiency Standard

Relative to the class of charger used for genset, marine, and general standby duty, there are two key exceptions to standards: 1) chargers that are sold to wholesalers in California for final retail sale outside the state[7], and 2) chargers that are necessary as replacements for systems sold before the regulations took effect, as long as they are sold directly to the consumer or a service / repair facility. The latter applies only for five years after the regulations took effect, or until January 1, 2021 for commercial chargers such as those manufactured by SENS.[8]

Surveillance and Enforcement

California Senate Bill 454 authorizes the CEC to levy administrative penalties of up to $2,500 per violation. According to the State, "the Energy Commission periodically contracts for appliance market surveys to be performed throughout the state," and has made provisions for consumers, other businesses, and other governmental agencies to report violations.[9]

Locations Outside California

In addition to California, as of the date of this publication, only Oregon[10] has elected to adopt similar efficiency standards for commercial battery chargers. While speculative, it's reasonable to assume other states will adopt the same or very similar standards. According to the federal Environmental Protection Agency, states including New York and Connecticut are either considering or have pending legislation to regulate the efficiency of electrical equipment.[11]

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[1] ACEEE State and Local Policy Database July 2016 | http://database.aceee.org/state/appliance-standards-summary

[2] Energy Standards for Battery Charger Systems, FAQs, Jan 2012 | http://www.energy.ca.gov/appliances/battery_chargers/documents/Chargers_FAQ.pdf

[3] Fact Sheet - California Appliance Efficiency Regulations for Manufacturers | http://www.energy.ca.gov/2012publications/CEC-400-2012-FS/CEC-400-2012-FS-004-En.pdf

[4] CEC Appliance Efficiency Program Background | http://www.energy.ca.gov/appliances/outreach/background.html

[5] https://cacertappliances.energy.ca.gov/Login.aspx

[6] 2016 Appliance Energy Regulations, Pages 230-231 | http://www.energy.ca.gov/2017publications/CEC-400-2017-002/CEC-400-2017-002.pdf

[7] Ibid., Page 1

[8] Ibid., Page 231

[9] California Battery Charging Systems FAQ - August 2012, Pages 9-10 | http://www.energy.ca.gov/2012publications/CEC-400-2012-FS/CEC-400-2012-FS-002.pdf

[10] State of Oregon - Final Rules for Appliance Energy Efficiency Standards | https://www.oregon.gov/energy/Get-Involved/rulemakingdocs/2016%2012%20Appliance%20Rulemaking%20Rules.pdf

[11] EPA Energy and Environmental Guide to Action, Page 4-75 | https://www.epa.gov/sites/production/files/2015-08/documents/gta_chapter_4.4_508.pdf