

Bee Hive Thermal Industries

Installation Instructions

For

BBH-101

Mite Killer Mode

When do you treat for the Varroa Mite

Spring but 30 days after the Pollen Flow Has Begun

August when the Mite population peaks

Oct. to insure you are mite free over the winter

Installation Video

<https://www.beehivethermalindustries.com/resources/videos/>

Note: The Ambient Temperature must be 70 degrees F. or higher before running the Mite Mode. & For Double Deep Hive Bodies 80 degrees F is recommended.

- a. First Remove all supers & queen excluder.
- b. Using a pocket knife cut a slot on the top of the hive body at the rear preferred for the cable aligned with the center brood frame.
- c. Place the sensor in the top center of the center brood frame & attach using the enclosed staple with a hammer or use a staple gun. Note: do not cut the cable which will result in a sensor failure.
- d. Place the gray sensor cable in the slot provided by cutting a slot with a pocket knife.
- e. Replace the queen excluder.
- f. Insert the Styrofoam on top of the hive body (brood box)
- g. Replace the supers, inner lid, & lid.
- h. Insert the BBH-101 heater tray sliding it in thru the hive entrance.
- i. Note: older hives may have honey comb all the way to the bottom board shear this off with the heater tray. Remove the BBH-101 tray & allow the bees to clean up the honey & wax.
This may take 1-2 days.
- j. Install the custom closure stick match the slot to the cord, duct tape the ends of the stick to the bottom board the bees will try to push the stick out.
- k. The sensor cable has a quick disconnect connector so one can leave it permanently in the hive check to make sure the cable is connected.
- l. Connect 110/120-volt power to the black power cord.
- m. The led lights will flash 3 times and the controller relay will start in warm hive mode.
- n. Mite mode - close the hive entrance with supplied closer stick. **Note: ambient temperature must be at 70 degrees F to run mite mode.**
- o. Press and hold the Mode Button for 3 seconds.
- p. The controller will show a flashing blue light.
- q. The controller will increase the temp. to 106 degrees F and will show a flashing green light when this temperature reaches 106F. (don't be alarmed if a flashing red light is displayed this is a very accurate one tenth of a percent so if the temperature is slightly above 106 degrees F it will flash Red and will return to a flashing Green light shortly.

- r. Upon reaching the mite set temperature flashing green or red light you **MUST REMOVE THE CLOSURE STICK TO ALLOW THE BEES TO ENTER & EXIT THE HIVE**, spring & fall only with cooler temperatures upon removal of the provided closure stick replace with a standard closure stick & use the 3 inch opening.
- s. Controller has Automatic Timer & will shut down upon cycle completion 2-1/2 Hours, remove the power, disconnect the cable, remove the BBH-101 thermal tray. Allow the hive to cool. Numerous bees will gather on the outside of the box they will return to their normal activities in a couple of hours. It's call air condition bee mode as they try to cool the bee hive, or Bearding.
- t. There is a safety feature that if the temperature does not reach 106 degrees F the controller will stop the mite mode showing a Blue and Red light. Check for any possible misalignment of the Styrofoam allowing air into the hive. Check for any air cracks in the hive body etc.
- u. Note that if you use a queen excluder with a wood frame that may allow ambient air to draw into the hive body and one must duct tape the excluder, the plastic ones work better.
- v. The timer will cycle for 150 minutes upon completion and the controller display will show solid blue & green lights upon completion of the mite cycle.

Double Deep Hive Body Setup

- a. The setup is identical as the single deep. The sensor goes on top of the middle frame in **bottom hive body. Recommended Ambient Temperature of 80F.**
- b. Due to it being a double it takes longer to obtain the set mite kill temperature.
- c. Make sure there are no cracks that will allow outside air into the double deeps and make sure if you use a screened bottom that your mite board is wedged in place & tape the joint of both boxes.
- d. In the event that the controller times out before reaching mite temp. you will have a solid red & blue led light, unplug the unit wait 90 seconds apply power and press the mode button the unit will start again, then press the mode button starting the mite kill again.
- e. Watch very closely if the mite mode green flashing LED does not start within 15 minutes disconnect the power and inspect for cracks in bottom board etc.
- f. If one is unsuccessful upon the second attempt do not restart the Mite Killer as that it may harm your bees.
- g. **The best option is to do the mite kill on individual hive bodies by installing a false bottom board for the top hive body, run the mite kill on the bottom hive and then the top hive body.**

Mite Kill at Cooler Ambient Temperatures

BBH-101-8 & 10 frame units are designed to operate at a minimum of 70 degrees F ambient Single Deep & 80F for Double Deep Hive Bodies and the higher the ambient temperatures a shorter time one has for the mite warm up mode (blue flashing light)

To assist in performing a mite kill please follow the following instructions.

- a. Double Deep Use Carpet Tape or Masking Tape To Seal The Seam Between Hive Body 1 & 2 & bottom board.
- b. Screen Bottoms Wedge Your Mite Board Snug Against The Bottom Screen
- c. Upon reaching Mite Mode Remove Our Special Closure Stick (Green Flashing Light) Then Install A Standard Closure Stick. Use the 3-3/4 inch opening
- d. <http://www.brushymountainbeefarm.com/10-Frame-Entrance-Reducer>
 - e. You can also use a Bee Cozy insulated wrap to help obtain Mite Kill Temp.

BBH-101 & 08

Recommended Cleaning of White Surface

Cleaning Instructions for Thermal Blanket assembly.

SHOCK HAZARD: MAKE SURE THIS UNIT IS UNPLUGGED PRIOR TO CLEANING!

BURN HAZARD: IF WARMING THIS UNIT UP PRIOR TO CLEANING MAKE SURE IT IS SUFFICIENTLY COOLED PRIOR TO CLEANING TO PREVENT PERSONAL BURNS!

Steps for cleaning:

1. Make certain the unit is unplugged and sufficiently cooled to prevent personal burns.
2. Using direct sunlight or a hair dryer warm up the plate.
3. Using only clean soft cloth and **warm** water, apply the dampened (not dripping wet) cloth to the surface to be cleaned and gently scrub and repeat until clean.
4. To prevent damage (especially to painted surfaces) DO NOT USE scouring pads, or sharp metal objects such as spatulas or putty knives to any part of the thermal blanket.
5. Avoid using cleaning agents.

NOTE: Do not repaint this is special PTFE Teflon type paint.

Modes of Operation:

There are two modes of operation for this controller, start up and Mite Killing Mode. Solid LED's indicate Normal Mode start up and flashing Led's will indicate Mite Killing Mode. To switch between the two mode's press and hold the MODE button until all three Led's turn on and then release the Mode button.

Start UP



SOLID LED's:

Start Up Power LED's Will Flash The Revision Number of Controller

ROLLING LED's:

Error Condition:

- a. Sensor Failure (Open Short) Led's Will Flash From Left To Right Check Sensor Connection

Mite Killing Mode is as follows:

Display:



FLASHING BLUE:

Temperature of Hive Sensor is below **MITE SET TEMPERATURE** And Increasing



**FLASHING GREEN:
CLOSURE STICK**

Temperature of Hive Sensor is +/- 1°C of **MITE SET TEMPERATURE REMOVE**

THERMAL TREATMENT HAS BEGUN AT LOWER AMBIENT TEMP.S YOU MAY SEE

CYCLING BACK

TO A BLUE FLASHING LIGHT IF SO ADD A STANDARD REDUCER WITH THE 3 INCH

OPENING



FLASHING RED:

Temperature of Hive During Mite Mode Is **SLIGHTLY ABOVE MITE SET POINT IT WILL ADJUST AUTOMATICLY DO NOT BE ALARMED**



FLASHING LED's:

Error Condition: Blanket cannot achieve MITE SET TEMPERATURE – UNPLUG UNIT

- a. Note: ambient temperature must be at 70 degrees F to run mite mode or higher, upon reaching mite temp. being flashing green or red light YOU MUST REMOVE THE CLOSURE STICK. If the unit times out after 45 minutes check for any cracks in the hive that may allow air to enter. Unplug the power cord, wait 1 minute reconnect the power unit, led lights will flash 6 times, press mode button start mite mode again. If the unit does reach mite mode by a total of 60 minutes discontinue mite kill. Call Lynn Williams 803-504-8313 or your local BHTI representative.



SOLID LED's:

Completion of a **MITE CYCLE**