



Installation Manual

Need Support? Visit help.quext.io

© Copyright 2021. EDST, Inc.

All rights reserved. The content, including but not limited text and images, contained in this User Manual may not be stored, reproduced, transmitted, copied, or used in any form by any means, graphic, electronic, or mechanical, including but not limited to photocopying, recording, scanning, digitizing, taping, Web distribution, information networks, information storage and retrieval systems, or otherwise, without the express written permission of [name of copyright holder], other than for the purposes of fair use as allowed by the Copyright Act of 1976 or any amendment thereof. A violation of this copyright is an infringement under the Copyright Act and its amendments and may be subject to legal action.

Contents

Thermostat Installation	4
General Information.....	4
What's in the Box	4
Tools and Documents Required	4
Thermostat overview.....	4
Indicators	5
Thermostat Installation Steps.....	6
Wiring Connections	8
 Troubleshooting and FAQs	9
Steps to Test Quext Smart Thermostat	9
Heating Output.....	9
Cooling Output	9
Fan Output.....	9
Regulatory Information	10

Thermostat Installation



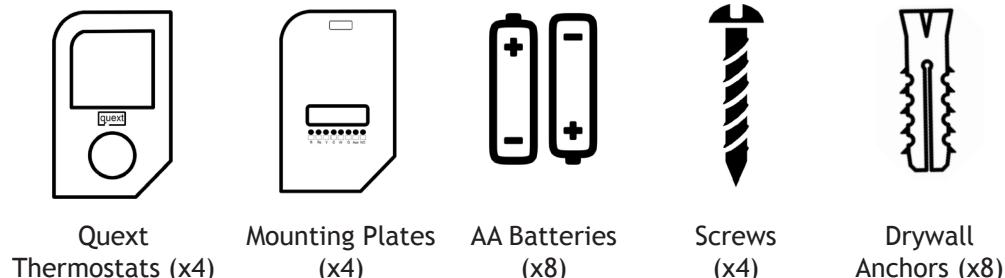
Thermostat Installation

General Information

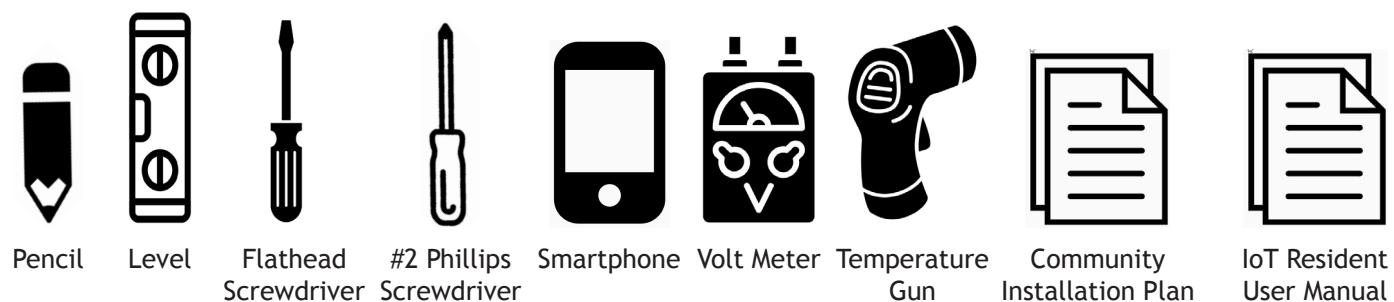
This guide is for Quext technicians who install Quext Smart Thermostats into resident units. Read these instructions carefully. If you need help at any time during the installation, escalate to Quext.

What's in the Box

There are 4 Quext Smart thermostat sets to a box. Each box has 4 of each of the following:



Tools and Documents Required



Thermostat overview

The thermostat dial lets you adjust the current temperature setting and access menus of additional features.

The LED screen displays temperature set points, override durations, menus, and indicators.

Item	Description
A	Network connection
B	Infrared sensor
C	Temperature set point
D	Thermostat mode
E	Fan mode
F	Control method
G	Dial
H	Current room temperature
	See next page for full list of indicators



Indicators

The table below describes each indicator on the thermostat display.



Indicator	Description	Indicator	Description
	<ul style="list-style-type: none"> Solid: Connected to the network Flashing: Attempting to connect Dark: No network connection 	COOL HEAT AUTO OFF	Thermostat mode <ul style="list-style-type: none"> COOL: The system cools to the set temperature HEAT: The system heats to the set temperature AUTO: The system maintains the temperature between the upper and lower set points OFF: The system is turned off
	Property control mode; contact Property Management	AUTO ON CIRC	Fan mode <ul style="list-style-type: none"> AUTO: The fan operates only while the system is cooling or heating CIRC: The fan operates for a set amount of time every hour to keep air circulating ON: The fan operates continuously
	Power issue; contact Property Management <ul style="list-style-type: none"> Solid: AA batteries low Flashing: 24V power not present 		
	System mode		
	Fan active; also menu option to change fan mode		
	To set the control method (Smart/Local)		
	Operation not allowed		
	Delay in progress		
CODE	System error; contact Property Management		
HOURS	The number displayed is the duration in hours of the temporary override		
TEMPORARY	The current setting is a temporary override of the scheduled operation		

Thermostat Installation Steps

1. Greet the Resident

- A. Approach the resident's unit.
- B. Knock twice and announce, "Maintenance."
- C. Greet the resident and explain to them that you are there to replace their thermostat. Don't forget to smile!

2. Validate the Current Unit Environment

- A. Locate the existing thermostat in the unit and write down the temperature that is displayed.
- B. Verify the unit is maintaining temperature.
- C. Document if the temperature does not match.
- D. Turn on the heat and verify that warm air is coming out of the vents. If it is not, make a note of it. Turn on the air conditioning and verify that cool air is coming out of the vents. If it is not, make a note of it.

3. Turn Off the Power

- A. Locate the unit's breaker panel. Refer to the Community Installation Plan for direction.
- B. Disconnect the power to the HVAC system at the breaker panel. If you cannot determine which breakers belong to the HVAC system, notify the resident, if home, then turn off the main circuit breaker.
- C. Confirm that the power is off by attempting to activate the HVAC system using the existing thermostat. Test with volt meter to verify.

4. Remove the Existing Thermostat

- A. Pull the existing thermostat off of its base/mounting plate.
- B. Document the wiring connections.
- C. Disconnect all the wiring from the thermostat.
- D. Remove the existing thermostat and set it aside. Do not throw the thermostat away.
- E. Remove the existing mounting plate.

5. Install the Mounting Plate

- A. Referring to the Community Installation Plan, identify where the Quext Smart Thermostat is to be installed.
- B. Install the new mounting plate.
- C. Using a level, ensure that the mounting plate is level.
- D. Wire the air handler, if required. Refer to the air handler wiring diagrams from the manufacturer's manual.
*Do not mount thermostat until completion of Step 7. See [Install the Batteries on page 7](#).

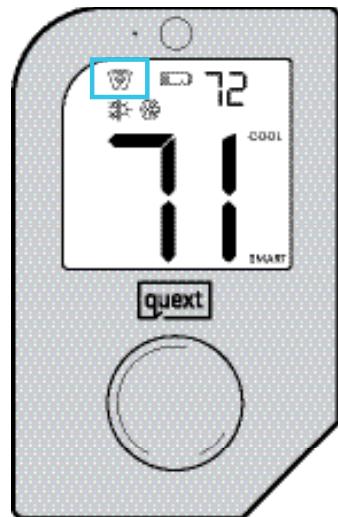
6. Turn the Power Back On

- A. Go back to the breaker panel and turn on the power.

B. Using a volt meter, test the power to the mounting plate between R and C terminals. The power must be between 24V and 30V. If it's not between 24V and 30V, perform a pull test to confirm that the common wire is connected and troubleshoot accordingly.

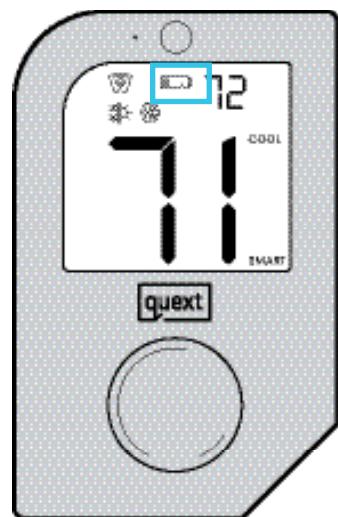
7. Install the Batteries

- Put the AA batteries in the Quext Smart Thermostat.
- Confirm that the Quext Smart Thermostat is powered by the batteries. The unit should show temperature and LoRa start to connect. The network connection icon will begin to flash on the thermostat.



8. Install and Test the Quext Smart Thermostat

- Secure the Quext Smart Thermostat on the mounting plate. Do not press hard, it should easily snap into place.
- Turn the Quext Smart Thermostat to heat mode at two or more degrees below the measured point, and verify that warm air is coming out of the vents. Turn the Quext Smart Thermostat to AC mode at two or more degrees below the measured point, and verify that cool air is coming out of the vents. If the air is not warm or cold, check for possible loose connection with the wiring (refer to Troubleshooting FAQs).
- Confirm that the LoRa symbol displays on the Quext Smart Thermostat. If it does not, there may be a connection issue. Refer to Troubleshooting FAQs.
- Look at the face and observe the power.
 - If no battery symbol is displayed either flashing or solid: 24V is present and batteries are good.
 - If a flashing battery symbol is present: 24V is not present, but the batteries are good. To troubleshoot the 24V power, refer to Troubleshooting FAQs.
 - If solid battery symbol is present: 24V is present, but the batteries are low and need to be replaced.



9. Set the Quext Smart Thermostat

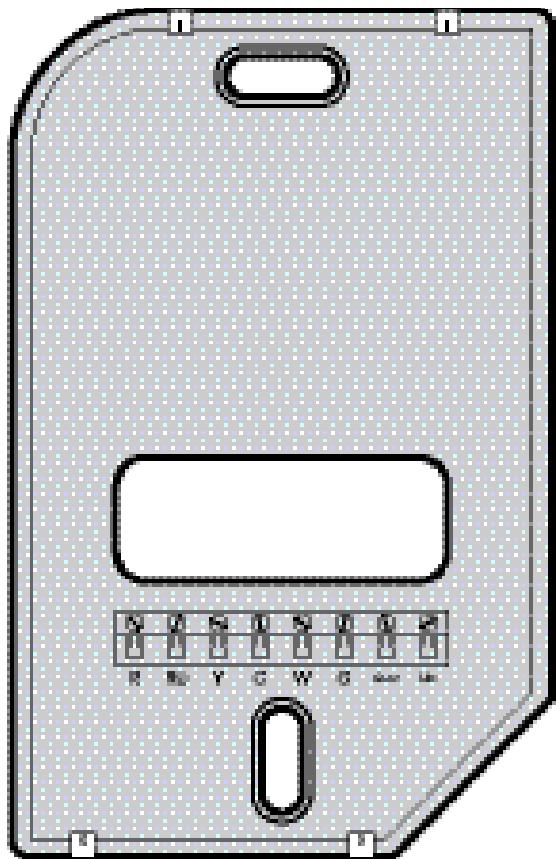
- Set the thermostat to the temperature you recorded at Step 2A. If you need help, refer to the [IoT Resident User Manual](#).

10. Assign the Thermostat in the Database

- Go to the Quext IoT Web App.
- Select the Site Management tab, then select Thermostats.
- Select the desired thermostat (Dev UI/serial number should match the number in the database).
- In the detailed view, select Select Location.
- Select the desired building and the desired unit, then select Done.
- Select Save.



Wiring Connections



Terminal	Conventional 1 Stage Heating, 1 Stage Cooling
R	24VAC Power from Heating Transformer
Rc	Not Used
Y	Compressor Relay
C	24VAC Common Wire
W	Heat Relay
G	Fan Relay
Aux	Not Used
NC	Not Used

Troubleshooting and FAQs

The Quext Smart thermostat manages the HVAC system via an AC voltage-powered solid-state interface. Upon demand, it sources +24vac (R/Rc) to the Heating (W), Cooling (Y), and Fan (G). The solid-state interface does not operate in the same manner as conventional open-contact relays and thus cannot be function tested in the same manner.

The Quext Smart Thermostat can be powered by either 24 volts AC or by internal batteries. **The solid-state interface does not operate when the thermostat is operating on internal batteries only.** For testing, the Quext Smart Thermostat must be powered by 24 volts AC.

Steps to Test Quext Smart Thermostat

Heating Output

Note: This is when powered by 24 volts AC

- A. Turn the rotary knob counterclockwise. Check to ensure the **Mode** icon in the upper left quadrant of display is flashing
- B. Press the knob one time. A list should appear on the right side of the screen.
- C. Rotate the knob counterclockwise until the flashing selection has moved to the **HEAT** selection.
- D. Press the knob one time. The display will then show the setpoint temperature for the **Heating** output.
- E. Rotate the knob as required to select the desired setpoint temperature and press the knob one time
 - **Note:** the desired setpoint temperature should be set a minimum of 2 degrees above the ambient temperature for the Heating cycle to be initiated.
- F. The **Mode** icon should then appear in the upper left quadrant of the display. After a period of 15 seconds the **Fan** icon will also appear.
 - A multitest meter can now be used to test the thermostat heat control output.
- G. Set the meter to read **AC voltage**.
- H. Measure voltage between **W** (heat) and **C** (common).
 - This measurement should nominally measure as 24 volts.

Cooling Output

- A. Turn the rotary knob counterclockwise. The **Mode** icon in the upper left quadrant of the display should begin flashing.
- B. Press the knob one time. A list should appear on the right side of the screen.
- C. Rotate the knob counterclockwise until the flashing selection has moved to the **COOL** selection.
- D. Press the knob one time. The display will then show the setpoint temperature for the **Cooling** output.
- E. Rotate the knob as required to select the desired setpoint temperature and press the knob one time.
 - **Note:** the desired setpoint temperature should be set a minimum of 2 degrees below the ambient temperature for the Cooling cycle to be initiated.
- F. The **Mode** and **Fan** icons should then display in the upper left quadrant of the display.
 - A multitest meter can now be used to test the thermostat cooling control output.
- G. Set the meter to read **AC voltage**.
- H. Measure voltage between **Y** (cool) and **C** (common).
 - This measurement should nominally measure as 24 volts.

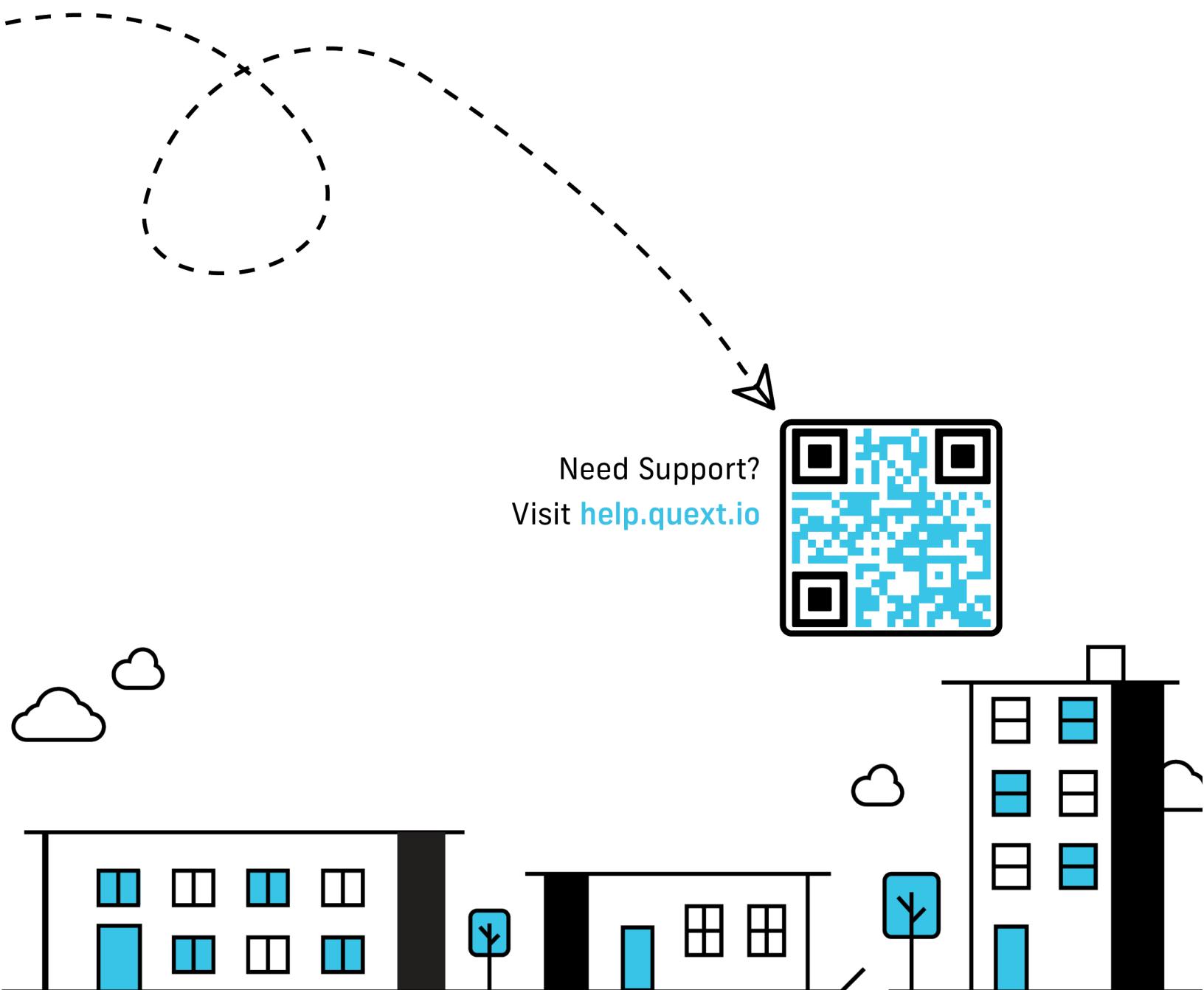
Fan Output

- A. Turn the rotary knob counterclockwise. The **Mode** icon in the upper left quadrant of the display should begin flashing.
- B. Rotate the knob one click clockwise. The **Fan** icon should begin flashing.
- C. Press the knob one time. A menu displaying **AUTO**, **ON** and **CIRC** will appear in the lower right quadrant of the display.
- D. Rotate the knob one click clockwise. The **ON** icon will begin flashing.
- E. Press the knob one time.
 - A multitest meter can now be used to test the thermostat fan control output.
- F. Set the meter to read **AC voltage**.
- G. Measure voltage between **G** (Fan) and **C** (common).
 - This measurement should nominally measure as 24 volts.

Regulatory Information

Per FCC 15.19(a)(3) and (a)(4), 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.

The FCC regulations provide that changes or modifications not expressly approved by Quext LLC could void your authority to operate this equipment. Maintain a distance of 20 cm (8 inches) from your body to be consistent with how the device is tested for compliance with RF exposure requirements.



© Copyright 2021. EDST, Inc. All Rights Reserved.
Patent Numbers: 10825273, 10803685, 10912370