

SPECIFICATION & APPROVALS

CUSTOMER:

PowerConnections P/N: SCP

DESCRIPTION: Shuko Converter Plug

DATE: 25 Jun 2019

Revision: K

Submission Sample Quantity: 10 Pieces

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lb	31-07-18	Test description of 6.3 changed to Electric Strength from Insulation Resistance, and washer removed.	Correction of error, and washer no longer used
lc	31-07-18	Insulation resistance test added to section 6.3	Missing from report
ld	05-09-2018	Reference to 10A changed to 13A, rating voltage changed to 250V~	Error correction
J	10-01-2018	Changed Marking, and changed product code back to SCP	RoHS and BS1363 marking changes
K	21-06-2019	Changed Marking	WEEE Scope change

Checked By

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TITLE	Shuko Converter Plug	DRAWN BY	CHECKED BY	APPROVED BY
Part No. SCP	SPECIFICATION NO. 700-0002			<i>Paul M. [Signature]</i>
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SPECIFICATION & APPROVALS

1.0 Application

This Specification defines the performance for the Schuko Converter Plug, which is designed for the Schuko Plug (IEC 83:1975 STANDARD C 1B).

2.0 Name/Part Number

Name: Schuko Converter Plug

Part Number: SCP-BK-R-13A

3.0 Shape and Dimensions

See Below (Section 15)

4.0 Rating

Voltage: AC 250V~ 50Hz

Current: 13A

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	An IEC 83:1975 STANDARD C 1B Schuko Plug is fitted into an SCP-BK-R-13A and the IEC 83:1975 STANDARD C 1B 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	Electric Strength	15.2 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.
6.4	Insulation Resistance	15.1	Pass	Insulation resistance (500V dc for 60 seconds): a) between line and neutral >5MΩ b) Between line and neutral pins connected together and: a. Test description of 6.3 changed to Electric Strength from Insulation Resistance b. Test description of 6.3 changed to Electric Strength from Insulation Resistance

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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 (BS1363-5) 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 14.4 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		22.0 °C, 22.2 °C, 22.1 °C
7.3.2	Line Pin Spacer temp rise	For each sample		28.5K, 21.4K, 17.6K max. temp rise permissible 37K
7.3.3	Neutral Pin Spacer temp rise	For each sample		26.9K, 21.6K, 15.5K max. temp rise permissible 37K
7.3.4	Accessible external surface temp rise	For each sample		16.2K, 14.5K, 15.7K 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

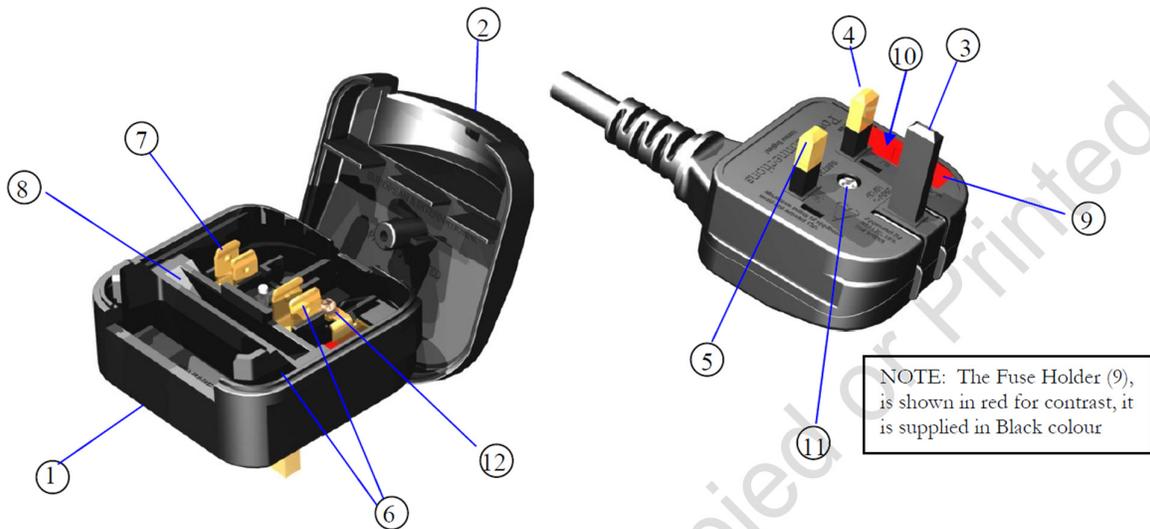
No.	Test	Clause in Standard	Result	Description of test 3 pieces are subjected to this series of tests
10.1	Construction of plug	12.2 BS1363-5	Pass	Critical dimensions of the plug must not exceed the dimensions given in Figure 4a. Compliance checked using the gauge as shown in Figure 5.
10.2	Flexibility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

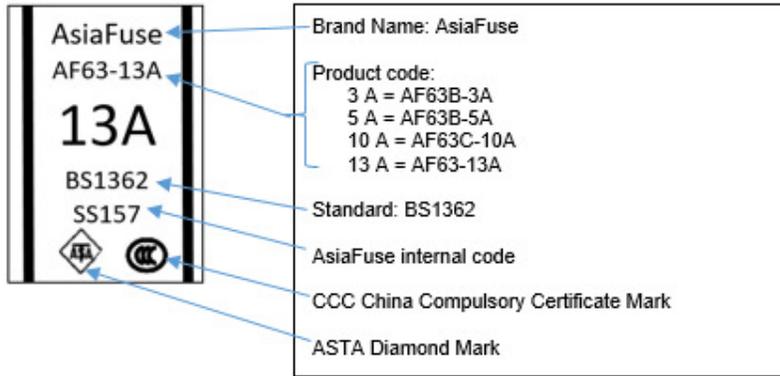


No.	Test	Material
1	Base	Polypropylene Cheng Yu Plastic PP222
2	Cover	Polypropylene Cheng Yu Plastic PP222
3	Earth Pin	Nylon 66 30% Glass Filled Toray CM3004G30
4	Live Pin	Brass (Universal) with Nylon 66 Sleeve JGP Perrite Vitamide AF11BK
5	Neutral Pin	Brass (Universal) with Nylon 66 Sleeve JGP Perrite Vitamide AF11BK
6	Live Clip, Fuse clip	Brass (Universal)
7	Neutral Clip	Brass (Universal)
8	Insert	Nylon 66 Sleeve JGP Perrite Vitamide AF11BK
9	Fuse Holder	Nylon 66 Sleeve JGP Perrite Vitamide AF11BK
10	Fuse	AsiaFuse 3A, 5A, 10A, 13A (ASTA Diamond Mark 974)
11	Screw	Plain or Tamperproof Steel Screw with Zinc and Clear Pacification – Golden Metal
12	Screw	Steel Screw with Zinc and Clear Pacification – Gold Metal

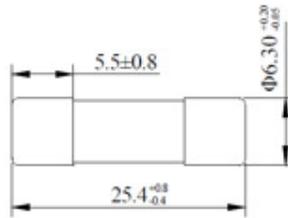
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12.0 Fuse Specification

BETTER FUSE/ASIA FUSEΔ



Dimensions (units: mm)



Operating Temperature:

-55°C to 125°C

Storage Conditions:

+10°C to +60°C

Relative humidity: $\leq 75\%$ 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 ² 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



Fig 1



Fig 2

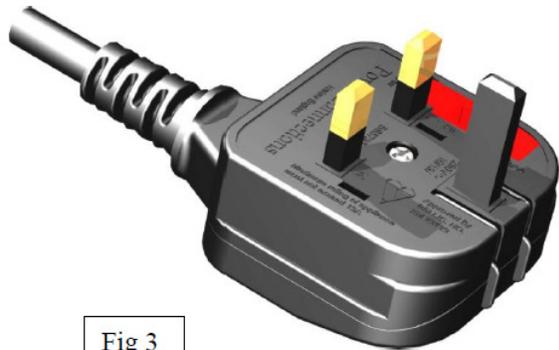
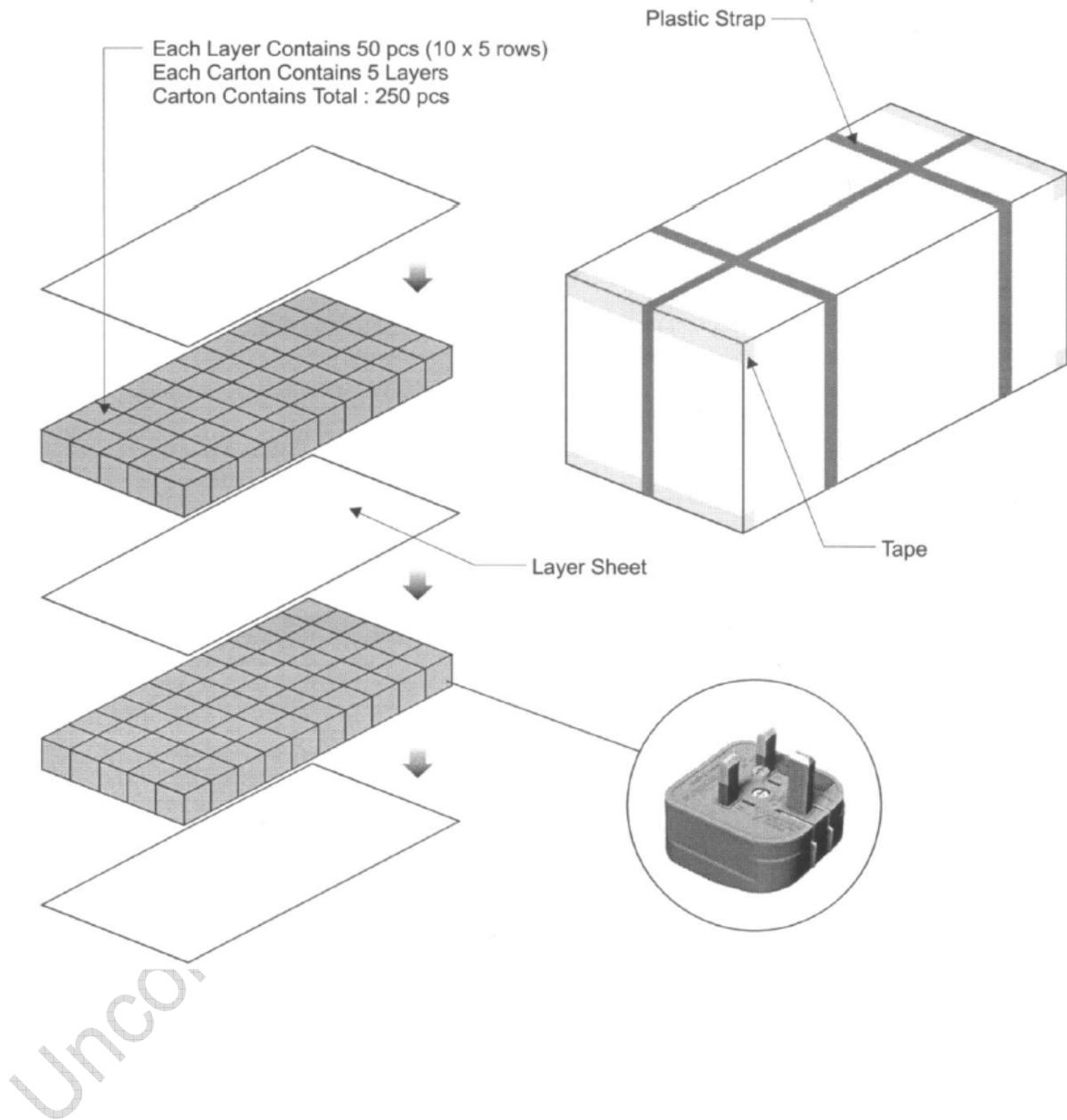


Fig 3

Insert the Schuko Plug as shown and tighten the screw on the base to 0.5NM.
Ensure lid is fully closed.
Now ready for use.

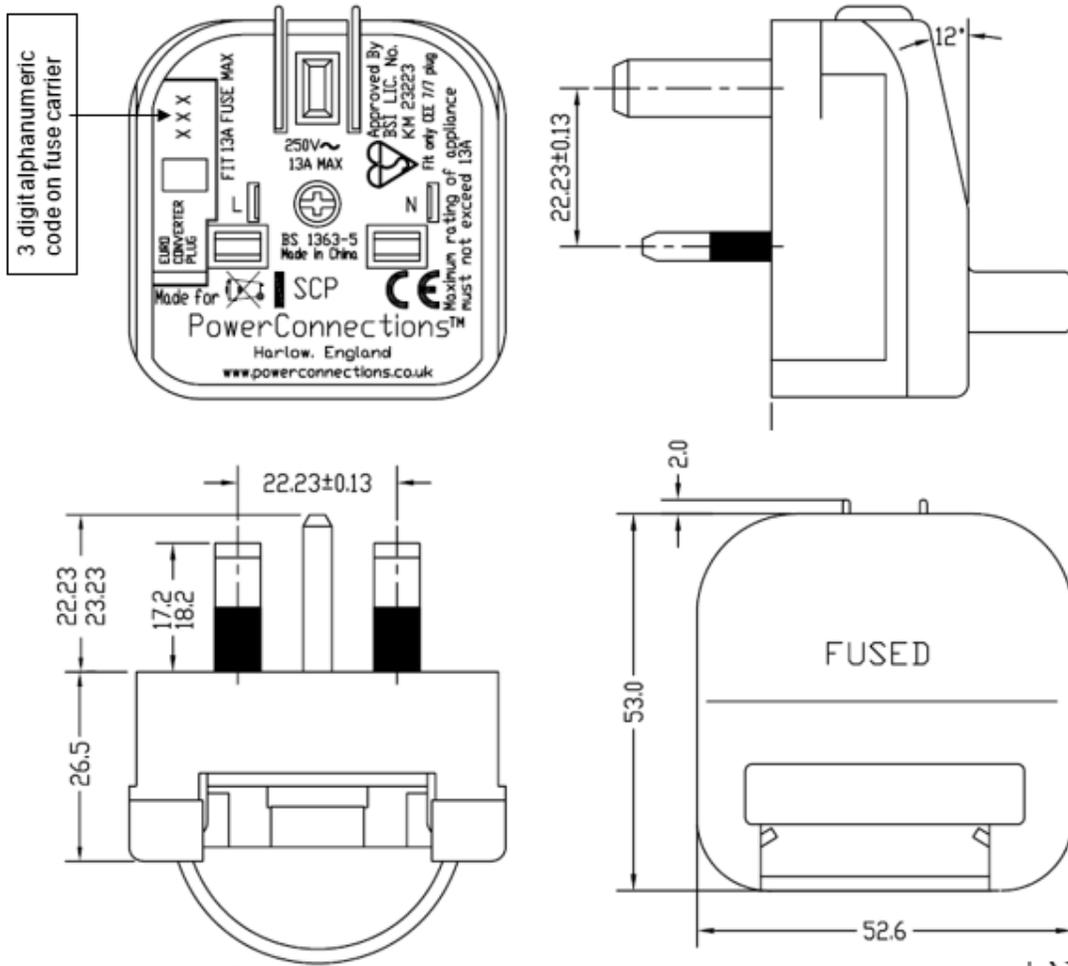
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14.0 Packing Method



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15.0 Dimensional Drawing and Markings



PowerConnections		DO NOT SCALE FROM DRAWING Unless otherwise stated dimensions are mm	
TITLE	Shuko Converter Plug	.XX	± 0.1
Part No.	SPECIFICATION NO.	.xxx	± 0.05
SCP	700-0002		
	REVISION K	ANG	± 1/2°
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