



1 **EU-TYPE EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 06ATEX3313X** Issue: **4**

4 Equipment: **ESB Battery Range**

5 Applicant: **Pyroban Limited** **Pyroban Benelux BV**

6 Address: **Dolphin Road** **Grotenoord 24-26 3341LT**
Shoreham-by-Sea **P.O. Box 229**
BN43 6QG **3340 AE Hendrik Ido Ambacht**
UK **Nederland**

7 This equipment 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 equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment 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

EN 60079-7:2007

IEC 60079-31: 2013 Ed 2

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

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

12 The marking of the equipment shall include the following:

With silicone sealant over the battery terminals



II 2 G D
Ex e IIC T4 Gb
Ex tb IIIC T100°C Db
Ta = -20°C to +48°C

Without silicone sealant over the battery terminals



II 2 G
Ex e IIC T4 Gb
Ta = -20°C to +48°C

Project Number 1908

Signed: J A May

Title: Director of Operations

This certificate and its schedules may only be reproduced in its entirety and without change

CSA Group Netherlands B.V.
Utrechtseweg 310,
6812 AR, Arnhem,
Netherlands



SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE

Sira 06ATEX3313X
Issue 4

13 DESCRIPTION OF EQUIPMENT

The ESB Battery range comprises an Optima type lead acid battery installed within either a stainless or a mild steel, acrylic painted enclosure. The ESB50 and ESB75 types are suitable where high currents are required and the ESB55 is a deep cycle battery.

The battery is prevented from movement within the outer enclosure by the installation of steel clamping bracket. The outer enclosure provides a level of ingress protection of IP 23 minimum and the lid is offset to act as a ventilation opening to prevent the build up of any hydrogen gas in the event of battery venting. The enclosure is provided with mounting facilities that allow the securing of the battery enclosure and it is also provided with a bonding facility comprising a stainless steel stud, nut and spring washer assembly.

One end of the outer enclosure is provided with two, 'Ex e' cable glands that are certified as compliant to EN 60079-7 or IEC 60079-7 to maintain IP 23, the scope of the approval does not cover the cable installed into the outer enclosure via the 'Ex e' cable glands or the battery clamps secured to the battery threaded terminal posts.

An insulation shroud is provided to insulate the area where the threaded terminal post exits the battery and the unused taper terminal post secured by interference fit.

The Battery Cell has been independently tested to meet IP 6X at Variation 1

Variation 1 - This variation introduced the following change:

- i. To permit the ESB Battery Range to be used in dust explosive atmospheres and amend the marking in section 12 accordingly.

Variation 2 - This variation introduced the following changes:

- i. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, the documents previously listed in section 9, EN 60079-0:2006, EN 60079-7:2003, EN 61241-0:2004 and EN 61241-1:2004, were replaced by those currently listed, the markings in section 12 were updated accordingly.
- ii. The correction of the routine test wording from 'dielectric test' to 'insulation resistance test'.
- iii. The IP rating for the battery cells has been added to the description.
- iv. The marking was amended to reflect the dust qualification.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

| Issue | Date | Report No. | Comment |
|-------|------------------|------------|---|
| 0 | 19 February 2007 | R51A15499A | The release of the prime certificate. |
| 1 | 29 August 2008 | R51L17965B | This Issue covers the following changes: <ul style="list-style-type: none">All previously issued certification was rationalised into a single certificate, Issue 1, Issue 0 referenced above is only intended to reflect the history of the previous certification and has not been issued as a document in this format.The introduction of Variation 1. |
| 2 | 24 April 2014 | R32986A/00 | The introduction of Variation 2 |

This certificate and its schedules may only be reproduced in its entirety and without change

CSA Group Netherlands B.V.
Utrechtseweg 310,
6812 AR, Arnhem Netherlands



SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE

Sira 06ATEX3313X
Issue 4

| Issue | Date | Report No. | Comment |
|-------|------------------|------------|--|
| 3 | 31 October 2019 | 1908 | <ul style="list-style-type: none">Transfer of certificate Sira 06ATEX3313X 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.) |
| 4 | 18 February 2021 | N/A | Issued to correct a typo in the standards |

15 SPECIAL CONDITIONS FOR SAFE USE (denoted by X after the certificate number)

15.1 The installation of the battery shall ensure the following:

- Cables and terminals must be used suitably rated for current and likely operating temperatures.
- Only copper tube, hydraulically crimped ring, terminals shall be used and are connected to the battery threaded terminal posts with nuts and shakeproof washers. Taper posts shall not be used.
- Cables shall be routed to avoid mechanical damage and stress.
- When installing the cables and battery connections, terminals shall be fitted with the insulators provided, hence, ensuring that there are no bare conductive parts.
- The maximum allowable creepage and clearance between the terminals or bare conductive parts to the battery casing shall be a minimum of 10 mm.

15.2 The installation shall ensure that the following maximum cranking currents (MCA) are not exceeded in service:

ESB50 – 500 A
ESB55 – 500 A
ESB75 – 500 A

The maximum cranking current (MCA) shall only be applied for a maximum of 3 minutes. After cranking for 3 minutes, a cooling down period of 30 minutes shall be observed before cranking is repeated.

15.3 Any charging system that is installed within the potential explosive atmosphere shall be certified as compliant with EN 60079-0 and any appropriate sub-standard.

The charging circuit shall be separated from any other voltage source(s) and the separation shall satisfy table 1 of EN 60079-7. In addition, the charging system shall be such that, under the condition of one fault, the following charging parameters shall not be exceeded:

Type ESB50 Charging:

Alternator: 13.3 to 15.0 V
Battery Charger: 13.8 to 15.0 V 10 A max 6-12 hrs
Float Charge: 13.2 to 13.8 V 1 A max
Rapid Recharge: 15.6 V max, below 50°C

Type ESB55 Charging:

Alternator: 13.65 to 15.0 V
Battery Charger: 13.8 to 15.0 V 10 A max 6-12 hrs
Float Charge: 13.2 to 13.8 V 1 A max
Rapid Recharge: 15.6 V max, below 50°C

This certificate and its schedules may only be reproduced in its entirety and without change

CSA Group Netherlands B.V.
Utrechtseweg 310,
6812 AR, Arnhem Netherlands



SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE

Sira 06ATEX3313X
Issue 4

Cyclic or Series: 14.7 V max, below 50°C

Type ESB75 Charging:

Alternator: 13.65 to 15.0 V
Battery Charger: 13.8 to 15.0 V 10 A max 6-12 hrs
Float Charge: 13.2 to 13.8 V 1 A max
Rapid Recharge: 15.6 V max, below 50°C
Cyclic or Series: 14.7 V max, below 50°C

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.

17 CONDITIONS OF MANUFACTURE

- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of CSA Certificates.
- 17.2 Holders of EU-Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.
- 17.3 An insulation resistance test, as required by EN 60079-7 Clause 6.6.2, shall be conducted. The insulation resistance shall be at least 1 MΩ.

Certificate Annexe



Certificate Number: Sira 06ATEX3313X

Equipment: ESB Battery Range

Applicant: Pyroban Limited

Issue 0

| Drawing No. | Sheet | Rev. | Date | Description |
|-------------|--------|------|-----------|-------------------------------|
| C0323 | 1 to 2 | 5 | 19 Feb 07 | Battery ESB Range |
| C0328 | 1 of 1 | 4 | 05 Feb 07 | Battery ESB Range Optima Unit |

Issue 1

| Drawing No | Sheet | Rev | Date | Description |
|------------|--------|-----|-----------|---|
| C0323 | 1 to 2 | 8 | 08 Aug 08 | Battery ESB Range |
| C0388 | 1 to 3 | C | 18 Aug 08 | ESB50 & ESB75 Battery Assembly Instructions |

Issue 2

| Drawing | Sheets | Rev. | Date (Sira stamp) | Description |
|---------|--------|------|-------------------|-------------------|
| C0323 | 1 to 2 | 9 | 24 Apr 14 | Battery ESB Range |

Issues 3 and 4. No new drawings were introduced.

This certificate and its schedules may only be reproduced in its entirety and without change

CSA Group Netherlands B.V.
Utrechtseweg 310,
6812 AR, Arnhem,
Netherlands