IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx SIR 13.0039X issue No.:0

Certificate history:

Status: **Current**

Date of Issue: **2014-01-14** Page 1 of 3

Applicant: **Controls & Enclosure Technik Ltd Trading as CE-TEK**
Unit 1
Tideswell Business Park
Tideswell
Derbyshire SK17 8NY
United Kingdom

Electrical Apparatus: **CEP Range of GRP Junction Boxes**
Optional accessory:

Type of Protection: **Increased Safety, Intrinsically Safe and Dust Protection by Enclosure**

Marking:
Ex ia IIC T1 Ga
Ex e IIC T1 Gb
Ex tb IIIC T2°C Db IP66
(Ta -3°C to +4°C)
1 T5 or T6 depending on max. ambient temperature and max. power dissipation.
2 T85°C or T100°C depending on max. ambient temperature and max. power dissipation.
3 As governed by the applicable certificate of the fitted component.
4 As governed by the applicable certificate of the fitted component.

Approved for issue on behalf of the IECEx Certification Body: C Ellaby

Position: Deputy Certification Manager

Signature:
(for printed version)

Date: 2014-01-14

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 the Official IECEx Website.

Certificate issued by:

SIRA Certification Service
Rake Lane
Eccleston
Chester
CH4 9JN
United Kingdom

sira CERTIFICATION

IECEx Certificate of Conformity

Certificate No.: IECEx SIR 13.0039X

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Manufacturer: **Controls & Enclosure Technik Ltd Trading as CE-TEK**
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Additional Manufacturing location (s):

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 electrical apparatus 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 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition: 6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-31 : 2008 Edition: 1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'
IEC 60079-7 : 2006-07 Edition: 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

*This Certificate **does not** indicate compliance with electrical 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/SIR/ExTR13.0355/00

Quality Assessment Report:

GB/SIR/QAR12.0001/01 GB/SIR/QAR12.0001/02

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Schedule

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

The Junction Boxes are manufactured from black Glass-fibre Reinforced Polyester (GRP) enclosure that are Ex component approved, these enclosures are 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.
Refer to the Annexe for additional information

CONDITIONS OF CERTIFICATION: YES as shown below:

1. Under certain extreme circumstances, exposed plastic and unearthed metal parts of the enclosure may store an ignition-capable level of electrostatic charge. Therefore, the user/installer shall implement precautions to prevent the build up of electrostatic charge, e.g. locate the equipment where a charge-generating mechanism (such as wind-blown dust) is unlikely to be present and clean with a damp cloth.

Annex: IECEx SIR 13-0039X Issue 0 Annexe.pdf

The Junction Boxes are manufactured from black Glass-fibre Reinforced Polyester (GRP) enclosure that are Ex component approved, these enclosures are 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.

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 component certificates may be fitted

When fitted in accordance with the conditions of certification, the enclosures are capable of providing suitable clearance distances as required by IEC 60079-7:2006 and IEC 60079-11:2011 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

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:

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Rake Lane, Eccleston, Chester, CH4 9JN, England
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Web: www.siracertification.com

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
CEP 361690	6.50	3.25	1.62	6.50	3.25
CEP 561690	9.20	4.60	2.30	9.20	4.60

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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 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

Conditions of Manufacture

i. 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 Clause 7.1. of IEC 60079-7:2006. Where the working voltage exceeds 90 V, this is at 2 x the working voltage + 1000 V for 60 seconds but not less than 1500 V, alternatively, the test may be done at 1.2 times that figure for 100 ms. 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 ms.

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

iii. 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
- a minimum of clearance 50 mm I.S circuits and non I.S circuits if reliant upon spacing only.

iv. The manufacturer shall take all reasonable steps to ensure that the user/installer complies with the special conditions for certification associated with the installed Ex Components. In addition, the manufacturer shall provide the user/installer with an appropriate copy of the certificate for each certified Ex Component that is fitted in the equipment.

v. 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.

vi. 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.

vii. Where terminal bridging connections are permitted by the terminal component certificate and subsequently used, they can only be fitted one time only and not connected or disconnected during maintenance or repair.

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

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