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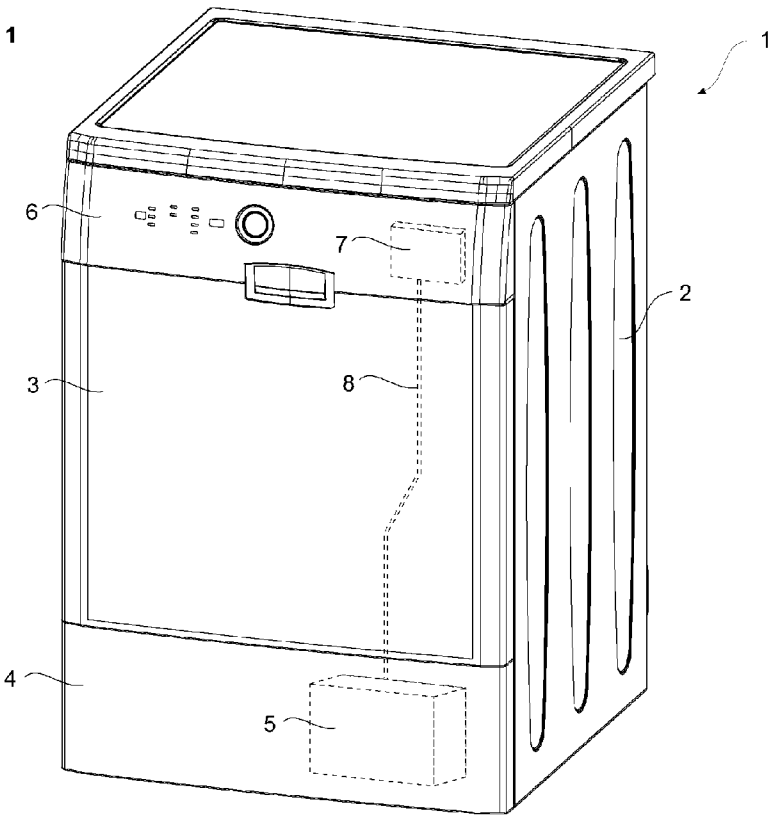
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(54) Title: A HOUSEHOLD APPLIANCE COMPRISING AN ELECTRONIC COMPONENT

Figure 1



(57) Abstract: The present invention relates to a household appliance (1) comprising a body (2), a door (3) providing access into the body (2), a kick plate (4) which is disposed under the door (3) and covers the gap between the door (3) and the floor, and which is shaped as a hollow box with one side open, and an electronic component (5).

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Description

A HOUSEHOLD APPLIANCE COMPRISING AN ELECTRONIC COMPONENT

[0001] The present invention relates to a household appliance comprising an electronic component.

[0002] In household appliances, especially in refrigerators, washing machines, dishwashers and ovens, electronic components used for purposes such as testing and data collection are required to be disposed onto the body. However, both the electronic components being adversely affected by the noise, heat and vibrations occurring during the operation of the household appliance, and the cables, which will carry electricity to the electronic components, being securely installed cause difficulties. Furthermore, in case of a maintenance need for the electronic component, the need of completely disassembling the body of the household appliance arises.

[0003] In the state of the art Chinese Patent Application No. **CN101095292**, a household appliance comprising casings that are formed on its side walls for disposing electronic components is explained.

[0004] Another state of the art embodiment is explained in the International Patent Application No. **WO2004032698**. In this embodiment, the household appliance comprises a wall having a hollow body wherein electronic components can be disposed.

[0005] In another state of the art International Patent Application No **WO03071021,** a household appliance is explained, on the upper table of which housings are provided in order to house the electronic control systems.

[0006] The aim of the present invention is the realization of a household appliance wherein the electronic components disposed thereon are kept in a sheltered and easily detachable manner.

[0007] The household appliance realized in order to attain the aim of the present invention and explicated in the claims comprises at least one electronic component that is disposed into the kick plate. Thus, the electronic component is isolated from the factors such as heat and vibration, which occur while the household appliance is operating and which adversely affect the electronic component, as much as possible. Furthermore, since

it is easy to reach and detach the kick plate, the maintainability of the electronic component increases.

[0008] In the preferred embodiment of the present invention, by means of a cable connected to the electronic component, data transfer from the electronic component to the other components of the household appliance, or energy transfer to the electronic component is provided. While one end of the cable is connected to the electronic component, its other end extends towards the outside of the kick plate.

[0009] In a version of this embodiment, the cable provides the connection between the control card located behind the panel, and the electronic component. The cable reaches the control card behind the panel through the inside of the door after leaving the kick plate and thus, carries the data received from the electronic component to the control card and transfers the commands received from the control card to the electronic component.

[0010] In an embodiment of the present invention, the electronic component is assembled to the kick plate by being fitted firmly between the ribs that are situated on the inner side of the kick plate and that increase the resistance of the kick plate against impacts.

[0011] In another embodiment of the present invention, a fixing pair, which enables the electronic component to be mounted onto the kick plate, is situated both on the electronic component and on the kick plate The fixing pair can be any one of the state of the art fixing pairs such as detent means-housing and rail-channel.

[0012] In an embodiment of the present invention, support means, which are installed on the path that is followed by the cable inside the kick plate, and which provide the cable disposed therein to be fixed to the kick plate, are located on the kick plate. Thus, the cable is prevented from being stuck during the mounting and dismounting of the kick plate.

[0013] In different embodiments of the present invention, the electronic component can be a GPRS modem or a Bluetooth transmitter/receiver.

[0014] In different embodiments of the present invention, the household appliance is a washing machine, a dishwasher, a dryer or an oven.

[0015] The model embodiments relating to the household appliance realized in

order to attain the aim of the present invention are illustrated in the attached figures, where:

[0016] Figure 1 – is the schematic view of the household appliance of the present invention.

[0017] Figure 2 – is the inner perspective view of a kick plate and an electronic component.

[0018] The components illustrated in the figures are numbered as follows:

1. Household appliance
2. Body
3. Door
4. Kick plate
5. Electronic component
6. Panel
7. Control card
8. Cable
9. Rib
10. Support means

[0019] The household appliance (1) comprises a body (2), a door (3) providing access into the body (2) and a kick plate (4) which is disposed onto the front side of the body (2) such as to remain under the door (3) and which covers the gap between the door (3) and the floor, and which is shaped as a hollow box with one side open.

[0020] The household appliance (1), furthermore, comprises at least one electronic component (5) that is disposed into the kick plate (4) such as to remain between the body (2) and the kick plate (4) (Figure 1 and Figure 2). By means of the electronic component (5) being stored inside the kick plate (4), both the electronic component (5) is provided to be disassembled without moving the household appliance (1) in case of a need for maintenance depending on the breakdown of the electronic component (5) for household appliances (1) used under the counter, and the exposure of the electronic component (5) to adverse effects such as vibration, noise and heat depending on the operation of the household appliance (1) is minimized.

[0021] In the preferred embodiment of the present invention, the household appliance (1), furthermore, comprises at least one cable (8) which provides the exchange of data or energy of the electronic component (5), and one end of which is connected to the electronic component (5) and the other end extending to the outside of the kick plate (4). Thus, the transfer of various data from the electronic component (5) to the other units of the household appliance (1) and the transmission of the energy required for the electronic component (5) to operate are made possible.

[0022] In a version of this embodiment, the household appliance (1) comprises a panel (6) whereon control components such as button and display, providing the household appliance (1) to be controlled by the user are located, and a control card (7) which is disposed behind the panel (6) and regulates the operation of the household appliance (1). In this embodiment, the cable (8) provides the communication between the electronic component (5) and the control card (7) by extending between the electronic component (5) and the control card (7). The cable (8) reaches the control card (7) by passing preferably through the inside of the door (3).

[0023] In an embodiment of the present invention, the household appliance (1) comprises ribs (9) that are located inside the kick plate (4) and that increase the impact resistance of the kick plate (4). In this embodiment, the electronic component (5) is sized such as to be seated between two adjacent ribs (9) by snap fitting (Figure 2).

[0024] In another embodiment of the present invention, the household appliance (1) comprises fixing pairs such as detent means-housing and rail-channel which are located on the kick plate (4) and the electronic component (5), and which provide the electronic component (5) to be fixed to the kick plate (4). In this embodiment, for example, the electronic component (5) is fixed to the kick plate (4) by the detent means on the electronic component (5) being mounted to the housings on the kick plate (4).

[0025] In an embodiment of the present invention, the kick plate (4) comprises tunnel-shaped support means (10), through which the cable (8) is passed and thus, which provide the cable (8) to be directed in the desired direction

(Figures 2). Consequently, the cable (8) is enabled to be transferred to the outside of the kick plate (4) by being directed in the desired direction, and is prevented from being damaged during the disassembly of the kick plate (4).

[0026] In an embodiment of the present invention, the electronic component (5) is a GPRS modem.

[0027] In another embodiment of the present invention, the electronic component (5) is a Bluetooth transmitter/receiver.

[0028] In different embodiments of the present invention, the household appliance (1) is a washing machine, a dishwasher, a dryer or an oven.

[0029] It is to be understood that the present invention is not limited by the embodiments disclosed above and a person skilled in the art can easily introduce different embodiments. These should be considered within the scope of the protection postulated by the claims of the present invention.

Claims

1. A household appliance (1) **comprising** a body (2), a door (3) providing access into the body (2) and a kick plate (4) which is disposed onto the front side of the body (2) such as to remain under the door (3) and which covers the gap between the door (3) and the floor, and which is shaped as a hollow box with one side open; **characterized by** at least one electronic component (5) which is disposed into the kick plate (4) such as to remain between the body (2) and the kick plate (4).
2. A household appliance (1) as in Claim 1, **characterized by** at least one cable (8) which provides the exchange of data or energy of the electronic component (5), and one end of which is connected to the electronic component (5) and the other end extending to the outside of the kick plate (4).
3. A household appliance (1) as in Claim 2, **characterized by** a panel (6) whereon control components such as button and display, providing the household appliance (1) to be controlled by the user, are located, a control card (7) which is disposed behind the panel (6) and regulates the operation of the household appliance (1), and the cable (8) which extends between the electronic component (5) and the control card (7) and provides the communication between the electronic component (5) and the control card (7).
4. A household appliance (1) as in Claim 2 or 3, **characterized by** the cable (8) which reaches the control card (7) by passing through the inside of the door (3).
5. A household appliance (1) as in any one of the above claims, **characterized by** ribs (9) which are located inside the kick plate (4) and increase the impact resistance of the kick plate (4), and the electronic component (5) which is sized such as to be seated between two adjacent ribs (9) by snap fitting.
6. A household appliance (1) as in any one of the above claims, **characterized by** the kick plate (4) and the electronic component (5) that comprise fixing pairs such as detent means-housing and rail-channel which are located on the kick plate (4) and the electronic component (5), and which provide the electronic component (5) to be fixed to the kick plate (4).
7. A household appliance (1) as in any one of the above claims, **characterized by** the kick plate (4) that comprises tunnel-shaped support means (10), through

which the cable (8) is passed and thus, which provide the cable (8) to be directed in the desired direction.

8. A household appliance (1) as in any one of the above claims, **characterized by** the electronic component (5) that is a GPRS modem.
9. A household appliance (1) as in any one of the above claims, **characterized by** the electronic component (5) that is a Bluetooth transmitter/receiver.
10. A household appliance (1) as in any one of the above claims, which is a washing machine.
11. A household appliance (1) as in any one of the above claims, which is a dishwasher.
12. A household appliance (1) as in any one of the above claims, which is a laundry dryer machine.
13. A household appliance (1) as in any one of the above claims, which is a refrigerator.
14. A household appliance (1) as in any one of the above claims, which is an oven.

Figure 1

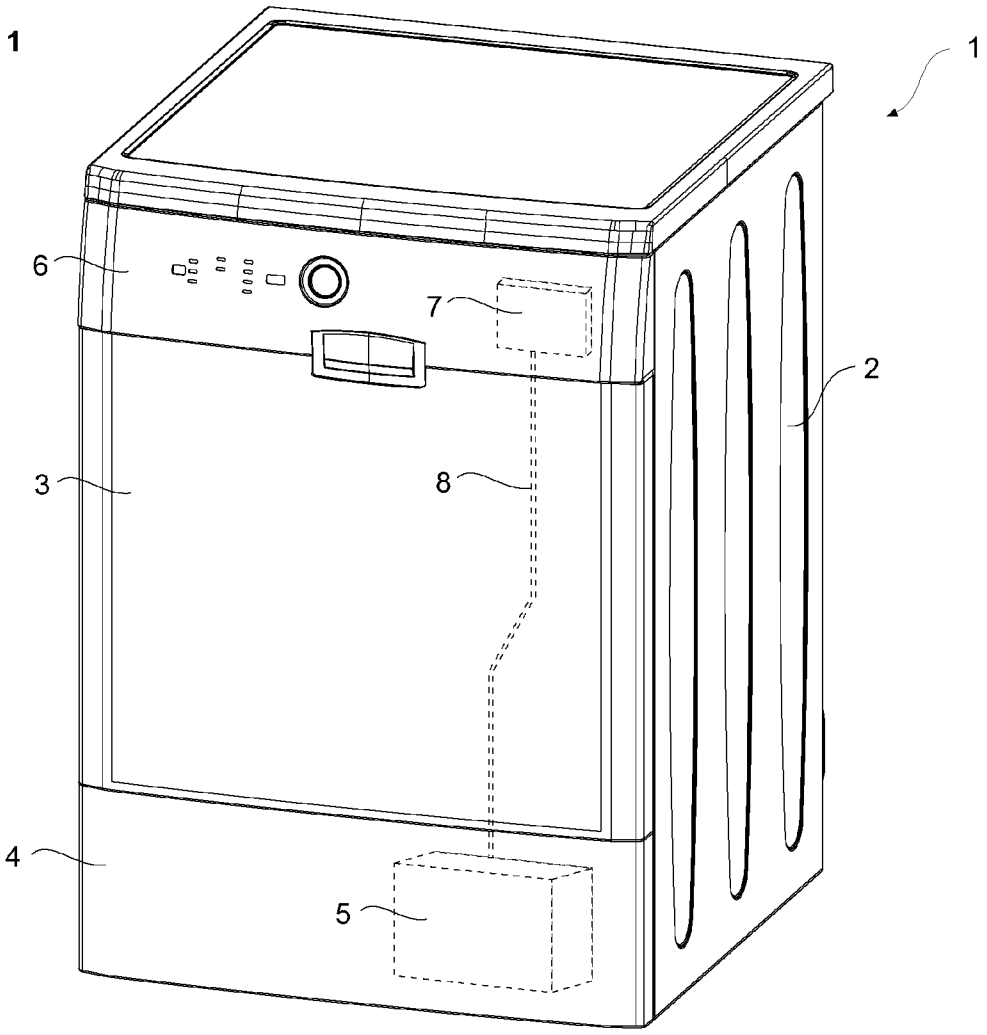
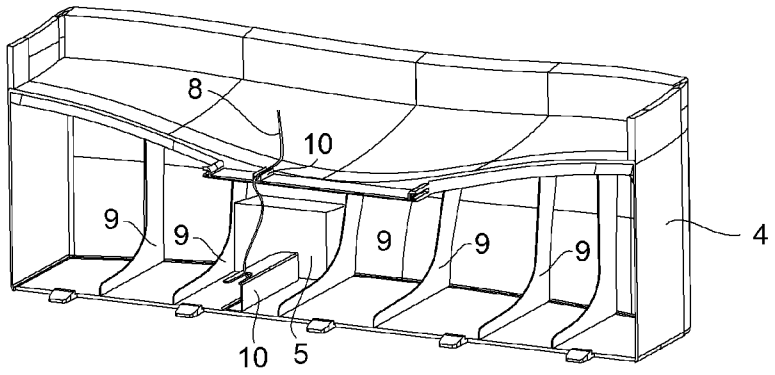


Figure 2



INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2010/070299

A. CLASSIFICATION OF SUBJECT MATTER
INV. D06F33/02 D06F39/00 D06F39/12 D06F39/14 A47B95/00 A47L15/42
ADD.
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A47L D06F A47B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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X	WO 2006/042819 A1 (BSH BOSCH SIEMENS HAUSGERAETE [DE]; ROSENBAUER MICHAEL [DE]; SCHESSL B) 27 April 2006 (2006-04-27) figure 2	1,11
X	WO 2008/097893 A1 (ELECTROLUX HOME PROD INC [US]; POYNER DENNIS A [US]; OLESEN JERRY [US]) 14 August 2008 (2008-08-14) figures 1, 2a	1,2,5,11
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X	DE 73 36 418 U (INDUSTRIE S.A. ZANUSSI S.P.A) 24 January 1974 (1974-01-24) page 3 - page 4; figures 1-2	1,2,10

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[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

* Special categories of cited documents :

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
15 April 2011	26/04/2011

Name and mailing address of the ISA/	Authorized officer
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Form PCT/ISA/210 (second sheet) (April 2005)

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2010/070299

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
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