

TZ-3 TotalZone® Zone Control Panel



PRODUCT DATA



FEATURES

- Up to three stages heat and two stages cooling can be controlled by thermostat or built-in timer, based on the number of zones calling.
- Controls up to three zones and can be expanded with TotalZone Add-A-Zone zone Control Panel for up to 30 zones.
- Uses virtually any Honeywell four-wire, single-stage, multi-stage, or Trol-A-Temp heat pump thermostat.
- Zone-A-Lone central setback feature.
- Purge timer protects equipment between calls for heat or cool with choice of continually on or equipment controlled fan.
- System and zone damper LEDs indicate system and damper status.
- Individual zone fan control.
- Optional Discharge Air Temperature Sensor for capacity control with adjustable high and low limits.
- Thermal circuit breaker protects panel and transformer from damage if miswired.

APPLICATION

The TZ-3 TotalZone Zone Control Panel controls single-stage, multi-stage, conventional or heat pump heat/cool equipment. It controls 2 or 3 zones, and is expandable up to 30 zones with optional TotalZone® Add-A-Zone™ Zone Control Panel.

For Internet access: www.trolatemp.com or

www.honeywell.com/yourhome/zoning/zoning_home.htm

For technical support, call 1-800-TAT-Temp (1-800-828-8367).

To download Zoning literature: <http://hbctechlit.honeywell.com>

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SPECIFICATIONS

Electrical: 24 Vac, 60 Hz.

Dimensions: See Fig. 1.

Mounting: Mounts with three screws (provided) through holes in cabinet back

Wiring: 18-gauge wire for all equipment and system connections

Wiring Connections:

- Thermostat: W2, L, G, Y, R, W
- Dampers: M6 (Closed); M4 (Open); M1 (Common)
- ZoneMax TL, TL
- Zone-A-Lone: OC, OC.
- Transformer: TR1 (hot), TR2 (common).
- Equipment: Y2, Y1, O, R, G, B, W1, E, W2, W3.

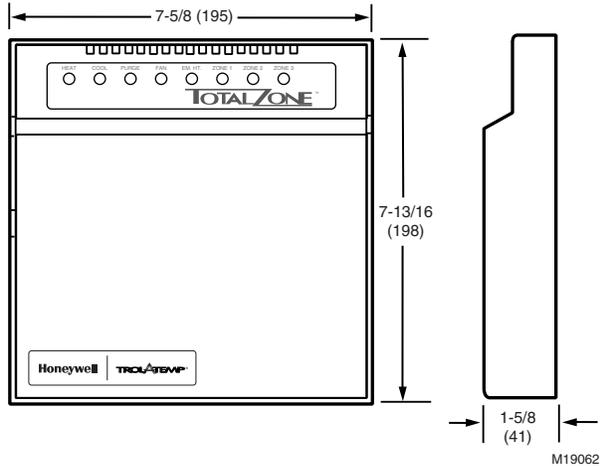


Fig. 1. TZ-3 dimensions in in. (mm).

Thermostats (See Table 1):

- Conventional 4-wire (R,W,Y,G) thermostats.
- Manual or automatic changeover switching subbase for each zone thermostat.
- Multi-stage or select heat pump thermostats can be used.

Table 1. Recommended Thermostats.

System	Trol-A-Temp Logo		Honeywell Logo	
	Non-Programmable	Programmable	Non-Programmable	Programmable
Single Stage	T87F3715/Q539A1436 T87F3707Q539A1428	T8601D2027 T8131C1020	T87F1859/Q539A1014 Q87F4010/Q539A4026 T8400C1016 T8400C1040	T8600D2069 T8600D2028 T8601D2019 T8602D2018 T8602D2000 T8000C1002 T8000C1010
Heat Pump ^a	—	T8611G2051 ^a	Y594R1243 ^a Y594G1252 ^a T8411R1002 T8411R1028	T8011R1006 T8011R1014
Multi-Stage ^b	—	—	Y594D1347 ^b	T8624D2004 ^a T8624D2012 ^b

^aHeat pump thermostat with single Y first-stage terminals. See Heat Pump Thermostats with Single Y Output section and Fig. 3.

^bMulti-stage and heat pump thermostats are not required to control multi-stage and heat pump systems with TotalZone. They are used only when second stage or emergency heat control from the zone thermostat is needed.

Dampers (See Table 2):

- Five dampers maximum connected to each panel.
- Use SDCR for additional dampers required on one zone.
- Use isolation relay when CDO-32 Damper or ML6161 Motor Actuator is used (see Fig. 10).
- Dampers are connected to M1, M4, and M6 (see Fig. 6-10 for hookups).

M1	Common
M4	Power Open
M6	Power Close

Accessories: For required accessories, see Table 3.

Table 2. Recommended Dampers.

Honeywell Damper Type	Round	Rectangular
Power-open/power-closed	MARD	IOBD AOBD AOBD-BM CDO-51
Spring-open/power-closed	ARD	ZDB ZDS

Table 3. Required Accessories (Not Supplied With Panel).

Accessory	Description	Bypass Rating (cfm)
40 VA transformer	AT140D1046 (PMT-40)	—
Capacity protector	ZMS, DATS (C7735A1000)	—
Round static pressure regulator damper	7 SPRD 8 SPRD 9 SPRD 10 SPRD 12 SPRD 14 SPRD 16 SPRD 18 SPRD	300 400 600 750 1200 1800 2400 3200
Rectangular static pressure regulator damper	12 x 8 SPRD 12 x 10 SPRD 12 x 12 SPRD 20 x 8 SPRD 20 x 10 SPRD 20 x 12 SPRD	1000 1200 1400 1600 2000 3000

INSTALLATION

Mounting

CAUTION

Equipment Damage Hazard.
Do not mount TZ-3 inside HVAC equipment
 Mount only on wall or on cold air return

1. Mount the thermostats in each zone of the living space using the installation instructions provided with each thermostat.
2. Mount the dampers in the ductwork using the installation instructions provided with each damper.
3. Mount the TZ-3 zone panel near the HVAC equipment; locate it on a wall or on the cold-air return. See Fig. 2.
4. Level the TZ-3 for appearance only.

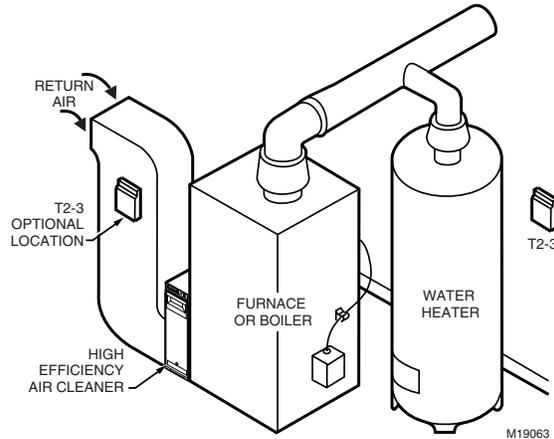


Fig. 2. TZ-3 mounting location.

Wiring

CAUTION

Voltage Hazard.
Can cause electrical shock or equipment damage.
 Disconnect power before continuing installation.

Wiring must comply with applicable codes, ordinances, and regulations.

1. Connect thermostats as shown in Fig. 3-5.
2. Connect dampers as shown in Fig. 6-10.
3. Connect the Discharge Air Temperature Sensor (not supplied) to the TL terminals. The wires are not polarized. See Fig. 12.
4. Connect Add-A-Zone panels (if used) to the AZ1 and AZ2 terminals. The AZ1 terminal on the TZ-3 must be wired to the AZ1 terminal on the TAZ panel. Similarly, the AZ2 terminal must be wired on the TZ-3 to the AZ2 on the TAZ. See Fig. 13.
5. Connect the HVAC equipment to the EQUIP terminals on the panel. See Fig. 14-17.
6. Connect a 40 VA, 24 volt transformer to TR1 (hot) and TR2 (common). This must be a dedicated transformer and any additional TAZ boards also each require a transformer. See Fig. 11.

Wiring Diagrams (Fig. 3-17)

Conventional Thermostats

The C (common) terminal is used only on thermostats that require a common (for example: T8601). See Fig. 3. Wire the W2 terminal on a multi-stage thermostat (for example: T8624) to the W2 on the panel for second stage control from the thermostat. If the thermostat has a Y2 terminal, do not connect it to the panel.

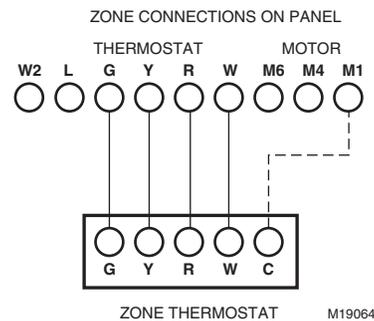


Fig. 3. Typical single-stage thermostat wiring.

Heat Pump Thermostats

Select a heat pump thermostat from Table 1. If the thermostat selected has a separate Y1 and W1, see Fig. 4. When using the thermostat to control the second stage of heat (W2), set DIP switch 5 to On, and DIP switch 1 to Off. Set both DIP switches 6 and 7 to Off.

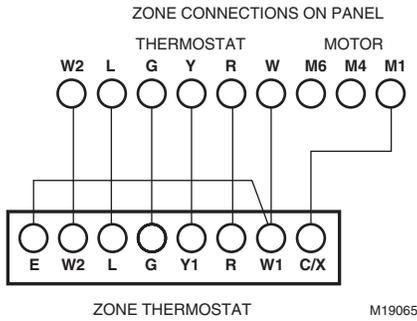


Fig. 4. Heat pump thermostat with separate Y1 and W1 terminals and multi-stage thermostat wiring.

If the thermostat selected has a single Y terminal, see Fig. 5. Select a single Y thermostat for each zone. See Table 1.

Set DIP switch 6 or 7 (not both) to the On position. Set switch 6 to On when B on the thermostat is wired to W on the panel. Set switch 7 to On when 0 on the thermostat is wired to W on the panel.

When using the zone thermostat to control the second stage of heat (W2), set DIP switch 5 to On, and DIP switch 1 to Off.

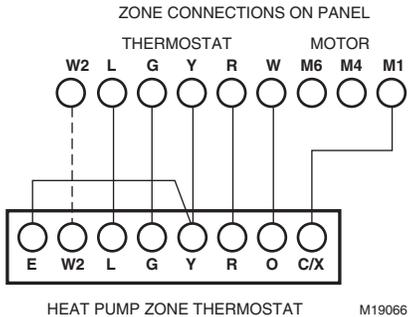


Fig. 5. Heat pump thermostat with single Y thermostat wiring.

AOBD Dampers

Wire the AOBD, AOBD-BM and IOBD Dampers to the panel as shown in Fig. 6. See Fig. 7 when using two dampers on one zone. When three or more dampers are controlled on one zone, a slave damper control relay (SDCR) is required.

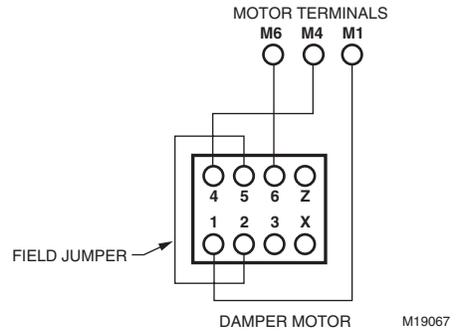


Fig. 6. AOBD single damper wiring.

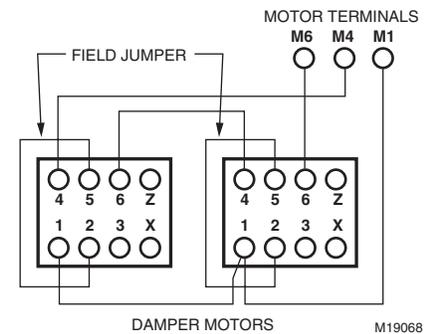


Fig. 7. AOBD multiple damper wiring.

ARD or ZD Dampers

Wire the ARD or ZD Damper to the panel as shown in Fig. 8. Multiple dampers can be wired in parallel. When ARD or ZD damper is used, the zone LEDs switch directly from red to green (never amber).

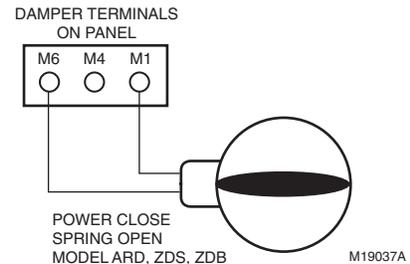


Fig. 8. ARD or ZD Damper wiring.

MARD or CDO-51 Dampers

Wire the MARD or CDO-51 Damper to the panel as shown in Fig. 9. These are floating control modulating dampers, but are controlled as two-position dampers on the TZ-3 panel. Two dampers can be wired in parallel.

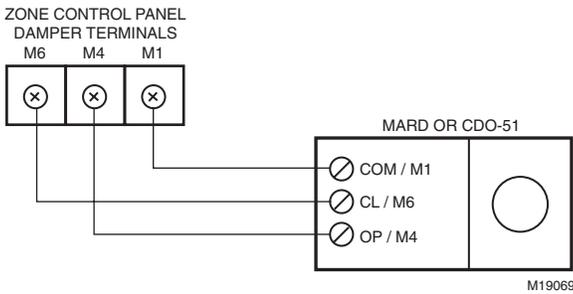


Fig. 9. MARD and CDO-51 Damper wiring.

ML6161 Motor Actuator

When the ML6161 Motor Actuator is used, wire as shown in Fig. 10. Wire the R8222 relay to prevent the damper LED from constantly lighting amber.

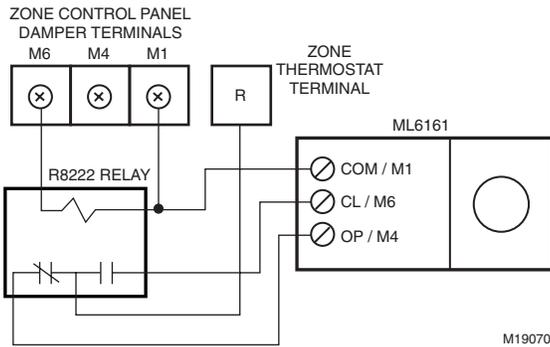


Fig. 10. ML6161 Damper Motor Actuator wiring.

Transformer

Wire the transformer to the panel as shown in Fig. 11.

NOTE: If the installation includes an Add-A-Zone panel, see the TotalZone Add-A-Zone Panels section.

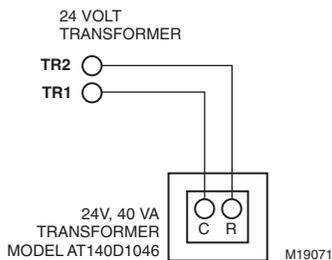


Fig. 11. Transformer wiring.

Discharge Air Temperature Sensor

Wire the C7735A or the ZMS to the panel as shown in Fig. 12.

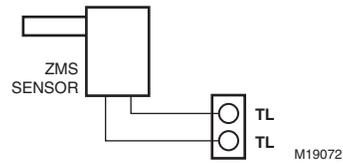


Fig. 12. Discharge Air Temperature Sensor (C7735A or ZMS) wiring.

Add-A-Zone Panel

Wire the Add-A-Zone (TAZ) Panel to the TotalZone (TZ-3) Panel as shown in Fig. 13. Up to nine TAZ Panels can be wired to one TZ-3 panel. See Fig. 13.

Use 18-gauge thermostat wire for runs up to a maximum of 500 feet. Keep these wires at least 12 in. from line voltage wiring and equipment; otherwise, use shielded cable wiring.

IMPORTANT:

When multiple panels are used, it is important that the transformers be in-phase. Check the phasing by measuring for 24V across the TR2 transformer terminals on each panel. There should be 0 Vac. If not, reverse the TR1 and TR2 transformer wires on one of the panels and recheck.

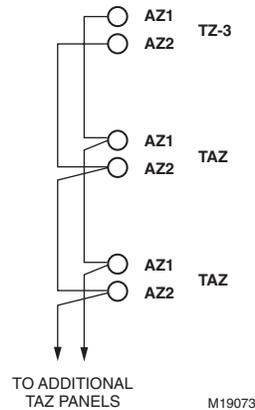


Fig. 13. TotalZone Add-A-Zone wiring.

Conventional Equipment

Wire the heating and cooling equipment to the equipment terminals on the TZ-3 Panel as shown in Fig. 14.

Electric Furnaces: Set DIP switch 8 to On to energize the fan with a call for heat.

Hydro-Air: Wire the zone valve or circulator relay to the W1 equipment terminal. (If the circulator relay has powered terminals, use an isolation relay.) Set DIP switch 8 to On to energize the fan with a call for heat.

Oil Heat: Wire an isolation relay on the W equipment wire to isolate the oil primary from the panel.

Multi-Stage: Wire the equipment as shown in Fig. 14 using the W2 terminal for second stage of heat and the W3 terminal for third stage of heat. Wire the Y2 for second stage of cooling.

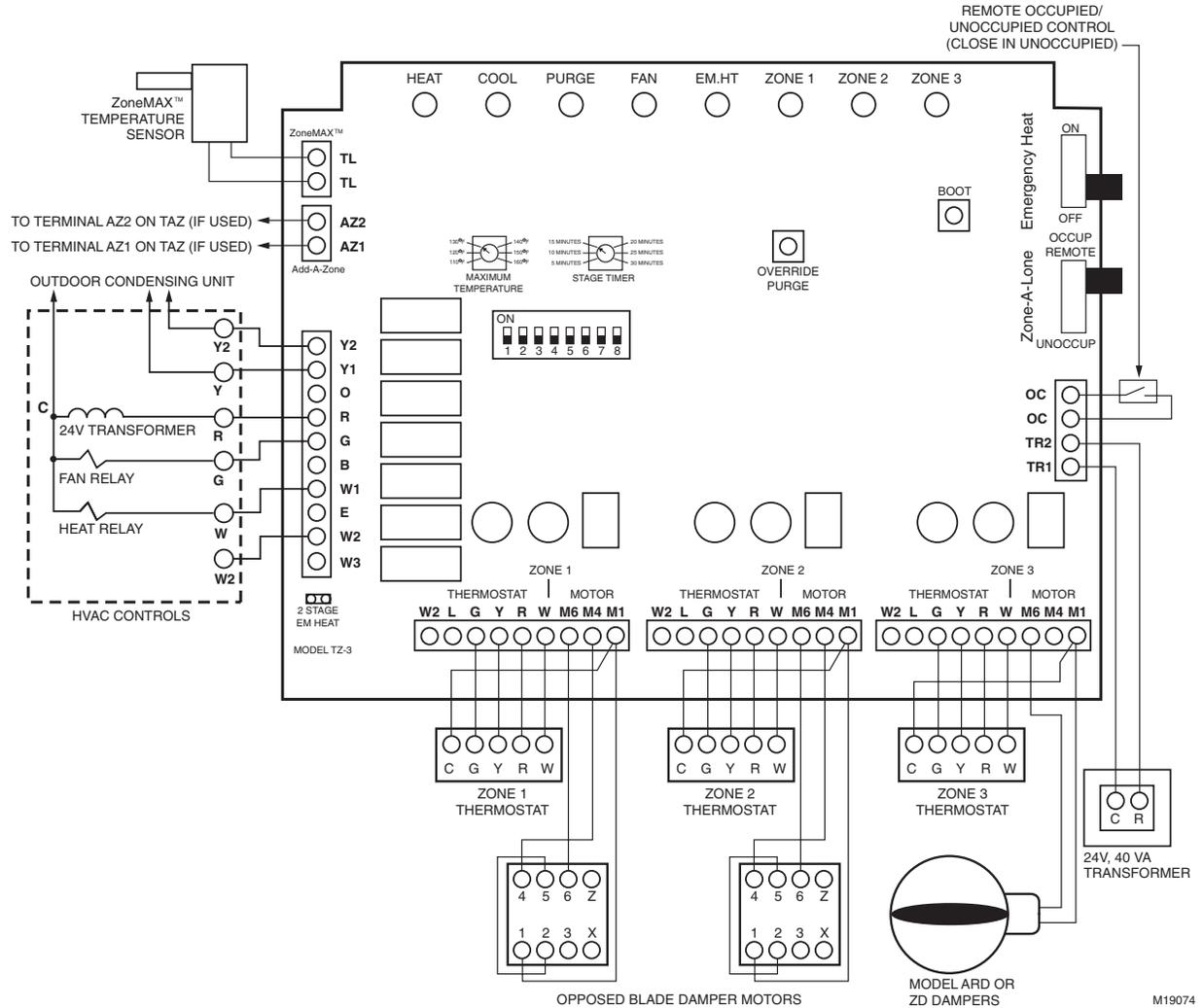


Fig. 14. Heating and cooling equipment.

Heat Pump Equipment

Wire the heat pump to the equipment terminals on the panel as shown in Fig. 15. Refer to manufacturer’s instructions for additional wiring instructions and substitute the TZ-3 equipment terminals for the thermostat terminals shown.

IMPORTANT

Some heat pump manufacturers (such as York and Trane) use the B terminal as the transformer common. Do not connect the common from the equipment to the zone control panel.

Two-speed Compressor: Wire the second stage compressor to both Y2 and W2. Wire the auxiliary heat to W3. Remove the two-stage emergency heat jumper and install a jumper from W3 to E.

Fossil Fuel Kits with Heat Pumps: Wire these systems like Fig.15 but use the manufacturer’s fossil fuel kit. Wire the Trane XL 1800 and the TAYPLUS 103 as shown in Fig. 16. The recommended thermostat is the T8611G2051.

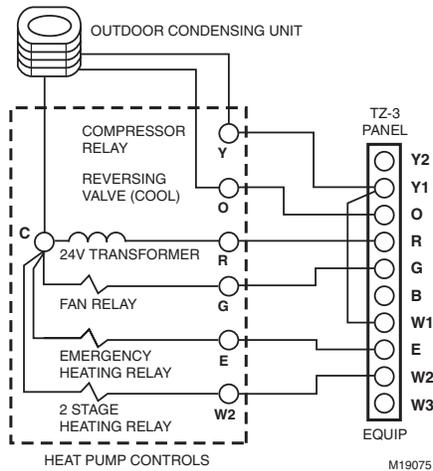


Fig. 15. Heat pump with auxiliary heat wiring.

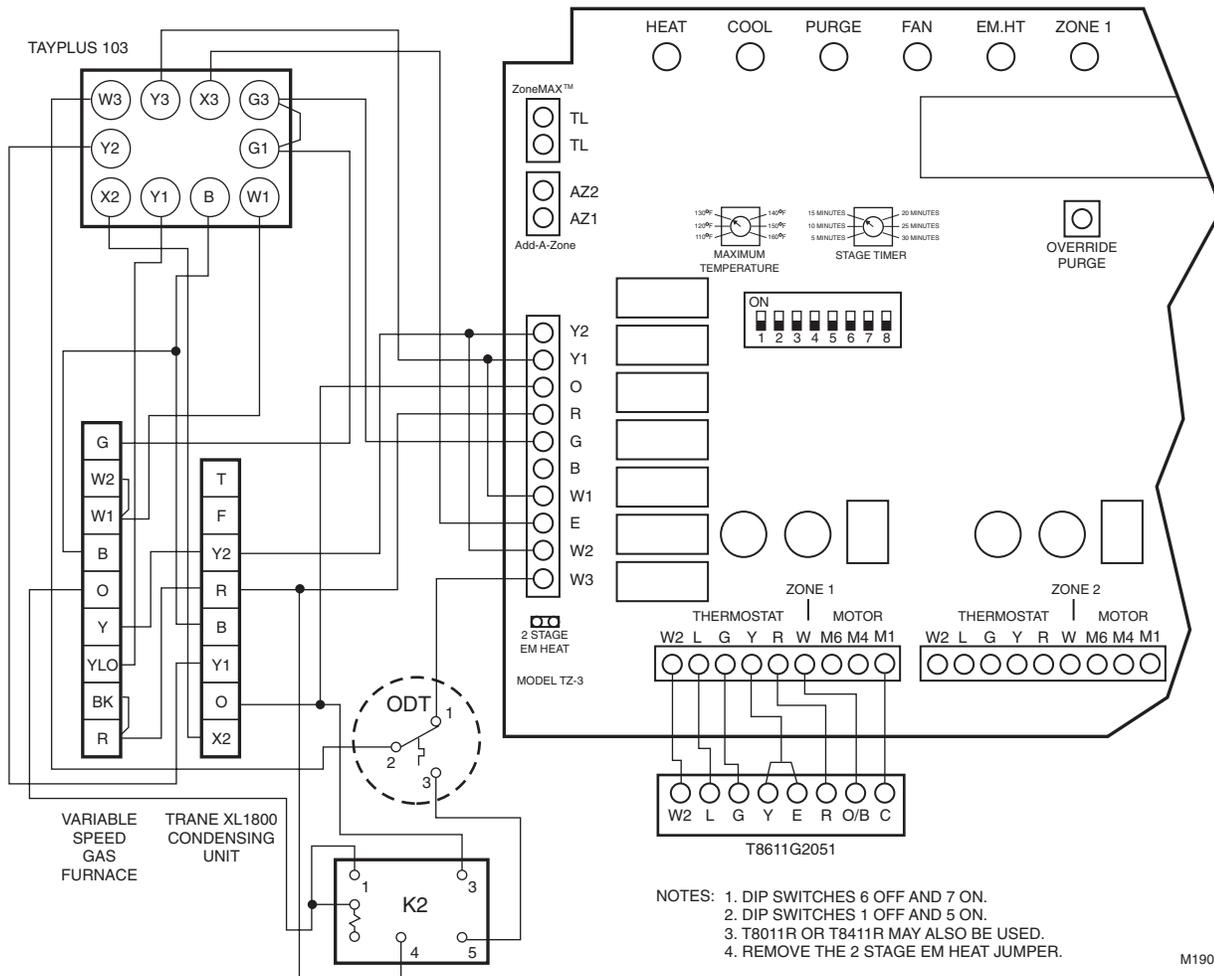


Fig. 16. Trane XL 1800 with TAYPLUS 103 in restricted mode wiring.

Water Source Heat Pumps

Wire the equipment, as applicable, to the TZ-3 as shown in

Fig. 17. Turn DIP switch number 8 to On for fan on in heat. Remove the two-stage emergency heat jumper.

Waterfurnace: Wire this system to the panel as shown in Fig. 17 except use two isolation relays on compressor wires W1, Y1 and W2, Y2.

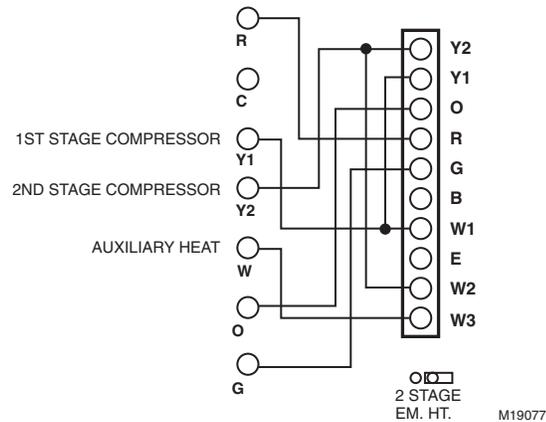


Fig. 17. Water source heat pump wiring.

STARTUP AND CHECKOUT

After the installation is complete, verify correct operation as follows:

1. Place the Em Heat switch in the Off (down) position.
2. Place the Zone-A-Lone switch in the Occup/Remote (up) position.
3. Verify that the DIP switches are set correctly. See Sequence of Operation section and Table 6 for correct configuration.
4. Power up the TZ-3 and set the thermostats so no zones are calling. The board then enters the Purge mode where all dampers open and the fan operates for two or three and one-half minutes (configurable). (If there is no Discharge Air Temperature Sensor connected to the

panel, the Idle LED flashes seven times before entering the Purge mode.) Then the Idle LED turns red and each damper LED turns green.

5. Set zone one thermostat to heat and raise the setpoint to call for heat. Verify that the heat LED is red and zone one damper remains green while the other damper LED turns red.
6. Raise zone two setpoint to call for heat. Lower zone one setpoint to stop the call for heat to that zone. Verify that zone one LED turns red (it may be amber while moving) and zone two LED turns green.
7. Repeat for zone three.
8. Alternately, lower the setpoint to call for cooling. Verify that the green cool LED illuminates.

OPERATION

Sequence of Operation

On a call for heating or cooling, the zone damper stays open to the calling zone, and the dampers close to the zones that are not calling. The TZ-3 panel brings on the heating or cooling and conditioned air is delivered to the calling zone until that zone is satisfied. When the call is satisfied, the system enters the Purge mode. This holds open the damper of the last zone calling and purges into that zone. The purge time can be set to three and one-half or two minutes. After purge, all dampers return to the Open position.

Any zone thermostat can call for heating or cooling. If there are co-existing calls for heat and cool, the panel first accepts the first call. Once that call is satisfied, or a maximum of 20 minutes has elapsed, the panel switches to allow the opposite call.

On a call for heating or cooling, the heat LED illuminates red or the cool LED illuminates green. The zone damper LED turns green for the zone calling, and the dampers in the zones not calling close and turn red. As AOBD dampers move, the LEDs turn amber.

Purge Mode

At the end of every call for heat or cool, the panel enters a Purge mode that holds open the calling zone damper for three and one-half or two minutes. During this time, the panel or the HVAC equipment can operate the fan. Purge also serves as a time delay to prevent short cycling of the heating and cooling equipment after each call. Purge LED lights to signal that the system is in the Purge mode. Pressing the purge override button for two seconds overrides the Purge mode. Unless there is a new call for heat or cool during the Purge mode, all dampers are moved to the Open position at the end of purge.

DIP Switch Number	Status	Purge Time
3	Off	3.5 minutes
3	On	2 minutes

DIP Switch Number	Status	Fan Control
4	Off	Panel control of fan in purge
4	On	HVAC control of fan in purge

Individual Zone Fan Control

When all zones are satisfied, the Fan switch of each thermostat controls the fan operation for that zone. When the Fan switch is in the On position, the fan is energized, and the dampers close to zones where the Fan switch is in the Auto position. If there is a call for heat or cool during this time, the circulation mode ceases, and the heat or cool call is honored. When the zone calling is satisfied, the circulation call resumes.

Single and Multi-Stage Operation

The panel can control up to three stages of heating and two stages of cooling. The first stage is energized by the thermostat. The second stage of heating is brought on by the thermostat, timer, or number of zones calling. The third stage of heating is brought on by the timer or number of zones calling. The second stage of cooling is brought on by the timer or number of zones calling.

The following instructions show how to configure the panel for stage control.

If the equipment is single stage, set the DIP switches as follows:

DIP Switch Number	Status
1	Off
5	Off

1st Stage by Thermostat, 2nd and 3rd Stages by Timer (Fig. 18)

The thermostat controls the first stage of heat or cool. If the call is not satisfied by the first stage within the time set on the timer, the panel energizes the second stage. If the call for heat is not satisfied by the second stage within the time set on the timer, the panel brings on the third stage.

Set the DIP switches as follows:

DIP Switch Number	Status
1	Off
5	Off

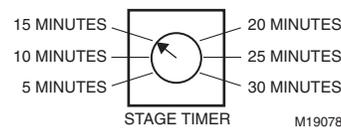


Fig. 18. Stage timer.

1st Stage by Thermostat, 2nd Stage Heat by Thermostat

The thermostat controls the first stage of heat or cool and the second stage of heat. The timer controls the second stage of cool and third stage of heat. If the first and second stages combined do not satisfy the heat call within the time specified on the timer, the panel brings on the third stage of heat.

Set the DIP switches as follows:

DIP Switch Number	Status
1	Off
5	On

Stages Based On Number of Zones Calling

The thermostat controls the first stage of heat or cool. The second stage of heat and cool and the third stage of heat are energized by the percentage of zones calling. See Table 4. Set the DIP switches as follows:

DIP Switch Number	Status
1	On
5	Off

See Table 4 to determine the number of zones required to activate stages of equipment based on the number of zones in the system. Staging is based on the zones available in the system, not the number of zones used for the particular application. As zones satisfy, stages 2 and 3 drop out.

Table 4. Staging by Percentage of Zones Calling.

Number of Zones in System	Number of Zones Required		
	2nd Stage Heat	3rd Stage Heat	2nd Stage Cool
3	2	3	2
4	2	3	3
5	2	4	3
6	3	5	4
7	3	5	4
8	3	6	5
9	4	7	5
10	4	7	6
11	4	8	6
12	5	9	7

Thermostat Operation

Conventional Thermostats

Conventional (R,W,Y,G) heat/cool thermostats can be used with the TZ-3 to control single or multi-stage gas, electric or oil systems and heat pumps with auxiliary heat. The panel can be configured to control second stage heat and cool and third

stage heat using a 5-30 minute panel, or staging can be controlled by the percentage of zones calling. The O and B equipment terminals are energized for changeover use with heat pumps.

Heat Pump Thermostats

HEAT PUMP THERMOSTATS WITH SINGLE Y OUTPUT

Heat pump thermostats can be used if thermostat control of 2nd stage is desired. Thermostats that have a single Y terminal for first stage heat and cool can be used. When selected, all thermostats must be similar.

If the thermostat energizes O on a call for cool, DIP switch 7 must be set to On and the O thermostat wire connected to W on the thermostat connections for that zone. If the thermostat energizes B on a call for heat, DIP switch 6 must be set to On and the B wire connected to W on the panel. In either case, the O is always energized to the equipment in cooling, and the B is always energized to the equipment in heating.

IMPORTANT

Be sure DIP switches 6 and 7 are never both in the On position.

HEAT PUMP THERMOSTATS WITH SEPARATE Y1 AND W1 TERMINALS

Use heat pump thermostats with separate Y1 and W1 terminals for first stage heat and cool. Keep DIP switches 6 and 7 in the Off position when thermostat O or B wire is not used.

Emergency Heat Control

Emergency heat is defined as using an auxiliary heat source without using the heat pump. When the Em Heat switch or a thermostat puts the panel in the emergency heat mode, the heat pump is locked out and calls for heat are sent to the E terminal.

A heat pump thermostat can also control emergency heat from the thermostat system switch. An L terminal energized during the emergency heat mode is required. The recommended heat pump thermostats all have hot L terminals. See Table 1.

The two stage Em heat jumper connects W2 and E. Jumper both pins to energize the W2 equipment on a call for emergency heat. When E is a different source of heat than W2, remove the jumper (for example, two-stage heat pump with electric heat strip auxiliary heat). The jumper is located below the equipment terminals on the lower-left corner of the panel.

Multi-Stage Thermostats

Use multi-stage thermostats to control two stages of heat via W1 and W2 thermostat terminals. Control the third stage of heat through the stage timer built into the panel. Control the second stage of cooling with the timer.

Manual and Automatic Changeover Thermostats

Automatic changeover thermostats provide automatic changeover by zone. Manual changeover thermostats heat or cool based on the mode of each zone thermostat.

Rebooting Microprocessor

Certain conditions can hang up the microprocessor. To reset it, press and release the Boot button. The system reboots and enters the Purge mode.

Discharge Air Temperature Sensor

The Discharge Air Temperature Sensor (not included) is a supply-duct-mounted temperature probe used to control capacity and prevent over-heating or coil-icing. The sensor attaches to the TL terminals on the panel.

Set the high limit temperature on the maximum temperature dial on the panel, located left of the stage timer. See. Fig. 19. Set the temperature from 110 °F to 160°F in ten-degree increments. The recommended setting for fossil fuel/ electric systems is 160°F (default factory setting). For heat pump systems, the recommended setting is 120F.

The cooling temperature limit can be set at 40°F or 48°F.

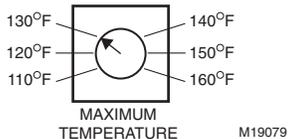


Fig. 19. Maximum temperature dial.

IMPORTANT

Be sure the Discharge Air Temperature Sensor wiring does not run parallel with line voltage wiring unless more than 12 in. of separation exists or shielded cable is used.

Use DIP switch 2 to change cooling limit settings.

Dip Switch	Status	Cooling Temperature Limit
2	Off	40°F
2	On	48°F

If the system trips due to exceeding a high or low temperature limit, the heating or cooling system shuts down and the fan continues running to purge the conditioned air from the plenum.

When the low limit is tripped, the Cool LED flashes until it resets. When the high limit is tripped, the Heat LED flashes until it resets.

Once the temperature recovers by ten degrees, the equipment run resumes.

Zone-A-Lone Switch

When the Zone-A-Lone switch is in the occupied position and the OC/OC terminals are not used, the system functions as a normal zone control system. When switched to the unoccupied position, all dampers are opened and all requests for heat, cool, or fan, except from zone one, are not honored. The zone one thermostat becomes the controlling thermostat for the entire system. During long unoccupied periods, one thermostat can be set back instead of adjusting each zone thermostat in the building.

The T8601D2027 and T8611G2051 include two OC terminals. When wired to the TZ-3 OC terminals, and with the Zone-A-Lone switch in the occupied position, the board enters the unoccupied mode during the Leave and Sleep programs. This feature requires two extra wires to the Zone 1 thermostat.

Circuit Breaker Protection

A built-in thermal circuit breaker protects the TotalZone panel. This circuit breaker protects the panel against shorts in the thermostat and damper wiring and the remote occupied/unoccupied switch. It does not protect against shorts in the wiring of the HVAC equipment into the panel.

When the circuit breaker is tripped, none of the LEDs illuminate and the yellow rectangular component located to the left of the TR1 and TR2 terminals is hot to the touch. Remove power to the panel for at least ten seconds to allow the circuit breaker to cool off and reset. To eliminate the short, verify the dampers and thermostat wiring.

Fan On In Heat

The system blower can be set to come on with a call for heat as required for hydro-air, heat pump, or electric heat systems. Set the blower using DIP switch 8.

DIP Switch 8	Fan Control
Off	HVAC system
On	Fan on in heat

TotalZone Add-A-Zone Panels

Using TotalZone Add-A-Zone Panels, the system can be expanded to up to 30 zones. There are three models: TAZ-1, one zone; TAZ-2, two zone; and TAZ-3, three zone. Two wires are required to connect the TAZ to the TZ-3.

IMPORTANT:

When multiple panels are used, it is important that the transformers be in-phase. Check the phasing by measuring for 24V across the TR2 transformer terminals on each panel. There should be 0 Vac. If not, reverse the TR1 and TR2 transformer wires on one of the panels and recheck.

See Fig. 13 and the TAZ installation instructions for more information.

TROUBLESHOOTING

Table 5. Troubleshooting.

Symptom	Possible Cause	Action
No LEDs are illuminated	No power to the board.	Check for 24 Vac ($\pm 10\%$) across TR1 and TR2
	Shorted wire.	Check fuse. If hot, a short exists in thermostat, damper, or Zone-A-Lone wiring.
Damper LEDs on, but no other LEDs illuminated.	Insufficient voltage.	Check for 24 Vac ($\pm 10\%$) across TR1 and TR2.
	Incorrect configuration.	Check jumpers and DIP switches for correct configuration.
Erratic Operation	Emergency Heat switch on.	Turn off (down) Emergency Heat switch.
	Zone-A-Lone Feature on.	Turn off (up) Zone-A-Lone.
Heat pump operates incorrectly or not at all.	Incorrectly wired.	Verify that W1 and Y1 equipment terminals are jumped.
	Incorrectly configured.	Verify DIP switches 6 and 7 are correctly set for the type of thermostat used.
Heat LED flashing.	High limit reached.	LED stops flashing with ten-degree fall.
Cool LED flashing.	Low limit reached.	LED stops flashing with ten-degree rise.
Idle LED flashes five times on bootup.	ZMS problem or not connected.	Verify that ZMS (if any) is connected, and wired correctly.
Idle LED flashes continuously	ZMS failure.	Check for dc voltage across TL terminals: If 0 volt = short. If 1 volt = open. If .2 to .8 volt = normal.
Add-A-Zone not operating.	Incorrectly configured.	Verify DIP switch settings on the TAZ panels.
	Incorrectly wired.	Check AZ1 and AZ2 for correct wiring.
		Be sure that AZ1 and AZ2 are at least 12 in. from line voltage wiring.
		Be sure the transformers are in-phase.

Table 6. DIP Switch Settings and Functions.

DIP Switch	Function	Off (default)	On
1	Staging by number of zones calling.	Stages timer or thermostat controlled.	Stages controlled by number of zones calling.
2	ZMS low limit.	40°F	48°F
3	Purge mode timing.	Three and one-half minutes.	Two minutes.
4	Fan control during purge.	Controlled by panel.	HVAC equipment controlled
5	Control of W2 output	Timer controlled.	Controlled by W2 from thermostat,
6	Cool changeover from thermostat.	Not using B on single Y thermostats; or using conventional thermostats.	Using B on single Y thermostat.
7	Heat changeover from thermostat.	Not using O on single Y thermostats; or using conventional thermostats.	Using O on single Y thermostat.
8	Fan control in heat.	Fan controlled by panel in cool and HVAC equipment in heat.	Panel in heat and cool controlling fan.

Table 7. LED Indicators.

LED	Color	Illuminated	Not Illuminated	Flashing
Heat	Red	Heat call	No heat calls.	High limit reached
Cool	Green	Cool call	No cool calls.	Low limit reached
Purge	Amber	Purge mode	Not in Purge mode.	ZMS failure
Idle	Red	No calls	Call for heat, cool, or fan.	Initial powerup without ZMS wired
Fan	Green	Fan only call	No fan only call.	—
EM Heat	Red	Emergency Heat mode	Not in emergency Heat mode.	—
Zone 1,2,3	Zone 1,2,3	Green—open Red—closed Amber—moving (some dampers)	—	—

See Fig. 20 for TZ-TotalZone Zone Control Panel.

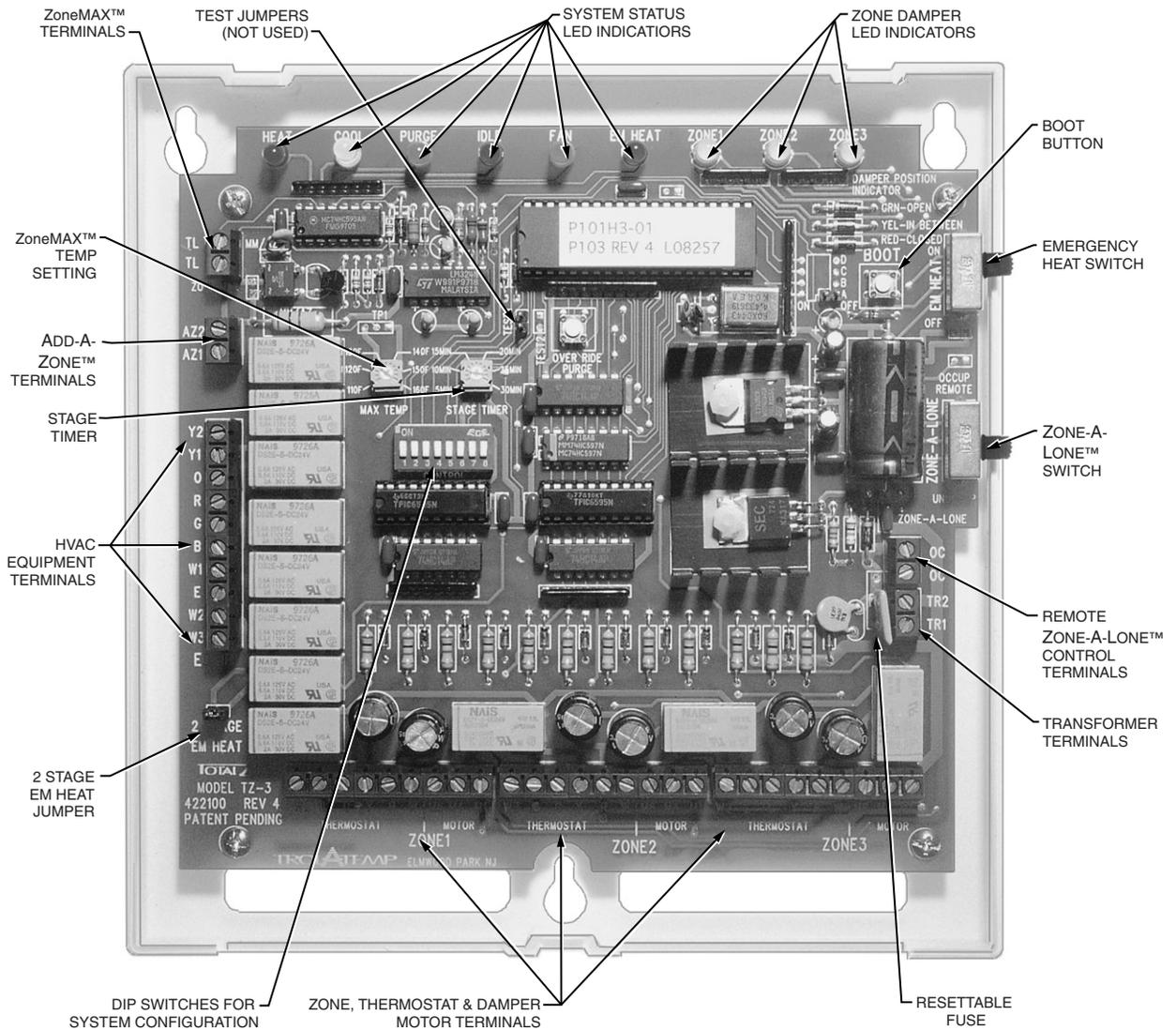


Fig. 20. TZ-3 TotalZone Zone Control Panel.

M13421

Honeywell

Home and Building Control

Honeywell
1985 Douglas Drive North
Golden Valley, MN 55422

Home and Building Control

Honeywell Limited-Honeywell Limitée
35 Dynamic Drive
Scarborough, Ontario
M1V 4Z9

