IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

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

Certificate No.: **IECEx SIR 07.0065X**

Status: **Current**

Issue No: 7

Date of Issue: 2022-08-11

Applicant: **Hawker GmbH**
Dieckstraβe 42
Hagen D-58089
Germany

Equipment: **Traction Batteries Up To 68.8 kWh**

Optional accessory:

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

Marking: Ex eb I Mb
Ex eb IIC T6 Gb
Ex tb IIIC T80°C Db

Certificate history:
Issue 6 (2022-03-31)
Issue 5 (2020-06-23)
Issue 4 (2019-11-18)
Issue 3 (2017-04-10)
Issue 2 (2010-12-02)
Issue 1 (2010-03-04)
Issue 0 (2008-02-15)

Approved for issue on behalf of the IECEx Certification Body: **Michelle Halliwell**

Position: **Director Operations, UK & Industrial Europe**

Signature:
(for printed version)

Date:
(for printed version)

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 www.iecex.com or use of this QR Code.

Certificate issued by:

CSA Group Testing UK Ltd
Unit 6, Hawarden Industrial Park
Hawarden, Deeside CH5 3US
United Kingdom

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Manufacturer: **Hawker GmbH**
Dieckstraβe 42
Hagen D-58089
Germany

Manufacturing locations:

Enersys S.A.R.L
Rue Alexander Fleming
Zone Industrielle Est-BP962
Arras 62033
France

Enersys Sp. z.o.o
ul. Leszcynska 73
Bielsko-Biala 43300
Poland

Enersys s.r.o.
267 24 Hostomice pod Brdy 555
-
Czech Republic

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 equipment 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 60079-0:2011 Explosive atmospheres - Part 0: General requirements
Edition:6.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

IEC 60079-7:2015 Explosive atmospheres – Part 7: Equipment protection by increased safety "e"
Edition:5.0

This Certificate **does not** indicate compliance with 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 Reports:

GB/CSAE/ExTR22.0083/00
GB/SIR/ExTR10.0282/00
GB/SIR/ExTR20.0114/00
GB/SIR/ExTR07.0113/00
GB/SIR/ExTR17.0019/00
GB/SIR/ExTR22.0098/00
GB/SIR/ExTR10.0026/00
GB/SIR/ExTR19.0271/00

Quality Assessment Report:

GB/SIR/QAR08.0004/08

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

Traction Batteries Up To 860 Ah Capacity

The range of Traction Batteries comprise fabricated mild steel containers in which a range of increased safety, lead-acid cells are arranged. The batteries are manufactured with a power up to 68.8 kWh and a nominal voltage up to 400 V.

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

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

Refer to the Annexe for ventilation ratios and Conditions of manufacture

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The battery shall not be charged in a hazardous area.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
This issue, Issue 7, recognises the following change; refer to the certificate annex to view a comprehensive history:

1. To change the product name
   From: NexsysCORE Traction Batteries Up To 68.8 kWh
   To: Traction Batteries Up To 68.8 kWh

Annex:

IECEx SIR 07.0065X Issue 7 Annexe.pdf

The minimum ventilation ratios of the battery containers are:

Battery container top vents = 850 mm^2/kWh
Battery container side vents = 1320 mm^2/kWh

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.

Full certificate change history

Issue 1 – this Issue introduced the following changes:

i. 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.
ii. To allow a change in the product description to allow the capacity to be specified in kWh.
iii. 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 change:

i. The introduction of a new label drawing showing the brand name Oerlikon was recognised.

Issue 3 – this Issue introduced the following changes:

i. Recognition of the company name and address change:

From:	To:
Enersys S.A.R.L.	Enersys s.r.o.
ZI Est rue A Fleming	Nádražní 555
62033 Arras	26724
France	Hostomice pod Brdy
	Czech Republic

ii. Removal of the compliance standards and inclusion of the company website address (as applicable), to the labels detailed on the drawings.

CSA Group Testing UK Ltd.
Unit 6 Hawarden Industrial Park,
Hawarden Deeside CH5 3US, UK.

Issue 4 – this Issue introduced the following changes:

i. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, IEC 60079-0:2004 Ed. 4, IEC 60079-7:2006 Ed.4, IEC 61241-0:2004 Ed.1 and IEC 61241-1:2004 Ed.1 were replaced by IEC 60079-0:2011 Ed.6, IEC 60079-7:2015 Ed.5 and IEC 60079-31:2013 Ed.2, the markings were updated accordingly to recognise the new standards. A suffix "X" is added to the certificate, to acknowledge the necessity to charge the battery in a non-hazardous location in the instruction manual.
ii. To introduce a new range of cells, known as the NexSys, which have 6 to 27 positive plates in groups of 3, with 7 different heights;
iii. Replacement of the current notified body number "0518", with the generic code "nnnn";
iv. A suffix "X" is added to the certificate, to acknowledge the necessity to charge the battery in a non-hazardous location.

Issue 5 – this Issue introduced the following changes:

i. Clarify the drawing numbers for the IECEx labels, which are now recognised as drawings no. 480-0899-404 and 480-0899-405.
ii. Include a modification to the product name on the two IECEx battery labels:

From: Nexsys To: Nexsys*CORE*

Issue 6 – this Issue introduced the following changes:

i. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, IEC 60079-0:2011 Edition 6.0, and IEC 60079-7:2015 Edition 5.0 were replaced by IEC 60079-0:2017 Edition 7.0, and IEC 60079-7:2015+AMD1:2017 Edition 5.1; the markings were updated accordingly to recognise the new standards and a Specific Condition was introduced.
ii. The Certificate holders name and address was changed:

From:	To:
Enersys s.r.o. Nádražní 555 26724 Hostomiće pod Brdy Czech Republic	Hawker GmbH Dieckstraβe 42 Hagen D-58089 Germany

Issue 7 – this Issue introduced the following changes:

i. To change the product name

From	To
NexsysCORE Traction Batteries Up To 68.8 kWh	Traction Batteries Up To 68.8 kWh

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