SE7600W Series

Install Guide for Water Source Heat Pump



CONTENTS

Safety Information 2
Before You Begin 3
Installation 5
Network Ready 6
Terminal Identification 6
Main Outputs Wiring 6
Typical Applications 7
Remote Sensor Accessories 7
Remote Temperature Sensors 8
Controller Menu Flow Chart 9
Configuration and Status Display Instructions 10

NOTICE

IMPORTANT NOTICE RELATED TO PRODUCT PART NUMBERS

For the latest model and part numbers, please refer to "SE8000 and SE7000 Series Room Controllers Catalog, version 10" (028-6155-10), which can be found on https://ecobuilding.schneider-electric.com.

The installation instructions provided in this document contain information on active and retired products. The latter are no longer sold by Schneider Electric or its partners.

Refer to the "7000 Series Room Controllers and Historical Offer Product Withdrawal Process (PWP) Project Product Announcement" (PA-00723) for a list of replacement part numbers, which can also be found on https://ecobuilding.schneider-electric.com.

Failure to follow these instructions can result in confusion or order delays.

Schneider Electric

SAFETY INFORMATION

Important Information

Read these instructions carefully and look at the equipment to become familiar with the device before trying to install, operate, service or maintain it. The following special messages may appear throughout this bulletin or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of either symbol to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, **will result in** death or serious injury.

⚠ WARNING

WARNING indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

⚠ CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **could result in** minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury. The safety alert symbol shall not be used with this signal word.

Please Note

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.

BEFORE YOU BEGIN

Loss of Control

⚠ WARNING

LOSS OF CONTROL

- The designer of any control scheme must consider the potential failure modes of control paths and, for certain critical control functions, provide a means to achieve a safe state during and after a path failure. Examples of critical control functions are emergency stop and over travel stop.
- Separate or redundant control paths must be provided for critical control functions.
- System control paths may include communication links. Consideration must be given to the implications of anticipated transmission delays or failures of the link.[1]
- Each implementation of equipment utilizing communication links must be individually and thoroughly tested for proper operation before being placed into service.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

California Proposition 65

⚠ WARNING

CALIFORNIA PROPOSITION 65

This product can expose you to chemicals including Lead and Bisphenol A (BPA), which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

Failure to follow these instructions can result in birth defects or other reproductive harm.

Electrostatic Discharge

NOTICE

STATIC SENSITIVE COMPONENTS

Circuit boards and option cards can be damaged by static electricity. Observe the electrostatic precautions below when handling controller circuit boards or testing components.

Failure to follow these instructions can result in equipment damage.

Observe the following precautions for handling static-sensitive components:

- Keep static-producing material such as plastic, upholstery, and carpeting out of the immediate work area.
- Store static-sensitive components in protective packaging when they are not installed in the drive.
- When handling a static-sensitive component, wear a conductive wrist strap connected to the component or drive through a minimum of 1 megohm resistance.
- Avoid touching exposed conductors and components leads with skin or clothing.

Installation

NOTICE

INSTALLATION

- The system must be installed correctly by a qualified technician.
- If replacing an existing Room Controller, label wires before removal of Controller.
- Electronic controls are static sensitive devices. Discharge yourself correctly before manipulating and installing Room Controller.
- A short circuit or wrong wiring may permanently damage Room Controller or equipment.
- All Room Controllers are designed for use as operating controls only and are not safety devices. These instruments have undergone rigorous tests and verification prior to shipping to ensure proper and reliable operation in the field. Whenever a control failure could lead to personal injury and/or loss of property, it becomes the responsibility of the user/installer/electrical system designer to incorporate safety devices (such as relays, flow switch, thermal protections, etc.) and/or an alarm system to protect the entire system against such catastrophic failures. Tampering with the devices or unintended application of the devices will result in a void of warranty.
- This device must be installed to provide a separation distance of at least 8in (20cm) from all persons and must not be located or operating in conjunction with any other antenna or transmitter.
- Refer to the Room Controller User Interface Guide for information on how to configure the Room Controller.

Failure to follow these instructions can result in equipment damage.

1 For additional information about anticipated transmission delays or failures of the link, refer to NEMA ICS 1.1 (latest edition), *Safety Guidelines for the Application , Installation, and Maintenance of Solid State Control* or its equivalent

Location

NOTICE

LOCATION

- Do not install on an exterior wall.
- Do not install behind a door.
- Do not install in areas with direct heat source.
- Do not install near any air discharge grill.
- Do not install in areas exposed to direct sunlight.
- Ensure Room Controller has sufficient natural air circulation.
- Ensure wall surface is flat and clean.
- Ensure external thermal sensor wirings are away from noisy electrical sources.
- Install 1.3 to 1.5 meter (52 to 60 inches) above the floor.
- Perform preventive maintenance on the damper and Variable Air Volume (VAV) box, according to the supplier documentation.

Failure to follow these instructions can result in equipment damage.

Cleaning the Room Controller

NOTICE

CLEANING THE ROOM CONTROLLER

- Use a soft, pre-moistened lint-free cloth for cleaning.
- Avoid getting moisture in openings.
- Do not spray anything directly on the Room Controller or use compressed air.
- Do not use caustic/corrosive products, ammonia, solvents or any cleaning product containing alcohol or grit.
- Never use tools directly on the touchscreen.
- Never use paint on the Room Controller.
- Do not drop or crush the Room Controller, or allow it to come into contact with liquids.
- Do not use a damaged device (such as one with a cracked screen).

Failure to comply with these recommendations will result in damage to the unit and void the manufacturer's warranty.

INSTALLATION

Inspection

- Remove security screw on the bottom of the Room Controller cover.
- Open unit by pulling on bottom side of Room Controller (Figure-1).
- Remove wiring terminals from sticker.
- Read FCC ID and IC label installed in cover.

Location

- Do not install on outside wall.
- Install away from any direct heat source.
- Do not install near air discharge grill.
- Do not locate in direct sun radiation.
- Nothing should restrict vertical air circulation to Room Controller.

Installation

1. Swing open Room Controller PCB to left by pressing two PCB retaining tabs (Figure-2).
2. Pull cables 6" out from wall.
   Ensure wall surface is flat and clean.
3. Insert cable into central hole of base.
4. Align base and mark location of two mounting holes on wall ensuring proper side of base is upward.
5. Install screw anchors in wall.
6. Insert screws in mounting holes on each side of base (Figure-2).
7. Gently swing back circuit board on base and push until tabs lock.
8. Strip each wire 1/4 inch from end.
9. Insert each wire according to wiring chart (page 4).
10. Gently push excess wiring back into hole in base.
11. Reinstall wiring terminals in correct locations (Figure-3).
12. Reinstall cover (top side first) and gently push any extra wire length back into hole in wall.
13. Install security screw.

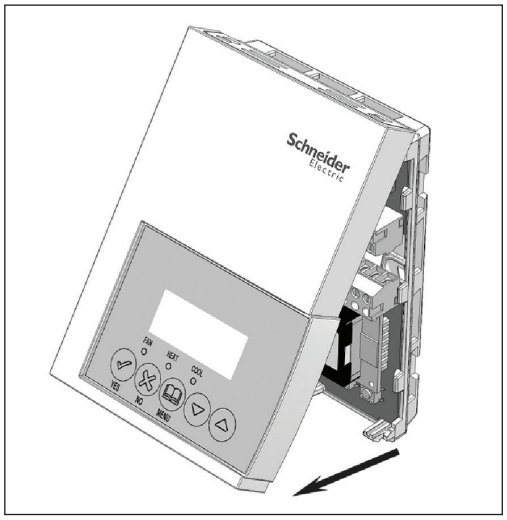


Figure-1 Opening the Cover

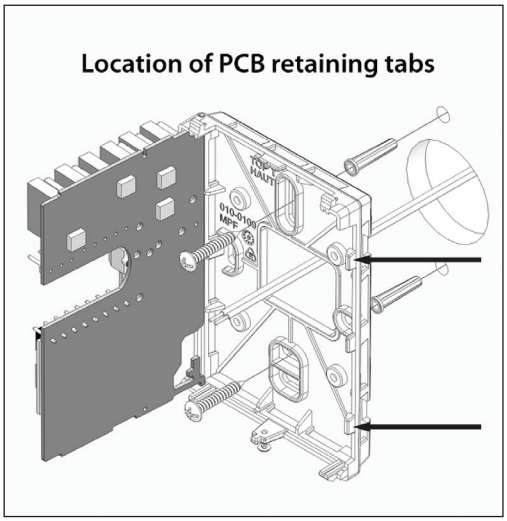


Figure-2 Opening the PCB

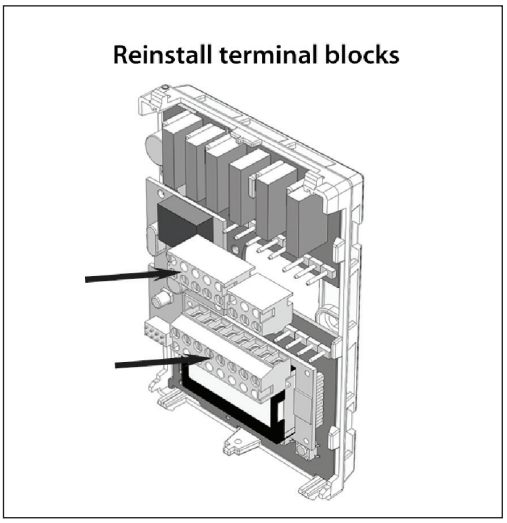


Figure-3 Terminal Block Reinstall

NETWORK READY

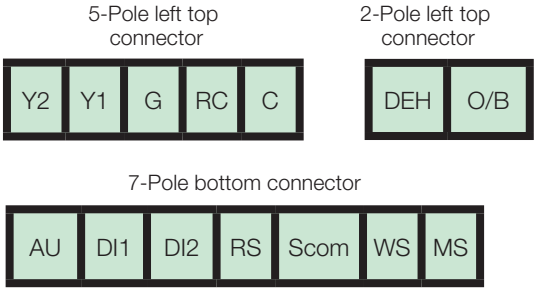
- All Schneider Electric SE7600 series Room Controllers (TEC) are designed for stand-alone (Network Ready) operation.
- They can be fully integrated into your choice of automation systems using the available communication adapter options.
- If required, stand-alone (Network Ready) TECs can be field retrofitted with the following communication adapters:
  - VCM7000V5045W wireless Zigbee® communication adapter.
  - VCM7600V5045B BACnet® MS-TP® communication adapter.

TERMINAL IDENTIFICATION

Water Source Heat Pump		
Part Number	SE7652W	SE7600W
Schedule	Yes	No
Top left terminal block		
Y2	X	X
Y1	X	X
G	X	X
RC	X	X
C	X	X
Top right terminal block		
DEH	X	X
O/B	X	X
Bottom terminal block		
Aux	X	X
DI1	X	X
DI2	X	X
RS	X	X
Scom	X	X
WS	X	X
MS	X	X

MAIN OUTPUTS WIRING

Screw Terminal Arrangement



Wiring Notes

Note 1

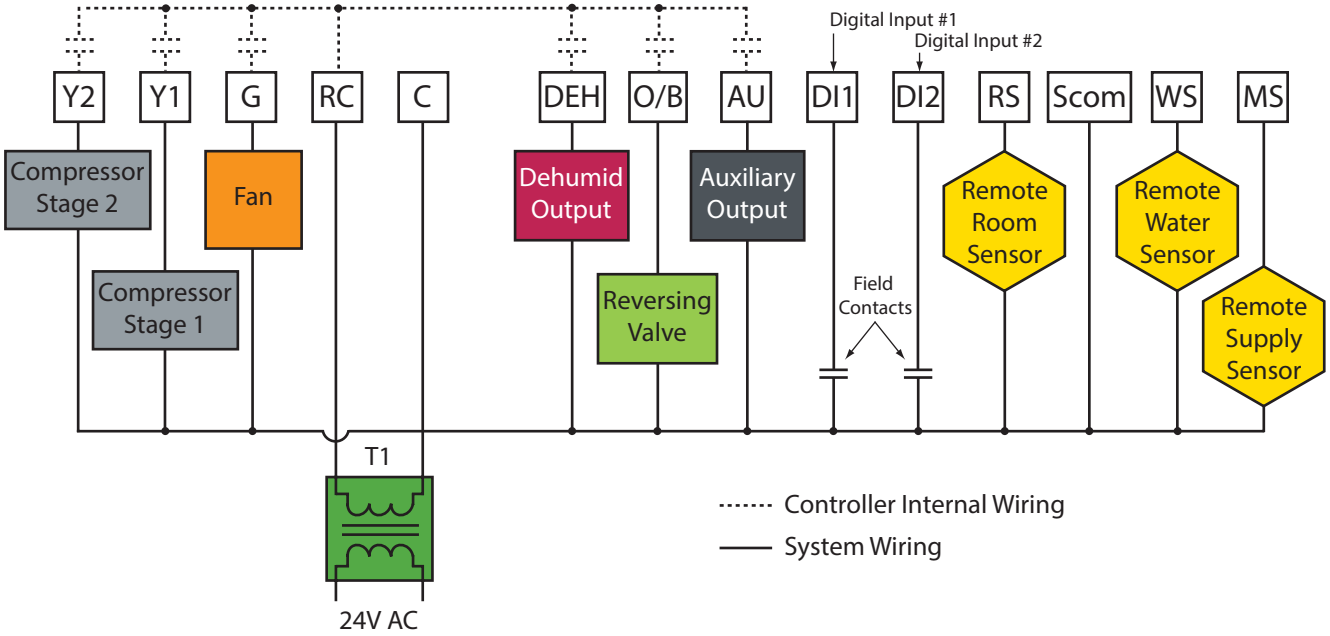
Electromechanical contacts are to be used with the digital inputs. Electronic triacs cannot be used as mean of switching for the input. The switched leg to the input for the input to activate is terminal C (common).

Note 2

The transformer of the unit provides power to the Room Controller and the additional loads that will be wired to the Room Controller.

TYPICAL APPLICATIONS

SE7600W5X45(X)
Water Source Heat pump / Without Schedule



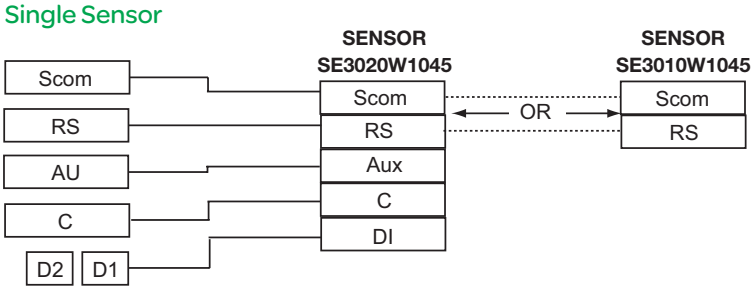
REMOTE SENSOR ACCESSORIES

Applicable Models

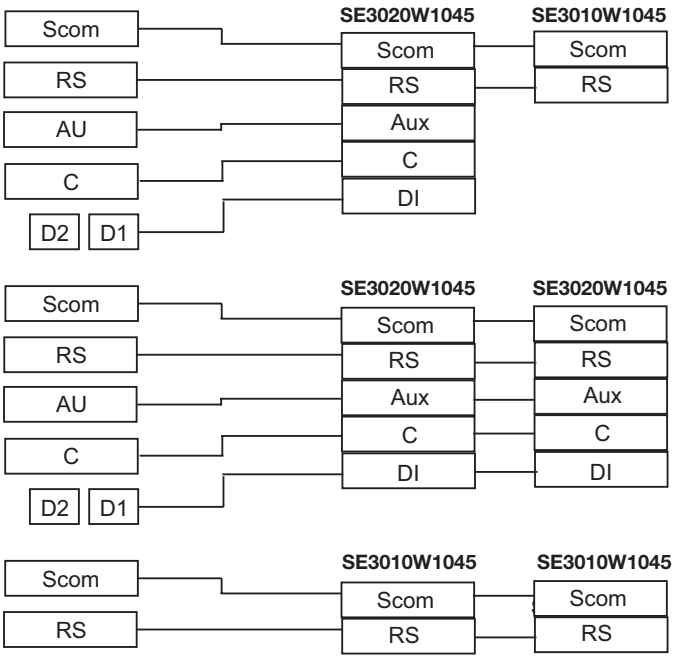
Model	Description	Application	Picture
SE3010W1045	Room sensor	• Remote room sensing • 3 thermistors with 2 dip switches are provided with each sensor for various averaging combinations	
SE3020W1045	Room sensor with temporary override key and occupancy LED	• Remote room sensing with override key and occupancy LED • 3 thermistors with 2 dip switches are provided with each sensor for various averaging combinations	

REMOTE TEMPERATURE SENSORS

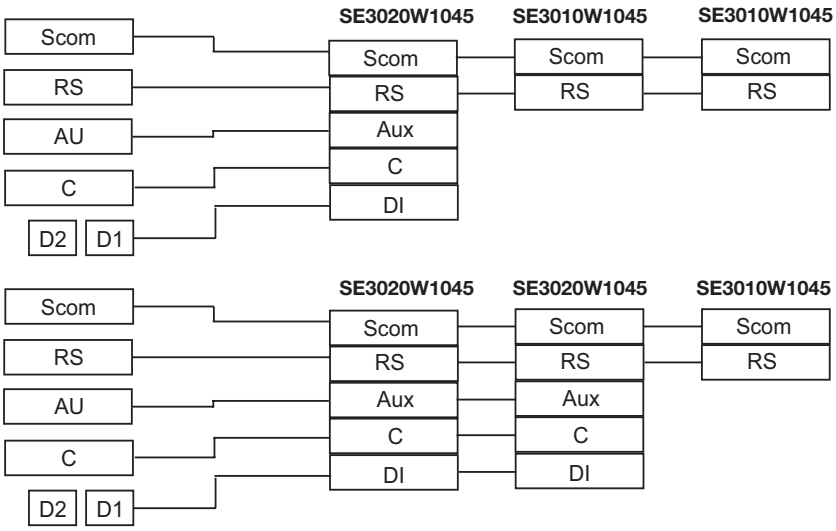
Single Sensor



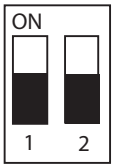
Two Sensor Averaging Application



Three Sensor Application



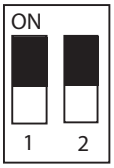
Temp. Sensor DIP Switch Settings



One Sensor:
S2-1 = ON
S2-2 = ON

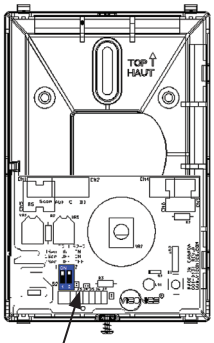


Two Sensors, averaging:
S2-1 = OFF
S2-2 = ON



Three Sensors:
S2-1 = OFF
S2-2 = OFF





SE3020W1045
Remote temperature sensor DIP switch location

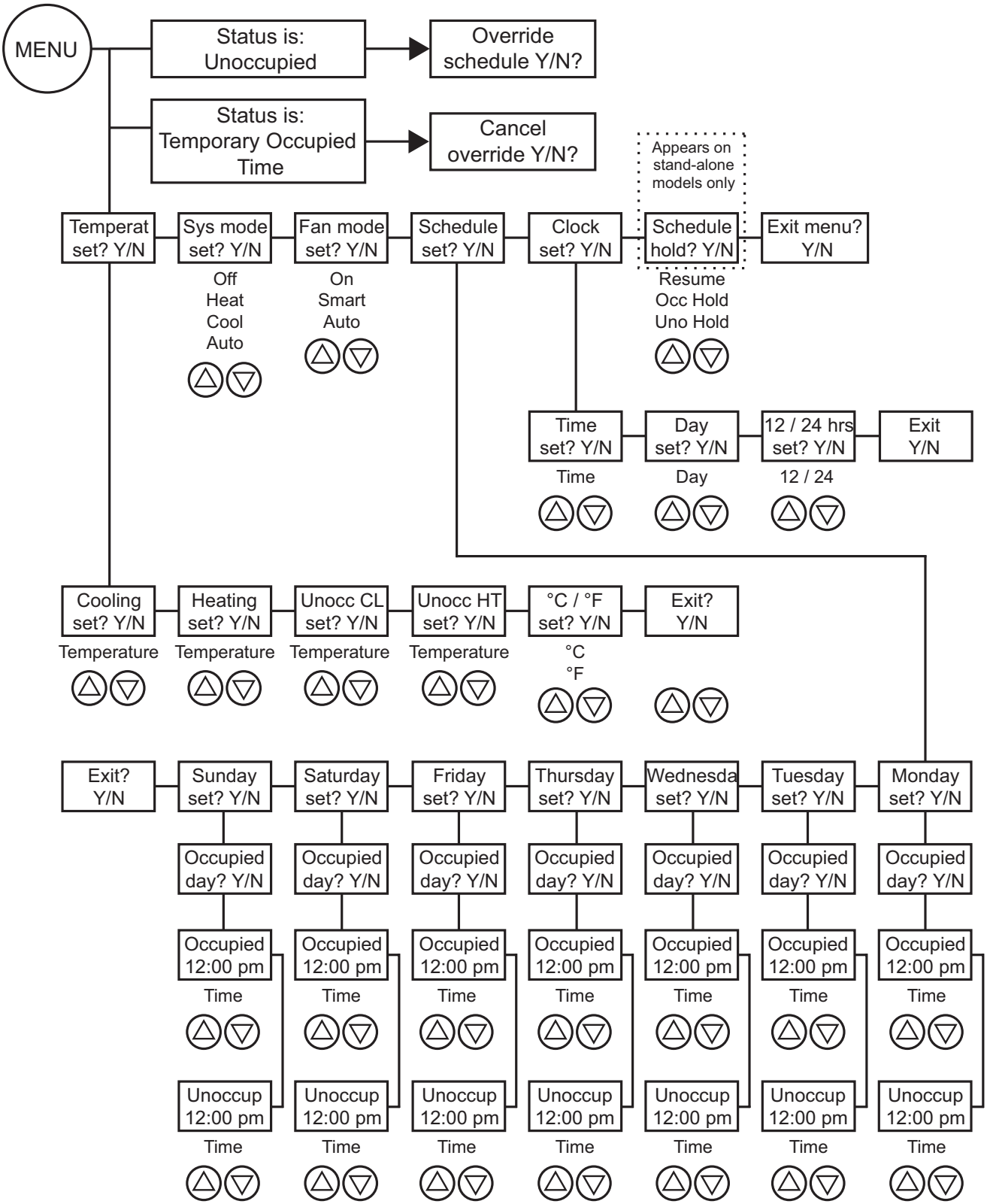
Temperature vs. resistance chart for 10 Kohm NTC thermistor

°C	°F	Kohm
-40	-40	324.3197
-35	-31	234.4009
-30	-22	171.3474
-25	-13	126.6109
-20	-4	94.5149
-15	5	71.2430
-10	14	54.1988
-5	23	41.5956
0	32	32.1910
5	41	25.1119
10	50	19.7390
15	59	15.6286
20	68	12.4601
25	77	10.0000
30	86	8.0694
35	95	6.5499
40	104	5.3467
45	113	4.3881
50	122	3.6202
55	131	3.0016

($R_{25°C}$ = 10KΩ±3%, B25/85°C = 3975K±1.5%)

CONTROLLER MENU FLOW CHART

(Prompts may not all be present depending on the controller model selected.)



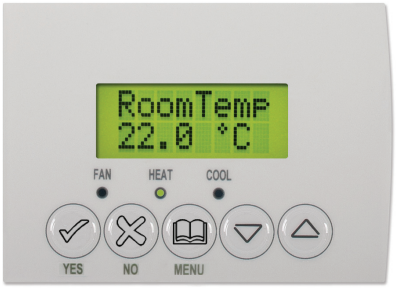
CONFIGURATION AND STATUS DISPLAY INSTRUCTIONS

Status Display

The TEC (Room Controller) features a two-line, eight-character display. A low-level, always-active backlight can be seen only at night.

Left unattended, the TEC shows an auto scrolling display that indicates the status of the system. Each item is scrolled one by one with the back lighting in low level mode. Pressing any key will cause the back light to increase to high level.

Manual scrolling of each menu item is achieved by pressing the YES (scroll) key repetitively. The last item viewed will be shown on the display for 30 seconds before returning to automatic scrolling. Temperature is automatically updated when scrolling is held.



FAN	When any of the fan speeds are ON, the FAN LED will illuminate.
HEAT	When heating & reheat is ON, the HEAT LED will illuminate.
COOL	When cooling is ON, the COOL LED will illuminate.

LED OPERATION	HEATPUMP MODELS
Fan LED on	When Fan terminal G operates
Heating LED on	When terminal Y1 operates in heating mode
Cooling LED on	When terminal Y1 operates in cooling mode

Outdoor air temperature

- The outdoor air temperature display is only enabled when the outdoor air temperature sensor is connected.
- A maximum range status display of 50 °C (122 °F) indicates a shorted sensor. Associated functions, such as mode lockouts and economizer function are automatically disabled.
- A minimum range status -40 °C (-40 °F) indicates an open-circuited sensor or a sensor not connected. Associated functions, such as mode lockouts and economizer function are automatically disabled.

Sequence of auto-scroll status display

ROOM TEMP.	CLOCK STATUS	SYSTEM MODE	SCHEDULE STATUS	OUTDOOR TEMP.	ALARMS
x.x °C or °F XX % RH	Monday 12:00 AM	Sys mode Auto	Occupied	Outdoor x.x °C or °F	Service
		Sys mode Off	Occupied hold		Frost ON
		Sys mode Heat	Unoccup		SetClock
		Sys mode Cool	Unoccup hold		Filter
					Fan lock

Alarms

- If alarms are detected, they will be displayed automatically at the end of the status display scroll.
- During an alarm message display, the back lit screen will light up at the same time as the message and shut off during the rest of the status display.
- Two alarms maximum can appear at any given time. The priority for the alarms is as follows:

Frost ON	Indicates that the heating is energized by the low limit frost protection room temperature setpoint 5.6 °C (42 °F).
SetClock	Indicates that the clock needs to be reset. There has been a power failure which has lasted longer than 6 hours.
Service	Indicates that there is a service alarm as per one of the configurable digital inputs (DI1 or DI2).
Filter	Indicates that the filters are dirty as per one of the configurable digital inputs (DI1 or DI2).
Fan lock	Indicates that the heating and cooling action are locked out due to a fan malfunction.

Technical Support



For any issues with SmartStruxure Solution or SmartStruxure Lite, contact Schneider Electric Technical Support according to your region.

North America (NAM) Product Support
Building Management Systems (BMS): www.nampss.com

Global Product Support
Building Management Systems (BMS): productsupport.BMS@schneider-electric.com

Schneider Electric
CS 30323
F-92506 Rueil-Malmaison Cedex
France

Schneider Electric is leading the Digital Transformation of Energy Management and Automation in Homes, Buildings, Data Centers, Infrastructure and Industries.

With global presence in over 100 countries, Schneider is the undisputable leader in Power Management – Medium Voltage, Low Voltage and Secure Power, and in Automation Systems. We provide integrated efficiency solutions, combining energy, automation and software.

In our global Ecosystem, we collaborate with the largest Partner, Integrator and Developer Community on our Open Platform to deliver real-time control and operational efficiency.

We believe that great people and partners make Schneider a great company and that our commitment to Innovation, Diversity and Sustainability ensures that Life Is On everywhere, for everyone and at every moment.

www.schneider-electric.com