

ENVIRONMENT MONITORING INTEGRATION CABINET AND SYSTEM THEREOF

(a) Technical Field of the Invention

The present invention relates to an environment monitoring integration cabinet and a system thereof, and more particularly to an environment monitoring integration cabinet and a system thereof that can effectively help the electronic computing equipment in the cabinet to dissipate heat and operate stably.

(b) Description of the Prior Art

Due to the advancement and popularization of science and technology, various electronic computer devices have become necessities in people's daily life, such as a network storage equipment, a server equipment and so on. Usually, these electronic computer devices can be stored in a cabinet to obtain protection and shield electromagnetic interference, and these electronic computer devices are all arranged in the cabinet for the convenience of management and space saving. However, the circuit configuration and numerous devices of these electronic computer devices are inconvenient for future maintenance and repair of the devices.

In addition, with the rapid development of big data and Internet technology, the processing capacity of these electronic computing devices has also increased rapidly. Simultaneously, the heat generated by these electronic computer devices are also increased. However, how to effectively dissipate heat from the

cabinet will directly affect the performance and lifespan of these electronic computing devices. In order to enable these electronic computer devices installed in the cabinet to operate normally, a water cooling system is usually used to take away the heat generated by these electronic computing devices during operation. Therefore, how to provide a heat exchange system that can effectively help the electronic computer devices in the cabinet to dissipate heat and operate stably, which has become an urgent problem in the field.

In view of this, the inventor has invested a lot of research, development and effort, making breakthroughs and innovations, hoping to solve the current shortcomings with novel technical methods, not only bringing better products to the society, but also promoting industrial development at the same time.

SUMMARY OF THE INVENTION

In view of the above requirements, a purpose of the present invention is to provide an environmental monitoring integration cabinet and a system thereof. The environmental monitoring integration cabinet is equipped with a sliding track design, which allows the server equipment, an ice water host and an environmental control host to be pulled out from the cabinet, so as to facilitate future maintenance and repair. Further, the cabinet is equipped with a 360-degree fisheye lens, which allows a remote end to clearly see a view in front of the cabinet and confirm the identity of an operator who opened the cabinet. Moreover, the cabinet is equipped with an electric lock to confirm the identity of the operator through a sensing unit and a finger print recognition unit. Furthermore, the environmental monitoring integration system of the present application is equipped with an environmental control host and sensing modules that can monitor ambient temperature, humidity and air quality of various electrical appliances in commercial buildings or factories, and can calculate carbon emissions based on the electricity consumption, wattage and amperage of each electric appliance.

To achieve the above objective, the present invention provides an environment monitoring integration cabinet comprising: a cabinet, a server, a centrifugal chiller, a heat exchange mechanism, a control panel, an image capturing unit and an electric control module; wherein the cabinet has an accommodation space and is composed of a front door, two side panels, a back door, a top panel and a

bottom panel; and the server is arranged in the accommodation space. Furthermore, the centrifugal chiller arranged in the accommodation space is electrically connected to the server, the centrifugal chiller is equipped with a liquid inlet port and a liquid outlet port. Moreover, the heat exchange mechanism is electrically connected to the server and comprises a heat dissipation fin and plurality of fans; wherein the heat dissipation fin is arranged in a receiving space of the back door, and a liquid inlet pipe with a waterproof joint and a liquid outlet pipe with a waterproof joint of the heat dissipation fin are connected with the liquid inlet port and the liquid outlet port of the centrifugal chiller. The fans are embedded in the back door and are arranged opposite to the heat dissipation fin. In addition, the control panel is arranged on an outer surface of the front door of the cabinet and is electrically connected to the server. Furthermore, the image capturing unit is embedded on the outer surface of the front door of the cabinet and is electrically connected to the server. The image capturing unit is used to capture multiple images of the surrounding environment of the cabinet. The electric control module is electrically connected to the server, the centrifugal chiller, the heat exchange mechanism, the control panel and image capturing unit to provide the required power.

To achieve the above another objective, the present invention provides an environment monitoring integration system comprises an environment monitoring integration cabinet, an environmental control host, plurality of electric appliances, plurality of sensing modules and plurality of camera modules. First,

the environment monitoring integration cabinet comprises a cabinet, a server, a centrifugal chiller, a heat exchange mechanism, a control panel, an image capturing unit and an electric control module; wherein the cabinet has an accommodation space and is composed of a front door, two side panels, a back door, a top panel and a bottom panel. The server is arranged in the accommodation space, and the server has a signal receiving unit, a processing unit, a storage unit and a signal transmission unit; wherein the processing unit is electrically connected to the storage unit, the signal receiving unit and the signal transmission unit. The centrifugal chiller arranged in the accommodation space is electrically connected to the server, and the centrifugal chiller is equipped with a liquid inlet port and a liquid outlet port. Moreover, the heat exchange mechanism is electrically connected to the server and comprises a heat dissipation fin and plurality of fans; wherein the heat dissipation fin is arranged in a receiving space of the back door, and the heat dissipation fin is connected to the liquid inlet port and the liquid outlet port of the centrifugal chiller through a liquid inlet pipe with a waterproof joint and a liquid outlet pipe with a waterproof joint. The fans are embedded in the back door and are arranged opposite to the heat dissipation fin. In addition, the control panel is arranged on an outer surface of the front door of the cabinet and is electrically connected to the server. Furthermore, the image capturing unit is embedded on the outer surface of the front door of the cabinet and is electrically connected to the server. The image capturing unit is used to capture multiple images of the surrounding environment of the cabinet. The

electric control module is electrically connected to the server, the centrifugal chiller, the heat exchange mechanism, the control panel and the image capturing unit to provide the required power. Furthermore, the environmental control host arranged in the cabinet is electrically connected to the server and the electric control module, and the environmental control host comprises a transmitting unit, a control unit and a memory unit. In addition, the electric appliances are arranged in a monitoring environment and connected to the environmental control host through a communication connection method. Each electrical appliance has a communication module that can receive or transmit multiple signals including internal data of these electrical appliances; wherein the electrical appliances are controlled through the control unit of the environmental control host, and the carbon emission of each electrical appliance in use is calculated according to the internal data. Also, the sensing modules are arranged in a monitoring environment or the cabinet, and the sensing modules are connected to the environmental control host through the communication connection method. Each sensing module has an information transmission reception module, and each sensing module is used to sense the surrounding environmental conditions to generate a detection value; wherein the detection value is transmitted to the control unit of the environmental control host through the information transmission reception module. Then the detection value is analyzed and calculated by the control unit, and store a calculation value generated after analysis and calculation in the memory unit, or send the calculation value to the information transmission

reception module to control the sensing modules. A warning signal is generated when the calculation value exceeds a reference value stored in the memory unit. Further, the camera modules are electrically connected to the environmental control host through the communication connection method, and the camera modules capture multiple environmental images of the surrounding environment and transmit the environmental images to the control unit; wherein the environmental images perform analysis and calculation through the control unit, and then store the environmental images in the memory unit.

BRIEF DESCRIPTION OF THE DRAWINGS

The above and other objectives, features and other advantages of the present invention will be more clearly understood from the following detailed description taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a stereoscopic schematic diagram of an environment monitoring integration cabinet according to Embodiment of the present invention;

FIG. 2 is a front view diagram of the environment monitoring integration cabinet according to Embodiment of the present invention;

FIG. 3 is a back view diagram of the environment monitoring integration cabinet according to Embodiment of the present invention;

FIG. 4 is a schematic diagram of a sliding track design of the environment monitoring integration cabinet according to Embodiment of the present invention; and

FIG. 5 is a schematic diagram of an environment monitoring integration system according to Embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

In the following detailed description, for purposes of explanation, numerous specific details are set forth in order to provide a thorough understanding of the disclosed embodiments. It will be apparent, however, that one or more embodiments may be practiced without these specific details. In other instances, well-known structures and devices are schematically shown in order to simplify the drawings.

The following detailed description of the present application is taken in conjunction with the accompanying drawings, in which:

Please refer to FIG. 1 to FIG.4, FIG. 1 is a stereoscopic schematic diagram of an environment monitoring integration cabinet according to Embodiment of the present invention; FIG. 2 is a front view diagram of the environment monitoring integration cabinet according to Embodiment of the present invention; FIG. 3 is a back view diagram of the environment monitoring integration cabinet according to Embodiment of the present invention; and FIG. 4 is a schematic diagram of a sliding track design of the environment monitoring integration cabinet according to Embodiment of the present invention.

As shown in FIG. 1 to FIG.4, the present invention provides an environment monitoring integration cabinet 1 comprising: a cabinet 10, a server 20, a centrifugal chiller 30, a heat exchange mechanism 40, a control panel 50, an image capturing unit 51 and an electric control module 52; wherein the cabinet 10 has an accommodation space 101 and is composed of a front door 11, two side panels 12, a back door 13,

a top panel 14 and a bottom panel 15; and the server 20 is arranged in the accommodation space 101.

Furthermore, the centrifugal chiller 30 arranged in the accommodation space 101 is electrically connected to the server 20, the centrifugal chiller 30 is equipped with a liquid inlet port 31 and a liquid outlet port 32. Moreover, the heat exchange mechanism 40 is electrically connected to the server 20 and comprises a heat dissipation fin 41 and plurality of fans 42; wherein the heat dissipation fin 41 is arranged in a receiving space of the back door 13, and a liquid inlet pipe with a waterproof joint and a liquid outlet pipe with a waterproof joint of the heat dissipation fin 41 are connected with the liquid inlet port 31 and the liquid outlet port 32 of the centrifugal chiller 30. The fans 42 are embedded in the back door 13 and are arranged opposite to the heat dissipation fin 41. In addition, the control panel 50 is arranged on an outer surface of the front door 11 of the cabinet 10 and is electrically connected to the server 20. The control panel 50 can display the current power consumption, the internal temperature of the cabinet, whether the electronic lock is locked, whether the cabinet is connected to the server, and special status alarms. Furthermore, the image capturing unit 51 is embedded on the outer surface of the front door 11 of the cabinet 10 and is electrically connected to the server 20. The image capturing unit 51 is used to capture multiple images of the surrounding environment of the cabinet 10. The electric control module 52 is electrically connected to the server 20, the centrifugal chiller 30, the heat exchange mechanism 40, the control panel 50 and image capturing unit 51 to provide the required power.

As shown in FIG. 2, the cabinet 10 further comprises an electronic lock 18 disposed on the outer surface of the front door 11 of the cabinet 10 and electrically connected to the server 20. The electronic lock 18 has a fingerprint identification unit 181 and a first sensing unit 182; wherein the fingerprint identification unit 181 is used to capture a fingerprint information, and judge whether the fingerprint information is consistent with a first fingerprint information entered for first time in the server 20, and generate an unlock command if fingerprint information match the first fingerprint information. The first sensing unit 182 can sense with an identification unit to generate a first sensing information, and judge whether the first sensing information is consistent with a first identity verification information stored in the server 20, and generate the unlock command if the first sensing information match the first identity verification information. If the first sensing information does not match the first identity verification information, a special situation alarm will be displayed on the control panel; wherein the identification unit is an identification card, a magnetic buckle, an easy card, a fingerprint, a facial image recognition, and a QR smart electronic device.

As shown in FIG. 1 and FIG. 4, the cabinet 10 further comprises plurality of partition plates 16 and plurality of sets of slide rails 17, each set of slide rails 17 is composed of two symmetrical slide tracks and correspondingly fixed on an inner wall of the cabinet 10, and the cabinet 10 is divided into plurality of separated spaces by the partition plates 16. Each partition plates 16 is arranged on each set of slide rails

17; the server 20 and the centrifugal chiller 30 are disposed on the partition plates 16; and a bottom surface of each partition plates 16 is connected to two slide blocks that are slidably matched with each set of slide rails 17. Moreover, a handle 161 is arranged around an outer surface of each partition plates 16, and when the handle 16 is pulled, the slide blocks on the bottom surface of each partition plates 16 can slide on each set of slide rails 17, so that the partition plates 16 can slide in the cabinet 10. Simultaneously, the server 20 and the centrifugal chiller 30 can be pulled out from the cabinet 10 for daily maintenance and repair.

Please refer to FIG. 5, FIG. 5 is a schematic diagram of an environment monitoring integration system according to Embodiment of the present invention.

As shown in FIG. 1 and FIG. 5, the present invention provides an environment monitoring integration system 2 comprises an environment monitoring integration cabinet 1, an environmental control host 60, plurality of electric appliances 61, plurality of sensing modules 62 and plurality of camera modules 63 and an access control management device 64. First, the environment monitoring integration cabinet 1 comprises a cabinet 10, a server 20, a centrifugal chiller 30, a heat exchange mechanism 40, a control panel 50, an image capturing unit 51 and an electric control module 52; wherein the cabinet 10 has an accommodation space 101 and is composed of a front door 11, two side panels 12, a back door 13, a top panel 14 and a bottom panel 15. The server 20 is arranged in the accommodation

space 101, and the server 20 has a signal receiving unit 21, a processing unit 22, a storage unit 23 and a signal transmission unit 24; wherein the processing unit 22 is electrically connected to the storage unit 23, the signal receiving unit 21 and the signal transmission unit 24. The centrifugal chiller 30 arranged in the accommodation space 101 is electrically connected to the server 20, and the centrifugal chiller 30 is equipped with a liquid inlet port 31 and a liquid outlet port 32. Moreover, the heat exchange mechanism 40 is electrically connected to the server 20 and comprises a heat dissipation fin 41 and plurality of fans 42; wherein the heat dissipation fin 41 is arranged in a receiving space of the back door 13, and the heat dissipation fin 41 is connected to the liquid inlet port 31 and the liquid outlet port 32 of the centrifugal chiller 30 through a liquid inlet pipe with a waterproof joint and a liquid outlet pipe with a waterproof joint. The fans 42 are embedded in the back door 13 and are arranged opposite to the heat dissipation fin 42. In addition, the control panel 50 is arranged on an outer surface of the front door 11 of the cabinet 10 and is electrically connected to the server 20. Furthermore, the image capturing unit 51 is embedded on the outer surface of the front door 11 of the cabinet 10 and is electrically connected to the server 20. The image capturing unit 51 is used to capture multiple images of the surrounding environment of the cabinet 10. The image capture unit 51 includes an optical lens, which is one of a fisheye lens, a wide-angle lens or a standard lens. The electric control module 52 is electrically connected to the server 20, the centrifugal chiller 30, the heat exchange mechanism 40, the control panel 50 and the image capturing unit 51 to

provide the required power. The server 20 and the environmental control host 60 in the cabinet 10 will generate sound during operation, therefore, a soundproof foam is disposed on the cabinet 10 to reduce the generation of noise.

Furthermore, the environmental control host 60 arranged in the cabinet 10 is electrically connected to the server 20 and the electric control module 52, and the environmental control host 2 comprises a transmitting unit 201, a control unit 202 and a memory unit 203; wherein the control unit 202 is electrically connected to the transmitting unit 201 and the memory unit 203. In addition, the electric appliances 61 are arranged in a monitoring environment and connected to the environmental control host 60 through a communication connection method; wherein the communication connection method is 3G, 4G, 5G, Low Power Wide Area Network (LPWAN), Narrowband Internet of Things (NB-IoT), Bluetooth, ZigBee or Wi-Fi. Each electrical appliance 61 has a communication module 611 that can receive or transmit multiple signals including internal data of these electrical appliances 61. Moreover, the electrical appliances 61 are controlled through the control unit 202 of the environmental control host 60, and the carbon emission of each electrical appliance 61 in use is calculated according to the internal data; wherein the electrical appliances 61 include computers, laptops, printers and copiers, telephones, fax machines, projectors, monitors, televisions and audio systems, lamps, lighting equipment, refrigerators, microwave ovens, air conditioners, heating equipment, coffee machines and drinking water

machine. Also, the internal information includes the energy consumption, transportation method, and energy consumption of the electrical appliances 61, which can be obtained from manufacturers, product instructions, energy labels, network resources, and related research reports. In addition, carbon calculation tools or carbon calculation formulas are used to calculate the carbon emissions of the electrical appliances 61. During the calculation process, the internal data is converted into carbon equivalents, and consider energy consumption, carbon emissions from materials and manufacturing processes, product life and use time and other factors.

Also, the sensing modules 62 are arranged in a monitoring environment or the cabinet 10, and the sensing modules 62 are connected to the environmental control host 60 through the communication connection method. Each sensing module 62 has an information transmission reception module 621, and each sensing module 62 is used to sense the surrounding environmental conditions to generate a detection value 622, which is transmitted to the control unit 202 of the environmental control host 60 through the information transmission reception module 621. Then the detection value 622 is analyzed and calculated by the control unit 202, and store a calculation value 2021 generated after analysis and calculation in the memory unit 203, or send the calculation value 2021 to the information transmission reception module 621 to control the sensing modules 62; wherein a warning signal is generated when the calculation value 2021 exceeds a reference value 2031 stored in the memory unit 203. The sensing

modules 62 is a high-frequency radar, an ultrasonic sensor, an infrared ray detector, an image identification device, an environmental detector, a fire detection device and lighting monitoring device or combination. Each sensing module 62 is used to detect water quality, air quality, sound, temperature, humidity, etc. of the surrounding environment. In addition, the sensing modules 62 can sense the air outlet temperature of the cold air, the temperature of hot water and cold water, and the temperature and humidity of the cabinet, and display the results on the control panel 50.

Further, the camera modules 63 are electrically connected to the environmental control host 60 through the communication connection method, and the camera modules 63 capture multiple environmental images 631 of the surrounding environment and transmit the environmental images 631 to the control unit 202; wherein the environmental images 631 perform analysis and calculation through the control unit 202, and then store the environmental images 631 in the memory unit 203. Also, each camera modules 63 comprises a timing controller 632 which is connected to the environmental control host 60 and the sensing modules 62 through the communication connection method. The timing controller 632 activates or deactivates the action of each camera module 63 according to the calculated value 2021 and the detected value 622 stored in the memory unit 203. In an embodiment, when a special situation occurs or the detection value 622 is abnormal, the environmental images 631 of a special situation or an abnormal situation can be selected from the memory unit 203 of the environmental control

host 60 to analyze and judge the cause of the abnormality. Furthermore, the access control management device 64 is electrically connected to the environmental control host 60, and the access control management device 64 comprises a second sensing unit 641 with an induction area 6411. Moreover, a second identification information 6421 is generated through an identification element 642 and send to the environmental control host 60; and the environmental control host 60 decides whether the second identification information 6421 is consistent with a second identity verification information 2032 stored in the environmental control host 60, and the unlock command is generated if they match. Moreover, a user can operate and control the cabinet 10, the electrical appliances 61, the sensing modules 62 or the camera module 63 through an electronic device 65; and the electronic device 65, the server 20 and the environmental control host 2 are connected via the communication connection method. The electronic device 65 has a user interface 651, the user interface 651 is a Hankest® software developed by Hedian Digital Integration Technology Ltd.. The user interface 651 displays a picture presented by the control panel 50, and a user can control the electrical appliances 61 or control the opening of the cabinet 10 through the user interface 651.

The foregoing description, for the purpose of explanation, has been described with reference to specific embodiments. However, the embodiments were chosen and described in order to best explain the principles of the disclosure and its practical applications, to thereby enable others skilled in the art to

best utilize the disclosure and various embodiments with various modifications as are suited to the particular use contemplated. The embodiments depicted above and the appended drawings are exemplary and are not intended to be exhaustive or to limit the scope of the disclosure to the precise forms disclosed. Modifications and variations are possible in view of the above teachings.

CLAIM:

1. An environment monitoring integration cabinet, comprising:

a cabinet having an accommodation space and composed of a front door, two side panels, a back door, a top panel and a bottom panel;

a server arranged in the accommodation space;

a centrifugal chiller arranged in the accommodation space, electrically connected to the server, and equipped with a liquid inlet port and a liquid outlet port;

a heat exchange mechanism electrically connected to the server and comprising a heat dissipation fin and plurality of fans; the heat dissipation fin arranged in a receiving space of the back door, and a liquid inlet pipe with a waterproof joint and a liquid outlet pipe with a waterproof joint of the heat dissipation fin connected with the liquid inlet port and the liquid outlet port of the centrifugal chiller; the fans embedded in the back door and arranged opposite to the heat dissipation fin;

a control panel arranged on an outer surface of the front door of the cabinet and electrically connected to the server;

an image capturing unit embedded on the outer surface of the front door of the cabinet, electrically connected to the server, and used to capture multiple images of the surrounding environment of the cabinet; and

an electric control module electrically connected to the server, the centrifugal chiller, the heat exchange mechanism, the control panel and image capturing unit to provide the required power.

2. The environment monitoring integration cabinet according to Claim 1, further comprising plurality of partition plates and plurality of sets of slide rails, each set of slide rails composed of two symmetrical slide tracks and correspondingly fixed on an inner wall of the cabinet, the cabinet divided into plurality of separated spaces by the partition plates, each partition plate arranged on each set of slide rails, the server and the centrifugal chiller disposed on the partition plates, and a bottom surface of each partition plates connected to two slide blocks that are slidably matched with each set of slide rails.

3. The environment monitoring integration cabinet according to Claim 2, wherein a handle arranged around an outer surface of each partition plate, and when the handle is pulled, the slide blocks on the bottom surface of each partition plates can slide on each set of slide rails, so that the partition plates can slide in the cabinet.

4. The environment monitoring integration cabinet according to Claim 1, further comprising an electronic lock disposed on the outer surface of the front door of the cabinet and electrically connected to the server; wherein the electronic lock has a fingerprint identification unit and a first sensing unit; the fingerprint identification unit is used to capture a fingerprint information and judge whether the

fingerprint information is consistent with a first fingerprint information entered for first time in the server, and generate an unlock command if the fingerprint information match the first fingerprint information.

5. An environment monitoring integration system, comprising:

an environment monitoring integration cabinet comprising:

a cabinet having an accommodation space and composed of a front door, two side panels, a back door, a top panel and a bottom panel;

a server arranged in the accommodation space and comprising a signal receiving unit, a processing unit, a storage unit and a signal transmission unit; wherein the processing unit is electrically connected to the storage unit, the signal receiving unit and the signal transmission unit;

a centrifugal chiller arranged in the accommodation space, electrically connected to the server, and equipped with a liquid inlet port and a liquid outlet port;

a heat exchange mechanism electrically connected to the server and comprising a heat dissipation fin and plurality of fans; wherein the heat dissipation fin is arranged in a receiving space of the back door, and a liquid inlet pipe with a waterproof joint and a liquid outlet pipe with a waterproof joint of the heat dissipation fin are connected with the liquid inlet port and the liquid

outlet port of the centrifugal chiller; wherein the fans are embedded in the back door and are arranged opposite to the heat dissipation fin;

a control panel arranged on an outer surface of the front door of the cabinet and electrically connected to the server;

an image capturing unit embedded on the outer surface of the front door of the cabinet, electrically connected to the server, and used to capture multiple images of the surrounding environment of the cabinet; and

an electric control module electrically connected to the server, the centrifugal chiller, the heat exchange mechanism, the control panel and image capturing unit to provide the required power;

an environmental control host arranged in the cabinet, electrically connected to the server and the electric control module, and the environmental control host comprising a transmitting unit, a control unit and a memory unit, the control unit electrically connected to the transmitting unit and the memory unit;

plurality of electric appliances arranged in a monitoring environment and connected to the environmental control host through a communication connection method, each electrical appliance having a communication module that can receive or transmit multiple signals comprising internal data of these electrical appliances; wherein the electrical appliances are controlled through the control unit of the

environmental control host, and the carbon emission of each electrical appliance in use is calculated according to the internal data;

plurality of sensing modules arranged in a monitoring environment or the cabinet, the sensing modules connected to the environmental control host through the communication connection method, each sensing module having an information transmission reception module and used to sense the surrounding environmental conditions to generate a detection value, which is transmitted to the control unit of the environmental control host through the information transmission reception module; then the detection value analyzed and calculated by the control unit, a calculation value generated after analysis and calculation stored in the memory unit, or send the calculation value to the information transmission reception module to control the sensing modules; wherein a warning signal is generated when the calculation value exceeds a reference value stored in the memory unit; and

plurality of camera modules electrically connected to the environmental control host through the communication connection method, multiple environmental images of the surrounding environment captured by the camera modules and the environmental images transmitted to the control unit; the environmental images analyzed and calculated through the control unit, and then the environmental images stored in the memory unit.

6. The environment monitoring integration system according to Claim 5, wherein each camera module comprises a timing controller which is connected to the environmental control host and the sensing modules through the communication connection method; wherein the timing controller activates or deactivates the action of each camera module according to the calculated value and the detected value stored in the memory unit.

7. The environment monitoring integration system according to Claim 5, further comprising an access control management device electrically connected to the environmental control host, and the access control management device comprising a second sensing unit with an induction area; wherein an identification information is generated through an identification element and send to the environmental control host, and the environmental control host decides whether the identification information is consistent with a second identity verification information stored in the environmental control host, and the unlock command is generated if they match.

8. The environment monitoring integration system according to Claim 5, wherein each sensing modules is a high-frequency radar, an ultrasonic sensor, an infrared ray detector, an image identification device, an environmental detector, a fire detection device and lighting monitoring device or combination.

9. The environment monitoring integration system according to Claim 5, wherein the communication connection method is 3G, 4G, 5G, Low Power Wide Area Network, Narrowband Internet of Things, Bluetooth, ZigBee or Wi-Fi.

10. The environment monitoring integration system according to Claim 5, further comprising an electrical device connected to the server and the environmental control host the environmental control host, the electronic device having a user interface displaying a picture presented by the control panel; wherein a user can control the electrical appliances or control the opening of the cabinet through the user interface.