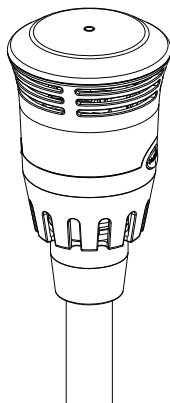
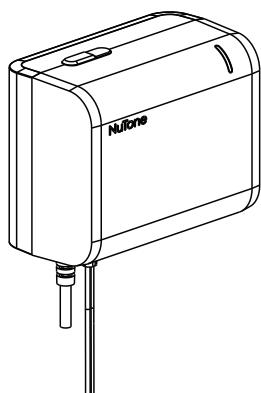


NuTone®  
**haven**™  
Backyard Mosquito Repellent System

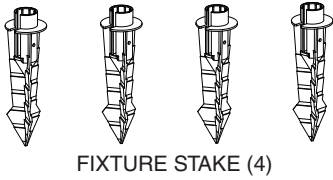
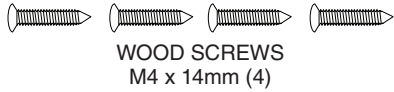
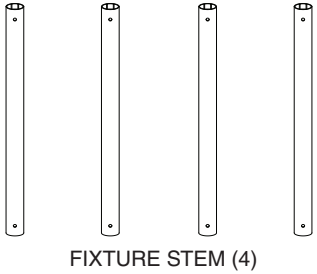
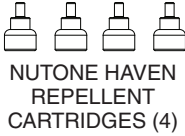
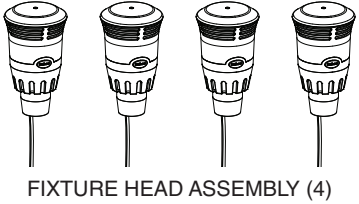
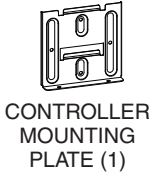
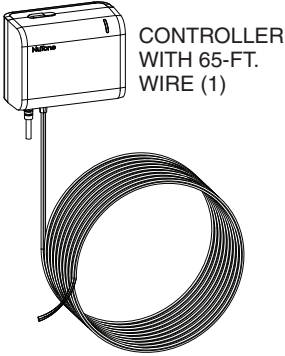
**Model**

**HVK400**



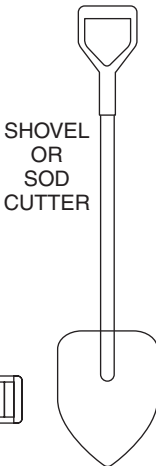
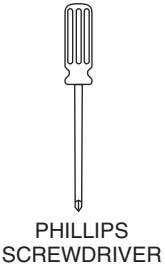
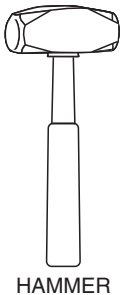
<b><u>Section</u></b>	<b><u>Page</u></b>
Kit Contents .....	2
Tools Needed.....	2
Important Safety Instructions .....	3
Locate Controller .....	4
Mount Controller .....	4
Locate The Fixtures .....	5
Fixture Installation.....	5
Connect Wiring for Repellent Fixtures .....	6
Test System Prior to Cable Burial .....	7
Bury Cable and Connectors .....	7
Accessories .....	7
Controller Operation .....	8
FCC Information .....	9
Address & Warranty .....	9
Service Numbers .....	9

# Kit Contents

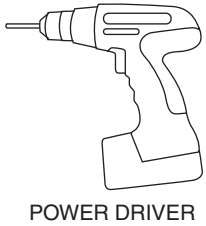
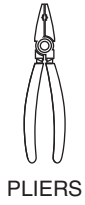


# Tools Needed

## REQUIRED



## OPTIONAL



# IMPORTANT SAFETY INSTRUCTIONS

**SAVE THESE INSTRUCTIONS** — This manual contains important safety and operating instructions for power units.

## **FOR OUTDOOR USE ONLY.**

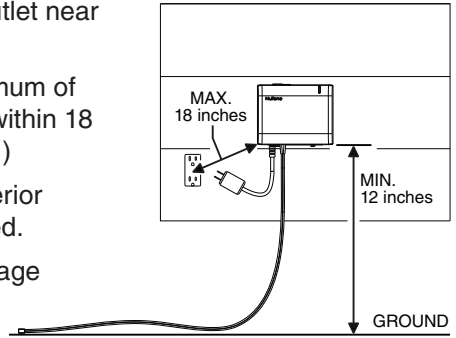
When using electrical products, basic precautions should always be practiced including the following:

1. **READ AND FOLLOW ALL SAFETY INSTRUCTIONS.**
2. Read and follow all instructions that are on the product or provided with the product.
3. Do not use an extension cord.
4. Do not install or use within 10 feet of a pool or any other body of water.
5. Do not use in a bathroom.
6. **WARNING: RISK OF ELECTRIC SHOCK.** When used outdoors, install only to a Weatherproof Receptacle protected by a Class A GFCI. If one is not provided, contact a qualified electrician for proper installation. Refer to the Canadian Electrical Code and relevant Building Codes for the installation of this product including these requirements for fire-rated construction. All installation work and electrical wiring must be performed by qualified personnel.
7. **WARNING: RISK OF ELECTRIC SHOCK.** Mount the controller at a height greater than 12 inches from the ground surface.
8. **CAUTION: OUTDOOR USE ONLY:** Toxic materials are dispensed, do not use near a kitchen where there is uncovered food or occupied sleeping areas.

# Locate Controller

1. Locate closest exterior electrical outlet near desired installation area. (Fig. 1)
2. Controller must be installed a minimum of 12 inches above ground level and within 18 inches of an electrical outlet. (Fig. 1)
3. Consult a local electrician if an exterior electrical outlet needs to be installed.

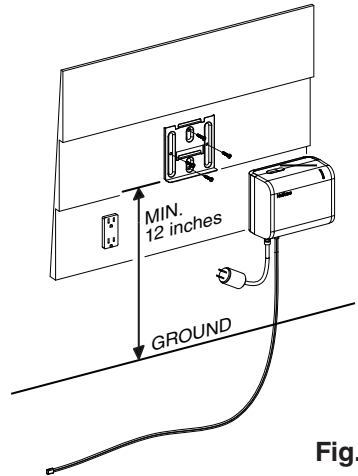
**NOTE:** Controller requires an input voltage of 120 VAC, 60Hz.



**Fig. 1**

# Mount Controller

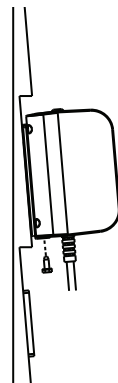
1. Remove metal plate from back of controller and hold against wall.
2. Ensure the plate is level before screwing to wall. Plate must be installed a minimum of 12 inches above ground level.
3. Screw plate to wall through four holes using M4 x 14mm wood screws provided. (Fig. 2)
4. Once mounting plate is secure, align tabs on mounting plate with two recessed slots on back of controller and drop into place.



**Fig. 2**

5. Attach controller to bottom lip of mounting plate using M4 x 10mm self tapping screws provided. (Fig. 3)

**NOTE:** Mounting surfaces can vary, if installing on brick use fasteners suitable for application.



**Fig. 3**

# Locate the Fixtures

1. Route the 65 feet of low voltage wire (connected to controller) around perimeter of desired protection area. (Fig. 4)
2. Fixtures should be placed 12 feet or less apart surrounding perimeter of protection area. (Fig. 5)
3. Mark location for each fixture.

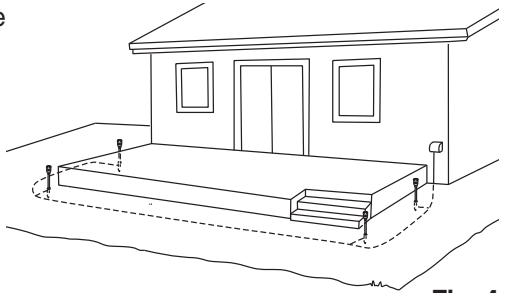


Fig. 4

**NOTE:** Do not connect additional wire as this may cause system to not function properly.

**NOTE:** Controller can only power up to four fixtures.

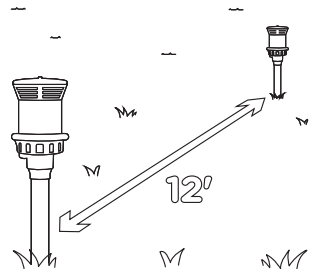


Fig. 5

# Fixture Installation

1. Install ground stakes. Loosen hard soil and remove stones and rocks before attempting to install ground stakes. Use provided striker cap to protect stakes when hammering. After installation, stake flange should be flush with grade level. (Fig. 6)

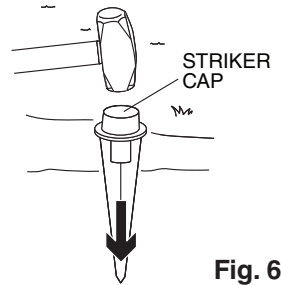


Fig. 6

2. Remove top of fixture by squeezing two buttons and set aside for use later. (Fig. 7)

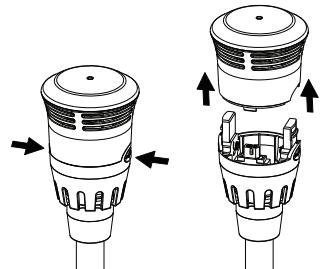
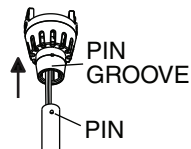


Fig. 7

3. Guide fixture wire through metal stem. Insert stem into fixture head by aligning pin in stem with groove in fixture head and press firmly until you hear a click. (Fig. 8)



4. Pull fixture wiring completely through notch in ground stake. Push metal fixture stem into ground stake by aligning pin in stem with groove in ground stake. Press firmly until you hear a click. (Fig. 9)

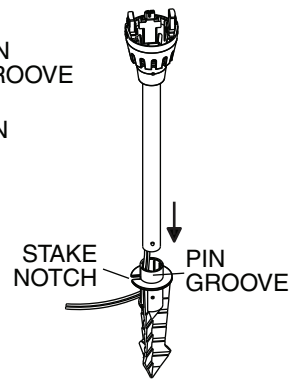


Fig. 8

Fig. 9

- 5. Refer to separate instruction sheet for repellent bottle attachment inside fixture.
- 6. Replace fixture head assemblies on all fixtures removed in Fig. 7.

## Connect Wiring for Repellent Fixtures

- 1. Open main section of clip on the connector. (Fig. 10)
- 2. Insert controller wire into main section of connector. Each side of the wire needs to align with the piercing contacts inside the main section.
- 3. Squeeze two sides of connector until it clicks.

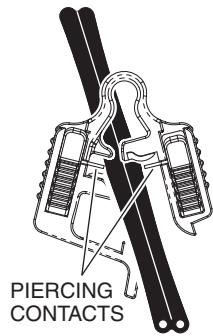


Fig. 10

- 4. Locate end of fixture wires. (Fig. 11)
- 5. Pull the two wires apart approximately 3 inches.
- 6. Open two wire compartments on connector.
- 7. Insert each fixture wire end into opening until it stops (approximately 1/2") and press closed until it clicks.

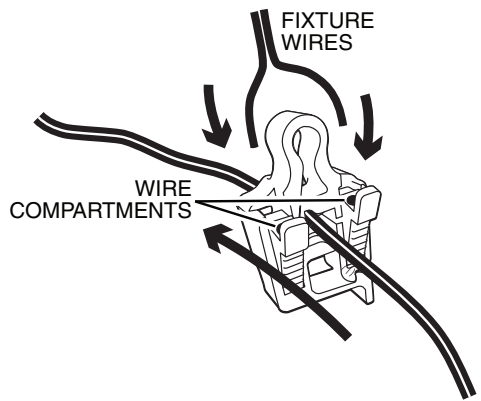


Fig. 11

## Test System Prior to Cable Burial

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1. Before the cable is buried, power system on and ensure green LED indicator light on top of each fixture is illuminated.

**NOTE:** Controller always needs to be turn ON manually by pressing the ON/OFF button. Not compatible with external timer.

2. If lights do not illuminate try the following troubleshooting tips:
  - Make sure controller is plugged into a working 120 volt wall outlet.
  - If wall outlet is operated by a switch, make sure it is turned on.
  - Make sure branch circuit breaker is not tripped.
  - Make sure wire connector is piercing both wires correctly.
  - Make sure fixture wire leads are tight in connector.
  - Make sure wire did not get cut during burying process.
  - Make sure top of fixture is seated properly on the base.

## Bury Cable and Connectors

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1. Once system is operating properly, bury and backfill all wire and connectors for the system (shovel, or sod cutter recommended). (Fig. 12)

National Electrical Code states burial depth of the wiring should not be more than 6" below grade. Check local codes to ensure compliance.

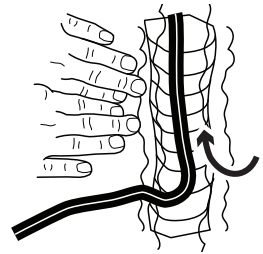


Fig. 12

## Accessories

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### HVR400 - Repellent Refills

Four pack of replacement repellent cartridges.

# Controller Operation

Function	Operation		LED Indication	Troubleshooting
	Power Button (left)	Reset Button (Right)		
System On/ Off.	Press.		Displays solid green.	
Reset 4 Hour System Timer (Before Timer Expires).		Single quick press.	LED will flash green quickly 2 times to indicate timer is now reset to 4 hours.	
Low Repellent.			LED will continually fade on and off slowly.	
Reset 195 Hour Repellent Timer.		Press and hold for 5 seconds (can be reset at any time).	LED will Flash 5 times then turn solid green.	
Low Voltage Indication.			LED will flash once every 4 seconds.	This warning indicates voltage of system is low and system may not be functioning fully.
Short Circuit Protection.			LED will continually flash rapidly.	This fault mode protects product from damage. Potential issues include improper fixture connection, or shorted wire connections. The system installation needs to be inspected. To reset, unplug for 30 seconds and reconnect controller power cord from outlet.



# FCC Information

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## FCC & IC Compliance

This device complies with FCC Part 15, Subpart B and the Canadian ICES-003. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation. This class B digital apparatus meets all requirements of the Canadian Interference Causing Equipment Regulations CAN ICES-3 (B) / NMB-3 (B).

**CAUTION: Changes or modifications not expressly approved by NuTone could void your authority to use this equipment.**

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.