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 ITS 20.0052X**

Certificate history:

Status: **Current**

Issue No: 0

Date of Issue: 2020-11-19

Applicant: **JCE Group (UK) Ltd**
Blackburn Business Park
Aberdeen, Grampian, AB21 0PS
United Kingdom

Equipment: **5523-SSBE & 5647-SSB**

Optional accessory:

Type of Protection: **Increased safety**

Marking: Ex eb IIC T5 Gb IP56
-20°C ≤ T_{amb} ≤ +50°C
IECEx ITS 20.0052X

Approved for issue on behalf of the IECEx Certification Body: **Mark Newman**

Position: **Certificate Officer**

Signature: (for printed version)

Date: 2020.11.19 14:15:42 Z

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:

Intertek Testing & Certification Limited
ITS House, Cleeve Road
Leatherhead
Surrey, KT22 7SA
United Kingdom

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Manufacturer: **JCE Group (UK) Limited**
Blackburn Business Park
Aberdeen
AB21 0PS
United Kingdom

Additional manufacturing locations:

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 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

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 Report:

GB/ITS/ExTR20.0056/00

Quality Assessment Report:

GB/ITS/QAR11.0014/04

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

The 5523-SSBE & 5647-SSBE battery enclosure consists of a battery housing units 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 dependant 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 moulded. 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.

SPECIFIC CONDITIONS OF USE: YES as shown below:
• Battery box intended for fixed installation only, end user must ensure equipment is suitably secured to prevent mechanical shocks/vibrations.
• Only suitably rated IECEx/ATEX certified cable glands, bclanking 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.
• 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.

Annex:

SFT-IECEx-OP-19f - Annex for IECEx Certificate of Conformity - Final Clean_1.pdf

Annex to IECEx Certificate of Conformity

Certificate No:	IECEx ITS 20.0052X	Issue No. 0
Annex No. 1		

Technical Documents			
Title:	Drawing No.:	Rev. 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 5647-EXBE 6 x 291Ah 24VDC Battery Enclosures Installation and Maintenance Information (Sheets 1 to 4 of 4)	5523-EXBE / 5647-EXBE-IM	1	-

Required Manufacturer Routine Testing		
Test	Title/Description of Test	Standard and Clause
1	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.	IEC 60079-7 Clause 6.1
2	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.	IEC 60079-7 Clause 6.6.2