

FEATURES

- One variable voltage output for ventilation
- One temperature set point for ventilation
- Remote temperature sensor, having an accuracy of 1°C (2°F), can be extended up to 500 feet
- Cover is fastened to case by means of quarter turn screws which allow quick access to internal adjustments
- Radio frequency interference filter
- Protection against lightning and other voltage surges
- Overload protection on ventilation output by means of fuses

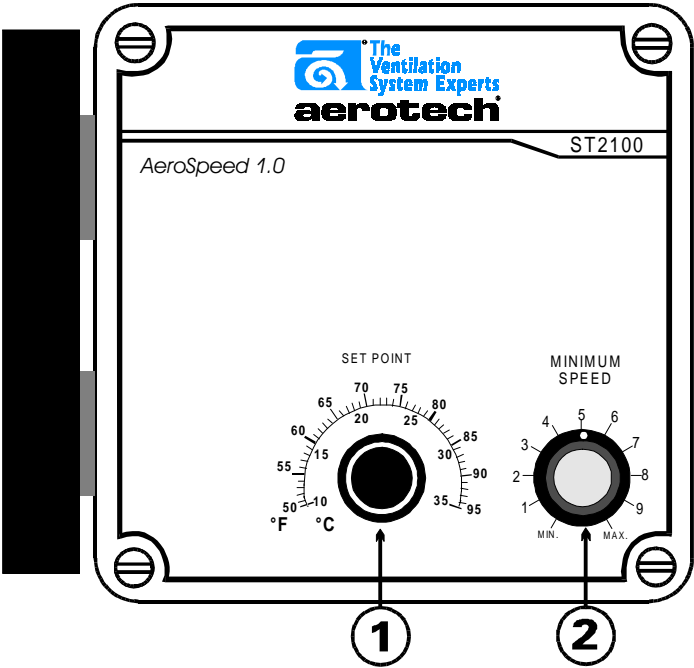


Figure 1 : Front cover

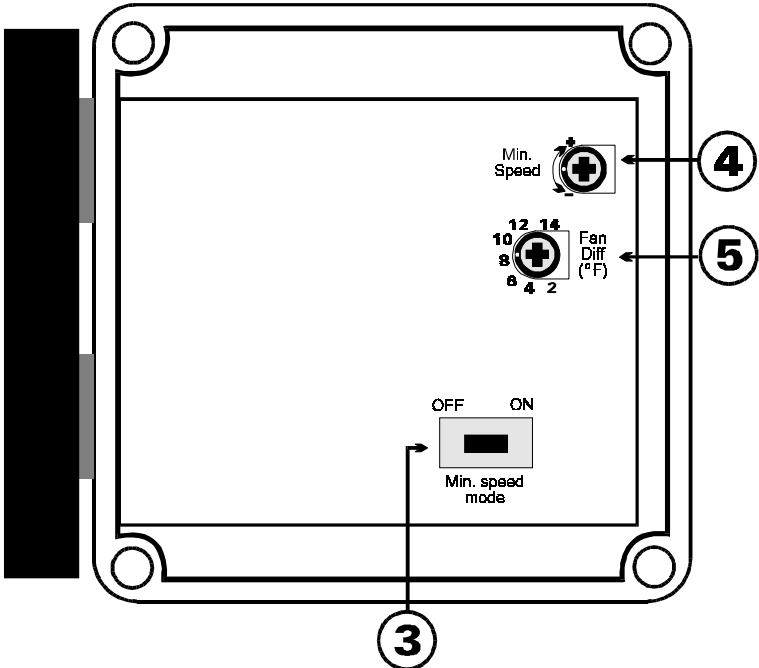


Figure 2 : Internal circuit

- ① **Temperature set point knob**
Adjust temperature set point with that knob. The 50 to 95 scale is in Fahrenheit whereas the 10 to 35 scale is in Celsius.
- ② **Minimum speed adjustment knob**
Turn the minimum adjustment knob to select the minimum speed.

- ③ **Minimum speed switch**
"ON" position : When the temperature is reached, the fan continues to operate at minimum speed.
"OFF" position : When the temperature is reached, the fan stops for lower temperature.
- ④ **Minimum speed internal adjustment**
Use the internal adjustment to set the speed that will correspond to the 0 position of the minimum speed adjustment knob 2. The minimum speed should be internally adjusted at the speed required by the fan model being controlled and the minimum air requirement.
- ⑤ **Temperature differential adjustment**
Sets temperature range within which fan starts increasing speed and reaches maximum speed.

HOW TO ADJUST THE ST2100

When adjusting the ST2100 minimum, read these instructions carefully and follow the steps in the described order.

INTERNAL ADJUSTMENTS:

1- *Proceed as follow to internally adjust the minimum speed :*

- Turn knob **2** to **min.** position.
- Turn knob **1** clockwise to its extreme position.
- Set switch **3** at **ON** position.
- Use the internal adjustment **4** to set the minimum speed. It should be set at the speed required for minimum airflow and at the minimum speed permitted by the fan being used. The purpose of this internal adjustment is to lock the fan speed when it reaches a low limit, in order to prevent it from operating beneath this limit, should knob **2** be accidentally misused.

2- *Select the desired minimum speed mode with switch 3.*

- The **ON** position will cause the fan to operate at minimum speed when the room temperature is below set point. This ensures air change in the room.
- The **OFF** position will cause the fan to stop when the room temperature falls below set point. When the temperature rises again above set point, the fan will start at the minimum speed previously set with speed adjustments 4 and 8. The minimum speed mode **OFF** is particularly useful in the 3 following cases :

The additional amount of heating required in winter because of a continuous supply of cold air can be reduced with the use of the minimum speed mode **OFF**.

When many controllers are used in the same room, it is often unnecessary to operate all fans continuously at minimum speed. One or two controllers can be used in the minimum speed mode **ON** and the others can be used in the energy saving minimum speed mode **OFF**.

For rooms where two or more controllers are used together for multistage ventilation control, only the first stage needed to be used in the minimum speed mode **ON** to ensure a permanent ventilation.

3- *Use adjustment 5 to set the temperature differential for ventilation.*

- Select the temperature range within which fan starts at minimum speed and reaches maximum speed. In winter, the temperature differential should be greater than in summer because the air supplied is colder and therefore reduces the room temperature more quickly. The ideal temperature differential depends on the size of the room as well as on fan's quantity and capacity. The temperature differential for ventilation can be adjusted from 0.5° to 8°C (1° to 15°F).

EXTERNAL ADJUSTMENTS:

4- *Use knob 2 to adjust the minimum speed*

- The **min.** position of knob **2** corresponds to the minimum speed previously set at step 2 with adjustment **4**. Knob **2** is useful for temporary adjustments that may vary daily. For example, the minimum speed needs to be modified to ensure a sufficient amount of air change depending on the size and number of animals and on the outdoor temperature.
- To adjust the minimum speed :
If switch **3** is in the **ON** position, turn knob **1** clockwise to its extreme position and select the desired minimum speed using knob **2**. If switch **3** is in the **OFF** position (in minimum speed **OFF** mode), make sure that the fan is off by turning knob **1** clockwise to its extreme position. Then slowly turn knob **1** counterclockwise until it is in the exact position that causes the fan to start. Select the desired minimum speed using knob **2**.

5- *Use knob 1 to select the temperature set point.*

- Turn the temperature adjustment knob **2** until the desired temperature on the scale is in line with the pointer. The 50 to 95 scale is in Fahrenheit whereas the 10 to 35 scale is in Celsius.

FIGURES 3 AND 4 ILLUSTRATE HOW THE CONTROLLER OPERATES IN THE *MINIMUM SPEED ON* AND *MINIMUM SPEED OFF* MODES.

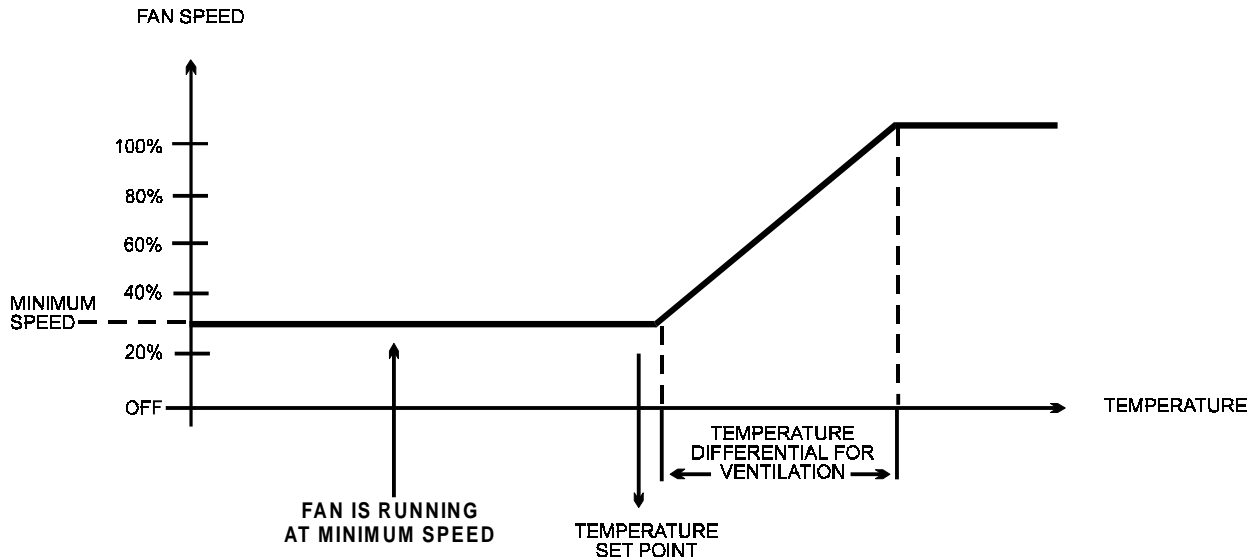


Figure 3 : Operation of the ST2100 in minimum speed ON mode

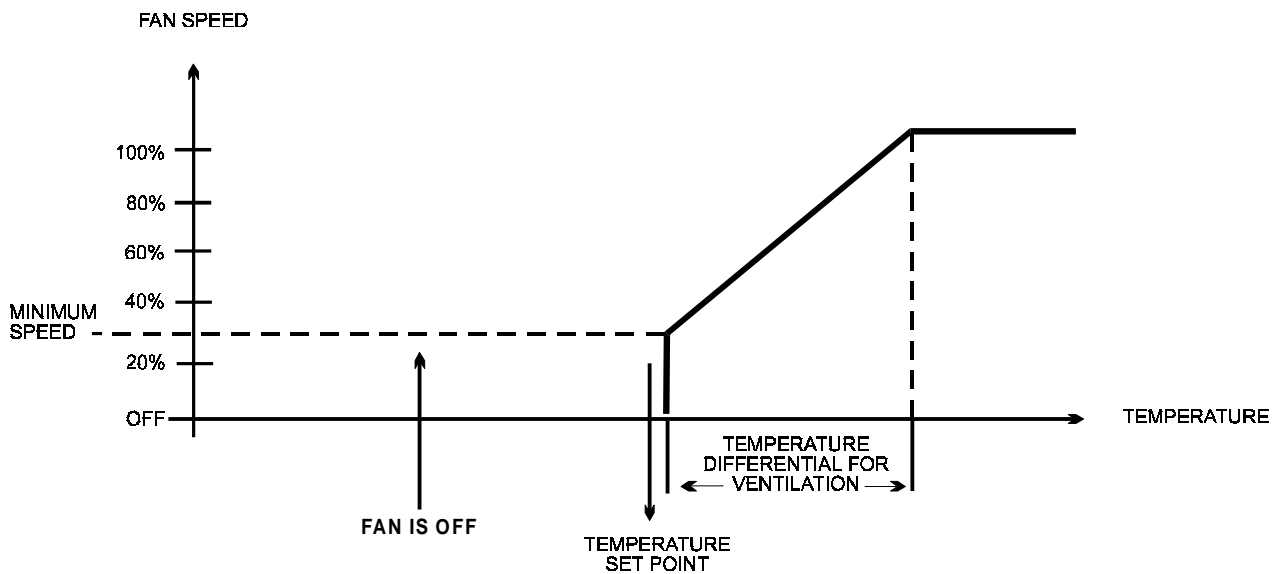


Figure 4 : Operation of the ST2100 in minimum speed OFF mode

INSTALLATION

- Place the required number of cable holders in the provided holes at the bottom of the controller. If the controller is installed in a dusty or humid environment, use water-tight cable holders.
- The room temperature where the control is installed **MUST ALWAYS REMAIN BETWEEN 0° and 40°C (32° and 104°F)**.
- Mount the controller on the wall with screws through the mounting holes located at the back of the case.
- **FASTEN THE SUPPLIED BLACK CAPS ON EACH OF THE MOUNTING HOLES.**

WIRING

- For typical hook-up, refer to figure 5.

CAUTION

DISCONNECT THE POWER SUPPLY BEFORE MAKING WIRING CONNECTIONS TO PREVENT ELECTRICAL SHOCK AND EQUIPMENT DAMAGE.

ALL WIRING MUST COMPLY WITH APPLICABLE CODES, ORDINANCES AND REGULATIONS. INSTALLATION MUST BE DONE BY AN AUTHORIZED ELECTRICIAN.

If metal cable holders are used to secure cables entering the case, use the ground plate provided. The ground wire must be connected to the screw on the ground.

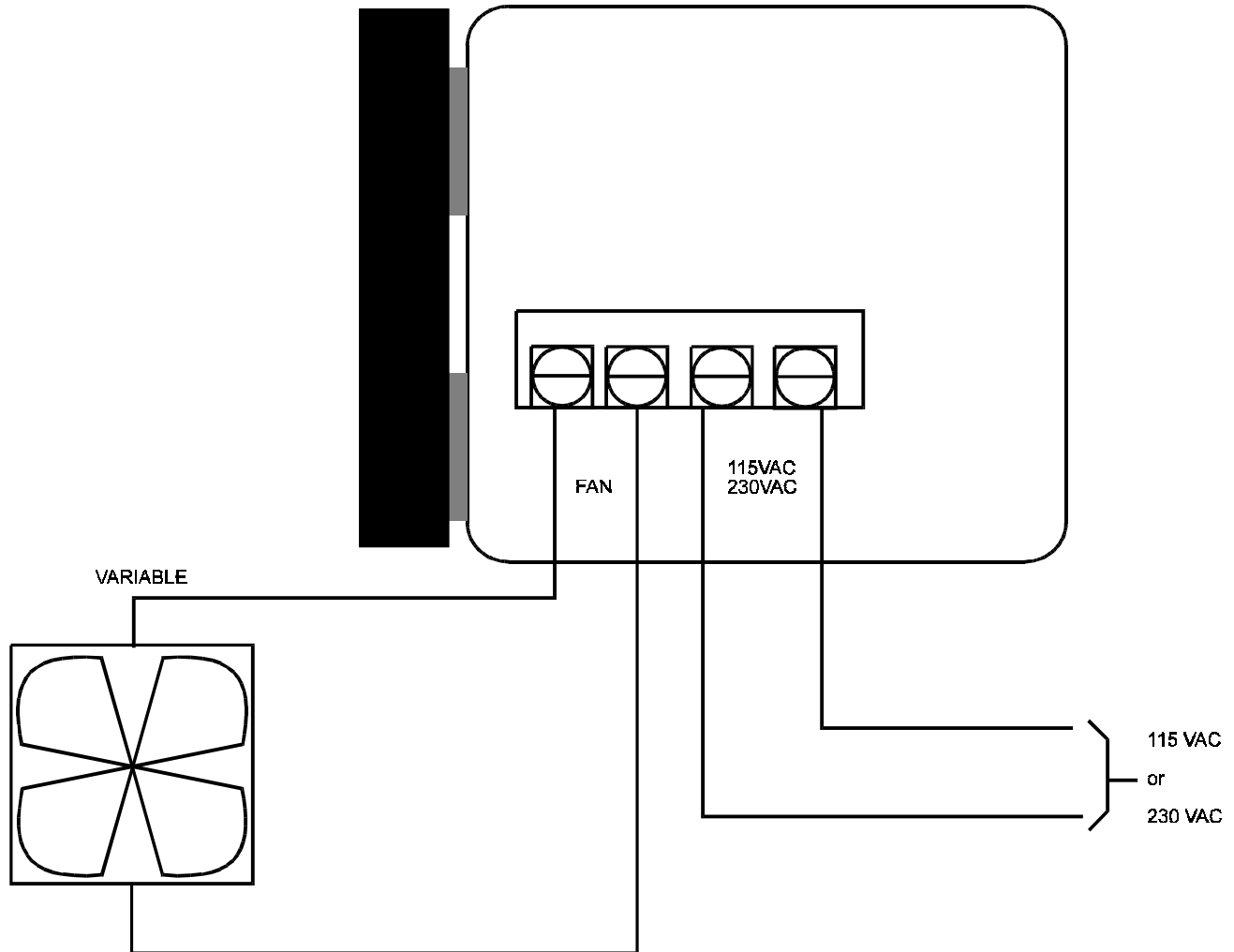


Figure 5 : Typical hook-up for the ST2100 controller

TEMPERATURE PROBE :

The temperature probe operates at low voltage and is completely isolated from line voltage. It can be extended up to 500 feet. To extend the probe :

- Use shielded cable with an outside diameter between .245 and .260 inch to ensure cable entry is dust-tight.
- Isolate this cable from any other cable.

ELECTRICAL RATINGS

- **Power source** : 115 VAC or 230 VAC, 60 Hz
- **Fan output** : 10 Amp. MAX., variable voltage from 0 Volt up to supply voltage. *Fuse* : 15 Amp., slow blow
- **Probe** : Low voltage (< 5v), isolated from line voltage, can be extended up to 500 feet. Accuracy : 1°C (1.8°F) between 5° and 35°C (41° and 95°F)
- **Operating temperature range** : 0° to 40°C (32° to 104°F)
- **Casing** : ABS, moisture and dust-tight.

WARNING

DO NOT SPLASH WATER ON CONTROLLER