Robertshaw®

DELUXE PROGRAMMABLE THERMOSTATS

Models 9851i, 9865i and 9870i

Quick Start Installation Manual


111-340

Installation DOs and DON'Ts

DO

- Shut off all power to system before installing.
- Read entire manual before installing.
- Make sure that all wiring conforms to national and local codes.

DO NOT

- Install on voltages greater than 30 VAC.
- Short jumper across terminals on the gas valve or at the system control.
- Connect ground to any terminal in this unit.
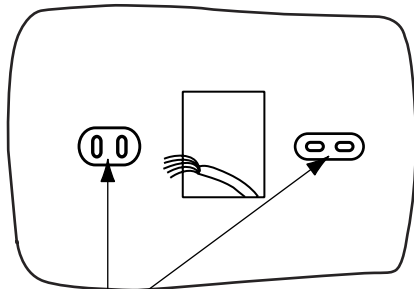- Install on outside walls or in direct sunlight.

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① Select location for installation.

1"

1- 1/2" Cut out opening

a

b

1/4"

Remove 1/4" of insulation from end of each wire

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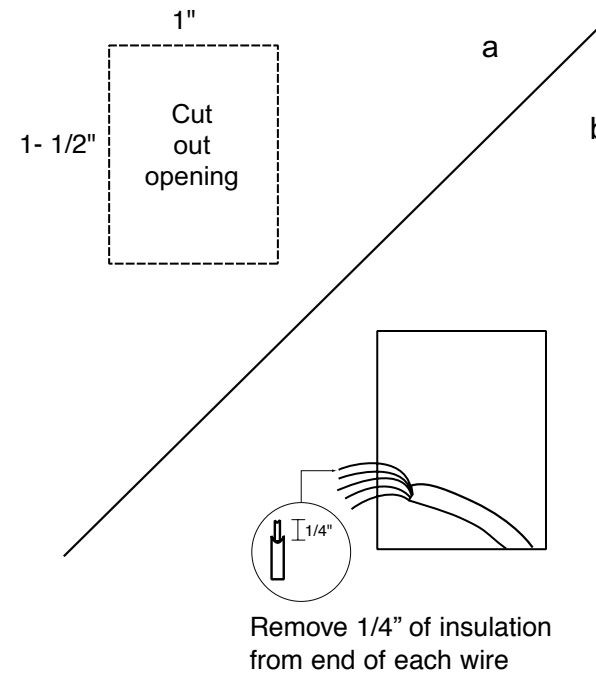
② Open the case with a screwdriver. Place in slot and gently pry forward at all four locations.
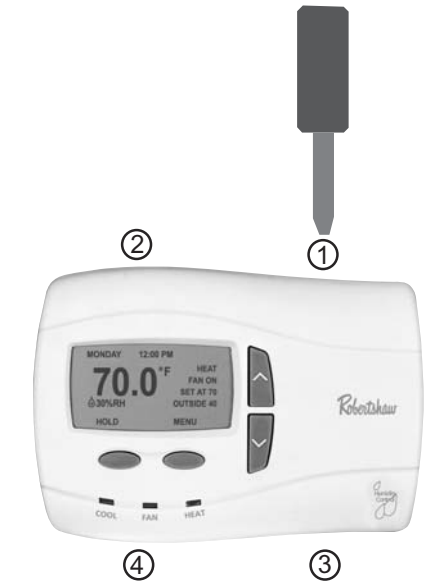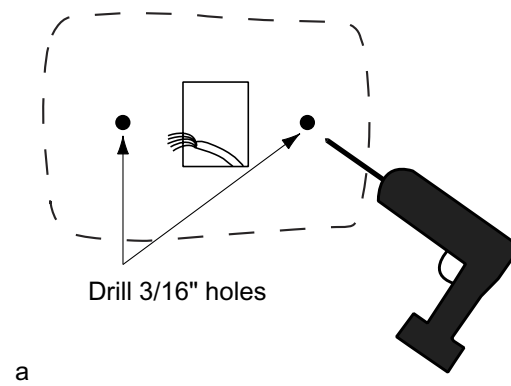

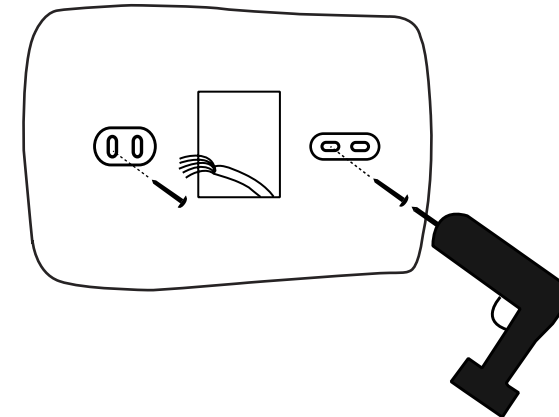**③** Mark mounting hole locations on wall.

Mark mounting hole locations on wall using unit base as template.

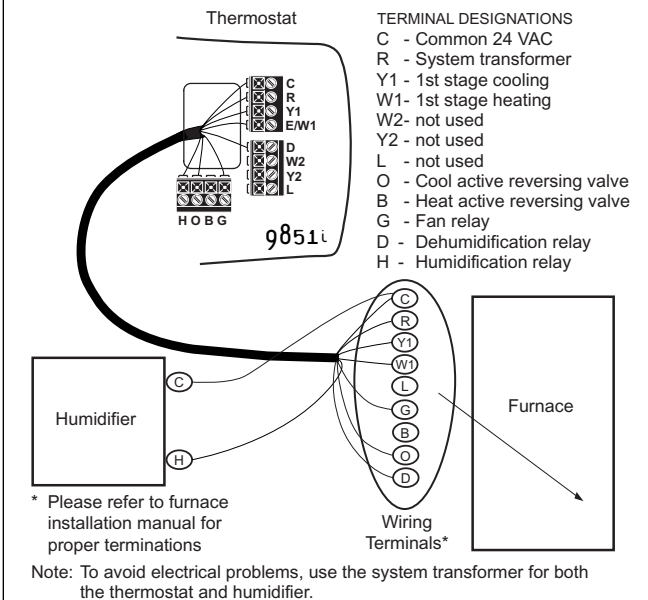**④** Drill $3/16$" holes at marked locations on wall. Insert plastic anchors into holes.

Drill 3/16" holes

a

b

Press anchors into holes until flush.

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⑤ Align unit base over plastic anchors embedded in wall and secure with the screws provided.

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⑥ Connect wiring between unit and furnace. For Model 9851i (1H/1C furnace applications):

Thermostat

TERMINAL DESIGNATIONS
C - Common 24 VAC
R - System transformer
Y1 - 1st stage cooling
W1- 1st stage heating
W2- not used
Y2 - not used
L - not used
O - Cool active reversing valve
B - Heat active reversing valve
G - Fan relay
D - Dehumidification relay
H - Humidification relay

C
R
Y1
E/W1
D
W2
Y2
L

H O B G

9851i

Humidifier

Furnace

Wiring Terminals*

* Please refer to furnace installation manual for proper terminations

Note: To avoid electrical problems, use the system transformer for both the thermostat and humidifier.

⑦ *NOTE:* For 9851i single stage heat pump applications, place a jumper between the W1 and Y1 terminals.
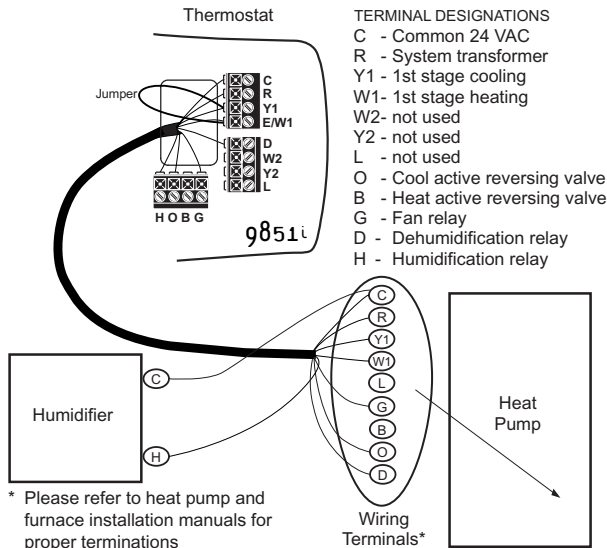
Thermostat

Jumper

C
R
Y1
E/W1
D
W2
Y2
L
H O B G

9851i

TERMINAL DESIGNATIONS
C - Common 24 VAC
R - System transformer
Y1 - 1st stage cooling
W1 - 1st stage heating
W2 - not used
Y2 - not used
L - not used
O - Cool active reversing valve
B - Heat active reversing valve
G - Fan relay
D - Dehumidification relay
H - Humidification relay

Humidifier

C
R
Y1
W1
L
G
B
O
D

Heat Pump

C

H

Wiring Terminals*

* Please refer to heat pump and furnace installation manuals for proper terminations

Note: To avoid electrical problems, use the system transformer for both the thermostat and humidifier.

⑧ Connect wiring between unit and furnace. For Model 9865i (2H/2C furnace applications):
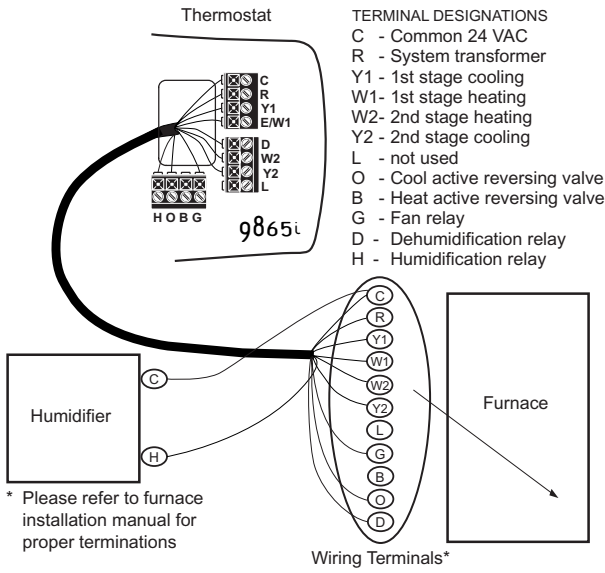
Thermostat

C
R
Y1
E/W1
D
W2
Y2
L
H O B G

9865i

TERMINAL DESIGNATIONS
C - Common 24 VAC
R - System transformer
Y1 - 1st stage cooling
W1 - 1st stage heating
W2 - 2nd stage heating
Y2 - 2nd stage cooling
L - not used
O - Cool active reversing valve
B - Heat active reversing valve
G - Fan relay
D - Dehumidification relay
H - Humidification relay

Humidifier

C
R
Y1
W1
W2
Y2
L
G
B
O
D

Furnace

C

H

Wiring Terminals*

* Please refer to furnace installation manual for proper terminations

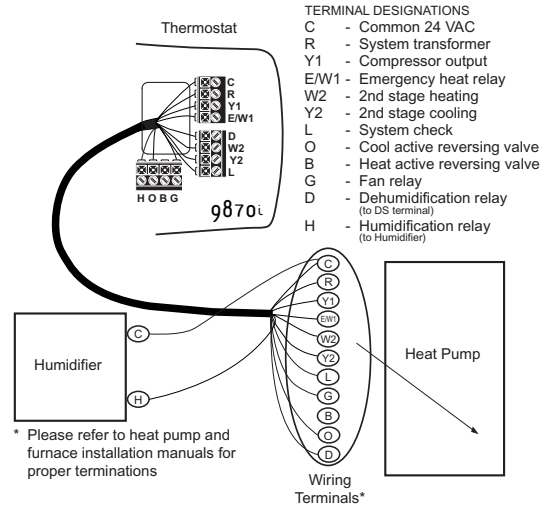Note: To avoid electrical problems, use the system transformer for both the thermostat and humidifier.

⑨ Connect wiring between unit and heat pump. Jumper W2 to E/W1 for control of auxiliary heat in both 2nd stage and emergency modes. For Model 9870i (2H/2C heat pump applications):

Thermostat

C
R
Y1
E/W1
D
W2
Y2
L
H O B G

9870i

TERMINAL DESIGNATIONS
C   - Common 24 VAC
R   - System transformer
Y1 - Compressor output
E/W1 - Emergency heat relay
W2 - 2nd stage heating
Y2 - 2nd stage cooling
L   - System check
O   - Cool active reversing valve
B   - Heat active reversing valve
G   - Fan relay
D   - Dehumidification relay
      (to DS terminal)
H   - Humidification relay
      (to Humidifier)

Humidifier

C
R
Y1
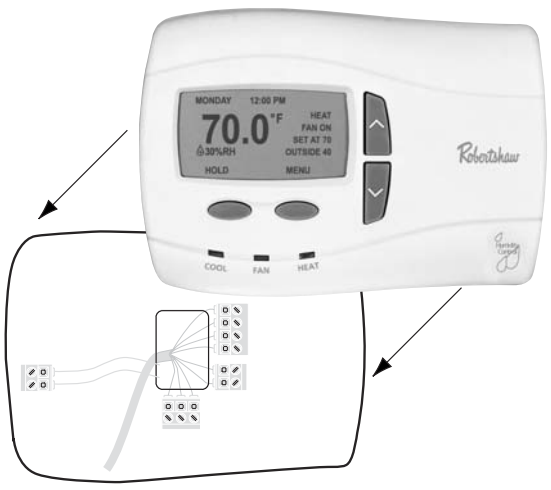Sw
W2
Y2
L
G
B
O
D

Heat Pump

C

H

Wiring Terminals*

* Please refer to heat pump and furnace installation manuals for proper terminations

Note: To avoid electrical problems, use the system transformer for both the thermostat and humidifier.

⑩ Connect wiring between the thermostat and the indoor sensor (9020i) and the outdoor sensor (9025i), if used. Use twisted pair wiring (22AWG minimum) with a maximum length of 300 feet (or 100m).

Indoor sensor terminal block

To sensors

Outdoor sensor terminal block
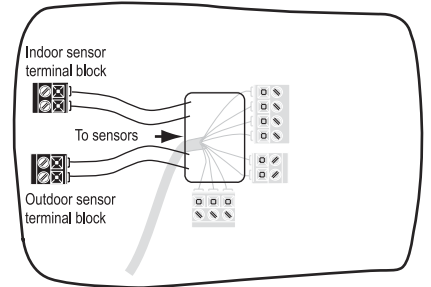
⑪ Replace cover on thermostat. Turn on power to unit and proceed with programming per instructions on the display or in the user's manual.

MONDAY 12:00 PM
70.0 °F HEAT
            FAN ON
            SET AT 70
            OUTSIDE 40
30%RH
HOLD   MENU

Robertshaw

COOL   FAN   HEAT

⑫ **Set Your Name**

To set your name and phone number into the thermostat press MENU, select INSTALLER SETTINGS, and CONTACT INFORMATION. The screen at the bottom left should appear.

To enter your name press EDIT. Use the UP or DOWN button to scroll through the characters. (DOWN gets you to the letters faster.) After each letter press NEXT.

When you are done entering your name, press ACCEPT.

CONTACT INFORMATION
—

BACK   EDIT

CONTACT INFORMATION
AIR EXPERTS

ACCEPT   NEXT
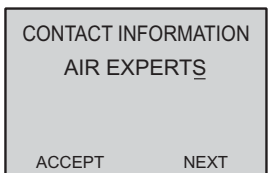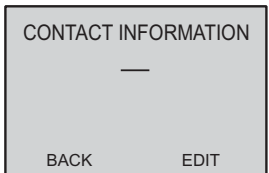
⑬ **Set Your Phone Number**

Now enter your phone number. Use the UP and DOWN arrow to select the first number. Press NEXT. When you have completed entering your phone number, press ACCEPT.

The screen will return to the INSTALLER SETTINGS. Finish setting the thermostat for the application.

CONTACT INFORMATION
AIR EXPERTS

1

ACCEPT   NEXT

CONTACT INFORMATION
AIR EXPERTS
1-555-555-1212

ACCEPT   NEXT

Recycling Thermostat

If this thermostat REPLACES a thermostat that contains mercury, DO NOT discard the old thermostat in the regular trash. Mercury is harmful to humans and the environment. For this reason, do not open, break, or crush the mercury cell. If mercury leaks from a damaged cell, DO NOT touch or handle mercury with bare hands. Use protective, non-absorbent gloves to place mercury into a sealable container. Fill the container with sand or another absorbent material and seal the container completely.

Return the mercury or mercury products, in a sealed container, to Invensys Climate Controls or a local recycling center for proper disposal. If you have any questions, call Robertshaw technical support at 1-800-445-8299.

Invensys Climate Controls
28C Leigh Fisher Blvd.
El Paso, TX 79906
Attn: Mercury Recycling Center

invensys.

Climate Controls Americas
515 South Promenade Avenue
Corona, CA 92879-1736
United States of America
Made in Mexico
www.about-i-series .com

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