



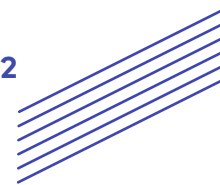
Model: EZL-TSTAT-US

Ezlo Z-Wave Thermostat Installation Manual

Enjoy the ultimate in comfort,
convenience, and energy efficiency

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Thank you for choosing the Ezlo Z-Wave Thermostat

You've taken the first step toward making your home smarter and safer.

We want setting up to be as easy as possible but if you're finding yourself in need of help, our outstanding human customer care is for you through the following channels:

- ☎ Toll-free number 866 966 2272
- ☎ International number 702 487 9770
- ✉ support@ezlo.com
- 🌐 support.ezlo.com

Our Customer Care team is available seven days a week between 6AM and 10PM CST/EST.



Product Description:

Enhance your home's heating and cooling. Easily control temperature to your liking with the MiOS App, immediate response when you arrive home and save on energy costs. With Z-Wave connectivity and a user-friendly interface, managing your home's temperature has never been easier. Upgrade to the Ezlo Thermostat and experience the perfect blend of comfort and technology.



Product Specifications:

| | |
|----------------------------------|--------------------------------------------------------------------------|
| Power supply | AC/DC24V / 4*AAA dry battery (device will enter low power working state) |
| Application range | gas/fuel boiler, electric heating, water heating, heat pumps & more |
| Display | Tempered glass +PC+ABS |
| Self-Consumption | <1W |
| Resistive Load | <1A |
| Temperature Setting Range | 32°F to 99°F (0°C to 40°C) |
| Precision | 0.1°C (1 °F) |
| Control Type | HVAC |
| Wire Connection | Terminal |
| Dimensions | 113×113×19mm (4.45×4.45×0.75 inches) |
| Mounting | 60.3mm (2.37 inches) hole pitch |
| Communication Protocol | Z-Wave 904.42 MHz with S2 encryption |
| Certifications | FCC |

Features:

- Application range: gas/fuel boiler, electric heating, water heating, heat pump etc. 8 types control systems.
- Z-Wave 800 series.
- Touch button operation interaction.
- Simpler way to connect wires without screw driver.
- Built-in temperature sensor for ambient temperature reading.
- Battery Powered: Easy installation without the need for hardwiring.

Package Contents:

- 1x Thermostat
- 1x Back plate
- 4x Wall anchors
- 4x Wall mounting screws
- 2x Base plate securing screws

Required (not included):

- Philips head screwdriver
- Flat head screwdriver



Wiring Notes

1. Power input range is 20-28VAC.
2. This is the toggle switch for the wiring panel. Make sure it's in the right position.



3. The C terminal is not required for battery power supply, but is required for external AC power supply.
4. In a cooling or heating only heat pump system, the O/B signal does not need to be controlled, and O/B can be connected or not connected.

CAUTION

As a disclaimer and precautionary note, if you are not familiar with or comfortable on electrical wiring, it is best to call in a professional electrician to install your smart thermostat. Please do not attempt to install your smart thermostat if you do not have a general understanding of electrical wiring.

Wiring CAUTIONS

Read the instructions before starting up the unit!

Do not expose the device to moisture, water or other liquids. Do not place liquids near or on the device!

Do not attempt to disassemble, repair or modify the device yourself! This product is for indoor use only. Do not use outdoors!

Risk of Electric Shock - More than one disconnect switch may be required to de-energize the equipment before servicing.

Compressor protection is bypassed during testing. To prevent equipment damage, avoid cycling the compressor quickly

WARNING: Always make sure to turn off power to the system before beginning any wiring work and double-check all connections before turning the power back on.

WARNING: If the current thermostat contains mercury, it must be disposed of according to federal, state, and local regulations. Many states and local agencies offer collection or exchange programs, or hazardous waste disposal services for mercury-containing devices.

Ezlo Thermostat Front Plate Removal / Disassembly

Installation Steps

- Remove the old thermostat if you have an existing one
- Dissassemble the front plate of the Ezlo Z-Wave Thermostat (fig.1)
- Attach the base plate to the wall and pull the existing wiring through the base plate (fig.2)
- Re-attach the front plate to the back plate (fig.2)
- Wire the Ezlo Z-Wave Thermostat for your specific HVAC system
- Add the thermostat to your Z-Wave Network

fig.1

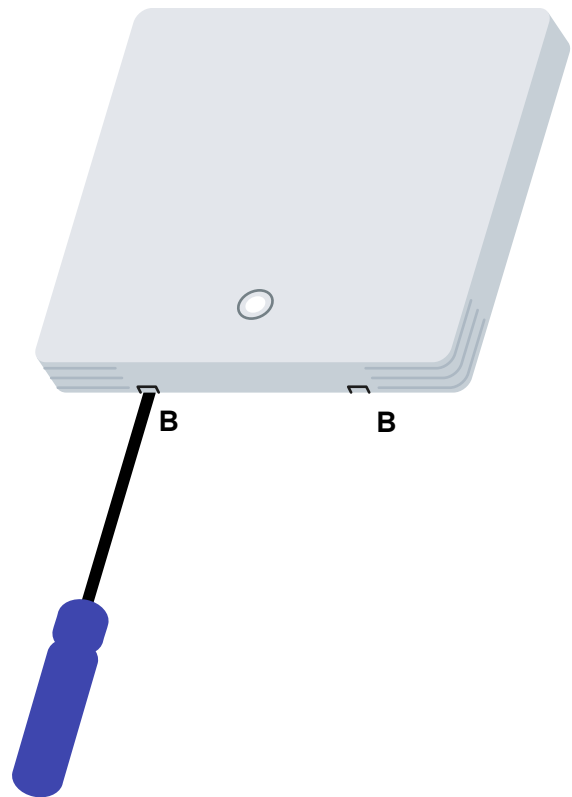
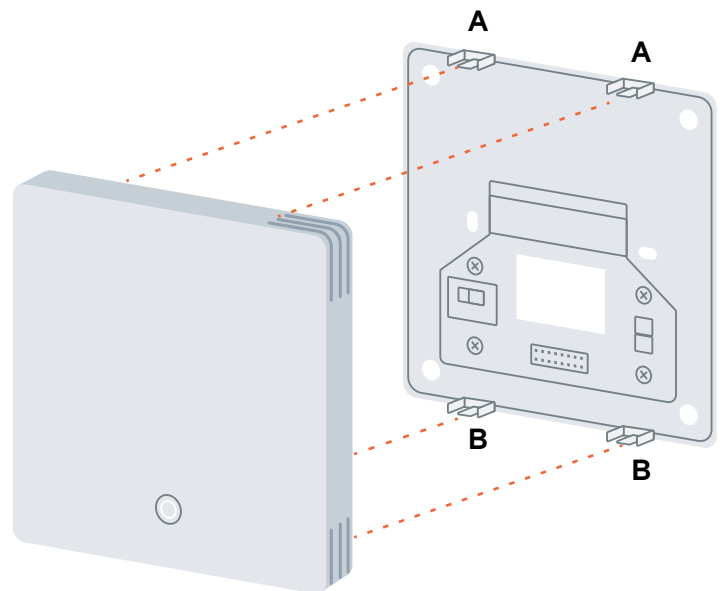
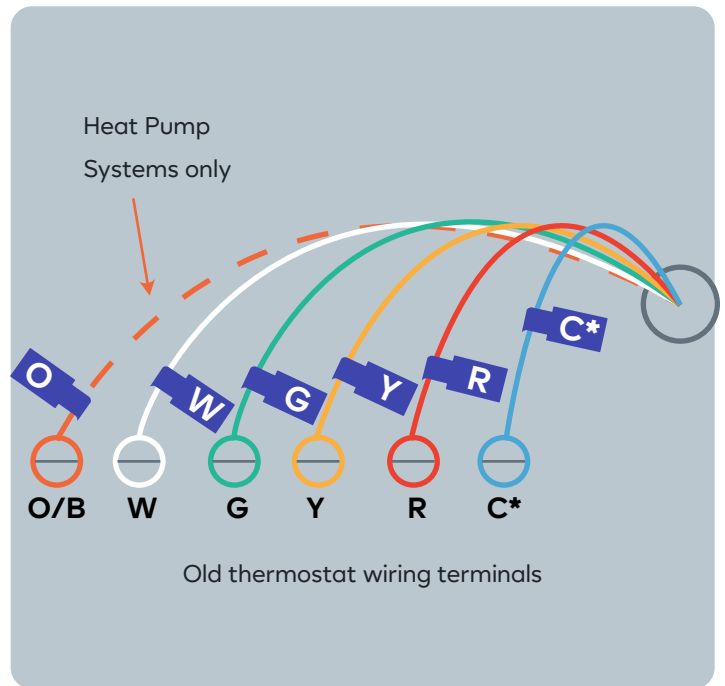


fig.2



Removing the Existing Thermostat

- Switch off the power to the HVAC system, either at the unit itself or at the circuit breaker panel.
- Take off the cover of the existing thermostat to reveal the wiring terminals.
- Snap a photo of the wiring terminals; this can be useful for troubleshooting later.
- Label the wires connected to the terminals using the provided wiring labels.
- Be sure to label the wires according to the terminal labels, not by the wire color.
- Remove the base of the old thermostat.
- Take care not to let the wires fall back into the wall.



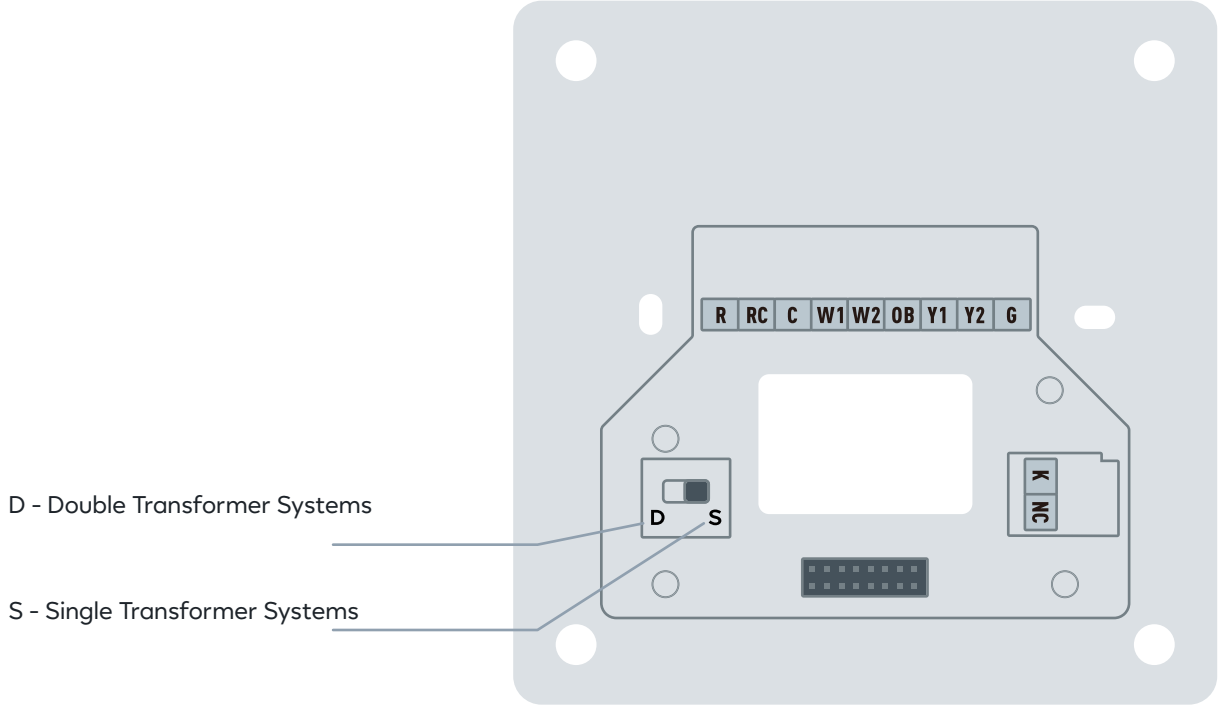
| Terminal | Typical Wire Color | Function |
|----------|--------------------|---------------------------------|
| Y | Yellow | Cool |
| W | White | Heat |
| G | Green | Fan |
| R | Red | 24VAC Return |
| C | Blue | 24V Common (typically BLUE). |

Wiring the Ezlo Z-Wave Thermostat for your specific HVAC system

| Item | Description | Terminals need to be wired | | | | | Wiring Diagram Reference | |
|------|----------------------------------------------------|----------------------------|----|----|----|----|--------------------------|--------------------------------|
| | | G | Y1 | Y2 | W1 | W2 | | |
| 0 | One-stage Conventional cool only | ● | ● | | | | Fig.0 | |
| 1 | Two-stage Conventional cool only | ● | ● | ● | | | Fig.1 | |
| 2 | One-stage Conventional heat only | ● | | | ● | | Fig.2 | |
| 3 | One-stage Conventional heat only(no fan) | | | | ● | | Fig.3 | |
| 4 | Two-stage Conventional heat only | ● | | | ● | ● | Fig.4 | |
| 5 | One-stage Conventional heat & cool | ● | ● | | ● | | Fig.5 Fig.5-2 | |
| 6 | Two-stage Conventional heat & cool | ● | ● | ● | ● | ● | Fig.6 Fig.6-2 | |
| 7 | One-stage Cool in heat pump | ● | ● | | | | ○ | Fig.7 |
| 8 | Two-stage Cool in heat pump | ● | ● | ● | | | ○ | Fig.8 |
| 9 | One-stage heat in heat pump (optional: Aux) | ● | ● | | | ○ | ○ | Fig.7 Fig.9-2 Fig.9-3 |
| 10 | Two-stage heat in heat pump (optional: Aux) | ● | ● | | | ○ | ○ | Fig.8 Fig.10-2 Fig.10-3 |
| 11 | One-stage heat & cool in heat pump (optional: Aux) | ● | ● | | | ○ | ● | Fig.11 Fig.11-2 Fig.11-3 |
| 12 | Two-stage heat & cool in heat pump (optional: Aux) | ● | ● | ● | | ○ | ● | Fig.12 Fig.12-2 Fig.12-3 |

Wiring Terminals Description

| Terminal | Description |
|----------|----------------------------------------------------------------------------|
| R (Red) | Power for heating--connect to secondary side of heating system transformer |
| RC | Power for cooling--connect to secondary side of cooling system transformer |
| C | Common wire from secondary side of cooling or heating system transformer |
| W | Heat relay(stage 1) |
| W2 | Second stage heat relay or auxiliary heat relay |
| OB | Changeover valve for heat pump systems |
| Y | Compressor contactor (stage 1) |
| Y2 | Compressor contactor (stage 2) |
| G | Fan relay |
| K | Wire with 4-5 module |
| NC | |



Installation Wiring For Conventional Systems:

Installation Wiring For One-stage Conventional Cool Only:

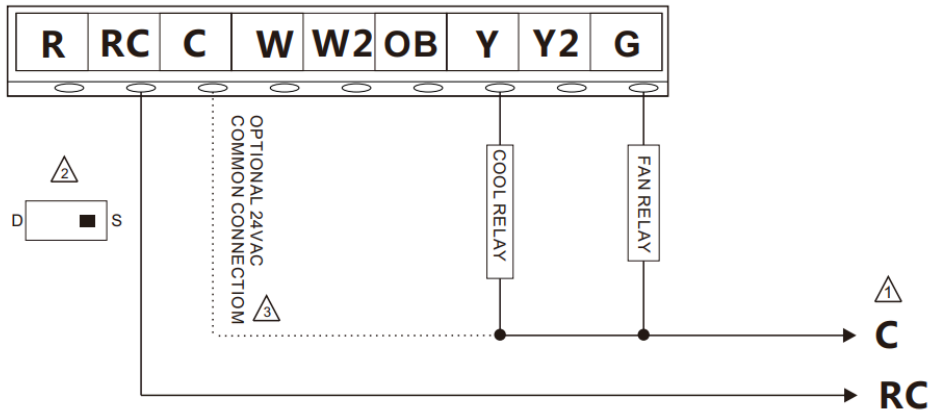


Fig. 0 One-stage Conventional cool only

Installation Wiring For Two-stage Conventional Cool Only:

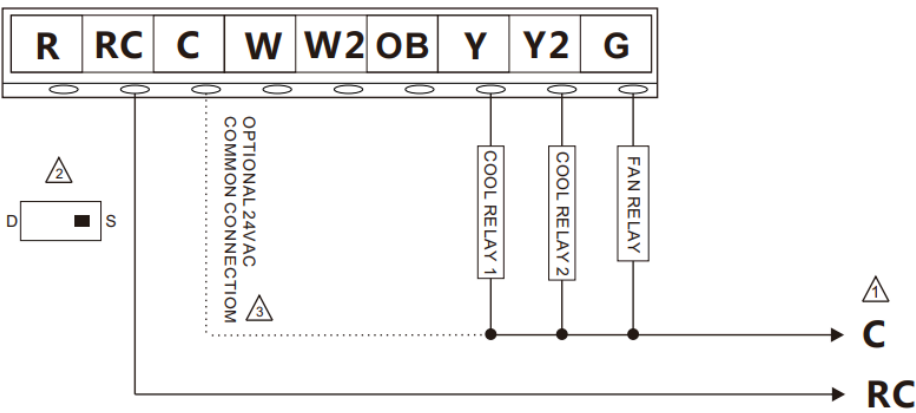


Fig. 1 Two-stage Conventional cool only

Installation Wiring For One-Stage Conventional Heat Only:

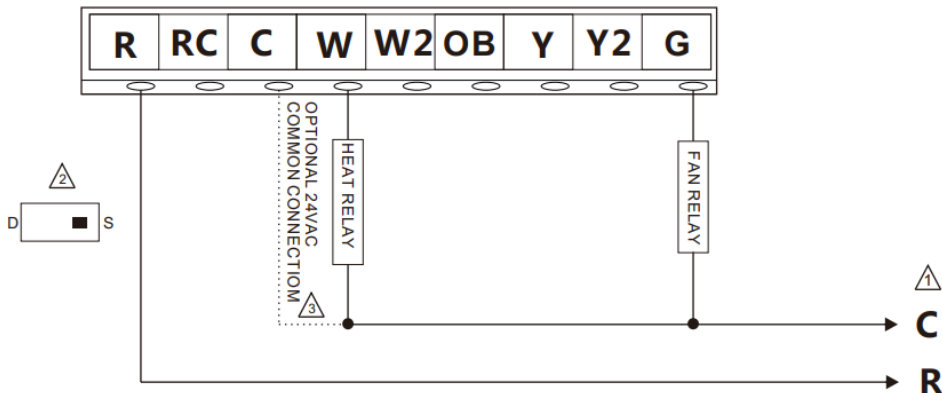


Fig. 2 One-stage Conventional heat only

Installation Wiring For One-stage Conventional Heat Only (no fan)

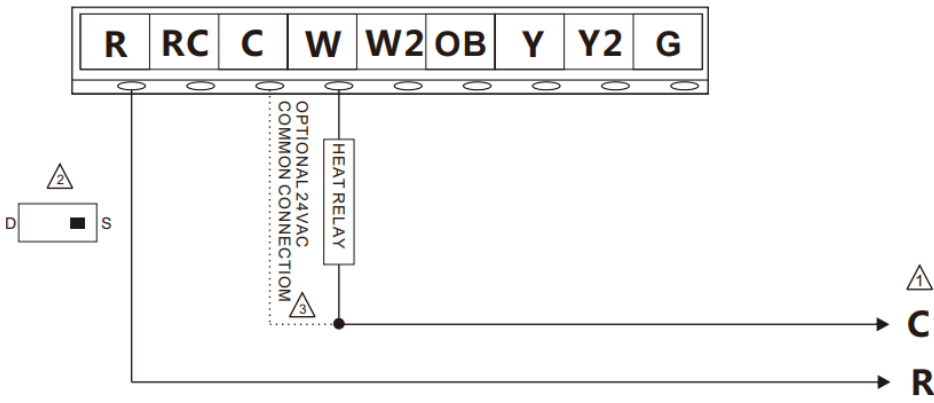


Fig. 3 One-stage Conventional heat only (no fan)

Installation Wiring For Two-stage Conventional Heat Only

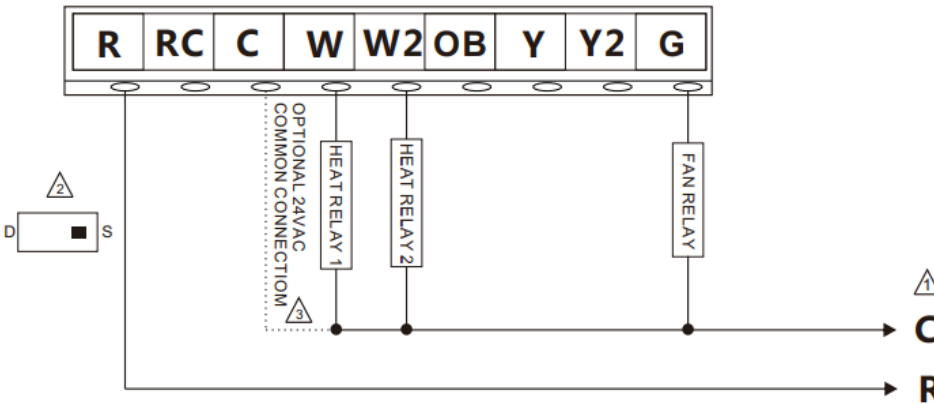


Fig. 4 Two-stage Conventional heat only

Installation Wiring For One-stage Conventional Heat & Cool (Single Transformer)

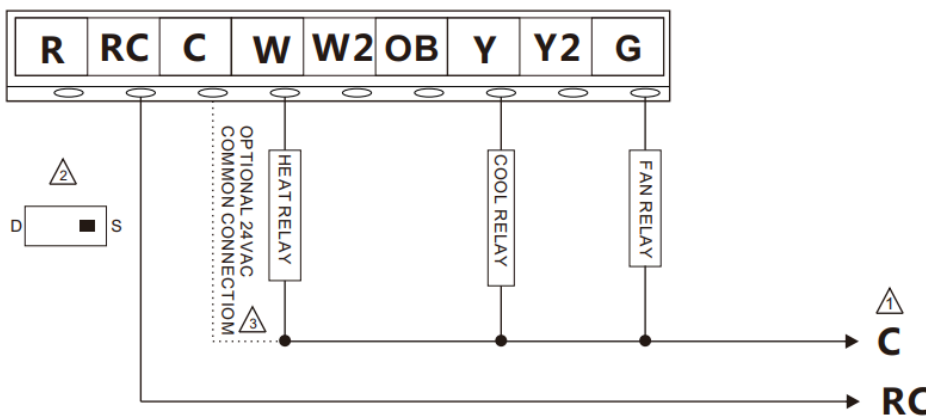


Fig. 5 One-stage Conventional heat & cool

Installation Wiring For One-stage Conventional Heat & Cool (Double Transformer)

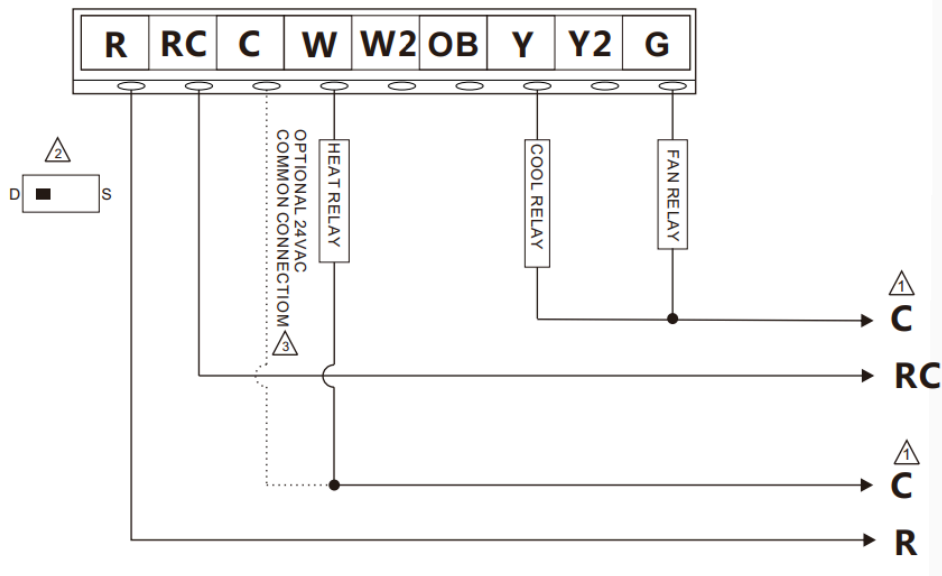


Fig. 5-2 One-stage Conventional heat & cool

Installation Wiring For Two-stage Conventional Heat & Cool (Single Transformer)

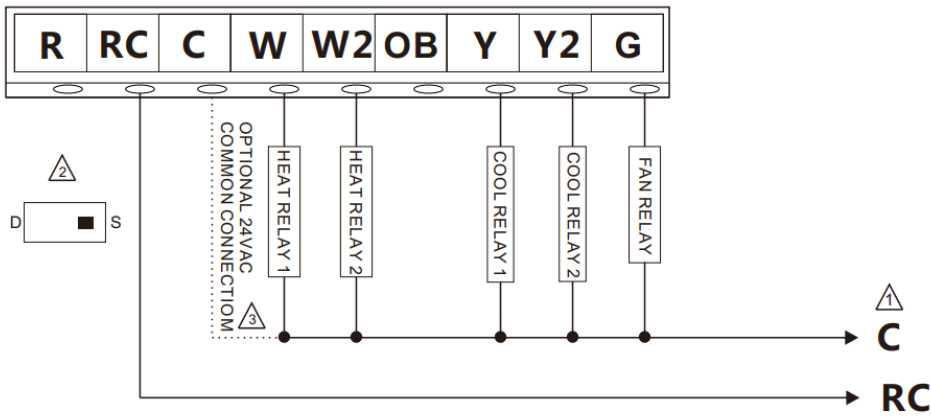


Fig. 6 Two-stage Conventional heat & cool

Installation Wiring For Two-stage Conventional Heat & Cool (Double Transformer)

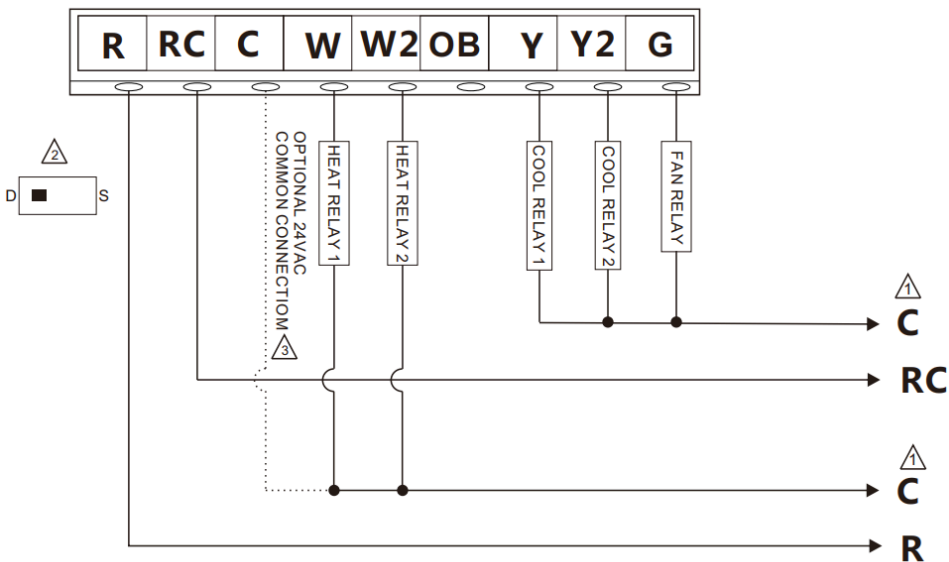


Fig. 6-2 Two-stage Conventional heat & cool

Installation Wiring For Heat Pump Systems:

Installation Wiring for One-stage Cool in Heat Pump & One-Stage Heat in Heat Pump (no auxiliary heat)

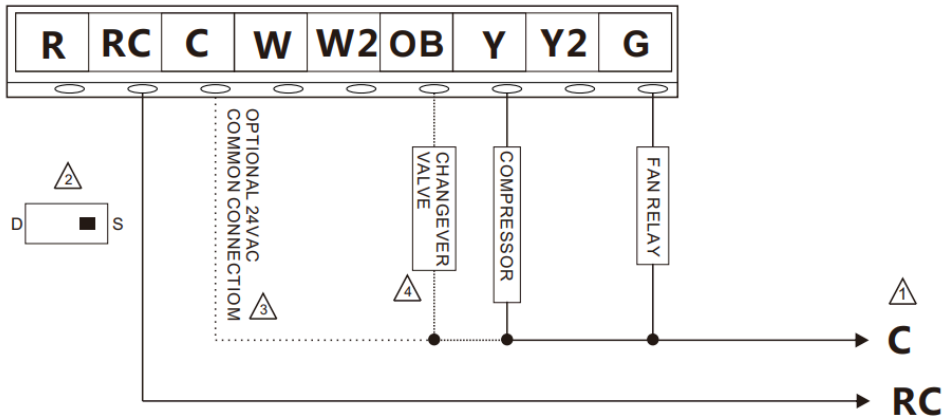


Fig. 7 One-stage Cool and heat pump & One-stage heat in heat pump (no auxiliary heat)

Installation Wiring for Two-Stage Cool in Heat Pump & Two-stage Heat in Heat Pump (no auxiliary heat)

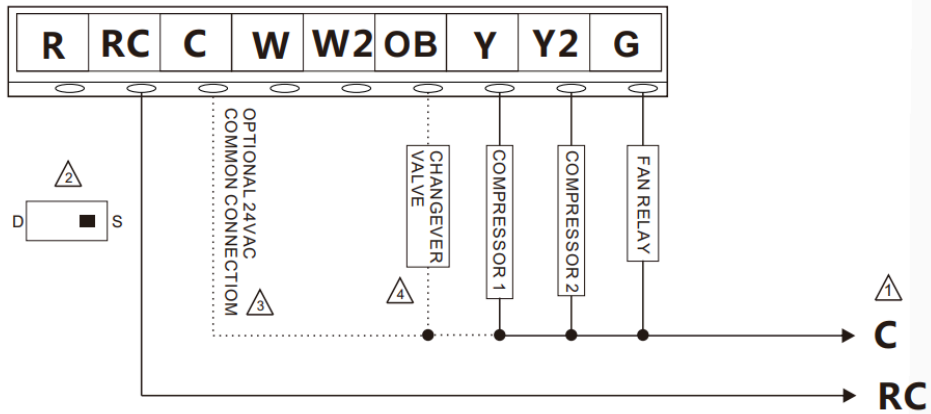


Fig. 8 Two-stage Cool in heat pump & Two-stage heat in heat pump (no auxiliary heat)

Installation Wiring for One-stage Heat in Heat Pump (with auxiliary heat) Single Transformer

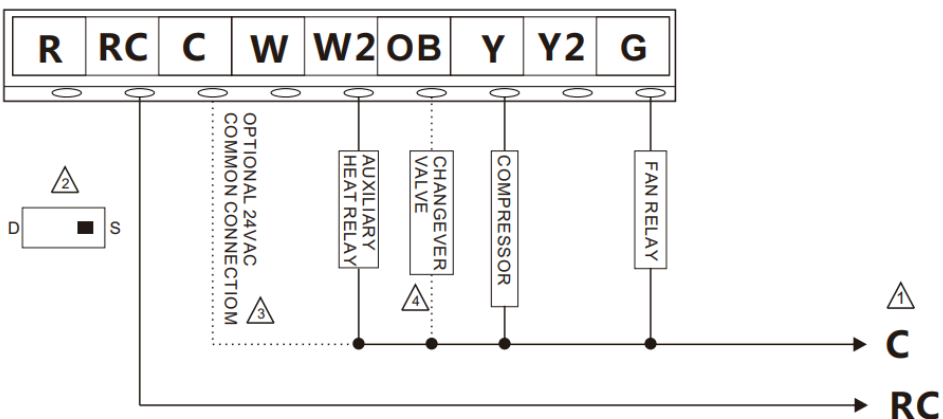


Fig. 9-2 One-stage heat in heat pump (with auxiliary heat)

**Installation Wiring for One-stage Heat in Heat Pump
(with auxiliary heat) Double Transformer**

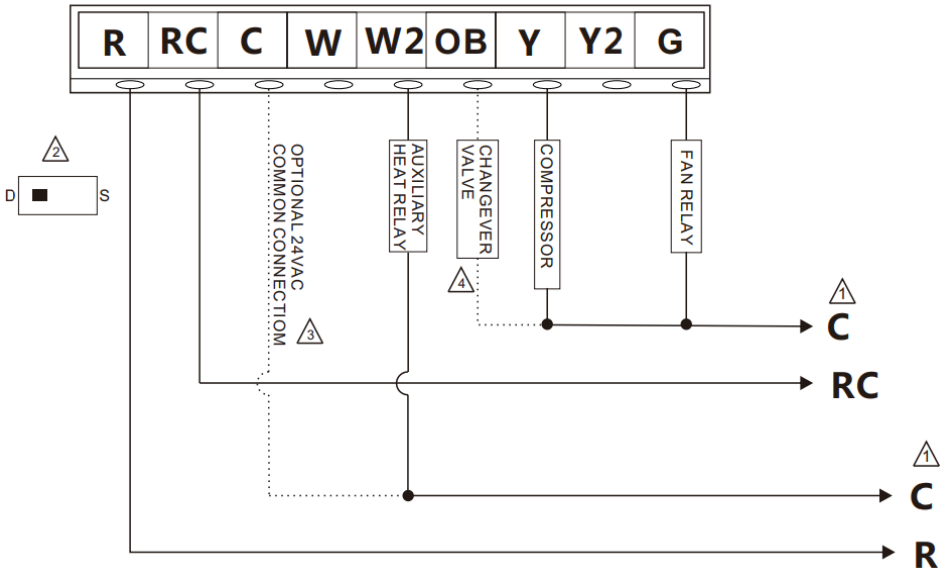


Fig. 9-3 One-stage heat in heat pump
(with auxiliary heat)

**Installation Wiring for Two-Stage Heat in Heat Pump
(with auxiliary heat) Single Transformer**

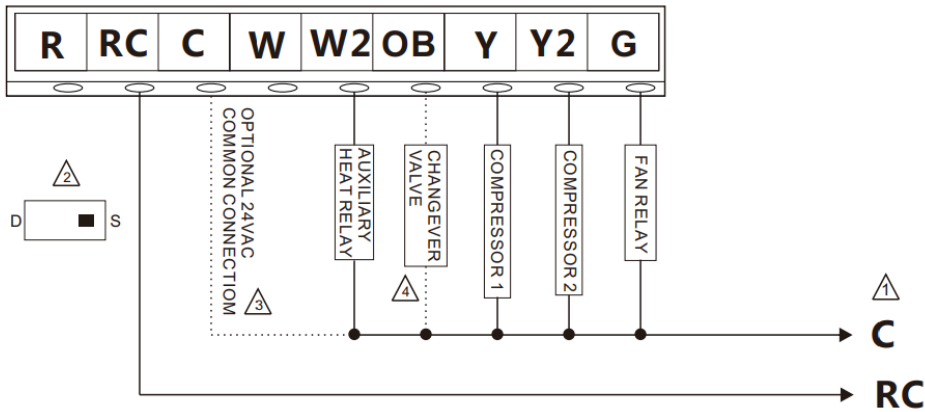


Fig. 10-2 Two-stage heat in heat pump
(with auxiliary heat)

**Installation Wiring for Two-Stage Heat in Heat Pump
(with auxiliary heat) Double Transformer**

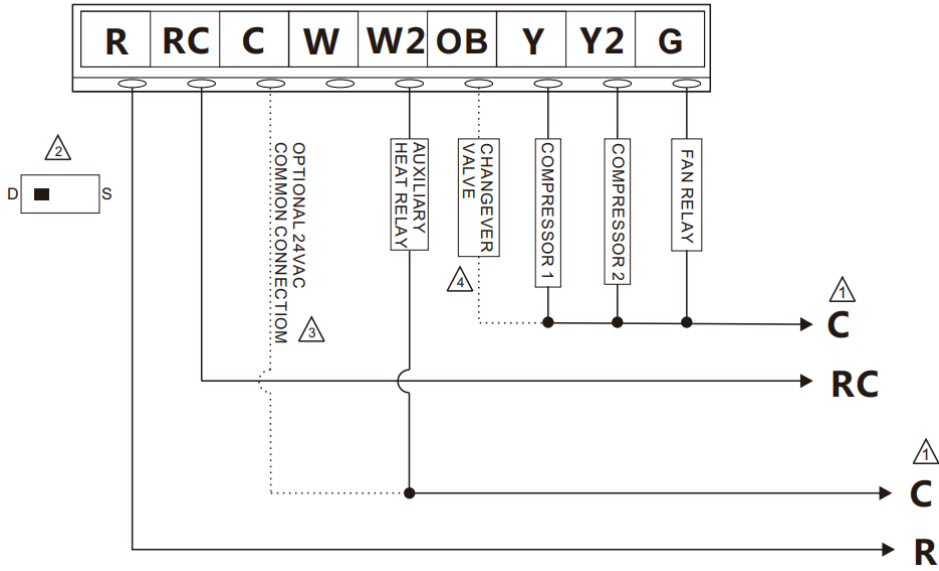


Fig. 10-3 Two-stage heat in heat pump
(with auxiliary heat)

**Installation Wiring for One-stage Heat & Cool in Heat Pump
(no auxiliary heat)**

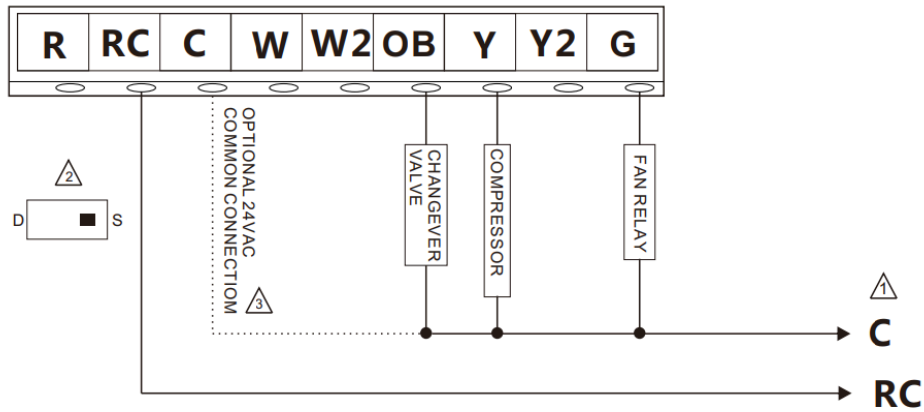


Fig. 11 One-stage heat & cool in heat
pump (no auxiliary heat)

**Installation Wiring for One-stage Heat & Cool in Heat Pump
(with auxiliary heat) Single Transformer**

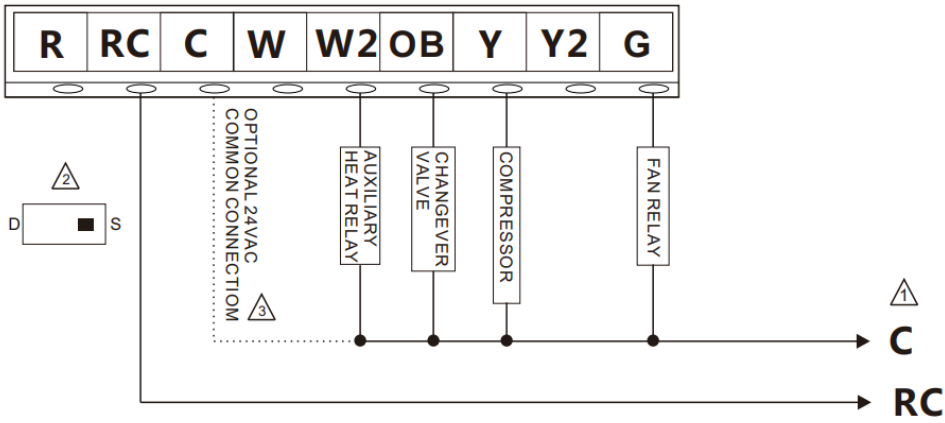


Fig. 11-2 One-stage heat & cool in heat pump (with auxiliary heat)

**Installation Wiring for One-stage Heat & Cool in Heat Pump
(with auxiliary heat) Double Transformer**

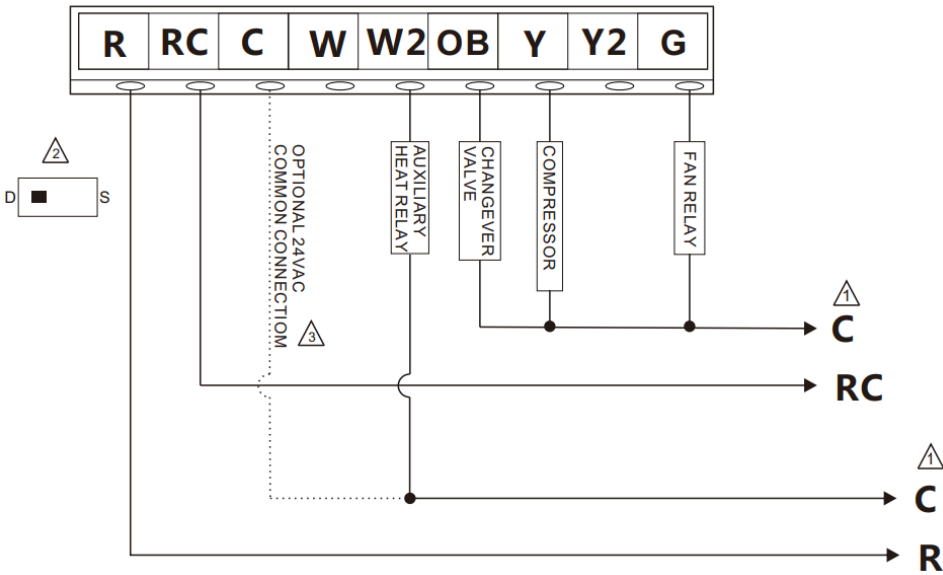


Fig. 11-3 One-stage heat & cool in heat pump (with auxiliary heat)

**Installation Wiring for Two-Stage Heat & Cool in Heat Pump
(no auxiliary heat)**

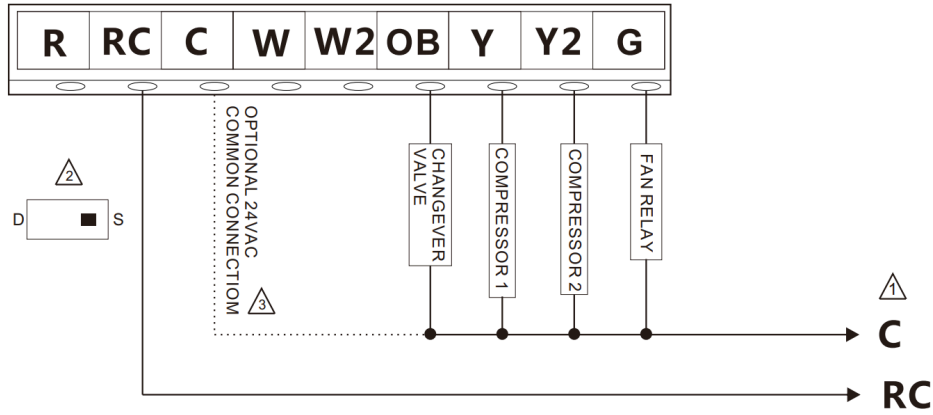


Fig. 12 Two-stage heat & cool in heat pump (no auxiliary heat)

**Installation Wiring for Two-Stage Heat & Cool in Heat Pump
(with auxiliary heat) Single Transformer**

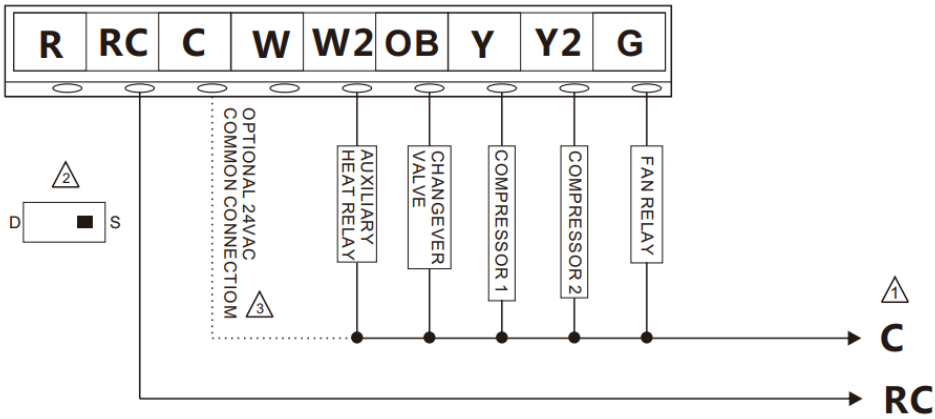


Fig. 12-2 Two-stage heat & cool in heat pump (with auxiliary heat)

**Installation Wiring for Two-Stage Heat & Cool in Heat Pump
(with auxiliary heat) Double Transformer**

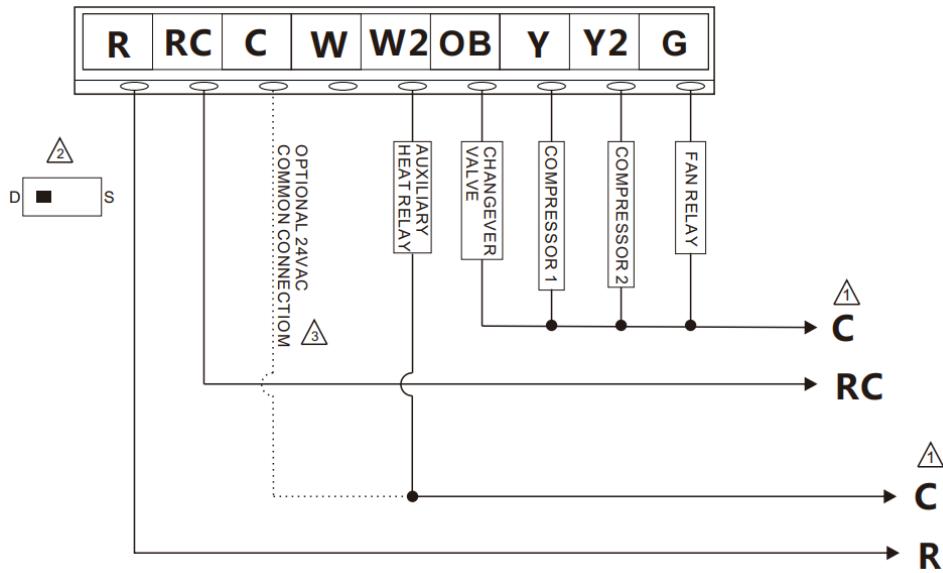
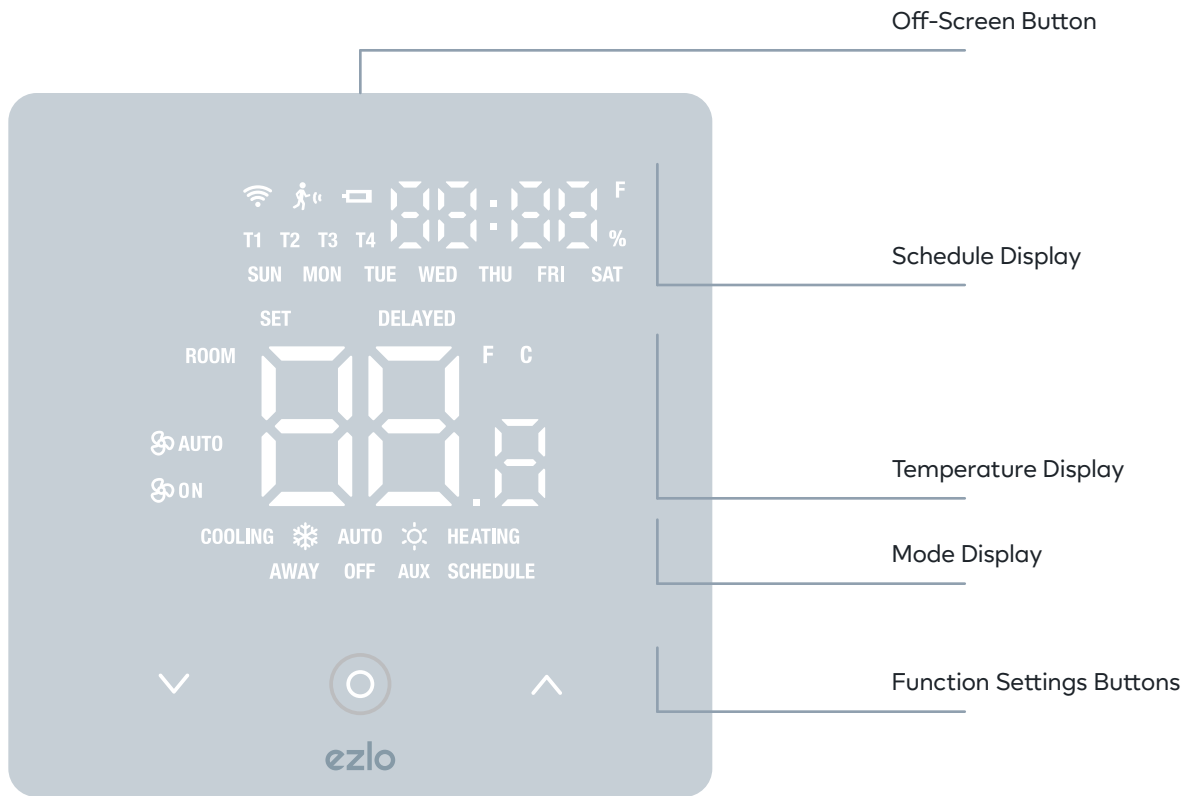


Fig. 12-3 Two-stage heat & cool in heat pump (with auxiliary heat)

Thermostat Display Overview



Menu Description

| Menu Number | Item | Range | Default | Description |
|-------------|---------------------------------|-----------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Temp. Unit | C/F | F | C: Celsius F: Fahrenheit |
| 2 | Power Failure Memory | 0-1 | 1 | When power on again: 0: Device will be in shutdown state (OFF). 1: Device will stay the last status of working mode. |
| 3 | SCREEN OFF | 0-90min | 1min | Automatic screen off time, When the device is charged by C&R port: 0: The screen will not turn off automatically; Set 1-90mins to automate turn off the screen. When the device is powered by battery: Set 3-90secs to automate turn off the screen; 0-2: After 8sec the screen will be turned off automatically. |
| 4 | Beep Set | 0-1 | 1 | 0: OFF, 1: ON |
| 5 | Backlight Brightness | 0-8 | 8 | 1-8: 8 level backlight brightness, 1 is the dimmest, 8 is the brightest |
| 6 | Temp. Upper Limit | 1-99°C / 1-99°F | 37°C / 98°F | Temp. upper limit value, accuracy n*1 |
| 7 | Temp. Lower Limit | 0-99°C / 1-99°F | 5°C / 41°F | Temp. lower limit value, accuracy n*1 |
| 8 | Temp. Offset | -99~99°C / -99°F-99°F | 0°C / 0°F | Temp. offset value(°C or °F), accuracy 0.1 (n*0.1) |
| 9 | Humidity Offset | -20~+20 | 0 | Humidity offset value |
| 10 | Fan and Humidity Display Select | 0-3 | 0 | 0: The most simplest display, fan mode and humidity will not display. 1: Display fan mode 2: Display humidity 3: Display fan mode and humidity |

| Menu | | | | |
|--------|---------------------------|--------------------------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Number | Item | Range | Default | Description |
| 11 | Panel Lock | 0-3 | 0 | <p>0: Disabled 1: Secret Menu operation is invalid, except for modifying parameter 11, other operation is valid.</p> <p>2: Secret Menu operation, changing mode and setpoint is invalid, only valid for adding/removing network or modifying parameter 11.</p> <p>3: Only valid for adding/removing network.</p> |
| 12 | 1st Temp. Hysteresis | 3-90,n*0.1°C / 3-90,n*0.1°F | 10 / 20 | Specifies the minimum temperature difference between the room temperature and the desired setpoint before the first stage of heating or cooling is allowed to turn on. (0.3-9 degrees). |
| 13 | 2nd Temp. Hysteresis | 3-90,n*0.1°F / 3-90,n*0.1°C | 10 / 20 | Specifies the additional minimum temperature difference after the first stage turns on before the second stage is activated. (0.3-9 degrees) |
| 14 | 3rd Temp. Hysteresis | 3-90,n*0.1°F / 3-90,n*0.1°C | 10 / 20 | Specifies the additional minimum temperature difference after the second stage turns on before the third stage is activated. (0.3-9 degrees) |
| 15 | System Control Type | 0-12 | 12 | <p>0: One-stage Conventional cool only</p> <p>1: Two-stage Conventional cool only</p> <p>2: One-stage Conventional heat only</p> <p>3: One-stage Conventional heat only (no fan)</p> <p>4: Two-stage Conventional heat only</p> <p>5: One-stage Conventional heat & cool</p> <p>6: Two-stage Conventional heat & cool</p> <p>7: One-stage Cool in heat pump</p> <p>8: Two-stage Cool in heat pump</p> <p>9: One-stage heat in heat pump (optional: Aux)</p> <p>10: Two-stage heat in heat pump (optional: Aux)</p> <p>11: One-stage heat & cool in heat pump (optional: Aux)</p> <p>12: Two-stage heat & cool in heat pump (optional: Aux)</p> |
| 16 | Changeover Valve Logic | 0-1 | 0 | <p>0=When the heat pump starts cooling, O/B turns on; when the heat pump starts heating, O/B turns off</p> <p>1=When the heat pump starts heating, O/B turns on; when the heat pump starts cooling, O/B turns off</p> |

| Menu | | | | |
|---------------|---------------------------------------------|--------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Number | Item | Range | Default | Description |
| 17 | Compressor Protection Time | 0~10min | 1min | The setting of compressor delay time from shutdown to startup, unit: min |
| 18 | EM Emergency Heat Mode | 0-1 | 0 | 1: ON 0: OFF Note: This mode is only valid for heat pump system with heating function |
| 19 | Time Display Selection | 0-2 | 0 | When Schedule function is activated: 0: Time, week, current time period displays. 1: Week and current time period displays. 2: Time, week and current time period does not display. |
| 20 | Fan Shutdown Delay Time | 0-127 | 0 | This parameter is valid only when the fan mode is AUTO. 0: When the compressor is shut down, the fan is also shut down. 1-127: The fan shuts down in a delay of n*minutes after the compressor is shut down, unit: minute |
| 21 | Compressor delay countdown display | 0-1 | 0 | 0: No Display 1: Display |
| 22 | Whether to enable electrical auxiliary heat | 0-1 | 1 | 0: Disable 1: Enable |
| 98 | RESET FACTORY | 0-1 | 0 | 1: Restore factory setting |
| 99 | Firmware Version (Read only) | -- | 1 | 1-255 |

Navigating the Thermostat menu

Setpoint Setting

Press "▲" or "▼" to set the desired indoor temperature, default setting range: 5~37°C (setting step is 0.5) and 41~98 °F (setting step is 1) by default. During the setting, "SET" icon displays and after finishing the setting, press any button to save the setting and exit.

Mode Setting

When the screen is on, press Ⓞ button and the current mode icon flashes, press Ⓞ button again, it will loop to switch working mode from OFF —>HEAT —>COOL —>AUTO —>AUX (emergency heating). Press "▼" or "▲" or wait for 2 sec to confirm the current setting mode, "MODE" icon stop flashing.

Fan Mode & Schedule Setting

When the screen is on, long press "Ⓞ" for 3 sec and enter setting interface, the setting sequence is: FAN MODE —>SCHEDULE MODE —> WEEK —>TIME —>EXIT. Short press "▼" or "▲" to change the current value and it's icon flashes, press "Ⓞ" to confirm the setting. If the SCHEDULE MODE is enabled, the main page displays "SCHEDULE" icon. Long press "Ⓞ" for 1 sec or without any operation over 20 sec will exit the setting.

Fan On:

In this mode, the fan is always running when the device turns on, and stops when the device turns off.

Fan Auto:

In this mode, the fan runs both in cooling and heating state; the fan stops when cooling or heating is stopped, when the device is in shutdown state, the fan stops.

Secret Menu

Under "OFF" interface, long press "▼" + "Ⓞ" button for 3 sec to enter parameter setting interface. Short press "▼" or "▲" button to switch the parameter value, short press "Ⓞ" button to set the next item. Long pressing "▼" + "Ⓞ" button for 1 sec or without any operation over 20 sec will exit the setting.

Thermostat Setup for each system type

After completing the thermostat wiring, access the Thermostats **Secret** menu to configure the system settings and ensure proper operation in the correct mode.

Secret menu .15 (Possible Values 0-7)

Default Value: 7

- 0: One-stage Conventional cool only
- 1: Two-stage Conventional cool only
- 2: One-stage Conventional heat only
- 3: One-stage Conventional heat only (no fan)
- 4: Two-stage Conventional heat only
- 5: One-stage Conventional heat & cool
- 6: Two-stage Conventional heat & cool
- 7: One-stage Cool in heat pump
- 8: Two-stage Cool in heat pump
- 9: One-stage heat in heat pump (optional: Aux)
- 10: Two-stage heat in heat pump (optional: Aux)
- 11: One-stage heat & cool in heat pump (optional: Aux)
- 12: Two-stage heat & cool in heat pump (optional: Aux)

See pages 23-25 for extra settings that may need to be adjusted from the menu for each system type. These can also be adjusted via Z-Wave Configuration parameters mentioned on page 34.

Navigating the Thermostat menu

Standby & Backlight Brightness Setting

1. The device will turn off the screen automatically without any operation. The default is 8 seconds for battery power supply and 1 minute for 24V power supply.
2. When the screen lights up, pressing the top button of the device can turn off the screen. Pressing any buttons can light up the screen again.
3. Long press the "Off-Screen" button on the top of the device to temporarily adjust the screen brightness. If the screen is turned off this turns it on again, it will get back to the setting from Secret Menu or Z-Wave parameter setting.
4. Fan mode and humidity value icon display or not can be set by Secret Menu or Z-Wave configuration parameter (not displayed by default).
5. When the Schedule function is enabled, the current time, week and time period icon display or not can be set by Secret Menu or Z-Wave configuration parameter (displayed by default).



Including the Z-Wave Thermostat to an Ezlo Z-Wave Hub

Step 1:

In the MiOS app:

1. Open the MiOS app and press on **"More"**
2. Tap on **"Devices"** then press on **"+"** in the top right corner.
3. Select your Ezlo Z-Wave Hub from the Controllers list
4. Choose **"Generic Z-Wave Devices"** and press **"Next"**
5. The Ezlo Z-Wave Hub is now waiting for your to make the Adding/Removing procedure from the thermostat side.

Step 2:

In the Ezlo Z-Wave Thermostat menu:

Under the normal working interface, long press **"▼"** and **"▲"** button simultaneously for 3sec, the device will enter Z-WAVE MENU interface for INCLUSION or EXCLUSION as show in the image below Before the device included into a network, **"- - -"** will be displayed on the screen. Then short press **"⊙"** button and device will enter learning mode to get a node ID. If INCLUSION is a success, a node ID will be displayed on the screen in a few seconds. Long press **"▼ "** and **"▲"** button simultaneously for 3sec or after 20sec without any operation will back to main page.

Note: Follow the same steps to exclude the device from the network. When removed from the Z-Wave network, the device restores it's Z-Wave factory setting.



Including the Z-Wave Thermostat to other Z-Wave compatible hubs

Note: First, check the manual of the specific third party compatible how to include Z-Wave devices.

Step 1: Put the Z-Wave hub in including Mode.

Step 2: In the Ezlo Z-Wave Thermostat menu:

Under the normal working interface, long press "▼" and "▲" button simultaneously for 3sec, the device will enter Z-WAVE MENU interface for INCLUSION or EXCLUSION as show in the image below Before the device included into a network, "-- --" will be displayed on the screen. Then short press "Ⓞ" button and device will enter learning mode to get a node ID. If INCLUSION is a success, a node ID will be displayed on the screen in a few seconds. Long press "▼" and "▲" button simultaneously for 3sec or after 20sec without any operation will back to main page.

Note: Follow the same steps to exclude the device from the network. When removed from the Z-Wave network, the device restores it's Z-Wave factory setting.



Z-Wave Command Classes

S2 Supported

COMMAND_CLASS_VERSION

COMMAND_CLASS_DEVICE_RESET_LOCALLY

COMMAND_CLASS_BATTERY

COMMAND_CLASS_THERMOSTAT_SETPOINT

COMMAND_CLASS_THERMOSTAT_OPERATING_STAT

COMMAND_CLASS_THERMOSTAT_FAN_STATE

COMMAND_CLASS_TIME_PARAMETERS

COMMAND_CLASS_ASSOCIATION

COMMAND_CLASS_ASSOCIATION_GRP_INFO

COMMAND_CLASS_MANUFACTURER_SPECIFIC

COMMAND_CLASS_POWERLEVEL

COMMAND_CLASS_SENSOR_MULTILEVEL

COMMAND_CLASS_THERMOSTAT_MODE

COMMAND_CLASS_THERMOSTAT_FAN_MODE

COMMAND_CLASS_TIME

COMMAND_CLASS_CONFIGURATION

COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION

COMMAND_CLASS_FIRMWARE_UPDATE_MD

Non S2 Support

COMMAND_CLASS_ZWAVEPLUS_INFO

COMMAND_CLASS_SECURITY_2

COMMAND_CLASS_TRANSPORT_SERVICE

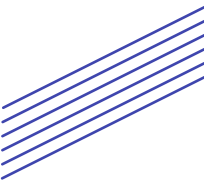
COMMAND_CLASS_SUPERVISION

Z-Wave Association Groups

| AG Identifier | Max Node ID | Command Class | Trigger situation |
|---------------|-------------|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x01 | 0x01 | COMMAND_CLASS_SENSOR_MULTILEVEL_V5, SENSOR_MULTILEVEL_REPORT_V5 | The change between the current detected temperature and the last reported gateway temperature is greater than the value set in parameter 2. The change between the current detected humidity and the last reported gateway humidity is greater than the value set in parameter 3. |
| | | COMMAND_CLASS_THERMOSTAT_MODE_V2, THERMOSTAT_MODE_REPORT | Thermostat mode changes |
| | | COMMAND_CLASS_THERMOSTAT_OPERATING_STATE, THERMOSTAT_OPERATING_STATE_REPORT | Thermostat status changes |
| | | COMMAND_CLASS_THERMOSTAT_SETPOINT_V2, THERMOSTAT_SETPOINT_REPORT_V2 | Set point value changes |
| | | COMMAND_CLASS_THERMOSTAT_FAN_MODE, THERMOSTAT_FAN_MODE_REPORT | Fan mode changes |
| | | COMMAND_CLASS_THERMOSTAT_FAN_STATE, THERMOSTAT_FAN_STATE_REPORT | Fan status changes |
| | | COMMAND_CLASS_DEVICE_RESET_LOCALLY, DEVICE_RESET_LOCALLY_NOTIFICATION | Restore factory setting |
| | | COMMAND_CLASS_BATTERY, BATTERY_REPORT | The change in battery power is greater than 5% |

Z-Wave Parameter Settings

| Number | Name | Size | Information | Default | Possible Values |
|--------|-------------------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|
| 1 | Temp. Unit | 1 | Secret menu No. E20: 0: Celsius 1: Fahrenheit | 0 | 0-1 |
| 2 | Temp. Difference Reporting | 2 | Unit 0.1°C 0: Disabled 3-255: n *0.1°C automatically report the temperature to the gateway when temperature variation greater than this value | 5 | 0, 3-255 |
| 2 | Temp. Difference Reporting | 2 | Unit 0.1°F 0: Disabled 3-255: n *0.1°F automatically report the temperature to the gateway when temperature variation greater than this value | 10 | 0, 3-255 |
| 3 | Humidity Difference Reporting | 1 | 0: Disabled 1-99: Automatically report the humidity to the gateway when humidity variation greater than this value | 4 | 0-99 |
| 12 | Power Failure Memory | 1 | Secret menu No. E2 When power on again: 0: Device will be in shutdown state (OFF). 1: Device will stay the last status of working mode | 1 | 0-1 |
| 13 | SCREEN OFF | 1 | Secret menu No. E3 Automatic screen off time, When the device is charged by C&R port: 0: The screen will not turn off automatically; Set 1-90mins to automate turn off the screen. When the device is powered by battery: Set 3-90secs to automate turn off the screen; 0-2: After 8sec the screen will be turned off automatically. | 1 | 0-90 |
| 14 | Beep Set | 1 | Secret menu No. E4: 0:OFF 1:ON | 1 | 0-1 |
| 15 | Backlight Brightness | 1 | Secret menu No. E5: 1-8: 8 level backlight brightness, 1 is the dimmest, 8 is the brightest | 8 | 1-8 |
| 16 | Temp. Upper Limit | 1 | Secret menu No. E06: Temperature upper limit value, accuracy n*1 | 37 (°C) 98 (°F) | 1-99 |



Z-Wave Parameter Settings

| Number | Name | Size | Information | Default | Possible Values |
|--------|-------------------------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------------------------|
| 17 | Temp. Lower Limit | 1 | Secret menu No. E07: Temperature lower limit value, accuracy n*1 | 5 (°C) 41 (°F) | 0-98 |
| 18 | Temp. Offset | 1 | Secret menu No. E08: Temperature offset value (°C or °F) , accuracy 0.1 (n *0.1 | 0 | (-99~+99) (°C) (-99~+99) (°F) |
| 19 | Humidity Offset | 1 | Secret menu No. E09: Humidity offset value | 0 | -20~+20 |
| 20 | Fan & Humidity Display Select | 1 | Secret menu No. E10: Fan and humidity display mode selection 0: The most simplest display, fan mode and humidity will not display. 1: Display fan mode 2: Display humidity 3: Display fan mode and humidity Note: When schedule function is enabled, the time, week, and time period are displayed, if the humidity display at the same time, the humidity and time are displayed alternately. | 0 | 0-3 |
| 21 | Panel Lock | 1 | Secret menu No. E11: 0: Disabled 1: Secret menu operation is invalid, except for modifying parameter 11, other operation is valid. 2: Secret Menu operation, changing mode and setpoint is invalid, only valid for adding/removing network or modifying parameter 11. 3: Only valid for adding/removing network. | 0 | 0-3 |
| 22 | 1st Temp. Hysteresis | 1 | Secret menu No. E12: accuracy: 0.1, Specifies the minimum temperature difference between the room temperature and the desired setpoint before the first stage of heating or cooling is allowed to turn on. (0.3-9 degrees). For example, if the heat setpoint is 68° and the 1st stage hysteresis is set to 2 degrees, the room temperature will need to reach 66° before the heat turns on. | 10 (°C) 2 (°F) | 3-90 (°C) 3-90 (°F) |

Z-Wave Parameter Settings

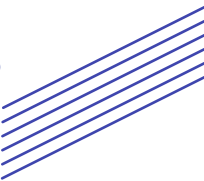
| Number | Name | Size | Information | Default | Possible Values |
|--------|----------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------------|
| 23 | 2nd Temp. Hysteresis | 1 | Secret menu No. E13: accuracy: 0.1, Specifies the additional minimum temperature difference after the first stage turns on before the second stage is activated. (0.3-9 degrees) | 10 (°C) 20 (°F) | 3-90 (°C) 3-90 (°F) |
| 24 | 3rd Temp. Hysteresis | 1 | Secret menu No. E14: accuracy: 0.1, Specifies the additional minimum temperature difference after the second stage turns on before the third stage is activated. (0.3-9 degrees) | 10 (°C) 20 (°F) | 3-90 (°C) 3-90 (°F) |
| 25 | System Control Type | 1 | Secret menu No. E15: See the Controlling Type for details Note: This parameter does not change after factory settings are restored. To be more compatible with gateways, after setting this parameter, please add in the gateway again. | 12 | 0-12 |
| 26 | Changeover Valve Logic | 1 | Secret menu No. E16: 0=When the heat pump starts cooling, O/B turns on; when the heat pump starts heating, O/B turns off 1=When the heat pump starts heating, O/B turns on; when the heat pump starts cooling, O/B turns off | 0 | 0-1 |
| 27 | Compressor Protection Time | 1 | Secret menu No. E17: The setting of compressor delay time from shutdown to startup, unit: min | 1 | 0-10 |
| 28 | EM Emergency Heat Mode | 1 | Secret menu No. E18: 1: ON 0: OFF Note: This mode is only valid for heat pump system with heating function | 0 | 0-1 |

Z-Wave Parameter Settings

| Number | Name | Size | Information | Default | Possible Values |
|--------|---------------------------------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|----------------------------|
| 29 | Time Display Selection | 1 | When Schedule function is activated: 0: Time, week, current time period displays. 1: Week and current time period displays. 2: Time, week and current time period does not display. | 0 | 0-2 |
| 30 | Fan Shutdown Delay Time | 1 | This parameter is valid only when the fan mode is AUTO. 0: When the compressor is shut down, the fan is also shut down. 1-127: The fan shuts down in a delay of n*minutes after the compressor is shut down, unit: minute | 0 | 0-127 |
| 31 | Compressor delay countdown display | 1 | 0: No Display 1: Display | 0 | 0-1 |
| 32 | Whether to enable electrical auxiliary heat | 1 | 0: Disable 1: Enable | 1 | 0-1 |
| 45 | Schedule Function Selection | 1 | 0: Disabled 1: Enabled | 0 | 0-1 |
| 46 | The 1st period from Mon-Sun | 2 | Byte1(MSB): Minute Byte2(LSB): Hour | Byte1: 0 Byte2: 6 | Byte1: 0-59 Byte2: 0-23 |
| 47 | The 2nd period from Mon-Sun | 2 | Byte1(MSB): Minute Byte2(LSB): Hour | Byte1: 0 Byte2: 8 | Byte1: 0-59 Byte2: 0-23 |
| 48 | The 3rd period from Mon-Sun | 2 | Byte1(MSB): Minute Byte2(LSB): Hour | Byte1: 0 Byte2: 18 | Byte1: 0-59 Byte2: 0-23 |
| 49 | The 4nd period from Mon-Sun | 2 | Byte1(MSB): Minute Byte2(LSB): Hour | Byte1: 0 Byte2: 22 | Byte1: 0-59 Byte2: 0-23 |

Z-Wave Parameter Settings

| Number | Name | Size | Information | Default | Possible Values |
|--------|-------------------------------------------|------|----------------------------------------|---------------------------------|----------------------------------------------------------------------------|
| 50 | Heat SetPoint for 1st period from Mon-Sun | 2 | n*0.1 Celsius or n*0.1 Fahrenheit | Celsius:210 Fahrenheit: 700 | The range is greater than the lower limit and smaller than the upper limit |
| 51 | Heat SetPoint for 2nd period from Mon-Sun | 2 | n*0.1 Celsius or n*0.1 Fahrenheit | Celsius:165 Fahrenheit: 620 | The range is greater than the lower limit and smaller than the upper limit |
| 52 | Heat SetPoint for 3rd period from Mon-Sun | 2 | n*0.1 Celsius or n*0.1 Fahrenheit | Celsius: 210 Fahrenheit: 700 | The range is greater than the lower limit and smaller than the upper limit |
| 53 | Heat SetPoint for 4th period from Mon-Sun | 2 | n*0.1 Celsius or n*0.1 Fahrenheit | Celsius: 165 Fahrenheit: 620 | The range is greater than the lower limit and smaller than the upper limit |
| 54 | Cool SetPoint for 1st period from Mon-Sun | 2 | n*0.1 Celsius or n*0.1 Fahrenheit | Celsius: 255 Fahrenheit: 780 | The range is greater than the lower limit and smaller than the upper limit |
| 55 | Cool SetPoint for 2nd period from Mon-Sun | 2 | n*0.1 Celsius or n*0.1 Fahrenheit | Celsius: 295 Fahrenheit: 850 | The range is greater than the lower limit and smaller than the upper limit |
| 56 | Cool SetPoint for 3rd period from Mon-Sun | 2 | n*0.1 Celsius or n*0.1 Fahrenheit | Celsius: 255 Fahrenheit: 780 | The range is greater than the lower limit and smaller than the upper limit |
| 57 | Cool SetPoint for 4th period from Mon-Sun | 2 | n*0.1 Celsius or n*0.1 Fahrenheit | Celsius: 280 Fahrenheit: 820 | The range is greater than the lower limit and smaller than the upper limit |
| 58-64 | The 1st period for Mon...Sun | 2 | Byte1(MSB): Minute Byte2(LSB): Hour | Byte1: 0 Byte2: 6 | Byte1: 0-59 Byte: 0-23 |
| 65-71 | The 2nd period for Mon...Sun | 2 | Byte1(MSB): Minute Byte2(LSB): Hour | Byte1: 0 Byte2: 8 | Byte1: 0-59 Byte: 0-23 |



Z-Wave Parameter Settings

| Number | Name | Size | Information | Default | Possible Values |
|---------|-------------------------------------|------|----------------------------------------|---------------------------------|----------------------------------------------------------------------------|
| 72-78 | The 3rd period for Mon...Sun | 2 | Byte1(MSB): Minute Byte2(LSB): Hour | Byte1: 0 Byte2: 18 | Byte1: 0-59 Byte2: 0-23 |
| 79-85 | The 4th period for Mon...Sun | 2 | Byte1(MSB): Minute Byte2(LSB): Hour | Byte1: 0 Byte2: 22 | Byte1: 0-59 Byte2: 0-23 |
| 86-92 | The 1st heat SetPoint for Mon...Sun | 2 | n*0.1 Celsius or n*0.1 Fahrenheit | Celsius: 210 Fahrenheit: 700 | The range is greater than the lower limit and smaller than the upper limit |
| 93-99 | The 2nd heat SetPoint for Mon...Sun | 2 | n*0.1 Celsius or n*0.1 Fahrenheit | Celsius: 165 Fahrenheit: 620 | The range is greater than the lower limit and smaller than the upper limit |
| 100-106 | The 3rd heat SetPoint for Mon...Sun | 2 | n*0.1 Celsius or n*0.1 Fahrenheit | Celsius: 210 Fahrenheit: 700 | The range is greater than the lower limit and smaller than the upper limit |
| 107-113 | The 4th heat SetPoint for Mon...Sun | 2 | n*0.1 Celsius or n*0.1 Fahrenheit | Celsius: 165 Fahrenheit: 620 | The range is greater than the lower limit and smaller than the upper limit |
| 114-120 | The 1st cool SetPoint for Mon...Sun | 2 | n*0.1 Celsius or n*0.1 Fahrenheit | Celsius: 255 Fahrenheit: 780 | The range is greater than the lower limit and smaller than the upper limit |
| 121-127 | The 2nd cool SetPoint for Mon...Sun | 2 | n*0.1 Celsius or n*0.1 Fahrenheit | Celsius: 295 Fahrenheit: 850 | The range is greater than the lower limit and smaller than the upper limit |
| 128-134 | The 3rd cool SetPoint for Mon...Sun | 2 | n*0.1 Celsius or n*0.1 Fahrenheit | Celsius: 255 Fahrenheit: 780 | The range is greater than the lower limit and smaller than the upper limit |
| 135-141 | The 4th cool SetPoint for Mon...Sun | 2 | n*0.1 Celsius or n*0.1 Fahrenheit | Celsius: 280 Fahrenheit: 820 | The range is greater than the lower limit and smaller than the upper limit |
| 255 | Factory Restore | 1 | 1: Restore factory setting 0: Invalid | 0 | 0-1 |

Regulatory Information FCC Information:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This product generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: Reorient or relocate the receiving antenna. Increase the separation between the equipment and receiver. Connect the equipment to an outlet on a circuit different from that to which the receiver is connected. Consult the dealer or an experienced radio/TV technician for help. Please take attention that changes or modification not expressly approved by Ezlo Innovation could void the user's authority to operate the equipment. This equipment should be installed and operated with a minimum distance 20cm between the radiator and your body. Industry Canada ICES-003 Compliance This device meets the CAN ICES-3 (B)/NMB-3(B) standards requirements. This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device. Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful Communication. This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

1-Year Limited Warranty

We warrant this product to be free from defects in material and workmanship under normal and proper use for one year from purchase date of the original purchaser. We will, at its option, either repair or replace any part of its products that prove defective by reason of improper workmanship or materials. This limited warranty does not cover any damage to this product that results from improper installation, accident, abuse, misuse, natural disaster, insufficient or excessive electrical supply, abnormal mechanical or environmental conditions, or any unauthorized disassembly, repair or modification. This limited warranty shall not apply if: (i) the product was not used in accordance with any accompanying instructions, or (ii) the product was not used for its intended function. This limited warranty also does not apply to any product on which the original identification information has been altered, obliterated or removed, that has not been handled or packaged correctly, that has been sold as second-hand or that has been resold contrary to Country and other applicable export regulations.

You're now ready to enjoy smarter
home control.

