1 **CONFORMITÉ EUROPÉENE**

EU - TYPE EXAMINATION CERTIFICATE

2 **Product or Protective System Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU – Annex III**

3 EU - Type Examination Certificate No.: **TRAC14ATEX0059X incorporating variations V1 to V3)**

4 Product: **Battery Enclosure BC1, BC1A, BC2, BC2A, BC2B, BC3, BC3A, BC4, BC4A & BC10**

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

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

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

8 Element Materials Technology, Notified Body number 2812, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products 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 **TRA-025747-33-00A, TRA-025747-33-02A, TRA-058549-33-00A**

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018 **EN IEC 60079-7:2015+A1:2018**

Except in respect of those requirements listed at section 18 of the schedule.

10 If the sign “X” is placed after the certificate number, it indicates that the product is subject to specific conditions of 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 this product shall include the following:

Ⓔx II 2 G Ex eb IIC T6/T5 Gb **-20 °C ≤ Ta ≤ +40 °C T6**
-20 °C ≤ Ta ≤ +50 °C T5

This certificate and its schedules may only be reproduced in its entirety and without change. This certificate is issued in accordance with the Element Materials Technology Ex Certification Scheme.

S P Winsor, Certification Manager

Issue date: 2022-10-20

Element Materials Technology Rotterdam BV
Zekeringstraat 33, 1014 BV, Amsterdam, Netherlands
Registered in the Netherlands. Registered Office: PO Box 6854, 4802 HW, Breda, Netherlands
Company Reg. No. 24170257

PRODUCTS RvA C 654

13 SCHEDULE TO EU - TYPE EXAMINATION CERTIFICATE

14 TRAC14ATEX0059X incorporating variations V1 to V3)

15 Description of Product

The BC Battery enclosure range consists of battery housing units of various dimensions manufactured from 2mm 316L Stainless Steel. The housing units are comprised of a body and lid. The lid is secured via 4 x M6 stainless steel studs welded to the enclosure and a nut, washer and spring washer arrangement. The enclosure is provided with a 30mm earth boss and M8 stainless steel earth stud welded to the enclosure body. Earthing connection is made via double insulated ring crimp earth conductor retained via a nut and spring washer arrangement.

Internally Sonnenschein A512/##A VRLA batteries are housed and connected in series via $10mm^2/16mm^2/25mm^2$ double insulated cable (dependent on model). There may be one or two 12V batteries housed within the enclosure rated from 25Ah to 200Ah depending on model type. Battery terminals are connected by the manufacturer via ring lugs crimped onto the conductor. The lugs are attached to the battery terminals via an M5 bolt, nut and spring washer arrangement to a 5Nm torque the terminal and conductors are encapsulated. The enclosure internals are lined with 2mm Tufnol or PVC fixed to the internal walls with silicone adhesive.

The equipment is provided with +ve and –ve cable tails which are fed into the 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 x 10mm drain holes on the base of the enclosure. Ventilation of the enclosure is provided by openings located between the overhanging enclosure lid and enclosure base. Provided for drainage, 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 compliant battery chargers located in a safe area, type SBCP-1536 for 12V batteries and type SBCP-1537 for 24V batteries, incorporating an overcharge protection pcb, in combination with circuit breaker and under voltage trip.

Where the external charger is not supplied by manufacturer, the equipment is marked with a warning label, the battery shall not be charged in a hazardous area.

Model range

Model	Voltage	U_{max}	I_{max}	Rating
BC1	12VDC	13.8V	20A	65Ah
BC1A	12VDC	13.8V	20A	120Ah
BC2	24VDC	27.6V	20A	65Ah
BC2A	24VDC	27.6V	20A	120Ah
BC2B	12VDC	13.8V	20A	85Ah
BC3	12VDC	13.8V	20A	140Ah
BC3A	12VDC	13.8V	20A	200Ah
BC4	24VDC	27.6V	20A	140Ah
BC4A	24VDC	27.6V	20A	200Ah
BC10	24VDC	27.6V	20A	25Ah

16 Test Report No. (as added for this issue of the certificate): TRA-058549-33-00A.

17 Specific Conditions of Use

1. Only suitably rated ATEX certified Cable glands, blanking elements and thread adapters are to be used in conjunction with the equipment.
2. Equipment must not be installed in locations where it may be susceptible to impacts or excessive vibration.
3. Field wiring external to the battery enclosure shall be terminated by means of a type protection listed in IEC 60079-0 or in a safe area.
4. The BC Battery Enclosure shall be connected to interconnected equipment via suitably rated Ex type battery isolator.
5. Interconnected equipment shall limit discharge current to maximum 20A via a suitably rated safety device.

Attention is drawn to the operating and installation instructions which may contain useful information in relation to conditions of use.

18 Essential Health and Safety Requirements (Directive Annex II)

In addition to the Essential Health and Safety Requirements covered by the standards listed at item 9, all other requirements are demonstrated in the relevant reports.

19 Drawings and Documents

The list of controlled technical documentation is given in Appendix A to this schedule.

20 Routine Tests

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 100 ms.
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.

21 Specific Conditions for Manufacture

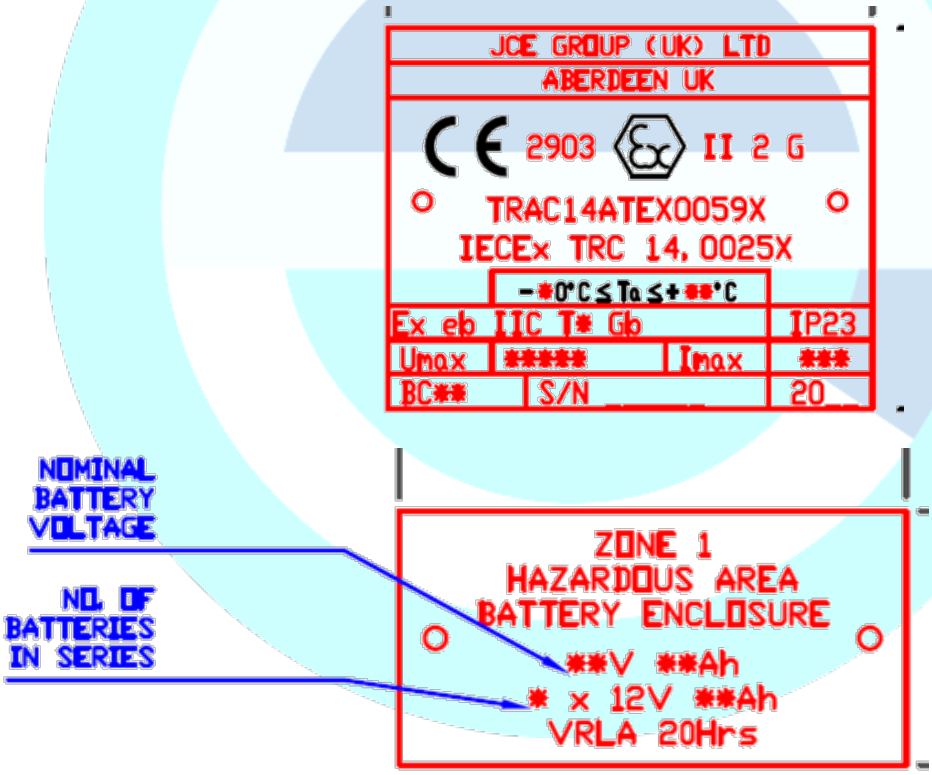
1. Battery terminations are to be tightened to a torque as below:

Model	Terminal	Torque
BC1	A	8 Nm
BC1A	A	8 Nm
BC2	A	8 Nm
BC2A	A	8 Nm
BC2B	A	8 Nm
BC3	A	8 Nm
BC3A	A	8 Nm
BC4	A	8 Nm
BC4A	A	8 Nm
BC10	G-M5	5 Nm

22 Photographs

Three sizes small, medium and large, BC10, BC2B and BC4A

23 Details of Markings



24 Certificate History

Original certificate	2015-02-06	First issue.
Variation V1	2016-07-26	Addition of nine Models BC1, BC1A, BC2, BC2A, BC2B, BC3, BC3A, BC4, BC4. Allowance for the batteries within the enclosures to be charged in the hazardous area when connected to an approved charger. Removal of restriction on outdoor use.
Variation V2	2019-11-01	This certificate was originally issued by Notified Body number 0891 under Directive 2014/34/EU. The technical file has been transferred to Element Notified Body number 2812 without further assessment or evaluation.
Variation V3	2022-10-20	Ambient temperature range extended, applied standards updated and marking code changed accordingly.

This certificate is a consolidated certificate and reflects the latest status of the certification, including all variations and amendments.

25 Notes to CE marking

In respect of CE Marking, Element Materials Technology accepts no responsibility for the compliance of the product against all applicable Directives in all applications.

26 Notes to this certificate

Element Materials Technology certification reference: ERO038397P20 (GU-JCGQ-001).

Throughout this certificate, the date format yyyy-mm-dd (year-month-day) is used.

Notified Body number 2812 is the designation for Element Materials Technology Rotterdam BV.

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. Variation certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.

27 Conditions for the validity of this certificate

This certificate remains valid for so long as:

(i) The equipment listed in section 4 is manufactured in accordance with the documents listed in Appendix A of this certificate.

(ii) The standards listed in section 9 of this certificate continue to satisfy the Essential Health and Safety Requirements of Annex II of Directive 2014/34/EU and the generally acknowledged state of the art (e.g. as determined by the publishers of those standards).

SCHEDULE TO EU - TYPE EXAMINATION CERTIFICATE

TRAC14ATEX0059X (incorporating variations V1 to V3)

APPENDIX A - TECHNICAL DOCUMENTS

Title:	Drawing No.:	Rev. Level:	Date:
Zone 1 BC Range of Battery Enclosures Certification Drawing (6 Pages)	BC-002	3	2022-09-20
BC* Range of Battery Enclosures Installation and Maintenance Information (5 Pages)	BC-IM	4	2022-09-26