⚠ **WARNING**

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life.

Installation and service must be performed by a licensed professional HVAC installer (or equivalent) or a service agency.

General

This Smart Hub replacement kit is used to replace any previous version of the iComfort Ultra Smart Thermostat smart hub component.

- Read this entire document, noting which procedures pertains to your specific equipment and system requirements.

- Make sure that all wiring conforms to local and national building and electrical codes and ordinances.

- Do not Install on voltages higher than 30VAC.

- Do not exceed 300 feet (91 meters) run when using 18 or 22 AWG thermostat wire.

- Do not allow load from any thermostat connection to be more than 1 AMP.

Removing Old Smart Hub

Obtain a copy of the original installation report from the dealer portal which can be used during commissioning once the original Smart Hub has been replaced.

1. Make note of homeowner account information and home Wi-Fi access information.
2. Go to the homeowner web portal and remove the original system from the account.
3. Disconnect power to the entire system.
4. Remove the access cover from Smart Hub.
5. Take a picture or make a drawing showing the control wires and what terminals they are connected too.
6. Disconnect control wiring.
7. Remove all the screws securing the Smart Hub to wall.
8. Lift up and out to remove Smart Hub from the key hole.
9. Discard old Smart Hub.

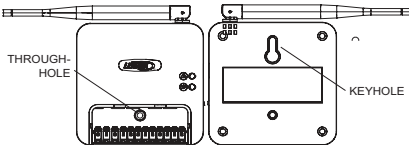(Smart Hub 1.0 - 12X98)

THROUGH-HOLE

KEYHOLE
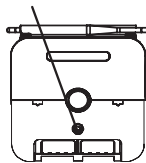
FRONT

BACK

Front of Smart Hub shown with access cover removed.
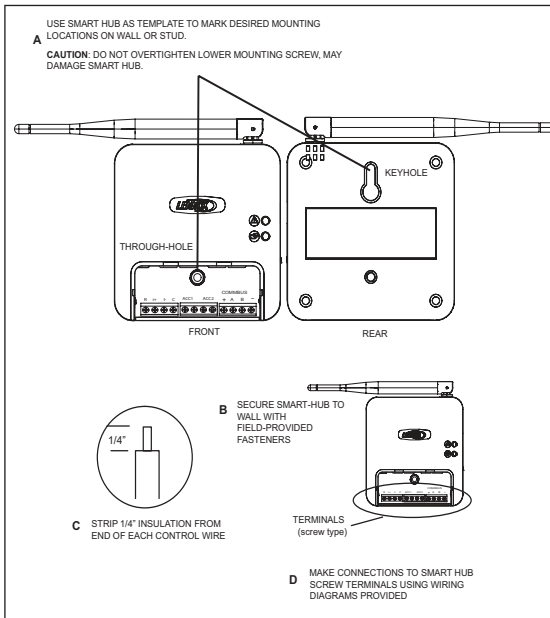
(Smart Hub 2.0 - 15X98)

THROUGH-HOLE

KEYHOLE

FRONT

REAR

Front of Smart Hub shown with access cover removed.

Installing New Smart Hub

1. Remove new Smart Hub from shipping container.
2. Remove the access cover from the Smart Hub.
3. Mount the Smart Hub on the wall with key hole support (see "Installation Considerations" on page 8).
4. Use the through-hole screw previously removed to secure the Smart Hub.
5. Reconnect all wiring that was documented during the removal of the old Smart Hub.
6. Replace the access cover.
7. Unfold the antenna and position as noted during removal of the original Smart Hub.
8. Restore power to system.
9. Use the previous mentioned installation report if available and any other additional information noted to recommission the system.

A USE SMART HUB AS TEMPLATE TO MARK DESIRED MOUNTING LOCATIONS ON WALL OR STUD.

CAUTION: DO NOT OVERTIGHTEN LOWER MOUNTING SCREW, MAY DAMAGE SMART HUB.

KEYHOLE

THROUGH-HOLE

FRONT

REAR

B SECURE SMART-HUB TO WALL WITH FIELD-PROVIDED FASTENERS

TERMINALS (screw type)

1/4"

C STRIP 1/4" INSULATION FROM END OF EACH CONTROL WIRE

D MAKE CONNECTIONS TO SMART HUB SCREW TERMINALS USING WIRING DIAGRAMS PROVIDED

Smart Hub LED Indicators, Terminals and External Components

System Status LED

System Commissioning Status LED

Antenna

USB Port

Dealer commissioning and manual reboot button
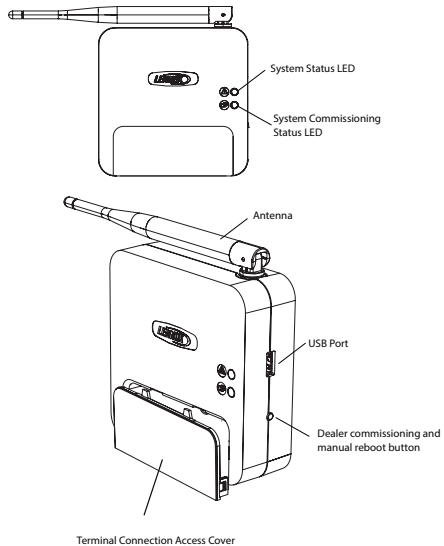
Terminal Connection Access Cover

Table 1. System and Commissioning Status Indicators

⚠ *System Status Indicators*

LED Color	System Status	Description
Green	System is normal	No system errors (Default state)
Red	HVAC Error	System has critical alert which needs installer attention.
Cyan	Alerts	Indoor unit is not connected or unable to communicate.
Magenta	Thermostat Error	Mag-mount or HD display not connected.
Amber	Wi-Fi	Either Wi-Fi is not connect, no Wi-FI is within range, or Wi-Fi hardware error.

⊛ *Commissioning Status Indicators*

Blue	System is normal	No mobile device is directly connected using Wi-Fi to the Smart Hub.
Green	LED is blinking	Commissioning button has been activated and Smart Hub is awaiting for a connection with a mobile device..
Green	LED is solid	Mobile device is connected to the Smart Hub.

NOTE: *When multiple errors are present the Smart Hub will display each condition for one second on and one second off. Then it will display the next color error code indicator and continue this sequence until all active errors have been displayed. Then all active errors are repeated continuously. Display priority for these conditions are HVAC, Alerts, Thermostat and then Wi-Fi errors.*

Smart Hub 2.0 and 3.0 Terminal Arrangement Differences

S30 Smart Hub 3.0   S30 Smart Hub 2.0
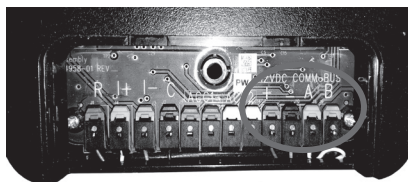
PLEASE NOTE that the terminal arrangement is different between the two Smart Hubs.

Figure 1. Terminal Arrangement Differences

Table 2. Smart Hub Terminal Designations, Order and Wiring Requirements

Terminal Designation	Description	Thermostat Wiring
R	24VAC input	18AWG unshielded
I+	RS-BUS I+	22AWG shielded (recommended) (2-pair conductor only)
I-	RS-BUS I-	
C	24VAC return	18AWG unshielded
ACC1	Accessory 1 and 2 (typically can be used for 1 or 2 speed ventilators and fresh air damper)	18AWG unshielded
ACC2		
12+	12VDC output	18AWG unshielded
A	Communications bus A	22AWG shielded (recommended) (2-pair conductor only)
B	Communications bus B	
12-	12VDC return	18AWG unshielded

IMPORTANT

Use 2-pair, 18AWG unshielded thermostat cable (field-provided) for power terminals (R, C, 12+ AND 12-). Recommend using 2-pair 22AWG shielded thermostat cable for communications terminals (I+, I-, A and B) which will help eliminate any noise interference.

Installation Considerations

Things to consider when installing the Smart Hub:

- Install the Smart Hub near the indoor unit such that there is a direct path to the approximate location of the home Wi-Fi access point (the signal is not blocked by the indoor unit or duct work, for example).

- The Smart Hub can be attached to a vertical surface such as a wall stud or roof truss web, or to a horizontal surface such as a floor or ceiling joist, or a roof rafter.

- The Smart Hub antenna should be positioned such that they are roughly vertical, no matter the orientation of the Smart Hub, itself.

- Do not install the Smart Hub on the indoor unit, duct work, or other equipment that could induce vibration in the Smart Hub.

- Do not install the Smart Hub on or near large metal objects. This could adversely affect the range and directional coverage of the Smart Hub Wi-Fi signal.

- If the Smart Hub MUST be installed on a metal object, orientate the antenna perpendicular to the metal surface.

- In all cases, the Smart Hub antenna orientation may need to be adjusted to obtain best Wi-Fi results.

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