



Confirmation of Product Type Approval

Company Name: STORED ENERGY SYSTEMS, LLC

Address: 1840 INDUSTRIAL CIRCLE CO 80501 United States

Product: Battery Charger

Model(s): MicroGenius 2

Endorsements:

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	21-2165921-PDA	01-OCT-2021	30-SEP-2026
Manufacturing Assessment (MA)	23-5820693	15-MAY-2023	30-MAY-2028
Product Quality Assurance (PQA)	NA	NA	NA

Tier

5 - Unit Certification Required

Intended Service

Charging batteries and providing DC power in Marine and Offshore Applications

Description

MicroGenius 2: Switchmode, regulated, filtered, microprocessor-controlled, current limited battery charger designed for heavy-duty industrial service.

Primary application: quick recharge and long-life maintenance of engine start batteries and ultracapacitors.

Refer to the attached sheet for Model Series Designation.

Ratings

Output Voltage: 12 or 24 VDC Nominal;

Output Power: 180 W, 300W, or 450W

Input Voltage: 100-240VAC

Input Frequency: 50/60 Hz;

Operational temperature at full rated output: -40 °C to +55 °C for 180W; -40 °C to +50 °C for 300W; -40°C to +40°C for 450W

Enclosure: IP 22 aluminum/stainless steel enclosure;

Service Restrictions

Unit Certification is not required for this product (ratings less than 25 kW).

If the manufacturer or purchaser requests an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

Not suitable for installation in hazardous areas.

Comments

The Manufacturer has provided a declaration about the control of or the lack of Asbestos in this product.

End-user must use output cables that have sufficient current-carrying capacity as per ABS Marine Vessel Rules 4-8-2/7.7.1.

Notes, Drawings and Documentation

Drawing No. 2016 ABSCert, 2016 ABS MA, Revision: 1, Pages: 1

Drawing No. 2DCad, 2DCad, Revision: 1, Pages: 1

Drawing No. Alarms, ABS alarm reqs, Revision: 1, Pages: 1

Drawing No. Application2016, Type Approval Application 2016, Revision: 1, Pages: 1

Drawing No. Asbestos, Asbestos Cert 2016, Revision: 1, Pages: 1

Drawing No. ComplianceSpec, Compliance Spec, Revision: 1, Pages: 1

Drawing No. DecConf, Declaration of Conformity, Revision: 1, Pages: 1

Drawing No. Discharge , MG2 Discharge Data, Revision: 1, Pages: 1

Drawing No. IP22, IP22 Test, Revision: 1, Pages: 1

Drawing No. ISO, ISO 2021, Revision: 1, Pages: 1

Drawing No. ISO2008, ISO Cert 2008, Revision: 1, Pages: 1

Drawing No. ISO2008Report, ISO Report 2008, Revision: 1, Pages: 1

Drawing No. Model, Model Designation, Revision: 1, Pages: 1

Drawing No. PDA Application, PDA Application, Revision: -, Pages: -

Drawing No. Recharge, MG2 Recharge Data, Revision: 1, Pages: 1

Drawing No. ReversePolarity, Reverse Polarity Test, Revision: 1, Pages: 1

Drawing No. ULAuthorization, UL Authorization, Revision: 1, Pages: 1

Term of Validity

This Product Design Assessment (PDA) Certificate remains valid until 30/Sep/2026 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

ABS Rules

2021 Rules for Conditions of Classification, Part 1: 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:

2021 Marine Vessel Rules: 4-8-3/1.3, 1.7, 1.11.1, 1.17.1 4-8-1/7.3.3, 4-8-3/5.9

2021 Rules for Conditions of Classification, Part 1 - Offshore Units and Structures: 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:

2021 Mobile Offshore Units Rules: 4-3-1/11, 15, 17.1, 6-1-1/3.7, 6-1-7/9.17

International Standards

CSA 22.2 No. 107.2 (2nd Edition, 2021), Battery Chargers (UL File E109740);

IEC 60529 Degrees of Protection Provided by Enclosures (IP Code), 1989+A1:1999;

BS EN IEC 61000-6-4:2019 Electromagnetic compatibility (EMC). Generic standards;

BS EN 61000-6-2: 2019 Electromagnetic compatibility (EMC). Generic standards. Immunity for industrial environments.

EU-MED Standards

NA

National Standards

UL 1236 Battery Chargers for Charging Engine-Starter Batteries, 2015, Edition 8 (UL File E109740 and EX6409).

Government Standards

NA

Other Standards

NA



A handwritten signature in blue ink, appearing to read 'Joseph W. ...', is written over the printed text.

Corporate ABS Programs
American Bureau of Shipping
Print Date and Time: 05-Jun-2023 3:05

ABS has used due diligence in the preparation of this certificate, and it represents the information on the product in the ABS Records as of the date and time the certificate is printed.

If the Rules and/or standards used in the PDA evaluation are revised or if there is a design modification (whichever occurs first), a PDA revalidation may be necessary.

The continued validity of the MA is dependent on completion of satisfactory audits as required by the ABS Rules. The validity of both PDA and MA entitles the product to receive a **Confirmation of Product Type Approval**.

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or prior to the effective date of the ABS Rules and standards applied at the time of PDA issuance. ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. The manufacturer is responsible to maintain compliance with all specifications applicable to the product design assessment. Unless specifically indicated in the description of the product, certification under type approval does not waive requirements for witnessed inspection or additional survey for product use on a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.