

Charley's WATERPROOF THERMOSTATS

E3124 Fan, E3124 Heater / E3124 Hardwire

Pre-Wired, Ready To Use

Application and Description:

This thermostat is intended for applications that need a rugged, weatherproof type control. For heating applications, it is not to be used with an extension cord. These include agricultural, industrial and commercial environments. This one model is suitable for either heating control or cooling (ventilation) control in greenhouses as well as factory buildings, warehouses, garages, gymnasiums, etc.

This thermostat is designed for use only as an operating, or regulating control. Where failure of the thermostat could result in personal injury and/or loss of property, an approved backup temperature limit control should be connected in series or a supervisory alarm system should be used to warn of control failure.

This thermostat has a sealed molded plastic case with all exposed metal parts of stainless steel. The unit has been tested by Underwriters Laboratories Inc. (UL), meets the requirements for NEMA 4X equipment, and is suitable for use under the National Electrical Code (N.E.C.) Article 547-4, when used with appropriate water tight connections (not included). The unit operates by expansion and contraction of liquid in response to temperature change. The liquid is contained within the stainless steel coiled sensor and actuates a stainless steel diaphragm, which in turn operates a heavy-duty precision snap action switch. The non-removable adjusting knob is provided with a large visible scale for ease of setting.

Installation:

Locate the thermostat 4 to 6 feet above the floor where it will be exposed to the average temperature of the controlled area. Do not mount the unit where it will be affected by unusual heat or cold, such as direct sunlight or by windows or doors or an outside wall. Choose a location where the unit will not be damaged or impacted by moving equipment.

This thermostat is accurately calibrated and should require no tweaking or correction on site. If dust or dirt from the environment should coat the coiled stainless steel sensor the operation may be affected.

Do not bend, crimp or damage the coiled stainless steel sensor – the calibration and operation may be affected.

To Check Operation of Heating Systems:

(Not for use with extension cords.)

1. Disconnect power.
2. Place the heat/cool selector switch (if applicable) in the heat position.
3. Adjust the thermostat set-point ten or more degrees below the temperature of the controlled space.
4. Restore Power.
5. Slowly adjust the thermostat knob to raise the set-point. When the set-point reaches the approximate temperature of the controlled space, the heating equipment should start.

To Check Operation of Cooling Systems:

1. Disconnect power.
2. Place the heat/cool selector switch (if applicable) in the cool position.
3. Adjust the thermostat set-point ten or more degrees above the temperature of the controlled space.
4. Restore power.
5. Slowly adjust the thermostat knob to lower the

Exclusive

(Model T115)



set-point. When the set-point reaches the approximate temperature of the controlled space, the cooling equipment should start.

Converting From Cooling to Heating Operation:

1. Disconnect power.
2. Remove four screws holding the wiring compartment cover and open junction box.
3. Remove the wire nut connecting the blue cooling lead (from the thermostat) to the white power cord wire.
4. Connect the white wire from the power cord to the red heating wire coming from the thermostat.
5. Tape or wire nut the end of the unused wire.
6. The thermostat is now ready to operate heating equipment.

Reverse procedure to return to the cooling mode.

Specifications

SPDT switch (one set of contacts open on temperature rise as the other set closes). Not suitable for load transfer.

Range: 40°F to 110°F (135°F maximum withstand temperature), when set at low, the heating load is "off" or the cooling load is "on" continuously.

Differential

Approximately 3°F based on normal rate of temperature change. Thermostat switching mechanism is isolated from wiring compartment and sealed within the tamperproof enclosure. Thermostat may be mounted with coiled sensor at top, bottom or side as needed in application without affecting performance.

The thermostat may be affected by heat from the hands of the installer and the temperature to which it was exposed prior to installation. Allow a necessary amount of time for the thermostat and system to stabilize for normal operation.

Safety Information:

#E3124 HEATER (3139) is not to be used with an extension cord from the power source, or to the heater. This thermostat is suitable for NEMA 4X application and is NOT to be used in potentially flammable or explosive atmospheres.

In cases in which property damage may result from malfunction of the thermostat a backup system should be used. Where critical or high value products are to be maintained, an approved temperature limit should be wired in series with this thermostat. In less critical applications, a second thermostat with alarm contacts can be used to provide redundancy.

Maintenance:

Check all connections for un-insulated or exposed wires. Check stainless steel thermostat for damage each year.

(Fall 2017)

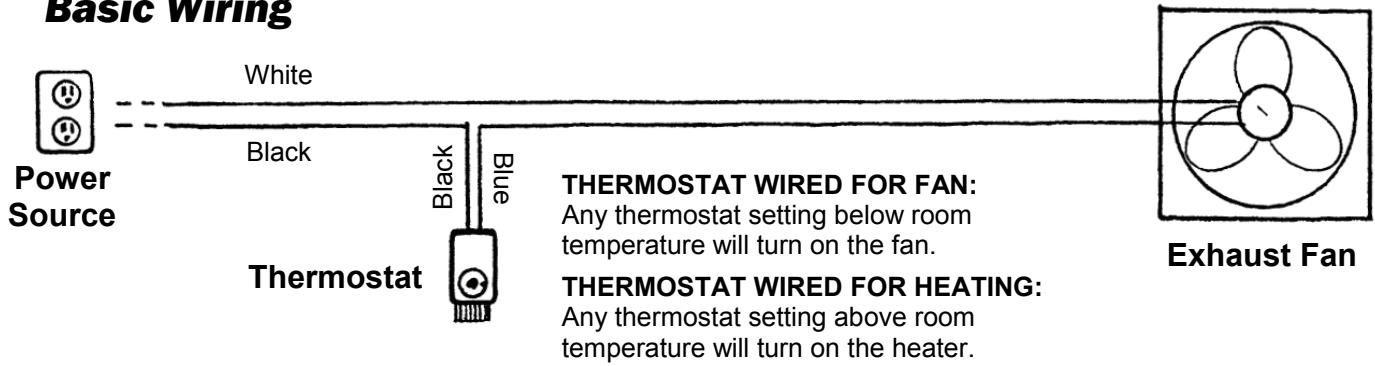
Charley's Greenhouse & Garden

17979 State Route 536 • Mount Vernon, WA 98273-3269

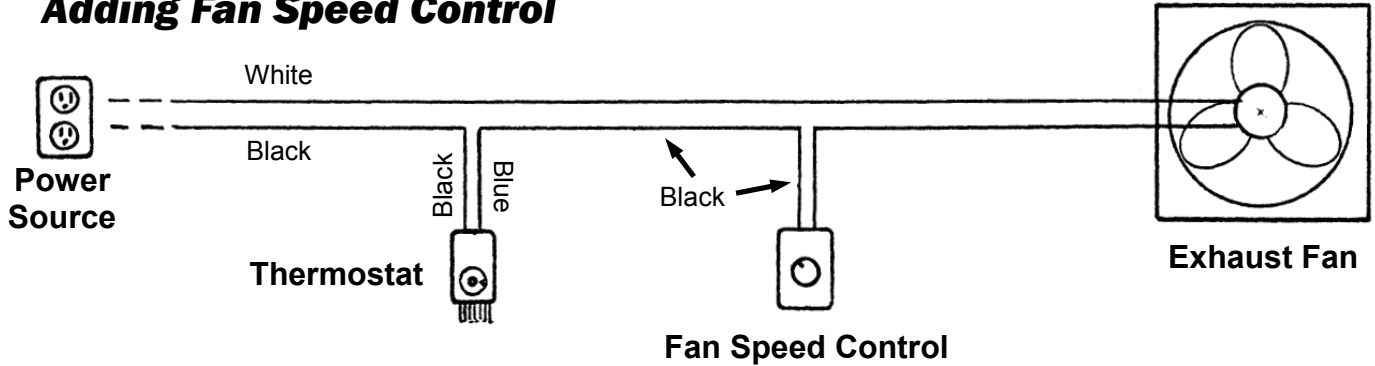
(800) 322-4707 / charleysgreenhouse.com

WIRING DIAGRAMS

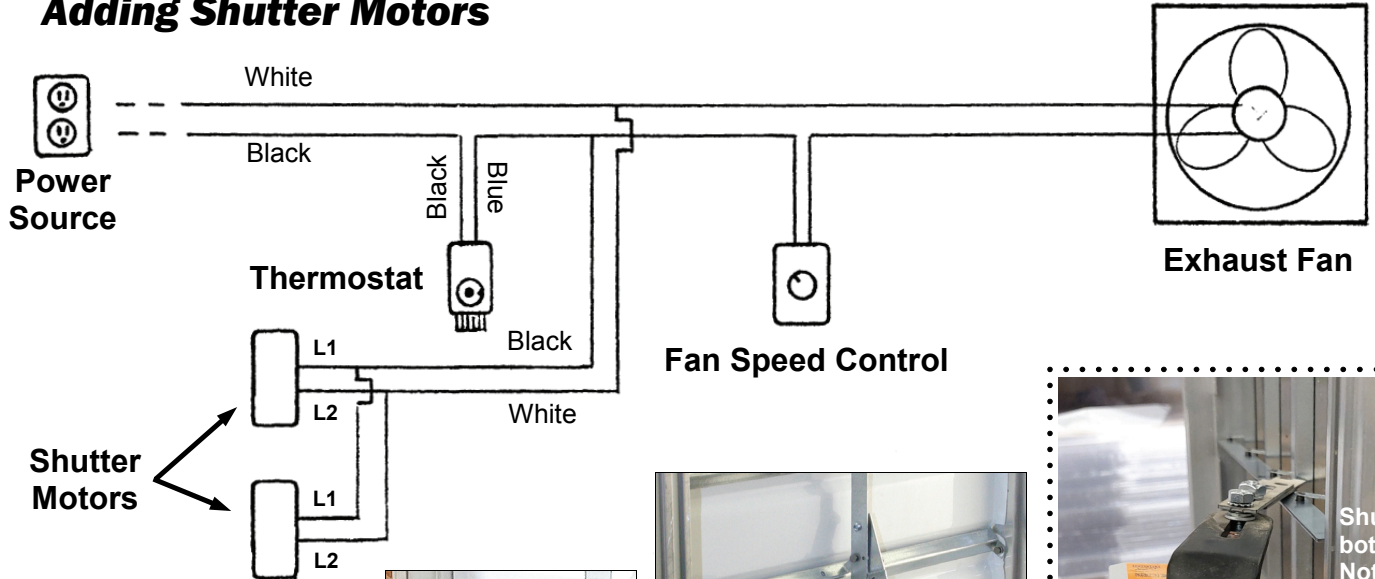
Basic Wiring



Adding Fan Speed Control



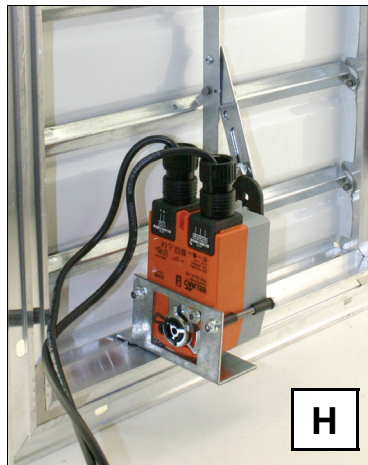
Adding Shutter Motors



IMPORTANT: FAN SPEED CONTROL must be installed only on the wire to the fan, **not** to the shutter motors.

Adjust the speed set screw on the Speed Control to prevent the fan from running below 1/3 of full speed (approximate).

FOR YOUR PROTECTION, ALL ELECTRICAL CONNECTIONS MUST BE MADE BY A QUALIFIED ELECTRICAL



IMPORTANT - Shutter view from INSIDE the greenhouse.
Shutter Motor: **Use wires L1 and L2.**
(CAP OFF wires S1, S2, S3 with wire nuts.)

Shutter Motor Bracket (bottom view)
Shutters come with one hole to receive shutter motor bracket.
Discard the bolt closest to the motor then secure motor to the shutter.