SE7200 Series Installation Guide

Install Guide for Low Voltage Zoning Room Controller

For Commercial HVAC Applications

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Schneider Electric

INSTALLATION

Preparation

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

Location

1. Should not be installed on an outside wall.
2. Must be installed away from any direct heat source.
3. Should not be installed near air discharge grill.
4. Should not be affected by direct sun radiation.
5. Nothing should restrict vertical air circulation to Room Controller.

Installation

1. Swing open Room Controller PCB to left by pressing PCB locking tabs (Figure 2).
2. Pull out cables 6” out from wall. Ensure wall surface must be flat and clean.
3. Insert cable in central hole of base.
4. Align base and mark location of two mounting holes on wall ensuring base is in the proper orientation. Arrow on base should be facing up.
5. Install 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 diagram.
10. Gently push excess wiring back into hole (Figure 3).
11. Re-Install wiring terminals in correct locations (Figure 3).
12. Re-install cover (top side first) and gently push extra wire length back into hole in wall.
13. Install security screw.

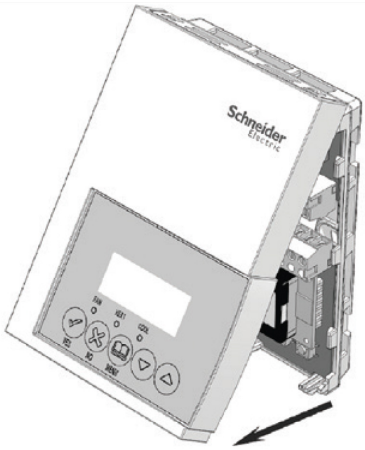


Figure-1 Open the cover

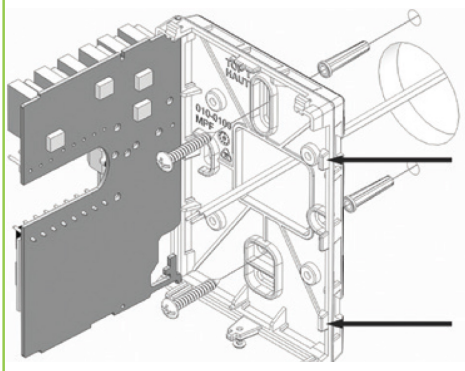


Figure-2 Location of PCB locking tabs

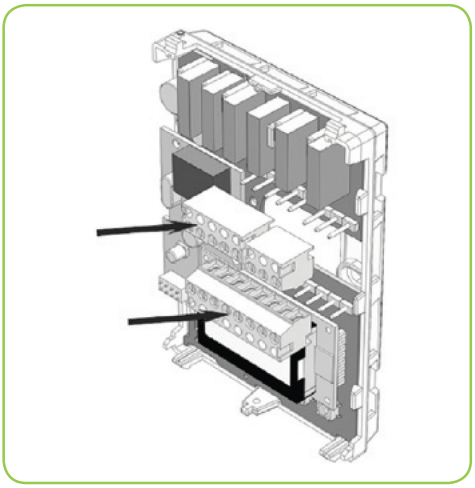


Figure-3 Re-install terminal blocks

If replacing an old Room Controller, label the wires before removal of the old Room Controller.

Electronic controls are static sensitive devices. Discharge yourself properly before manipulating and installing the Room Controller.

- A short circuit or wrong wiring may permanently damage the Room Controller or the equipment.
- All SE7000 series 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.

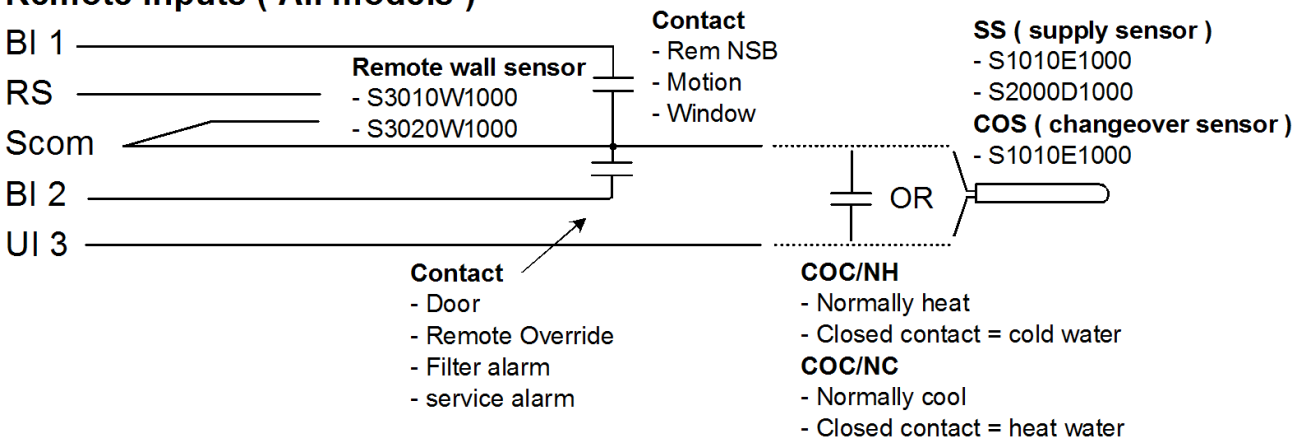
TERMINAL, IDENTIFICATION AND FUNCTION

Terminal identification

Schneider Part Numbers Description / Application	SE7200C5x45(x) 1 or 2 Floating outputs 1 or 2 On/Off outputs	Viconics Number Description / Application	SE7200F5x45(x) 1 or 2 Analog outputs
4- 24 V~ Hot	24 V~ Hot	**4- 24 V~ Hot**	24 V~ Hot
5- 24 V~ Com	24 V~ Com	**5- 24 V~ Com**	24 V~ Com
6- Aux BO 5	BO 5-Aux	**6- Aux BO 5**	BO 5-Aux
7- Aux BO 5	BO 5-Aux	**7- Aux BO 5**	BO 5-Aux
8- BO 3 Open Heat	BO 3		
9- BO 4 Close Heat	BO 4	**9- AO 2 Heat**	AO 2
10- BO 1 Open Cool	BO 1	**10- AO 1 Cool**	AO 1
11- BO 2 Close Cool	BO 2	**Not used Blank**	Blank
12- BI 1	BI 1	**12- BI 1**	BI 1
13- RS	RS	**13- RS**	RS
14- Scom	Scom	**14- Scom**	Scom
15- BI 2	BI 2	**15- BI 2**	BI 2
16- UI 3 COS / COC /SS	UI 3	**16- UI 3 COS / COC /SS**	UI 3

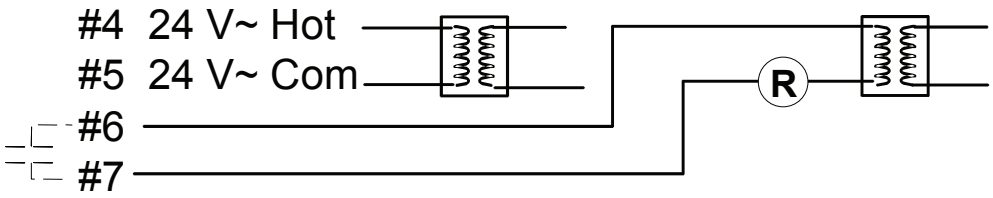
Wiring

Remote inputs (All models)

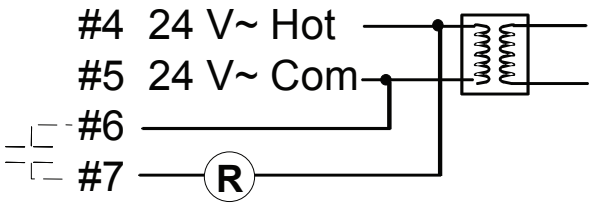


Auxiliary output (All models)

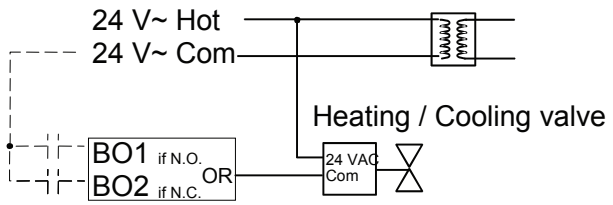
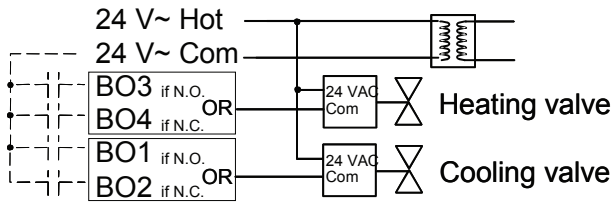
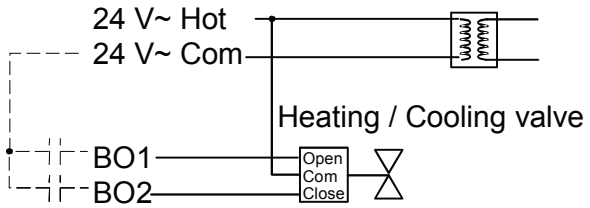
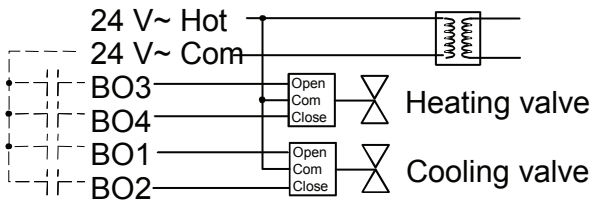
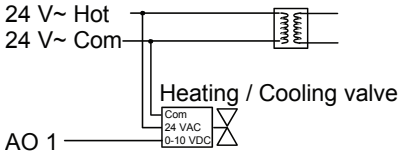
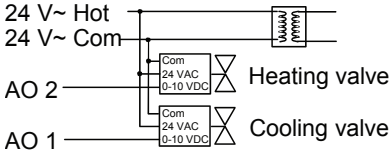
- Dry contact to end device 24 V~ maximum



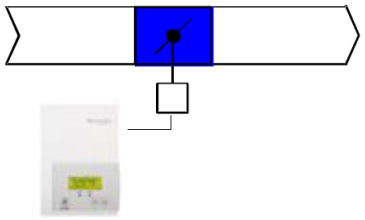
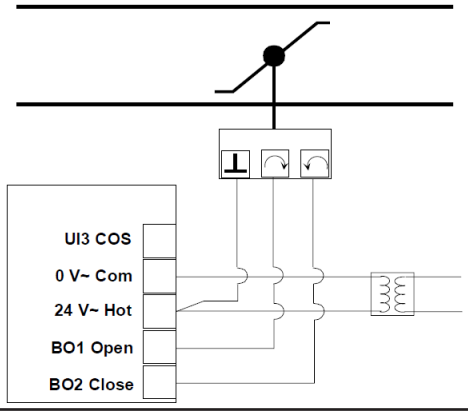
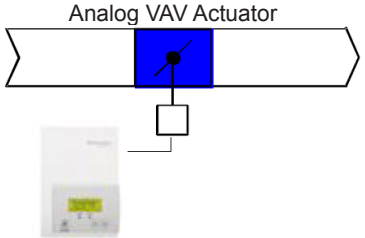
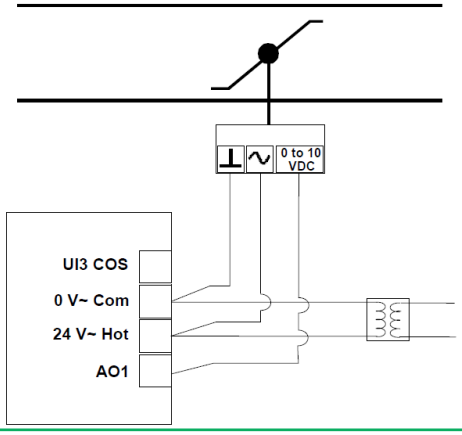
- 24 VAC power to relay

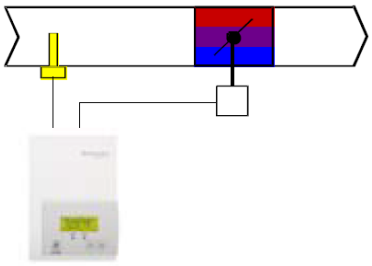
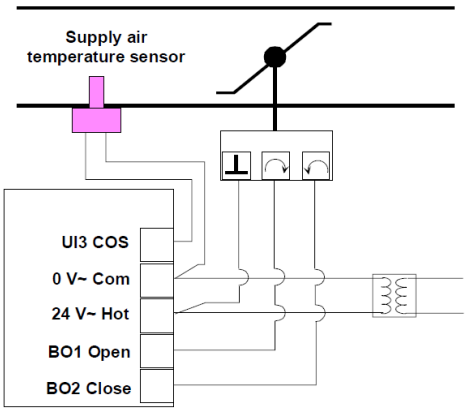
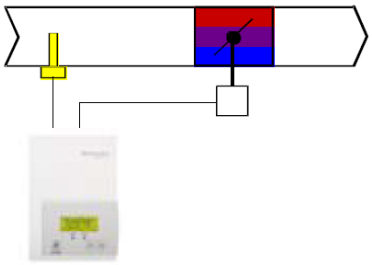
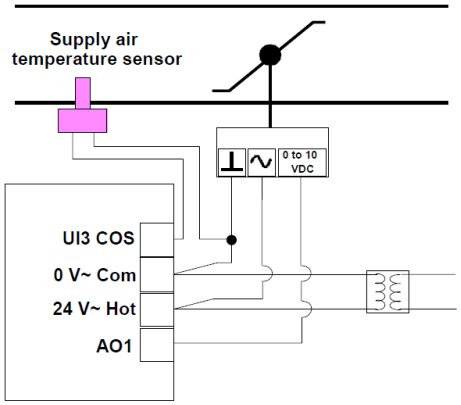
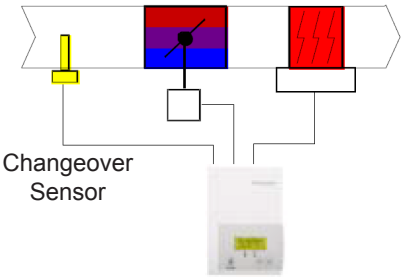
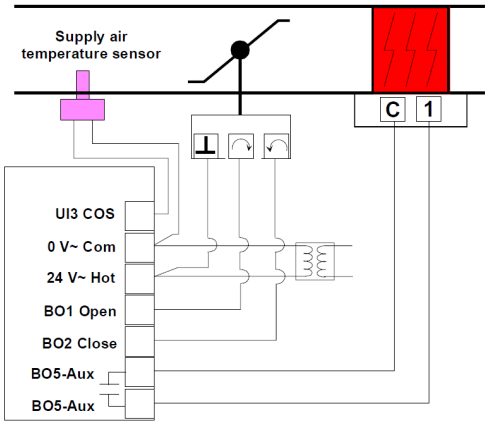


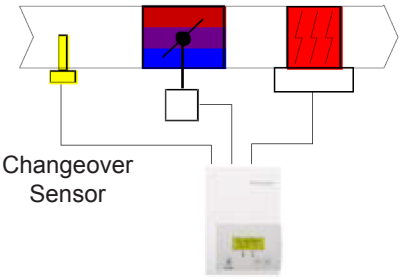
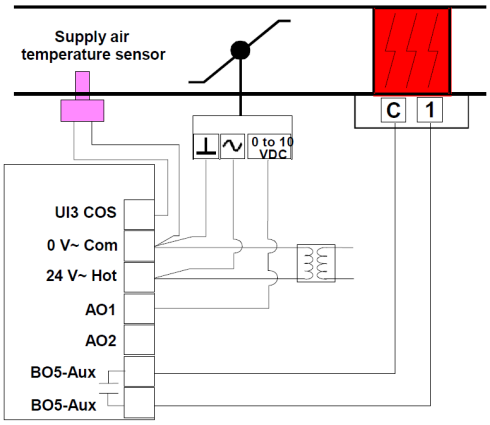
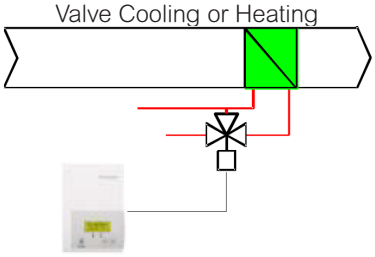
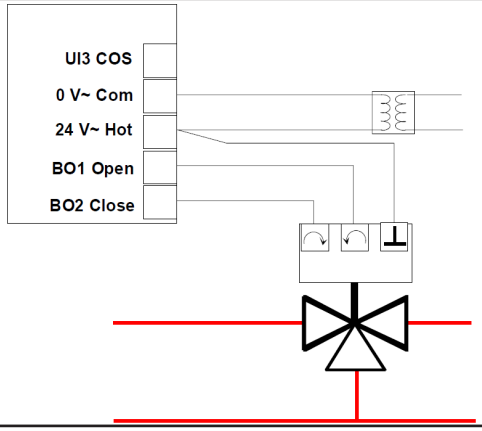
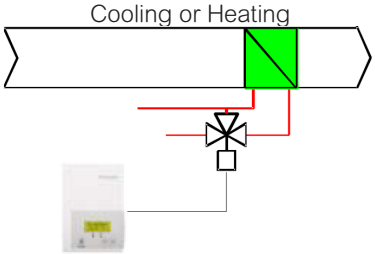
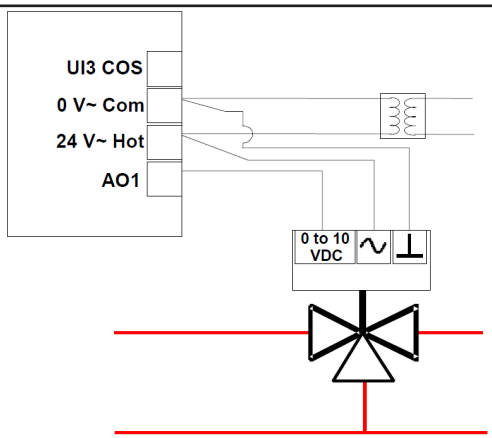
Main outputs wiring

Single output applications	Dual output applications
On-Off control SE7200C5x45(x)	
	
Floating control SE7200C5x45(x)	
	
Analog control SE7200C5x45(x)	
	

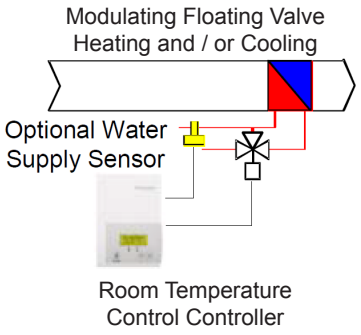
Typical applications

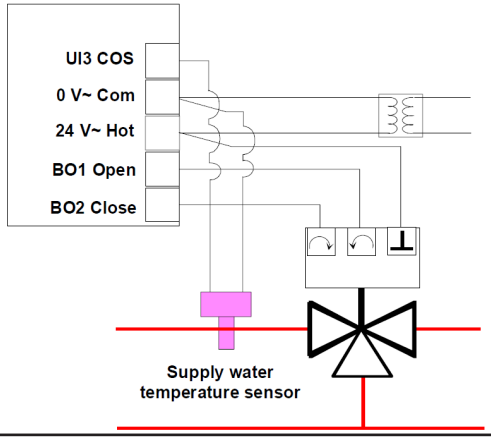
Schematic	Wiring	Settings
Pressure dependent VAV cooling only:SE7200C5x45(x) Floating actuator		
Modulating Floating VAV Actuator  Room Temperature Control Minimum & Maximum Position Adjusted on the actuator		**Mandatory** • Out1Conf = 2.0 • CntrlTyp = Floating • FL time = as per actuator • SeqOpera = 0 Cooling only
Pressure dependent VAV cooling only: SE7200F5x45(x) Analog actuator		
Analog VAV Actuator  Room Temperature Control Minimum & Maximum Position Adjusted on the actuator		**Mandatory** • Out1Conf = 2.0 • RA/DA = as per actuator • SeqOpera = 0 Cooling only

Schematic	Wiring	Settings
Pressure dependent VAV cooling or heating with changeover: SE7200C5x45(x) Floating actuator		
Changeover Sensor Modulating Floating VAV Actuator  Room Temperature Control Minimum & Maximum Position Adjusted on the actuator		**Mandatory** • Out1Conf = 2.0 • CntrlTyp = Floating • FL time = as per actuator If **heat / cool auto-changeover** with a local water temperature sensor set: • SeqOpera = 0 Cooling only • UI3 = COS
Pressure dependent VAV cooling or heating with changeover: SE7200F5x45(x) Analog actuator		
Changeover Sensor 0 to 10 VDC Analog Actuator  Room Temperature Control Minimum & Maximum Position Adjusted on the actuator		**Mandatory** • Out1Conf = 2.0 • RA/DA = as per actuator • SeqOpera = 0 Cooling only If **heat / cool auto-changeover** with a local water temperature sensor set: • SeqOpera = 0 Cooling only • UI3 = COS
Pressure dependent VAV cooling or heating with changeover and reheat:SE7200C5x45(x) Floating actuator		
Modulating Floating VAV Actuator Heating and or Cooling & On-Off Duct Heater  Room Temperature Control Minimum & Maximum Position Adjusted on the actuator		**Mandatory** • Out1Conf = 2.0 • CntrlTyp = Floating • FL time = as per actuator If **heat / cool auto-changeover** with a local water temperature sensor set: • SeqOpera = 2 Cooling with Reheat • UI3 = COS

Schematic	Wiring	Settings
Pressure dependent VAV cooling or heating with changeover and reheat: SE7200F5x45(x) Analog actuator		
Analog VAV Actuator Heating and or Cooling & On-Off Duct Heater  Room Temperature Control Minimum & Maximum Position Adjusted on the actuator	 	**Mandatory** • Out1Conf = 2.0 • RA/DA = as per actuator If **heat / cool auto-changeover** with a local water temperature sensor set: • SeqOpera = 2 Cooling with Reheat • UI3 = COS
Heating or cooling hydronic valve control: SE7200C5x45(x) Floating actuator		
Modulating Floating Valve Cooling or Heating  Room Temperature Control Controller	 	**Mandatory** • Out1Conf = 2.0 • CntrlTyp = Floating • FL time = as per actuator If **cooling only** set:: • SeqOpera = 0 Cooling only If **heating only** set:: • SeqOpera = 1 Heating only
Heating or cooling hydronic valve control: SE7200F5x45(x) Analog actuator		
Analog Valve Cooling or Heating  Room Temperature Control Controller	 	**Mandatory** • Out1Conf = 2.0 • RA/DA = as per actuator If **cooling only** set:: • SeqOpera = 0 Cooling only If **heating only** set:: • SeqOpera = 1 Heating only

Cooling or heating with changeover hydronic valve control: SE7200C5x45(x) Floating actuator

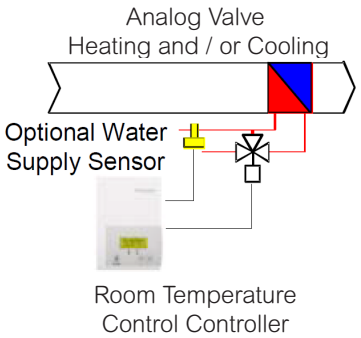


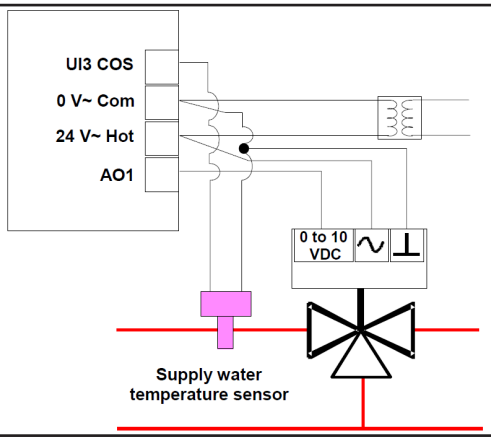


Mandatory
- Out1Conf = 2.0
- CntrltTyp = Floating
- FL time = as per actuator

If **heat / cool auto-changeover** with a local water temperature sensor set:
- SeqOpera = 0 Cooling only
- UI3 = COS

Cooling or heating with changeover hydronic valve control: SE7200F5x45(x) Analog actuator





Mandatory
- Out1Conf = 2.0
- RA/DA = as per actuator

If **heat / cool auto-changeover** with a local water temperature sensor set:
- SeqOpera = 0 Cooling only
- UI3 = COS

REMOTE SENSOR ACCESSORIES

Model no.	Description
S3010W1000	Wall mounted temperature sensor
S3020W1045	Wall mounted temperature sensor with override key and occupancy status LED

S3020W1045

Remote mount temperature sensors use 10K NTC thermistors.

This sensor can be used for:
- Each sensor can be configured for various averaging combinations
- Optional occupancy led
- Optional override key

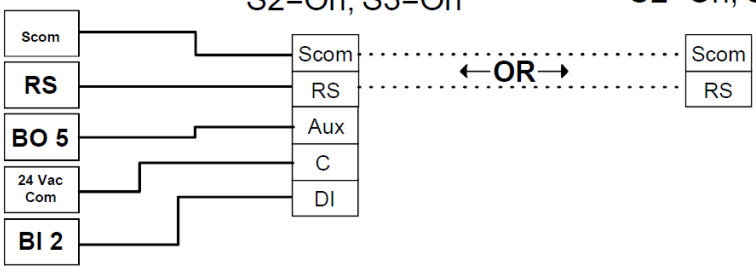
Wall Mounted Sensor

Wiring example of single remote room sensor:

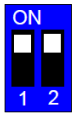
SE7200 Series

S3020W1000
Remote wiring 1 sensor
S2=On, S3=On

S3010W1000
Remote wiring 1 sensor
S2=On, S3=On



Dip switch setting for: **1 sensor**

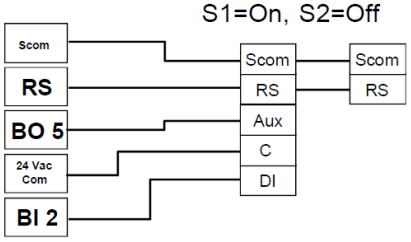


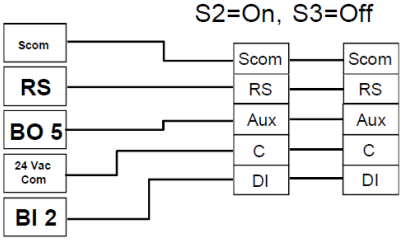
S2-1 = ON
S2-2 = ON

Wiring examples of 2 remote room sensors for averaging applications:

SE7200 Series **1 x S3010W1000 and 1 x S3020W1000**
Remote wiring 2 sensors
S1=On, S2=Off

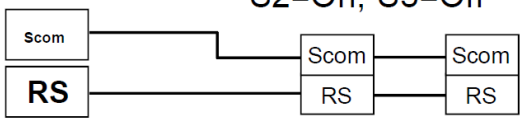
VT7200 Series **2 x S3020W1000**
Remote wiring 2 sensors
S2=On, S3=Off





SE7200 Series

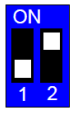
2 x S3010W1000
Remote wiring 2 sensors
S2=On, S3=Off



Notes for averaging applications:

- S3010W1045 and S3020W1045 can be mixed matched.
- S3010W1045 and S3020W1045 are to be wired in parallel.
- Respect the dip switch setting in each remote sensor.

Dip switch setting for: **2 sensors**



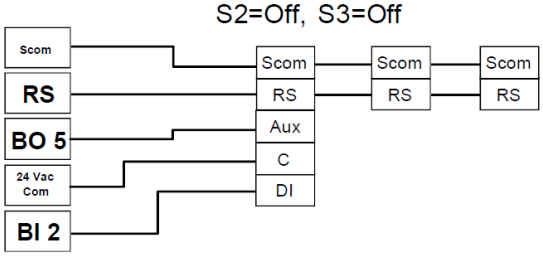
S2-1 = OFF
S2-2 = ON

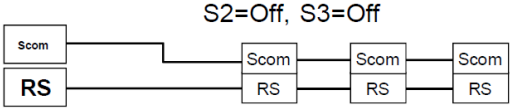
Wiring examples of 3 remote room sensors for averaging applications:

SE7200 Series **2x S3010W1000 and 1 x S3020W1000/T7200 Series** **3x S3010W1000**

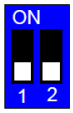
Remote wiring 3 sensors **Remote wiring 3 sensors**

S2=Off, S3=Off S2=Off, S3=Off





Dip switch setting for: **3 sensors**



S2-1 = OFF

S2-2 = OFF

Temperature vs. resistance chart for 10 Kohm NTC thermistor (R25°C = 10KΩ±3%, B25/85°C = 3975K±1.5%)

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

CONFIGURATION AND STATUS DISPLAY INSTRUCTIONS

Status display

The Room Controller features a two-line, eight-character display. There is a low level backlight level that is always active and can only be seen at night.

When left unattended, the Room Controller has an auto scrolling display that shows the actual status of the system. There is an option in the configuration menu to lockout the scrolling display and to only present the room temperature and conditional outdoor temperature to the user. With this option enabled, no local status is given of mode, occupancy and relative humidity.

Each item is scrolled one by one with the back lighting in low level mode. Pressing any key will cause the back light to come on to high level. When left unattended for 10 seconds after changes are made, the display will resume automatic status display scrolling.

To turn on the back light to high level, press any key on the front panel. The back lit display will return to low level when the Room Controller is left unattended for 45 seconds

Sequence of auto-scroll status display

ROOM & HUMIDITY	SYSTEM MODE	SCHEDULE STATUS	OUTDOOR TEMPERATURE	ALARMS
x.x °C or °F XX % RH	Sys mode	Occupied	Outdoor	Service
	Auto		x.x °C or °F	Filter
	Sys mode cool	Stand-By		Window
	Sys mode heat	Unoccup		

Outdoor air temperature

- Display is only enabled when outdoor air temperature network variable is received.

Occupancy status

- Occupied, Stand-By, Unoccupied and Override status are displayed on the scrolling display.

Alarms

- If alarms are detected, they will automatically be displayed at the end of the scrolling status display.
- When an alarm message is displayed, the backlit screen will illuminate 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:

Service	Indicates that there is a service alarm as per one of the configured binary inputs (BI2)
Filter	Indicates that the filters are dirty as per one of the configured binary inputs (BI2)
Window	Indicates that the outside window or door is opened and that the Room Controller has cancelled any cooling or heating action (BI1)

Two status LED's on the Room Control cover are used to indicate a call for heat or a call for cooling.

Zoning models

When **heating & reheat** is **ON**, the **HEAT LED** will illuminate	HEAT O
When **cooling** is **ON**, the **COOL LED** will illuminate	COOL O

USER INTERFACE

Unoccupied mode override

An Override can be made during an unoccupied period. If the Override option is enabled in the lockout configuration pressing the Override button will resume occupied setpoints for a time specified by parameter ToccTime .

Local keypad interface

OVERRIDE	▪ An Override can be made during an unoccupied period. If the Override option is enabled in the lockout configuration pressing the override key will resume occupied setpoints for a time specified by parameter ToccTime
▽	▪ In cooling mode only the cooling setpoint is displayed, ▪ In heating mode only the heating setpoint is displayed ▪ In auto mode, (See below)
△	▪ In cooling mode only the cooling setpoint is displayed, ▪ In heating mode only the heating setpoint is displayed ▪ In auto mode, (See below)

- Any setpoint change can be permanent or temporary based on configuration parameter (Setpoint Type)
- Any setpoint written through the network, will be permanent and cancel any active temporary setpoints
- Lockouts of access to certain functions is made with configuration parameter (lockout)

Technical Support

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

AMERICAS

- +1-(978)-975-9508: Andover, MA, USA, 8:30am - 5:00pm (EST)
- +1-(800)-830-1274: Carrollton, TX, USA, 8:00am - 5:00pm (CST)
- +1-(888)-444-1311: Rockford, IL, USA, 8:00am - 5:00pm (CST)

EUROPE

- +44-1628-741-147: London, England, UK, 8:00am - 4:30pm (GMT)
- +46-40-38-69-00: Malmö, Sweden, 8:00am - 4:15pm (CET/CEST)

ASIA PACIFIC

Contact Technical Support at https://ecobuilding.schneider-electric.com/support