



HZ322 TrueZONE®



Zone Panel Professional Installation Guide



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SPECIFICATIONS

Input Ratings:

Voltage: 18 VAC - 30 VAC 50 Hz/60 Hz transformer of 40 VA or more.

Current Draw:

Zone Panel: 7.5 VA max.
THM4000R Wireless Adapter: 2 VA max.
All VA specifications at 24 VAC.

Wiring:

18- or 20-gauge solid (not stranded) wire.

Humidity Ratings:

5% to 90% RH non-condensing.

Temperature Ratings:

Shipping: -20°F to 150°F (-29°C to 66°C)
Operating: -40°F to 165°F (-40°C to 74°C)

Dimensions:

See Fig. 1.

Emissions:

Complies with FCC Class B, part 15 requirements.

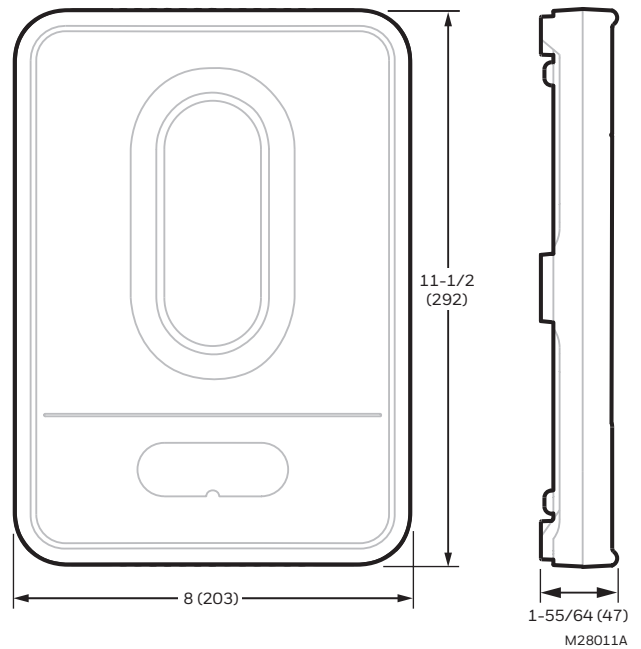


Fig. 1. HZ322 TrueZONE panel dimensions in in. (mm).

Need Help?

For assistance with this product please visit customer.resideo.com
and/or call Zoning Hotline toll-free at **1-800-828-8367**

Read before installing.

APPLICATION

The HZ322 TrueZONE[®] panel controls:

- Conventional gas, oil, or electric forced-air systems up to 2 stages heat and cool;
- Heat pump systems with single stage compressor and auxiliary heat, and two stage heat pumps with no auxiliary heat.
- 2 or 3 forced-air zones with wired thermostats, or wireless thermostats using THM4000R wireless adapter.

Please refer to TrueZONE Panel Frequently Asked Questions form 50-9694 for operating details.
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ACCESSORIES

Table 1. Recommended Thermostats.

System	Thermostat
Single stage	TH1110D2009 (non-programmable) TH4110U2005 (Programmable)
2H/1C conventional	TH6220U2000 (Programmable) TH6220WF2006 (Programmable, Wi-Fi)
2H/2C conventional	TH6220U2000 (Programmable) TH6220WF2006 (Programmable, Wi-Fi)
2H/1C heat pump	TH4210U2002 (Programmable) TH6210U2001 (Programmable)
All the above	TH6220U2000 (Programmable) TH6220WF2006 (Programmable, Wi-Fi) TH6320WF2003 (Programmable, Wi-Fi) TH8321WF1001 (Programmable, Wi-Fi) THX321WFS2001W (Programmable, Wi-Fi)
Wireless *	TH5320R1002 TH6320R1004 TH8320R1003

* For RedLINK™ wireless devices, a THM4000 is required.

Table 2. Recommended Dampers.

Type	Damper	Round	Rectangular
Zone	Spring-open/ power-closed	ARD (8 VA)	ZD (8 VA)
	Power-open/ power-closed	MARD/ RRD (2 VA)	—
Bypass	Constant pressure regulating damper	CPRD (0 VA spring actuator)	—
	Modulating automatic round damper	MARD (2 VA)	—

Table 3. Recommended Commercial Dampers.

Type	Actuation	Round
Zone	Power-open/power-closed	MARD
Bypass	Power-open/power-closed	MARD with SPC

Table 4. Maximum Dampers.*

Ambient Temp.	Maximum Damper VA per Zone
100°F (38°C)	28.8
160°F (71°C)	16.8

* Use an SDCR (Slave Damper Control Relay) for additional dampers.
Maximum dampers per panel is limited by transformer size.
Ensure transformer is large enough to power the panel (7.5 VA) and dampers.

Table 5. Accessories.

Accessory	Description
40 VA transformer*	AT140A1042*
75 VA transformer	AT175A1008
Discharge Air Temperature Sensor *	DATS C7735A1000*
SDCR**	Slave Damper Control Relay
Wireless Adapter***	THM4000R1000
Wireless Outdoor Air Temperature Sensor***	C7089R1013
Portable Comfort Control***	REM5000R1001
RedLINK Internet Gateway***	THM6000R7001

* Included in HZ322K kit.

** Use an SDCR (Slave Damper Control Relay) to add additional dampers to a zone to surpass the maximum Damper VA rating per Zone.

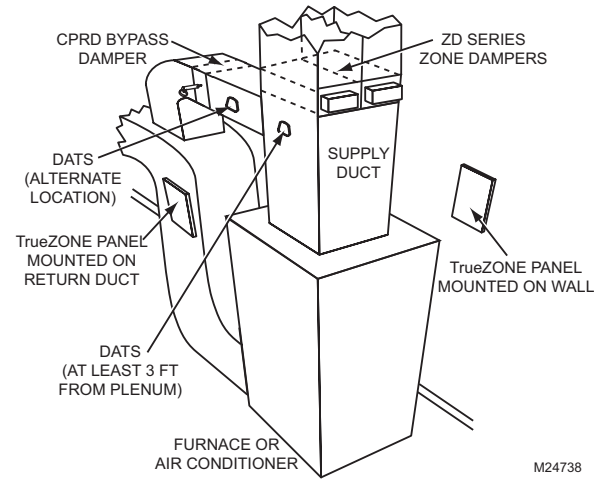
*** For RedLINK™ wireless devices, a THM4000 is required.

MOUNTING

1

Mount the HZ322 TrueZONE panel near the HVAC equipment; locate it on a wall, stud, roof truss, or cold-air return.

NOTE: The HZ322 TrueZONE panel can be mounted in any orientation; level it for appearance only.



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Fig. 2

2

Separate the zone panel cover from the base, and use the base as a template to drill mounting holes. Attach the base to the wall, stud, roof truss, or duct with appropriate screws (not included).

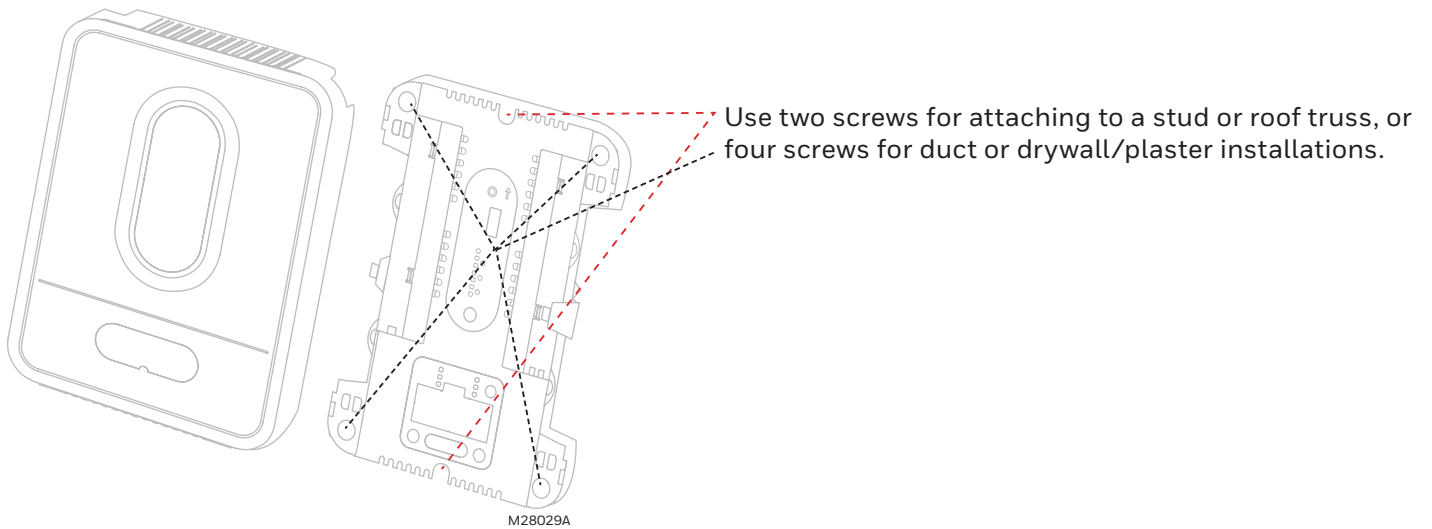


Fig. 3

WIRING



CAUTION: Voltage Hazard.

Can cause electrical shock or equipment damage. Disconnect power before beginning installation. Wire entire panel before applying transformer power.

Follow these steps for wiring all systems. However, wiring will vary depending on equipment. For conventional systems, refer to page 5. For heat pump systems, see page 6.

Wiring must comply with applicable codes, ordinances, and regulations. Use the following wiring diagrams to wire the zone panel to the thermostats and dampers.

3

Install thermostats using instructions provided with thermostats.

Connect thermostat to zone panel. To connect wire to the panel, strip approximately 1/4 in. of insulation and push wire into terminal. To release wire, press the button on top of the terminal.

In retrofit applications, trim end of wire if not straight.

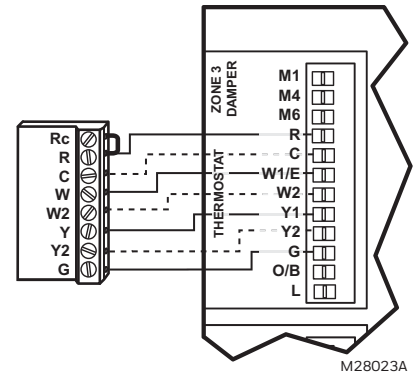
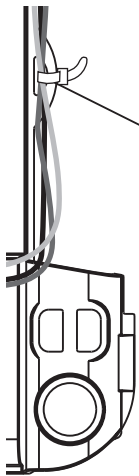


Fig. 4



The HZ322 offers many innovations for wire management and organization: wires can be run behind the panel, through wire channels on its sides, and must be attached to a wiring anchor with a cable tie.

Fig. 5

4

Install dampers using instructions provided with dampers.

Connect dampers to zone panel.

NOTE: Multiple dampers can be wired in parallel.

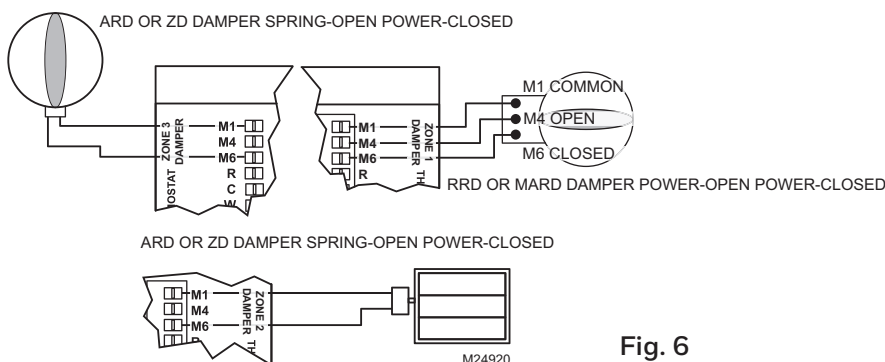


Fig. 6

WIRING

5

Connect DATS as shown. See high and low limit settings in Table 5 "Advanced Configuration" on page 8.

For the placement of DATS in supply duct and troubleshooting assistance with the DATS, see the Discharge Air Temperature Installation Instructions Form Number 69-1521.

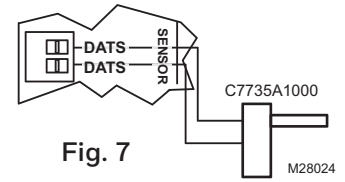


Fig. 7

6

Connect equipment as shown here and on page 5 and 6.

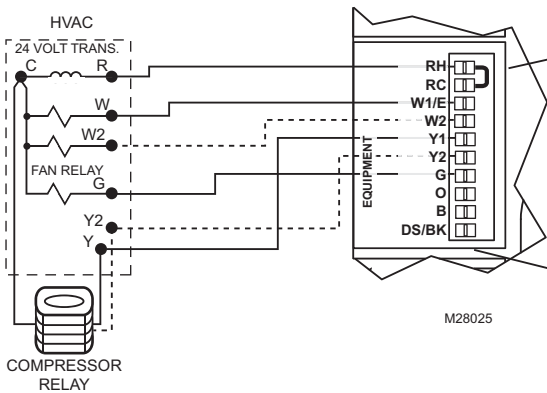


Fig. 8

For oil heat with a separate transformer for cooling, remove this jumper. For other systems leave jumper in place and wire to HVAC R terminal with 18 gauge solid wire.

The DS/BK terminal is used with a variable-speed fan. If the HVAC equipment has a DS, BK, ODD, or DHUM terminal, wire that terminal to the HZ322 DS/BK terminal. When 2 or 3 zones are calling for cooling this terminal will be energized which will run the blower fan at the normal speed. When only 1 zone is calling for cooling the fan runs at a reduced speed which will require less air to be by-passed. Refer to HVAC equipment manufacturer instructions.

7

When a wireless thermostat, Portable Comfort Control, wireless outdoor air temperature sensor, or other RedLINK™ wireless device is used, wire the THM4000 Wireless Adapter Module to the ABCD terminals on the zone panel.

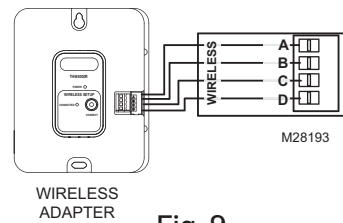


Fig. 9

CAUTION: Only the THM4000R can be wired to the A-B-C-D terminals on the HZ322. Do not wire the A-B-C-D terminals of the THM5320R or THM5421R Equipment Interface Module to the A-B-C-D terminals on the HZ322 zone control panel. Doing so will damage the components.

8

Connect a dedicated transformer as shown.

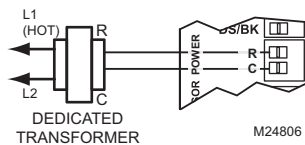


Fig. 10

CONVENTIONAL

The following diagram is an overall view of wiring for a conventional system as depicted in steps 3–8.

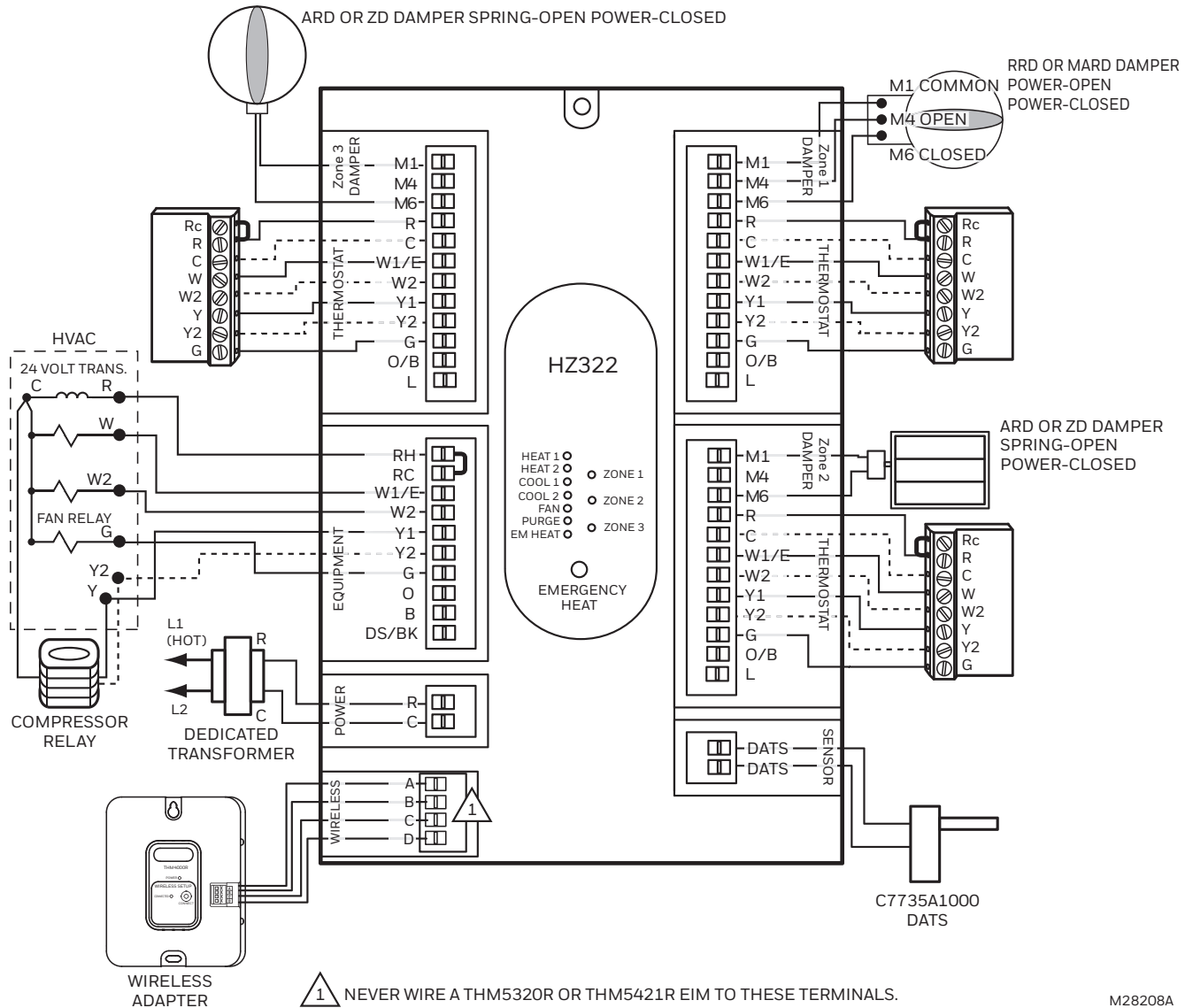


Fig. 11. Zone panel wiring—conventional.

HEAT PUMP

Use the following diagram for wiring a heat pump with electric auxiliary heat.

NOTE: You can use a conventional thermostat for a heat pump system; however, em heat can only be controlled by heat pump thermostats. The diagram below shows a heat pump thermostat used with a heat pump system.

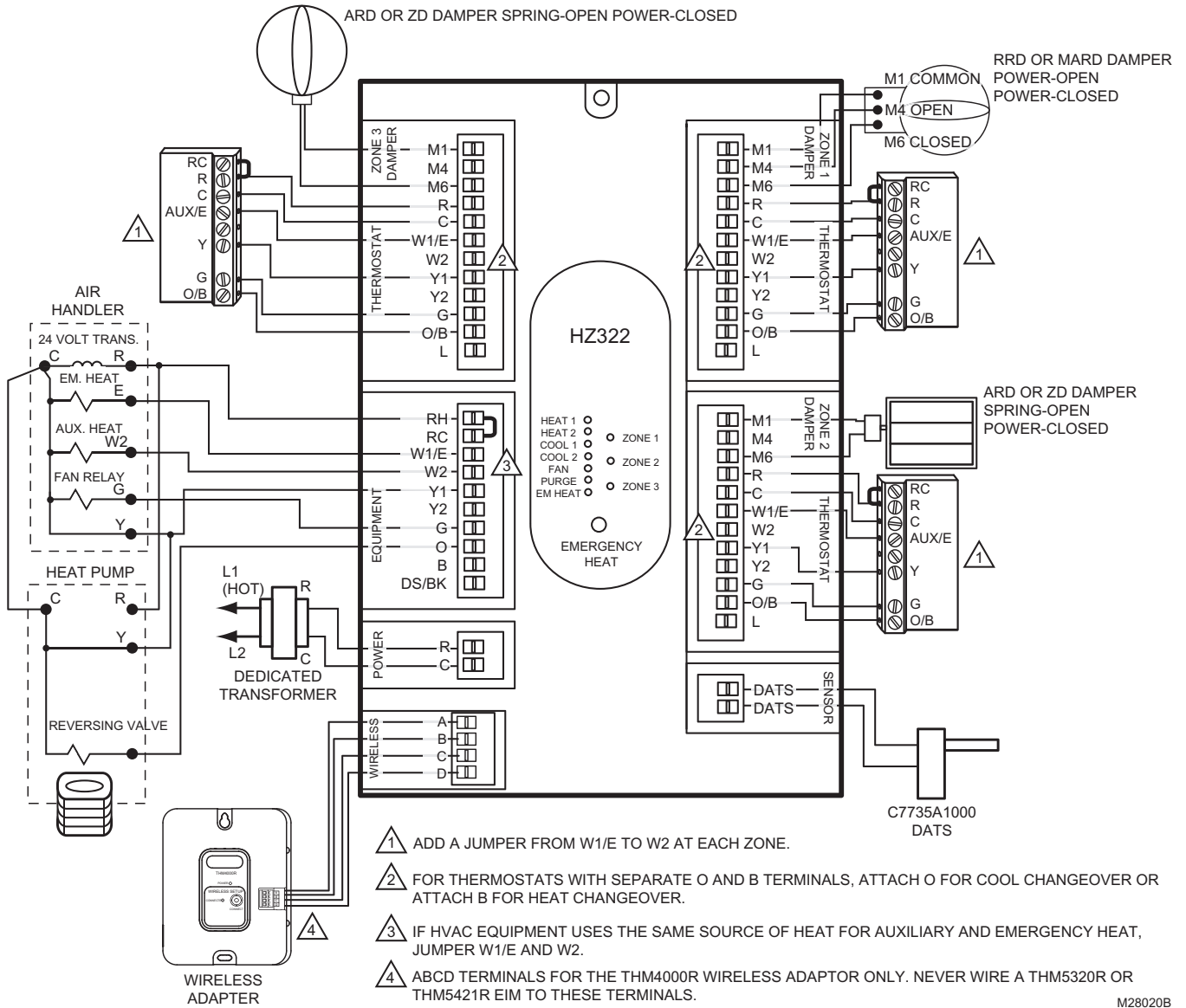


Fig. 12. Zone panel wiring—heat pump with electric auxiliary heat.

CONFIGURATION

To enter Configuration:

- 1 Press the Mode button (the Config LED will light up).
- 2 Use the Back and Next buttons to navigate through the configuration settings. Scroll through the selection choices by using the "Adjust Setting" Left and Right arrow buttons. Pressing Next enters the selected option for that menu item and advances to the next menu.
- 3 The flow chart below illustrates basic zone panel configuration. For additional configuration, see Advanced Configuration on page 8. The label on the inside cover of the HZ322 Zone Panel also contains configuration information.

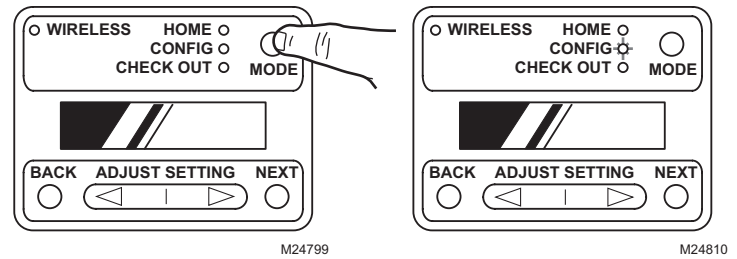
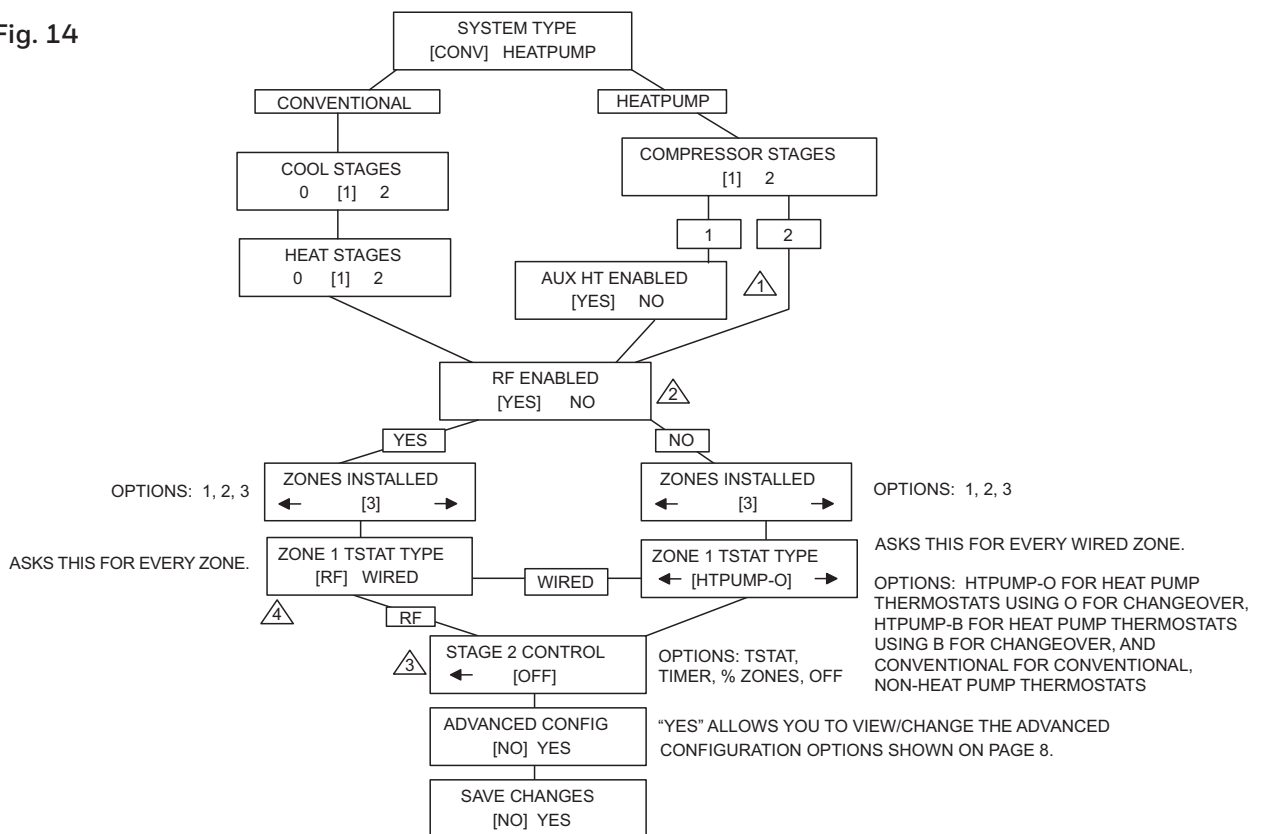


Fig. 13

Fig. 14



- 1 PANEL WILL NOT ASK IF YOU HAVE AUX HEAT WHEN 2 COMPRESSOR STAGES ARE SELECTED. THE HZ432 IS REQUIRED FOR A 3H/2C HEAT-PUMP.
- 2 SET TO "YES" IF WIRELESS (RADIO FREQUENCY) THERMOSTATS AND THM4000R ADAPTER ARE USED.
- 3 SHOWN IF COMPRESSOR STAGES OR HEAT STAGES IS SET TO 2, OR AUX HT ENABLED IS SET TO "YES"
- 4 RF MEANS "WIRELESS THERMOSTAT"

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CONNECT WIRELESS DEVICES

4

Press the Mode button until the Wireless LED lights up. The TrueZONE must be configured for wireless devices to select Wireless mode.

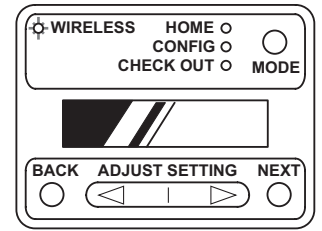
Press Next to add devices.

While the display alternates the Press Connect and Exit screens, push the Connect button(s) on the wireless device(s).

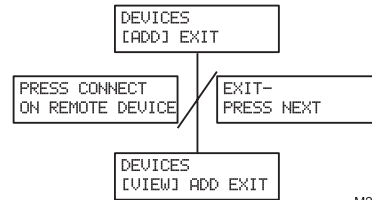
-OR-

Follow the instructions that came with the wireless device(s).

Press Next to exit.



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Fig. 15

ADVANCED CONFIGURATION

Use the Adjust Setting, Next, and Back buttons to configure the zone panel. See the Configuration section on page 7 for instructions on using these buttons.

Table 6. Advanced Configuration.

Menu Name	Menu Title (LCD top line)	Menu Options (LCD bottom line; defaults in bold>	Menu option description	Notes:
Heat Fan	HEAT FAN CONTROL	[HVAC] PANEL HVAC [PANEL]	Fan control by HVAC Fan control by Panel	In heat mode, fan controlled by HVAC or turned on by panel in call for heat.
Stage 2 Timer	STAGE 2 TIMER	[5 MIN] > - < [60 MIN] [5 MIN] >	5 minutes-60 minutes	Number of minutes to delay before engaging second stage.
Purge Timer	PURGE TIME	[2] 3.5 5 MIN 2 [3.5] 5 MIN 2 3.5 [5] MIN	2.0 minutes 3.5 minutes 5.0 minutes	Number of minutes panel will purge following call for heat or cool.
Purge Fan	FAN IN PURGE	[HVAC] PANEL HVAC [PANEL]	Fan control by HVAC Fan control by Panel	Fan controlled by HVAC or panel during purge.
Purge Dampers	PURGE DAMPERS	[UNCHANGD] OPEN UNCHANGD [OPEN]	Dampers Unchanged Dampers All Open	Damper position unchanged or all dampers open during purge.
Auto Changeover Delay	CHANGEOVER DELAY	[15] 20 30 MIN 15 [20] 30 MIN 15 20 [30] MIN	15 minutes auto changeover timer 20 minutes auto changeover timer 30 minutes auto changeover timer	Number of minutes to delay auto changeover when one zone is calling for heat and another is calling for cooling.
DATS Enabled	DISCHARGE SENSOR	[NO] YES NO [YES]	Disabled Enabled	Enables or disables DATS. If Disabled, the Multistage DATS Inhibit setting is Disabled.
DATS High Limit	DAT HIGH LIMIT	[110 F] > - < [180 F] < [160 F] >	110 deg F-180 deg F	For furnace systems, high limit should be set approximately 15 degrees below the furnace high limit setting.
DATS Low Limit	DAT LOW LIMIT	[30 F] > - < [60 F] < [40 F] >	30 deg F-60 deg F	Low temperature limit.
OT Temp Enabled*	OT SENSOR	[NO] YES NO [YES]	Disabled Enabled	Enables or disables wireless outdoor temperature sensor. If Disabled, the Multistage OT Temp Lockout setting is Disabled.
OT Trip Point for Multistage Lockout	OT LOCKOUT TEMP	[0 F] > - < [50 F] < [50 F] >	0 deg F-50 deg F	Above this temperature 2nd stage heat is locked out.
Multistage DATS Inhibit	DAT MSTG INHIBIT	NO [YES] [NO] YES	Enabled Disabled	Allow panel to downstage multistage equipment when near DATS high or low limit.
LCD Contrast Adjust	LCD CONTRAST	[1] > - < [10] < [5] >	Contrast value 1-10	Sets LCD display contrast for ease of viewing. Lowest contrast is 1, highest contrast is 10.
Save Changes	SAVE CHANGES?	[NO] YES NO [YES]	Disabled Enabled	Saves or rejects the configuration settings.

* Used only if Wireless Adapter THM4000R and Wireless Outdoor Sensor C7089R are used.

OPERATION

The HZ322 TrueZONE panel contains an LED display that communicates system and zone status. The LEDs indicate the following information.

Much of this information, as well as configuration information, is listed on the label on the inside of the HZ322 cover. For users who prefer French or Spanish labels, they are provided in form 69-2199FS. Cut them out and attach them to the inside of the HZ322 cover.

Table 7. LED Operation.

LED	Description
HEAT 1	Solid when in heat stage 1. Blinking when DATS high limit mode has been reached.
HEAT 2	Solid when in heat stage 2. Blinking when stage 2 locked out due to DATS or OT.
COOL 1	Solid when in cool stage 1. Blinking when DATS low limit mode has been reached.
COOL 2	Solid when in cool stage 2. Blinking when stage 2 locked out due to DATS.
PURGE	Solid when in purge (at power-up and after a call for heat or cool). Blinking when the DATS sensor has failed, or the wires are shorted or open. Will blink for 3 minutes at power-up if DATS is not present.
FAN	Solid with a call for fan.
EM HEAT	Solid when in emergency heat mode. This light does not indicate a call for heat. Emergency heat will only run when both HEAT and EM HEAT are lit.
ZONE 1, 2, 3	Solid green when open or opening. Solid red when closed or closing. Blinking amber when the damper VA exceeds the specified zone VA or there is a damper or thermostat short circuit (circuit breaker trip).

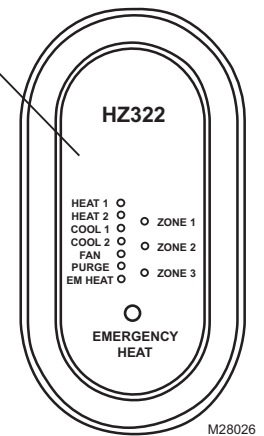


Fig. 16

CHECKOUT

To enter Checkout, with the zone panel cover off, press the Mode button until the Check out LED lights up. Use the Adjust Setting and Next buttons to work through the checkout menu as listed below. See the Configuration section on page 7 for instructions on using these buttons.

Steps 3–10 cycle through heating and cooling stages and open and close dampers to verify proper operation of the equipment and dampers. These steps energize the equipment and damper terminals.

Steps 11–14 verify thermostat operation and correct wiring. This is done by making the thermostats call for heat or cool and viewing the active wires as displayed on the LCD screen. This is a useful way to troubleshoot which thermostat terminals are actually energized on each zone.

Table 8. Checkout.

Checkout Step	Line 1 display	Line 2 Display	Notes:
1. Display shows OT*	OT SENSOR VAL	current OT temp (dynamic)	All zone dampers open, all other relays OFF.
2. Display shows DATS**	DAT SENSOR VAL	current DATS (dynamic)	
3. Heat stages test	TEST HEAT	[OFF] 1 2	Heat turns on (fan also turns on if configured for fan on in heat).
4. EM Heat stages test	TEST EMERG HEAT	[OFF] 1 2	Emergency heat turns on (fan also turns on).
5. Cool stages test	TEST COOL	[OFF] 1 2	Cooling turns on (fan also turns on).
6. Fan Test	TEST FAN	[OFF] ON	Fan cycles on and off.
7. Damper 1 test	TEST Z1 DAMPER	[OPEN] CLOSED	Cycles damper position with fan on.
8. Damper 2 test	TEST Z2 DAMPER	[OPEN] CLOSED	Cycles damper position with fan on.
9. Damper 3 test	TEST Z3 DAMPER	[OPEN] CLOSED	Cycles damper position with fan on.
10. View Tstat1 inputs	ZONE1 STAT INPTS	Displays active Tstat1 terminals or displays wireless thermostat operation	Tests thermostat wiring with HVAC off.
11. View Tstat2 inputs	ZONE2 STAT INPTS	Displays active Tstat2 terminals or displays wireless thermostat operation	Tests thermostat wiring with HVAC off.
12. View Tstat3 inputs	ZONE3 STAT INPTS	Displays active Tstat3 terminals or displays wireless thermostat operation	Tests thermostat wiring with HVAC off.
13. Exit checkout mode?	EXIT CHECKOUT?	(NEXT = EXIT)	

* Wireless outdoor Sensor C7089R and Wireless Adapter THM4000R required for OT Temperature.

**Discharge Air Temperature Sensor C7735A required to display Discharge Air Temperature.

WARRANTY

Resideo warrants this product, excluding battery, to be free from defects in workmanship or materials, under normal use and service, for a period of five (5) years from the date of first purchase by the original purchaser. If at any time during the warranty period the product is determined to be defective due to workmanship or materials, Resideo shall repair or replace it (at Resideo's option).

If the product is defective,

(i) return it, with a bill of sale or other dated proof of purchase, to the place from which you purchased it; or

(ii) call Resideo Customer Care at 1-800-828-8367. Customer Care will make the determination whether the product should be returned to the following address: Resideo Return Goods, 1985 Douglas Dr. N., Golden Valley, MN 55422, or whether a replacement product can be sent to you.

This warranty does not cover removal or reinstallation costs. This warranty shall not apply if it is shown by Resideo that the defect was caused by damage which occurred while the product was in the possession of a consumer.

Resideo's sole responsibility shall be to repair or replace the product within the terms stated above. RESIDEO SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE OF ANY KIND, INCLUDING ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING, DIRECTLY OR INDIRECTLY, FROM ANY BREACH OF ANY WARRANTY, EXPRESS OR IMPLIED, OR ANY OTHER FAILURE OF THIS PRODUCT.

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