

SPECIFICATION & APPROVALS

CUSTOMER:

PowerConnections P/N: BCA

DESCRIPTION: Battery Charger Adapter

DATE: 24 Jun 2019

Revision: C

Submission Sample Quantity: 10 Pieces

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Table of Contents

Section	Description	Page
1.0	Application	4
2.0	Name/Part Number	4
3.0	Shape and Dimensions	4
4.0	Rating	4
5.0	Safety Specifications – Approvals	4
6.0	Electrical Strength Test	5
7.0	Mechanical Strength Tests	6
8.0	Construction Tests	7
9.0	Glow Wire Tests	7
10.0	Material Strength Tests	8
11.0	Component Name	9
12.0	Fuse Specification	10
13.0	Installation Procedure	11
14.0	Packing Method	12
15.0	Dimensional Drawing and MarkingsΔ	13

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TITLE	Battery Charger Adapter	DRAWN BY	CHECKED BY	APPROVED BY
Part No. BCA	SPECIFICATION NO. 700-0003			
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1.0 Application

This Specification defines the performance for the Battery Charger Converter Plug Δ , which is designed for the battery chargers with Euro Plug (CEE7).

2.0 Name/Part Number

Name: Battery Charger Adapter Δ

Part Number: BCA

3.0 Shape and Dimensions

See Below (Section 15) Δ

4.0 Rating

Voltage: AC 250 V~ 50 Hz

Current: 2.5 A

Ambient Working Temperature: -5 to +70 °C

Storage Temperature: -40 to +80 °C 90% RH

5.0 Safety Specifications – Approvals

Plug: BSI Kitemark Licence No. KM 52467

Fuse: ASTA Diamond Mark Licence No.500

Standards

Plug: BS 5733 & Part of BS 1363-

Fuse: BS1362

For BSI Kite Mark Licence validation visit <https://www.bsigroup.com/en-GB/Product-Directory/>

For ASTA Diamond Mark Validation visit <http://www.astabeab.com/buyers-by-number.asp>

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6.0 Electrical Strength Test

No.	Test	Clause in Standard	Result	Description of test 6 pieces are subjected to this series of test
6.1	Provision for cables and Cords	16.2 BS5733	Pass	A CEE7 Euro Plug is fitted into a BCA and the CEE7cord is subjected to 25 pulls lasting is with a force of 30N, no more than 2mm of displacement is allowed. The cord is then subjected to the pulling force and at 3750v to ensure no breakdown in connection.
6.2	Resistance to ageing	17 BS5733	Pass	Samples to be kept in a cabinet for 7 days (168 hours) at 70°C±2°C, then tested for stickiness or greasiness by with dry rough cloth wrapped around a fore-finger, force 5N.
6.3	Insulation Resistance	19.2 BS5733	Pass	500V DC is applied and after 60s the insulation resistance is checked and must be not less than: a) 5MΩ between parts of opposite polarity, b) 5MΩ between parts of opposite polarity connected together and other insulated parts including the earth.
6.4	Electric Strength	19.3 BS5733	Pass	2000V AC 50Hz is applied and after 60s the Voltage drop is checked and must be within 3% RMS of the applied Voltage: a) between live parts of opposite polarity b) between live parts of opposite polarity connected together and other insulated parts including the earth.

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	REVISION C			

SPECIFICATION & APPROVALS

7.0 Mechanical Strength Tests

No.	Test	Clause in Standard	Result	Description of test 4 pieces are subjected to this series of tests
7.1	Tumble Barrel test	21 .3.3(c) BS5733	Pass	The product is subjected singly to 5000-drop test in the apparatus as shown in the (BS5733:1955) standard Figure 17.
7.2	Fuse insertion test	20.1.2 BS1363-1	Pass	A solid stainless steel fuse link is inserted 20 times, to test the strength of the clips.
7.3	Temperature rise test	16 BS1363-1	Pass	Current of 2.75 amps is passed for 4 hours at 250 volts or until stable, the temperature rise is then measured
7.3.1	Box Ambient	For each sample		23.4 °C, 23.2 °C, 22.9 °C, 23.1 °C
7.3.2	Line Clamp temp rise	For each sample		2.8K, 2.1K, 1.7K max. temp rise permissible 52K
7.3.3	Neutral Clamp temp rise	For each sample		2.6K, 2.1K, 1.5K max. temp rise permissible 52K
7.3.4	Line contact temp rise	For each sample		6.4K, 4.1K, 3.7K max. temp rise permissible 52K
7.3.5	Neutral contact temp rise	For each sample		5.8K, 4.7K, 2.8K max. temp rise permissible 52K
7.3.6	Accessible external surface temp rise	For each sample		2.8K, 2.1K, 1.4K max. temp rise permissible 52K

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8.0 Construction Tests

No.	Test	Clause in Standard	Result	Description of test 3 pieces are subjected to this series of tests
8.1	Accessibility to live parts	11.1 BS5733	Pass	With the unit assembled as in normal use a probe B to BS3042: 1992 is supplied with a force of 5N whilst a voltage of 45V is supplied to the live parts via an electrical indicator. No access permissible.
8.2	Lid to Base security	11.9 BS5733	Pass	With the parts at 70°C±2° C a force of 60N is applied to the cover fixing screw, no damage or impairment of function to have occurred.
8.3	Resistance to Heat	22.1.3 BS1363-1	Pass	With the parts at 70°C±2° C a force of 20N is applied to the plug in the jaws of the apparatus shown in Figure 23, no damage or impairment of function to have occurred, shown by re-testing insulation resistance and electric strength, and must fit the Figure 5 gauge
8.4	Resistance to Heat	22.2 BS1363-1	Pass	Ball pressure test using the apparatus shown in Figure 24, test temperature at 75°C±5° C, the force of 20N is applied for 60 mins after an initial period of 10 mins. The sample is then cooled by immersion in water at room temp and the indentation caused by the ball measured, this must be less than 2mm in diameter.

9.0 Glow Wire Tests

No.	Test	Clause in Standard	Result	Description of test 3 pieces are subjected to this series of tests
9.1	Resistance to Abnormal Heat	23.2 BS1363-1	Pass	A glow wire of 750°C is applied to all the insulating surfaces there must be no visible flames or glowing or these must extinguish within 30s of removal of the glow wire.

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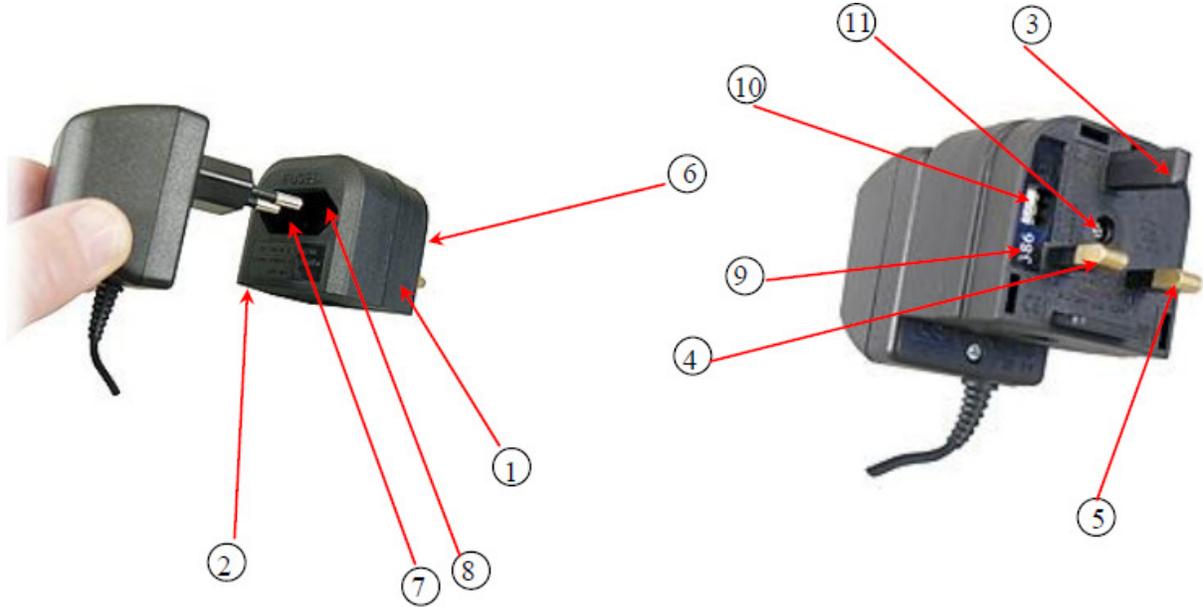
10.0 Material Strength Tests

No.	Test	Clause in Standard	Result	Description of test 3 pieces are subjected to this series of tests
10.1	Construction of plug	12.2 BS1363-1	Pass	Critical dimensions of the plug must not exceed the dimensions given in Figure 4. Compliance checked using the gauge as shown in Figure 5.
10.2	Flexibility of pins	12.8.11 BS1363-1	Pass	Using the apparatus as shown in Figure 8 pins are tested with force of 4.2 to 4.4N applied 25mm from the engagement face, the pins must not deflect by more than 3°30'. The results on the pins were between 1°30' and 3°30'. After this test the parts are again checked again checked using the Figure 5 gauge.

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11.0 Component Name



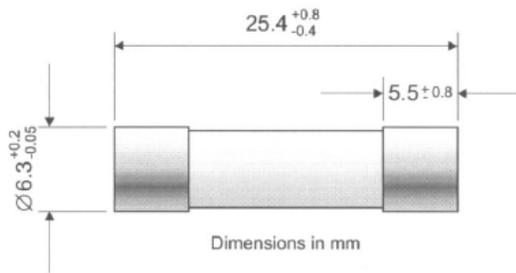
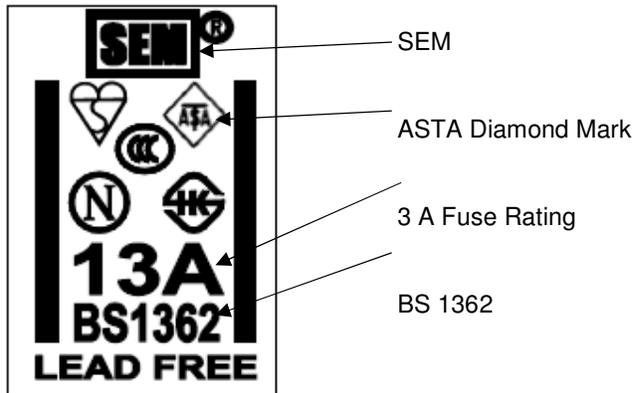
No.	Test	Material
1	Base	Polypropylene LG Lupol GP1007 FC
2	Cover	Polypropylene LG Lupol GP1007 FC
3	Earth Pin	Nylon 66 30% Glass Filled – Rhodia A30H2V25
4	Live Pin	Brass (Universal) with Nylon 66 Sleeve Dow 21SPC
5	Neutral Pin	Brass (Universal) with Nylon 66 Sleeve Dow 21SPC
6	Live Clip, Fuse clip	Phosphor Bronze Taiwan VPN170-190
7	Neutral Clip	Phosphor Bronze Taiwan VPN170-190
8	Insert	Polypropylene LG Lupol GP1007 FC
9	Fuse Holder	Nylon 66, Dow 21SPC
10	Fuse	Group Talent (SEM) 3A, 5A, 10A (ASTA, BSI) Δ
11	Screw	Plain or Tamperproof Steel Screw with Zinc and Clear Pacification -Luen Tai

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12.0 Fuse Specification

SEM (Group Talents Ltd)

Marking



Designation:

- 1 A - SEM 11-01A
- 2 A - SEM 11-02A
- 3 A - SEM 11-03A & SEM 12-03A
- 5 A - SEM 11-05A & SEM 12-05A
- 7 A - SEM 11-07A
- 10 A - SEM 11-10A & SEM 12-10A
- 13 A - SEM 11-13A & SEM 12-13A

Rating

240 V.a.c. 50 Hz, 1, 2, 3, 5, 7, 10, 13 Amperes

Breaking Capacity

6 kA r.m.s

Rated Power loss

Less than 1 Watt

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13.0 Installation Procedure



Fig 1



Fig 2

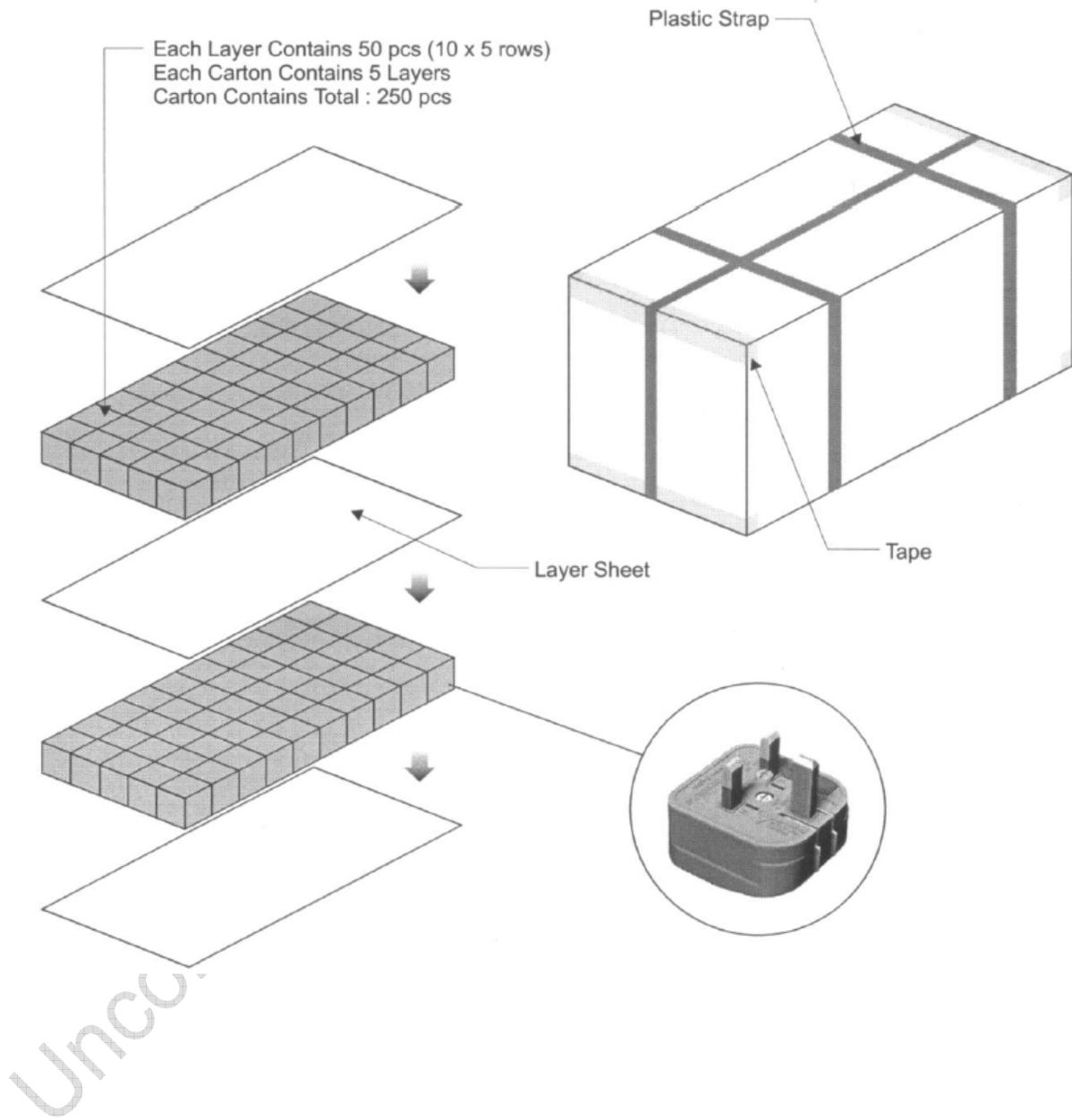


Fig 3

Insert the VDE Plug as shown and tighten the screw on the base to 0.6Nm. (6.12 Kgf.cm)
 Check that VDE plug is correctly fitted by trying to remove it.
 Now ready for use.

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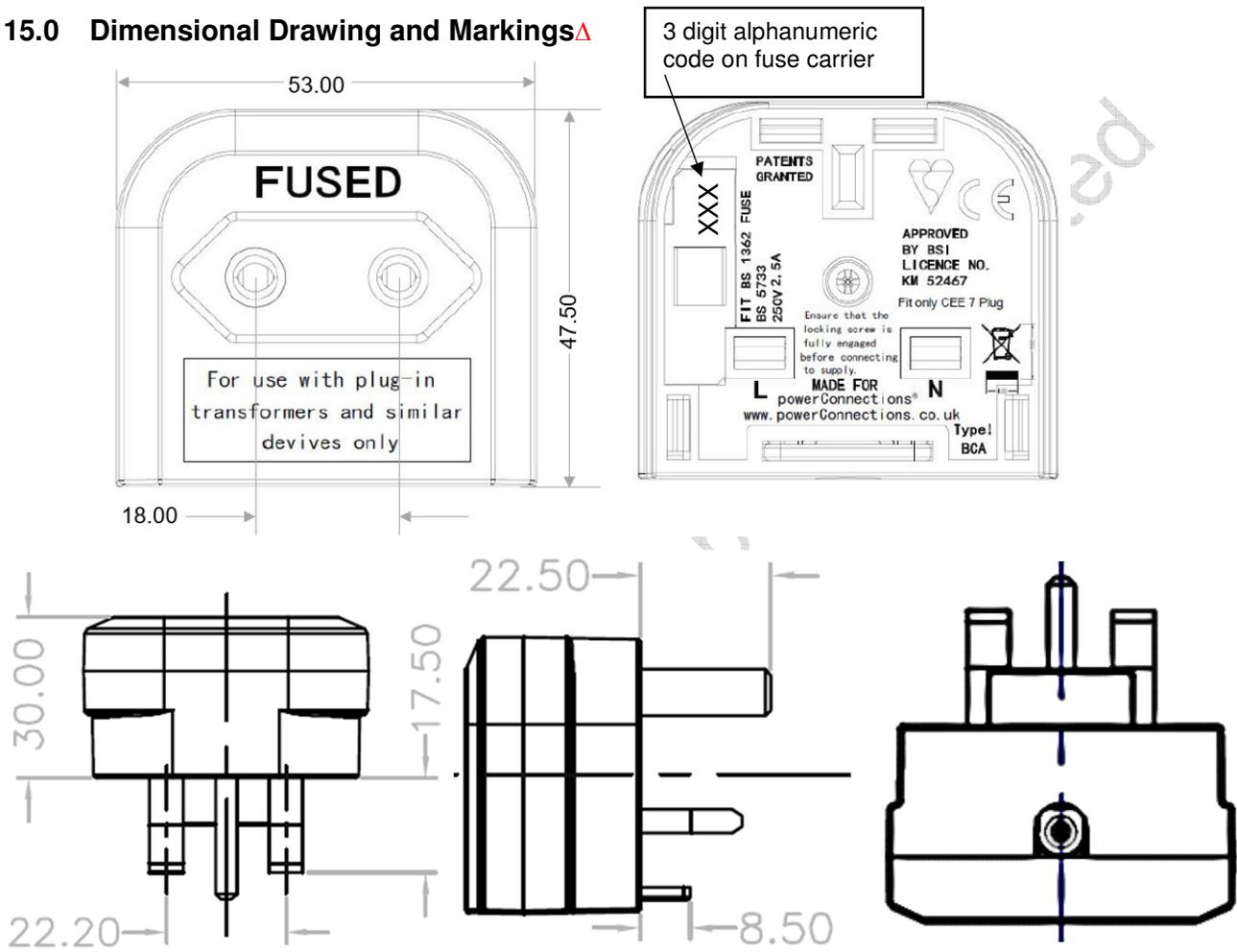
14.0 Packing Method



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15.0 Dimensional Drawing and Markings Δ



PowerConnections		DO NOT SCALE FROM DRAWING Unless otherwise stated dimensions are mm	
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