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Honeywell

Excel 10

W7751H SMART VAV ACTUATOR

EXCEL 5000 OPEN™ SYSTEM

INSTALLATION INSTRUCTIONS

BEFORE INSTALLATION

The W7751H Smart VAV Actuator is a factory-combined Excel 10 Variable Air Volume (VAV) Box Controller and an ML6161B Direct-Coupled Actuator with De-clutch mechanism. The actuator/controller assembly is field mounted to the VAV box damper shaft similar to the mounting of a standard actuator, and the controller wiring is terminated to the screw terminals that are located under a snap-on cover. See Fig. 1. The Smart VAV Actuator is a Free Topology Transceiver (FTT) LonMark® compliant controller.

The ML6161B Direct-Coupled Actuator with De-clutch mechanism (see Fig. 2 for location) allows the installer to manually open or close the VAV box damper connected to the W7751H without power or Care/E-Vision to command it.

The controller in the W7751H contains a Microbridge flow-through pressure sensor and communicates via the 78 kilobaud Echelon® E-Bus Network.

Any hardware that will be driven by the Triac outputs must have a minimum current draw, when energized, of 25 mA at 20 Vac and a maximum current draw of 400 mA at 30 Vac.

The actuator on the W7751H mounts directly onto the VAV box damper shaft and has up to 35 lb. in. torque, 90 degree stroke, and 90 sec. timing at 60 Hz.

The actuator on the W7751H can accommodate the optional field-installed auxiliary switches.

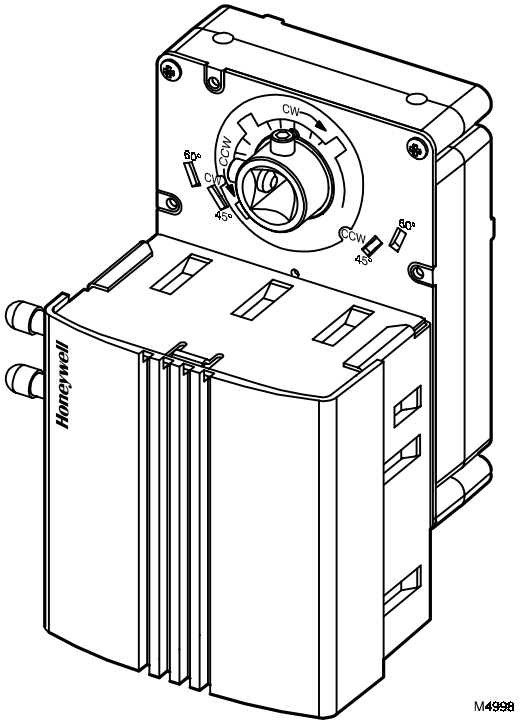


Fig. 1. Excel 10 Smart VAV Actuator. (NOTE: The assembly is intended only for horizontal shaft mounting, to assure proper heat dissipation from the controller housing. The Smart VAV Actuator must not be mounted with the controller at the top.)

INSTALLATION

Mount the W7751H on the damper shaft (horizontal only) and allow clearance for wiring, servicing and module removal. Avoid mounting the W7751H in areas where acid fumes or other deteriorating vapors can attack the metal parts of the actuator, or in areas where escaping gas or other explosive vapors are present. See Fig. 2 for mounting dimensions.

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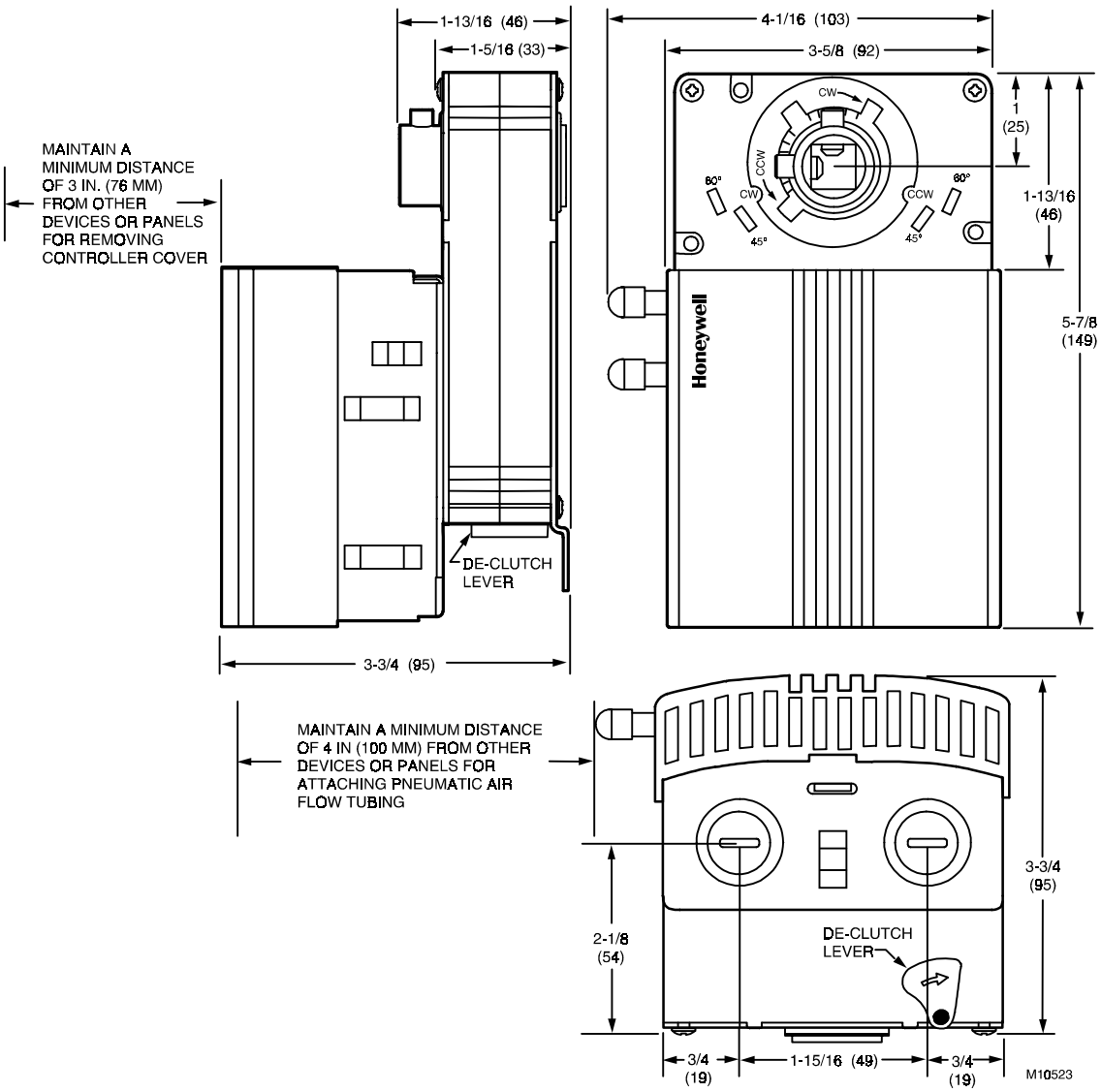


Fig. 2. W7751H mounting dimensions in in. (mm).

The W7751H assembly is field mounted to the VAV box damper shaft, the same as used for a typical actuator. The actuator on the W7751H opens or closes a damper by driving the damper shaft in either the counterclockwise (CCW) or clockwise (CW) direction. The actuator has a mounting tab on the bottom for securing to a VAV box damper. The mounting tab is accessible through a hole in the controller with its cover removed (see Fig. 3). The tab is sized for a 1/4 in. (6 mm) self-tapping sheet metal screw (not included).

The controller enclosure on the W7751H is constructed of a sheet metal housing and a plastic snap-on cover. Controller wiring on the W7751H is terminated to screw terminal blocks located under the snap-on cover. See Wiring section. The sheet metal housing has two 1/2 inch (13 mm) knockouts (see Fig. 2) compatible with 1/2 inch (13 mm) or 3/4 inch (19 mm) conduit.

NOTE: The assembly is intended only for horizontal shaft mounting.

The W7751H actuator is shipped in the fully clockwise (CW) position (90 degree). The W7751H Assembly must be mounted to a horizontal damper shaft to assure proper heat dissipation from the controller housing. Mount the W7751H so that the actuator is parallel with the VAV box damper housing. In general, it is recommended that a washer or spacer be added between the VAV box damper housing and the actuator mounting tab to keep them parallel. See Fig. 4.

CAUTION

Failure to keep the actuator mounting tab parallel with the VAV box damper housing can cause unbalanced gear wear and premature failure.

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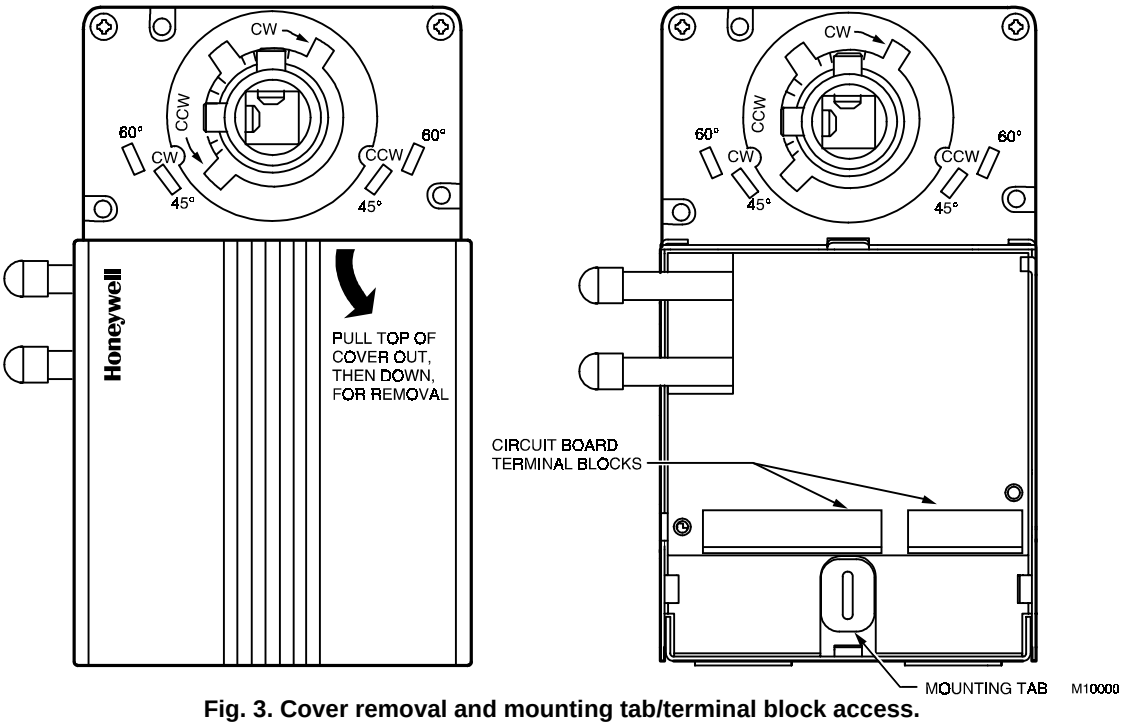


Fig. 3. Cover removal and mounting tab/terminal block access.

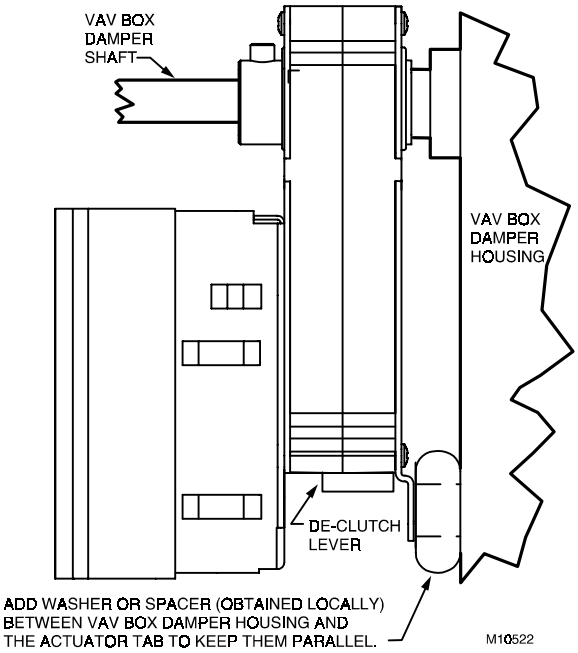


Fig. 4. Mounting W7751H to VAV box damper housing when actuator is not parallel to VAV box damper housing.

Before mounting the W7751H onto the VAV box damper shaft, determine the following:

1. The diameter of the damper shaft, 3/8 to 1/2 in. (10 to 13 mm)
2. If the length of the VAV box damper shaft is less than 1-3/8 in. (35 mm), use the 4074EVK Short Shaft Adapter Kit not included.
3. The direction the damper shaft rotates to open the damper (CW or CCW), see Fig. 5.
4. The angle of the damper opening (45, 60, or 90 degree).

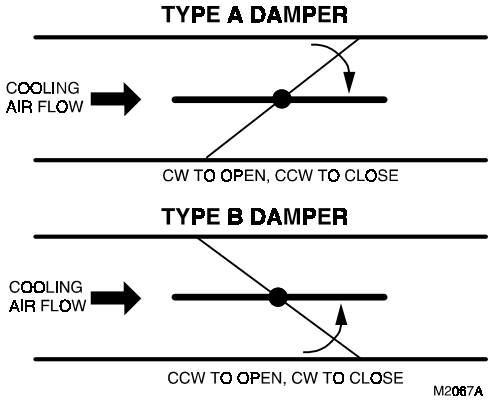


Fig. 5. Determining direction of rotation (CW or CCW) for damper opening.

If the damper shaft diameter is 3/8 inch (10 mm) round or square, use the part no. 201391 Shaft Adapter, which is shipped with the W7751H Smart VAV Actuator. Make sure it is placed opposite the set screws. See Fig. 6. The adapter centers the 3/8 inch (10 mm) shaft in the hub. Failure to use the adapter on a 3/8 inch (10 mm) shaft causes the mounting tab to loosen. A 1/2 in. (13 mm) shaft does not require the use of the adapter.

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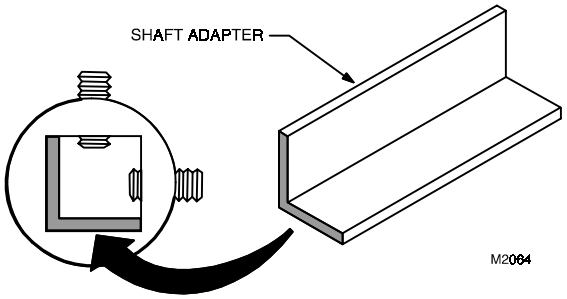


Fig. 6. Use damper shaft adapter for 3/8 in. (10 mm) diameter round or square damper shafts.

The W7751H is shipped with the actuator rotated in the fully clockwise (CW) position. The installation procedure varies depending on the damper direction and angle.

1. If the damper rotates clockwise *(CW) to open*, and the angle of the damper open to closed is *90 degrees*, manually open the damper fully to the clockwise direction and mount the W7751H to the VAV damper box and shaft. Tighten the Allen set screws. The part no. 201614 Range Stop Pin, which is shipped with the W7751H Smart VAV Actuator, is unnecessary. When the W7751H closes, the damper rotates *CCW 90* degrees to fully close.
2. If the damper rotates clockwise *(CW) to open*, and the angle of the damper open to closed is *45 or 60 degrees*, manually open the damper fully to the clockwise direction and mount the W7751H to the VAV damper box and shaft. Tighten the Allen set screws. Insert the part no. 201614 Range Stop Pin, which is shipped with the W7751H Smart VAV Actuator, in either the 45 or the 60 degree *CCW* slot, whichever applies (see Fig. 7). The range stop pin must go all the way through the housing. The pin can only be installed in the *CCW* slots when the actuator is in the *CW* position. When the W7751H closes, the damper rotates *CCW* either 45 or 60 degrees to fully close.
3. If the damper rotates counterclockwise *(CCW) to open*, and the angle of the damper open to closed is *90 degrees*, manually close the damper fully to the clockwise direction and mount the W7751H to the damper box and shaft. Tighten the Allen set screws. The part no. 201614 Range Stop Pin, which is shipped with the W7751H Smart VAV Actuator, is unnecessary. When the W7751H opens, the damper rotates *CCW* 90 degrees to fully open.

   NOTE: Be aware that the damper is closed. Until the W7751H is powered and the damper is driven open, starting the fan system with all the VAV box dampers closed can cause duct over-pressurization and damage.

4. If the damper rotates counterclockwise *(CCW) to open*, and the angle of the damper open to closed is *45 or 60 degrees*, see the following NOTE.

   NOTE: Special precautions must be taken for this application. Mount the W7751H to the damper box. (Do not tighten the Allen set screws yet). Before the part no. 201614 Range Stop Pin, which is shipped with the W7751H Smart VAV Actuator, can be inserted in either the 45 or 60 degree *CW* slot, the damper actuator must be driven fully open (CCW). To do this, the controller on the W7751H must be wired, powered, and connected to the portable PC via the Serial LonTalk® Adapter (SLTA). The SLTA connects to the controller on the W7751H via the Jack for Network Access on T7770 Wall Module or by the B-Port on the Q7750A Zone Manager. From E-Vision Software, drive the actuator on the W7751H fully *CCW*, and insert the range stop pin in either the 45 or the 60 degree *CW* slot, whichever applies (see Fig. 7). The range stop pin must go all the way through the housing. The pin can only be installed in the *CW* slots when the actuator is in the *CCW* position. Manually open the damper shaft fully *(CCW)* and then tighten the Allen set screws. When the W7751H closes, the damper will rotate *CW* 45 or 60 degrees to fully close.

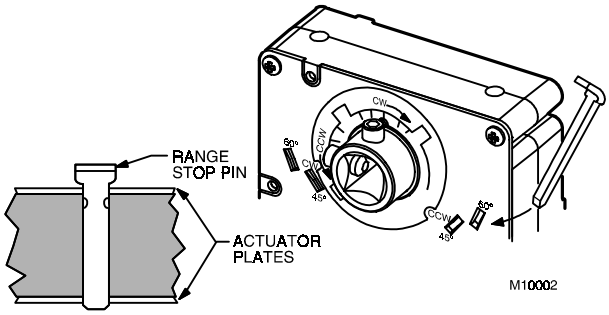


Fig. 7. Properly inserting range stop pin.

The CARE/E-Vision Software (miscellaneous parameter for rotation direction) defaults to *CW to Open*, which applies to the damper direction and angle in items **1**. and **2**. above. The parameter must be changed to *CCW to Open* if the damper shaft rotates in this direction, which applies to the damper direction and angle in items **3**. and **4**. above. Refer to the E-Vision Users Guide, form 74-2588 for details on changing the parameter for rotation direction.

IMPORTANT

It is advisable to leave the dampers in an Open position after W7751H installation to avoid the possibility of overpressurizing the ductwork on fan startup. Use the De-clutch lever (see Fig. 2 for De-clutch lever location) to open the box damper on W7751H controllers that are powered down, to prevent overpressurization in the ductwork on fan startup. To use the De-clutch lever, press and hold the lever in the direction of the arrow (this disengages the motor). Turn the damper shaft until the damper is open and release the lever. When power is restored to the W7751H controller, the controller synchronizes the damper actuator so that the damper is in the correct position on startup.

When a range stop pin is used with a field-added auxiliary switch, the tab on top of the range stop pin must point inward

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toward the VAV damper box shaft. See Fig. 11. This allows clearance for the auxiliary switch housing. To remove the pin, pry it up with a flathead screwdriver. See Fig. 8.

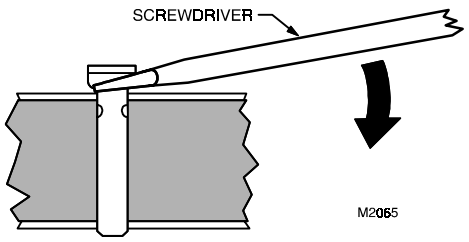


Fig. 8. Lifting a range stop pin out of its slot.

IMPORTANT

The minimum position set screw on the actuator is not available on the W7751H device.

Piping

Air flow Pickup

Connect the air flow pickup to the two connectors on the controller of the W7751H. See Fig. 9.

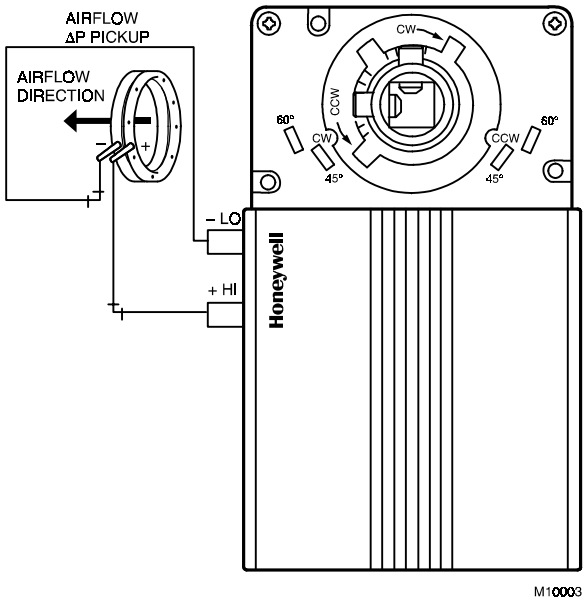


Fig. 9. Smart VAV Actuator air flow pickup connections.

NOTES:

- Use 1/4 in. (6 mm) outside diameter with 0.040 in. (1 mm) wall thickness plenum rated 1219 FR (94V-2) pneumatic tubing.
- Always use a fresh cut on the end of the tubing that connects to the air flow pickups and the connectors on the VAV controllers.

Connect the high pressure or upstream tube to the plastic restrictor labeled (+ HI) or P1 and the low pressure or downstream tube to the restrictor labeled (- LO) or P2. See labeling in Fig. 9.

NOTE: If controllers are mounted in unusually dusty or dirty environments, a 5-micron disposable air filter is recommended for the high pressure line (marked as +) connected to the air flow pickup.

When twin tubing is used from the pickup, split the pickup tubing a short length to accommodate the connections.

NOTES:

- The tubing from the air flow pickup to the VAV controller should not exceed three feet (0.914 meter). Lengths that are much longer than this can degrade the flow sensing accuracy.
- To prevent a VAV air flow connector from breaking, use caution when removing tubing from it. Always pull straight away from the connector; never remove by pulling at an angle.

Wiring

All wiring must comply with applicable electrical codes and ordinances, or as specified on installation wiring diagrams.

NOTES:

- For multiple controllers operating from a single transformer, the same side of the transformer secondary must be connected to the same input terminal in each controller and the ground terminals (3 on the W7751H, 28 on the W7751B, and 32 on the W7751D,F) must be connected to a verified earth ground for each controller in the group. See Fig. 10. (Controller configurations are not necessarily limited to three devices, but the total power draw including accessories cannot exceed 100 VA when powered by the same transformer. See System Engineering form 74-2949 for power wiring recommendations.)
- All loads on an Excel 10 Controller must be powered by the same transformer that powers the Excel 10 Controller.
- Keep the earth ground connection (terminal 3) wire run as short as possible. Refer to Fig. 17.
- Do *not* connect the analog ground terminal (5) to earth ground. Refer to Fig. 17.

Power

The 24 Vac power from an energy limited Class II Power Source must be provided to each Smart VAV Actuator. To conform to Class II restrictions, transformers must not be larger than 100 VA.

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IMPORTANT

Power must be off prior to connecting to or removing connections from output terminals 9 and 10.

Use the heaviest gauge wire available, up to 14 AWG (2.0 mm^2) with a minimum of 18 AWG (1.0 mm^2), for all power and earth ground wiring. For nonplenum, open areas, run cables exposed (or in conduit, if required).

If the W7751H Smart VAV Actuator is used on ***Heating and Cooling Equipment (UL 1995, US only)*** *and the transformer primary power is more than 150 volts, connect the transformer secondary to earth ground, see Fig. 10.*

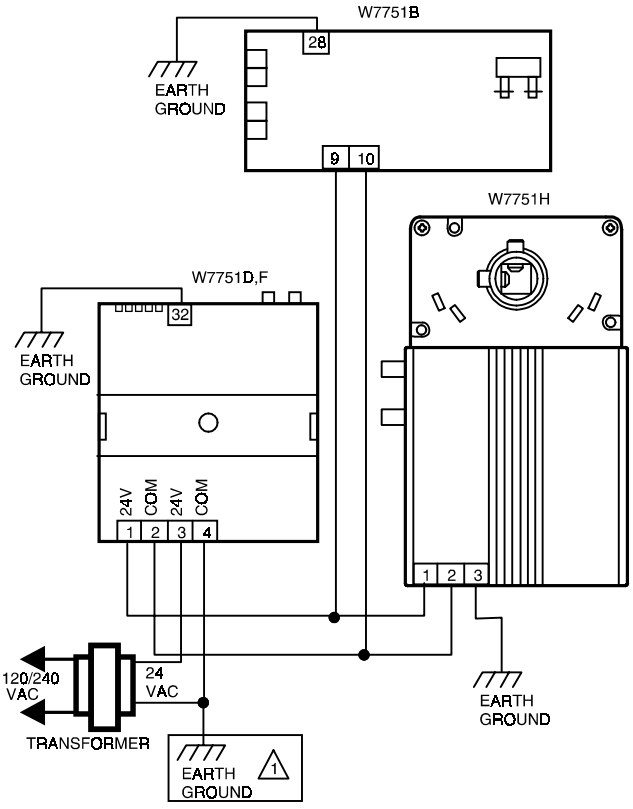


Fig. 10. Power wiring for multiple controllers.

NOTES:

- — Unswitched 24 Vac power wiring can be run in the same conduit as the E-Bus cable.
- — Maintain a three-inch (76 millimeter) separation between Triac outputs and E-Bus wiring throughout the installation.

Auxiliary Switches

The 201052A,B,C Auxiliary Switch can be used with the W7751H. It allows for control of equipment external to the actuator (for example, electric reheat coils or fan) at an adjustable point in the stroke (from 0 to 90 degrees) of the actuator. The 201052 Switch is field-added. Self-tapping Phillips head screws are included with the switch. The switch can be mounted only one way (see Fig. 11) with the switch contacts pointed to the top of the actuator.

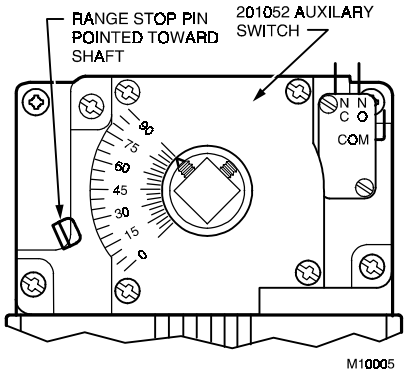


Fig. 11. 201052 Auxiliary Switch mounted on W7751H.

NOTES:

- — If a range stop pin is used, it must be pointing inward toward the shaft (see Fig. 11) to allow clearance for the auxiliary switch.
- — Each switch is independently adjustable in two-degree increments to any point within the travel of the actuator. Switches have a fixed differential of approximately three angular degrees.

Procedure

1. Determine desired switching action (for example, if switch energization is to occur during *CW* or *CCW* rotation). With switch cam as shown in Fig. 12, the normally closed contact opens in CCW rotation. The normally open contact closes. Conversely, with the switch cam as shown in Fig. 13, the normally closed contact opens during CW rotation and the normally open contact closes.

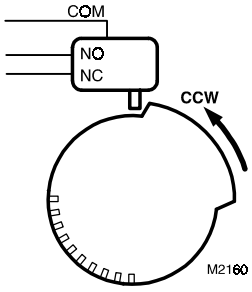


Fig. 12. Switching configuration for CCW rotation (top view).

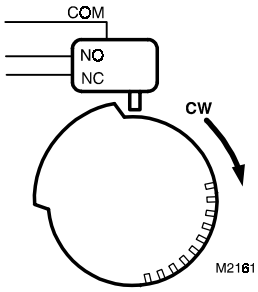


Fig. 13. Switching configuration for CW rotation (top view).

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2. Align the switch hub with the set screws on the actuator. Mount the switch on the actuator and tighten the three captive screws.

3. Connect the controller with the laptop PC. To do this, the controller on the W7751H must be wired, powered, and connected to the portable PC via the SLTA. The SLTA connects to the controller on the W7751H via the Jack for Network Access on the T7770 Wall Module or by the B-Port on the Q7750A Zone Manager. From E-Vision Software, drive the actuator on the W7751H and halt the motion at the desired position for switch operation.

NOTE: When installed, the angular position indicator on the face of the switch moves from 90 to 0 degrees during *CCW* motion and from 0 to 90 degrees during *CW* motion.

4. With a screwdriver, move the cam inside the switch assembly to the appropriate position, remembering the direction of cam travel for switching purposes (see Fig. 14) when turning the switch on or off. The closure of the switch should be monitored with an ohmmeter for a continuity check. The normally closed contact should measure zero ohms and the normally open contact should measure infinite ohms when the switch is not activated. The opposite is true when the switch is activated.

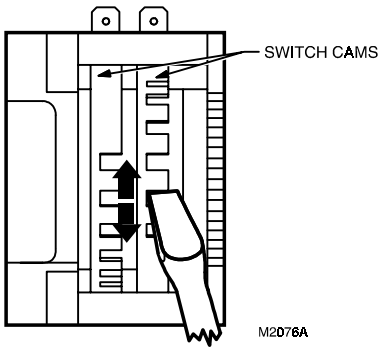


Fig. 14. Auxiliary switch cam adjustment.

NOTE: For 2 or 3 switch models, the cams align with their respective switches and are individually set using the same procedure described above.

5. Make sure that the switch activates at the desired degree of stroke by commanding the actuator to both fully open and fully closed; see step **3**.

NOTE: Switches can also be preset prior to installing an actuator when the angular switch position is known.

Communications

Refer to *E-Bus Wiring Guidelines, form 74-8565*, for a complete description of E-Bus network topology rules. Approved cable types for E-Bus communications wiring is Level IV 22 AWG (0.34 mm^2) plenum or non-plenum rated unshielded, twisted pair, solid conductor wire. For nonplenum areas, US part AK3781 (one pair) or US part AK3782 (two pair) can be uses. In plenum areas, US part AK3791 (one pair) or US part AK3792 (two pair) can be used. Communications wiring can be run in a conduit, if needed, with *non-switched* 24 Vac or sensor wiring. If a longer E-Bus network is required, a Q7740A 2-way or Q7740B 4-way repeater can be added to extend the length of the E-Bus. A Q7751A Router can be added to partition the system into two segments and effectively double the length of the E-Bus. Only one router is allowed with each Excel 10 Zone Manager, and each network segment can have a maximum of one repeater.

Pull the cable to each device on the E-Bus and connect to communication terminals 11 and 12 (W7751H).

Notes on Communications Wiring:

- *All field wiring must conform to local codes and ordinances (or as specified on the installation drawings.*
- *Approved cable types for E-Bus communications wiring is Level IV 22 AWG (0.34 mm^2) plenum or non-plenum rated unshielded, twisted pair, solid conductor wire. For nonplenum areas, US part AK3781 (one pair) or US part AK3782 (two pair) can be used. In plenum areas, US part AK3791 (one pair) or US part AK3792 (two pair) can be used.*
- *Unswitched 24 Vac power wiring can be run in the same conduit as the E-Bus cable.*
- *Do not bundle output wires with sensor, digital input or E-Bus wires.*
- *Do not use different wire types or gauges on the same E-Bus segment. The step change in line impedance characteristics would cause unpredictable reflections on the E-Bus. When using different types is unavoidable, use a Q7751A Router at the junction.*
- *In noisy (high EMI) environments, avoid wire runs parallel to noisy power cables, motor control centers, or lines containing lighting dimmer switches, and keep at least 3 in. (76 mm) of separation between noisy lines and the E-Bus cable.*
- *Make sure that neither of the E-Bus wires is grounded.*

NOTE: If a 209541B Termination Module is required at a the Smart VAV Actuator, connect two of the three termination module wires to the E-Bus terminals. Selecting the appropriate two wires depends on the E-Bus network topology. Refer to the *E-Bus Wiring Guidelines*, form 74-2865, and the *Excel 10 FTT Termination Module Installation Instructions, form 95-7554*. For example, using a doubly terminated daisy-chained bus topology, if devices are on either end of an E-Bus wire run, mount the termination module on the appropriate terminals as shown in Fig. 15.

IMPORTANT

Screw type terminal blocks are designed to accept no more than one 14 AWG (2.0 mm^2) conductor. Multiple wires that are 14 AWG (2.0 mm^2) can be connected with a wire nut. Include a pigtail with this wire group and attach the pigtail to the individual terminal block.

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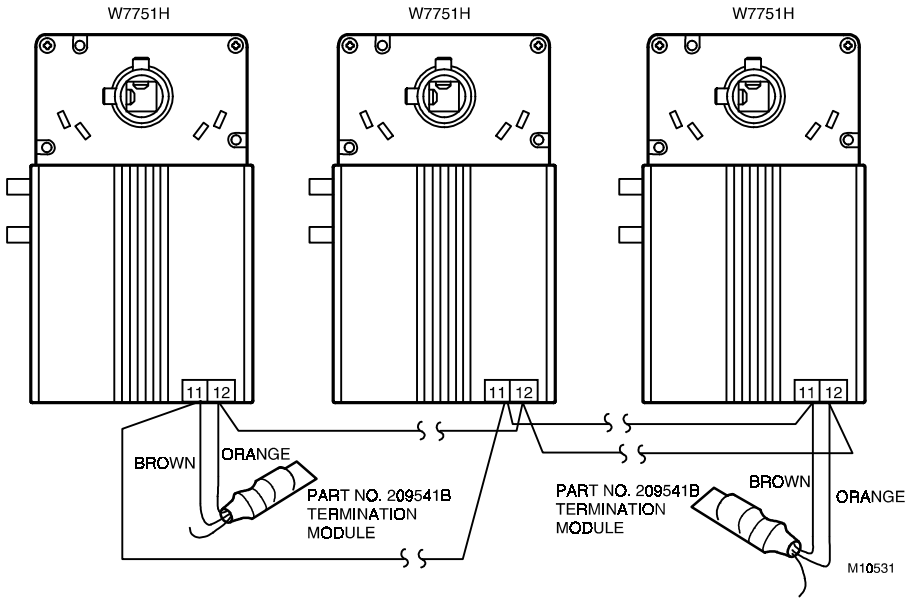


Fig. 15. Termination modules.

NOTE: When two or more wires are to be attached to the same terminal, other than 14 AWG (2.0 mm^2), be sure to twist them together. Deviation from this rule can result in improper electrical contact. See Fig. 16.

Wire to the terminal blocks as follows:

1. Strip 3/16 in. (5 mm) insulation from the conductor.
2. Insert the wire in the required terminal location and tighten the screw to complete the termination.
3. If two or more wires are being inserted into one terminal location, twist the wires together before inserting them. See Fig. 16.

Wiring Details

The controller on the W7751H has the terminal arrangement shown in Fig. 17. Fig. 17 through 22 provide detailed wiring diagrams for the W7751H. Refer to installation diagrams for specific wiring.

NOTE: Make sure to set the Configuration DIP Switch as shown in Fig. 20. Switches 1 through 3 set the timing of the ML7984B valve actuator to match the W7751H outputs (0.1 sec. Min. with a max. time of 25.6 sec.). Switch 4 determines the action of the actuator (Off = Direct Acting, On = Reverse Acting).

NOTE: Make sure to set the Configuration DIP Switch as shown in Fig. 20. Switches 1 through 3 set the timing of the ML7984B valve actuator to match the W7751H outputs (0.1 sec. Min. with a max. time of 25.6 sec.). Switch 4 determines the action of the actuator (Off = Direct Acting, On = Reverse Acting).

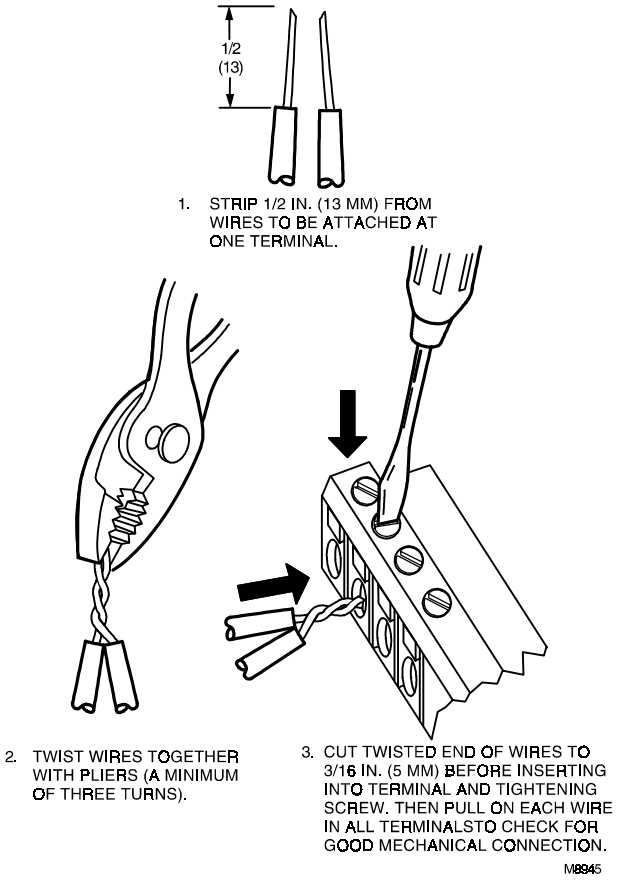
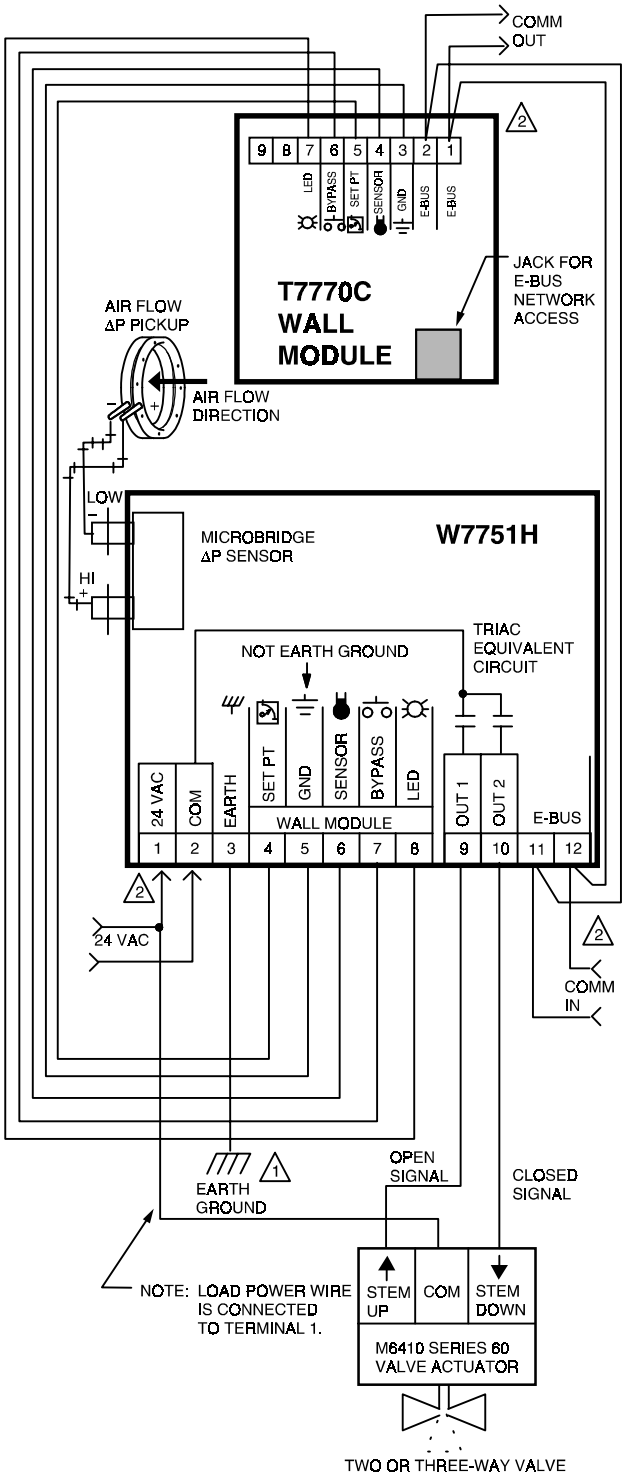


Fig. 16. Attaching two or more wires at terminal blocks.

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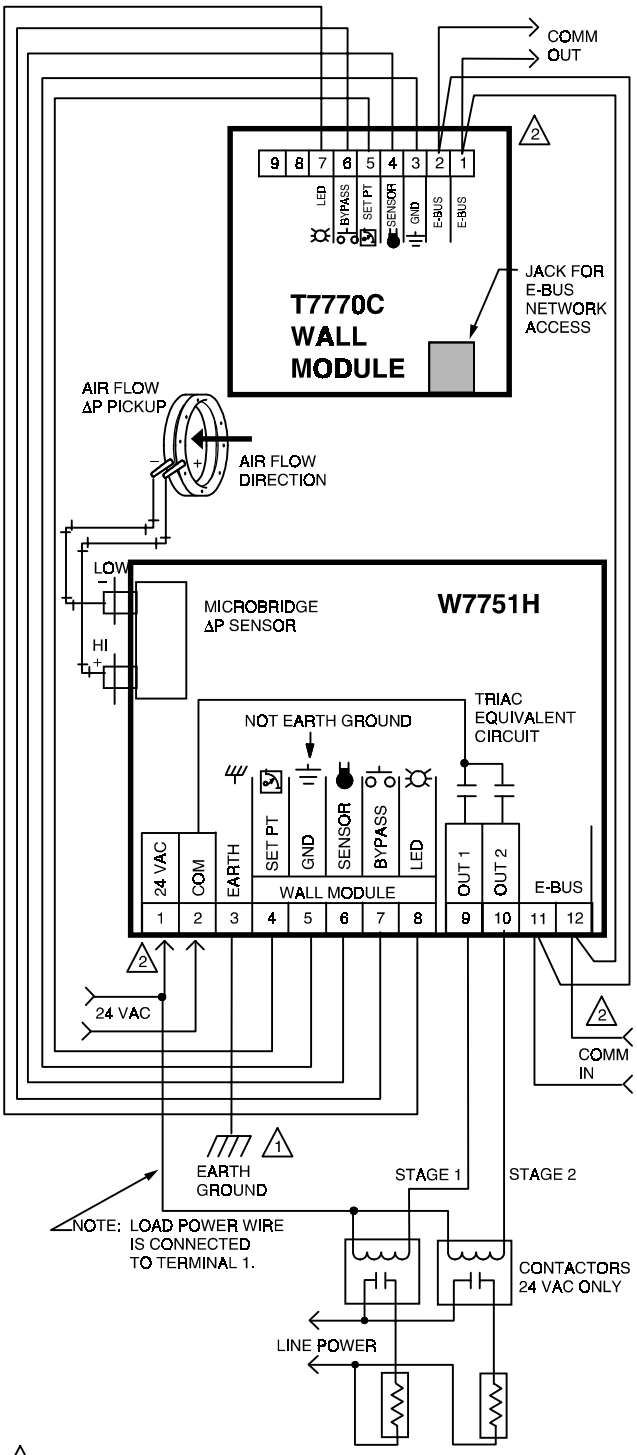


1 EARTH GROUND WIRE LENGTH SHOULD BE HELD TO A MINIMUM. USE THE HEAVIEST GAUGE WIRE AVAILABLE, UP TO 14 AWG (2.0 MM²) WITH A MINIMUM OF 18 AWG (1.0 MM²), FOR EARTH GROUND WIRE.

2 TO ASSURE PROPER ELECTRICAL CONTACT, WIRES MUST BE TWISTED TOGETHER BEFORE INSERTING INTO THE TERMINAL BLOCK.

M10525

Fig. 17. W7751H modulating reheat valve wiring diagram. (For Note 2 instructions, refer to Fig. 16.)



1 EARTH GROUND WIRE LENGTH SHOULD BE HELD TO A MINIMUM. USE THE HEAVIEST GAUGE WIRE AVAILABLE, UP TO 14 AWG (2.0 MM²) WITH A MINIMUM OF 18 AWG (1.0 MM²), FOR EARTH GROUND WIRE.

2 TO ASSURE PROPER ELECTRICAL CONTACT, WIRES MUST BE TWISTED TOGETHER BEFORE INSERTING INTO THE TERMINAL BLOCK.

M10526

Fig. 18. W7751H 2-stage reheat wiring diagram. (For Note 2 instructions, refer to Fig. 16.)

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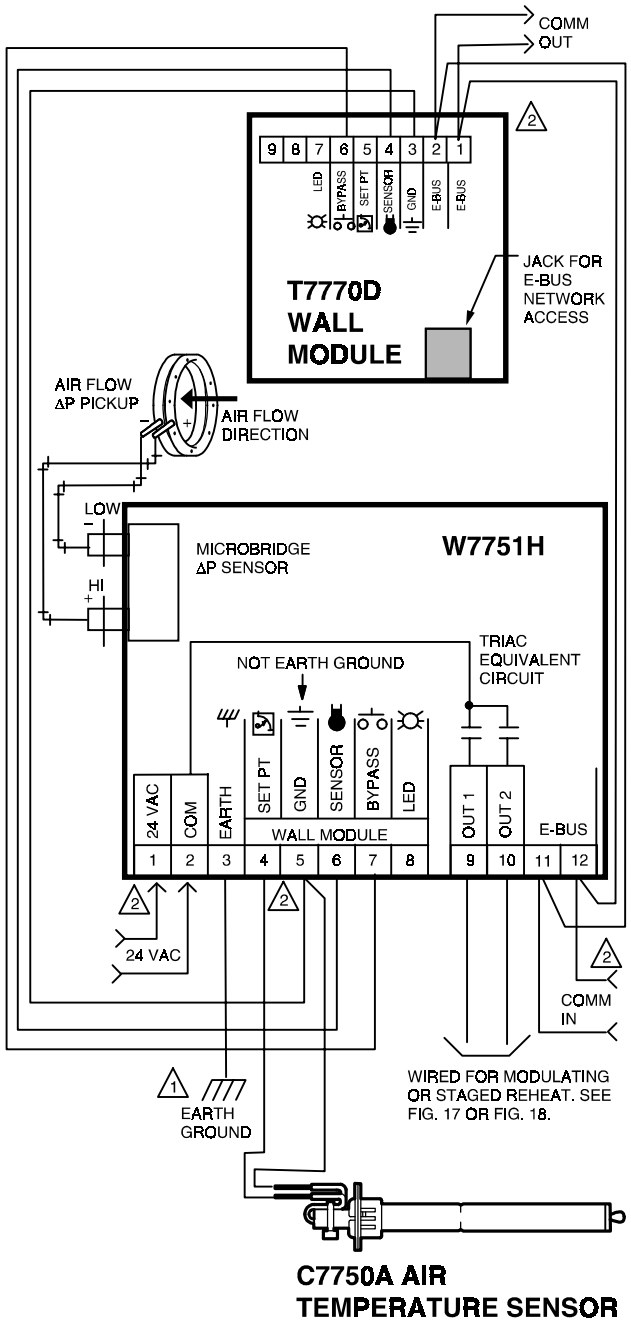


Fig. 19. W7751H discharge air sensing (For Note 2 instructions, refer to Fig. 16.)

CHECKOUT

W7751H Checkout

Step 1. Wiring Connections

Inspect all wiring connections at the W7751H and the T7770 terminals, and verify compliance with installation diagrams. If any wiring changes are required, *first* be sure to remove power from the controller *before* starting work. Pay particular attention to:

- 24 Vac power connections. Verify multiple controllers being powered by the same transformer are wired with the transformer secondary connected to the same input terminal numbers on each W7751. See Fig. 10. (Controller configurations are not necessarily limited to three devices, but the total power draw including accessories cannot exceed 100 VA when powered by the same transformer. See System Engineering form 74-2949 for power wiring recommendations.)
- Controller wiring. Be sure that each controller is wired (terminal 3 on the W7751H, 28 on the W7751B, and 32 on the W7751D,F) to a verified earth ground using a wire run as short as possible with the heaviest gauge wire available, up to 14 AWG (2.0 mm^2) with a minimum of 18 AWG (1.0 mm^2) for each controller in the group. See Fig. 10.
- Verify Triac wiring to external devices uses the proper load power/24 Vac Hot terminal (terminal 1 on the W7751H).

NOTE: All wiring must comply with applicable electrical codes and ordinances. Refer to installation diagrams for specific wiring.

Verify Termination Module Placement

The installation wiring diagrams should indicate the locations for placement of 209541B Termination Module(s). Refer to the *E-Bus Wiring Guidelines*, form 74-2865, and the *Excel 10 FTT Termination Module Installation Instructions, form 95-7554.* Correct placement of the termination module(s) is required for proper E-Bus communications.

Step 2. Startup

Broadcasting the Service Message

The Service Message allows a device on the E-Bus to be positively identified. The Service Message contains the controller ID number and, therefore, can be used to confirm the physical location of a particular Excel 10 VAV Controller in a building.

When an *Assign ID* command is issued from the CARE commissioning tool (E-Vision), the node goes into the SERVICE_MESSAGE mode for five minutes. In the SERVICE_MESSAGE mode, pressing the occupancy override button on the wall module causes the Service Message to be broadcast on the network. All other functions are normal in the SERVICE_MESSAGE mode. If an Excel 10 VAV Controller does not have an override button connected, it can still broadcast the Service Message on the network by temporarily shorting the controller Bypass Input terminal to the Sensor Ground (on the W7751H short terminals 7 and 5).

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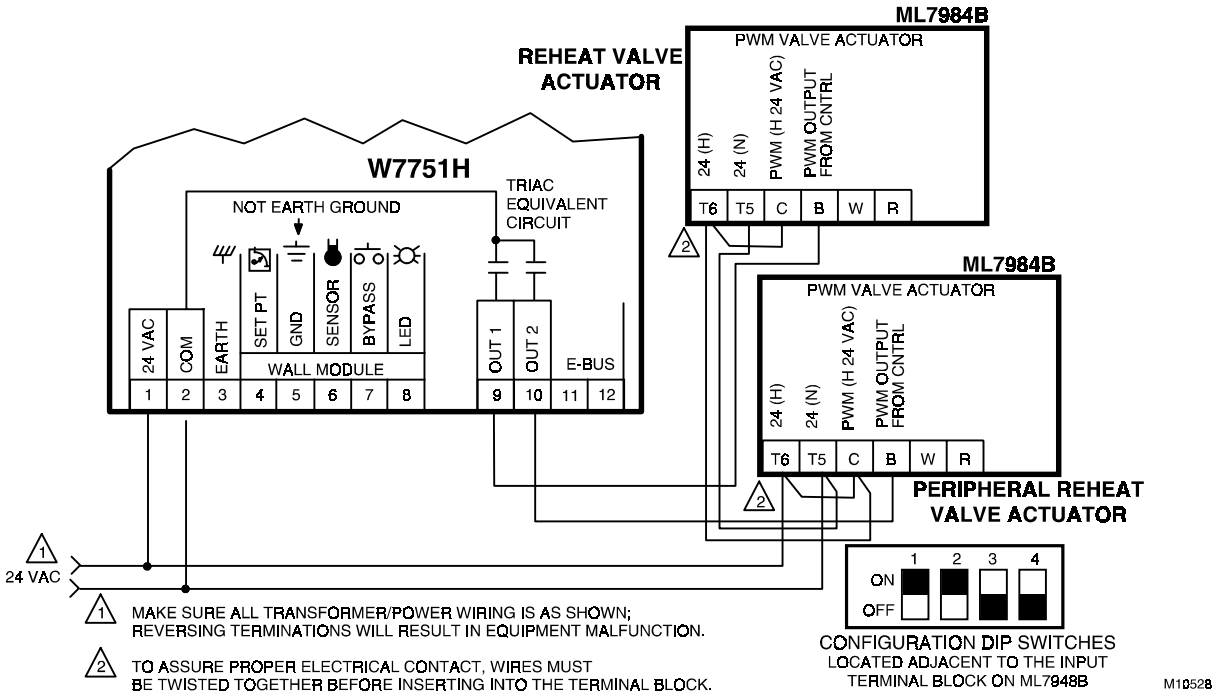


Fig. 20. W7751H to PWM Valve Actuator.

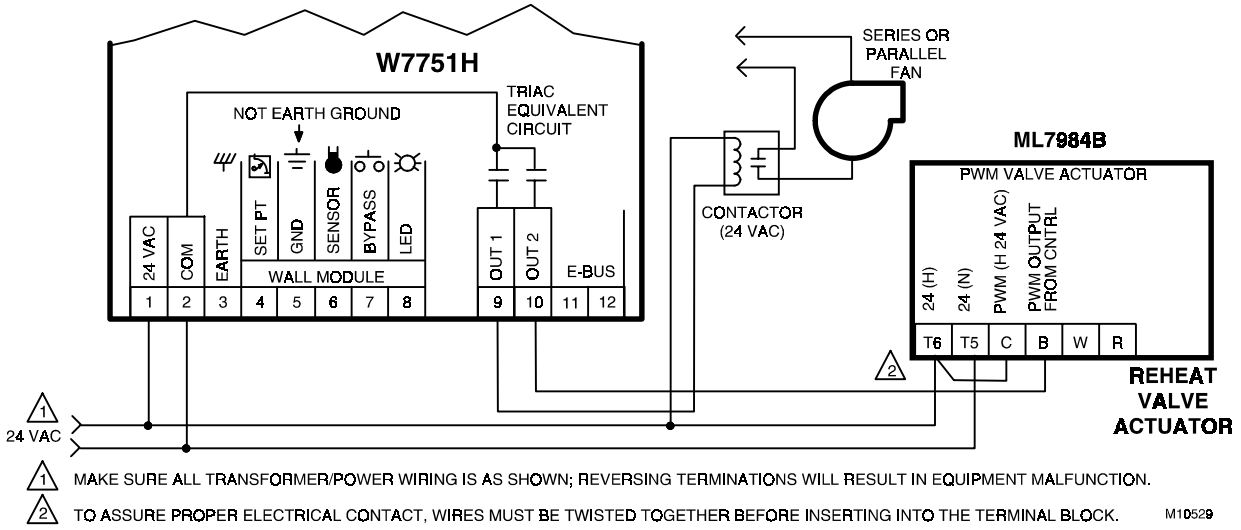


Fig. 21. W7751H to PWM Valve Actuator and series or parallel fan.

Alarms

The CARE commissioning tool (E-Vision) is used to perform the ID Assignment task (see E-Vision User Guide form 74-2588). Once the ID Assignment and commissioning has been done, check the controller status LED to determine if there are any alarms.

W7751 Controller Status LEDs

The LED on the front of a W7751H Controller (located just under the plastic cover), provides a visual indication of the status of the device. When the W7751H receives power, the LED appears in one of the following allowable states:

1. Off—no power to the processor.
2. Continuous on—processor is in initialized state.
3. Slow blink—controlling, normal state.
4. Fast blink—when the Excel 10 VAV Controller has an alarm condition.

When an Excel 10 has an alarm condition, it reports it to the central node on the E-Bus (typically, the Excel 10 Zone Manager). Also, the Excel 10 VAV Controller variables, *AlarmLogX*, where *X* is 1 through 5, that store the last five alarms to occur in the controller, are available. These points can be viewed through XBS or E-Vision. Refer to the VAV System Engineering Guide form, 74-2949 Table 12 for a description of the Excel 10 Alarms.

NOTE: The node can be reset by switching the node to MANUAL and then to the normal operating mode.

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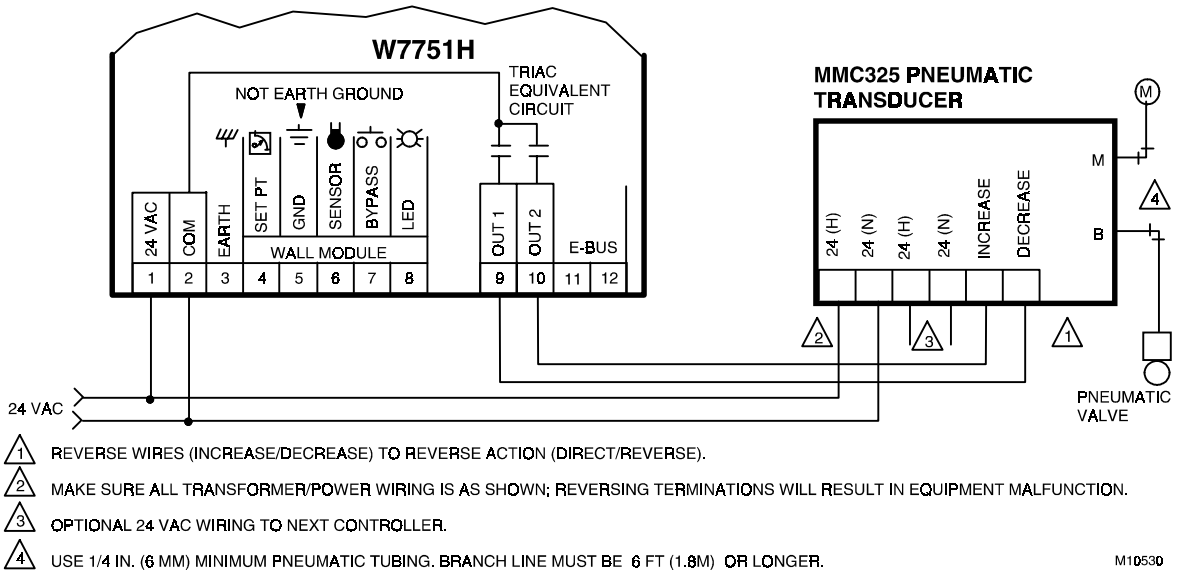


Fig. 22. W7751H to pneumatic transducer.

T7770C or D Wall Module Override LED

The remote override LED, located on either the T7770C or T7770D Wall Module will display the Manual Override mode of the controller. The modes are:

1. LED = Off. No override active.
2. LED = Continuously On. Bypass mode (timed Occupied override).
3. LED = One flash per second. Continuous Unoccupied override.
4. LED = Two flashes per second. Remote only, continuous Occupied override.

Step 3. I/O Tests

The controller must be configured using the Excel 10 E-Vision PC configuration tool. Once this is done, the W7751H can be commanded to MANUAL mode, and each output and input can be exercised/viewed to verify proper wiring connections and equipment operation. See the Excel 10 E-Vision Users Guide, form 74-2588 for details on configuring W7751H Controllers.

W7751H Actuator Checkout

To check out the actuator on the W7751H, determine the direction the damper shaft moves to open the damper (CW or CCW). See Fig. 5.

Connect the controller with the laptop PC. To do this, the controller on the W7751H must be wired, powered, and connected to the portable PC via the SLTA. The SLTA connects to the controller on the W7751H via the Jack for Network Access on T7770 Wall Modules or by the B-Port on the Q7750A Zone Manager. From E-Vision Software (using E-Vision commands), drive the actuator on the W7751H open and then closed. Observe the operation of the actuator; if the damper is closed, it should begin to open. If the damper is open, it should begin to close.

If no movement is observed, check to see if 24 Vac is present at the controller on the W7751H. With proper wiring, with 24 Vac present, and with proper commands from E-Vision Software, the actuator should operate properly. If not, the W7751H Smart VAV Actuator may need to be replaced.

Step 4. Verify Sequences of Operation

For the detailed descriptions of the sequences of operation, see the Excel 10 VAV System Engineering form 74-2949.

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