HZ432 TrueZONE

Honeywell



Zone Panel Professional Installation Guide

69-2070-01

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Need Help?

For assistance with this product please visit **http://yourhome.honeywell.com**
or call Honeywell Zoning Hotline toll-free at **1-800-828-8367**

Read and save these instructions.

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SPECIFICATIONS

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

Current Draw:
Zone Panel: 10 VA max.
All VA specifications at 24 VAC.

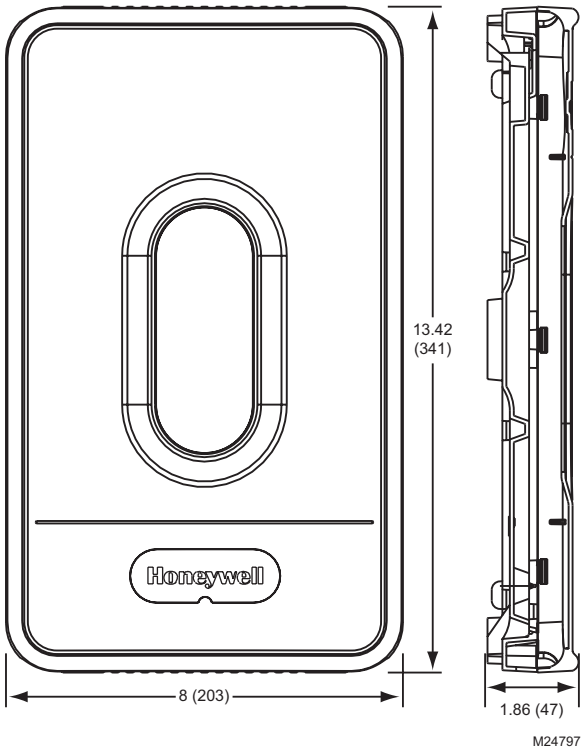
Wiring:
18-gauge solid (not stranded) wire.

Humidity Ratings:
5% to 90% RH non-condensing.

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

Dimensions:
See below.

Emissions:
Complies with FCC Class B, part 15 requirements.



HZ432 TrueZONE panel dimensions in in. (mm).

ACCESSORIES

Table 1. Recommended Thermostats.

System	Non-Programmable	Programmable
Single-Stage	TH5110D, TH3110D, T87N	TH8110U, TH6110D, TH4110D
Multi-Stage	TH5220D	TH8320U, TH8321U, TH6220D, YTH9421C
Heat-Pump	TH5220D (2H/1C only) TH3210D (2H/1C only) TH5320U* (Up to 3H/2C)	TH8320U (Up to 3H/2C) TH8321U (Up to 3H/2C) TH6320U* (Up to 3H/2C) TH6220D (2H/1C only) TH4210D (2H/1C only) YTH9421C* **

Note: These thermostat models all have different four-digit suffixes. All versions of the model numbers listed above will work with the applications they're listed for.

* Stage 3 heat needs to be controlled by the zone panel with this model.

**This thermostat cannot put the panel into emergency heat.

Table 2. Recommended Dampers.

Type	Honeywell Damper	Round	Rectangular
Zone	Spring-open/ power-closed	ARD	ZD
Zone	Power-open/ power-closed	MARD/ RRD	For recommended dampers call the Honeywell Zoning Hotline at 1-800-828-8367.
Bypass	Static pressure regulating damper	SPRD	SPRD

Table 3. 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 (10 VA) and dampers.

Table 4. Accessories.

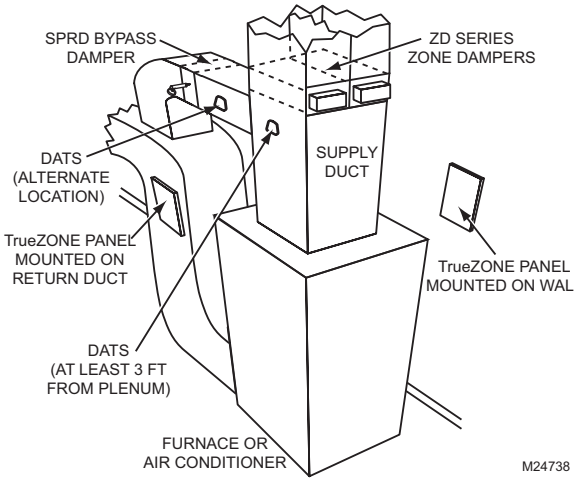
Accessory	Description
40 VA transformer*	AT140A1042*
75 VA transformer	AT175A1008
Discharge Air Temperature Sensor *	DATS C7735A1000*
Outdoor Air Temperature Sensor	C7089U1006
TAZ-4	TotalZone® Add-A-Zone™ Control Panel
SDCR	Slave Damper Control Relay

* Included in HZ432K kit.

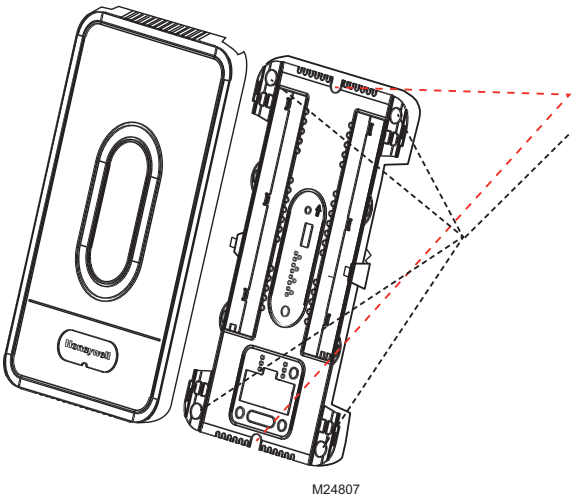
MOUNTING

1 Mount the HZ432 TrueZONE panel near the HVAC equipment; locate it on a wall, stud, roof truss, or cold-air return.

NOTE: The HZ432 TrueZONE panel can be mounted in any orientation; level it for appearance only.



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).



Use two screws for attaching to a stud or roof truss, or four screws for duct or drywall/plaster installations.

WIRING

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

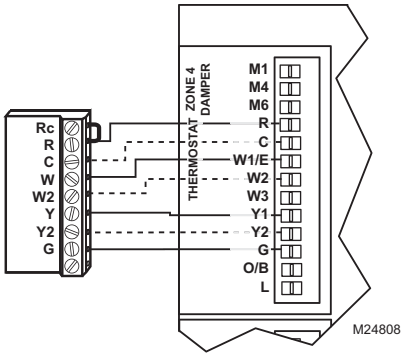
Follow these steps for wiring all systems. However, wiring will vary depending on equipment. For conventional systems, refer to this page. For heat pump systems, see pages 6 and 7. For dual fuel systems, see pages 8 and 9.

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

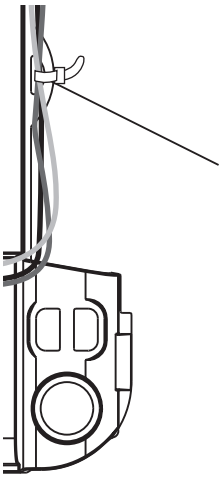
3

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.



M24808


M24743

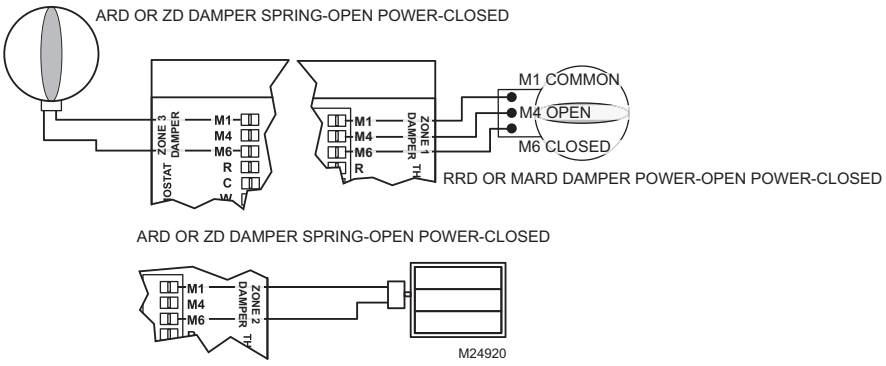
The HZ432 offers many innovations for wire management and organization: wires can be run behind the panel, through wire channels on its sides, and attached to a wiring anchor with a cable tie.

4

Install dampers using instructions provided with dampers.

Connect dampers to zone panel.

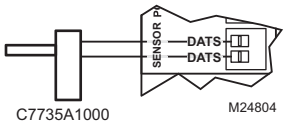
NOTE: Multiple dampers can be wired in parallel.



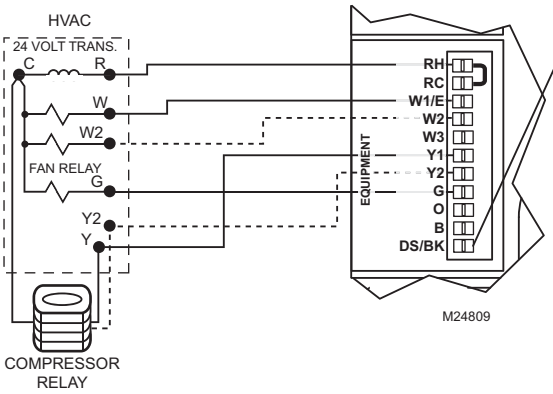
M24920

WIRING

5 Connect DATS as shown.

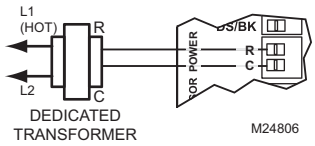


6 Connect equipment as shown.



The DS/BK terminal is used with a variable-speed fan. Connect the DS, BK, ODD, or DHUM terminal on the HVAC equipment to this terminal. When 1 zone is calling (or 25% on systems with more than 4 zones) this terminal will be de-energized of 24 VAC. This reduces blower speed on most variable speed blowers.

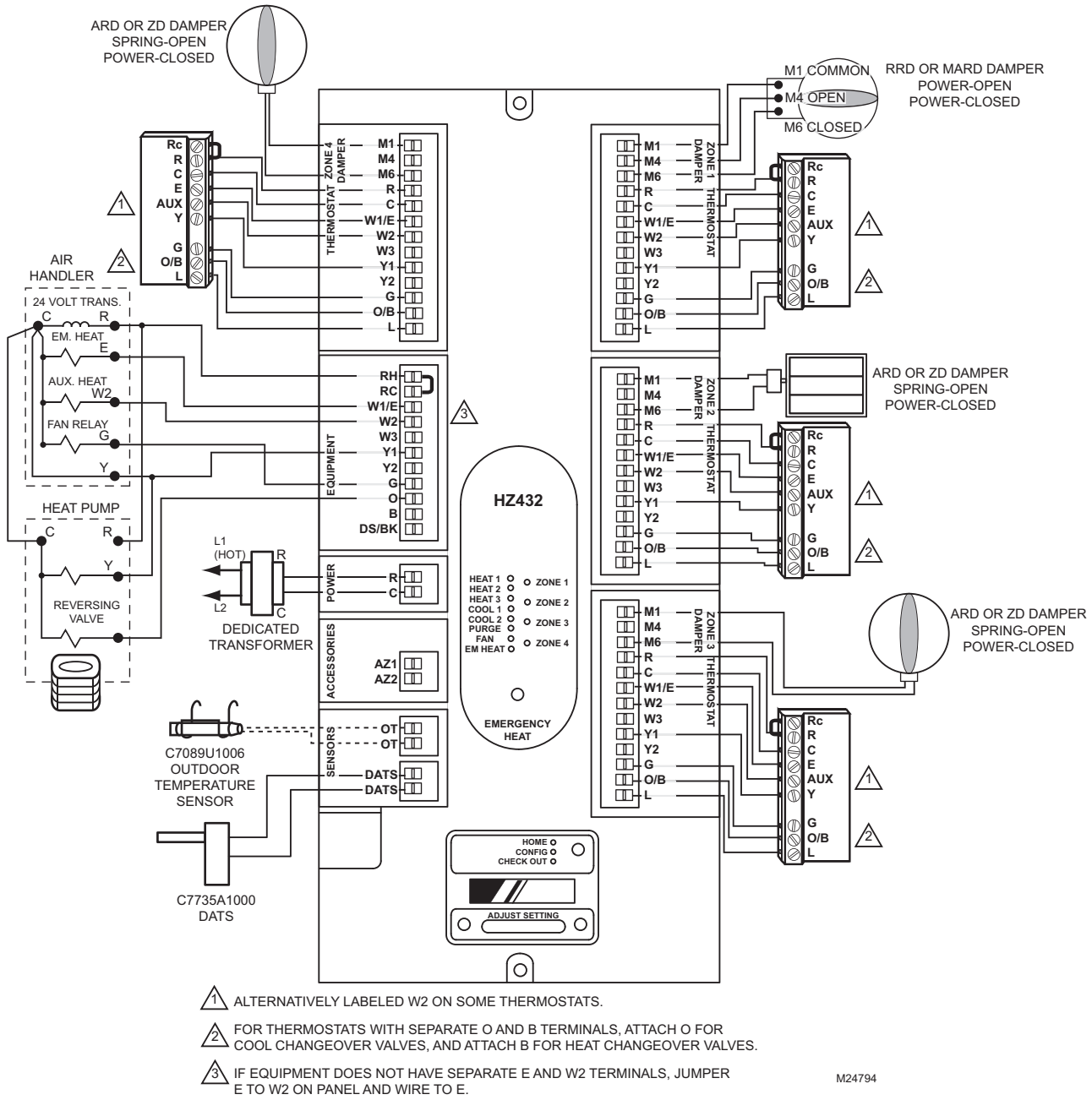
7 Connect transformer as shown.



HEAT PUMP

Use the following diagram for wiring a 2-heat/1-cool heat pump with electric auxiliary heat.

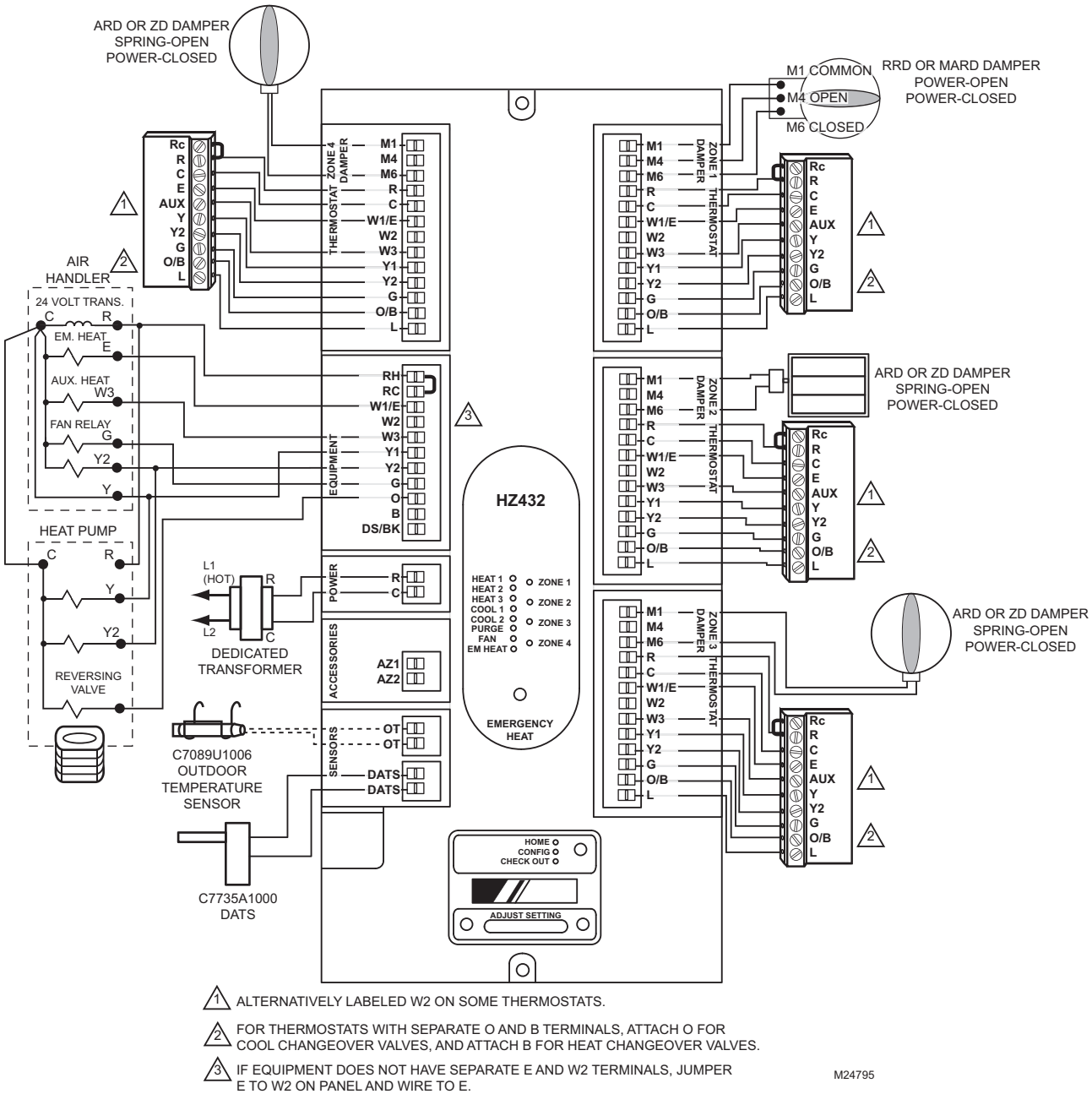
NOTE: You can use a conventional thermostat for a heat pump system; however, em heat can only be controlled by heat pump thermostats. The diagram below shows a heat pump thermostat used with a heat pump system.



Zone panel wiring—heat pump, 2-heat/1-cool with electric auxiliary heat.

HEAT PUMP

Use the following diagram for wiring a 3-heat/2-cool heat pump with electric stage 3 heat.



1 ALTERNATIVELY LABELED W2 ON SOME THERMOSTATS.

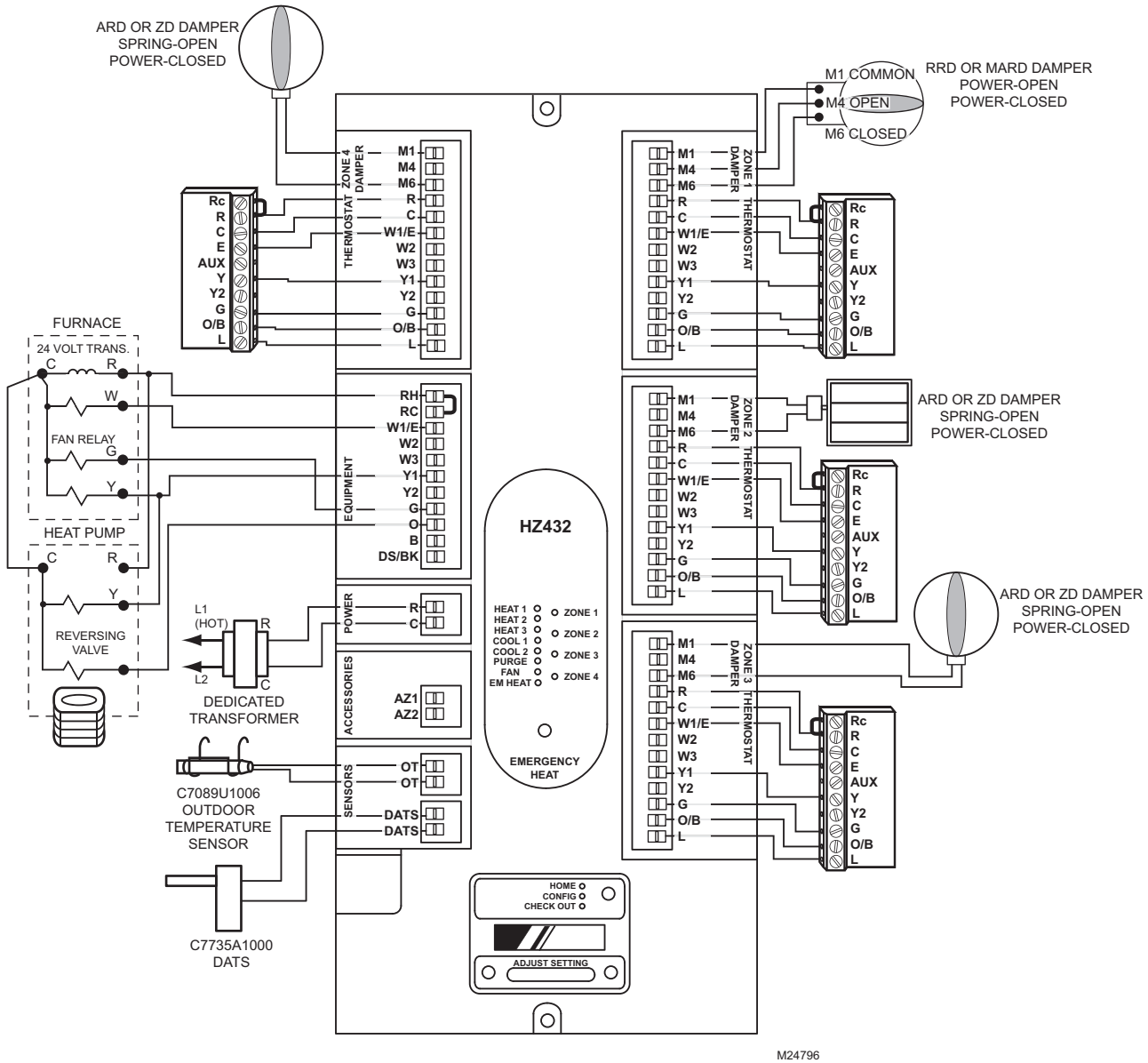
2 FOR THERMOSTATS WITH SEPARATE O AND B TERMINALS, ATTACH O FOR COOL CHANGEOVER VALVES, AND ATTACH B FOR HEAT CHANGEOVER VALVES.

3 IF EQUIPMENT DOES NOT HAVE SEPARATE E AND W2 TERMINALS, JUMPER E TO W2 ON PANEL AND WIRE TO E.

Zone panel wiring—heat pump, 3-heat/2-cool with electric stage 3 heat.

DUAL FUEL

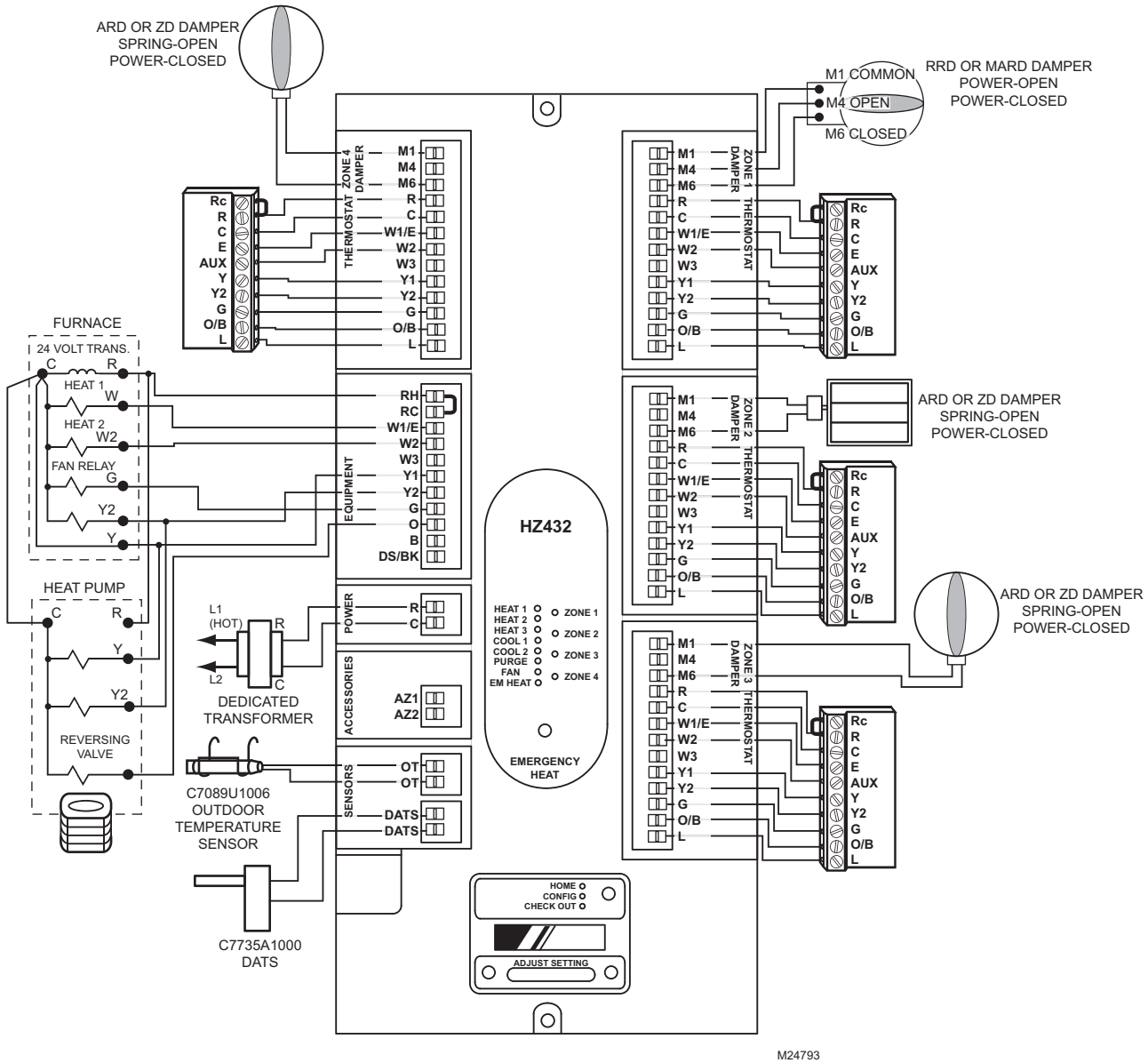
Use the following diagram for wiring a dual-fuel system with single-stage furnace and single-stage heat pump.



Zone panel wiring—dual fuel: single-stage furnace and single-stage heat pump.

DUAL FUEL

Use the following diagram for wiring a dual-fuel system with two-stage furnace and two-stage heat pump.

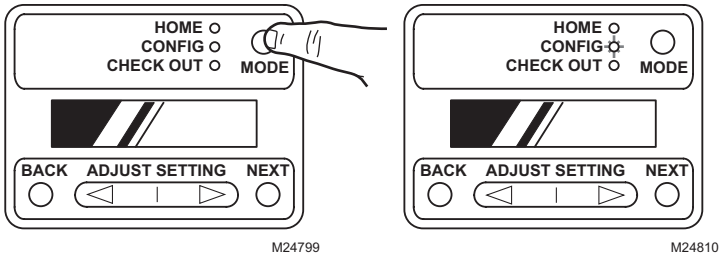


Zone panel wiring—dual fuel: two-stage furnace and two-stage heat pump.

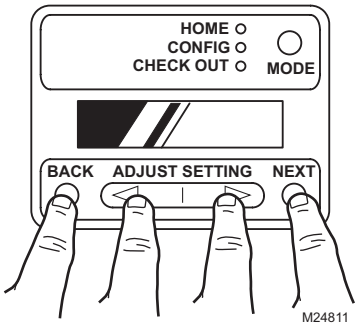
CONFIGURATION

To enter Configuration:

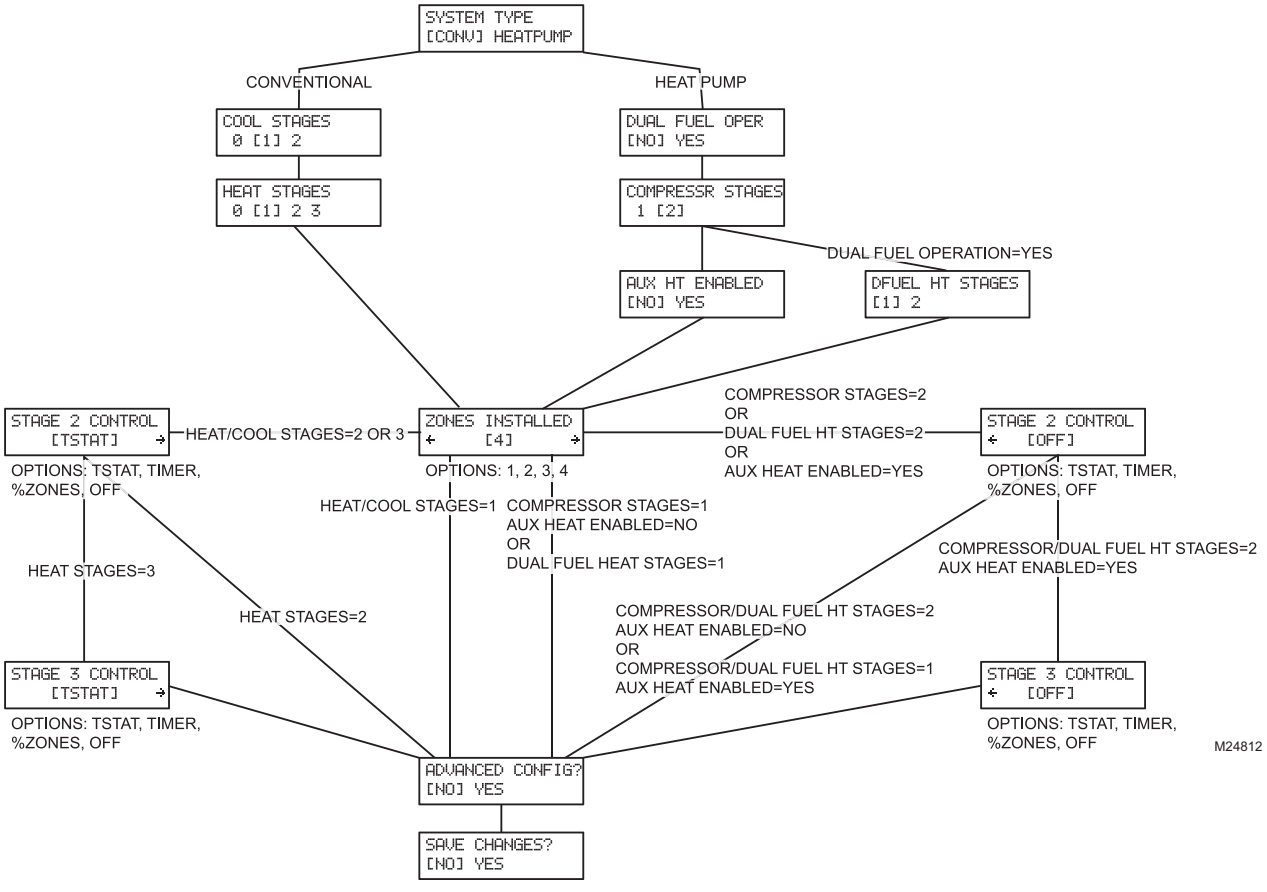
1 Press the Mode button (the Config LED will light up).



2 Use the Back and Next buttons to navigate through the configuration menus. Pressing Next enters the selected option for that menu item and advances to the next menu. Adjust settings up or down by pressing the Adjust Setting button.



3 The flow chart below illustrates basic zone panel configuration. For additional configuration, see Advanced Configuration on page 12. The label on the inside cover of the HZ432 Zone Panel also contains configuration information.



OPERATION

The HZ432 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 HZ432 cover. For users who prefer French or Spanish labels, they are provided in the 69-2070FS document. Cut them out and attach them to the inside of the HZ432 cover.

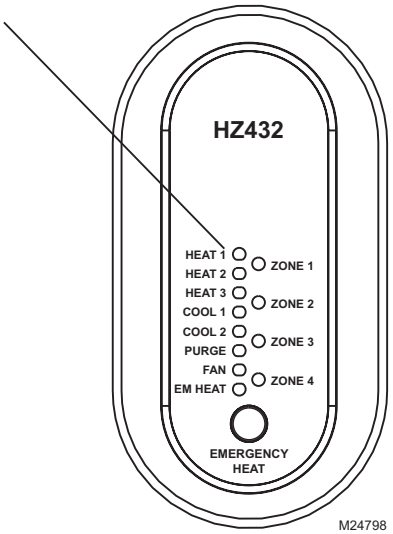


Table 5. LED Operation.

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.
HEAT 3	Solid when in heat stage 3. Blinking when stage 3 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 only.
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, 4	Solid green when open or opening. Solid red when closed or closing. Blinking amber when there is a damper or thermostat short circuit (circuit breaker trip).

ADVANCED CONFIGURATION

Use the Adjust Setting, Next, and Back buttons to configure the zone panel. See the Configuration section on page 10 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**	Fan control by HVAC	In heat mode, fan controlled by HVAC or turned on by panel in call for heat.
		HVAC [PANEL]	Fan control by Panel	
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.
Stage 3 Timer	STAGE 3 TIMER	**[5 MIN] > – <** [60 MIN] **[5 MIN] >**	5 minutes–60 minutes	Number of minutes to delay before engaging third stage.
Purge Timer	PURGE TIME	**[2] 3.5 5 MIN**	2.0 minutes	Number of minutes panel will purge following call for heat or cool.
		2 [3.5] 5 MIN	3.5 minutes	
		2 3.5 [5] MIN	5.0 minutes	
Purge Fan	FAN IN PURGE	**[HVAC] PANEL**	Fan control by HVAC	Fan controlled by HVAC or panel during purge.
		HVAC [PANEL]	Fan control by Panel	
Purge Dampers	PURGE DAMPERS	**[UNCHANGD] OPEN**	Dampers Unchanged	Damper position unchanged or all dampers open during purge.
		UNCHANGD [OPEN]	Dampers All Open	
Auto Changeover Delay	CHANGEOVER DELAY	[15] 20 30 MIN	15 minutes auto changeover timer	Number of minutes to delay auto changeover when one zone is calling for heat and another is calling for cooling.
		15 [20] 30 MIN	20 minutes auto changeover timer	
		15 20 [30] MIN	30 minutes auto changeover timer	
DATS Enabled	DISCHARGE SENSOR	[NO] YES	Disabled	Enables or disables DATS. If Disabled, the Multistage DATS Inhibit setting is Disabled.
		NO [YES]	Enabled	
DATS High Limit	DAT HIGH LIMIT	[110 F] > – < [180 F] **< [160 F] >**	110 deg F–180 deg F	High temperature limit.
DATS Low Limit	DAT LOW LIMIT	[30 F] > – < [60 F] **< [40 F] >**	30 deg F–60 deg F	Low temperature limit.
Multistage DATS Inhibit	DAT MSTG INHIBIT	**[NO] YES**	Disabled	Allow panel to downstage multistage equipment when near DATS high or low limit.
		NO [YES]	Enabled	
Dual Fuel Changeover	DUALFUEL CHGOVR	**[OT] MULTISTG**	Dual Fuel Changeover by OT Temp	Allow panel to changeover from heat pump to fossil fuel based on outdoor temperature, or allow multistage call to changeover panel to fossil fuel when outdoor temperature is above OT balance temperature setting.
		OT [MULTISTG]	Dual Fuel Changeover by OT Temp + multistage call	
OT Temp Enabled	OT SENSOR	**[NO] YES**	Disabled	Enables or disables outdoor temperature sensor. If Disabled, the Multistage OT Temp Lockout setting is Disabled.
		NO [YES]	Enabled	
Multistage OT Temp Lockout	MSTG OT LOCKOUT	**[NO] YES**	Disabled	When outdoor temperature is above OT Lockout temperature, locks out second or third stage (only for conventional and heat pump configurations).
		NO [YES]	Enabled	
OT Balance Temperature (Dual Fuel)	OT BALANCE TEMP	[0 F] > – < [50 F] **< [30 F] >**	0 deg F–50 deg F	Selects the temperature at which a dual fuel configuration will change from heat pump to fossil fuel.
OT Trip point for multi-stage lockout	OT LOCKOUT TEMP	[0 F] > – < [50 F] **< [50 F] >**	0 deg F–50 deg F	The temp that locks out second or third stage (only for conventional and heat pump configurations, not dual fuel systems).
Zone 1, 2, 3, 4 tstat config	ZONE 1 TSTAT ZONE 2 TSTAT ZONE 3 TSTAT ZONE 4 TSTAT	**[CONV] >**	Conventional	Configures panel for thermostat type. O Type energizes reversing valve in cool. B type energizes in heat.
		< [HTPUMP-O] >	Heat Pump O-type	
		< [HTPUMP-B] >	Heat Pump B-type	
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**	Disabled	Saves or rejects the configuration settings.
		NO [YES]	Enabled	
Reload Defaults	RELOAD DEFAULTS?	**[NO] YES**	Disabled	Restores the panel's default configuration settings.
		NO [YES]	Enabled	

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 10 for instructions on using these buttons.

Steps 3–10 cycle through heating and cooling stages and open and close dampers to verify proper operation.

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.

Table 7. 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	Heat turns on (fan also turns on if configured for fan on in heat).
			OFF [1]	
			[OFF] 1 2	
			OFF [1] 2	
			OFF 1 [2]	
			[OFF] 1 2 3	
			OFF [1] 2 3	
			OFF 1 [2] 3	
			OFF 1 2 [3]	
4.	EM Heat stages test	TEST EMERG HEAT	[OFF] 1	Emergency heat turns on (fan also turns on).
			OFF [1]	
			[OFF] 1 2	
			OFF [1] 2	
			OFF 1 [2]	
5.	Cool stages test	TEST COOL	[OFF] 1	Cooling turns on (fan also turns on).
			OFF [1]	
			[OFF] 1 2	
			OFF [1] 2	
			OFF 1 [2]	
6.	Fan Test	TEST FAN	[OFF] ON	Fan cycles on and off.
			OFF [ON]	
7.	Damper 1 test	TEST Z1 DAMPER	[OPEN] CLOSED	Cycles damper position with fan on.
			OPEN [CLOSED]	
8.	Damper 2 test	TEST Z2 DAMPER	[OPEN] CLOSED	Cycles damper position with fan on.
			OPEN [CLOSED]	
9.	Damper 3 test	TEST Z3 DAMPER	[OPEN] CLOSED	Cycles damper position with fan on.
			OPEN [CLOSED]	
10.	Damper 4 test	TEST Z4 DAMPER	[OPEN] CLOSED	Cycles damper position with fan on.
			OPEN [CLOSED]	
11.	View Tstat1 inputs	ZONE1 STAT INPTS	Displays active Tstat1 terminals	Tests thermostat wiring with HVAC off.
12.	View Tstat2 inputs	ZONE2 STAT INPTS	Displays active Tstat2 terminals	Tests thermostat wiring with HVAC off.
13.	View Tstat3 inputs	ZONE3 STAT INPTS	Displays active Tstat3 terminals	Tests thermostat wiring with HVAC off.
14.	View Tstat4 inputs	ZONE4 STAT INPTS	Displays active Tstat4 terminals	Tests thermostat wiring with HVAC off.
15.	Exit checkout mode?	EXIT CHECKOUT?	(NEXT = EXIT)	
16.	Exiting checkout mode	EXITING CHECKOUT	.	
			. .	
			. . .	
			. . . .	
			. . . . .	

WARRANTY

Honeywell warrants the products in this catalog (except those parts designated on Honeywell's price lists as not covered by this warranty) to be free from defects due to workmanship or materials, under normal use and service, for the following warranty periods. Honeywell VisionPRO®, Commercial VisionPRO™, FocusPRO®, PRO 4000, PRO 3000, LineVolt™ PRO, Digital Round™, and Modern Round™ (T87K, N) Series Thermostats with a date code of 0501 or later: sixty (60) months from date of installation. CommercialPRO, PRO 2000 and PRO 1000 thermostats: twenty-four (24) months from date of installation. All other Honeywell thermostats and thermostats with a date code of 0452 or earlier: twelve (12) months from date of installation, unless specified otherwise. Honeywell Air Cleaners, Humidifiers, Ventilators, Ultraviolet Treatment and Zoning Products with a date code of 0501 or later, excluding replacement maintenance parts: sixty (60) months from date of installation. All other Honeywell indoor air quality and zoning products with a date code of 0452 or earlier: twenty-four (24) months from date of installation, unless specified otherwise. Variable frequency drive devices (VFD) and accessories: new products for thirty-six (36) months and factory refurbished drives for twelve (12) months from date of installation when start-up and commissioning is performed by Honeywell VFD Authorized and trained personnel. All VFD warranty return products must have prior authorization (Form No. 87-0284) and be returned only to the VFD Service Center in Chattanooga, TN. MS, MN and Fact Acting 2-position Direct Coupled Actuators: sixty (60) months from date of installation. The warranty period for all other products is twelve (12) months from date of installation.

If a product is defective due to workmanship or materials, is removed within the applicable warranty period, and is returned to Honeywell in accordance with the procedure described below, Honeywell will, at its option, either repair, replace or credit the customer for the purchase price of the product, in accordance with the procedure described below. This warranty extends only to persons or organizations who purchase products in this catalog for resale.

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