

Murray's Best Chicken Coop Controller

Introduction & Description

Murray's Best Chicken Coop Controller is more than just a door opener. It will open the coop door a few minutes before sunrise and close the door a few minutes after sunset with the use of an electronic light sensor, but it does so much more! The door can also be operated manually with the use of a three-position toggle switch; **Open** (day), **Close** (night), and **Auto** (automatic) modes. This switch is invaluable when used during installation and troubleshooting.

The controller is also equipped with a temperature sensor that will not allow the door to open until the outside temperature is above 20 degrees Fahrenheit. This feature protects your birds from freezing temperatures and also helps keep your coop warmer. If the outdoor temperature rises above 20 degrees Fahrenheit anytime during daylight the door will automatically open. It will remain open until a few minutes after sunset.

It has been known for many years that chickens lay more eggs if they receive 16 hours of light a day. We have built into Murray's Best Chicken Coop Controller a light timer that turns on an LED light panel eight hours after sunset. In this way the chickens will receive their supplemental light just before sunrise and the door opening. A fixed eight hour sleep period along with early morning artificial light will stimulate the hens and help them to lay their eggs prior to the door opening.

The LED light panel is one of the most efficient sources of light on the market today. It has an output equivalent to a 40-watt incandescent bulb but only requires 2 watts of power. The controller and light operates on a safe and efficient 12-volt transformer which is plugged into a standard 110-volt outlet.

Items included

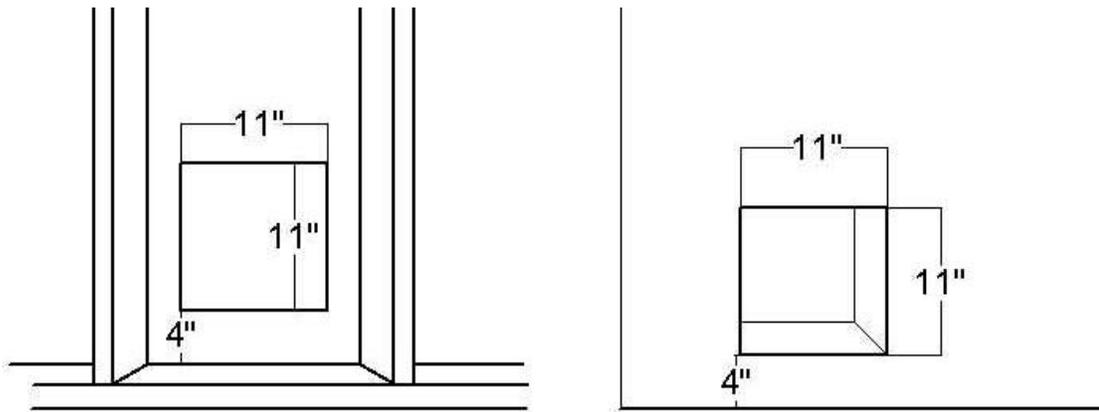
- 1 – Controller
- 1 – Sensor with 12' or 6' cable
- 1 – 110/12 volt Power Supply
- 2 – C-Channel Rails
- 1 – Door Panel
- 1 – LED Light Panel
- 1 – Light Panel Power Cord
- 1 – Hardware Package
 - 4 – 1 ½" Screws
 - 6 – ¾" Screws
 - 1 – Light Mounting Bracket with Screws

- 1 – Instruction Manual

Installation

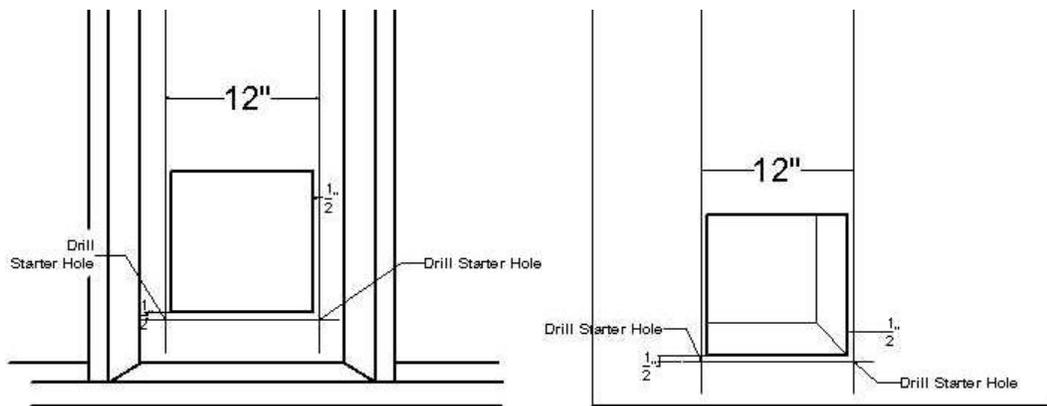
1. Opening in coop wall

You will need to have an opening in your coop wall that is approximately 11 inches by 11 inches and 4 inches above the floor. If your coop was built with standard 16 inch stud spacing and it is not lined you could mount the door directly on the inside of the sheeting/siding. If your coop is lined (and insulated) you will need to cut a hole in both the sheeting/siding and the liner. The opening will need to be framed out so that the birds do not have access to the void between the sheeting/siding and the liner.

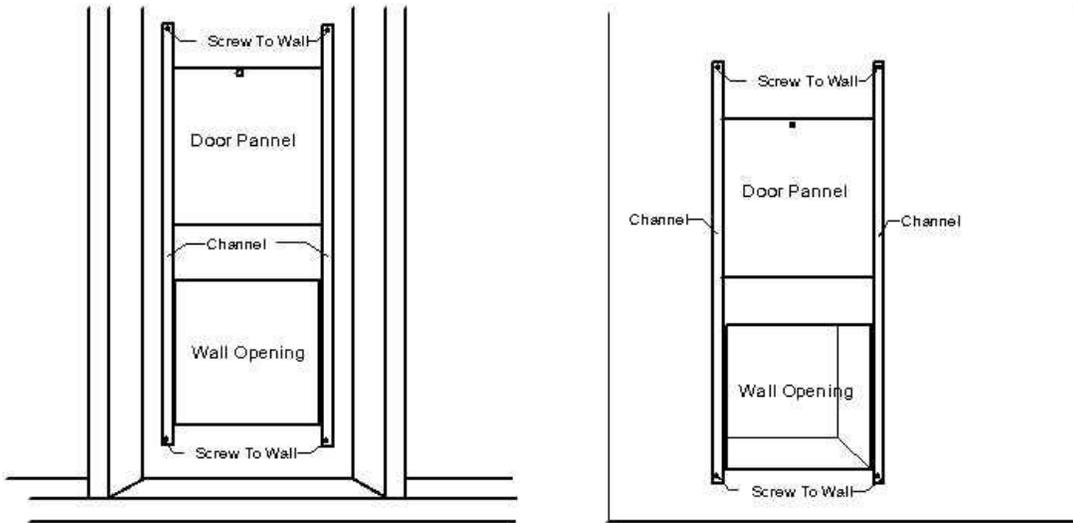


2. Mount rails and door

The coop door comes with two aluminum channels. The channels are both the same. Use a level to draw a vertical line $\frac{1}{2}$ inch outside of the door opening. Measure 12 inches to the other side of the door-opening and using a level draw another vertical line. Draw a horizontal line $\frac{1}{2}$ inch below the door opening that intersects both of the vertical lines.

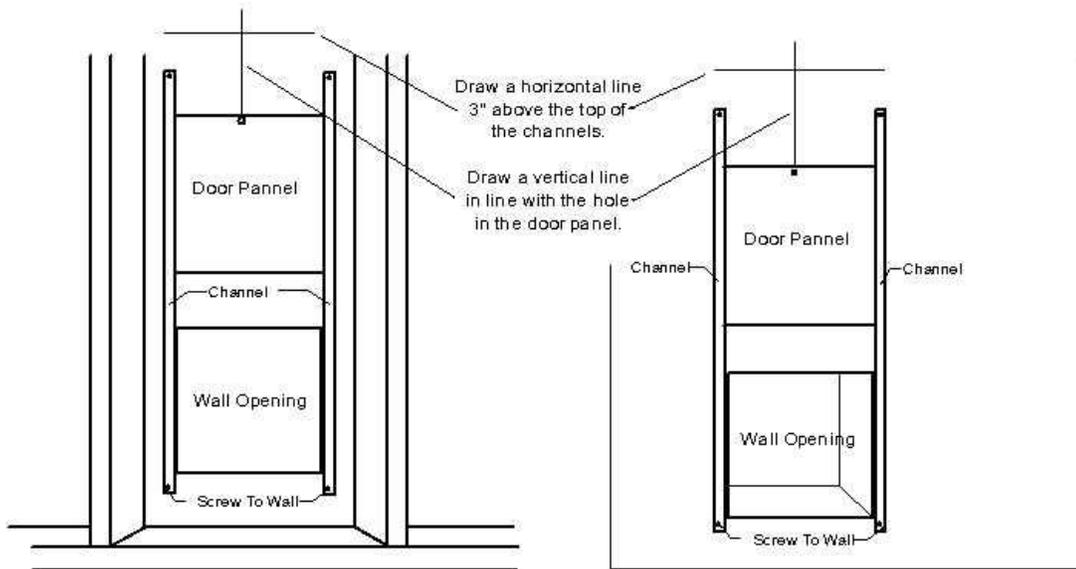


You are now ready to mount your door. Drill a starter hole on each side of the door where the lines intersect. Line up the bottom hole of the channel with the starter hole; make sure the open side of the channel is facing the door opening. Attach channel to the wall with the bottom 1 ½" screw only. The screw should be snug but not so tight that it bends the channel. Repeat on the other side of the door. Slide the door panel into the two channels from the top. You can now line up the upper holes in the channels with the vertical lines. Drill a starter hole and attach the upper end of the channel with a 1 ½" screw. Make sure the door panel can move freely up and down. Adjust channels if necessary.

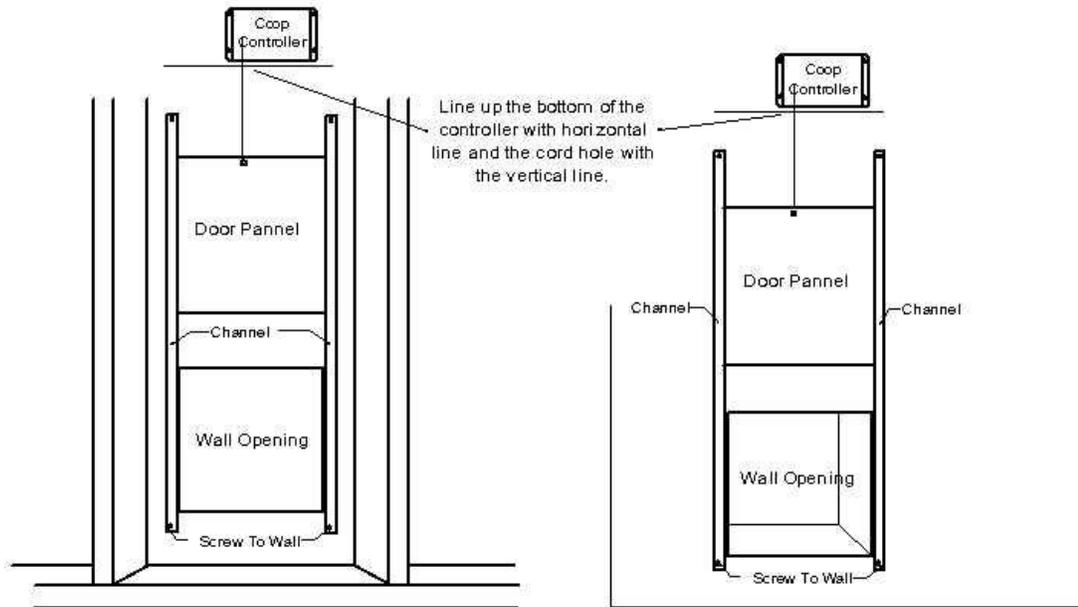


3. Mount controller box

Using your level, draw a vertical line in-line with the hole in the door panel. This line should extend above the tops of the channels. Three inches above the top of the channels draw a horizontal line as a guide for mounting the controller box.



Line up the bottom of the controller box with the horizontal line and the hole where the cord comes out with the vertical line. Mark all four controller box mounting holes on the wall. Drill starter holes and mount controller box to the wall with $\frac{3}{4}$ " screws.



4. Attaching cord to Door Panel

You will now need to lower the cord to right position.

- Plug the power supply into 110 volt wall outlet.
- Set the toggle switch to the **Close** mode.
- Plug the power supply into controller box.
- Apply a slight downward pressure to the cord. The motor will operate only when there is tension on the cord. If cord goes slack the motor will stop.
- Continue to apply downward pressure until the cord is out enough to reach the door. Release cord and motor will stop.

You can now attach the ball chain to the connector at the end of the cord.

5. Test door travel

You can now test the full travel of the door. Raise door by placing toggle switch in the **Open** position. The door should rise above your door opening and the motor should stop. To lower the door, place the switch in the **Close** position. The door should travel to the bottom and stop on its own.

6. Mount sensor box outdoors

Remove controller cover (remove and save the 4 screws in the cover corners).

Select a location for the sensor box on the outside of the coop. It should be high enough so that it will be out of the way and the chickens cannot get to it. It

should be mounted on the west side of the building in full sun. Drill a 5/8 inch hole inside of coop.

From the outside of coop pass the plug end of the wire through the coop wall. Mount the sensor box with 3/4" screws to the outside wall. The round sensor should be pointing down.

Plug sensor cable into circuit board and replace the cover with screws.

7. Mount LED Light Panel

Select a location for the LED Light Panel. It will need to be within the length of the cable and high enough to be out of the reach of the chickens.

Attach mounting bracket on wall with screws. Snap LED Light panel onto mounting bracket.

Plug cable into panel and make sure the rocker switch is in the ON position. The light will not come on until 8 hours after sunset. If you wish to test the LED Light Panel plug the controller power cord directly into the LED Light Panel.

Operation

The operation of the controller has been designed to be very easy and trouble free. There is one toggle switch, which controls the operation. This switch has three positions:

Open (day): In this position the door opens, no matter what state the daylight sensor is in. This also bypasses the cold temperature inhibit jumper.

Close (night): In this position the door closes, no matter what state the daylight sensor is in.

Auto (matic): In this position the door will open and close based on the state of the daylight sensor. Moving this switch from the automatic position will cause the eight hour LED timer to reset and it will begin counting again when the unit is in the night mode, either from the night switch position or actual night time conditions.

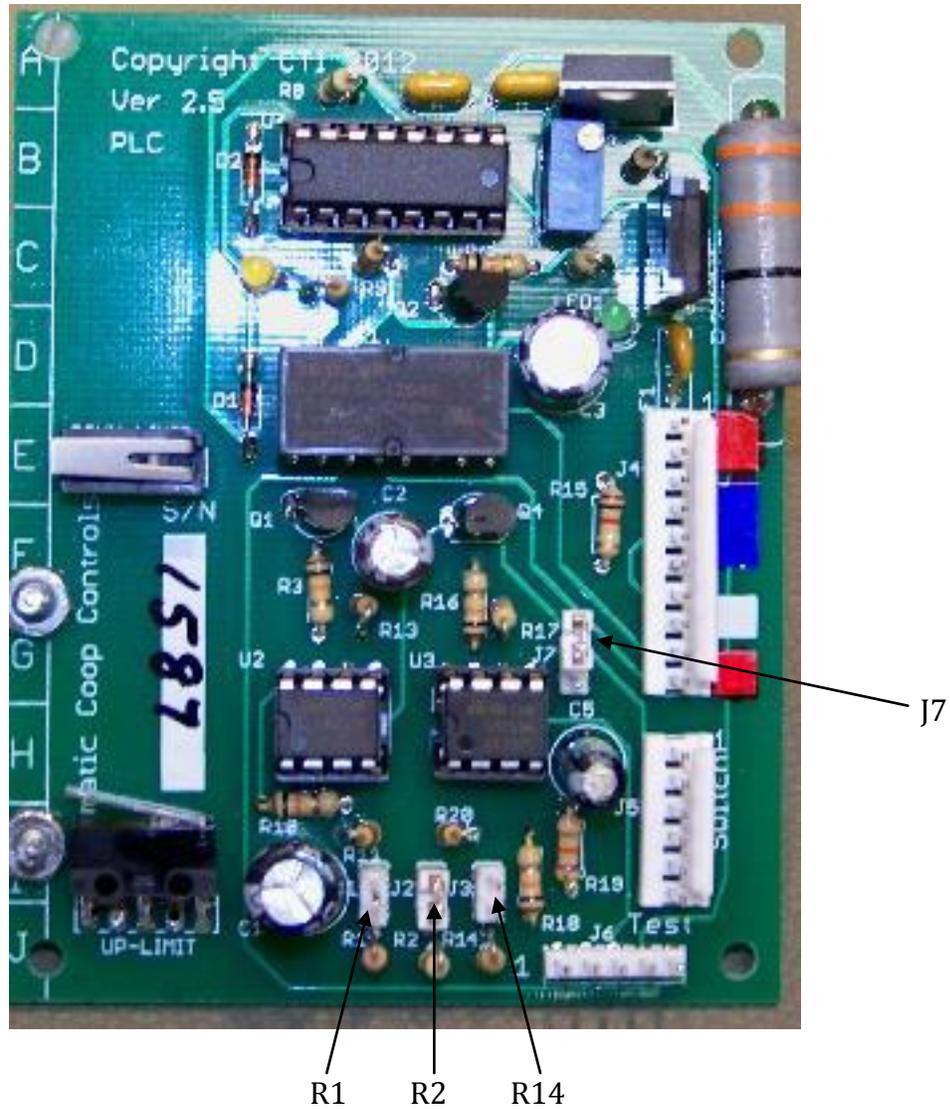
Indicator lights

A green LED is located on the board inside the coop controller. When this LED is on power is supplied to the unit.

An amber LED on the board located inside the coop controller indicates night mode. When this LED is on the unit is in the night mode and counting eight hours until the external LED light panel is turned on.

Disabling cold weather sensor

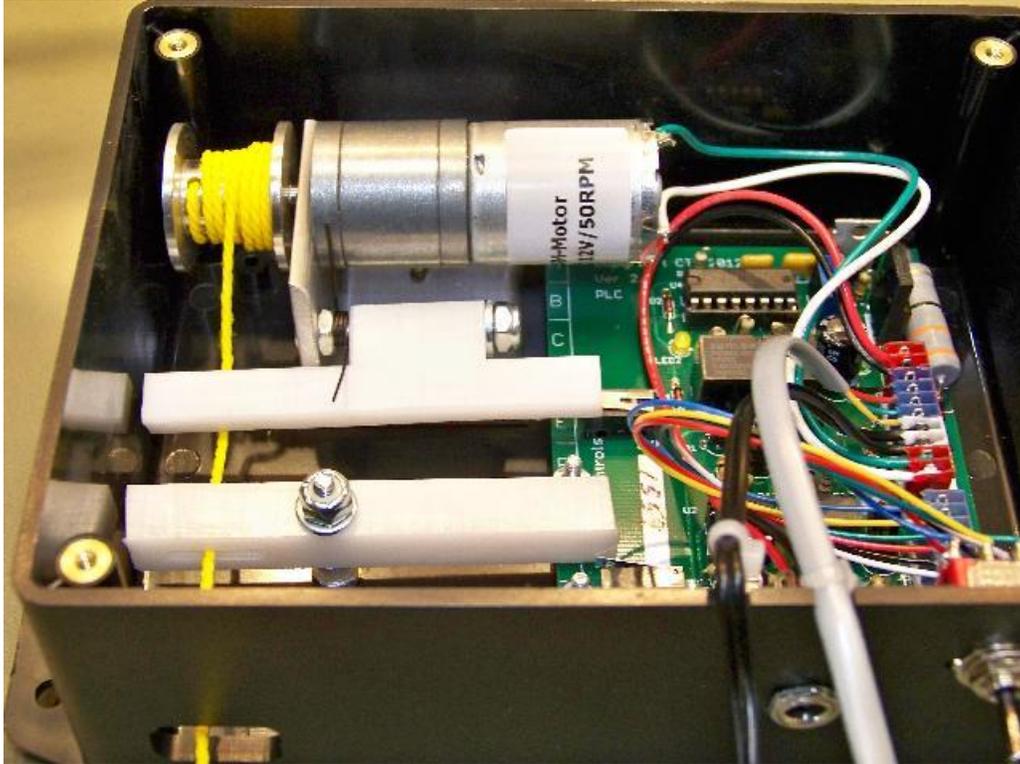
Installing a jumper to cover both pins of J7 will bypass the cold weather inhibit. When the J7 Jumper is installed the door will open at sunrise no matter what the outdoor temperature. (See Below)



Adjusting sensitivity of day/night sensor

Sensitivity of the day/night sensor can be adjusted by moving the jumper on resistor pins; R1, R2 or R14. Only one resistor can/must be jumpered. Your controller comes with resistor R2 jumpered, switching the day/night relay at approximately 15 minutes before sunrise and approximately 15 minutes after sunset depending on sky conditions. (This only senses the amount of light available so severely overcast skies or storms will change the trigger point.) By moving the jumper to R1 the day/night will switch in brighter conditions and to R14 will switch in darker conditions. (See above)

Troubleshooting



If the door does not open or close properly check to make sure the cord is routed properly. It should roll off the front of the spool, go behind the upper lever, and pass through the lower lever. (See photo above).

If the unit appears dead, make sure the outlet you are plugged into is okay. If there is power to the unit the green light should be on. Make sure you use the power supply that was included with your unit. Other power supplies **will not work** with the controller. Plug the power supply directly into the LED panel and make sure the panel power switch is on. If the panel illuminates then the power supply is okay.

Remember that the switch has **three positions**. Make sure you're in the correct position.

To test the light panel, plug controller's power supply directly into the light panel to see if it lights. Make sure the rocker switch on the light panel is set to ON position.

If the door will not go all the way up or down, check if door panel is getting caught in the channels or if there is something restricting the movement. Make sure the channels are plumb and equally spaced from each other. Check to see if you can move the panel by hand and it moves freely.

Make sure that none of the wires/cables inside the controller interfere with the movement of the white levers. If they are in contact with the levers simply move them away.

Door won't open in the Morning

Make sure the switch is in the auto position, it is daylight out, and the temperature is above 25°. Is the yellow LED on the board on? If the yellow light is on then the unit is still in the night mode and the door will remain down. Check the sensor and make sure it is correctly connected to the unit and it is mounted outside where it can see the daylight. Make sure there are no cuts in the sensor cable. If the sensor is bad or not connected to the unit it will default to night mode. If the yellow LED is off, indicating day, try moving the door up by hand. Does it move freely, no obstructions? If not, adjust the rails until the door moves freely. Make sure the cord is wound properly as indicated above. If the door still won't go up try it in manual mode. If it works in manual mode install jumper J7 over **both pins** and try it again. If jumper J7 solves the problem then the unit will work okay but it will no longer monitor the temperature before it opens in the morning.

Door won't close at Night

Make sure that the switch is in the auto mode and it is dark outside. Make sure that the light sensor is not picking up any ambient light from a yard light or other light source. Is the yellow LED on the unit on or off? The yellow LED must be on to indicate night before the door will close. If the yellow LED is on but the door still won't close unhook the door from the cord and see if it moves freely in the rails. If it does not move freely adjust the rails. Make sure the cord is wound correctly as described above. If the yellow LED is on and everything else appears okay, try switching it to the manual mode. If it works okay in manual mode then it may be a bad sensor and it should be replaced.