



## **Installation Guide**

ADC-T25 Smart Thermostat



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Grand Alarms Ltd.

# Installation Guide

## ADC-T25 Smart Thermostat

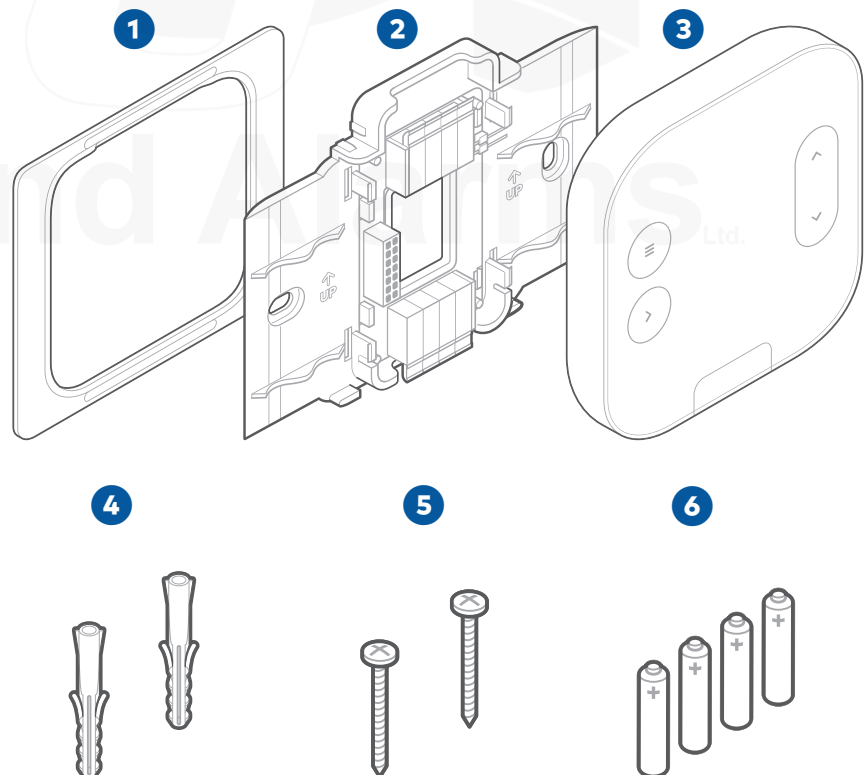


### Installation Precautions

- Before installing the Smart Thermostat or servicing the HVAC equipment, turn off power to the system.
- Leave power off until you have finished installing or servicing the HVAC equipment.
- Shorting the electric terminals at the control on the heating or cooling system is not recommended. Do not test the system this way.
- When testing the existing system or the new Smart Thermostat do not run the cooling system when it is cold outside as this may harm the compressor.
- Please wait for mild temperatures before testing the cooling system.
- You must follow all local codes and ordinances for wiring the system.
- This thermostat should only be powered by 4 AA alkaline batteries or a listed Class 2 power supply at 24 VAC (C-Wire or wall transformer)
- An amperage higher than 1 amp to each thermostat terminal may cause damage to the thermostat. Verify that the system is 24 VAC. If the old system is labeled as 120 V or 240 V or has wire nuts, the system is high voltage. Do NOT install this thermostat on a high voltage system. Contact a local HVAC professional for help.
- Before installing the Smart Thermostat or servicing the HVAC equipment, turn off power to the system.

### In the Box

- 1 Trim Plate
- 2 Wall Plate
- 3 Thermostat
- 4 Drywall anchors (2)
- 5 Wall Screws (2)
- 6 AA Batteries (4)



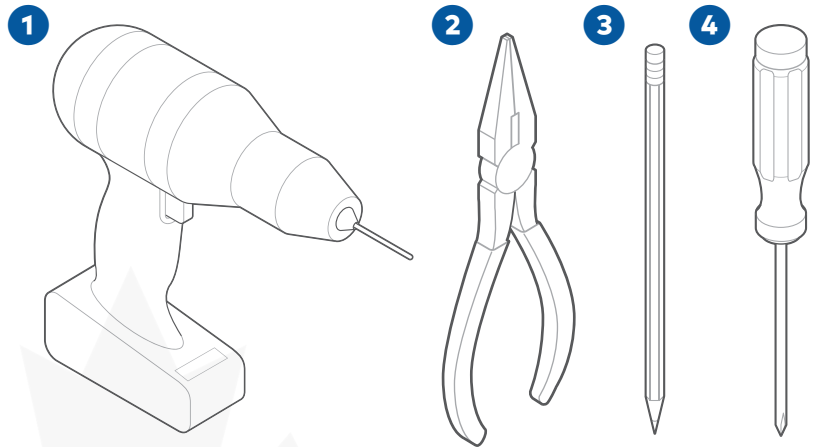
# Installation Guide

## ADC-T25 Smart Thermostat



### Recommended Tools

- 1 Power drill - 3/16" (#13) drill bit
- 2 Needle nose pliers
- 3 Pencil to mark mounting location
- 4 Phillips screwdriver



### Thermostat Overview

- 1 Menu ≡: Enter menu
- 2 Select >: Select/confirm menu item
- 3 Current Mode
- 4 Ambient Temperature
- 5 Target Temperature
- 6 UP: Adjust target temperature up / Navigate menu
- 7 Down: Adjust target temperature down / Navigate menu



### Modes

- Heat: Will activate the heating system.
- Cool: Will activate the air conditioner.
- Auto: Will select either the Heat or Cool mode automatically.
- Emergency: For use with heat pumps only. Will bypass the heat pump and enable auxiliary/emergency heat.
- Off: the system will not heat or cool

### Installation Considerations

#### Location

- If replacing an existing thermostat, the new Smart Thermostat can be mounted in its place.
- If a new location is desired it will be necessary to move the wiring. New installations and relocations should follow the accompanying guidelines to ensure the most accurate temperature reading and ease of use.
- Mount on an inside wall, approximately 5 ft. (1.5 m) above the floor in a frequently used room.
- Avoid areas that are exposed to large temperature variances, such as: direct sunlight, near an AC unit, above or below auxiliary heat and air vents, and drafts from windows or exterior doors. Be aware of what is on the other side of the wall where the installation is occurring. Do not install on walls adjacent to unheated rooms, stoves, or housing hot water pipes. Exterior walls are also not ideal locations for installation.
- Damp areas will not only affect the humidity reading but could lead to corrosion and shorten the lifespan of the thermostat.
- Install in a location with good air circulation. Stagnant air will not accurately reflect the rate of temperature change in the room.
- Avoid areas behind open doors, corners, and alcoves.
- Wait until construction and painting are finished before installing.

#### Preparation

- 1 If you will add the Smart Thermostat to a Z-Wave network, power on the controller and verify it is communicating.
  - If the Z-Wave network supports SmartStart, use MobileTech to scan the QR code found on the Thermostat or the box.
- 2 Test the existing system.
  - Verify that the heating and/or cooling system is operating properly before you try to install the new Smart Thermostat.

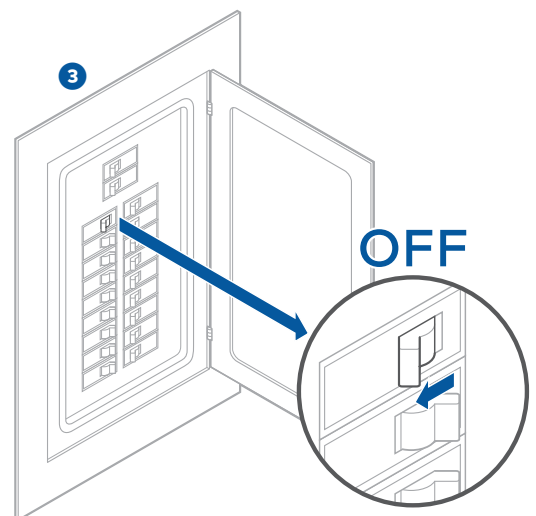
**Caution:** Do not test the system by shorting electric terminals. Do not test the cooling system if it is cold outside, as this may harm the compressor.

- 3 Turn off power to the HVAC unit.
  - Turn all heating and cooling systems off. This can be done at the circuit breaker.

**Caution:** Do not remove the existing thermostat until power has been turned off at the circuit breaker.

- 4 Remove the existing thermostat.
  - Remove the cover from the existing thermostat. Do not disconnect the wires yet.
  - Make sure the wires are identified correctly. If you have an unidentified wire, it may be necessary to identify where the wire connects to the heating or air conditioning equipment.

**Caution:** Wiring can vary for each manufacturer. Identify all wiring designations before removing it from the existing thermostat.



# Installation Guide

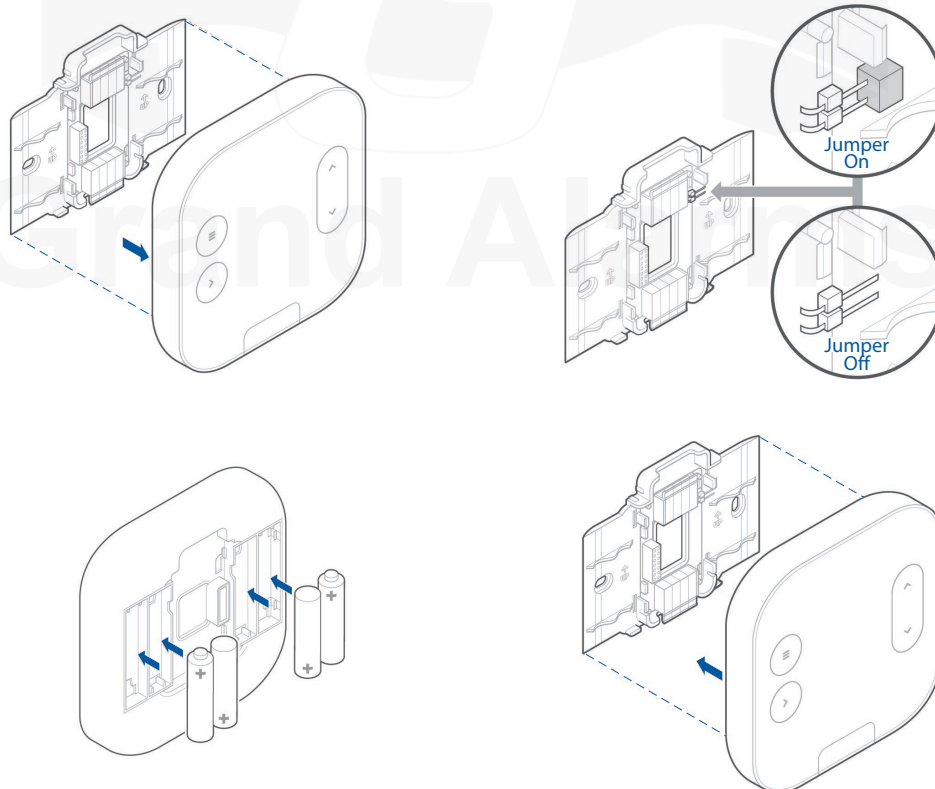
## ADC-T25 Smart Thermostat



- Take a picture of the wires before you detach them from the existing thermostat for future reference.
- After all wires are identified and a picture has been taken, disconnect all the wires and remove the existing thermostat. Remember to secure the wires so they do not fall into the wall.
- ⑤ Prep wires (if needed)
  - Ensure the wires are a proper gauge between 16-24 AWG (1.3 – 0.5 mm)
  - Make sure wires have exposed straight ends of the appropriate length.

### Thermostat Installation

- ① Level and mount the backplate to the wall with supplied hardware.
- ② Insert wires into their designated terminals. See table for details.
  - If you have R, connect to RC
  - If you have RH and RC, remove the black jumper in the top-right corner of the backplate. See the graphic for details.
  - Z can be used for the following options: W2, Y2, H, DH, O/B Zoning or Ventilation
  - If you have extra wires, do not install them in the new thermostat. Please contact your local HVAC professional for additional assistance



**CAUTION:** Do NOT insert more than one wire to a terminal.

## Setup

Depending on the system type and configuration, the thermostat may request the following information during setup:

**Heat Type:** Tells the thermostat whether it should turn on the fan during a heating cycle.

- Forced air heating: Electric
- Radiant floor heating: Fossil
- Fossil/electric baseboard heating: Fossil
- Radiators: Fossil
- If unsure: Unsure

**Backup Heat Type:** Tells the thermostat what type of auxiliary/backup heating the heat pump uses.

- Electric: This is the most common type of backup heating.
- Dual Fuel: Some heat pumps use a fossil furnace (for example, natural gas, oil, or propane) for backup heating.
- If unsure: The system will automatically detect which heat type is appropriate for your system.

**Z-Terminal:** A “dynamic” terminal that can be used for a variety of different system functions. If using the Z terminal, you must specify its function.

**Note:** Z uses the RC power and W2 is not available in a dual power system configuration where the RC-RH jumper is removed. Accessories powered by the transformer connected to RH will not operate if the RC-RH jumper is removed.

**W2:** Second stage of heat or aux

**Y2:** Second stage of cool or heat pump

**H:** Humidifier

**DH:** Dehumidifier

**EX:** Ventilation (HRV, VRV, air baffle)

## Test the System

**CAUTION:** Do not test the cool mode during cold weather. Wait for mild weather to fully test the system.

- After successfully installing and setting up your new Smart Thermostat, please test the Smart Thermostat and HVAC system.
- If the Smart Thermostat will control a heating system, test the heating system by changing the mode to HEAT and adjusting the setpoint to be higher than the current room temperature. Verify the heating system turns on and that the room is starting to warm up.
- If the Smart Thermostat will control a cooling system, test the cooling system by changing the mode to COOL and adjusting the setpoint to be lower than the current room temperature. Verify the cooling system turns on and that the room is starting to cool down.

### Operation

- 1 Press any button to wake up the thermostat
- 2 After waking, the display will show the current mode and ambient temperature. Setpoint is only in Heat/Cool mode.
- 3 The display will turn off after 10 seconds to conserve energy. The thermostat will continue to operate while the display is off.

### Changing the mode and setpoint

- 1 Press the Menu ≡ button
  - 2 Select > Mode menu item
  - 3 Select > desired mode
- The modes are Heat, Cool, Auto, Emer and Off.
  - Emer mode is available for Heat Pump systems.
  - When in Emer mode, the display will read EMER when the thermostat wakes up.
  - In Auto, the active setpoint is indicated by the operating state above the ambient temperature. The buttons on the display will also be illuminated to indicate the active setpoint. The LEDs will be illuminated red when heating is active and blue when cooling is active.

### Using and Changing the Batteries

If the thermostat batteries are low, replace the batteries with four new AA batteries.

- 1 Remove the thermostat from the Wall Plate by pulling the thermostat straight out and off the wall.
- 2 Take out the existing batteries.
- 3 Insert the new batteries following the specified polarity markings on the thermostat.
- 4 Return the thermostat to the Wall Plate by pressing the thermostat body firmly into the back plate mounted to the wall. Ensure that the pins on the body are correctly aligned with the back plate. Failure to do so could cause damage to the thermostat.

### Battery Advisory

Always replace the batteries as soon as you have low battery levels, indicated by a Low Battery warning flashing on the thermostat. If the batteries drain, the thermostat could leave the HVAC system on or off, overheating or freezing the home.

- Always replace the batteries at least once a year. This will protect the thermostat from damage and corrosion by leaking batteries.
- If the home is unoccupied for a month or more, such as with vacation homes, you should replace the batteries as a preventive measure against battery failure while you are away.
- Always use new batteries as replacements.

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### Humidity Control

The thermostat can adjust the humidity level in your home by directly controlling an external humidifier, dehumidifier, or by using the cooling system to dehumidify. For an external humidifier or dehumidifier, the thermostat must be configured to use the Z terminal. For controlling dehumidification by the cooling system, a cooling system must be present without an external dehumidifier. In this case, the thermostat will extend your cooling cycles to reach your dehumidification setpoint. To change humidification/dehumidification settings refer to the Customer Website.

### Ventilation

The thermostat can control a ventilation system (HRV, VRV, or air baffle) using the Z terminal. By default, the thermostat will operate the ventilation system for 15 minutes every hour. To change the ventilation settings, refer to the advanced configuration settings through the Customer Website or Mobile App. If the settings are not available, please contact your service provider.

### Additional Configuration

Although the default settings will be appropriate in most cases, you also have the option to change all configuration settings via the Display. Open the Settings menu and proceed to the relevant settings.

**CAUTION:** Be careful when changing advanced configuration settings. These configuration settings should only be changed by those familiar with heating and cooling system parameters. Contact your local HVAC professional for help.

### Troubleshooting

Problem	Cause	Tip
Heating or cooling does not turn on when the setpoint is above or below the room temperature.	To prevent damaging the compressor, the Thermostat inserts a delay when cycling the compressor. This delay is only a few minutes long.	<ul style="list-style-type: none"> <li>• Change the setpoint to 2 degrees beyond the current setpoint and wait 5 minutes, at which point the system should turn on.</li> <li>• If this does not work, contact your local HVAC professional.</li> </ul>
Why does my heat pump appear to heat when it should be cooling, or cooling when it should be heating?	Some heat pumps use the O terminal, while others use the B terminal for their reversing valve. Your heat pump may be the opposite type from how your thermostat is wired.	<ul style="list-style-type: none"> <li>• Try switching the O/B configuration setting through your online account.</li> <li>• If this does not fix the problem, contact your local HVAC professional for help.</li> </ul>
How do I add/delete the thermostat from the Z-Wave network?		<ul style="list-style-type: none"> <li>• Refer to the Z-Wave controller's documentation on removing devices from the network</li> <li>• Select the Settings Icon</li> <li>• Select Installer</li> <li>• Select Network, and select Add/Remove</li> </ul>

### Troubleshooting

Problem	Cause	Tip
My Smart Thermostat says my wiring is invalid.	<p>The wiring setup on your Smart Thermostat cannot be confirmed if any of the following is true:</p> <ul style="list-style-type: none"> <li>• No wires detected</li> <li>• No RC wire detected</li> <li>• Y detected without G</li> <li>• O/B detected without Y</li> </ul>	<p>Check wiring against the provided Terminal Guide and ensure all wires are fully inserted into the Back Plate wire terminals. Re-configure your Smart Thermostat. If the problem persists, contact your local HVAC professional for help.</p>
I cannot select my Fuel Type during wiring setup.	<p>The Fuel Type can only be configured if a W wire is present.</p>	<p>Ensure your wiring setup meets the minimum requirements and re-configure your Smart Thermostat.</p>
How do I reconfigure my Smart Thermostat?	<p>My wiring has changed and I need to re-configure the thermostat.</p> <p>I made a wiring configuration mistake during setup and want to start again.</p>	<ul style="list-style-type: none"> <li>• Press the Menu ☰ button</li> <li>• Select Installer</li> <li>• Select Wiring</li> <li>• Select Reconfig</li> </ul>
I see "Low Battery" even after a recent battery replacement for my Smart Thermostat.	<p>The thermostat may be powered by the HVAC systems common wire or batteries. If the thermostat batteries are low or not installed, the thermostat will notify the user when it is turned on.</p> <p>The user is encouraged to install batteries even when running with a common wire. This allows the thermostat to still communicate with the Z-Wave controller when the HVAC system has lost power. The thermostat is capable of reporting these power losses and other issues.</p>	<p>Ensure batteries are properly installed. Always use fresh alkaline batteries. Do not use Lithium batteries with the Smart Thermostat.</p> <p>If the problem persists, contact your local HVAC professional for help.</p>