Virus Guard Wall Nebulizer

MANUAL

Virus - Guard
Sustainable Disinfection

Power
Fault
Liquid
Alarm

Virus - Guard
Sustainable Disinfection

Virus Guard All in One Wall Unit

www.virguard.com

CONTENTS

1. Safety information

1.1   Inside there are high voltage and high temperature， non-professionals do not open it , There is a risk of electric shock and scald.

1.2   The product is very heavy (around 16KG), therefore, must install in the wall or ceiling can support the product.

1.3   Only Virus Guard fog liquid should be used. Other fog liquid may damage the equipment or cause dangers to human physical safety.

1.4   For indoor use only. Please keep dry. Don't close to high magnetic environment and humidity is more than 90% RH of the environment

1.5   The product uses maximum 1000 Watt (230VAC/4.5A) power load, please make sure the socket you use can support it.

1.6   The smoke expelled from the output nozzle is hot enough to cause burns, and very hot droplets of fluid occasionally escape from the nozzle area. Keep people and objects at least 60 cm (24 inches) away from the nozzle.

1.7   Provide a minimum free space of 10 cm (4 inches) around the machine and ensure free and unobstructed air flow to and around the machine. Keep the machine at least 60 cm (24 inches) away from combustible and heat-sensitive materials.

1.8   Do not use without fog liquid.

2. In the box

➢   Before starting installation security smog machine, please make sure that you have all the following equipments:

1 X Security smog machine

1 X Bottle of 1200cc Smog liquid (Inside the machine).

1 X Lead-acid rechargeable battery 12V /2.6AH (Inside the machine).

1 X Installation bracket, to fix it on the ceiling or wall.

4 X Pieces of φ5 Expansion Screws.

1 X Wireless PIR

1 X Wireless windows door sensor

2 X Pieces wireless remote controller

1 X Manual

3. Function instruction

➢   The volume of Virus Guard All in One Wall Unit is very small, only 253 (L) x 150 (W) x 365 (H)mm , However the Effective area of 1350 Cubic meter/min, this belongs to the industry leading position

➢   This unit can be controlled by wire control or wireless control or both at the same time control.

➢   The source of wireless control is wireless PIR (motion detector), wireless remote controller and wireless door sensor, standard is one wireless PIR, one wireless door sensor, two wireless remote controls, if necessary, The three kinds of wireless devices can extend up to 12 pcs for each

➢   This unit can connect the wire control components, such as alarm panel ,GSM alarm system, PIR, Siren…, it don't need rely on wireless control part, just through the wire connection port, can operate the products, Use wire control way cost low, but high reliability.

➢   This unit is Built-in UPS (Un-interrupted Power Supply) . Therefore, when the AC main power is cut-off, the power from UPS can provide power to the PC board and pump of the unit to make it keep working. However, it can not provide power to heater. Thus, if the main power is cut-off for too long time (around 60 minutes) or if the smoke machine is set off once, the smoke machine can not offer proper smoke output.

➢   Working status was indicate by multiple LED and buzzer users can easily see the machine running situation, make corresponding countermeasure in time.
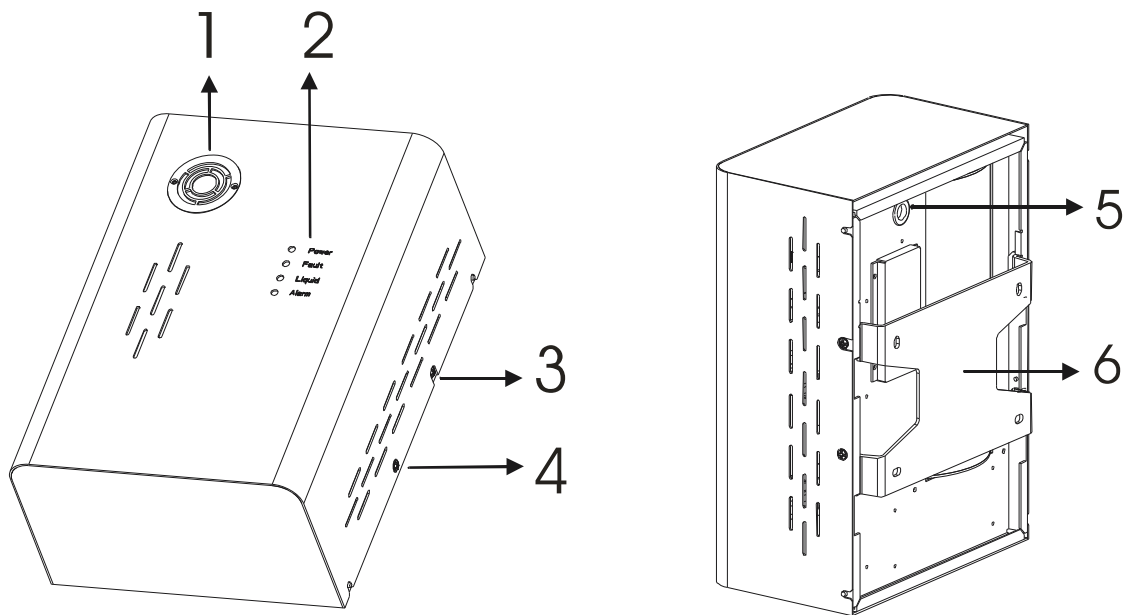
➢ This product can be installed on the ceiling or wall, however, the nozzle can be 120°, adjusted .Users can adjuste it freely, it very convenient installation, it meets the needs for room decorate design.

➢ When the smoke liquid is Only a small amount or run out, the LED and buzzer will flash and beep to remind users (Please see below LED and buzzer status) and stop producing smoke (In order to protect pump and ensure a longer lifespan of pump)

✓ Please place a whole new full fog liquid bottle when replacing bladders. Otherwise, it will cause the timer record wrong operation time and damage pump.

4. Specification

Machine dimension (mm)	365 X 253 X 150
Packing dimension (mm)	435 X 323 x 225
Weight (install)	15.2 kg
Weight (shipped)	16.5 kg
Performance	1350 Cubic meter/min
Mains connection	220-240V AC
Power consumption (Heat up)	910W
Heat up Time	<20 minutes
Heat up after average consumption	60W
Fluid Reservoir	1.2L
Spray times per bottle	About 5 minutes
Effective area per bottle	Around up to 8000 cubic meters
SMOKE Duration Time	Switch Adjustable
Reaction Time	0.5 s
Mounting	Vertical or Horizontal
working conditions	0-45 , 5-90%RH

Table 1

5. Product overview

Picture.1

1. Spray nozzle.

2. LED status indicator.

3. Mounting bracket fixation screw.

4. Cover fixation screw.

5. Used to connect opening of power input line and circuit board of host.
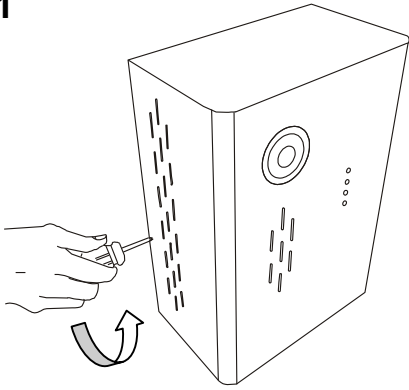
6. Installation bracket

6. Install smog machine
The Virus Guard can be installed vertically for wall mounting, or alternatively mounted horizontally for ceiling installations.
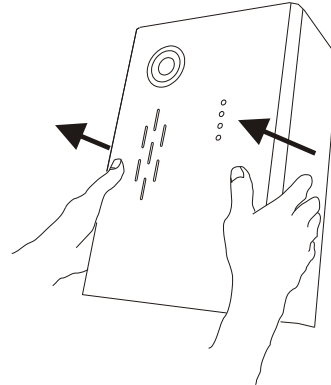
6.1 Installation Steps:
6.1.1 Use a "cross" screwdriver to loose the screws on the left and the right sides (Step.1).

6.1.2 Take off the surface board like the picture (Step.2).

6.1.3 If you want to connect the control panel, PIR and SIREN external devices, please reference 4.2 Referenced schematic of each terminal.

6.1.4 Screw the installation bracket into position on the ceiling or wall. (Step. 3)

6.1.5 Open the liquid pot lid, connect the hose (Step.4).

6.1.6 Connection to AC mains power, and then connect backup battery electrodes (Step.5).

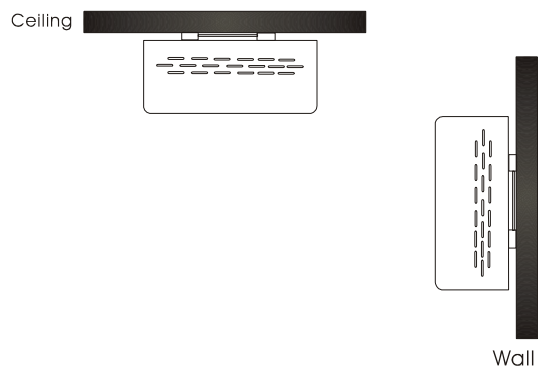6.1.7 Close the case, adjust Virus Guard universal nozzle can spray smoke in multiple directions(Step.6).
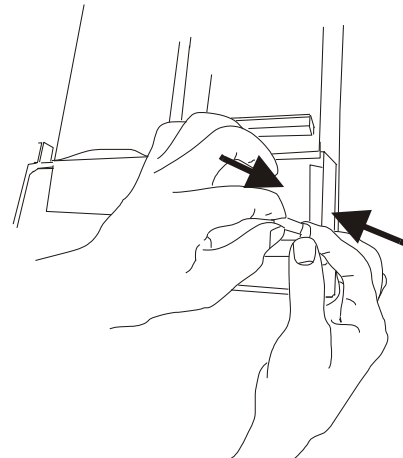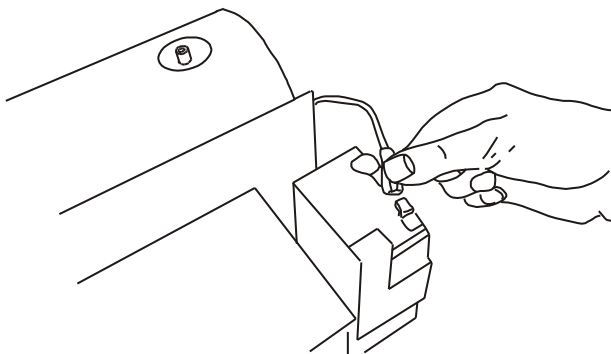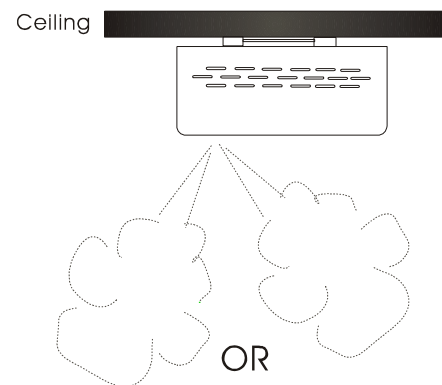
Step.1

Step.2

Step.3

Ceiling

Wall

Step.4

Step.5

Step.6

Ceiling

OR

6.2 Referenced schematic of each terminal

Following is the wired connection diagram, you can:

Option 1:

Choose any kinds of following two connection way independently, to make the smog machine works. (In the case you do not buy our standard accessories, such as door sensor , PIR, Remote controller)
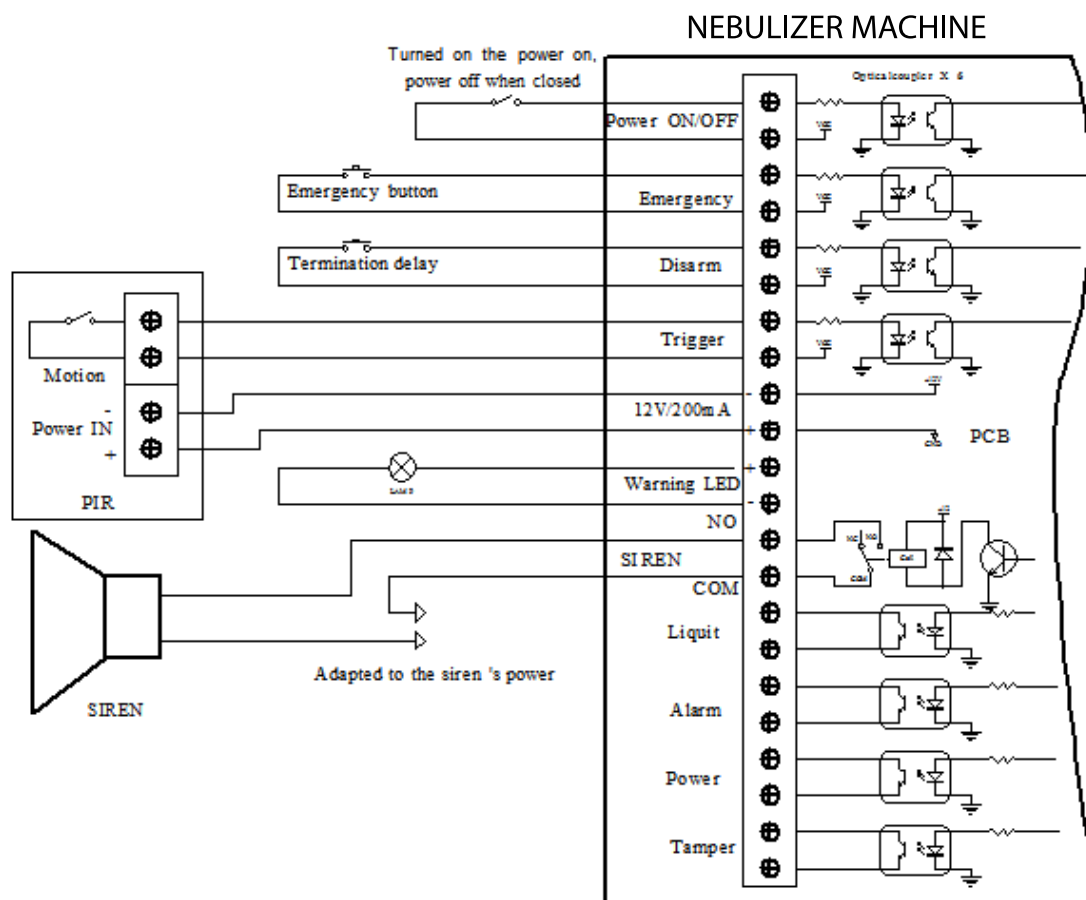
Option 2:

Use the wireless way to make the machine works.(In the case you buy our standard accessories)

Option 3:

Choose any kinds of wired connection way, as well use our wireless accessories , both can make the smog machine works well.

Referenced schematic 1:

Referenced schematic 2:

EXTERNAL ALARM SYSTEM

NEBULIZER MACHINE

7. PCB Schema

1. AC Main Power terminal

2. Fuse F10A/250V (220V~240V)

3. Fuse F2A/250V (220V~240V)

4. Fuse F2A/250V (220V~240V)

5. Fuse F10A/250V (220V~240V)

6. Nebulizer liquid Timer Reset Switch

7. Connect to LED PCB

8. Connect to Tamper Switch

9. Button SW2 (Set spray delay time)

10. DIP Switch

11. Button SW1 (Set spray time)

12. Terminal connect to alarm panel, GSM alarm system, PIR, Siren…
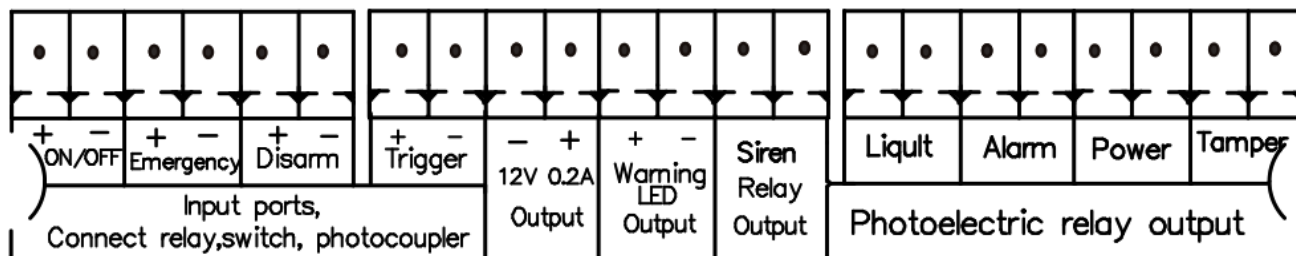
13. Buzzer

14. Pump Connection

8. PCB terminal connection

Connected to these terminals, it is necessary to have professional knowledge of electronics and electrical engineers to operate.

8.1 Terminal 1 (Number 1 on PCB schema)

From this terminal can input the 220~240V AC power supply. (If you need 110 ~ 120 V AC input, you can contact us.)

8.2 Terminal 2 (Number 12 on PCB schema)

ON/OFF The terminals of the product can be power on or off the operation, in combination with 9 points(DIP Switch function #2), This terminal is opened by default is power on(Arming), it can prevent the cable is cut into the shutdown state, loss of function(Disarming).

Emergency Used to connect with emergency button, it from the influence of time delay function, when the machine in the monitoring state, press it, the machine will immediately spit out smoke. This is deal with emergency situation, According to the actual situation needs, you can use this function, also can ignore it
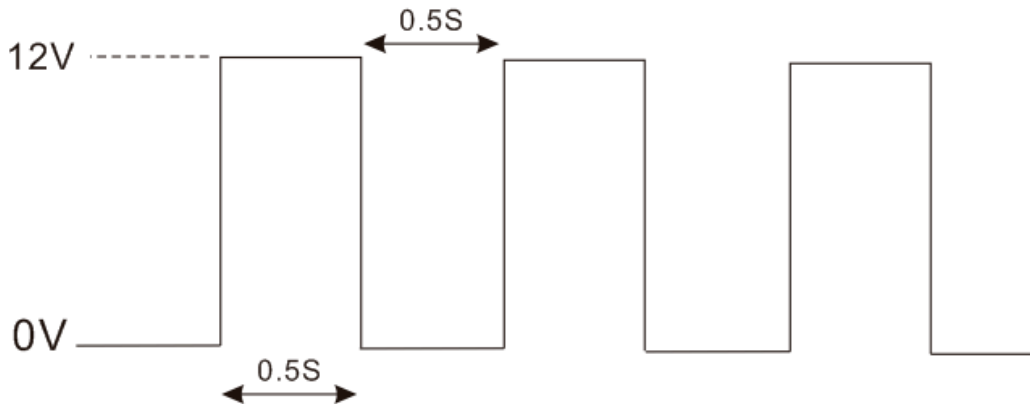
Disarm If the sensor trigger on the "Trigger" port, Short circuit on the port, can immediately remove delay function.

Remark: if this port always Short circuit, "Trigger" port will be will fail and cannot be sensor trigger

Trigger The terminals be triggered, will enter a state of delay spray, delay times by SW2 switch is set.

12V/200mA This terminal can output 12 v / 200mA voltage, can connect with PIR, DVR equipment.

Warming LED When in delay spray status, this terminal will output DC12V200mA, used to connect with warning LED, it will be flash per second, following figure:

Siren The terminal connected to the output of the relay, if the unit is spray smoke state, then relay will changes state, finished spray smoke state, relay automatically into normal open state.

Tamper The terminal connected to the output of the photoelectric relay, under normal condition is low resistance(less than 10 OHM, capacity: 50V 500mA), front cover is opened, can change state of high resistance.

Liquid   The terminal connected to the output of the photoelectric relay, under normal condition is low resistance(less than 10 OHM capacity: 50V 500mA), if fog liquid is low or null, can change state of high resistance.

Alarm The terminal connected to the output of the photoelectric relay, under normal condition is low resistance(less than 10 OHM capacity: 50V 500mA), if the unit is spray smoke state, can change state of high resistance, finished spray smoke state, automatically into low resistance.

UPS state   The terminal connected to the output of the photoelectric relay, under normal condition is low resistance(less than 10 OHM capacity: 50V 500mA), if main AC power cut, can change state of high resistance.

9. LED & Buzzer Status Table

NO.	LED status	Buzzer	Device status	Status illustration	Remark
1	Four LED on the panel at the same time flashing 4 times	0.5 seconds short beep	Self-checking	Normal working condition	If the machine just pass on AC power supply, the machine does not have this process, it means the machine is shutdown state. You can use the remote control to open it.
2	Power LED Always ON	None	Monitoring (armed status)	Normal working condition	This condition, if the machine is activated, will immediately spray smoke
3	Power LED Flashing once every 2 second	twice short beep every 20 seconds	AC Power cut OFF	Normal working condition	The state only for about an hour , And only can be trigger spray smoke once, To ensure security effect, please pass on AC power supply as soon as possible
4	Alarm LED Always ON	None	Warming up	Normal working condition	About 20 minutes later, will turn into Standby mode, In this status, the machine do not spray Smog
5	Alarm LED Flashing once every 1 second	Always ON	spray smoke status	Normal working condition	
6	Fault LED Always ON	one short beep every 3 seconds	It means the installation of Smog liquid are not correct.	Fault status, the need to deal with	Rearranging solid , Check the switch of solid , make shall it can be work
7	Fault LED	has one long	heating device	Fault status,	Check the AC voltage is normal

	Flashing once every 1 second	beep every 10 seconds	failure	the need to deal with	or not，whether Internal connection is loose or not，Still can't solve it, contact machine suppliers
8	Fault LED flashing once every 1 seconds	has a short beep every 2 seconds	Front cover not closer	Fault status, the need to deal with	Installed front cover
9	Fault LED flashing once every 1 seconds	one short beep every 6 seconds	overheating	Fault status, the need to deal with	Check the AC voltage is normal or not，whether Internal connection is loose or not，Still can't solve it, contact machine suppliers
10	Liquid LED flashing once every 1second	has a short beep every 3 minutes	Fog liquid is low	Fault status, the need to deal with	Add fog liquid in time
11	Liquid LED always on	has a short beep every 5 minutes	Fog liquid is null	Fault status, the need to deal with	Add fog liquid at once，Notice：even if the machine is triggered, can not spray smoke. Please pay attention to this point.
12	Liquid LED & Fault LED always on	None	In disarm state	Normal working condition	At this moment，wireless PIR and wireless windows sensor is not available，but TRIGGER terminal is available.

Table 2

10. DIP Switch function

● Switch the DIP Switch# 1(Number 10 on PCB schema) to ON position, Cover the tamper switch will disable, turn to OFF position, tamper switch will enable.

● Switch the DIP Switch # 2 to ON position, terminal (Number 12 on PCB schema) the ON/OFF terminal will disable, turn to OFF position, the ON/OFF terminal will enable.

● Switch the DIP Switch # 3 to ON position, terminal (Number 12 on PCB schema) the trigger terminal will close activated Spray smoke, turn to OFF position, the trigger terminal will open Activated Spray smoke.

● Switching the DIP Switch #4 to OFF position, the button SW1 is no function.

11. Setting Spray smoke Time & Delay spray smoke time

11.1　　This SW1 button((Number 11 on PCB schema)) is used for setting spray time

✧ Buzzer ring 1 times 15 seconds smoke output duration, Buzzer ring 2 times 30 seconds smoke output duration, Buzzer ring 3 times 45 seconds smoke output

duration, Buzzer ring 4 times 60 seconds smoke output duration, set state can be repeated.

✧ Please note when switching the DIP Switch #4 (Number 10 on PCB schema) to OFF position, the button SW1 is no function.

11.2 This SW2 button((Number 9 on PCB schema)) is used for setting delay spray time, if one sound, mean delay 10s, two sounds, delay 20s....six sound, delay 60s,7sound,no delay.

Remark: when you press first time, it means check the present delay time. After the first sound, you need change the delay time in 2seconds

12. Start to use / testing machine

● First once plug in the unit, the build-in buzzer will short beeping for 0.5 seconds , 4 LED flashing at the same time four times, and then buzzer will Once again short beeping for 0.5 seconds , the unit Self-check completed . Then Alarm LED Always light, about 20 minutes for machine to complete heat-up process. (The exact needed time depends on power offered and surrounding temperature). And then the Power LED light is on until the heating-up process is completed, the unit enter the standby state, at any time can be activated with smoke.

● When the machine is well installed and completes the heating process (Power LED light on permanently), available remote controls or terminal (Number 10 on PCB schema) the Trigger terminal spray smoke.

● **Important information：**

✧ First once plug in the unit, if just hear the BUZZER long rang once, the four LED is not light, this is the machine to enter the shutdown state, required using remote controller or terminal 'Trigger' is to open the power supply.

✧ In the UPS status, if the internal temperature can not meet the requirements, the machine will be forced to automatically shut down, no matter use remote controller or terminal Trigger at this moment, can't turn it power on, then can only be connected to AC power supply, to open the power supply.

13. Replace the Nebulizer liquid

Replacement of Nebulizer liquid must to pass on the power , otherwise fog liquid will not be able to reset the timer.

● **Important information：**

✧ Please fill up the liquid into one bottle each time, otherwise will not be able to normal remind less fog liquid or empty Nebulizer liquid condition

14. Operation of wireless remote

● This button ⊞ has two functions, first, in shutdown state, press once, the machine will in the power on state, Second, under the conditions of disarm state, press once, machine will enter the armed state(Fault LED 、 Liquid LED both no lighting) .

● This button ⊡ has two functions, first, in the condition of eject smoke, press once, machine will stop immediately with smoke. Second, under the conditions of not eject smoke, press once, machine will enter the shutdown state.

● Under armed status (The Nebulizer machine power LED always on under armed status), press button ⚡ can force the Nebulizer machine to eject smoke, at this moment press button ⊡ to stop smoke output.

● Press button ⊘ ， the machine is in disarm state（Fault LED 、 Liquid LED both lighting；heater in working status always）， at this moment，wireless PIR and wireless windows sensor is not available , but TRIGGER terminal is available , if the terminal status is changed , the machine will spray immediately(Click the button ⊞ to relieve the state)。

Remark:

1. **Each time you press button** ⊡ **,the machine will make two short sound like "BI"**

2. **Each time you press button** ⊞ **, the machine will make one long sound like "BI"**

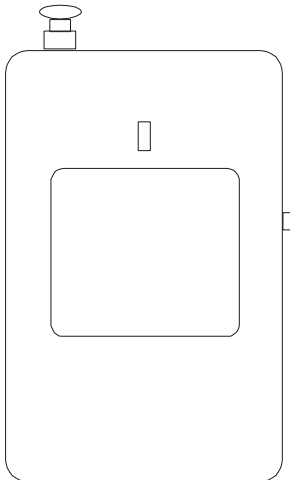3. **Each time you press button** ⊘ **, the machine will make one short sound like "BI"**

Remote control specification：

1.Operating voltage 12V

2.Operating Current 10mA@12V

3.Operation frequency: 433.92MHz

4.Transmit Power 10mw@12V

5.Transmission speed 0.2-7mS

6.Frequency tolerance +/-50KHz

7.Transmission distance 50m No obstacle

8.Oscillation resistance 12M OHM

15. Operation of the wireless PIR

The PIR sensor uses the 9V battery. The battery working life about half year

Specification:

1 Power supply: 9V alkaline battery

2 Detection Speed: 0.2-7mS

3 Frequency: 433MHz+-10KHZ

4 Lens: Fresnel segment

5 Installation Height: 2.2-4.5m

6 Sensitivity: Two levels adjustable

8 Weight: 65g

9 Size: 110x65x48mm

Features:

Low power consumption, built-in big capacity battery, special low-power mode, and ultra-long working hours

Sensor: low-noise high sensitivity dual pyroelectric infrared sensor

Detection distance: 12m at 25m

Detection angle: 110°

Current: 9µA (standby) and 20mA (alarm)

Installation height: 1.8m, 2.4m (surface mount)
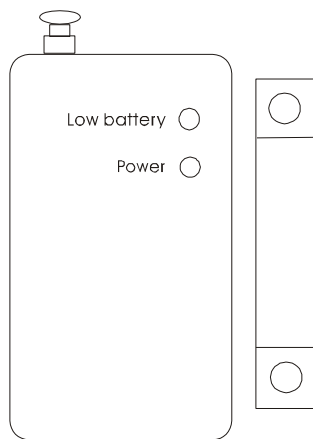
Working temperature: -10 to +50℃

Anti-white light: >9,000 lux

Anti-EMI: >30V/m (30MHz, 1GHz)

Emitting frequency: 433MHz

Emitting power: ≤10Db

16. Operation of the wireless Window/Door sensor

Features:

* Electronic Magnetic Sensor detects entry.

* Alarm is activated when the two pieces are separated.

* Gives an alarm if someone opens the door or the window.

Specification:

1 Power supply: 23A DC12V alkaline battery

2 Detection Speed: 0.2-7mS

3 Frequency: 433MHz+-10KHZ

4 Low battery instructions (when low battery LED light, you need change the battery)

5 Easy to install--just peel and stick.

5 Weight: 31g

6 Size: 70x35x15mm

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