

Power Converter with Side Socket

Technical Field

The invention relates to the technical field of power converters, in particular to a power converter with a side socket.

Technical Background

Because the specifications of plugs and sockets in different countries are different, they can't be used universally. If you need to insert the plugs into sockets with mismatched specifications, you need to go through a power converter. The power converter is a switching tool. When in use, the power converter is inserted into the target socket, and then the target plug is inserted into the matching socket hole on the power converter to realize the conversion. The appearance of power converter improves the convenience of people's life outside, especially when they travel internationally, so there is no need to worry about the trouble caused by the mismatch between the plug of the electronic equipment they carry and the local power socket.

However, in the existing power converter, pins with different specifications can be connected to only one panel with a composite socket. When a pin with a certain specification is inserted into the corresponding jack of the composite socket panel, other jacks on the composite socket panel will be blocked, and only one pin can be converted at a time, so the utilization rate of the jack is low and the overall power converter experience is not good.

Summary of the Invention

In view of the above shortcomings, the purpose of the present invention is to provide a power converter with a side socket, which is simple in structure and stable in conduction, and can correspondingly convert pins of different national specifications into pins of other countries, and its side is provided with independent side jacks. After pins of a certain specification are inserted into the front composite socket panel, pins of other specifications can also be inserted into the side jacks to realize simultaneous conduction use, thus

improving the use efficiency of the power converter and improving the use experience of the power converter.

The technical scheme adopted by the invention for achieving the above purpose is as follows:

A power converter with side sockets comprises a composite socket panel, a shell, a first protective door assembly, a fuse assembly, at least two sets of pin assemblies and a conducting assembly, wherein the conducting assembly at least comprises a live wire (L) conducting assembly and a neutral wire (N) conducting assembly; The live wire (L) conducting component comprises a live wire (L) socket copper clip and a live wire (L) pin copper clip; the neutral wire (N) conducting component comprises a neutral wire (N) socket copper clip and a neutral wire (N) pin copper clip; the side of the shell is provided with at least one group of side jacks, which at least comprise a side live wire jack and a side zero wire jack; The hot wire (L) socket copper clip is provided with a side hot wire (L) socket copper clip matched with the side hot wire jack, and the neutral wire (N) socket copper clip is provided with a side neutral wire (N) socket copper clip matched with the side neutral wire jack; The side live wire (L) socket copper clip is extended to the side by the live wire (L) socket copper clip, and the side neutral wire (N) socket copper clip is extended to the side by the neutral wire (N) socket copper clip; The side jack is any one or combination of American standard jack, British standard jack, medium standard jack, Australian standard jack or European standard jack.

As a further improvement of the invention, the copper clip of the side live wire (L) socket and the copper clip of the side neutral wire (N) socket are respectively matched with any pin of American gauge pin or British gauge pin or European gauge pin or Australian gauge pin.

As a further improvement of the invention, the composite socket panel is provided with any combination of British standard jack, American standard jack, Chinese standard/Australian standard jack and European standard jack.

As a further improvement of the invention, the pin assembly includes any combination of British standard pin assembly, American standard pin assembly, European standard pin assembly, Chinese standard pin assembly or Australian standard pin assembly; The pin assemblies are respectively provided with a sliding seat which is provided with an operation key and at least two conductive pins and can move in the axial direction; The conductive pins extend out or retract into the shell.

As a further improvement of the invention, a second protective door assembly is arranged in the side jack, which comprises an electric shock-proof protective door, a protective door fixing piece and a spring piece, the electric shock-proof protective door is embedded in the protective door fixing piece, at least two groups of pin through holes matched with the side jack and a fixing piece spring retainer matched with the spring piece are arranged on the protective door fixing piece, and a protective door spring retainer is arranged on the electric shock-proof protective door; One end of the spring piece is sleeved on the spring card post of the protection door, and the other end is sleeved in the spring card seat of the fixing piece to fix the spring piece; The electric shock protection door is in the shape of a mouth as a whole, the upper frame thereof shields the copper clip of the side live wire (L) socket and the corresponding side jack, and the lower frame thereof shields the copper clip of the side neutral wire (N) socket and the corresponding side jack.

As a further improvement of the invention, the upper frame and the lower frame are respectively provided with a guide inclined plane extending obliquely from the top to the bottom.

As a further improvement of the invention, one end of the upper frame of the electric shock protection door facing the live wire (L) conducting component is formed with a first anti-single-insertion block matched with the side live wire socket, and one end of the lower frame of the electric shock protection door facing the zero wire (N) conducting component is formed with a second anti-single-insertion block matched with the side zero wire socket.

As a further improvement of the invention, both side walls of the electric shock

protection door are rhombic in shape with high middle and low upper and lower ends.

As a further improvement of the invention, a first insulating bracket extends towards one end of the neutral wire (N) conducting component of the protective door fixing piece, and a side neutral wire insertion groove is arranged on the first insulating bracket for inserting the side neutral wire (N) socket copper clip, and the side live wire (L) socket copper clip is arranged at the top of the first insulating bracket.

As a further improvement of the invention, the protective door fixing piece further comprises a second insulating bracket formed at the side of the first insulating bracket and bent and extended in the direction of the copper clip of the live wire (L) socket, and an insulating baffle is protruded in the middle of the second insulating bracket, and the copper clip of the live wire (L) socket is placed on the insulating baffle.

As a further improvement of the present invention, the fuse assembly includes a fuse, and the fuse is a fuse tube or fuse.

As a further improvement of the invention, the fuse (L) socket copper clip is provided with a first fuse metal clip, the fuse (L) pin copper clip is provided with a second fuse metal clip, and both ends of the fuse are respectively placed in the first fuse metal clip and the second fuse metal clip and are electrically connected.

As a further improvement of the invention, the neutral (N) socket copper clip is provided with a third fuse metal clip, the neutral (N) pin copper clip is provided with a fourth fuse metal clip, and both ends of the fuse are respectively arranged in the third fuse metal clip and the fourth fuse metal clip and are electrically connected.

As a further improvement of the invention, the fuse assembly further comprises a fuse fixing frame, wherein the fuse is nested on the fuse fixing frame, and the fuse fixing frame is arranged between the first fuse metal clip and the second fuse metal clip.

As a further improvement of the invention, the fuse assembly further comprises a fuse fixing frame, wherein the fuse is nested on the fuse fixing frame, and the fuse fixing frame is arranged between the third fuse metal clip and the fourth fuse metal clip.

As a further improvement of the present invention, it further comprises a fuse assembly fixing sleeve, wherein the fuse assembly is arranged in the fuse assembly fixing sleeve, and at least one embedding through slot is formed in the fuse assembly fixing sleeve, and the safety piece fixing frame is embedded in the embedding through slot along the embedding through slot.

The invention has the beneficial effects that:

By configuring this power converter to include a composite socket panel, a housing, a first protective door component, a fuse component, at least two sets of standard pin components, and a conducting component, the pins to be converted are inserted into the composite socket panel, the first protective door component is pushed to connect with the conducting component, and the conducting component is electrically connected to the standard pin component. After pushing the standard pin component out of the housing, the standard pin component can be inserted into an external power socket, thereby achieving the purpose of converting the pins to the corresponding pins. The conduction component is electrically connected with the fuse component, so that the conduction component can realize the protection effect of current and voltage in the stable circuit through the current limiting effect of the fuse component, and the safety of the power converter is improved. By arranging the first protective door assembly between the composite socket panel and the conduction assembly, a single plug or a sharp object can be prevented from being inserted alone, so that the electric shock phenomenon caused by children playing with the power converter can be prevented, and the safety is improved.

By arrange that conducting component to include at least a conducting component include a live wire (L) and a neutral wire (N); The live wire (L) conducting component comprises a live wire (L) socket copper clip and a live wire (L) pin copper clip; the zero wire (N) conducting component comprises a zero wire (N) socket copper clip and a zero wire (N) pin copper clip; at least two side jacks are arranged at the side of the shell, and the side jacks comprise a side live wire jack and a side zero wire jack; The hot wire (L) socket copper clip

is provided with a side hot wire (L) socket copper clip matched with the side hot wire jack, and the neutral wire (N) socket copper clip is provided with a side neutral wire (N) socket copper clip matched with the side neutral wire jack; The side live wire (L) socket copper clip is extended to the side by the live wire (L) socket copper clip, and the side neutral wire (N) socket copper clip is extended to the side by the neutral wire (N) socket copper clip, so the integrated structure arrangement is more conducive to improving the conduction efficiency and the conduction stability. The live wire pin in the pins that need to be converted can be correspondingly inserted into the side live wire socket to be connected to the copper clip of the side live wire (L) socket, and can be connected to the live wire in any set of standard pin components through the live wire (L) conductive component. The neutral wire pin in the pins that need to be converted can be correspondingly inserted into the side neutral wire socket to be connected to the copper clip of the side neutral wire (N) socket, and can be connected to the neutral wire in any set of standard pin components through the neutral wire (N) conductive component to achieve different specifications of pin conversion. The side jack is any one or combination of American standard jack or British standard jack, medium standard jack or Australian standard jack or European standard jack, so that the power converter can connect pins with different specifications through the side jack in addition to the composite socket panel. The composite socket panel and the side jack can be used simultaneously or independently, and the specific side jack can be selected according to the actual situation.

The above is an overview of the technical scheme of the invention, and the invention will be further explained with the attached drawings and specific embodiments.

Brief Description of Drawings

Figure 1 is an overall schematic diagram of the present invention;

Figure 2 is a schematic side view of the present invention;

Figure 3 is an explosion diagram of the present invention;

Figure 4 is a schematic structural view of the composite socket with the panel and shell removed;

Figure 5 is a schematic structural view of the conduction assembly and the second protection door assembly;

Figure 6 is a schematic structural view of the live wire (L) conducting assembly and fuse assembly;

Figure 7 is a schematic structural diagram of the neutral (N) conducting assembly;

Figure 8 is a structural schematic diagram of the hybrid pin assembly;

Figure 9 is a schematic structural view of the conduction of the hybrid pin assembly;

Figure 10 is a schematic structural diagram of the British standard pin assembly;

Figure 11 is a schematic structural diagram of the conduction of the British standard pin assembly;

Figure 12 is a schematic structural diagram of the American standard pin assembly;

Figure 13 is a schematic structural diagram of the conduction of the American standard pin assembly;

Figure 14 is a schematic structural view of the conduction of the second protection door assembly;

Figure 15 is an exploded view of the second protective door assembly;

Figure 16 is a schematic structural view of the second protective door assembly when the pin is connected;

Figure 17 is a schematic structural view of the fixing piece for protecting the door;

Figure 18 is the structural schematic diagram of the electric shock protection door;

Figure 19 is a schematic view of the back structure of the protection door fixing piece;

Figure 20 is a schematic structural view of the copper clip of the side live wire (L) socket and the copper clip of the side neutral wire (N) socket embedded in the back of the protection door fixture;

Figure 21 is a schematic structural view of the fuse assembly fixed in the power converter;

Figure 22 is a schematic structural view of the fuse assembly fixing sleeve;

Figure 23 is a schematic structural diagram of the fuse assembly set on the zero line;

Figure 24 is a schematic structural view of the fuse assembly set on the zero line and fixed by the fuse assembly fixing sleeve;

Figure 25 is a schematic structural diagram of the fuse set on the zero line;

Figure 26 is a schematic structural view of the fuse, which is set on the zero line and fixed by the fuse assembly fixing sleeve;

Figure 27 is a structural schematic diagram of the fuse assembly fixing sleeve when the fuse is set on the zero line;

Figure 28 is a schematic structural view of the fuse set on the live wire;

Figure 29 is a schematic structural view of the fuse, which is arranged on the live wire and fixed by the fuse assembly fixing sleeve;

Figure 30 is a schematic structural view of the fuse assembly fixing sleeve when the fuse is set on the live wire;

In the picture: 01, Composite socket panel; 0101, the first jack; 0102, the second jack; 0103, the third jack; 0104, the fourth jack; 0105, the fifth jack; 0106, the sixth jack; 0107, the seventh jack; 0108, the eighth jack; 0109, the ninth jack; 0110, the tenth jack; 0111, the eleventh jack; 0112, the twelfth jack;

02, Shell; 021, Side jack; 0211, Side live wire jack; 0212, side neutral jack;

03, Primary protection door assembly;

04, Fuse assembly; 041, insurance; 042, insurance piece fixing frame; 043, fuse assembly fixing sleeve; 0431, Embedding into the through slot; 0432, the third zero line insurance limit slot; 0433, the fourth zero line insurance limit slot; 0434, the first fuse safety limit groove; 0435, the second fuse safety limit groove;

05, British standard pin assembly; 051, British standard connector; 052, British standard key pieces; 053, British ground pin; 054, British fire pin; 055, the British regulation of the fire line activity guide; 056, British standard zero pin; 057, the British zero line activity guide;

06, American standard pin assembly; 061, American standard connector; 062, American standard buttons; 063, American standard fire pin; 064, The American standard firewire activity guide; 065, American standard zero pin; 066, American standard zero line activity guide;

07, European pin assembly; 071, European gauge insert sleeve; 072, European standard connector; 073, European standard key pieces; 074, European standard fire pin; 075, The European rules of fire activity guide; 076, European gauge zero pin; 077, European gauge zero line activity guide;

08, The live wire (L) conducts the components; 081, live wire (L) socket copper clip; 0811, Metal clip of the first safety piece; 0812, Italian live wire conducts the clamping part; 0813, The American standard live wire conducts the clamping part; 0814, The British Fire Wire is connected to the clamping part; 0815, Medium gauge or Australian gauge live wire conducts the clamping part; 082, Copper clamp for pin of live wire (L); 0821, Metal clip of the second safety piece; 0822, Live pin conduction piece; 0823, European gauge pin live wire clamping part; 0824, The live wire clamping part of the British standard pin; 0825, American standard pin live wire clamping part; 083, Copper clamp of side live wire (L) socket;

09, Zero line (N) conduction components; 091, Neutral (N) socket copper clip; 0911, Italian neutral conductor clamping part; 0912, American gauge zero line conduction clamping part; 0913, The British gauge zero line is connected to the clamping part; 0914, The neutral line of medium gauge or Australian gauge is connected to the clamping part; 0915, Metal clip of the third safety part; 092, Zero line (N) pin copper clip; 0921, Zero pin conduction piece; 0922, Zero line connector; 0923, European gauge pin zero line clamping part; 0924, American standard pin zero line clamping part; 0925, British standard pin zero line clamping part; 0926, the fourth safety piece metal clip; 093, Side neutral line (N) socket copper clip;

10, Second protective door assembly; 101, Electric shock protection door; 1011, Protect the door spring card column; 1012, Guide the inclined plane; 1013, Prevent single insertion of the first card block; 1014, Prevent single insertion of the second card block; 102, Protect

the door fixed parts; 1021, Pin through hole; 1022., Spring clamping seat of fixing piece; 1023, The first insulating bracket; 10231, Side zero line into the slot; 1024, The second insulating bracket; 10241, Insulation baffle; 103, Spring piece.

Embodiment

In order to further illustrate the technical means and effects adopted by the present invention to achieve the predetermined purpose, the specific embodiments of the present invention will be described in detail with the attached drawings and preferred embodiments.

In the description of the present invention, it should be understood that the terms "length", "width", "up", "down", "front", "back", "left", "right", "vertical", "horizontal", "top", "bottom", "inside", "outside" and other directional or positional relationships indicated are based on the directional or positional relationships shown in the accompanying drawings, only for the convenience of describing the present invention and simplifying the description, and do not indicate or imply that the device or element referred to must have a specific orientation, be constructed and operated in a specific orientation, and therefore cannot be understood as a limitation of the present invention.

In addition, the terms "first" and "second" are only used for descriptive purposes, and cannot be understood as indicating or implying relative importance or implicitly indicating the number of indicated technical features. Therefore, the features defined as "first" and "second" may include one or more of these features explicitly or implicitly. In the description of the present invention, "plural" means two or more, unless otherwise specifically defined.

In the present invention, unless otherwise specified and limited, the terms "installation", "connection", "connection" and "fixation" should be broadly understood, for example, they can be fixed connection, detachable connection or integrated; It can be a mechanical connection or an electrical connection; Can be directly connected, can also be indirectly connected through an intermediary, can be the internal connection of two elements or the interaction between two elements. For those skilled in the art, the specific meanings of the above terms in the present invention can be understood according to specific situations.

Please refer to Figure 1 to Figure 27, an embodiment of the present invention provides a power converter with a side socket, which comprises a composite socket panel 01, a housing 02, a first protective door assembly 03, a fuse assembly 04, at least two sets of pin assemblies and a conducting assembly, wherein the conducting assembly at least comprises a live wire (L) conducting assembly 08 and a zero wire (N) conducting assembly 09; The live wire (L) conducting component 08 includes a live wire (L) socket copper clip 081 and a live wire (L) pin copper clip 082, the neutral wire (N) conducting component 09 includes a neutral wire (N) socket copper clip 091 and a neutral wire (N) pin copper clip 092, the side of the shell 02 is provided with at least one group of side jacks 021, and the side jacks 021 at least comprise a side live wire jack 0211 and a side neutral wire jack 0212; The live wire (L) socket copper clip 081 is provided with a side live wire (L) socket copper clip 083 matched with the side live wire jack 0211, and the neutral wire (N) socket copper clip 091 is provided with a side neutral wire (N) socket copper clip 093 matched with the side neutral wire jack 0212; The side live wire (L) socket copper clip 083 is extended to the side by the live wire (L) socket copper clip 081, and the side neutral wire (N) socket copper clip 093 is extended to the side by the neutral wire (N) socket copper clip 091; The fuse assembly 04 includes a fuse element 041, the fuse (L) socket copper clip 081 is provided with a downward extending first fuse element metal clip 0811, the fuse (L) pin copper clip 082 is provided with a second fuse element metal clip 0821, and both ends of the fuse element 041 are respectively placed in the first fuse element metal clip 0811 and the second fuse element metal clip 0821 and are electrically connected; The side jack 021 is any one or combination of American standard jack, British standard jack, medium standard jack, Australian standard jack or European standard jack.

By setting this power converter to include a composite socket panel 01, a housing 02, a first protective door component 03, a fuse component 04, at least two sets of standard pin components, and a conducting component, the pins that need to be converted are inserted into the composite socket panel 01, pushing the first protective door component 03 to connect

with the conducting component, and the conducting component is electrically connected to the standard pin component. After pushing the standard pin component out of the housing 02, the standard pin component can be inserted into an external power socket to achieve the purpose of converting the pins that need to be converted into corresponding pins. The conduction component is electrically connected with the fuse component 04, so that the conduction component can realize the protection effect of current and voltage in the stable circuit through the current limiting effect of the fuse component 04, and the safety of the power converter is improved. By arranging the first protective door assembly 03 between the composite socket panel 01 and the conduction assembly, a single plug or a sharp object can be prevented from being inserted alone, thereby preventing the electric shock phenomenon caused by children playing with the power converter and improving the safety. For the specific structural arrangement of the first protective door assembly 03, please refer to the anti-single-insertion protective door assembly with the patent number of 202021218777.2, or the conventional protective door assembly structure in the industry, which can be selected and adjusted according to the actual situation, so it will not be described in detail in this embodiment.

By arrange that conducting component to include at least a conducting component 08 include a live line (L) and a neutral line (N) conducting component 09; The live wire (L) conducting assembly 08 comprises a live wire (L) socket copper clip 081 and a live wire (L) pin copper clip 082, and the neutral wire (N) conducting assembly 09 comprises a neutral wire (N) socket copper clip 091 and a neutral wire (N) pin copper clip 092, the side of that shell 02 is provide with at least two side jacks 021, and the side jack 021 comprise a side live wire jack 0211 and a side neutral wire jack 0212; The live wire (L) socket copper clip 081 is provided with a side live wire (L) socket copper clip 083 matched with the side live wire jack 0211, and the neutral wire (N) socket copper clip 091 is provided with a side neutral wire (N) socket copper clip 093 matched with the side neutral wire jack 0212; The side live wire (L) socket copper clip 083 is extended from the live wire (L) socket copper clip 081 to the side,

and the side neutral wire (N) socket copper clip 093 is extended from the neutral wire (N) socket copper clip 091 to the side. The integrated structure arrangement is more conducive to improving the conduction efficiency and stability. The live wire pin in the pins that need to be converted can be inserted into the side live wire socket 0211 to be connected to the side live wire (L) socket copper clip 083, and can be connected to the live wire in any set of pin components through the live wire (L) conduction component 08, the neutral wire pin in the pins that need to be converted can be inserted into the side neutral wire socket 0212 to be connected to the side neutral wire (N) socket copper clip 093, and can be connected to the neutral wire in any set of pin components through the neutral wire (N) conduction component 09 to achieve different specifications of pin conversion. The side socket 021 can be any one or combination of American standard socket, British standard socket, Chinese standard socket, Australian standard socket, or European standard socket, so that in addition to the composite socket panel 01, this power converter can also be connected to different specifications of pins through the side socket 021, the composite socket panel 01 and the side socket 021 can be used simultaneously or separately, the specific type of side socket 021, which is American standard socket, British standard socket, Chinese standard socket, Australian standard socket, or European standard socket, can be selected according to the actual situation.

In order to realize that pins with different specifications can be connected to the side jack 021, the copper clip 083 of the side live wire (L) socket and the copper clip 093 of the side neutral wire (N) socket are respectively matched with any pin of American standard pin, British standard pin, European standard pin or Australian standard pin, which can be specifically selected and adjusted according to the actual setting situation of the side jack 021.

As shown in Figures 4 to 7, in order to make the conduction of this power converter more stable, the copper clip 083 of the side live wire (L) socket and the copper clip 081 of the live wire (L) socket are integrally formed or riveted and electrically connected, and the copper clip 093 of the side neutral wire (N) socket and the copper clip 091 of the neutral wire

(N) socket are integrally formed or riveted and electrically connected, the integrated structure has lower losses, higher conduction efficiency, and effectively ensures the conduction effect of this power converter.

For the specific way of inserting the pin to be converted into the power converter for pin conversion, as shown in Figure 1, the composite socket panel 01 includes a first jack 0101, a second jack 0102, a third jack 0103, a fourth jack 0104, a fifth jack 0105, a sixth jack 0106, a seventh jack 0107, An eighth jack 0108, a ninth jack 0109, a tenth jack 0110, an eleventh jack 0111 and a twelfth jack 0112, wherein the third jack 0103, the fourth jack 0104, the twelfth jack 0112 and the seventh jack 0107 are arranged in a straight line from front to back, and the third jack 0103 is located at the uppermost end, the fourth jack 0104 is formed at the upper end of the twelfth jack 0112, and both the first jack 0101 and the second jack 0102 are located at the left side of the twelfth jack 0112, the fifth jack 0105 and the sixth jack 0106 are located on the right side of the twelfth jack 0112, the eighth jack 0108 and the ninth jack 0109 are located on the left side of the seventh jack 0107, and the tenth jack 0110 and the eleventh jack 0111 are located on the right side of the seventh jack 0107; The second jack 0102, the fifth jack 0105 and the seventh jack 0107 are combined to form an American standard jack, the first jack 0101, the twelfth jack 0112 and the sixth jack 0106 are combined to form an Italian jack, and the third jack 0103, the eighth jack 0108 and the eleventh jack 0111 are combined to form the British jack, and the fourth jack 0104, the ninth jack 0109 and the tenth jack 0110 are combined to form the Chinese and Australian jack. The special jack rental structure on the composite socket panel 01, together with the British standard pin assembly 05, the American standard pin assembly 06 and the European standard pin assembly 07, can be suitable for the conversion between plugs and jacks in many countries, and greatly improve the application range of power converters.

For the specific structural settings of the pin components, as shown in Figure 3, there are three sets of pin components, namely a British standard pin component 05 set between the composite socket panel 01 and the housing 02 and electrically connected to the live wire (L)

conducting component 08 and the neutral wire (N) conducting component 09, an American standard pin component 06 set between the British standard pin components 05 and electrically connected to the live wire (L) conducting component 08 and the neutral wire (N) conducting component 09, and set in the composite socket panel diagram: A European standard pin assembly 07 is electrically connected between 01 and shell 02, and is respectively connected to the live wire (L) conducting component 08 and the neutral wire (N) conducting component 09.

As for the specific structural arrangement of the British standard pin assembly 05, as shown in Figure 10 to Figure 11, the British standard pin assembly 05 includes a British standard connector 051 arranged between the composite socket panel 01 and the housing 02, a British standard key piece 052 slidably connected to the British standard connector 051, a British standard ground pin 053 installed in the British standard connector 051 and extending downward, a gauge fire pin 054 arranged in the gauge connector 051 and extending downwards, a gauge fire movable guide 055 arranged at the top end of the gauge fire pin 054 and bent downwards, a gauge zero pin 056 arranged in the gauge connector 051 and extended downwards, and a gauge zero movable guide 057 arranged at the top end of the gauge zero pin 056 and bent downwards. When an external force is applied to the British standard key piece 052, the British standard key piece 052 drives the British standard connector 051 and the British standard ground pin 053 arranged on the British standard connector 051, the GB live wire pin 054, GB live wire movable guide 055, GB zero wire pin 056 and GB zero wire movable guide 057 move up and down synchronously. For other structures and use modes (control modes) of the British standard pin assembly 05, please refer to the invention patent with the patent number of 201920478501 .9, so they will not be described in detail in this embodiment.

As for the specific structural arrangement of the American gauge pin assembly 06, as shown in Figures 12 to 13, the American gauge pin assembly 06 includes an American gauge connector 061 arranged between the American gauge connectors 051, an American gauge key

piece 062 slidably connected to the American gauge connector 061, an American gauge ground pin 063 installed in the American gauge connector 061 and extending downward, an American gauge live wire pin 063 arranged in the American gauge connector 061 and extending downward, an American gauge live wire movable guide 064 arranged at the top end of the American gauge live wire pin 063 and bent downward, an American gauge zero wire pin 065 arranged in the American gauge connector 061 and extending downward, and an American gauge zero wire movable guide 066 arranged at the top end of the American gauge zero wire pin 065 and bent downward. When an external force is applied to the American gauge key piece 062, the American gauge key piece 062 drives the American gauge connector 061, the American gauge ground pin 063, the American gauge live wire pin 063, the American gauge live wire movable guide piece 064, the American gauge zero wire pin 065 and the American gauge zero wire movable guide piece 066 arranged on the American gauge connector 061 to move up and down synchronously. For other structures and use modes (control modes) of the American standard pin assembly 06, please refer to the invention patent with the patent number of 201920478501 .9, so it will not be described in detail in this embodiment.

As for the specific structural arrangement of the European standard pin assembly 07, as shown in Figures 8 to 9, the European standard pin assembly 07 includes an European standard insert sleeve 071 arranged between the composite socket panel 01 and the housing 02, an European standard connector 072 slidably arranged in the European standard pin insert sleeve, an European standard key piece 073 arranged on the European standard connector 072, An Eurocode live wire pin 074 arranged on the Eurocode connector 072, an Eurocode live wire movable guide 075 arranged at the top of the Eurocode live wire pin 074 and bent downward, an Eurocode zero wire pin 076 arranged on the Eurocode connector 072, and an Eurocode zero wire movable guide 077 arranged at the top of the Eurocode zero wire pin 076 and bent downward. When an external force is applied to the Eurocode key piece 073, the Eurocode key piece 073 drives the Eurocode insert sleeve 071, the Eurocode connector 072,

the Eurocode live wire pin 074, the Eurocode live wire movable guide piece 075, eurocode neutral pin 076 and Eurocode neutral movable guide 077 move up and down synchronously. The Eurocode neutral pin 076 and Eurocode live pin 074 are pushed out of the housing 02 along Eurocode insert 071 for power conversion, and their specific structures and usage modes are conventional technical means in the industry, so they will not be described in detail in this embodiment.

As for the specific structural arrangement of the copper clip 081 of the live wire (L) socket, as shown in Figures 4 to 13, the copper clip 081 of the live wire (L) socket includes an Italian live wire conduction clamping part 0812 matched with the sixth jack 0106, an American live wire conduction clamping part 0813 arranged on the inner side of the Italian conduction clamping part and matched with the fifth jack 0105, An English live wire conduction clamping part 0814 arranged at the lower end of the Italian live wire conduction clamping part 0813 and matched with the eleventh jack 0111, a medium or Australian live wire conduction clamping part 0815 obliquely arranged inside the English live wire conduction clamping part 0814 and matched with the tenth jack 0110, and the first fuse metal clip 0811 is arranged on the outward side of the Italian live wire conduction clamping part 0812, the copper clip 083 of the side live wire (L) socket is arranged between the first fuse metal clip 0811 and the Italian live wire conduction clamping part 0812 and extends and bends in the direction of the side through hole. The live wire pin of the Italian pin to be converted is correspondingly inserted into the sixth jack 0106 to contact and conduct with the Italian live wire conducting clamping part 0812. The live wire pin of the American standard pin to be converted is correspondingly inserted into the fifth jack 0105 to contact and conduct with the clamping part of the American standard live wire conducting clamping part 0813. The live wire pin of the British standard pin to be converted is correspondingly inserted into the eleventh jack 0111 to contact and conduct with the British standard live wire conducting clamping part 0814. The live wire pin of the medium gauge or Australian gauge pin to be converted is correspondingly inserted into the tenth jack 0110 to contact and conduct with the

live wire conducting clamping part 0815 of the medium gauge or Australian gauge.

As for the specific structural arrangement of the live wire (L) pin copper clip 082, as shown in Figures 4 to 13, the live wire (L) pin copper clip 082 includes a live wire pin conducting piece 0822 which is annularly arranged inside the housing 02 and correspondingly bends to avoid between the pin assembly and the conducting assembly, and an European pin live wire clamping part 0823 which is arranged on the live wire pin conducting piece 0822 and just below the European standard live wire movable guide piece 075, A gauge pin live wire clamping part 0824 arranged on the live wire pin conducting piece 0822 and just below the gauge live wire movable guide piece 055, and a gauge pin live wire clamping part 0825 arranged on the live wire pin conducting piece 0822 and just below the gauge live wire movable guide piece 064; The second fuse metal clip 0821 is arranged in the middle of the live pin conducting piece 0822 and bends and extends towards the fuse 041. When the European standard pin assembly 07 is pushed out of the power converter for use, the European standard live wire movable guide piece 075 is correspondingly embedded in the European standard pin live wire clamping part 0823, so that the live wire in the European standard pin assembly 07 is connected with the live wire of a multinational pin connected to the power converter and needing to be converted. When the British standard pin assembly 05 is pushed out of the power converter for use, the British standard live wire movable guide piece 055 is correspondingly embedded in the British standard pin live wire clamping part 0824, so that the live wire in the British standard pin assembly 05 is connected with the live wire of a multinational pin connected to the power converter and needing to be converted. When the American gauge pin assembly 06 is pushed out of the power converter for use, the American gauge live wire movable guide piece 064 is correspondingly embedded in the American gauge pin live wire clamping part 0825, so that the live wire in the American gauge pin assembly 06 is connected with the live wire of a multinational pin connected to the power converter and needing to be converted.

For the specific structural arrangement of the neutral (N) socket copper clip 091, as

shown in Figures 4 to 13, the neutral (N) socket copper clip 091 includes an Italian neutral conducting clamping part 0911 matched with the first jack 0101, an American neutral conducting clamping part 0912 arranged inside the Italian neutral conducting clamping part 0911 and matched with the second jack 0102, An English-gauge zero-line conduction clamping part 0913 arranged at the lower end of the Italian zero-line conduction clamping part 0911 and matched with the eighth jack 0108, a medium gauge or Australian gauge zero line conduction clamping part 0914 obliquely arranged inside the British gauge zero line conduction clamping part 0913 and matched with the ninth jack 0109, and the side zero line (N) socket copper clamp 093 is arranged at the lower end of the Italian zero line conduction clamping part 0911 and extends towards the side jack 021. The neutral pin in the Italian pin to be converted is correspondingly inserted into the first jack 0101 to contact and conduct with the Italian neutral conducting clamping part 0911. The zero pin of the American gauge pins to be converted is correspondingly inserted into the second jack 0102 to contact and conduct with the American gauge zero conducting clamping part 0912. The zero pin among the British standard pins to be converted is correspondingly inserted into the eighth jack 0108 to contact and conduct with the British standard zero conducting clamping part 0913. The neutral pin of the middle gauge or Australian gauge pin to be converted is correspondingly inserted into the ninth jack 0109 to contact and conduct with the neutral conducting clamping part 0914 of the middle gauge or Australian gauge.

As for the specific structural arrangement of the neutral (N) pin copper clip 092, as shown in Figures 4 to 13, a neutral pin conducting piece 0921 which is annularly arranged inside the shell 02 and bends to avoid the pin assembly and conduction, a neutral connecting piece 0922 which is arranged in the middle of the neutral pin conducting piece 0921 and extends upward to be clamped and conducted by the neutral (N) socket copper clip 091, An European gauge pin zero line clamping part 0923 arranged on the zero line pin conducting piece 0921 and directly below the European gauge zero line movable guide piece 077, an American gauge pin zero line clamping part 0924 arranged on the zero line pin conducting

piece 0921 and directly below the American gauge zero line movable guide piece 066, and an English gauge pin zero line clamping part 0925 arranged on the zero line pin conducting piece 0921 and directly below the British gauge zero line movable guide piece 057. When the European gauge pin assembly 07 is pushed out of the power converter for use, the European gauge zero line movable guide piece 077 is correspondingly embedded in the European gauge pin zero line clamping part 0923, so that the zero line in the European gauge pin assembly 07 is connected with the zero line of a multinational pin connected to the power converter to be converted. When the British standard pin assembly 05 is pushed out of the power converter for use, the British standard zero line movable guide piece 057 is correspondingly embedded in the British standard pin zero line clamping part 0925, so that the zero line in the British standard pin assembly 05 is connected with the zero line of the multinational pin connected to the power converter to be converted. When the American gauge pin assembly 06 is pushed out of the power converter for use, the American gauge zero line movable guide piece 066 is correspondingly embedded in the American gauge pin zero line clamping part 0924, so that the zero line in the American gauge pin assembly 06 is connected with the zero line of the multinational pin connected to the power converter to be converted.

In order to prevent safety problems caused by single insertion of the side jack 021, as shown in Figures 14 to 18, a second protective door assembly 10 is arranged in the side jack 021, and the second protective door assembly 10 comprises an electric shock protection door 101, a protective door fixing piece 102 and a spring piece 103, and the electric shock protection door 101 is embedded in the protective door fixing piece 102, The protection door fixing piece 102 is arranged between the copper clip 083 of the side live wire (L) socket and the copper clip 093 of the side neutral wire (N) socket, at least two groups of pin through holes 1021 and fixing piece spring clips 1022 matched with the side jack 021 are arranged on the protection door 102, and the protection door spring clips 1011 are arranged on the protection door 101; One end of the spring piece 103 is sleeved on the protection door spring

post 1011, and the other end is sleeved in the fixing piece spring holder 1022 to fix the spring piece 103; The electric shock protection door 101 has a mouth shape as a whole. When no external pin is inserted into the side jack 021, the upper frame of the electric shock protection door 101 shields the copper clip 083 of the side live wire (L) socket and the corresponding side jack 021, and the lower frame shields the copper clip 093 of the side neutral wire (N) socket and the corresponding side jack 021, thus preventing a single plug or sharp object from being inserted alone, and further preventing children from playing with it. When the external pins are correspondingly inserted into the side jack 021, one of the external pins is inserted into the side neutral jack 0212 at the lower end, and then the lower end of the electric shock protection door 101 is pushed upward, and the neutral pin in the external pin is inserted into the side neutral (N) socket copper clip 093 through the pin through hole 1021 at the lower end of the protection door fixing piece 102, so as to realize the conduction of the neutral wire. At the same time, the spring piece 103 is forced to be compressed and deformed. The upper end of the electric shock protection door 101 leaks out of the pin through hole 1021 at the upper end of the protection door fixing piece 102, and the live wire pin in the external pin is inserted into the side live wire socket 0211, and then inserted into the side live wire (L) socket copper clip 083 through the pin through hole 1021 at the upper end of the protection door fixing piece 102, thus realizing the conduction of the zero wire. When no external pin is inserted, the electric shock protection door 101 moves downward under the elastic restoring force of the spring member 103, and its upper frame shields the copper clip 083 of the side live wire (L) socket and the corresponding side jack 021, and its lower frame shields the copper clip 093 of the side neutral wire (N) socket and the corresponding side jack 021, thus preventing a single plug or sharp object from being inserted alone, and further preventing the electric shock phenomenon caused by children playing with the power converter. Preferably, the protective door fixing piece 102 is made of insulating material, thus effectively isolating the copper clip 083 of the side live wire (L) socket from the copper clip 093 of the side neutral wire (N) socket, preventing short circuit and further improving safety.

In order for the external pins to push the electric shock protection door 101 away and conduct with the conducting components, as shown in Figures 14 to 18, a guide inclined plane 1012 extending obliquely from the top to the bottom is respectively arranged on the upper frame and the lower frame of the electric shock protection door 101, and when the external pins are inserted into the side insertion holes 021, the external pins first contact with the guide inclined plane 1012. Under the inclined guiding action of the guiding inclined surface 1012, the external pin slides towards the pin through hole 1021, and the electric shock protection door 101 is pushed upward, so as to be inserted into the pin through hole 1021 to conduct conduction with the conduction assembly respectively, thereby improving the efficiency and accuracy of side conduction and further improving the practicability of the power converter.

In order to further prevent the safety problem caused by the single insertion of the side jack 021, as shown in Figure 18, both side walls of the electric shock protection door 101 are diamond-shaped with high middle and low upper and lower ends, and are in a seesaw structure, so that the electric shock protection door 101 can slide up and down and swing left and right in the protection door fixing piece 102. One end of the upper frame of the electric shock protection door 101 facing the live wire (L) conducting assembly 08 is formed with a first anti-single-insertion block 1013 matched with the side live wire socket 0211, and the other end of the lower frame of the electric shock protection door 101 facing the zero wire (N) conducting assembly 09 is formed with a second anti-single-insertion block 1014 matched with the side neutral wire socket 0212. When the side live wire socket 0211 is inserted separately, The upper frame of the electric shock protection door 101 tilts towards one end of the live wire (L) conducting assembly 08, so that the first anti-single-insertion block 1013 is clamped into the pin through hole 1021 at the upper end of the protection door fixing piece 102. At this time, the electric shock protection door 101 cannot be moved, so that external objects cannot be inserted for conducting. When the side neutral line jack 0212 is inserted alone, The lower frame of the electric shock protection door 101 tilts towards one end of the

neutral line (N) conducting assembly 09, so that the second anti-single-insertion block 1014 is clamped into the pin through hole 1021 at the lower end of the protection door fixing piece 102. At this time, the electric shock protection door 101 cannot be moved, so that external objects can not be continuously inserted for conducting, and the two cooperate to further prevent the safety problem caused by single insertion of the side jack 021, and further prevent the occurrence of children playing with the power converter.

For the specific installation method of the pin and side neutral wire (N) socket copper clip 093 and side live wire (L) socket copper clip 083 in the protective door fixing part 102, as shown in Figures 14 to 16 and Figures 19 to 20, the protective door fixing part 102 extends towards one end of the neutral wire (N) conducting component 09 with a first insulation bracket 1023. The first insulation bracket 1023 is provided with a side neutral wire insertion slot 10231 for the side neutral wire (N) socket copper clip 093 to be inserted, and the side live wire (L) socket copper clip 083 is set at the top of the first insulation bracket 1023. The side neutral wire (N) socket copper clip 093 is correspondingly inserted into the side neutral wire insertion slot 10231, thereby achieving the fixation of the side neutral wire (N) socket copper clip 093 and preventing the problem of abnormal conduction caused by the displacement of the side neutral wire (N) socket copper clip 093 when external pins are inserted. In addition, the side neutral wire insertion slot 10231 isolates the side neutral wire (N) socket copper clip 093 from the side live wire (L) socket copper clip 083, effectively preventing short circuits caused by contact and conduction between the side neutral wire (N) socket copper clip 093 and the side live wire (L) socket copper clip 083. The issue further enhances security.

In order to prevent the copper clip 081 of the live wire (L) socket from shifting, as shown in Figure 19 to 20, the protection door fixing piece 102 further includes a second insulating bracket 1024 formed at the side of the first insulating bracket 1023 and bent and extended in the direction of the copper clip 081 of the live wire (L) socket, and an insulating baffle 10241 is protruded in the middle of the second insulating bracket 1024, the copper clip 081 of the live wire (L) socket is placed on the insulating baffle 10241, Specifically, the

insulating baffle 10241 is located between the British live wire conduction clamping part 0814 and the Italian live wire conduction clamping part 0812, so as to fix the middle part of the live wire (L) socket copper clip 081, prevent the live wire (L) socket copper clip 081 from shifting, effectively prevent the short circuit between the live wire (L) socket copper clips 081, and improve the safety.

The first insulating bracket 1023 and the second insulating bracket 1024 can be integrally molded by injection molding, or can be separately arranged, which can be arranged according to the actual situation, so there is no specific limitation in this embodiment.

As for the specific structural arrangement of the fuse assembly 04, as shown in Figure 1 to 27, the fuse assembly 04 is configured to include a fuse 041. Preferably, the fuse 041 can be a fuse tube, a fuse or a fuse, or other structures that can protect the circuit, which can be set according to the actual situation.

For the specific connection method between the fuse component 04 and the power converter, as shown in Figures 4 to 6, the live wire (L) socket copper clip 081 is provided with a first fuse metal clip 0811 extending downward, and the live wire (L) pin copper clip 082 is provided with a second fuse metal clip 0821. The two ends of the fuse 041 are respectively placed in the first fuse metal clip 0811 and the second fuse metal clip 0821 and electrically connected, so that the live wire (L) conducting component 08 and the fuse 041 achieve stable conduction, effectively protecting the circuit of the power converter and preventing circuit overload.

In order to further improve the safety of the power converter, as shown in Figure 4 to 6, the fuse assembly 04 further includes a fuse holder 042 arranged between the first fuse metal clip 0811 and the second fuse metal clip 0821, and the fuse holder 041 is nested in the fuse holder 042, and the fuse holder 042 is made of insulating material, so as to realize conduction safety, prevent leakage and electric shock, and improve the safety of the power converter.

The fuse assembly 04 can also be arranged on the neutral (N) conducting assembly 09, as shown in Figure 23 to 24. Specifically, the neutral (N) socket copper clip 091 is provided

with a third fuse metal clip 0915, and the neutral (N) pin copper clip 092 is provided with a fourth fuse metal clip 0926. Both ends of the fuse 041 are respectively arranged in the third fuse metal clip 0915 and the fourth fuse metal clip 0926 and are electrically connected, so that the zero (N) conducting assembly 09 and the fuse 041 can be stably conducted, and the circuit of the power converter can be effectively protected to prevent the circuit from being overloaded.

Correspondingly, as shown in Figure 23 to Figure 24, the fuse holder 042 is arranged between the third fuse metal clip 0915 and the fourth fuse metal clip 0926. By embedding the fuse 041 in the fuse holder 042, the fuse holder 042 is made of insulating material, so as to realize the safety of conduction, prevent electric leakage and improve the safety of the power converter.

Preferably, in order to further secure the fuse component 04, as shown in Figures 21 to 22, the power converter further comprises a fuse component fixing sleeve 043, wherein the fuse component 04 is placed inside the fuse component fixing sleeve 043, and at least one embedded through slot 0431 is provided on the fuse component fixing sleeve 043, the fuse component fixing bracket 042 is embedded in the embedded through slot 0431, and the fuse component 041 is embedded in the fuse component fixing bracket 042, thereby achieving further fixation of the fuse component 04, preventing the problem of displacement of the fuse component 041, and isolating the fuse component 041 from other components to prevent short circuits, further improving the safety of the power converter.

As for the specific way that the live wire (L) conducting assembly 08 is electrically connected with the fuse element 041 through the fuse element fixing sleeve 043, as shown in Figure 21 to Figure 22, the upper and lower ends of the fuse element fixing sleeve 043 are both open, and the first fuse element metal clip 0811 extends into the fuse element fixing sleeve 043 from the upper opening to clamp and electrically connect the fuse element 041. The second fuse metal clip 0821 extends into the fuse assembly fixing sleeve 043 from the lower end opening to clamp and electrically connect the fuse 041, so that the fuse 041 can be

isolated from other components, and the normal conduction between the fuse (L) conducting assembly 08 and the fuse 041 can be realized, and the positions of the first fuse metal clip 0811 and the second fuse metal clip 0821 are correspondingly limited, so that the conduction is more stable and the conduction efficiency is improved.

For the specific way in which the neutral wire (N) conducting component 09 is electrically connected to the fuse component 041 through the fuse component fixing sleeve 043, as shown in Figures 23 to 24, the upper and lower ends of the fuse component fixing sleeve 043 are both open, the third fuse component metal clip 0915 extends into the fuse component fixing sleeve 043 from the upper opening to clamp and electrically connect the fuse component 041, and the fourth fuse component metal clip 0926 extends into the fuse component fixing sleeve 043 from the lower opening to clamp and electrically connect the fuse component 041, therefore, while isolating the fuse component 041 from other components, it is possible to achieve the neutral wire (N) conducting component 09 and the fuse component 041, the normal conduction of 1 is regulated, and the positions of the third and fourth metal clips 0915 and 0926 are correspondingly restricted, thereby making the conduction more stable and improving the conduction efficiency.

In order to reduce the cost and improve the conduction efficiency, the power converter may not use the fuse holder 042.

As shown in Figure 28 to Figure 30, when the fuse assembly 04 is set on the live wire, for the specific way that the live wire (L) conducting assembly 08 is directly connected to the fuse element 041, the upper end of the fuse assembly fixing sleeve 043 is open for the fuse element 041 to be placed, and the lower end of the embedding through groove 0431 is provided with a first live wire safety limiting groove 0434 for the first fuse element metal clip 0811 to be placed, and a second fuse safety limiting groove 0435 for placing the second fuse metal clip 0821 and the zero connecting piece 0922. By placing the first fuse metal clip 0811 in the first fuse safety limiting groove 0434, the first fuse metal clip 0811 is limited to ensure that the first fuse metal clip 0811 clamps and conducts the fuse 041. By placing the second

fuse metal clip 0821 and the live wire connecting piece 0822 into the second live wire safety limiting groove 0435, the second fuse metal clip 0821 and the live wire connecting piece 0822 are limited to ensure that the second fuse metal clip 0821 clamps and conducts the fuse 041.

As shown in Figure 25 to Figure 27, when the fuse assembly 04 is set on the zero line (N), the upper end of the fuse assembly fixing sleeve 043 is open for the fuse assembly 041 to be inserted, and the lower end of the embedding through groove 0431 is provided with a third zero line safety limiting groove 0432 for the third fuse metal clip 0915 to be inserted, and a fourth zero-line safety limiting groove 0433 for the fourth fuse metal clip 0926 and the zero-line connecting piece 0922 to be placed. By placing the third fuse metal clip 0915 in the third zero-line safety limiting groove 0432, the third fuse metal clip 0915 is limited to ensure that the third fuse metal clip 0915 clamps and conducts the fuse 041. By placing the fourth fuse metal clip 0926 and the zero line connecting piece 0922 into the fourth zero line safety limiting groove 0433, the fourth fuse metal clip 0926 and the zero line connecting piece 0922 are limited, and the fourth fuse metal clip 0926 is ensured to clamp and conduct the fuse 041.

In order to further save the space in the power converter and improve the space utilization ratio, as shown in Figure 21, the fuse assembly fixing sleeve 043 can be correspondingly provided with an avoidance groove to give way to the protection door fixing piece 102, thus effectively saving the space in the power converter, making the structure in the power converter more compact, with high space utilization ratio and less mention.

The fuse assembly fixing sleeve 043 can be integrally formed with other brackets in the power converter, or it can be set separately, which can be set according to the actual situation, so it is not specifically limited in this embodiment.

What needs to be explained here is that the power converter with the side socket disclosed by the invention is an improvement on the specific structure, but it is not an innovation of the invention for the specific control mode. The safety parts, British live wire pins, British ground wire pins, British zero wire pins, American live wire pins, American zero

wire pins, springs and other parts involved in the invention can be common standard parts or parts known to those skilled in the art, and their structures, principles and control methods are known to those skilled in the art through technical manuals or conventional experimental methods.

The above is only a preferred embodiment of the present invention, and does not limit the technical scope of the present invention, so other structures obtained by adopting the same or similar technical features as the above embodiment of the present invention are within the protection scope of the present invention.

Claims

1.A power converter with a side socket is characterized in that: Comprises a composite socket panel, a shell, a first protective door component, a fuse component, at least two sets of pin components and a conducting component, wherein the conducting component at least comprises a live wire (L) conducting component and a zero wire (N) conducting component; The live wire (L) conducting component comprises a live wire (L) socket copper clip and a live wire (L) pin copper clip; the neutral wire (N) conducting component comprises a neutral wire (N) socket copper clip and a neutral wire (N) pin copper clip; the side of the shell is provided with at least one group of side jacks, which at least comprise a side live wire jack and a side zero wire jack; The hot wire (L) socket copper clip is provided with a side hot wire (L) socket copper clip matched with the side hot wire jack, and the neutral wire (N) socket copper clip is provided with a side neutral wire (N) socket copper clip matched with the side neutral wire jack; The side live wire (L) socket copper clip is extended to the side by the live wire (L) socket copper clip, and the side neutral wire (N) socket copper clip is extended to the side by the neutral wire (N) socket copper clip; The side jack is any one or a combination of American standard jack, British standard jack, medium standard jack, Australian standard jack or European standard jack; The fuse assembly is arranged on the live wire (L) conducting assembly or the neutral wire (N) conducting assembly.

2.The power converter with a side socket according to claim 1 is characterized in that: The copper clip of the side live wire (L) socket and the copper clip of the side neutral wire (N) socket are respectively matched with any pin of American gauge pin or British gauge pin or European gauge pin or Australian gauge pin.

3.The power converter with a side socket according to claim 1 is characterized in that: The composite socket panel is provided with any combination of British standard jack, American standard jack, Chinese standard/Australian standard jack and European standard jack.

4.The power converter with a side socket according to claim 1 is characterized in that: The pin assembly comprises any combination of British standard pin assembly, American standard pin assembly, European standard pin assembly, Chinese standard pin assembly or Australian standard pin assembly; The pin assemblies are respectively provided with a sliding seat which is provided with an operation key and at least two conductive pins and can move in the axial direction; The conductive pins extend out or retract into the shell.

5.The power converter with a side socket according to claim 1 is characterized in that: The side socket is equipped with a second protective door component, which includes an anti electric shock protective door, a protective door fixing piece, and a spring piece, the anti electric shock protective door is embedded in the protective door fixing piece, and the protective door fixing piece is provided with at least two sets of pin through holes that match the side socket, as well as a fixing piece spring socket that matches the spring piece, the anti electric shock protective door is equipped with a protective door spring clamp post; One end of that spr piece is sleeved on the spr clamping post of the protection door, and the other end is sleeved in the spring clam seat of the fixing piece to fix the spring piece; The electric shock protection door is in the shape of a mouth as a whole, the upper frame thereof shields the copper clip of the side live wire (L) socket and the corresponding side jack, and the lower frame thereof shields the copper clip of the side neutral wire (N) socket and the corresponding side jack.

6.The power converter with a side socket according to claim 5, wherein: The upper frame and the lower frame are respectively and correspondingly provided with a guide inclined plane extending obliquely from the upper side to the lower side.

7.The power converter with a side socket according to claim 5, wherein: One end of the upper frame of the electric shock protection door facing the live wire (L) conducting component is formed with a first anti-single-insertion block matched with the side live wire socket, and one end of the lower frame of the electric shock protection door facing the zero wire (N) conducting component is formed with a second anti-single-insertion block matched

with the side neutral wire socket.

8.The power converter with a side socket according to claim 5, wherein: The two side walls of the electric shock protection door are both rhombic in shape with high middle and low upper and lower ends.

9.The power converter with a side socket according to claim 5, wherein: A first insulating bracket extends from one end of the protection door fixing piece towards the zero line (N) conducting component, and a side neutral line placing groove for placing the side neutral line (N) socket copper clip is arranged on the first insulating bracket, and the side live line (L) socket copper clip is arranged at the top end of the first insulating bracket.

10.The power converter with a side socket according to claim 9, wherein: The protection door fixing piece also comprises a second insulating bracket formed at the side of the first insulating bracket and bent and extended in the direction of the copper clip of the live wire (L) socket, and an insulating baffle is convexly arranged in the middle of the second insulating bracket, and the copper clip of the live wire (L) socket is placed on the insulating baffle.

11.The power converter with a side socket according to claim 1 is characterized in that: The fuse assembly comprises a fuse, and the fuse is a fuse tube or fuse or fuse.

12.The power converter with a side socket according to claim 11, wherein: The fuse (L) socket copper clip is provided with a first fuse metal clip, the fuse (L) pin copper clip is provided with a second fuse metal clip, and both ends of the fuse are respectively placed in the first fuse metal clip and the second fuse metal clip and are electrically connected.

13.The power converter with a side socket according to claim 11, wherein: The neutral (N) socket copper clip is provided with a third fuse metal clip, the neutral (N) pin copper clip is provided with a fourth fuse metal clip, and both ends of the fuse are respectively provided with the third fuse metal clip and the fourth fuse metal clip and are electrically connected.

14.The power converter with a side socket according to claim 12, wherein: The fuse assembly also comprises a fuse fixing frame, wherein the fuse is nested on the fuse fixing frame, and the fuse fixing frame is arranged between the first fuse metal clip and the second

fuse metal clip.

15.The power converter with a side socket according to claim 13, wherein: The fuse assembly also comprises a fuse fixing frame, wherein the fuse is nested on the fuse fixing frame, and the fuse fixing frame is arranged between the third fuse metal clip and the fourth fuse metal clip.

16.The power converter with a side socket according to any one of claims 14 to 15 is characterized in that: The power converter with the side socket further comprises a fuse assembly fixing sleeve, wherein the fuse assembly is arranged in the fuse assembly fixing sleeve, and at least one embedded through slot is formed in the fuse assembly fixing sleeve, and the safety piece fixing frame is inserted into the embedded through slot along the embedded through slot.