IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx SIR 07.0066 issue No.:2

Status: **Current**

Date of Issue: **2010-12-02** Page 1 of 5

Certificate history:
Issue No. 2 (2010-12-2)
Issue No. 1 (2010-3-4)
Issue No. 0 (2008-2-15)

Applicant: **Enersys S.A.R.L.**
ZI Est
Rue Alexander Fleming
62033 Arras
France

Electrical Apparatus: **Traction Batteries Not Greater Than 153.6 KWh**
Optional accessory:

Type of Protection: **Increased safety and Dust**

Marking: **Ex e I**
Ex e II T6
Ex tD A21 IP65 T80°C

Approved for issue on behalf of the IECEx Certification Body: D R Stubbings BA MIET

Position: Certification Manager

Signature:
(for printed version)

Date: 2010-12-02

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

SIRA Certification Service
Rake Lane
Eccleston
Chester
CH4 9JN
United Kingdom

sira CERTIFICATION

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Manufacturer: **Enersys S.A.R.L.**
ZI Est
Rue Alexander Fleming
62033 Arras
France

Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:
The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2004 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-7 : 2006-07 Edition: 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
IEC 61241-0 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
IEC 61241-1 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures "tD"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

GB/SIR/ExTR07.0114/00
GB/SIR/ExTR10.0026/00
GB/SIR/ExTR10.0282/00

Quality Assessment Report:

GB/SIR/QAR08.0003/00
GB/SIR/QAR08.0003/01
GB/SIR/QAR08.0003/02

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Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

Traction Batteries Greater Than 860 A.h Capacity

The range of Traction Batteries with cells not greater than 153.6 KWH capacity comprise fabricated mild steel containers in which a range of increased safety, lead-acid cells are arranged. The batteries are manufactured with a nominal voltage up to 400 V.

The containers utilise louvered and baffled ventilation slots in their sides, to prevent the evolution of explosive concentrations of hydrogen and oxygen within the containers internal free volume. A large number of different configurations and shapes may be manufactured, within the limits described on the manufacturer's specification drawings.

The type designation code is made up of the following:

1. No of cells and battery type reference
2. No of terminals (single or double post)
3. Number of positive plates
4. Cell type
5. Capacity per positive plate

See Equipment (continued) for ventilation ratios and Conditions of manufacture

CONDITIONS OF CERTIFICATION: NO

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Certificate No.: IECEx SIR 07.0066

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EQUIPMENT(continued):

The minimum ventilation to capacity ratio of the battery containers are 2526 mm^2/kWh. One side of the enclosure may be closed off when installed, provided this does not exceed 27.8% of the available louver length. The battery container is fitted with a suitably certified cable gland to protect the cable that is fitted between the battery and attached apparatus.

Alternatively a rubber grommet and a suitably certified intermediate terminal box may be fitted.

There is also the option to fit a suitably certified increased safety enclosure with a flameproof socket to the side of the battery enclosure, located where the connecting cables exit the enclosure. The particular assembly that is fitted is not specifically identified as part of the battery certification.

Conditions of Manufacture

1. The manufacturer shall include the cell marking details in the instruction leaflet.
2. Each battery shall be subjected to a routine insulation test in accordance with IEC 60079-7:2006 clause 6.6.2. The insulation resistance shall be at least 1 M ohm between the live parts and the battery container.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 1 – this Issue introduced the following changes:	
1	The recognition of minor drawing modifications; these amendments are administrative or involve changes to the design that do not affect the aspects of the product that are relevant to explosion safety.
2	To allow a change in the product description to allow the capacity to be specified in kWh.
3	Drawings SIRAATEX1, SIRAATEX4 P25127, P25128, P24807 and P24808 have been modified to include a wider range of cable cross sections.
Issue 2 – this Issue introduced the following changes:	
1	The introduction of a new label drawing showing the brand name Oerlikon was recognised.