

# SPECIFICATION & APPROVALS

## **CUSTOMER:**

PowerConnections P/N: PCP

DESCRIPTION: Plugtop Converter Plug

DATE: 25 Jun 19

Revision: K

Submission Sample Quantity: 10 Pieces

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SPECIFICATION & APPROVALS  
**SUPPLIER SPECIFICATION SUBMISSION**

Date of Application	25 Jun 19	Specification No.	700-0001
Supplier's Name	PowerConnections	Supplier Code Part No.	PCP
Part Name	Plugtop Converter Plug		

**Tick the relevant box "✓"**

**Reason for Submission**

- 1. New application
- 2. New part(s) is added to accepted specification
- 3. Revision of accepted specification

(Revision requested by  customer Or  supplier)

**Revision / Change**

- 1. The specification attached to this sheet does not deviate from the customer specification
- 2. Revision(s) within the limits of customer specification is proposed. Revision proposal(s) listed below.
- 3. Revision(s) beyond the limits of customer specification is proposed. Revision proposal(s) listed below. However, all other items contained within the specification are identical to the customer specification.

Revision(s) shall be marked with a triangle "Δ" in the specification attached.

Revision No.	Date	Revision Description	Reason for Revision
A	01-07-04	First issue	
B	09-07-04	Revision of power rating	Correction of typing error
C	11-01-05	Revision of test report	Correction of torque setting
D	05-12-05	Revision of test report	New Data
E	10-07-06	New BSi Licence	New release
F	25-07-06	Marbo Fuse data added	Alternative fuse available
G	10-05-10	Revised to BS1363-5	Change of applicable Standard
H	25-07-06	SEM Fuse added, new BSi Licence	Alternative fuse available

Revision History continues over page

I	04-01-19	Revision of marking, and Asia Fuse added	CE marking for RoHS compliance from 2019, details of Non UK plug compatibility
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			added for compliance with BS1363-5:2016 and change of fuse supplier
J	31-05-19	Change to marking	WEEE regulations update
K	21-06-19	Correction to product code in footer, removed fuses no longer supplied, added dimensional drawing, clarification on red fuse carrier shown in drawings, certification details added to section 5	Wrong part number entered. Only Asia Fuse fuses now supplied, dimensional drawing plug certification details and clarification on red fuse carrier were missing.

Checked By

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Approved By



*Paul M. Lewis Jr.*

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Part No. PCP <sup>Δ</sup>	SPECIFICATION NO. 700-0001			
	REVISION K			

## SPECIFICATION & APPROVALS

### 1.0 Application

This Specification defines the performance for the Plug top Converter Plug, which is designed for the Euro Plug (CEE7), and power supplies.

### 2.0 Name/Part Number

Name: Plug top Converter Plug

Part Number: PCP

### 3.0 Shape and Dimensions

See Below (Section 15) △

### 4.0 Rating

Voltage: AC 240V / 50Hz

Current: 2.5A

Ambient Working Temperature: -5 +70 °C

Storage Temperature: -40 +80 °C 90%RH

### 5.0 Safety Specifications – Approvals

Plug: BSI Kitemark Licence No. KM 23223

Fuse: ASTA Diamond Mark Licence No.974


Standards

Plug: BS1363-5:2016

Fuse: BS1362:1973 + Amendment 1 & 2


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	19.1 BS1363-5	Pass	A CEE7 Euro Plug is fitted into a PCP and the CEE7 cord 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	14.2 BS1363-5	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	15.1 BS1363-5	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	15.1 BS1363-5	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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**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	20.2 BS1363-5	Pass	The product is subjected singly to 1000-drop test in the apparatus as shown in the (BS 1363-5) standard Figure 17.
7.2	Fuse insertion test	20.3.1 BS1363-5	Pass	A solid stainless steel fuse link is inserted 20 times, to test the strength of the clips.
7.3	Temperature rise test	16 BS1363-5	Pass	Current of 3.3 amps is passed for not less than 4 hours and not greater than 8 hours at 250 volts or until stable, the temperature rise is then measured
7.3.1	Box Ambient	For each sample		21.1 °C, 21.0°C, 21.4°C
7.3.2	Line Pin Spacer temp rise	For each sample		2.8K, 2.8K, 2.6K max. temp rise permissible 37K
7.3.3	Neutral Pin Spacer temp rise	For each sample		2.2K, 2.0K, 1.9K max. temp rise permissible 37K
7.3.4	Accessible external surface temp rise	For each sample		1.4K, 1.3K, 1.5K 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	9.1 BS1363-5	Pass	With the unit assembled as in normal use a probe 12 to BS EN 61032:1998 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	12.5 BS1363-5	Pass	With the parts at 70°C±5° 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	22.2 BS1363-5	Pass	With the parts at 70°C±5° 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	22.3 BS1363-5	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 BS1363-5	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**

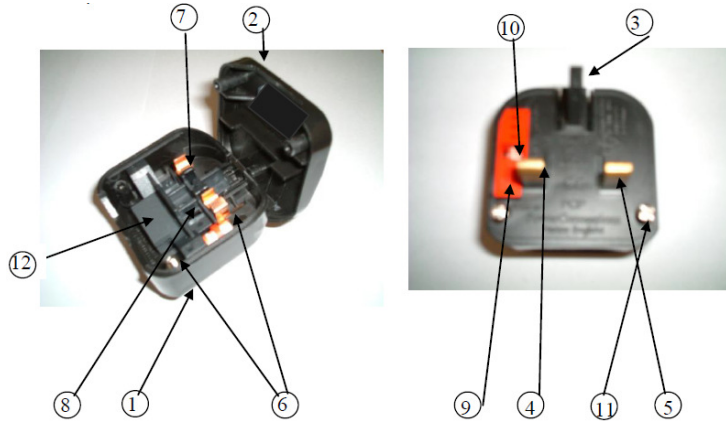
No.	Test	Clause in Standard	Result	Description of test 3 pieces are subjected to this series of tests
10.1	Construction of plug	12.2 BS1363-5	Pass	Critical dimensions of the plug must not exceed the dimensions given in Figure 4a. Compliance checked using the gauge as shown in Figure 5.
10.2	Flexibility of pins	12.8.11 BS1363-5	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 <1°. After this test the parts are again checked again checked using the Figure 5 gauge.

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11.0 Component Name

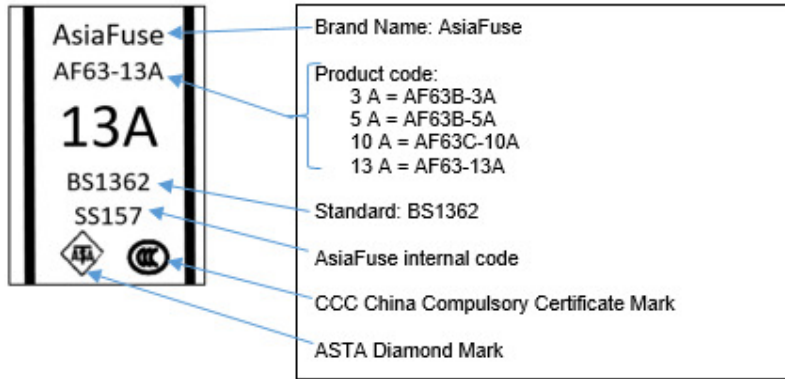


No.	Test	Material
1	Base	Polypropylene <b>Cheng Yu Plastic PP222</b>
2	Cover	Polypropylene <b>Cheng Yu Plastic PP222</b>
3	Earth Pin,	Nylon 66 30% Glass Filled <b>Toray CM3004G30</b>
4	Live Pin	Brass ( <b>Universal</b> ) with Nylon 66 Sleeve <b>JGP Perrite Vitamide AF11BK</b>
5	Neutral Pin	Brass ( <b>Universal</b> ) with Nylon 66 Sleeve <b>JGP Perrite Vitamide AF11BK</b>
6	Live Clip + Fuse Clip	Phosphor Bronze <b>Taiwan VP170-190</b>
7	Neutral Clip	Phosphor Bronze <b>Taiwan VP170-190</b>
8	Insert	Nylon 66 Sleeve <b>JGP Perrite Vitamide AF11BK</b>
9	Fuse Holder	Nylon 66, <b>JGP Perrite Vitamide AF11BK</b> <b>Now in Black (still shown in red for clarity)</b>
10	Fuse	<sup>Δ</sup> <b>AsiaFuse</b> (Better Fuse) 3A, 5A (BS1362,ASTA)
11	Screw 2off	Plain or Tamperproof Steel Screw with Zinc and Clear Pacification – <b>Golden Metal</b>
12	Rubber Pad	Rubber – <b>3M</b>

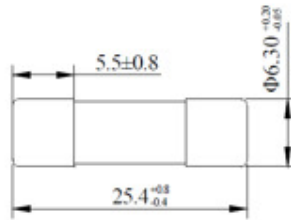
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## 12.0 Fuse Specification

BETTER FUSE/ASIA FUSEΔ



Dimensions (units: mm)



**Operating Temperature:**

-55°C to 125°C

**Storage Conditions:**

+10°C to +60°C

Relative humidity: ≤ 75% yearly average  
 without dew, maximum 30 days at 95%

**Vibration Resistance:**

24 cycles at 15 min. each (60068-6)

10-60Hz at 0.75mm amplitude

60-2000Hz at 10g acceleration

### Electrical characteristics

Electrical Characteristics									
Amp Code	Rated Current	Max. Voltage	Breaking Capacity	Nominal Melting Pt.(A <sup>2</sup> sec)	Max. Power Dissipation	Color	Approvals		
							CCC	PSB	ASTA
1100	1A	264V AC	6kA@ 264V AC 50Hz P.f.0.3-0.4	1.44	1W	black	●	○	○
1200	2A			8.73		black	○	○	○
1300	3A			29.16		red	●	●	●
1500	5A			144		black	●	●	●
1700	7A			146.4		black	○	○	●
2100	10A			324		black	●	●	●
2130	13A			961		brown	●	●	●

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13.0 Installation Procedure



Torque screws to 0.4Nm (4.08Kgf.cm)

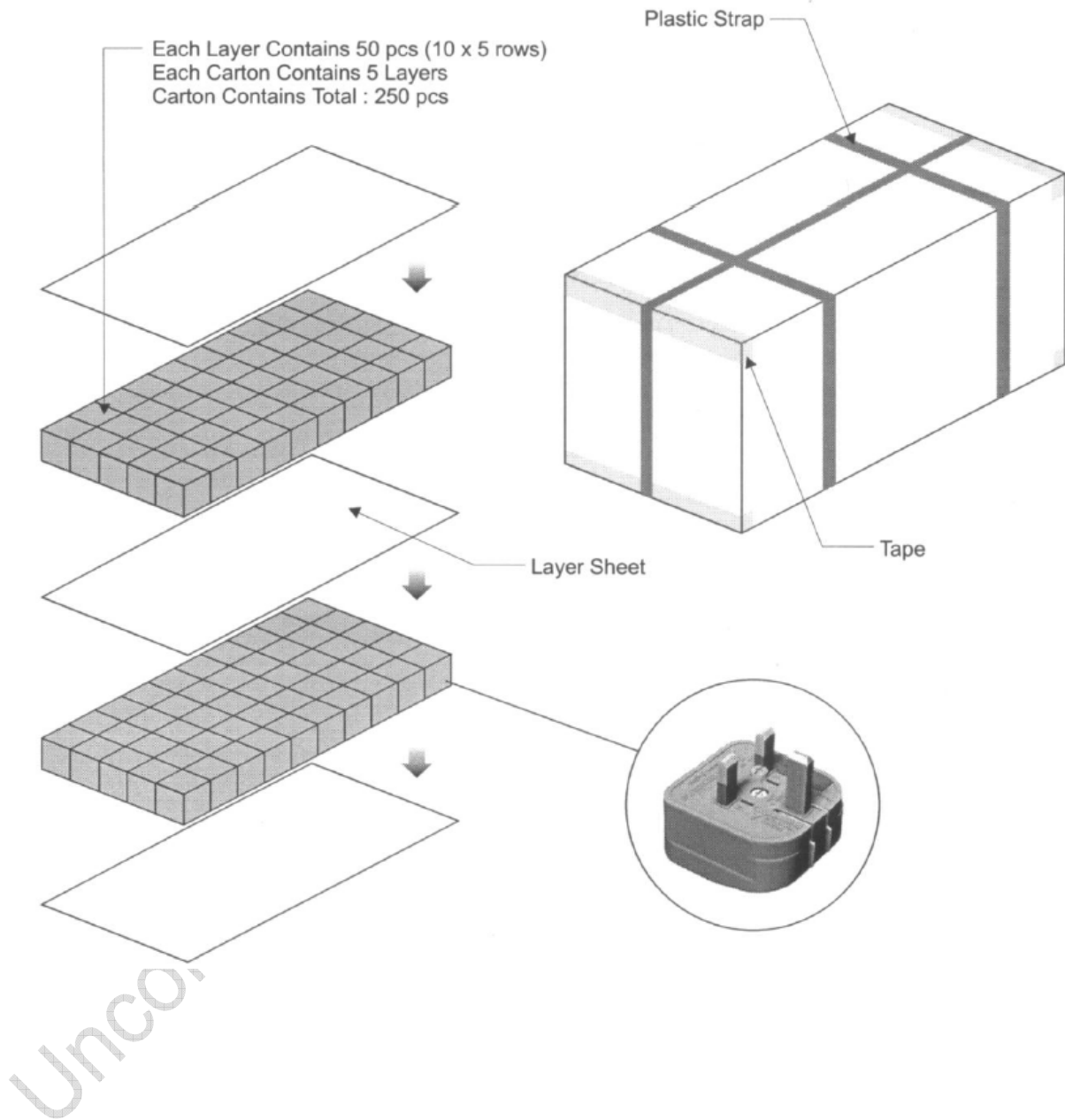


Fuse carrier now  $\Delta$  in Black (still shown in red for clarity)

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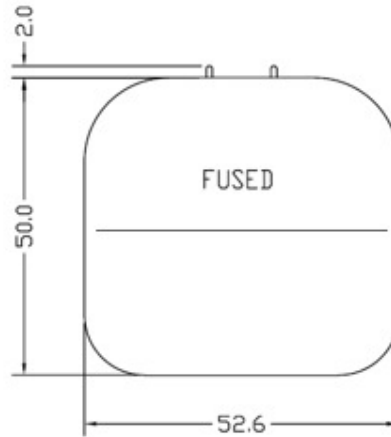
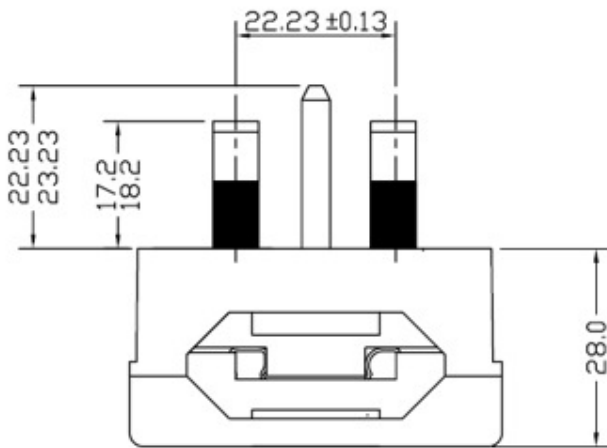
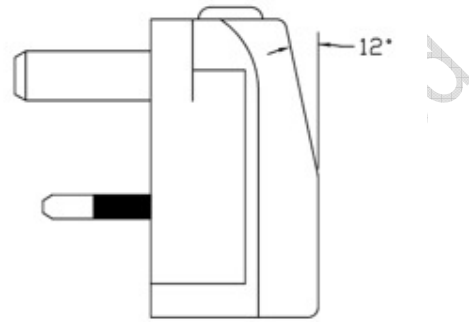
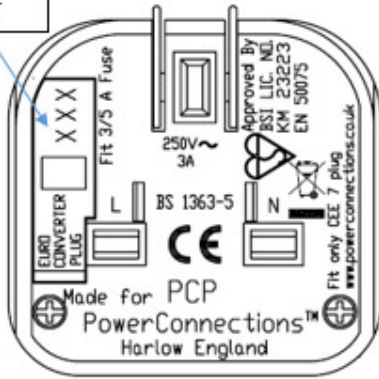
14.0 Packing Method



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15.0 Dimensional Drawing and Markings

3 digit alphanumeric code on fuse carrier



Uncont

<b>PowerConnections</b>		DO NOT SCALE FROM DRAWING Unless otherwise stated dimensions are mm	
TITLE	Plugtop Converter Plug	0	± 0.4
Part No. PCP	SPECIFICATION NO. 700-0001	0.0	± 0.4
	REVISION K	0.00	± 10
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