

ELECTRICAL OUTLET

TECHNICAL FIELD

The invention relates to the field of electrical outlet.

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BACKGROUND

Electrical outlet connects electric equipment to a power supply, such as for instance alternating current (AC) power supply, in buildings. In a particular form, the invention relates to an electrical outlet providing an interface for charging Universal Serial Bus (USB) compatible devices.

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In certain countries like Singapore, an insulation resistance test between the neutral line and the live line of the electrical outlets is required after the installation of all the electrical appliances. This means for example that after having installed for instance an electrical outlet, the electrician will first apply a voltage of value around 500V between the live line and the neutral line. Then the electrician will check with an ohmmeter the resistance between said lines. To pass the test, there must be no electrical link between said lines.

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However, if the electrical outlet comprises some additional electronic modules, such as a Universal Serial Bus (USB) module, which are connected between said live line wire and neutral line, this additional electronic module will also be exposed to this test.

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It is well known that those Universal Serial Bus (USB) modules are very sensitive to voltage. Therefore, this test may destroy the Universal Serial Bus (USB) module of the electrical outlet.

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Currently and to avoid destroying the additional electronic modules, this test is performed by disconnecting the power supply of the electrical outlet equipped with all electronic features of the modules assembled or when all electronic features of the modules are disassembled. This implies that the electrical outlet equipped with electronic module needs electrically disconnection or that its electronic modules needs to be disassembled. Thus, the electrician spends extra time to disconnect said electrical outlet before performing the insulation test and then to reconnect the electrical outlet or to

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disassemble and then reassemble all additional electronic modules. He also has to know the features of all electrical outlets he is installing.

SUMMARY

5 This invention has as its object to remedy to these drawbacks by providing an electrical outlet which avoids exposing an additional electronic module of the electrical outlet during insulation resistance test.

For this purpose, the present invention has as its object an electrical outlet comprising:

- 10 - at least one socket module,
- at least one live line suitable for being connected to a power supply via a live pole and,
- at least one neutral line suitable for being connected to said power supply via a neutral pole,
- 15 - at least one additional electronic module such as a USB socket module comprising at least one USB port,

 said at least one socket module comprising at least a live electrical connector electrically connected to said live line and a neutral electrical connector electrically connected to said neutral line, said live and neutral
20 electrical connectors being suitable for being electrically connected to an electrical load such as an electrical plug,

 said additional electronic module being electrically connected in parallel to said socket module between said live line and said neutral line,

 said electrical outlet being characterized in that it comprises at least one
25 first switch connected in series to said additional electronic module arranged so as to electrically connect or disconnect said additional electronic module and said socket module from each other respectively when deactivating or activating said first switch.

30 BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be better understood using the description below, which relates to at least one preferred embodiment, given by way of non-limiting examples and explained with reference to the accompanying drawings, in which

5 - figure 1 shows a back view in perspective of the electrical outlet according to a first alternative of a first embodiment,

 - figure 2A shows a front view in perspective of the electrical outlet according to the first alternative with an actuating mechanism of a first switch in its relaxed state,

10 - figure 2B shows a sectional view in perspective showing the actuating mechanism of the first switch in its relaxed state according to figure 2A,

 - figure 3A shows a front view in perspective of the electrical outlet according to the first alternative with the actuating mechanism of the first switch in its actuated state which is actuated by a cover element,

15 - figure 3B shows a sectional view in perspective showing the actuating mechanism of the first switch in its actuated state which is actuated by the cover element according to figure 3A,

 - figure 4 shows a back view in perspective of the electrical outlet according to a first specificity of a second possibility of a second alternative of
20 the first embodiment,

 - figure 5A shows a front view in perspective of the electrical outlet according to the first specificity of the second possibility of the second alternative with an actuating mechanism of a first switch in its relaxed state,

 - figure 5B shows a sectional view in perspective showing the actuating
25 mechanism of the first switch in its relaxed state according to figure 5A,

 - figure 6A shows a front view in perspective of the electrical outlet according to the first specificity of the second possibility of the second alternative with the actuating mechanism of the first switch in its actuated state which is actuated by a protrusion of a cover plate,

- figure 6B shows a sectional view in perspective showing the actuating mechanism of the first switch in its actuated state which is actuated by the protrusion of the cover plate according to figure 6A,

5 - figure 6C shows a back view in perspective of the cover plate according to figure 6A,

- figure 7 shows a back view in perspective of the electrical outlet according to a second specificity of a second possibility of a second preferred alternative of the first embodiment,

10 - figure 8A shows a front view in perspective of the electrical outlet according to the second specificity of the second possibility of the second alternative with an actuating mechanism of a first switch in its relaxed state,

- figure 8B shows a sectional view in perspective showing the actuating mechanism of the first switch in its relaxed state according to figure 8A,

15 - figure 9A shows a front view in perspective of the electrical outlet according to the second specificity of the second possibility of the second preferred alternative with the actuating mechanism of the first switch in its actuated state which is actuated by a protrusion of a cover plate,

20 - figure 9B shows a sectional view in perspective showing the actuating mechanism of the first switch in its actuated state which is actuated by the protrusion of the cover plate according to figure 9A,

- figure 9C shows a back view in perspective of the cover plate according to figure 9A,

- figure 10 shows a back view in perspective of the electrical outlet according to a first alternative of a second embodiment,

25 - figure 11A shows a front view in perspective of the electrical outlet according to the first alternative with an actuating mechanism of a first switch in its relaxed state,

- figure 11B shows a sectional view in perspective showing the actuating mechanism of the first switch in its relaxed state according to figure 11A,

- figure 12A shows a front view in perspective of the electrical outlet according to the first alternative with the actuating mechanism of the first switch in its actuated state which is actuated by a cover element,

5 - figure 12B shows a sectional view in perspective showing the actuating mechanism of the first switch in its actuated state which is actuated by the cover element according to figure 12A,

- figure 13 shows a back view in perspective of the electrical outlet according to a first specificity of a second possibility of a second alternative of the second embodiment,

10 - figure 14A shows a front view in perspective of the electrical outlet according to the first specificity of the second possibility of the second alternative with an actuating mechanism of a first switch in its relaxed state,

15 - figure 14B shows a sectional view in perspective showing the actuating mechanism of the first switch in its relaxed state according to figure 14A,

- figure 15A shows a front view in perspective of the electrical outlet according to the first specificity of the second possibility of the second alternative with the actuating mechanism of the first switch actuated by a protrusion of a cover plate in its actuated state,

20 - figure 15B shows a sectional view in perspective of the actuating mechanism of the first switch in its actuated state actuated by the protrusion of the cover plate according to figure 15A,

- figure 15C shows a back view in perspective of the cover plate according to figure 15A,

25 - figure 16 shows a back view in perspective of the electrical outlet according to a second specificity of a second possibility of a second preferred alternative of the second embodiment,

30 - figure 17A shows a front view in perspective of the electrical outlet according to the second specificity of the second possibility of the second alternative with an actuating mechanism of a first switch in its relaxed state,

- figure 17B shows a sectional view in perspective showing the actuating mechanism of the first switch in its relaxed state according to figure 17A,

5 - figure 18A shows a front view in perspective of the electrical outlet according to the specificity of the second possibility of the second preferred alternative with the actuating mechanism of the first switch actuated by a protrusion of a cover plate in its actuated state,

10 - figure 18B shows a sectional view in perspective showing the actuating mechanism of the first switch in its actuated state actuated by the protrusion of the cover plate according to figure 18A,

- figure 18C shows a back view in perspective of the cover plate according to figure 18A,

- figures 19 shows a perspective view of the first switch consisting in a micro switch,

15 - figures 20 shows a perspective view of the cover element,

- figure 21 shows a perspective view of a holder of the first switch,

- figure 22 shows a schematic circuit diagram of the invention showing the pair of contacts of the first switch in the open state OFF,

20 - figure 23 shows a schematic circuit diagram of the invention showing the pair of contacts of the first switch in the close state ON.

DETAILED DESCRIPTION

An electrical outlet comprises:

25 - at least one socket module 1, 1',
- at least one live line 2 suitable for being connected to a power supply via a live pole L and,

- at least one neutral line 3 suitable for being connected to said power supply via a neutral pole N,

30 - at least one additional electronic module such as a USB socket module 4 comprising at least one USB port 5,

said at least one socket module 1, 1' comprising at least a live electrical connector 6, 6' electrically connected to said live line 2 and a neutral electrical connector 7, 7' electrically connected to said neutral line 3, said live and neutral electrical connectors 6, 6', 7, 7' being suitable for being electrically
5 connected to an electrical load such as an electrical plug,

said additional electronic module being electrically connected in parallel to said socket module 1 between said live line 2 and said neutral line 3.

According to this invention, said electrical outlet being characterized in that it comprises at least one first switch 8 connected in series to said
10 additional electronic module arranged so as to electrically connect or disconnect said additional electronic module and said socket module 1 from each other respectively when deactivating or activating said first switch 8.

Thus, it is possible to electrically disconnect said additional electronic module from said socket module 1 by activating said first switch 8. Then an
15 insulation resistance test might be performed by applying a voltage of value around 500V between the live electrical connector 6 and the neutral electrical connector 7 of the socket module 1 without destroying said additional electronic module. In fact in this configuration, said additional electronic module is not supplied during the insulation resistance test. Then it is possible
20 to electrically connect again said additional electronic module and said socket module 1 from each other by deactivating said first switch 8. Thus, in this configuration, said additional electronic module might be supplied by the power supply. Said insulation resistance test should not be performed in this last case.

25 The electrical outlet may be connected to the power supply in connecting the live pole L to a live wire of the power supply (not shown) and the neutral pole L to a live wire of the power supply (not shown).

The live and neutral electrical connectors 6, 6', 7, 7' are preferably female connectors. These female connectors are provided to connect with
30 corresponding prongs (not shown) of corresponding electrical plug (not shown) of an equipment so as to deliver alternating current to this equipment.

According to a first preferred embodiment of the invention (figures 1 to

9C), said at least one socket module consists in a first socket module 1.

According to a second preferred embodiment of the invention (figures 10 to 18C), said at least one socket module 1, 1' consists in a first socket module 1 and a second socket module 1',

5 said first socket module 1 comprising at least a first live electrical connector 6 electrically connected to said live line 2 and a second neutral electrical connector 7 electrically connected to said neutral line 3,

 said second socket module 1' comprising at least a second live electrical connector 6' electrically connected to said live line 2 and a second
10 neutral electrical connector 7' electrically connected to said neutral line 3,

 said additional electronic module being electrically connected in parallel to said first socket module 1 between said live line 2 and said neutral line 3,

 said additional electronic module being electrically connected in parallel to said first socket module 1 between said live line 2 and said neutral line 3,

15 said first switch 8 being connected in series to said additional electronic module arranged so as to electrically connect or disconnect said additional electronic module and said first socket module 1 from each other respectively when deactivating or activating said first switch 8.

 Preferably, said first switch 8 comprises at least a pair of contacts 9,
20 being in contact in a close state ON, and being separated in an open state OFF, and an actuating mechanism 10 arranged so as to switch said pair of contacts 9 between said close state ON and said open state OFF.

 In the close state ON, the first switch 8 is said deactivated. In the open state OFF, the first switch 8 is said activated. More particularly, in the close
25 state ON said additional electronic module and said first socket module 1 are connected from each other and in the open state OFF said additional electronic module and said first socket module 1 are disconnected from each other.

 Preferably, said pair of contacts 9 being normally open, so that said pair of contacts 9 are in said open state OFF, when said actuating mechanism 10 is
30 not actuated in a relaxed state to electrically disconnect additional electronic module and said socket module 1 from each other (figures 2B, 5B, 8B, 11B,

14B and 17B) and so that said pair of contacts 9 are in said closed state ON, when said actuating mechanism 10 is actuated in an actuated state to electrically connect said USB socket module 4 and said socket module 1 from each other (figures 3B, 6B, 9B, 12B, 15B and 18B).

5 Thus, when said actuating mechanism 10 is not actuated in a relaxed state said first switch 8 is activated. Thus, when said actuating mechanism 10 is actuated in an actuated state said first switch 8 is deactivated.

 Preferably, the electrical outlet comprises a mounting plate 11 comprising at least a first aperture 12 giving access to said live electrical
10 connector 6, 6', a second aperture 13 giving access to said neutral electrical connector 7, 7' and a third aperture 14 giving access to said USB port 5, and a fourth aperture 15 giving access to said actuating mechanism 10 of said first switch 8.

 According to a first alternative of said first and second embodiment
15 (figures 1 to 3B and 10 to 12B), the electrical outlet comprises a cover element 16 suitable for only covering said fourth aperture 15, said cover element 16 being arranged so as to actuate said actuating mechanism 10 in said actuated state, when said mounting plate 11 and said cover element 16 are assembled by first assembly means, and so as not to actuate said actuating mechanism
20 10 in said relaxed state, when said first assembly means are disassembled.

 The figures 2A to 3B show the electrical outlet without cover plate 18. However, the electrical outlet may comprise a cover plate 18 suitable for covering said fourth aperture 15 and at least partially said mounting plate 11. In this case, the cover plate 18 does not act on the actuating mechanism 10 of
25 the first switch 8.

 According to figures 2A, 2B, 11A, 11B and 22, as the cover element 16 does not act on the actuating mechanism 10, the pair of contacts 9 of the first switch 8 is in open state OFF, which means that the additional electronic module is electrically disconnected from the live line 2 or the neutral line 3.
30 Thus the electrician may provide an insulation resistance test between the live electrical connector 6 and the neutral electrical connector 7 of the socket module 1 without destroying the additional electronic module. When the

additional electronic module is a USB socket module 4, the at least one USB port 5 may not deliver direct current DC. According to figures 3A, 3B, 12A, 12B and 23, as the cover element 16 acts on the actuating mechanism 10, the pair of contacts 9 of the first switch 8 is in closed state ON, which means that the additional electronic module is electrically connected from the live line 2 or the neutral line 3. Thus the additional electronic module may be supplied by the power supply. When the additional electronic module is a USB socket module 4, the at least one USB port 5 may deliver direct current DC. Advantageously, in this case, the electrician only has to assemble the cover element 16 and the mounting plate 11 to connect the additional electronic module and the socket module 1 from each other. In this case, the electrician has to remove the cover plate 18 from the mounting plate 11 and then to at least partially disassemble the cover element 16 from the mounting plate 11 so that the cover element 16 does not actuate said actuating mechanism 10 so as to disconnect the additional electronic module and the socket module 1 from each other.

According to a second alternative of said first and second embodiment (figures 4 to 9C and 13 to 18 C), the electrical outlet comprises a cover plate 18 suitable for covering said fourth aperture¹⁵ and at least partially said mounting plate 11 and, said cover plate 18 being arranged so as to actuate said actuating mechanism 10 in said actuated state, when said mounting plate 11 and said cover plate 18 are assembled by second assembly means, and so as not to actuate said actuating mechanism 10 in said relaxed state, when said mounting plate 11 and said cover plate 18 are disassembled.

According to figures 5A, 5B, 8A, 8B, 14A, 14B, 17A, 17B and 22, as the cover plate 18 does not act on the actuating mechanism 10, the pair of contacts 9 of the first switch 8 is in open state OFF, which means that the additional electronic module is electrically disconnected from the live line 2 or the neutral line 3. Thus the electrician may provide an insulation resistance test between the live electrical connector 6 and the neutral electrical connector 7 of the socket module 1 without destroying the additional electronic module. When the additional electronic module is a USB socket module 4, the at least one USB port 5 may not deliver direct current DC. According to figures 6A, 6B, 6C, 9A, 9B, 9C, 15A, 15B, 15C, 18A, 18B, 18C and 23, as the cover plate 18 acts

on the actuating mechanism 10, the pair of contacts 9 of the first switch 8 is in closed state ON, which means that the additional electronic module is electrically connected from the live line 2 or the neutral line 3. Thus the additional electronic module may be supplied by the power supply. When the additional electronic module is a USB socket module 4, the at least one USB port 5 may deliver direct current DC. Thus advantageously, when the cover plate 18 and the mounting plate 11 are assembled, the additional electronic module and the socket module 1 are automatically connected from each other and when the cover plate 18 and the mounting plate 11 are disassembled, the additional electronic module and the socket module 1 are automatically disconnected from each other.

According to a first possibility of said second alternative, said cover plate 18 comprises an internal face 20 arranged so as to actuate said actuating mechanism 10 in said actuated state, when said mounting plate 11 and said cover plate 18 are assembled.

According to a second possibility of said second alternative (figures 6B, 6C, 9B, 9C, 15B, 15C, 18B and 18C), said internal face 20 comprises at least one protrusion 21 arranged so as to actuate said actuating mechanism 10 in said actuated state when said mounting plate 11 and said cover plate 18 are assembled.

According to figures 6B, 6C, 9B, 9C, 15B, 15C, 18B and 18C, as the protrusion 21 of the cover plate 18 acts on the actuating mechanism 10, the pair of contacts 9 of the first switch 8 is in closed state ON, which means that the additional electronic module is electrically connected from the live line 2 or the neutral line 3.

According to a first specificity of said second possibility (figures 6A to 6C and 15A to 15C), said cover plate 18 covers partially said mounting plate 11. More particularly said mounting plate 11 comprises four mounting holes 24 which are not covered by said cover plate 18.

According to a second specificity of said second possibility (figures 9A to 9C and 18A to 18C), said cover plate 18 covers totally said mounting plate 11. More particularly said mounting plate 11 comprises four mounting holes 24

which are covered by said cover plate 18.

Preferably, said at least one protrusion 21 is a rib.

Preferably, the electrical outlet comprises an earth line 23 suitable for being connected to earth via an earth pole E and said at least one socket
5 module 1, 1' comprises an earth electrical connector 22, 22' electrically connected to said earth line 23 (figures 2A, 3A, 5A, 6A, 8A, 9A, 11A, 12A, 14A, 15A, 17A, 18A, 22 and 23).

The earth electrical connector 22, 22' is preferably female connector provided to connect with corresponding prongs (not shown) of corresponding
10 electrical plug (not shown) of equipment.

Thus, the electrical outlet may be connected to the earth supply in connecting earth pole E to an earth wire of the installation (not shown).

The electrical outlet is optionally connected to the earth for increasing the safety.

15 In this case preferably, the mounting plate 11 comprises additionally an earth aperture 25 giving access to said earth electrical connector 22.

Preferably, the electrical outlet is wall mounted.

Preferably, the electrical outlet comprises a second switch 19 between said live pole L and said socket module 1 (figures 2A, 3A, 5A, 6A, 8A, 9A, 11A,
20 12A, 14A, 15A, 17A, 18A, 22 and 23).

The second switch 19 is provided to power or not the socket module 1.

When the second switch 19 is closed, the electrical outlet may supply the socket module 1.

When the second switch 19 is opened, the electrical outlet may not
25 supply the socket module 1.

Preferably, said at least one additional electronic module comprises a USB socket module 4 comprising at least one USB port 5, for example two USB ports 5 (figures 2A, 3A, 5A, 6A, 8A, 9A, 11A, 12A, 14A, 15A, 17A and 18A).

30 The USB socket module 4 preferably comprises an AC/DC transformer

provided to transform alternating current of the alternating current power supply in direct current. Thus the at least one USB port 5 may deliver direct current DC suitable for supplying USB compatible devices. Preferably, the at least one USB port 5 may deliver direct current DC of 5 Volts.

5 The first switch 8 preferably is a micro switch (figures 2B, 3B, 5B, 6B, 8B, 9B, 11B, 12B, 14B, 15B, 17B, 18B, 19).

Preferably, the actuating mechanism 10 of the micro-switch comprises an actuating lever 26 and a push button 27, a normally open terminal, a normally closed terminal and a common terminal 28 (figure 19).

10 The cover element 16 preferably comprises a rotation axis 17a on a first end of the cover element 16 and clipping means 17b on a second end of the cover element 16 (figure 20). The rotation axis 17a is provided to rotate in an insertion housing of the mounting plate 11. Thus the cover element 16 is assembled to the mounting plate 11 and is rotatable relative to the mounting
15 plate 11. The clipping means 17b are provided to fasten the cover element 16 on the mounting plate 11 so as to actuate the actuating mechanism 10 of the first switch 8. The first assembly means comprises said rotation axis 17a and said clipping means 17b.

Advantageously, in this case, the electrician only has to turn downwards
20 the cover element 16 and the mounting plate 11 to connect the additional electronic module and the socket module 1 from each other. In this case, the electrician has to turn upwards the cover element 16 so as to disconnect the additional electronic module and the socket module 1 from each other.

25 The cover plate 18 preferably comprises first clipping means 29 which may be provided on the edge 30 of the internal face 20 of the cover plate 18 (figures 6C and 15C) or alternatively protruding from the internal face 20 (figures 9C).

30 The mounting plate 11 preferably comprises second clipping means 31, 31' arranged so as to be clipped with said first clipping means (figures 5A, 8A, 14A, 17A).

The second assembly means comprise said first and second clipping means 29, 31, 31'.

Optionally, the electrical outlet comprises a holder 32 arranged to receive said first switch 8 and to be mounted on said mounting plate 11 (figures 1, 2B, 3A, 4, 5B, 6B, 7, 8B, 9B, 10, 11B, 12B, 13, 14B, 15B, 16, 17B, 18B and 21). Preferably, the holder 32 is integrated into said mounting plate 11.

5 Preferably, the first switch 8 is electrically connected to said live line 2 or neutral line 3 and to said additional electronic module by means of electric wires (not shown). In this case, these electrical wires may be electrically connected to said terminal 28.

The live line 2 comprises said live pole L.

10 The neutral line 3 comprises said neutral pole N.

The earth line 23 comprises said earth pole E.

The invention also relates to a method of testing said electrical outlet according to the invention as described above.

The method comprises:

15 - a first step of activating said first switch 8 so as to electrically disconnect said additional electronic module and said socket module 1 from each other,

 - a second step of testing said socket module 1, consisting in applying a voltage of value around 500V between the live electrical connector 6 and the
20 neutral electrical connector 7.

 - a third step of deactivating said first switch 8 so as to electrically connect said additional electronic module and said socket module 1 from each other.

 According to the first alternative of said first and second embodiment
25 (figures 1 to 3B and 10 to 12B), the first step consists in disassembling at least partially said cover element 16 from the mounting plate 11, preferably by means of a screwdriver, and preferably by turning upwards said cover element 16 so as not to actuate the actuating mechanism 10 of the first switch 8. The third step consists in covering the fourth aperture 15 by the cover element 16
30 so as to actuate the actuating mechanism 10 of the first switch 8.

 According to a second alternative of said first and second embodiment

(figures 4 to 9C and 13 to 18 C), the first step consists in removing said cover plate 18 from the base plate 11, preferably by means of a screwdriver so as not to actuate the actuating mechanism 10 of the first switch 8. The third step consists in replacing said cover plate 18 on the mounting plate 11 so as to
5 actuate the actuating mechanism 10 of the first switch 8.

Of course, the invention is not limited to the embodiments described and represented in the accompanying drawings. Modifications remain possible, particularly from the viewpoint of the composition of the various elements or by substitution of technical equivalents without thereby exceeding the field of
10 protection of the invention.

CLAIMS

1. Electrical outlet comprising:

- at least one socket module (1, 1'),
 - 5 - at least one live line (2) suitable for being connected to a power supply via a live pole (L) and,
 - at least one neutral line (3) suitable for being connected to said power supply via a neutral pole (N),
 - at least one additional electronic module such as a USB socket module (4)
 - 10 comprising at least one USB port (5),
- said at least one socket module (1, 1') comprising at least a live electrical connector (6, 6') electrically connected to said live line (2) and a neutral electrical connector (7, 7') electrically connected to said neutral line (3), said live and neutral electrical connectors (6, 6', 7, 7') being suitable for being electrically
- 15 connected to an electrical load such as an electrical plug,
- said additional electronic module being electrically connected in parallel to said socket module (1) between said live line (2) and said neutral line (3),
- said electrical outlet being characterized in that it comprises at least one first switch (8) connected in series to said additional electronic module arranged so as
- 20 to electrically connect or disconnect said additional electronic module and said socket module (1) from each other respectively when deactivating or activating said first switch (8).

2. Electrical outlet according to claim 1, characterized in that said first switch (8) comprises at least a pair of contacts (9), being in contact in a close state (ON),

25 and being separated in an open state (OFF), and an actuating mechanism (10) arranged so as to switch said pair of contacts (9) between said close state (ON) and said open state (OFF).

3. Electrical outlet according to claim 2, characterized in that said pair of contacts (9) being normally open, so that said pair of contacts (9) are in said open state

30 (OFF), when said actuating mechanism (10) is not actuated in a relaxed state to electrically disconnect additional electronic module and said socket module (1) from each other and so that said pair of contacts are in said closed state (ON), when said actuating mechanism (10) is actuated in an actuated state to

electrically connect said USB socket module (4) and said socket module (1) from each other.

4. Electrical outlet according to any of claims 1 to 3, characterized in that it comprises a mounting plate (11) comprising at least a first aperture (12) giving
5 access to said live electrical connector (6), a second aperture (13) giving access to said neutral electrical connector (7) and preferably a third aperture (14) giving access to said USB port (5), and a fourth aperture (15) giving access to said actuating mechanism (10) of said first switch (8).

5. Electrical outlet according to claims 3 and 4, characterized in that it comprises
10 a cover element (16) suitable for only covering said fourth aperture (15), said cover element (16) being arranged so as to actuate said actuating mechanism (10) in said actuated state, when said mounting plate (11) and said cover element (16) are assembled by first assembly means, and so as not to actuate said actuating mechanism (10) in said relaxed state, when said first assembly means
15 are disassembled.

6. Electrical outlet according to claims 3 and 4, characterized in that it comprises a cover plate (18) suitable for covering said fourth aperture (15) and at least partially said mounting plate (11) and, said cover plate (18) being arranged so as to actuate said actuating mechanism (10) in said actuated state, when said
20 mounting plate (11) and said cover plate (18) are assembled by second assembly means, and so as not to actuate said actuating mechanism (10) in said relaxed state, when said mounting plate (11) and said cover plate (18) are disassembled.

7. Electrical outlet according to claim 6, characterized in that said cover plate (18) comprises an internal face (20) arranged so as to actuate said actuating
25 mechanism (10) in said actuated state, when said mounting plate (11) and said cover plate (18) are assembled.

8. Electrical outlet according to claim 7, characterized in that said internal face (20) comprises at least one protrusion (21) arranged so as to actuate said actuating mechanism (10) in said actuated state when said mounting plate (11) and said
30 cover plate (18) are assembled.

9. Electrical outlet according to claim 8, characterized in that said at least one protrusion (21) is a rib.

10. Electrical outlet according to any of claims 1 to 9, characterized in that it comprises an earth line suitable for being connected to earth via an earth pole (E)

and in that said at least one socket module (1, 1') comprises an earth electrical connector (22) electrically connected to said earth line (23).

11. Electrical outlet according to any of claims 1 to 10, characterized in that said electrical outlet is wall mounted.

5 12. Electrical outlet according to any of claims 1 to 11, characterized in that it comprises a second switch (19) between said live pole (L) and said socket module (1).

13. Electrical outlet according to any of claims 1 to 12, characterized in that said at least one additional electronic module comprises a USB socket module (4)
10 comprising at least one USB port (5).

14. Electrical outlet according to claim 13, characterized in that said at least one additional electronic module comprises a USB socket module (4) comprising two USB ports (5).

15. Electrical outlet according to any of claims 1 to 14, characterized in that said
15 at least one socket module (1, 1') consists in a first socket module (1) and a second socket module (1'),

said first socket module (1) comprising at least a first live electrical connector (6) electrically connected to said live line (2) and a second neutral electrical connector (7) electrically connected to said neutral line (3),

20 said second socket module (1') comprising at least a second live electrical connector (6') electrically connected to said live line (2) and a second neutral electrical connector (7') electrically connected to said neutral line (3),

said additional electronic module being electrically connected in parallel to said first socket module (1) between said live line (2) and said neutral line (3),

25 said additional electronic module being electrically connected in parallel to said first socket module (1) between said live line (2) and said neutral line (3),

said first switch (8) being connected in series to said additional electronic module arranged so as to electrically connect or disconnect said additional electronic module and said first socket module (1) from each other respectively when

30 deactivating or activating said first switch (8).