Single Duct Air Terminal Zone Controller
VAV Fan Terminal Zone Controller
Secondary Terminal Zone Controller

Mounting Instructions

Part Numbers 33ZCVAVTRM, 33ZCFANTRM, 33ZCSECTRM

IMPORTANT: This document contains zone controller mounting information only. Refer to the Installation, Start-Up, and Configuration manual for zone controller wiring and tubing installation. Refer to the Installation, Start-Up, and Configuration manual for configuration procedures.

GENERAL

The VAV Fan Terminal Zone Controller (33ZCFANTRM) provides dedicated control functions for series fan or parallel fan powered terminals, single duct terminals with 3 stages of heat, or as a primary controller for dual duct or zone pressure control applications. The VAV Fan Terminal zone controller is part of the Carrier ComfortID System.

The Single Duct Air Terminal Zone Controller (33ZCVAVTRM) provides dedicated control functions for single duct terminals with modulating heat or up to 2 stages of heat. The single duct air terminal zone controller is part of the Carrier ComfortID system.

With the addition of a secondary terminal and the 33ZCSECTRM secondary terminal zone controller accessory, either dual duct or zone pressurization applications can be supported. This accessory is only used with the 33ZCFANTRM controller.

TOOLS REQUIRED

- 1/4-in. nut driver
- 8-mm wrench or socket
- No. 1 Phillips head screwdriver

INSTALLATION

Location — The zone controller must be mounted on the air terminal's damper actuator shaft. For service access, there should be at least 12 in. of clearance between the front of the zone controller and adjacent surfaces.

Mounting — Perform the following steps to mount the zone controller:

1. Visually inspect the damper and determine the direction in which the damper shaft moves to open the damper — clockwise (CW) or counterclockwise (CCW).

   If the damper rotates CCW to open, it does not require any configuration changes.

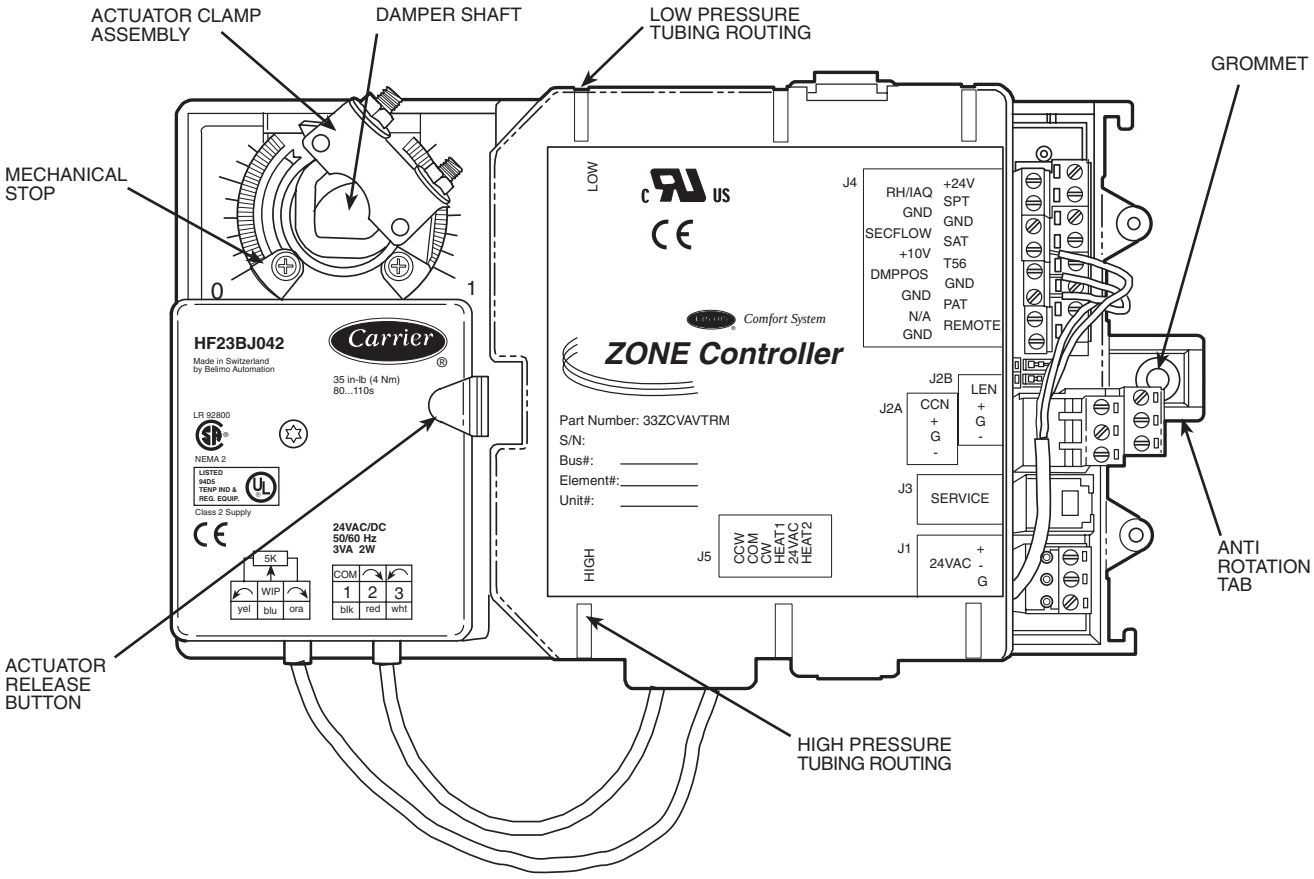
   If the damper rotates CW to open, then the damper actuator logic must be reversed. This is done in the software when performing system start-up and damper calibration test. Do not attempt to change damper rotation by changing wiring. This will upset the damper position feedback potentiometer readings.
2. Rotate the damper shaft to the fully closed position.
3. Press the release button on the actuator and rotate the clamp in the same direction that was required to close the damper in Step 2.
4. Press the actuator release button and rotate the actuator back one-position of graduation. Release the button and lock the actuator in this position.
5. Mount the control to the terminal by sliding the damper shaft through the actuator clamp assembly. Secure the control by installing the screw provided through the grommet in the anti-rotation tab. Be sure the floating grommet is in the center of the slot. FAILURE TO CENTER THE GROMMET MAY CAUSE THE ACTUATOR TO STICK OR BIND.
6. Tighten the actuator clamp assembly to the damper shaft. Secure by tightening the two 8-mm nuts.
7. If the damper has less than 90 degrees of travel between the fully open and fully closed positions, then a mechanical stop must be set on the actuator. The mechanical stop prevents the damper from opening past the maximum damper position. To set the mechanical stop, perform the following procedure:
   a. Press the actuator release button and rotate the damper to the fully open position.
   b. Using a No. 1 Phillips screwdriver, loosen the appropriate stop clamp screw and move the stop clamp so that it contacts the edge of the cam on the actuator.
   c. Secure the stop clamp in this position by tightening the screw.
8. Verify that the damper opens and closes. Press the actuator release button and rotate the damper. Verify that the damper does not rotate past the fully open position. Release the button and lock the damper in the fully open position.
9. Remove the cover from the zone controller. Install two lengths of field-supplied 1/4-in. pneumatic tubing (rated for the application) from the pressure transducer to the velocity pressure pick-up tubes. Be careful to avoid sharp bends in the tubing, because malfunctions may occur if the tubing is bent too sharply. For best operation, use at least 2 ft of tubing. Connect high side to the P1 port of the airflow transducer. Replace cover.

Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.

Book 1 4 | Tab 11a 13a | PC 111 | Catalog No. 533-358 | Printed in U.S.A. | Form 33ZC-3SI | Pg 1 | 10-99 | Replaces: New

→ NOTE: A filter is not provided for the airflow transducer. For typical control retrofit applications where the existing ductwork is left intact, a filter is not required. However, it is recommended that for installations on new systems or systems where high degrees of impurity exist (for example: new construction, jobs where the existing ductwork has been disturbed, or systems where high relative humidity is present in the supply plenum), an air filter should be purchased and installed in the pneumatic piping between the high-pressure pickup and the transducer. A suitable filter (paper type, with a 5 micron rating) is available from Carrier RCD. The filter part number is KH10MZ001.

10. For further instructions regarding sensors, options, and start-up, configuration, and troubleshooting of the controller, refer to the Installation, Start-Up, and Configuration Instructions available from a local Carrier representative.



→ **Fig. 1 — Zone Controller Details (33ZCVAVTRM Shown)**

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