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(54) **Household range hood system, method of controlling a household range hood and device in communication with a household range hood**

(57) A method of controlling a household range hood, comprising: programming a suction device (100) and/or of a further electric load, preferably of a light source (300), of the range hood (7) through an electronic control unit

(11, 200) connected in signal communication to the range hood (7) to schedule a plurality of operation modes and/or a plurality of working times of the suction device (100) and/or of the further electric load during a time period.

FIG.2

☰
⏻ Hood 📶
Help ?

Hood	Settings															
Details	Light															
Settings	Auto Light ⓘ ☐ Night Light ⓘ ☒ ☒ Active from/to 02:55 - 06:55 <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">54</td> <td></td> <td style="text-align: center;">5</td> <td style="text-align: center;">54</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">55</td> <td style="text-align: center;">AM</td> <td style="text-align: center;">6</td> <td style="text-align: center;">55 AM</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">56</td> <td style="text-align: center;">PM</td> <td style="text-align: center;">7</td> <td style="text-align: center;">56 PM</td> </tr> </table>	1	54		5	54	2	55	AM	6	55 AM	3	56	PM	7	56 PM
1	54		5	54												
2	55	AM	6	55 AM												
3	56	PM	7	56 PM												
Sync w/Hob ⓘ ☐	Light tone ⓘ															
Sync w/Oven ⓘ ☐	WARM <input type="range" value="25"/> COLD															
Product maintenance																

Description

Field of the invention

[0001] The present invention relates to household appliances. In particular, the present invention relates to a household range hood system capable of programming and/or controlling a range hood and to a method of controlling a household range hood.

Background

[0002] Nowadays home automation, i.e. exploiting electronic technology in the household environment, is known. In particular, home automation or "domotics" is known. A home automation system usually controls lighting, climate, entertainment systems and appliances.

[0003] By way of example, document EP1095440 a device and a method thereof for monitoring a plurality of electric users, in particular household appliances connected in a network and belonging to a same household environment.

[0004] Furthermore, nowadays the household appliances are present technical functionalities going beyond the mere function of the appliance itself. In other words, household appliances gained additional functions not strictly related to the specific function of the appliance.

[0005] In this context, the Applicant felt that household range hoods in kitchens can be greatly improved in terms of functionalities and automation in order to improve living comfort and well being of people and to reduce or at least contain the power consumption of the electric loads of the hood.

Summary of the invention

[0006] In view of the above, it is an object of the present invention to provide a programmable household range hood capable of automatically manage its electrical loads during a time period, usually during a day.

[0007] In particular, it is an object of the present invention to provide a household range hood capable of automatically changing its operation mode as a function of time and/or of operations or working status of other appliances.

[0008] It is a further object of the present invention to improve easy of use of a household range hood.

[0009] At least one of the above objects is substantially achieved by a method of controlling a household range hood which envisages to program operation modes and/or times of said range hood and by a programmable household range hood system.

[0010] In particular, at least one of the above objects is substantially achieved by a method of controlling a household range hood, by a household range hood system, by an electrical household system and by a particular use of a remote device according to one or more of the appended claims.

[0011] Aspects of the invention are disclosed in the following.

[0012] In accordance with an independent aspect, a method of controlling a household range hood, comprises: programming a suction device and/or of a further electric load of the range hood through an electronic control unit connected in signal communication to the range hood to schedule a plurality of operation modes and/or a plurality of working times of the suction device and/or of the further electric load during a time period.

[0013] In accordance with an independent aspect, a household range hood system, comprises:

a household range hood comprising at least a suction device and at least a further electric load; an electronic control unit connected or configured to be connected in signal communication to the range hood;

wherein the electronic control unit is configured to program the suction device and/or the further electric load to schedule a plurality of operation modes and/or a plurality of working times of the suction device and/or of the further electric load during a time period.

[0014] The programmed scheduling allows the user to control the suction device and/or of the further electric load of the home throughout the day and/or night using an electronic schedule. The schedule or timetable is a time-management tool consisting of a list of times at which possible tasks, events or actions (in the present case: operation modes) are intended to take place.

[0015] Applicant verified that the possibility of programming the range hood allows to automatically adapt the working status of the electrical loads of said range hood (e.g. of the suction device) as a function of a specific time during day and/or night and/or of operations or working status of other household appliances.

[0016] Applicant verified that the possibility of programming the range hood allows to reduce or at least lower the power consumption of the range hood and/or to adapt the power consumption of the hood as a function of the power consumption of other working appliances in order, e.g., to avoid power overload of the home electrical network.

[0017] In an aspect, the suction device is programmed to perform ambient air filtering and/or changing once in a while.

[0018] In an aspect, the further electric load is at least a light source, preferably a LED, of the range hood.

[0019] Programming the light source of the range hood allows to automatically manage the ambient lights according to time, preferably during day and/or night (e.g. courtesy light during night). The light source may be switched on and off or dimmed. In an aspect, the step or steps of programming operations is performed remotely through a remote device.

[0020] In an aspect, the electronic control unit comprises

es a remote device or is connected in signal communication to a remote device or is configured to be connected in signal communication to a remote device.

[0021] In an aspect, a remote device is part of the electronic control unit or is connected in signal communication to the electronic control unit or is configured to be connected in signal communication to the electronic control unit.

[0022] In an aspect, the remote device is wired or wirelessly connected in signal communication to the range hood.

[0023] The present invention relates also to the use of a remote device wired or wirelessly connected in signal communication to a household range hood, to program a suction device and/or of a further electric load, preferably of a light source, belonging to said household range hood.

[0024] In an aspect, the electronic control unit comprises at least a portion integrated into the household range hood.

[0025] In an aspect, the electronic control unit and/or the remote device comprise/s input devices and output devices (e.g. screen, touchscreen, buttons, keyboard, mouse, etc.) to allow a user to perform programming step/s.

[0026] In an aspect, the remote device is a smartphone or a tablet or a computer (e.g. laptop or desktop).

[0027] In an aspect, the step or steps of programming operations is performed through an application (App) working on the electronic control unit and/or on the remote device.

[0028] In an aspect, the household range hood system comprises an application (App) configured to be loaded and to work on the electronic control unit and/or on the remote device and to program the suction device and/or of the further electric load.

[0029] In an aspect, the remote device is connected in signal communication to the range hood through a Wi-Fi communication channel and/or a mobile communication channel and/or a Bluetooth communication channel. In an aspect, the remote device is connected in signal communication to the range hood through a Wi-Fi network and/or a mobile network and/or a Bluetooth network. Using a mobile network, programming can be made also far from home.

[0030] In an aspect, the invention relates also to an electrical household system comprising: a communication network and at least one household range hood system according to one or more of the appended claims or according to one or more of the listed aspects, wherein the household range hood is connected or configured to be connected in signal communication to the communication network.

[0031] In an aspect, the electronic control unit and/or the remote device is/are connected or configured to be connected in signal communication to the communication network.

[0032] In an aspect, the communication network is a

local-area communication network.

[0033] In an aspect, the electrical household system further comprises other household appliances, preferably a oven and/or a kitchen hob, connected or configured to be connected in signal communication to the range hood and/or to the electronic control unit and/or to the communication network.

[0034] In an aspect, the electrical household system further comprises at least one of the following household appliances: a washer, a dryer, a washer/dryer, a microwave, a dishwasher.

[0035] In an aspect, the communication network comprises a router connected or configured to be connected in signal communication to the range hood and, preferably, also to other household appliances. The router is connected or configured to be connected in signal communication with a wide area network or a global area network (cloud).

[0036] In an aspect, the communication network comprises a voice assistant device connected or configured to be connected in signal communication to the range hood and, preferably, also to other household appliances to command and program through vocal instructions which are recognized by the assistant device.

[0037] In an aspect, the application is configured to be associated to a specific household range hood and/or to a specific electrical household system by reading a code (preferably a QR code) on the hood or by inputting a code manually.

[0038] In an aspect, it is provided for registering the user and the household range hood and/or the electrical household system and for associating the user and the household range hood and/or electrical household system to an application and/or remote device.

[0039] In an aspect, the electronic control unit and/or the remote device comprise/s a programmable timer or scheduler configured to program working times of the suction device and/or of the further electric load.

[0040] In an aspect, the electronic control unit and/or the remote device is/are configured to program operation modes of the suction device and/or of the further electric load.

[0041] In an aspect, the electronic control unit and/or the remote device is/are configured to correlate the operation modes to the working times.

[0042] In an aspect, the operation modes of the suction device set through the electronic control unit and/or the remote device comprises: suction device on, suction device off, suction device power level.

[0043] In an aspect, the suction device power level is set to be constant or to change during a working time.

[0044] In an aspect, the further electric load is the light source and the operation modes of the light source set through the electronic control unit and/or the remote device comprises: light source on, light source off, light source power level, light source temperature/colour.

[0045] In an aspect, the light source power level is set to be constant or to change during a working time.

[0046] In an aspect, the light source temperature/colour is set to be constant or to change during a working time.

[0047] In an aspect, the working times set through the electronic control unit and/or the remote device are comprised between one second and one day. In an aspect, the time period is comprised between one hour and one year. It is thus possible to schedule working times (time bands of seconds, minutes or hours) during a day or during a month or a year.

[0048] In an aspect, the scheduled operation modes and/or working times during a time period are programmed to be repeated cyclically every time period.

[0049] In an aspect, the scheduled operation modes and/or working times are more than two, preferably more than five, preferably more than ten during a time period.

[0050] In an aspect, the electronic control unit and/or the remote device is/are configured to override the set operation modes and/or working times programmed through the electronic control unit and/or the remote device when the suction device and/or of the further electric load are/is actuated manually.

[0051] In an aspect, the electronic control unit and/or the remote device is/are configured to override the set operation modes and/or working times programmed through the electronic control unit and/or the remote device when the oven and/or the kitchen hob are activated and to set said suction device and/or said further electric load in a cooking mode.

[0052] In one aspect, the electronic control unit is configured to control power of the suction device as a function of detected power of the kitchen hob.

[0053] In an aspect, the electrical household system further comprises an odor sensor, preferably a VOC sensor (Volatile Organic Compound) connected in signal communication to the electronic control unit. In one aspect, the electronic control unit is configured to control power of the suction device as a function of signals from the odor sensor.

[0054] In one aspect, at least one of the appliances, preferably the range hood, is configured to notify events or status of one or more of the other appliances of the network.

[0055] In one aspect, such event is an error or the end cycle of another appliance.

[0056] In one aspect, notification is performed through a light signal, such as a blink, or a sound signal.

[0057] In one aspect, notifications are performed through the application (App) .

[0058] In one aspect notification may be related to: filter status of the range hood, lamp status of the range hood.

Description of drawings

[0059] The following drawings relating to aspects of the invention are provided by way of non-limiting example:

FIG.1 shows a schematic representation of an electrical household system according to the present invention;

FIG.2 shows a first screenshot of a display of a remote device associated to the electrical household system of figure 1;

FIG.3 shows a second screenshot of the display of figure 2;

FIG.4 shows a range hood of the electrical household system of FIG.1.

Detailed description

[0060] With reference to the appended drawings, FIG.1 shows the architecture of an electrical household system 1 which comprises several household appliances. FIG.1 shows a household range hood 2, an oven 3 with a microwave 4, a washer/dryer 5, a dishwasher 6, a kitchen hob 7.

[0061] The appliances are connected or are configured to be connected in signal communication to a router 8 to form a Wi-Fi local-area communication network. All the appliances are connected in signal communication to each other through the router 8 but may be also connected directly one with another (e.g. through Wi-Fi or Bluetooth).

[0062] The Wi-Fi local-area communication network further comprises a voice assistant device 9 to command and/or program the household appliances through vocal instructions (e.g for persons with reduced motor skills).

[0063] The router 8 is connected to a global-area communication network (cloud) 10 through, e.g. a mobile and fixed networks. Other types of connections may be envisaged, wired or wireless, local, wide or global.

[0064] A remote device 11, like a smartphone or a tablet or a computer (e.g. laptop or desktop), is connected or is configured to be connected to the router 8 directly and/or through the cloud 10. The remote device 11 may also be connected directly to each appliance (FIG.1 shows e.g. the direct connection to the oven 3). In a known way, the remote device 11 comprise/s input devices and output devices (e.g. screen, touchscreen, buttons, keyboard, mouse, etc.).

[0065] Each household appliance is provided with electronic communication devices and with a respective local electronic control unit 200 and with its own input/output devices.

[0066] An application (App) is loaded on the remote device 11 and it is configured to allow interaction with the household appliances directly and/or through the local-area communication network and/or through the cloud 10. In different embodiments, the application may be loaded on one or more of the local electronic control units 200.

[0067] The application allows to register a user and the household appliances and/or the electrical household system and to associate the household appliances and/or the electrical household system to the application

and/or to the remote device. To this aim, code or codes of the appliances may be manually entered through the application or such code (preferably a QR code) placed on the appliance may be read through the remote device 11.

[0068] The range hood 2 comprises a suction device 100 (e.g. at least one fan with a motor) configured to draw air from the room/kitchen and one or more filters 400. The suction device 100 may be in fluid communication with an exhaust duct configured to discharge air outside the room/kitchen or may discharge filtered air again in the room/kitchen.

[0069] The range hood 2 comprises one or more light sources 300 (preferably LED), the temperature/colour of which can be preferably adjusted and which are also preferably dimmerable.

[0070] A smoke detector 500 is installed on the household range hood 2 and it is connected in signal communication with the local electronic control unit 200 of the range hood 2 and therefore to the components of the local-area communication network. The smoke detector 500 is configured to detect fumes, in particular CO and/or CO₂, and to send a signal when a threshold of these fumes is reached.

[0071] An odor sensor, preferably a VOC sensor (Volatile Organic Compound) is installed on the household range hood 2 and it is connected in signal communication with the local electronic control unit 200 of the range hood 2 and therefore to the components of the local-area communication network. The odor sensor is configured to detect Volatile Organic Compounds and to send a signal when a threshold of these Compounds is reached.

[0072] The range hood 2 further comprises a display and/or notification lights, a speaker or other input/output devices.

[0073] The oven 3 is a self-cleaning pyrolytic oven which uses high temperature to burn off leftovers from baking, without the use of any chemical agents.

[0074] The oven 3 comprises a power unit and heating elements configured to cook but also to perform a pyrolysis process and a temperature sensor configured to detect temperature inside the oven 3. The temperature sensor is connected in signal communication to the respective local electronic control unit 200 of the oven 3 and therefore to the components of the local-area communication network.

[0075] The oven 3 comprises also a catalyst device which is configured to oxidize carbon monoxide, deriving from pyrolysis, into carbon dioxide before discharging into the room/kitchen.

[0076] The kitchen hob 7 comprises a power unit and heating elements for cooking. The odor sensor may be installed on the kitchen hob 7 instead that on the range hood 2.

[0077] The household range hood 2, the oven 3 and the kitchen hob 7 are connected or configured to be connected in signal communication to each other through the communication network.

[0078] The local electronic control units 200 of the appliances 2, 3, 4, 5, 6, 7, of the router 8 and of the voice assistant device 9 together with the remote device 11 are part of, or form, an electronic control unit of the electrical household system 1. Form a different viewpoint, the electronic control unit of the electrical household system 1 comprises several portions which may be integrated into the appliances.

[0079] A household range hood system comprising the household range hood 2 with the local electronic control unit 200 and the remote device 11 is part of the electrical household system 1 and is also object of the present invention.

[0080] According to a method of controlling the household range hood 2, to a method of controlling the electrical household system 1 and to a use of the remote device 11 according to the invention, the application (App) is so structured and configured to allow a user to program the suction device 100 and/or the light source 300 and/or further electric loads of the range hood 2 through the remote device 11. This way it is possible to schedule operation modes and/or working times of the suction device 100 and/or of light source 300 during a time period.

[0081] The operation modes of the light source 300 set through the remote device may comprise: light source on, light source off, light source power level, light source temperature/colour. Furthermore, power level and/or temperature/colour may be changed and/or dimmed from a working time to another and also during a working time.

[0082] The working times set through the electronic control unit and/or the remote device may be comprised between one second and one day.

[0083] The time period may be comprised between one hour and one year. It is thus possible to schedule working times (time bands or seconds, minutes or hours) during a day or during a month, a week or a year.

[0084] By way of example, the range hood 2 may be programmed such that every day (time period) the light source 300 is shut off (first operation mode) during day (first working time) and it is turned on with a warm tone (second operation mode) every night (second working time) as a courtesy light.

[0085] A screenshot of the application with a programmable timer or scheduler according to the invention is shown in FIG.2.

[0086] FIG.2 shows that the light source 300 of the range hood 2 is programmed to be a night light with a warm tone during every night, from 2:55 AM to 6:55 AM.

[0087] According to a different programmed schedule, every day (time period) the light source 300 may change stepwise through the day and/or night.

[0088] The suction device 100 may be also programmed, e.g. to perform ambient air filtering and/or changing the air in the room /kitchen once in a while. By way of example, air filtering and/or changing may be performed every day at 02:00 PM and 22:00 PM just after lunch and dinner.

[0089] The programmed function may be bypassed by the manual actuation of the suction device 100 and/or of the light source 300. In other words, the electronic control unit and/or the remote device is/are configured to override the set operation modes and/or working times programmed when the user, through the input devices of the remote device 11 or of the range hood 2, switches on or off or changes the parameters of the suction device 100 and/or of the light source 300.

[0090] According to the method of controlling the household range hood 2, to the method of controlling the electrical household system 1 and to the use of the remote device 11 according to the invention, the application (App) is so structured and configured to control power of the suction device 100 as a function of parameters of the kitchen hob 7 and/or of the oven 3.

[0091] A screenshot of the application showing synchronization buttons/sliders with the kitchen hob 7 and/or of with the oven 3 is shown in FIG.3.

[0092] Even if the suction device 100 and/or the light source 300 of the range hood 2 are programmed to follow a scheduled program, such program is bypassed when the oven 3 and/or the kitchen hob 7 are activated (manually or automatically) in a cooking mode.

[0093] In particular, when the oven 3 and/or the kitchen hob 7 are activated in the cooking mode, the suction device 100 and preferably also the light source 300 are automatically switched on and set in a respective cooking mode (e.g. with a predefined suction power and with a specific illumination of the hob 7).

[0094] Furthermore, in the cooking mode, the power of the suction device 100 may be automatically adjusted as a function of detected power of the kitchen hob 7 and/or of the oven 3 and/or of signals coming from the odor sensor.

[0095] As stated above, the oven 3 is also configured to perform a self-cleaning pyrolysis process to perform pyrolytic decomposition to oxidize dirt.

[0096] During the pyrolysis process, the temperature in the oven is raised to a pyrolytic temperature of about 350°C to convert organic material into volatile organic compounds, hydrocarbons and carbonized gas. Carbon monoxide is oxidized into carbon dioxide by the catalyst device and expelled from the oven 3.

[0097] If the pyrolysis process of the oven 3 is programmed (through the electronic control unit and/or the remote device), the simultaneous activation of the suction device 100 may be programmed too such that volatile compounds are sucked and expelled from the room/kitchen and/or filtered to eliminate dangerous or undesired substances.

[0098] According to the invention, the synchronization of the range hood 7 with the oven 3 allows to automatically start the suction device 100 of the household range hood 7 also when the pyrolysis process of the oven 3 is started manually. The manual start is started through a command inputted manually through the electronic control unit and/or the remote device 11.

[0099] To this aim, the electronic control unit of the electrical household system 1 is configured to sense the activation of the pyrolysis process in the oven 3 and to start the suction device 100 of the household range hood 7 as a function of a communication signal from the oven 3, wherein said signal is correlated to the pyrolysis process in the oven 3.

[0100] The invention allows to remove from the room (kitchen) every possible substance deriving from pyrolysis when the pyrolysis is started manually and also in case the catalyst device of the oven does not work properly. This way, safety is greatly improved. According to an embodiment of the invention, the suction device 100 starts as soon as pyrolysis is activated. In other words, the communication signal is emitted together with activation of pyrolysis and this communication signal commands switching on the suction device 100. There is no substantially delay between the manual activation of the pyrolysis process and the switching on of the suction device 100.

[0101] According to an embodiment, the suction device 100 starts at a minimum power as soon as pyrolysis is activated. After starting, the power of the suction device 100 is adjusted as a function of other parameters, such as smoke detection operated through the smoke detector 500 installed on the household range hood 2 (e.g. the power of the suction device 100 is increased, with respect to the minimum, when the smoke detector 500 detects CO and/or CO₂). According to different embodiments of the invention, the start of the suction device 100 is delayed with respect to the start of the pyrolysis process in the oven 3. Upon receiving the communication signal, emitted together with activation of pyrolysis in the oven 3, the electronic control unit turns on the household range hood 7 in a stand by status but the suction device 100 is still and does not perform any suction. The suction device 100 starts after a time lag with respect to activation of pyrolysis.

[0102] According to an embodiment, the suction device 100 is started when the smoke detector 500 detects fumes, like CO and/or CO₂. According to an embodiment, the suction device 100 is started when a temperature in the oven 3 reaches a threshold, i.e. when the temperature sensor in the oven 3 emits a signal. By way of example, the temperature sensor is calibrated to emit the signal when the temperature in the oven 3 reaches a threshold comprised between 150° and 350°C. Preferably, the temperature sensor is calibrated to emit the signal when the temperature in the oven 3 reaches 300°C (maximum cooking temperature) or 350°C (pyrolysis temperature).

[0103] The electrical household system 1 according to the invention is configured such that signals indicating the status or an event of the other appliances (oven 3 with microwave 4, washer/dryer 5, dishwasher 6, kitchen hob 7) are emitted through the output devices of the range hood 7, which are more visible to people in the kitchen.

[0104] According to an embodiment, a light signal, such as a blink, or a sound signal is emitted by the output

devices of the range hood 7 at the end of the work cycle of another appliance (such as the dishwasher 6) or when an error occurred.

[0105] According to an embodiment, a signal is emitted by the output devices of the range hood 7 indicating the filter/s and/or the lamp/s of the range hood 7 have to be substituted. These signal status may also be notified through the application (App).

[0106] While the invention has been described in connection with what is presently considered to be the most practical and preferred embodiment, it is to be understood that the invention is not to be limited to the disclosed embodiment, but on the contrary, is intended to cover various modifications and equivalent arrangements included within the spirit and the scope of the appended claims.

Claims

1. Method of controlling a household range hood, comprising: programming a suction device (100) and/or of a further electric load, preferably of a light source (300), of the range hood (7) through an electronic control unit (11, 200) connected in signal communication to the range hood (7) to schedule a plurality of operation modes and/or a plurality of working times of the suction device (100) and/or of the further electric load during a time period.
2. The method of claim 1, wherein programming operations is performed remotely through a remote device (11) wherein the remote device (11) is wired or wirelessly connected in signal communication to the range hood (7); wherein, preferably, programming operations is performed through an application working on a smartphone or on a tablet.
3. The method of claim 1 or 2, wherein the operation modes of the suction device (100) set through the electronic control unit (11, 200) comprises: suction device on, suction device off, suction device power level; wherein the suction device power level is set to be constant or to change during a working time.
4. The method of claim 1, 2 or 3, wherein the further electric load is the light source (300) and the operation modes of the light source (300) set through the electronic control unit (11, 200) comprises: light source on, light source off, light source power level, light source temperature/colour; wherein the light source power level is set to be constant or to change during a working time; wherein the light source temperature/colour is set to be constant or to change during a working time.
5. The method of anyone of the preceding claims 1 to 4, comprising:

overriding the set operation modes and/or working times programmed through the electronic control unit (11, 200) when the suction device (100) and/or of the further electric load are/is actuated manually.

6. The method of anyone of the preceding claims 1 to 5, comprising:

overriding the set operation modes and/or working times programmed through the electronic control unit (11, 200) when a oven (3) and/or a kitchen hob (7) connected in signal communication to the range hood (2) and/or to the electronic control unit (11, 200) are activated; and setting said suction device (100) and/or said further electric load in a cooking mode.

7. Household range hood system, comprising:

a household range hood (2) comprising at least a suction device (100) and at least a further electric load, preferably a light source (300); an electronic control unit (11, 200) connected or configured to be connected in signal communication to the range hood (2); wherein the electronic control unit (11, 200) is configured to program the suction device (100) and/or the further electric load to schedule a plurality of operation modes and/or a plurality of working times of the suction device (100) and/or of the further electric load during a time period.

8. The household range hood system of claim 7, wherein the electronic control unit (11, 200) comprises a remote device (11) wired or wirelessly connected in signal communication to the range hood (2); wherein the remote device (11) is a smartphone or a tablet or a computer.

9. The household range hood system of claim 8, wherein the remote device (11) is connected in signal communication to the range hood (2) through a Wi-Fi communication channel and/or a mobile communication channel and/or a Bluetooth communication channel, preferably through a Wi-Fi network and/or a mobile network and/or a Bluetooth network.

10. The household range hood system of anyone of the preceding claims 7 to 9, wherein the electronic control unit (11, 200) comprises a programmable scheduler configured to program working times of the suction device (100) and/or of the further electric load.

11. The household range hood system of anyone of the preceding claims 7 to 10, wherein the electronic control unit (11, 200) is configured to program operation modes of the suction device (100) and/or of the further electric load and to correlate the operation

modes to the working times.

12. The household range hood system of anyone of the preceding claims 7 to 11, further comprising an application configured to be loaded and to work on a smartphone or a tablet or a computer and to program the suction device (100) and/or of the further electric load. 5

13. Electrical household system comprising: 10
 - a communication network, preferably a local-area communication network; and
 - at least one household range hood system according to one or more of the previous claims 7 to 12; 15
 - wherein the household range hood (2) is connected or configured to be connected in signal communication to the communication network. 20

14. The electrical household system of claim 13, further comprising a oven (3) and/or a kitchen hob (7) connected in signal communication to the range hood (2) and/or to the electronic control unit (11, 200) and/or to the communication network; 25
 - wherein the electronic control unit (11, 200) is configured to override the set operation modes and/or working times programmed through the electronic control unit (11, 200) when the oven (3) and/or the kitchen hob (7) are activated; and to set said suction device (100) and/or said further electric load in a cooking mode. 30

15. Use of a remote device (11) wired or wirelessly connected in signal communication to a household range hood (2) to program a suction device (100) and/or of a further electric load, preferably of a light source (300), belonging to said household range hood (2) . 35

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FIG.1

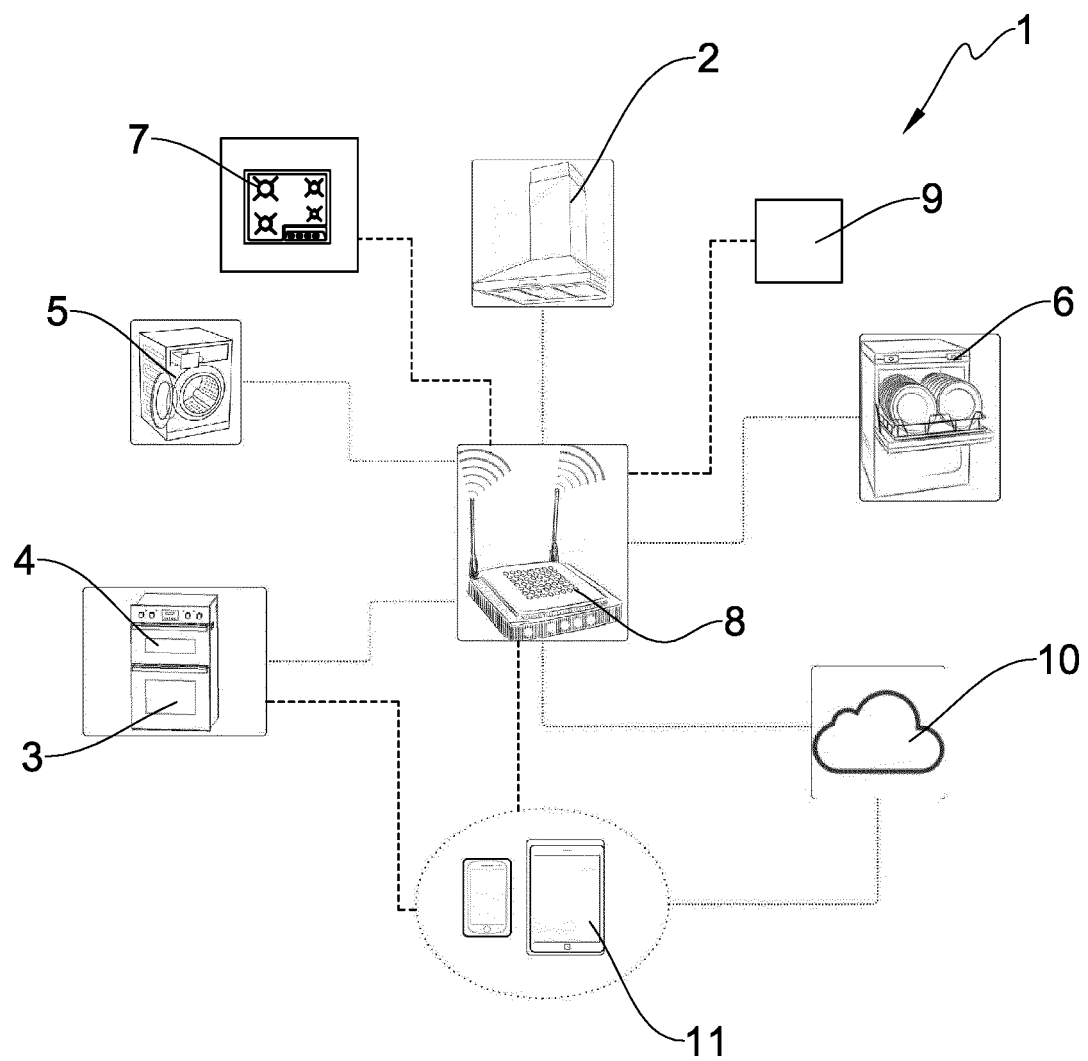


FIG.2

Hood

Help ?

Hood

Settings

Details

Settings

Sync w/Hob

Sync w/Oven

Product maintenance

Light

Auto Light

Night Light

Active from/to

1 54

2 55 AM

3 56 PM

5 54

6 55 AM

7 56 PM

Light tone

WARM

COLD

FIG.3

Hood

Help ?

Hood

Details

Details

Settings

Sync w/Hob

Sync w/Oven

Product maintenance

Light

Min

Max

Aspiration

Min

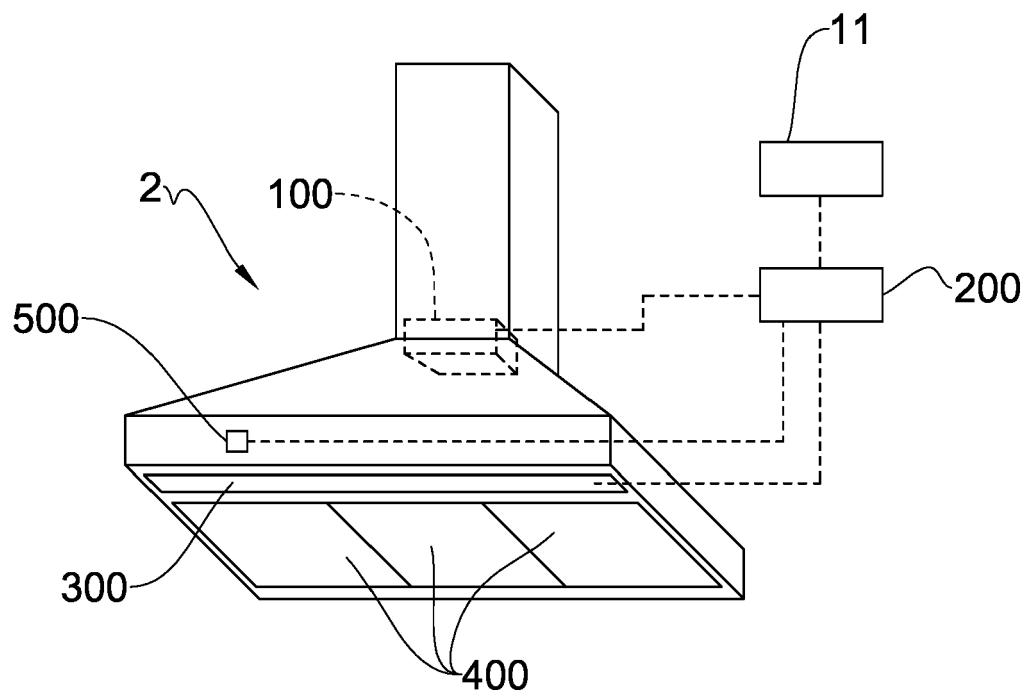
Max

P P+ AUTO

Grease Filter

Charcoal Filter

FIG.4





EUROPEAN SEARCH REPORT

Application Number
EP 18 16 7391

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Y	* page 1, line 1 - page 1, line 7 * * page 2, line 7 - page 2, line 10 * * page 2, line 13 - page 2, line 14 * * page 3, line 6 - page 3, line 7 * * page 4, line 1 - page 4, line 4 * * page 5, line 3 - page 5, line 5 * * page 6, line 1 - page 6, line 7 * * page 6, line 11 - page 6, line 14 * * page 8, line 17 - page 9, line 1 * * page 10, line 4 - page 10, line 6 * * page 10, line 12 - page 10, line 15 *	8,9,12, 13	
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Place of search The Hague		Date of completion of the search 24 September 2018	Examiner Jalal, Rashwan
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