# EU TYPE-EXAMINATION CERTIFICATE

1. **EU type-examination Certificate (Module B)**

2. **Equipment or Protective System intended for use in potentially explosive atmospheres (Directive 2014/34/EU)**

3. **EU type examination certificate Nr** **ITS-I20ATEX27979X**

4. **Product:** Battery Enclosure - 5523-SSBE & 5647-SSBE

5. **Manufacturer:** JCE Group (UK) Ltd. **Applicant:** JCE Group (UK) Ltd.

6. **Address:** Blackburn Business Park, Aberdeen, Grampian, AB21 0PS, United Kingdom **Address:** Blackburn Business Park, Aberdeen, Grampian, AB21 0PS, United Kingdom

7. This product and any acceptable variation thereto are specified in the schedule to this certificate and therein referred to.

8. INTERTEK ITALIA S.p.A., Notified Body n° 2575 in accordance with article 17 of the Directive 2014/34/EU of the European Parliament and Council of the 26 February 2014, certifies that the equipment or protective system has been found to comply with the essential Health and Safety Requirements relating to the design and construction of equipment and protective system intended for use in potentially explosive atmosphere, given in Annex II of the Directive.

   The examination and tests results are recorded in confidential technical evaluation Intertek Report Nr. 104175446CHE-001 dated 18 November 2020.

9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN IEC 60079-0:2018 and EN IEC 60079-7:2015+A1:2018 in respect of those requirements referred to at item 16 of the Schedule.

10. If the sign X is placed after the certificate number, it indicates that the product is subject to Special Conditions for Safe Use specified in the schedule to this certificate.

11. This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12. The marking of the product shall include the following:

    II 2 G Ex eb IIC T5 Gb IP56
    Tamb: -20°C ÷ +50°C

**Certificate issue date**

26 November 2020

**Fabrizio Massei**
Certification Officer
Intertek Italia S.p.A. (NB 2575)

PDR N° 277B

Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC

Signatory of EA, IAF and ILAC Mutual Recognition Agreements

**SCHEDULE**

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## 13. DESCRIPTION OF THE EQUIPMENT OR PROTECTIVE SYSTEM

The 5523-SSBE & 5647-SSBE battery enclosure consists of a battery housing unit of approximate dimensions 3.2m x 1.275 x 1.35m manufactured from 3mm 316L Stainless Steel. The housing units are comprised of a body and lid. The lid is secured via 14 x M16 stainless steel bolts, an immersion thermowell is provided on one side of the enclosure.
The enclosure is provided with two 10mm stainless steel earth bosses welded to the enclosure body. Earthing connection is made via a 16mm2 double insulated ring crimp earth conductor retained via a nut and spring washer arrangement.
Internally ALCAD VTX1 L280 cells are housed and connected in series.
Ratings are 7 x 24V 291Ah or 6 x 24V 291Ah dependent on the model.
The maximum discharge current from each battery is limited to 40A.
Battery terminals are connected by the manufacturer via ring lugs crimped onto the conductor. The lugs are attached to the battery terminals via an M10 bolt and spring washer arrangement to a 30Nm torque the terminal and conductors are over molded. The enclosure internals are lined with 1mm PVC fixed to the internal walls with silicone adhesive.
The equipment is provided with +ve and –ve battery leads which are fed into the termination enclosure through suitably approved Ex cable glands provided by the manufacturer. The cables and batteries are retained in position via battery retaining clamp bars and cable clamps located on retaining clamp bars.
The battery enclosures are provided with 2 or 4 25mm drain holes on the base of the enclosure. Ventilation of the enclosure is provided by openings located in the enclosure walls and shrouded by vent guards (also stainless steel) for the prevention of pressurisation and prevention of H2 concentration build up.
Charging the batteries in the hazardous area is permitted only when the equipment is connected to Ex compliant battery chargers or located in a safe area, type 5662-EXBC, incorporating an overcharge protection pcb, type BPCB-5647, in combination with circuit breaker and under voltage trip.
The enclosure may also (optionally) be provided with a temperature probe.

## 14. DRAWINGS AND DOCUMENTS

| TITLE | DOCUMENT Nr | LEVEL | DATE |
|---|---|---|---|
| Ex eb BATTERY UNIT CERTIFICATION G.A. TYPE: 5523-SSBE & 5647-SSBE (Sheets 1 to 10 of 10) | 5523-101 | 1 | 12.11.20 |
| Ex eb BATTERY UNIT OVERCHARGE PROTECTION DIAGRAM TYPE: 5523-SSBE & 5647-SSBE (Sheets 1 to 2 of 2) | 5523-103 | 1 | 10.06.20 |
| Ex eb BATTERY UNIT CIRCUIT DIAGRAM TYPE: 5523-SSBE & 5647-SSBE (Sheets 1 to 4 of 4) | 5523-102 | 1 | 16.09.20 |
| 5523-EXBE 7 x 291Ah 24VDC Battery Enclosures<br>5647-EXBE 6 x 291Ah 24VDC Battery Enclosures<br>Installation and Maintenance Information (Sheets 1 to 4 of 4) | 5523-EXBE / 5647-EXBE-IM | 1 | - |

Copies of the above listed documents are kept at Intertek Italia S.p.A. archive.

## 15. SPECIAL CONDITIONS FOR SAFE USE

• Battery box intended for fixed installation only, end user must ensure equipment is suitably secured to prevent mechanical shocks/vibrations.

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• Only suitably rated IECEx/ATEX certified cable glands, blanking elements and thread adapters are to be used with the equipment.
• The 5523-SSBE & 5647-SSBE Battery Enclosures shall be connected to interconnected equipment via suitably rated Ex type battery isolator.

16. **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS**

The relevant essential Health and Safety Requirements have been identified and assessed in Intertek Report Nr. 104175446CHE-001 dated 18 November 2020.

17. **ROUTINE (FACTORY) TESTS**

- The equipment shall be subjected to a dielectric strength test of 500Vrms. The voltage shall be applied firstly between the positive cable and enclosure body followed by the negative cable and the enclosure body. The voltage is to be applied for at least 60 seconds, no breakdown shall occur.
  Alternatively, 1.2 times the test voltage may be applied for a period of 100ms.

- The battery shall be subjected to the test of insulation resistance and is considered satisfactory if the resistance is at least 1 MΩ when tested in accordance with 6.6.2. The resistance shall be measured firstly between the +ve battery cable and the battery enclosure (earth) and secondly between the +ve battery terminal and the battery casing.