1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: **Sira 08ATEX3213** Issue: **0**

4 Equipment: **CEP Range of GRP Junction Boxes**

5 Applicant: **CE-TEK**

6 Address: Unit 1, Tideswell Business Park
Tideswell
Derbyshire SK17 8NY
UK

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

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, 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 60079-0:2006 (inc. corrigendum No. 1) EN 60079-7:2007 EN 60079-11:2007 EN 60079-31:2009
EN 60079-0:2009 (used for guidance in respect of marking)

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC 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:

II 1 G D
Ex ia IIC T• Ga
Ex ta IIIC T, °C Da IP66
(Ta - *f* °C to + „ °C)

II 2 G D
Ex e IIC T• Gb
Ex tb IIIC T, °C Db IP66
(Ta - *f* °C to + „ °C)

- • T5 or T6 depending on max. ambient temperature and max. power dissipation.
- , T85°C or T100°C depending on max. ambient temperature and max. power dissipation.
- *f* -20°C for EPDM rubber, CR (chloroprene), NBR (nitrile rubber), PU (polyurethane) gaskets or -55°C for silicone rubber gaskets.
- „ +40°C, +55°C or +65°C depending on box size, max. power dissipation and temperature class/max. surface temperature for dust.

Project Number 17847
C. Index 04

C Ellaby
Certification Officer

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13 DESCRIPTION OF EQUIPMENT

The Junction Boxes are manufactured from black Glass-fibre Reinforced Polyester (GRP) and may be fitted with any number of suitably certified terminals, either Ex 'e' or Ex 'ia', up to the maximum number permitted by the physical constraints of the box provided that the rated maximum dissipated power is not exceeded and that the specific conditions of certification are satisfied. The terminals are fitted onto metal TS32 or TS35 mounting rails, or metal TS15 mounting rails for the smaller types, the rails may be fitted vertically or horizontally. The empty GRP enclosures are component approved.

Fixing holes are provided as an integral part of the enclosure but these are external to the sealed terminal compartment. The boxes are manufactured in various sizes that satisfy the requirements of EN 60529:1991 classification IP54 minimum or IP66 by the use of a gasket fixed, or held, to one surface on the lid. If required, an earth continuity plate (Offshore plate) stated on the certificate may be fitted.

When fitted in accordance with the conditions of certification, the enclosures are capable of providing suitable clearance distances as required by EN 60079-7:2007 and EN 60079-11:2007 for increased safety terminals and intrinsically safe terminals respectively. The table below lists the available box references and sizes.

Box Reference	Box Size (mm)		
	Length (A)	Width (B)	Depth (C)
CEP 807555	80	75	55
CEP 807575	80	75	75
CEP 117555	110	75	55
CEP 117575	110	75	75
CEP 167555	160	75	55
CEP 167575	160	75	75
CEP 197555	190	75	55
CEP 197575	190	75	75
CEP 237555	230	75	55
CEP 237575	230	75	75
CEP 121290	122	120	90
CEP 221290	220	120	90
CEP 161690	160	160	90
CEP 261690	260	160	90
CEP 361690	360	160	90
CEP 561690	560	160	90
CEP 252512	255	250	120
CEP 252516	255	250	160
CEP 402512	400	250	120
CEP 402516	400	250	160
CEP 602512	600	250	120
CEP 404012	400	405	120
CEP 404020	400	405	200

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The dissipated power in Watts for the enclosure is to be calculated in accordance with EN 60079-7:2007: Clause 6.7 and Annex E, E.2 and the tables below contain the maximum dissipated power ratings in Watts for each Junction Box:

Using Screw Type Terminals + 2.5mm² Cage Clamp [Screwless] Type Terminals and Above

Box Reference	T6, T85°C, Ta +40°C	T6, T85°C, Ta +55°C, ½ Power	T6, T85°C, Ta +65°C, ¼ Power, 'Ex ia'	T5, T100°C, Ta +55°C	T5, T100°C, Ta +65°C, ½ Power, 'Ex ia'
CEP 807555	2.87	1.42	0.71	2.87	1.42
CEP 807575	3.00	1.50	0.75	3.00	1.50
CEP 117555	3.10	1.55	0.77	3.10	1.55
CEP 117575	3.45	1.72	0.86	3.45	1.72
CEP 167555	4.17	2.08	1.04	4.17	2.08
CEP 167575	4.00	2.00	1.00	4.00	2.00
CEP 197555	3.95	1.97	0.98	3.95	1.97
CEP 197575	4.40	2.20	1.10	4.40	2.20
CEP 237555	4.40	2.20	1.10	4.40	2.20
CEP 237575	4.85	2.42	1.21	4.85	2.42
CEP 121290	5.53	2.76	1.38	5.53	2.76
CEP 221290	6.20	3.10	1.55	6.20	3.10
CEP 161690	6.00	3.00	1.50	6.00	3.00
CEP 261690	10.99	5.49	2.74	10.99	5.49
CEP 361690	9.90	4.95	2.47	9.90	4.95
CEP 561690	13.80	6.90	3.45	13.80	6.90
CEP 252512	11.50	5.75	2.87	11.50	5.75
CEP 252516	13.05	6.52	3.26	13.05	6.52
CEP 402512	15.62	7.81	3.90	15.62	7.81
CEP 402516	21.16	10.58	5.29	21.16	10.58
CEP 602512	21.25	10.62	5.31	21.25	10.62
CEP 404012	21.71	10.85	5.42	21.71	10.85
CEP 404020	26.70	13.35	6.67	26.70	13.35

Using 1.5 mm² Cage-Clamp [Screwless] Type Terminals

Box Reference	T6, T85°C, Ta +40°C	T6, T85°C, Ta +55°C, ½ Power	T6, T85°C, Ta +65°C, ¼ Power, 'Ex ia'	T5, T100°C, Ta +55°C	T5, T100°C, Ta +65°C, ½ Power, 'Ex ia'
CEP 807555	1.70	0.85	0.42	1.70	0.85
CEP 807575	1.90	0.95	0.47	1.90	0.95
CEP 117555	1.95	0.97	0.48	1.95	0.97
CEP 117575	2.10	1.05	0.52	2.10	1.05
CEP 167555	2.25	1.12	0.56	2.25	1.12
CEP 167575	2.50	1.25	0.62	2.50	1.25
CEP 197555	2.47	1.23	0.61	2.47	1.23
CEP 197575	2.75	1.37	0.68	2.75	1.37
CEP 237555	2.75	1.37	0.68	2.75	1.37
CEP 237575	3.10	1.55	0.77	3.10	1.55
CEP 121290	2.90	1.45	0.72	2.90	1.45
CEP 221290	4.00	2.00	1.00	4.00	2.00
CEP 161690	3.90	1.95	0.97	3.90	1.95
CEP 261690	5.20	2.60	1.30	5.20	2.60

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Box Reference	T6, T85°C, Ta +40°C	T6, T85°C, Ta +55°C, ½ Power	T6, T85°C, Ta +65°C, ¼ Power, 'Ex ia'	T5, T100°C, Ta +55°C	T5, T100°C, Ta +65°C, ½ Power, 'Ex ia'
CEP 361690	6.50	3.25	1.62	6.50	3.25
CEP 561690	9.20	4.60	2.30	9.20	4.60
CEP 252512	7.60	3.80	1.90	7.60	3.80
CEP 252516	8.70	4.35	2.17	8.70	4.35
CEP 402512	10.50	5.25	2.62	10.50	5.25
CEP 402516	11.90	5.95	2.97	11.90	5.95
CEP 602512	14.45	7.22	3.61	14.45	7.22
CEP 404012	14.75	7.37	3.68	14.75	7.37
CEP 404020	18.10	9.05	4.52	18.10	9.05

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report no.	Comment
0	29 September 2010	R17487A/00	The release of the prime certificate.

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

None

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 CERTIFICATION

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.

17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.

17.3 This certificate does not cover the Ex e or Ex i terminals that may be fitted to the enclosure; it is therefore the manufacturer's responsibility to ensure all terminals are suitable for the application and have been appropriately ATEX certified by a notified body, the terminals shall be used within their stated temperature range and fitted in accordance with any restrictions that are stated in their relevant certificate, this shall take into account the maximum temperature rating of the terminal material, the intended ambient temperature range of the Junction Box and the intended Temperature Class of the Junction Box.

17.4 Terminals complying with IEC 60947-7-1, IEC 60947-7-2, IEC 60991-1 or IEC 609992-2 as listed in EN 60079-7:2007: Clause 4.2.2.2 shall not be used unless they also comply with other, relevant Conditions Of Manufacture.

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17.5 When junction boxes are fitted with terminals that are wired by the manufacturer, a routine electric strength test shall be carried out in accordance with EN 60079-7: 2007: Clause 7.1. Where the working voltage exceeds 90 V, this is at 2 x the working voltage + 1000 V for 60 seconds [minimum 1500V], alternatively, the test may be done at 1.2 times that figure for 100 milli-seconds. Where the working voltage does not exceed 90 V the test is performed at 500 V for 60 second, or 1.2 times that figure for 100 milli-seconds.

17.6 For Ex 'e' enclosures, the manufacturer shall ensure all terminals meet the required minimum creepage and clearance distances shown in Table 1 of EN 60079-7: 2007 (IEC 60079-7: 2006) when fitted.

17.7 For Ex 'ia' enclosures, the manufacturer shall ensure that the following creepage and clearances are met:

- a minimum of 3 mm between the terminals and any other metal.
- a minimum of 6 mm between different I.S circuits within the enclosure

17.8 The manufacturer shall include in the instruction documents that are provided with this equipment the specific information that is defined in Sira report number R17847A/00. This information shall remain consistent throughout any subsequent revision to these documents. When necessary, the manufacturer shall supply the user/installer with a copy of the certificate that applies to the terminals that are fitted in the Junction Box.

17.9 When marking the CEP Junction Boxes, the manufacturer shall:

- consider the operating temperature range of the component enclosure and shall not apply a temperature that contradicts this range;
- ensure that the enclosure is suitable for the intended temperature classification of the Junction Box;
- not apply any marking that indicates that it could be used in an explosive gas or dust atmosphere unless the component enclosure is suitable for that application.

17.10 Gland entries may be fitted to any of the side walls, within the following constraints – a minimum of 10 mm of material is maintained between the cable entry holes. In addition the hole is sized to be no larger than 0.7 mm above the major diameter of the entry thread, and also: (a) the distance between hole centres will clear the across corners dimension of adjacent cable glands/plugs/locknuts (b) the distance from the hole centre to the edge of the enclosure must be sufficient to clear the across corners dimension of the cable glands/plugs/locknuts.

17.11 Only an optional earth continuity plate (Offshore plate) permitted by the component certificate may be fitted.

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Certificate Annexe

Certificate Number: **Sira 08ATEX3213**

Equipment: **CEP Range of GRP Junction Boxes**

Applicant: **CE-TEK**

Issue 0

Number	Sheet	Rev.	Date	Description
CEP 26108	1 of 1	01	23 Jan 08	Dimension Table & Notes
CET 310	1 of 1	02	08 Aug 08	Label – Ex e
CET 3101	1 of 1	03	08 Aug 08	Label – Ex ia

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