

+ Sodium-Metal Chloride battery achieved various certifications. Most Important are:



- GR63
- GR1089
- GR3176

- Temperature limits
- Electro Magnetic Compatibility
- Overcharge/

- UL1973
- UL9540A

- Short circuit
- overdischarge
- Shock and vibration

- IEC/EN61000-6/-4
- IEC60068-2
- IEC/EN60529

- Nail Penetration
- Immersion Test
- Fire resistance

+ a detailed evaluation of the Health and Safety Issues of the Sodium-Metal Chloride battery, performed by the National Renewable Energy Laboratory – US Department of Energy, is available.



CERTIFICATE OF COMPLIANCE

Certificate Number MH48489
Report Reference MH48489-20151215
Issue Date 2020-APRIL-17

Issued to: FZSONICK SA
VIA LAVEGGIO 15
6855 STABIO SWITZERLAND

**This certificate confirms that
representative samples of**

BATTERIES FOR USE IN STATIONARY, VEHICLE
AUXILIARY POWER AND LIGHT ELECTRIC RAIL
APPLICATIONS

Model 48TL200

Have been investigated by UL in accordance with the
Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 1973, Batteries for Use in Light Electric Rail (LER)
Applications and Stationary Applications

Additional Information: See the UL Online Certifications Directory at
<https://iq.ulprospector.com> for additional information.

This *Certificate of Compliance* does not provide authorization to apply the UL Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.



Bruce Mahrenholz, Director North American Certification Program
UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at <http://ul.com/aboutul/locations/>



FZSonick Designed to comply with Standards Internationally:

- IEC 60571 / 61373 / 61571 / 61991 / 62236-3-1
- EN 50121-1 / 51121-3-1 / 51121-3-2 / 50126 / 50128 / 50129 / 50155:2007
- EN 60529 (IP65)
- NFPA 130
- UL-1973: specific for NaNiCl₂ technology / Reference to the UL list for the components / UL 50 Enclosures for Electrical
- C.D. 2006/95/EC and C.D. 2004/108/EC
- CEI EN 61000-6-2
- CEI EN 61000-6-4
- CEI 64-8
- IEC EN 61439-1
- IEC EN 61439-2
- EN 61000-6-1: - Electromagnetic compatibility (EMC) - Part 6-1: Generic standards – Immunity for residential, commercial and light-industrial environments.
- IEC 61439: - Low-voltage switchgear and control gear assemblies.
- IEC 60204: -1 Safety of machinery - Electrical equipment of machines.
- CAS Nr 7440-02-0 - Nickel specification
- RoHS Compliant : - The Restriction of Hazardous Substances Directive 2002/95/EC
- Non-Environmental Constraints according to 2012/18/EU
- NEBS DA1976: - Level 1 and Level 3 (Network Equipment-Building System).
- CE mark : - *Conformité Européenne*, / European Conformity.
- ISO 9001: - Quality Management System.
- ISO 14001: - Environmental Management System.
- NFPA 70
- E24 / R10 homologation

1) EN 61000-6-1: Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments

Applies to electrical and electronic apparatus intended for use in residential, commercial and light-industrial environments both indoor and outdoor. Immunity requirements in the frequency range 0 Hz to 400 GHz are covered. This generic EMC immunity standard is applicable if no relevant dedicated product or product-family EMC immunity standard exists. This standard applies to apparatus intended to be directly connected to a low-voltage public mains network or connected to a dedicated DC source which is intended to interface between the apparatus and the low-voltage public mains network. This standard applies also to apparatus which is battery operated or is powered by a non-public, but non-industrial, low-voltage power distribution system if this apparatus is intended to be used in the locations. This standard supersedes EN [50082-1](#).

2) CE - *Conformité Européenne*, meaning European Conformity.

CE marking is a [certification mark](#) that indicates conformity with health, safety, and environmental protection standards for products sold within the [European Economic Area](#) (EEA).^[1] The CE marking is also found on products sold outside the [EEA](#) that are manufactured in, or designed to be sold in, the EEA. This makes the CE marking recognizable worldwide even to people who are not familiar with the European Economic Area.

The CE marking is the manufacturer's declaration that the product meets the requirements of the applicable [EC directives](#).^[2]

European Community-Australia Mutual Recognition Agreement: Frequently Asked Questions

○ **What is the EC-MRA?**

The EC-Australia Mutual Recognition Agreement (EC-MRA) is a Treaty-status Agreement between the Australian Government and the governments of the European Community. It came into force on 1 January 1999.

The European Union is one of Australia's most significant trading partners. The EC-MRA allows conformity assessment (inspection, testing and certification) of products traded between Australia and the European Union to be undertaken in Australia prior to export to the EU. The EC-MRA provides access to markets which have previously been considered uneconomic due to the high cost of regulatory compliance.

○ **What types of goods are covered by the EC-MRA?**

The EC-MRA covers regulated products in the following eight industry sectors:

- automotive products
- electromagnetic compatibility (EMC)
- low voltage electrical equipment
- telecommunications terminal equipment
- machinery
- medical devices
- pharmaceuticals - Good Manufacturing Practice (GMP)
- pressure equipment

○ **What is the function of Conformity Assessment Bodies under the EC-MRA?**

For products covered by the EC-MRA, Conformity Assessment Bodies in Australia can perform conformity assessment procedures that would otherwise be required to be performed by a European body.

○ **As an Australian manufacturer, can I still have my product assessed by a European Notified Body for CE Marking?**

Yes. Manufacturers can have their products assessed either in the EU or Australia.

○ **What is the CE Mark?**

CE represents "Conformité Européenne". CE Marking indicates that a product may be legally sold in all Member States of the European Economic Area. Each Member State must accept CE Marked products without requiring any further testing or approval in relation to requirements covered by European regulations.

○ **What does the CE Marking mean?**

CE Marking denotes that a product conforms to the relevant essential requirements and other applicable provisions of the EC's New Approach Directives, and that the product has been through the appropriate conformity assessment procedures. CE Marking is mandatory and the Mark must be affixed before a product may be placed on the market. Manufacturers are responsible for the conformity of their product/s and the affixing of the CE Mark.

○ **What characterises New Approach Directives?**

New Approach Directives are adopted for broad product areas or defined risks. EU policy is to limit the adoption of New Approach Directives to areas where national legislation can create legitimate barriers to trade. Because New Approach Directives apply to broad product areas and only cover one or a few types of risks, any one product may be covered by more than one Directive. In most cases, a manufacturer can choose both how to meet the essential requirements and the means whereby to demonstrate that the product

conforms to technical requirements.

[1] "[EUR-Lex - 31993L0068 - EN](#)". *Eur-lex.europa.eu*. Retrieved 2015-09-07.

[2] "[What does the CE marking on a product indicate?](#)". European Union.

3) **NEBS DA1976 Level 1 and Level 3 (Network Equipment-Building System)**

- **"NEBS Level 1"** means a very low threshold of equipment hazards and network degradation. NEBS Level 1 addresses the personnel and equipment safety requirements of [GR-63-CORE](#) and [GR-1089-CORE](#). Operability requirements are not enforced for NEBS Level 1 certification. It is primarily used for getting prototypes into lab trials. [RBOCs](#) require all equipment deployed by [CLECs](#) to be NEBS Level 1 certified.
- **"NEBS Level 2"** addresses equipment operability in a controlled environment (usually datacenters) that will not be subjected to environmental stress. Because of ambiguity, this level of certification is rarely (if ever) used.
- **"NEBS Level 3"** is a term from Bellcore special report, [SR-3580](#), and means the equipment meets all of the requirements of [GR-63-CORE](#) and [GR-1089-CORE](#). NEBS Level 3 has strict specifications for fire suppression, thermal margin testing, vibration resistance (earthquakes), airflow patterns, acoustic limits, failover and partial operational requirements (such as chassis fan failures), failure severity levels, RF emissions and tolerances, and testing/certification requirements.

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