



## Installation Guide

### ZOO Fans AVS-MZTS Controller Multi-Zone Touchscreen Controller Package





## IMPORTANT SAFETY INFORMATION READ AND SAVE THESE INSTRUCTIONS

**WARNING – TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS:** Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards.

**CAUTION:** The installation of a controller must be in accordance with the requirements specified in this installation manual and with any additional requirements set forth by the national electric code (NEC), ANSI/NFPA 70-1999, and all local codes. If you are unfamiliar with wiring, use a qualified electrician.

**WARNING:** To prevent electrical shock and/or injury disconnect controller from power source before you move or service the fan.

For use with fans marked suitable for use with solid-state speed controls.

**WARNING:** To reduce the risk of fire, electric shock, and injury to persons, this controller should only be installed with ZOO Fans. Not suitable for use with other motors.

**CAUTION:** When service or replacement of a component in the controller requires the removal or disconnection of a safety device, the safety device is to be reinstalled or remounted as previously installed.

**WARNING:** Risk of fire, electric shock, or injury to persons during maintenance. Disconnect the controller from the power supply before servicing.

**WARNING – TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:**

- a) Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer.
- b) Before servicing or cleaning unit, switch power off at service panel and lock the service disconnect to prevent power from being switched on accidentally. When the service disconnect cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.

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# ZOO FANS AVS-MZTS CONTROLLER SPECIFICATIONS

Model	Width/Length	Amps	Power Input	Control Input	Description
AVS-MZTS	20" x 20"	20 - 30	208V 3Ph 230V 1Ph 115V 1Ph	RS-485 Data Connection (5VDC)	Multi-Zone Touchscreen Controller w/ Modbus programming (RS-485 RTU)

## What's in the Controls Package:

- Electrical Cabinet
  - AVS-7.5A variable speed controller (one per zone)
  - I/O Data Acquisition Module (each Module can control up to four zones)
  - AC/DC Power Adaptor
  - Circuit Breaker
- 2.8" Touchscreen

## What you'll need:

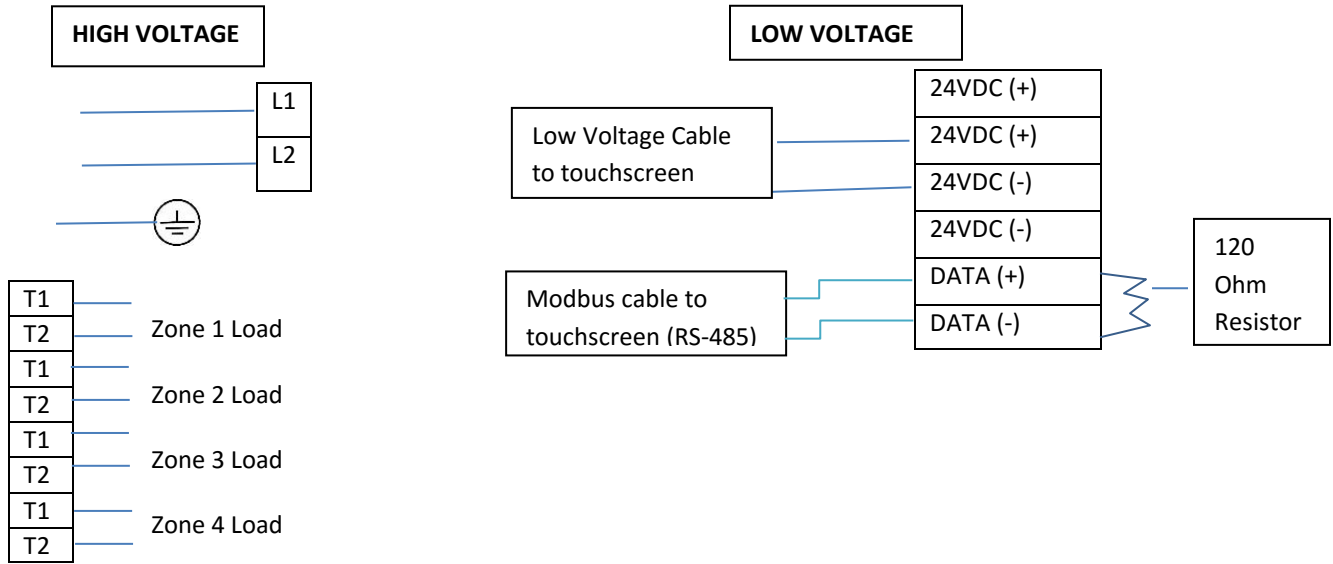
- No. 18-24 AWG 2 Conductor cable for DC voltage
- 10-12 AWG for AC voltage (depending on voltage drop factor)
- RS-485 shielded twisted-pair data cable MODBUS cable

## Installation Notes:

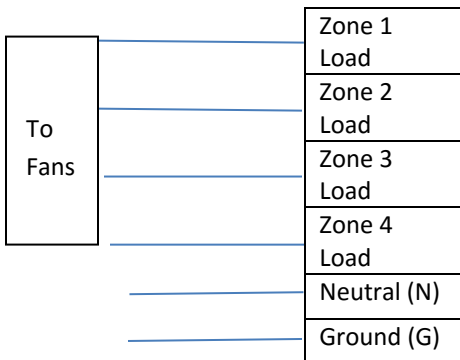
- The AC/DC Switching Adaptor power supply is the sole power source for the Touchscreen unit and all of the I/O Modules. All AVS-7.5A units require separate 115/230v AC power (auto-detecting).
- Use RS-485 shielded twisted-pair cable for data connections between the control panel and the Touchscreen unit. It is recommended that the cable distance between the transmitter and receiver be kept under 200' to maximize signal strength.
- Be sure to ground the shield drain wire on the RS-485 data cable on one end in the controls enclosure.
- Proper grounding of the controller(s) is required for safety and proper operation. Secure ground wire to a sufficient grounding lug in the mounting panel or consult local electrical codes.
- This controller is **NOT** compatible with Uninterruptible Power Supplies (UPS) that generate a square wave.
- For AC supply connections use No. 12 AWG or greater cable

# WIRING THE CONTROLLER

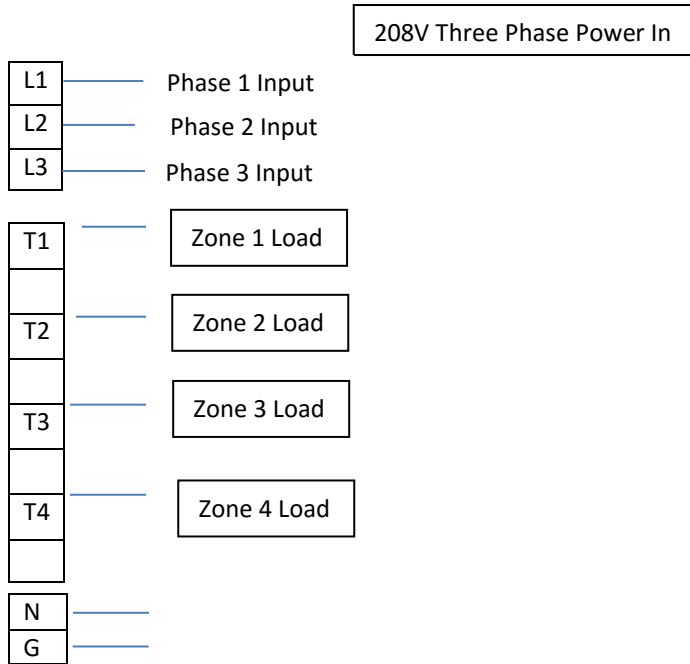
For 230V Single Phase Applications, refer to the following diagram:



For 120VAC Applications, refer to the following diagram:



**For 208VAC Three Phase w/ Neutral Applications, refer to the following diagram:**



**WARNING:** Dangerous voltages are present on the circuit board when connected to the power line. Power must be removed before making any connections or adjustments to avoid electrical shock or damage to the unit.

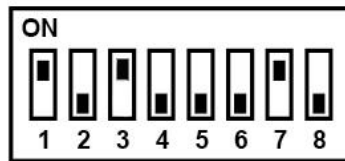
**CAUTION:** An incorrectly installed controller can result in component damage or reduction of the fan’s life. Wiring or application errors such as under-sizing the controller, incorrect or inadequate AC supply, or excessive ambient temperatures may result in a malfunction of the fan system and may void the warranty. Verify correct voltage and phase before beginning installation!

## AVS-7.5A CONTROLLER CONFIGURATION

The AVS-7.5A has a series of eight (8) dipswitches that must be set to a specific configuration to ensure the system functions properly. Figure 3, below, illustrates the correct switch positions to which all AVS-7.5A controller in your system should be set.

**\*\*\* IMPORTANT TIP \*\*\***

Disconnect the power to the controller **PRIOR** to changing any dipswitch.  
The controller will **NOT** accept changes while still connected to the power supply.



*Figure 3*

**TROUBLESHOOTING TIP:** In order to test the AC power connection from the AVS-7.5A to the fans prior to connecting a data signal, flip only the #6 and #7 dipswitches to the up (on) position.







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