



## The NightWatch Bedbug Monitor Operating Instructions MODEL 528

Read Before Operating  
The NightWatch Bedbug Monitor

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**Table of Contents**

Safety.....	2
How NightWatch Monitors Bedbug Host-seeking Activity.....	3
Assembling the NightWatch Bed Bug Monitor.....	4
Programming the NightWatch Bedbug Monitor.....	6
Status and Warning Indicators.....	7
Placement of the Nightwatch.....	7
Exchanging and Refilling CO <sub>2</sub> Bottles*.....	8

## Safety

### **IMPORTANT INSTRUCTIONS**

Read and follow the following safety precautions using the unit.

1. Use only in a well ventilated room
2. Use only with transformer provided, model number DYS40-240133W.
3. Do not operate this unit with a damaged cord or plug, or if the unit malfunctions, or has been dropped or damaged in any manner. Return unit to authorized service facility for examination, electrical or mechanical adjustment, or repair.
4. Do not use an extension cord with this unit.
5. Do not install or use this unit within 10 feet of a pool
6. This unit is intended to be correctly orientated in a vertical position.
7. Periodically remove bedbugs from the collections pit falls. Do not allow the collection pit falls to become full.
8. Visually inspect the unit for bedbugs and remove them before moving it from one location to another.
9. Replace the CO<sub>2</sub> bottle\* when indicated by the signal on unit.
10. Read and follow instructions affixed to the CO<sub>2</sub> bottle\*.
11. CO<sub>2</sub> bottle\* must be filled only by properly trained personnel in accordance with CGA Pamphlets P-1, C-6, G-6, and AV-7 available from the Compressed Gas Association, 4221 Welney Road, Chantilly, VA 20151-2923, USA.
12. Do not expose the CO<sub>2</sub> bottle\* to temperatures above 130° F (54° C) when pressurized, including inside a confined or unventilated space.
13. Do not tamper with or change the CO<sub>2</sub> bottle\*, valve or burst disk.

14. Do not leave or store the CO<sub>2</sub> bottle\* in a confined or unventilated space, such as an enclosed vehicle
15. CO<sub>2</sub> bottle must be destroyed if exposed to fire or heated to a temperature exceeding 350° F (177° C).

**SAVE THESE INSTRUCTIONS** – This manual contains important safety and operating instructions for this unit.

## **How NightWatch Monitors Bedbug Host-seeking Activity**

1. Because bedbugs are nocturnal and most active in the early hours of the morning, the NightWatch remains off until 10 PM, when it is activated by its microprocessor control. It remains active throughout the night and into the morning when bedbugs are most active, until the microprocessor turns the unit off at 6 AM. Because bedbugs take several minutes to feed, they have the most success when you are lying still and in deep sleep.
2. CO<sub>2</sub> is released every 5 seconds simulating the “breath” of a 70 pound (32 kg) child. CO<sub>2</sub> is the most powerful attractant for bedbugs. The NightWatch monitors the amount of CO<sub>2</sub> remaining in the bottle and lets you know when the bottle is low by flashing a low CO<sub>2</sub> warning.
3. The thermal lure heats up, producing the infrared image of blood near the surface of the skin and the body temperature of a small animal. The NightWatch has a higher “skin” temperature than a human by design. It is more easily detected by bedbugs, yet is as attractive as human skin temperature.
4. Bedbugs follow the CO<sub>2</sub> until they detect the thermal lure. Bedbugs have body heat sensors on the tip of their antennae just like mosquitoes. Because their mouthparts cannot reach the blood supply except where it is close to the skin, and because these areas of the body are slightly warmer than other areas, insects use heat sensors to pick the best place to bite.
5. Bedbugs attempting to reach the thermal lure climb up the felt covered ramp of the pit fall traps that are located on either side of the NightWatch. When they get to the top of the pit fall, they encounter a patent pending “slippery slope” surface which is level at first, but then quickly falls away into the pit. By the time the bedbugs try to turn around, it’s too late. They are past the point of no return and fall into a pit with smooth vertical sides from which they cannot escape. Once inside the pit fall, they become comfortable. It’s warm and as other bedbugs arrive their propensity for

aggregation in a refuge kicks in. The gentle warmth slowly desiccates them (dries them out) overnight.

## Assembling the NightWatch Bedbug Monitor

Open the container and remove the foam inserts. Store the container and foam inserts in the event you need to ship the NightWatch Bedbug Monitor elsewhere.

Note: NightWatch Bedbug Monitor requires a 16 ounce to 32 ounce CO<sub>2</sub> bottle that may be purchased at Wal\*Mart™, Lowe's™, or Dick's™ sporting goods or store.

Insert CO<sub>2</sub> bottle. See Figure 1. Tighten the CO<sub>2</sub> by hand only!



**Figure 1 Insert CO<sub>2</sub> bottle**

The CO<sub>2</sub> bottle and CO<sub>2</sub> release valve in the NightWatch conform to Compressed Gas Association standards. As the bottle is threaded into the valve, an "O" ring on the CO<sub>2</sub> bottle engages a sealing diameter on the NightWatch valve. This "O" ring engagement prevents CO<sub>2</sub> leaks. When the bottle is fully threaded into the valve, it seats against a pin which opens the bottle and pressurizes the CO<sub>2</sub> release system. Full CO<sub>2</sub> bottles have high internal pressure and are more difficult to thread in or out, and emit an audible hiss when they re remove. Empty CO<sub>2</sub> bottles thread easily in or out. Take care not to damage the "O" ring on CO<sub>2</sub> bottles. Hand tighten the CO<sub>2</sub> bottle. Never use a tool to insert or remove the CO<sub>2</sub> bottle

Attach the pit falls to the housing. See Figure 2.



**Figure 2 Attach pit falls to housing**

Assemble the low voltage power cord. See Figure 3. Plug the power cord into the low voltage transformer.



**Figure 3 Assemble power cord to low voltage transformer**

Attach the low voltage power cord to the NightWatch. See Figure 4.



**Figure 4 Attach low voltage power cord**

Place the vented cover over the CO<sub>2</sub> discharge tube.

### **Programming the NightWatch Bed Bug Monitor**

To program the NightWatch Bedbug Monitor, simply enter the time of day. Depress the Time Set button repeatedly to advance the Minutes. Depress and hold the time set button to advance the Hours. Take care to correctly enter AM or PM. The PM indicator light illuminates for PM hours.

The NightWatch will now activate between the hours of 10 PM and 6 AM. Bedbugs forage in low light conditions, so the NightWatch emits little light, and then in the red portion of the spectrum. The NightWatch display is red LEDs (Light Emitting Diodes).

The LEDs are fully illuminated when the time is being set, and stay lit for 60 seconds. They then go off to minimize light emissions. An LED flashes every 4 seconds to let you know that the NightWatch is operating properly.

When the Nightwatch Bed Bug Monitor activates at 10:00 PM, the thermal lure will be warm to the touch, and the valve will pulse every 5 seconds, making an audible click, and will release a small burst of CO<sub>2</sub> gas.

In the event of a power outage, the time of day will flash, and must be re-entered.

In addition to setting the time, the display is used to signal normal operation and other conditions. See Table 1.

Condition	Display
Normal Operation	Time displayed 60 seconds, then LEDs flash every 4 seconds during normal operation
Low CO <sub>2</sub>	CO <sub>2</sub> display
Low Temperature ≤55° F	Lt displayed

**Table 1 Status and warning indicators**

To clear the Low CO<sub>2</sub> indicator, replace the empty CO<sub>2</sub> bottle with a full one.

CO<sub>2</sub> bottles are commonly available in 16, and 20 ounce sizes. Bottles are usually factory filled to 80% of capacity to allow for temperature and pressure changes during shipment. A 20 oz factory filled bottle will have 16 oz of CO<sub>2</sub>. Such a bottle will give 4-6 days of operation.

The Nightwatch will not operate at temperatures below 55° F as Bed bugs are not active below this temperature. The Nightwatch Monitor will restart when temperatures warm.

## **Placement of the NightWatch**

In unoccupied dwellings, place the NightWatch in the bedrooms and sitting rooms.

In furnished bedrooms, place the NightWatch near the headboard of the bed. In unfurnished rooms, place the NightWatch where beds were previously located. Refuges for bedbugs are most likely to be near the headboard of the bed in bedrooms.

Sitting rooms must also be monitored for bedbugs, especially if a bedbug infestation has been found in any bedroom. In sitting rooms refuges for bedbugs are most likely to be near the location of sofas, reclining chair, etc. In occupied dwelling, place the NightWatch by the headboard of the bed.

### **Note: the NightWatch cannot protect a sleeping person from bedbug bites.**

Persons sleeping in a room that has a suspected or confirmed infestation must:

1. Treat the bed, box springs and mattresses to remove bedbugs using accepted methods such as mattress encasements, and/or treatments to kill bedbugs such as steam, CO<sub>2</sub> snow, or insecticides.
2. Isolate the bed from access by bedbugs.
  - a. This requires barriers to prevent bedbugs from climbing the bedposts (like placing the bedpost in a tin can filled with mineral oil used in the days of your great grandparents).

- b. Preventing any other access by bedbugs to the bed from adjacent walls, nightstands, etc.
- c. Preventing access by bedbugs to the bed linens touching the floor, etc.
- d. Preventing access by bedbugs to the bed by transfer from clothing, hitching a ride to the bed from pajamas in a near by dresser, for example.

### **\*Exchanging and Refilling CO<sub>2</sub> Bottles**

CO<sub>2</sub> bottles are not supplied with the Nightwatch Bed Bug Monitor and must be purchased separately. Empty CO<sub>2</sub> bottles may be purchased at many Wal\*Mart™, Lowe's™ or Dick's™ Sporting Goods stores. Some locations fill empty bottles, but most locations exchange full bottles for empty ones. Dealers in Paint Ball equipment and Welding Supply retailers are good sources for refilling empty bottles.