1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Component intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **Sira 03ATEX3090U** Issue: **10**

4 Component: **Nexsys and Evolution (designated by the letter 'V' in product reference) Range of Type D Lead Acid Motive Power Cel**

5 Applicant: **Enersys S.A.R.L.**

6 Address: ZI Est
Rue Alexander Fleming
62033 Arras
France

7 This component and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 CSA Group Netherlands B.V., Notified Body Number 2813 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this component has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of a component intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 60079-0:2012+A11:2013 EN 60079-7:2015 EN 60079-31:2014

10 The sign 'U' is placed after the certificate number to indicate that the product assessed is a component and may be subject to further assessment when orporated into equipment. Any limitations of use are listed in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified component. If applicable, further requirements of this Directive apply to the manufacture and supply of this component.

12 The marking of the component shall include the following:

II 2 G
II 2 D
Ex eb IIC T6
Ex tb IIIC T80ºC

I M2
Ex eb I

Project Number 70141862

Signed: J A May

Title: Director of Operations

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13 **DESCRIPTION OF COMPONENT**

The Evolution Type D range of lead acid traction cells are designated by the manufacturer as IEC 254-2 Serie L cells. Each cell is 198 mm wide and has 2 to 8 positive plates terminated on two terminal posts. Connection to the terminal posts may be by the use one of the following methods.

· Sealed post terminals, welded, with insulating covers.
· Induction welded terminals with encapsulated caps.
· Female threaded inserts with insulated bolt heads.
· Female threaded inserts incorporating insulated caps.
· Male threaded inserts with insulated anti-vibration locknuts.

A pressure vent cap is fitted to the top of the cell casing and this vents at a pressure of <0.15 bar. The cell is filled with gelled electrolyte and is maintenance free.

Typical cell type designation (Evolution): S6PzV125
S = Single posted cells, 6 = Number of positive plates, PzV125 = Type (V = Evolution)

or

Typical cell type designation (NexSys): S3NXS285
S=Single posted cell, 3=No. of Positive plates/3, NXS=Cell Type, 285=Nominal capacity in Ah @ 5Hr Rate

Variation 1 (dated 14 October 2005 re-issued 14 September 2006) - This variation introduced the following changes:

i. The manufacturer's name was changed from Hawker France S.A. to Hawker S.A.R.L.

ii. The introduction of minor modifications to the certified drawings, none of which affect aspects of the product that are relevant to explosion safety.

Variation 2 (dated 14 September 2006) - This variation introduced the following changes:

i. The addition of a mud space to the bottom of the cells.

Variation 3 (dated 6 August 2007) - This variation introduced the following changes:

i. Following appropriate re-assessment to demonstrate compliance with the requirements of the EN 60079 series of standards, the documents originally listed in section 9, EN 50014:1997 (amendments A1 to A2), EN 50019:2000 and EN 50281-1-1:1998, were replaced by EN 60079-0:2006, EN 60079-7:2007, EN 61241-0:2006 and EN 61241-1:2004, the markings in section 12 were updated accordingly.

ii. Minor modifications of the certified drawings were recognised, these are amendments are in-line with the new standards listed above and also correct typographical errors.

iii. An additional warning label was introduced; this uses an alternative label material and fixing method.

Variation 4 (dated 26 September 2007) - This variation introduced the following changes:

i. The addition of two alternative materials for cell enclosure.

Variation 5 - This variation introduced the following changes:

i. To allow the introduction of an alternative polypropylene copolymer housing material.

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ii. 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.
iii. To recognise a rise in the maximum discharge current from 270 A to 310 A.
iv. Drawings SIRAATEX1, SIRAATEX4 P25127 and P25128 are amended to remove reference to the minimum contact area.
v. Drawings SIRAATEX1, SIRAATEX4 P25127, P25128, P24807 and P24808 have been modified to include a wider range of cable cross sections.

Variation 6 - This variation introduced the following changes:

i. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, EN 60079-0:2006, EN 60079-7:2007, EN 61241-0:2006 and EN 61241-1:2004 were replaced by EN 60079-0:2012+A11:2013, EN 60079-7:2015 and EN 60079-31:2014, the markings were updated accordingly to recognise the new standards;
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; the description was amended accordingly.
iii. The Nexsys Cell has been added to the Product Name/Model;
iv. Replacement of the current notified body number “0518”, with the generic code "nnnn".

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report no.	Comment
0	3 April 2003	R53A9706A	The release of the prime certificate in the name of Hawker GmbH, Dieckstrasse 42, D-58089 Hagen, Germany.
1	6 July 2004	R53A11442A	The re-issue of the prime certificate in the name of Hawker France SA, ZI Est, Rue Alexander Fleming, 62033 Arras, France to introduce the changes described in report number R53A11442A and to correct the conditions of certification.
2	14 October 2005	R51A13711A	The introduction of Variation 1 subsequently re-issued on 14 September 2006 to correct a typographical error.
3	14 September 2006	R51A15692A	The introduction of Variation 2.
4	6 August 2007	R51A16168A	This Issue covers the following changes: • All previously issued certification was rationalised into a single certificate, Issue 4, Issues 0 to 3 referenced above are only intended to reflect the history of the previous certification and have not been issued as documents in this format. • The introduction of Variation 3.
5	26 September 2007	R51A17275A	The introduction of Variation 4.
6	14 February 2008	R52A17587A	To recognise the change of Applicant’s name from Hawker S.A.R.L. To Enersys S.A.R.L.

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Issue	Date	Report no.	Comment
7	11 February 2010	R19846A/00	The introduction of Variation 5.
8	29 March 2011	R51A16168A01	Re-issued to allow Report R51A16168A/01 to replace R51A16168A.
9	15 October 2019	2600	• Transfer of certificate **Sira 03ATEX3090U** from Sira Certification Service to CSA Group Netherlands B.V.. • EC Type-Examination Certificate in accordance with 94/9/EC updated to EU Type-Examination Certificate in accordance with Directive 2014/34/EU. *(In accordance with Article 41 of Directive 2014/34/EU, EC Type-Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Variations to such EC Type-Examination Certificates may continue to bear the original certificate number issued prior to 20 April 2016.)*
10	18 November 2019	R70141862A	The introduction of Variation 6.

15 **SPECIAL CONDITIONS FOR SAFE USE**

15.1 These components comply with the following clauses:

These components comply with EN/IEC 60079-0 clause 23.3 (Cell types), 23.6 (Interchangeability), 23.8 (Leakage)' 23.9 (Connections), 23.10 (Orientation) and 23.11 (Replacement of cells or batteries), and EN/IEC 60079-7 clause 5.6 (classification), 5.6.3.1 (Types of permissible batteries), 5.6.3.3 (cells), 5.6.3.4 (connections) and 6.6.3 (shock test).

When they are assembled into a battery, the remaining clauses of EN/IEC 60079-7 need to be addressed with particular reference to clauses EN/IEC 60079-0 clause 23.2 (Batteries), 23.4 (Cells in a battery), 23.5 (Rating of a battery), 23.11(Replacement of cells or batteries), and EN/IEC 60079-7 clause 5.6.3.2 (Battery containers), 5.6.4 (Charging of cells and batteries), 6.6.2 (insulation resistance) and 6.6.4 (ventilation).

15.2 The cells covered by this certificate shall be installed in series, in a suitable battery enclosure, together with cells of the same electrochemical system, cell design and rated capacitance that is manufactured by Enersys. The battery enclosure shall provide protection from mechanical impact;

15.3 The cells shall be installed in a vertical orientation, with the electrical connectors at the top.

15.4 These components include non-conducting parts that may generate an ignition-capable level of electrostatic charges under certain extreme conditions. The user shall ensure that the cells shall not be installed in a location where they may be subjected to external conditions (such as high-pressure steam) which might cause a build-up of electrostatic charges on non-conducting surfaces. Additionally, cleaning of the calls shall be done only with a damp cloth;

15.5 The cells shall be has a service temperature range of -20ºC and +60ºC, which shall be taken into account when used in a battery. Battery operating conditions take precedence.

16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II** (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

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Sira 03ATEX3090U
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Certificate Annexe

Certificate Number: **Sira 03ATEX3090U**

Component: **Nexsys and Evolution (designated by the letter 'V' in product reference) Range of Type D Lead Acid Motive Power Cel**

Applicant: **Enersys S.A.R.L.**

Issue 0

The drawings associated with this Issue was replaced by those listed in Issue 1.

Issue 1

Number	Sheet	Rev.	Date	Description
P25128	1 of 1	5	28 May 04	198 mm Gelled Type D Lead Acid Motive Power Cells
P25326	1 of 4	2	28 May 04	'France' Manufactured Parts Labels
P25326	2 of 4	2	28 May 04	'Germany' Manufactured Parts Labels
P25326	3 of 4	2	28 May 04	'Poland' Manufactured Parts Labels
P25326	4 of 4	2	28 May 04	'Czech Republic' Manufactured Parts Labels

Issue 2

Number	Sheet	Rev.	Date	Description
P25128	1 of 1	6	27 Jun 05	198 mm Gelled Type D Lead Acid Motive Power Cells
P25326	1 of 4	3	27 Jun 05	'France' Manufactured Parts Labels
P25326	2 of 4	3	27 Jun 05	'Germany' Manufactured Parts Labels
P25326	3 of 4	3	27 Jun 05	'Poland' Manufactured Parts Labels
P25326	4 of 4	3	27 Jun 05	'Czech Republic' Manufactured Parts Labels

Issue 3

Number	Sheet	Rev.	Date (Sira stamp)	Description
P25128	1 of 1	7	13 Sep 06	Gelled Lead Acid Motive Power Cells Type D

Issue 4

Number	Sheet	Rev.	Date (Sira stamp)	Description
P25128	1 of 1	9	25 Jul 07	Lead Acid Motive Power Cells Type D
P25326	1 of 4	5	25 Jul 07	Cell/Battery Labels
P25326	2 of 4	5	25 Jul 07	Cell/Battery Labels
P25326	3 of 4	6	25 Jul 07	Cell/Battery Labels
P25326	4 of 4	5	25 Jul 07	Cell/Battery Labels

Issue 5

Number	Sheet	Rev.	Date (Sira stamp)	Description
P25128	1	10	26 Sep 07	Gelled Lead Acid Motive Power Cells Type D

Issue 6

Number	Sheet	Rev.	Date (Sira stamp)	Description
P25128	1	13	14 Feb 08	Gelled Lead Acid Motive Power Cells Type D

Issue 7

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
P25128	1 of 1	14	18 Jan 10	Lead Acid Motive Power Cells Type D
P25326	1 of 4	7	18 Jan 10	'France' Manufactured Parts Labels
P25326	2 of 4	7	18 Jan 10	'Germany' Manufactured Parts Labels

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Certificate Annexe

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Applicant: **Enersys S.A.R.L.**

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
P25326	3 of 4	8	18 Jan 10	'Poland' Manufactured Parts Labels
P25326	4 of 4	7	18 Jan 10	'Czech Republic' Manufactured Parts Labels

Issues 8 and 9 No new drawings were introduced.

Issue 10

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
P27246	1 to 1	B	06 Sep 19	IEC 254-2 Series L Range of 198mm TPPL Lead Acid Motive Power Cells Type D (NexSys range)
P25326	1 of 4	4	09 Oct 19	'France' Manufactured Parts Labels
P25326	2 of 4	4	09 Oct 19	'Germany' Manufactured Parts Labels
P25326	3 of 4	4	09 Oct 19	'Poland' Manufactured Parts Labels
P25326	4 of 4	4	09 Oct 19	'Czech Republic' Manufactured Parts Labels

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