

Operation Manual

AirEffect



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Introduction

Caution and Safety

This appliance can be used by children aged from eight (8) years and above and persons with reduced physical, sensory, or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

⚠ ATTENTION: Safety. READ AND SAVE THE ENTIRE MANUAL BEFORE OPERATING THE FAN.

Ensure that all safety procedures and instructions are followed during the installation, operation and servicing of the fan. Failure to apply these safety practices could result in death or serious injury. If you do not understand the instructions, please call our Technical department for guidance.

⚠ CAUTION: Non-Compliance. The fan installation should follow the recommendations outlined in its accompanying fan manual. MacroAir is not responsible for any injury or damage to persons or property because of 'not complying' with the recommendations outlined in the manual.

Electrical Guidelines

⚠ WARNING: Electrical Damage. Improper electrical installation can cause damage to the fan and interfere with other electronic equipment. In addition to standard electrical safety considerations, please observe the following:

- **MacroAir Cables.** The wiring from the control panel to the fan MUST be MacroAir supplied shielded cable. CAT5e to be MacroAir supplied twisted, stranded, and shielded or greater.
- **Electrical Interference.** Separate incoming power and motor control cables by a minimum of six (6) inches.
- **Read.** Please refer to the Controller 30 Manual for more information.

⚠ ATTENTION: Qualified Technicians. All fan controls should only be installed by qualified technicians familiar with the requirements of the National Electrical Code (NEC) and local codes. Refer to appropriate portions of this manual for other important requirements. Failure to follow these guidelines will void the manufacturer's warranty.

⚠ ATTENTION: Factory Configured. All electrical controls are configured at the factory and are ready to use. No user adjustments are available. Follow the included wiring schematics and installation instructions when installing this device to ensure proper operation. Do not make any changes to any part of the motor control panel without first consulting MacroAir.

Introduction

Electrical Guidelines, cont.

⚠ ATTENTION: Read. Read and understand this manual before installing or operating AirEffect. Installation, adjustment, repair, and maintenance must be performed by qualified personnel.

⚠ ATTENTION: Code Compliance. The user is responsible for compliance with all international and National Electrical Code requirements with respect to grounding of all equipment.

⚠ WARNING: Covers. Install all covers before applying power.

Installation, Safety and Service

⚠ WARNING: Damage. Do not operate or install any fans or fan accessories that appear to be damaged.

⚠ ATTENTION: Qualified Technicians. All electrical troubleshooting and repair must be done by a qualified technician and meet all applicable codes.

⚠ ATTENTION: Check Federal, State, and Local Codes. Check all relevant codes to make sure that all product certifications, product listings, and building regulations are met. Code compliance is the responsibility of the installer.

REFER TO FAN INSTALLATION MANUAL(S) FOR FURTHER MAINTENANCE INFORMATION.

Installation

AirEffect Sensor Installation

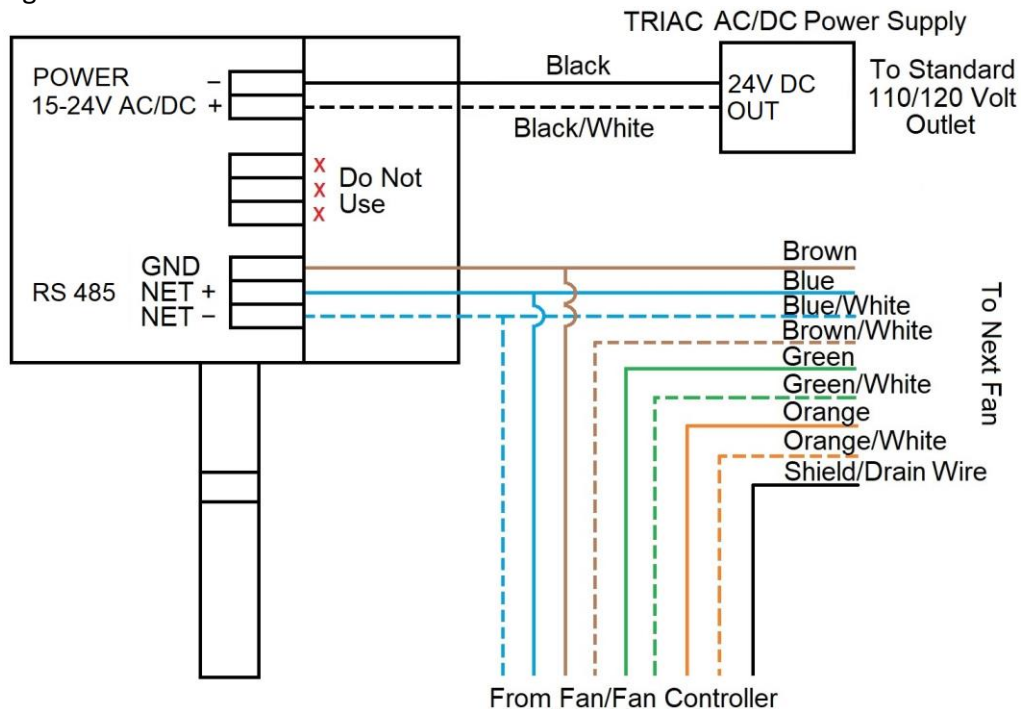
⚠ WARNING: Probe Mounting. Do not mount in such a manner that the temperature probe rests on metal as it will then be reading the temperature of the metal rather than the air temperature.

Note: Match the correct Zone “Floor” sensor with the correct Zone “Ceiling” sensor. Make sure “Floor” is at the floor level (pg. 5, instruction 4) and “Ceiling” is at the ceiling level (pg. 4, instruction 1).

| | | |
|----------------|---------------------------------------|----------------|
| | Black (From Power Supply).....- | (24V DC) |
| PINOUT: | Black/White (From Power Supply) | + (24V DC) |
| | Blue (From Cat5E) | Net+ (RS 485) |
| | Blue/White (From Cat5E)..... | Net - (RS 485) |

Mounting

- Ceiling Mounting:** Mount the ceiling temperature sensor at least 1ft [0.3 m] below the ceiling in the same room where the fan/fans are placed. Use caution when placing the sensor making sure not to place it where there is any contact with direct sunlight. Each sensor has small mounting holes for attachment with screws.
- Once the module has been placed it can be wired into the network. Use the provided 110/120V power supply to power the temperature sensor and the blue, blue/white, and brown wires from the CAT5e cable for communication. If there is enough slack in the cable you can run the wiring directly in and out at the same point on the sensor module.
- Please refer to the wiring diagram. See pages 6-7 of this manual for proper stripping and bean crimping of wires.

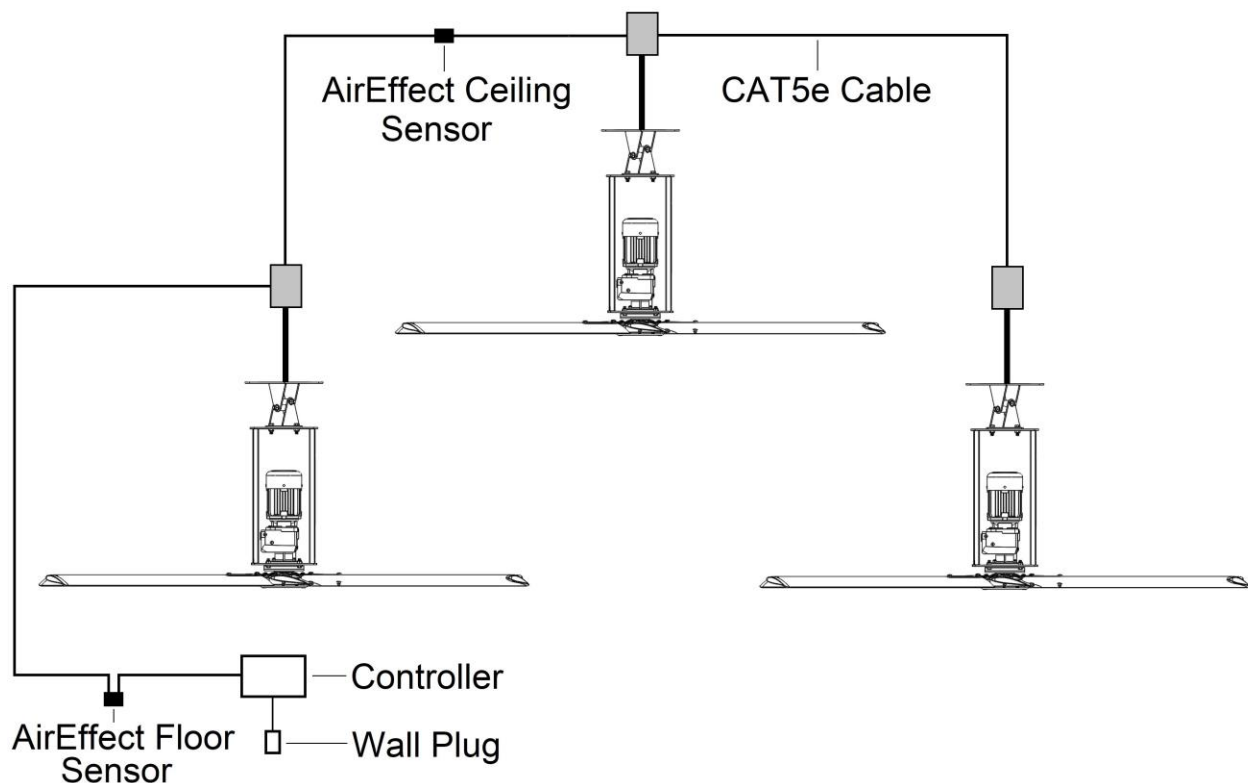


Installation

AirEffect Sensor Installation cont.

4. **Floor Mounting:** Mount the floor temperature sensor within 6ft [1.8m] of the ground in the room where the fan/fans are placed. Use caution when placing the sensor making sure not to place it where there is any contact with direct sunlight. Each sensor has small mounting holes for attachment with a screw.
5. Repeat steps 2-3 and refer to the wiring diagram.
6. If there is not enough wire to pull in and out of the sensor, splice a length of cable keeping length to a minimum. Use the bean crimps supplied by Macro Air to wire the lead into the network. Please refer to network wiring diagram. **Note: The Brown/White wire is only used to power a repeater. Do not terminate the Brown/White wire on the drive or t-splice unless it is used to power one of these devices.**

Proper sensor placement is shown below:



Installation

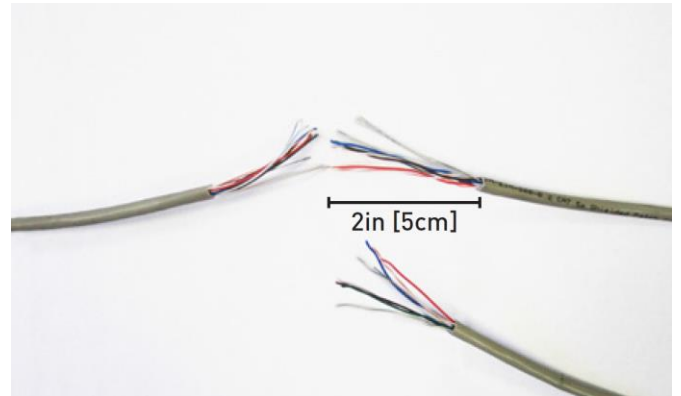
Temp Sensor T-Splice Connection Method

1. Take the incoming CAT5e from the network, the 15ft [4.57m] CAT5e whip from the fan, and the CAT5e going to the rest of the network. Give some slack (no more than 2ft / 0.6m) on each CAT5e to strip the wires and splice them together. Run the slack up towards the ceiling and back down in a horseshoe shape.

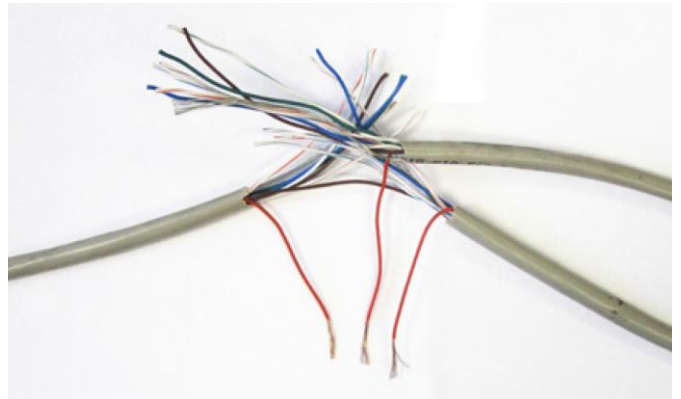


DO NOT roll the excess slack into a circle or coil because this creates a place for the network to pick up noise on the lines.

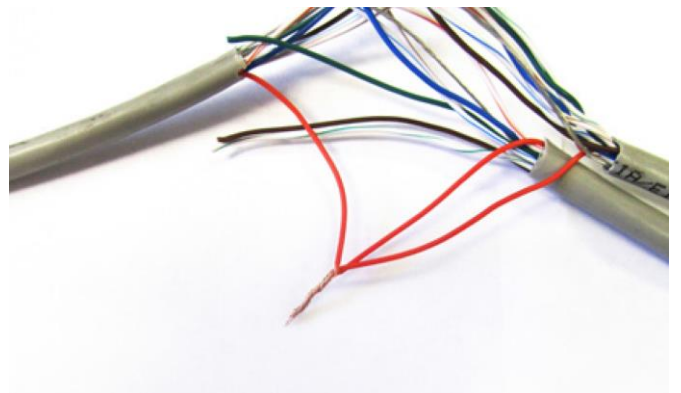
2. Strip jacketing off the three CAT5e cables and separate each color wire leaving approximately 2in [5cm] of each wire exposed including the drain/shield wire.



3. Strip approximately 1/2in [1.3 cm] off each color wire leaving the bare copper exposed.



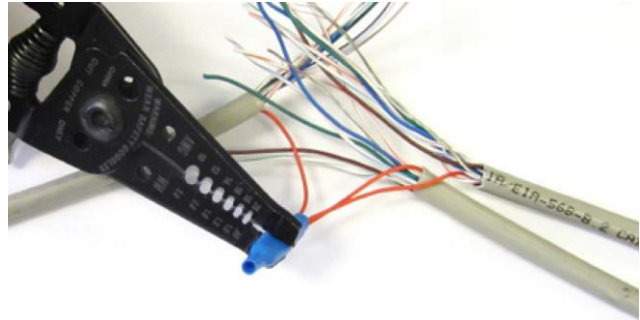
4. Twist the 3 wires of same color from each CAT5e together.



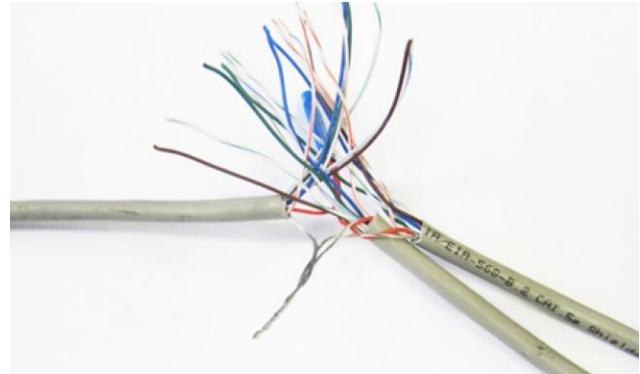
Installation

Temp Sensor T-Splice Connection Method cont.

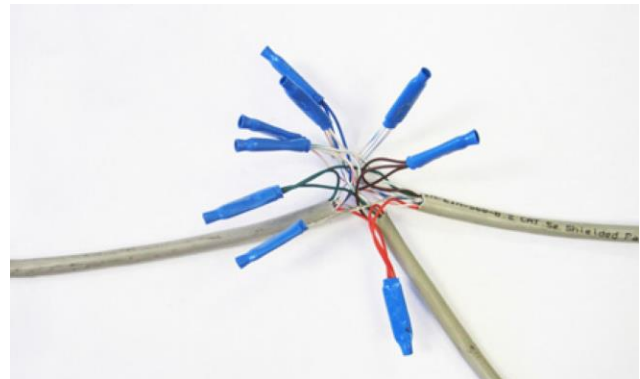
5. Place a gel filled bean crimp onto the end of the 3 wires and use a small crimper or pliers to crimp the bean tight on the wires.



6. Double check that the 3 drain wire/bare wires are also crimped together as this is what continues the shielding throughout the network. The shielding and drain wire **MUST** be connected to Earth Ground at **only one point** of the cable run.



7. Repeat steps 3-5 for all the wires EXCEPT the Brown/White wire. **The Brown/White wire is only needed for wiring in a repeater.**



8. Once all the wires are crimped, carefully twist the wires up. Then fold them back and tape them up with electrical tape to clean up your wiring.



AirEffect Setup

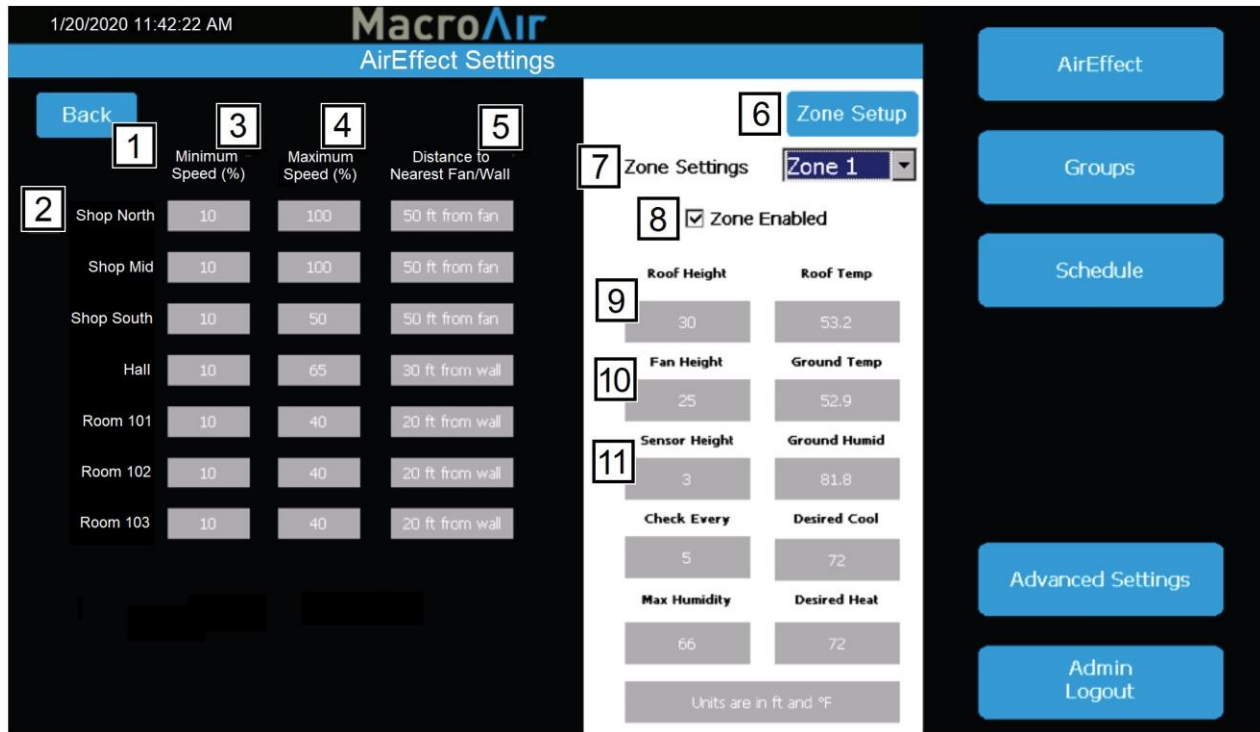
In order for AirEffect to operate properly, some setup is required. Please follow the below steps to ensure a smooth operation:

1. Ensure that the diameter is programmed on every fan's Fan Configure Screen (Reference the Controller 30 Manual).
2. Use the Zone Setup Screen to add or remove fans from the desired zone(s) (pg 11).
3. Once the zone is properly set up, input your minimum and maximum speeds for each fan. Note that while all fans may be shown, you only need to input values for fans that are in the zone.
4. Input the distance to the next fan or wall. If you have more than one distance, such as a fan between two other fans, use the smaller value or an average of the distance. Check boxes are available for you to specify whether the distance is to a fan or wall.
5. Input the roof height, fan height, and ground sensor height.
6. Under "Check Every", specify the interval at which the system will rescan for changes to temperature and humidity and make the appropriate adjustments.
7. Under "Desired Cool", input the temperature at which you desire the fans to begin cooling the space.
8. Under "Desired Heat", input the temperature at which you desire the fans to begin warming the space.
9. Under "Max Humidity", input the percentage at which you desire the fans to circulate more air, thereby lowering the humidity.
10. Once everything is set up, check the "Zone Enabled" box. This zone will now run according to the parameters you specified.

Installation

AirEffect Screen

If your network was ordered with the AirEffect option, the AirEffect control screen can be accessed by tapping the “AirEffect” button. AirEffect allows your fans to run automatically based on temperature, humidity, and user preferences, creating the most comfortable environment possible.



- 1 **Back** - Takes you back to the previous screen.
- 2 **Fan Name** - Displays the name of the fan.
- 3 **Minimum Speed (Default 0)** - Sets the minimum speed the fan is allowed to operate at. Useful if the fan is mounted high in the ceiling and effects cannot be felt below a certain speed.
- 4 **Maximum Speed(Default 100)** - Sets the maximum speed the fan is allowed to operate at. Useful if running at high speeds causes undesired effects (ex. papers blowing or welding).
- 5 **Distance to Nearest Fan/Wall** - Specifies the distance from this fan to the next fan or a wall.
- 6 **Zone Setup** - Takes you to the zone setup screen.
- 7 **Zone Settings** - Allows you to select a zone to view/input data.
- 8 **Zone Enabled** - Checking this box enables AirEffect for the zone, unchecking this box disables AirEffect for the zone and places the fans in manual mode.
- 9 **Roof Height** - Allows you to specify the distance between the floor and the roof of the zone.
- 10 **Fan Height** - Allows you to specify (or average) the height of the blades above the floor.
- 11 **Sensor Height** - Allows you to specify the height of the ground sensor (default 3ft [0.9m] above floor).

AirEffect Screen cont.



12 Check Every - Allows you to specify how often AirEffect will check for changes in the environment and adjust accordingly.

13 Max Humidity - Allows you to set a desired maximum humidity as a condition for the fans to run.

14 Roof Temp - Displays the temperature measured by the roof sensor.

15 Ground Temp - Displays the temperature measured by the ground sensor.

16 Ground Humid - Displays the humidity measured by the ground sensor.

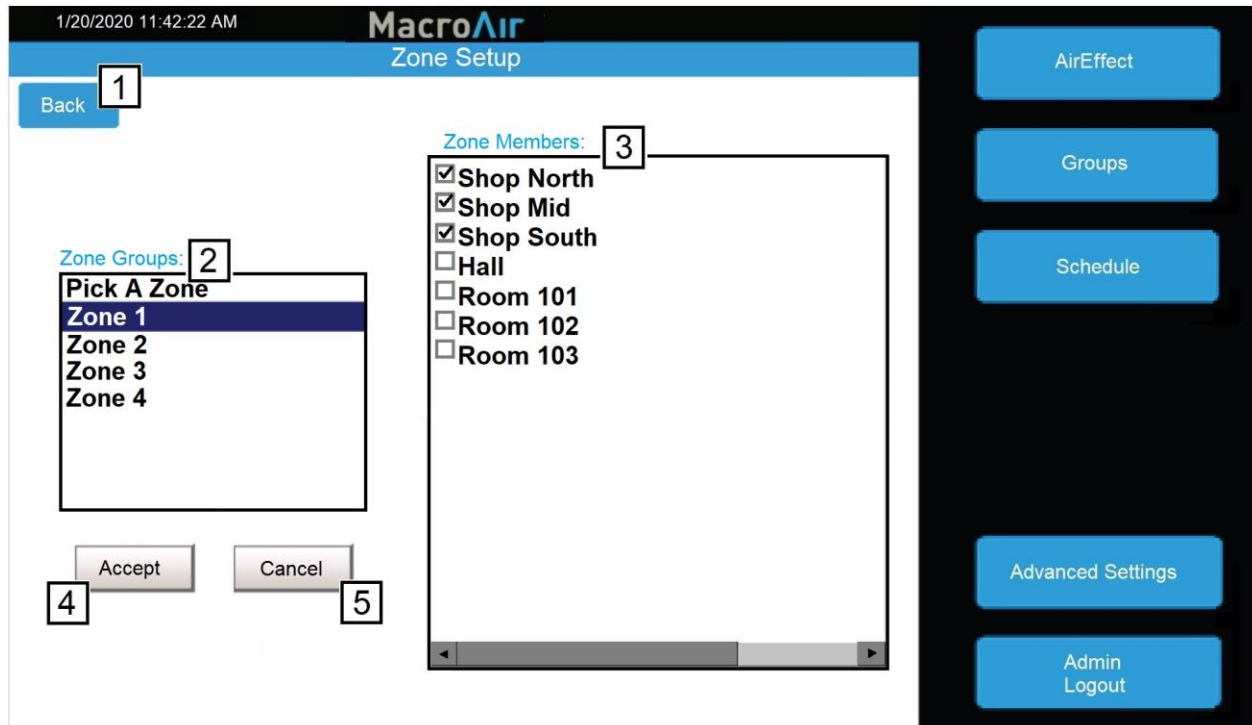
17 Desired Cool - Allows you to set a temperature threshold that will cause AirEffect to cool the environment.

18 Desired Heat - Allows you to set a temperature threshold that will cause AirEffect to warm the environment.

19 Units are in ft and F - Displays the units currently being used on the screen. Press the button to toggle between feet and Fahrenheit, or meters and Celsius.

Zone Setup Screen

Pressing the “Zone Setup” button on the AirEffect screen will bring you to the zone setup page. This page allows you to add or remove fans from zones. Multiple zones are useful if you have fans in multiple rooms/environments that need to be run differently. Please note that two sensors are required per zone.



- 1 **Back** - Takes you back to the AirEffect screen.
- 2 **Zone Groups** - Displays the zone groups.
- 3 **Zone Members** - Displays the fans when a zone group is selected. Check boxes to add fans to the zone, uncheck boxes to remove them.
- 4 **Accept** - Saves any changes you made.
- 5 **Cancel** - Cancels any changes you made.

Technical Support

For installation assistance, application questions, technical support & any other inquiries, please contact our Technical Support team at (866) 668-3247 option 2.

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Social



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