

# SER8300 Series

## Terminal Equipment Controller with Optional PIR sensor Installation Guide

Commercial and Hotel/Lodging HVAC Fan Coil Applications



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## DISCLAIMER

- The SER8000 series controller, part of the SE8000 series, is only to be used in conjunction with the SC3000 line voltage switching relay pack. Together they are used as operating controls for high voltage fan coil units.
- If replacing an existing Line Voltage FCU Controller, label the wires before removal of the Controller.
- Electronic controls are static sensitive devices. Discharge yourself correctly before manipulating and installing the Terminal Equipment Controller. A short circuit or wrong wiring may permanently damage the Terminal Equipment Controller or the equipment.
- All SER8300 series controls 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 switches, thermal protections, and/or an alarm system to protect the entire system against any catastrophic failures. Tampering with the devices or unintended application of the devices results in a void of warranty.
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- These devices are not serviceable and must be returned to the supplier for any repair.
- A switch or circuit breaker must be installed. It must be suitably located, easily reached, and marked as the disconnecting device.
- Never apply more than 24VDC to get applied to the Controller
- This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

## IMPORTANT SYMBOLS



Products marked with this symbol state that the manuals must be consulted in all cases to any hazards.



This product has been tested to the requirements of CAN/CAS-C22.2 No. 61010-1, second edition, including Amendment 1, or a later version of the same standard incorporating the same level of testing requirements.



Alternating Current



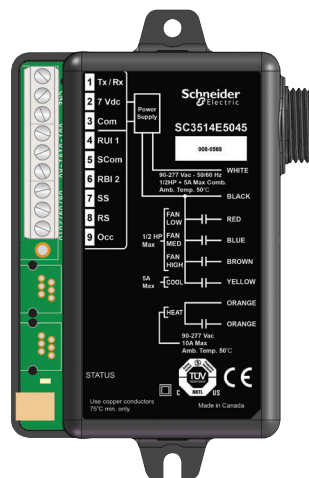
Direct Current



Equipment protected throughout by DOUBLE INSULATION or REINFORCED INSULATION



SER8000 Controller



SC3000 Relay Pack

## INSTALLATION

### Preparation

- Open unit by pulling on bottom side of Terminal Equipment Controller (Fig. 1).
- Read FCC ID and IC label installed in cover before installing any wireless product.
- Ensure correct side of base faces up.

### Location

1. Do not install on outside wall.
2. Do not install in areas with direct heat source.
3. Do not install near any air discharge grill.
4. Do not install in areas exposed to direct sunlight.
5. Ensure Controller has sufficient air circulation.
6. Ensure wall surface is flat and clean.

### Installation

1. Pull cables 15 cm ( 6" ) out from wall.
2. Align base and mark location of two mounting holes on wall.
3. Install anchors in wall.
4. Insert cable in central hole of base.
5. Insert screws in mounting holes on each side of base.
6. Strip each wire 1/4" ( 0.6 cm) from end.
7. Insert each wire according to wiring chart (next page).
8. Gently push excess wiring back into hole.
9. Gently align cover to top of base and snap in place from bottom.
10. Install security screw.



- If replacing an existing Line Voltage FCU Controller, label wires before removal of Controller.
- Electronic controls are static sensitive devices. Discharge yourself correctly before manipulating and installing Controller.
- A short circuit or wrong wiring may permanently damage Controller or equipment.
- All SER8300 series controls are designed for use as operating controls only and are not safety devices. Tampering with the devices or unintended application of the devices will result in a void of warranty.
- This transmitter must be installed to provide a separation distance of at least 8in (20cm) from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter.

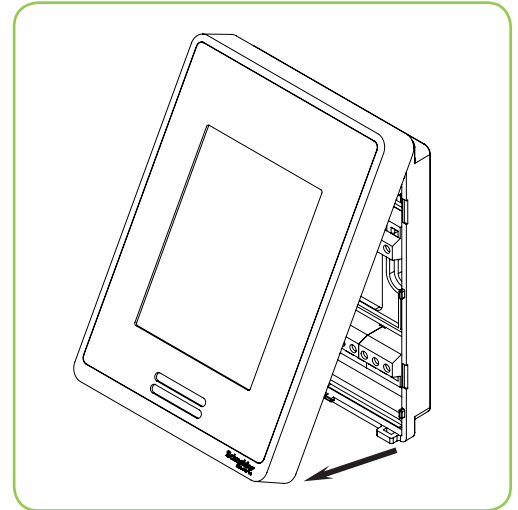


Figure-1 Open the cover

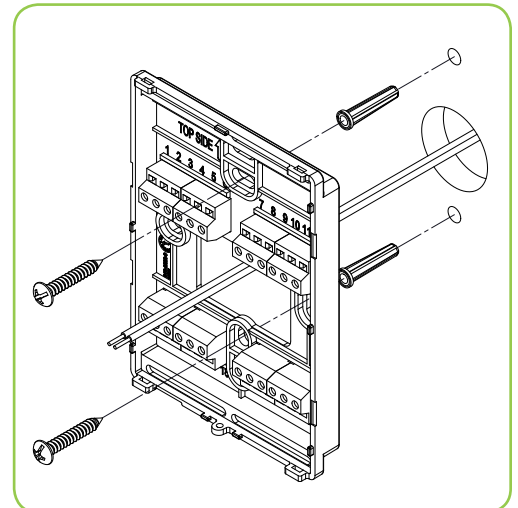


Figure-2 Install the base

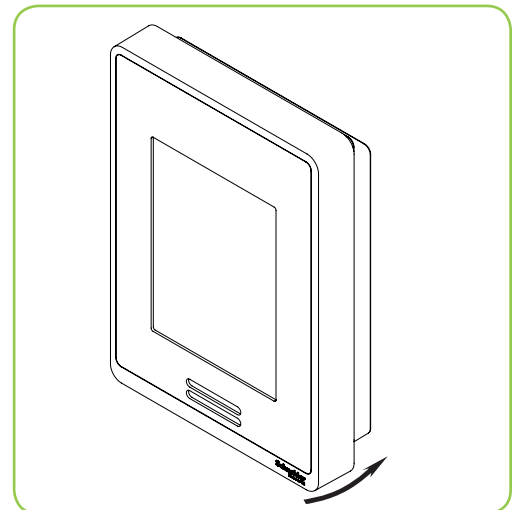


Figure-3 Reinstall cover

## TERMINAL, IDENTIFICATION AND FUNCTION

Terminal Identification	All SER83xxA Terminal Equipment Controller
Terminal 4	Tx – Rx Communication
Terminal 5	Power Hot 7.0 VDC
Terminal 6	Power Common
Terminal 13	BACnet +
Terminal 14	BACnet -
Terminal 16	BI 1 ( Configurable )
Terminal 17	BI 2 ( Configurable )
Terminal 18	Scom

Only ONE SC3xxxX Relay Pack with remote monitoring inputs can be used under a single SER83xxA Controller. All other slave units must be SC3xxxX Relay Pack(s) without remote inputs.

A maximum of 10 SC3xxxX Relay Packs can be used for a single SER83xxA Terminal Equipment Controller.

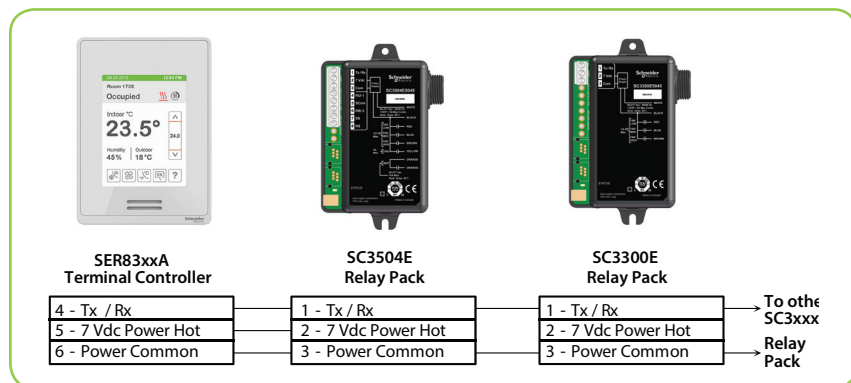
### From SER83xxA to First SC3xxxX Relay Pack

- Uses existing or new field wires.
- A minimum of 3 wires are required 14-22 Ga, Solid, or Stranded. Shield not necessary.

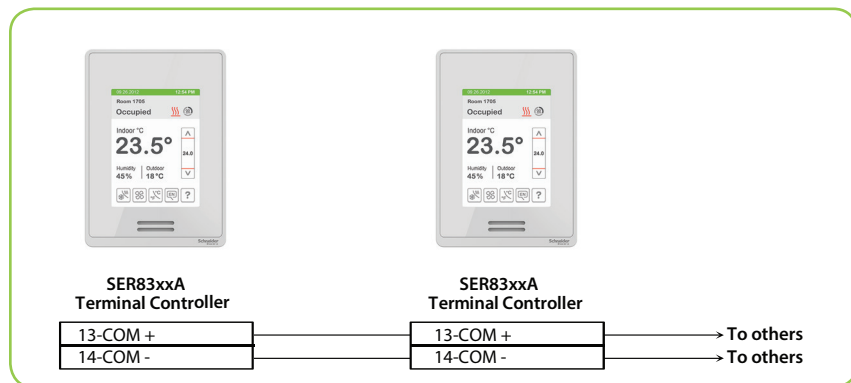
### From First SC3xxxX to all Other Slave SC3xxxX Relay Pack(s)

- Uses existing or new field wires.
- A minimum of 2 wires are required 14-22 Ga, Solid, or Stranded.
- Shield not necessary.
- Connect only wires #1 Power Common and #2 Tx/Rx Communication.

## COMMUNICATION WIRING TO SC3XXXX RELAY PACK

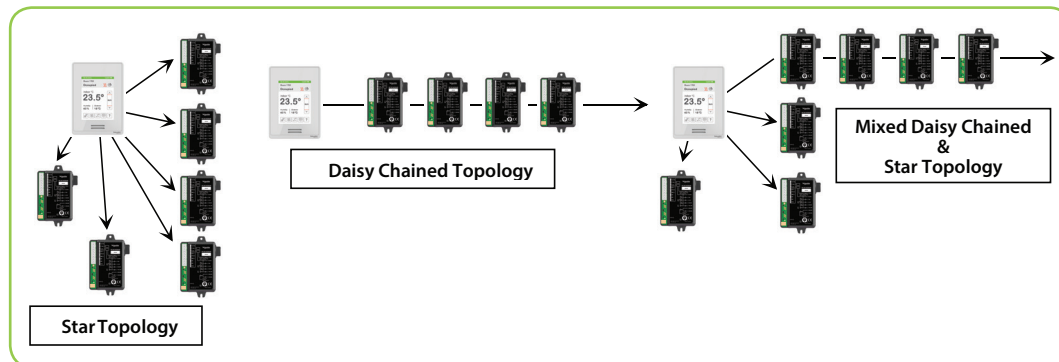


## BACnet® Communication Wiring (if applicable)

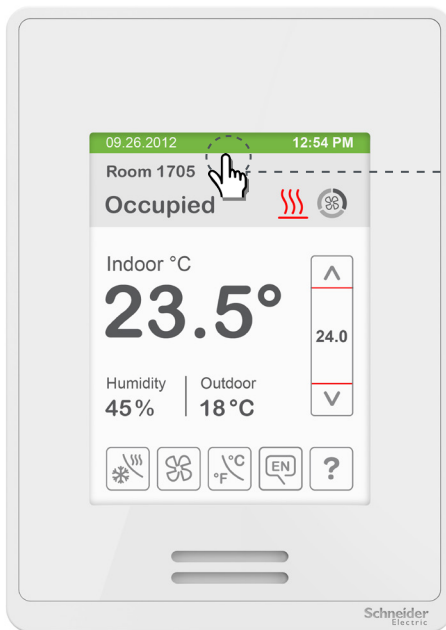


**NOTE:** See SER8300 BACnet® integration manual for more details

## Network Wiring Topology



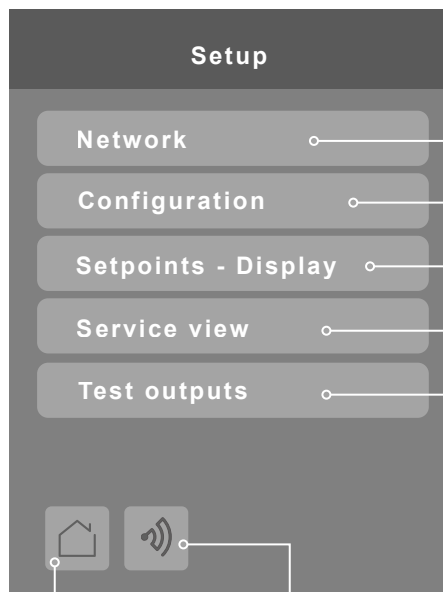
## ENTER SET-UP SCREEN



Touch and hold this point for 3 seconds to enter set-up mode

**Note:** If a configuration/installer password is activated to prevent unauthorised access to the configuration menu parameters, a password entry prompt shows to prevent access to device configuration components.

## SET-UP SCREEN DISPLAY



**Note:** The "Network" button does not show if no BACnet® or ZigBee® card is installed.

Enter BACnet® & ZigBee® network settings

Enter parameter configuration menu

Enter setpoint & display settings

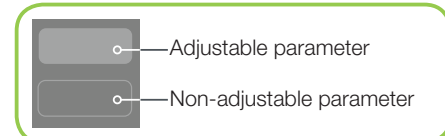
Enter status and service view


Enter output testing mode

**Return to home screen**

**Discover Mode** The Controller becomes discoverable on the wireless ZigBee® network for 1 minute (this button is hidden if ZigBee® settings are not configured)

### General Note:



Specifications	
Controller power requirements	7.0 VDC +/- 10% 2.4 watts minimum
Operating conditions	0 °C to 50 °C ( 32 °F to 122 °F ) 0% to 95% R.H. non-condensing
Storage conditions	-30 °C to 50 °C ( -22 °F to 122 °F ) 0% to 95% R.H. non-condensing
Temperature sensor	Local 10 K NTC type 2 thermistor
Temperature sensor resolution	± 0.1 °C ( ± 0.2 °F )
Temperature control accuracy	± 0.5 °C ( ± 0.9 °F ) @ 21 °C ( 70 °F ) typical calibrated
Humidity sensor and calibration	Single point calibrated bulk polymer type sensor
Humidity sensor precision	Reading range from 10-90 % R.H. non-condensing 10 to 20% precision is 10% 20% to 80% precision is 5% 80% to 90% precision is 10%
Humidity sensor stability	Less than 1.0 % yearly (typical drift)
Dehumidification setpoint range	30% to 95% R.H.
Occ, Stand-By and Unocc cooling setpoint range	12.0 to 37.5 °C ( 54 to 100 °F )
Occ, Stand-By and Unocc heating setpoint range	4.5 °C to 32 °C ( 40 °F to 90 °F )
Room and outdoor air temperature display range	-40 °C to 50 °C ( -40 °F to 122 °F )
Proportional band for room temperature control	Cooling & Heating: Default: 1.8°C ( 3.2°F )
Binary inputs	Dry contact across terminal BI1, BI2 & UI3 to Scom
Wire gauge	14 gauge maximum, 22 gauge recommended
Approximate shipping weight	0.34 kg ( 0.75 lb )
Safety Standards (all models)	LV Directive 2014/35/EU UL 61010-1 (2nd edition) CSA 61010-1(3rd edition) IEC 61010-1 (3rd edition)
EMC Standards (all models)	EMC Directive 2014/30/EU IEC 61326-1:2006 FCC 15 Subpart B ICES-003
Radio Standards (wireless models)	RE Directive 2014/53/EU IEC 61326-1:2005 EN 301 489-1 V1.9.2 EN 301 489-17 V2.2.1 EN 301 328 V2.1.1 FCC 15 Subpart C RSS 247
<p>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 UNDESIRE OPERATION.</p> <p>THE GRANTEE IS NOT RESPONSIBLE FOR ANY CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.</p> <p>This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:</p> <ul style="list-style-type: none"> <li>Reorient or relocate the receiving antenna.</li> <li>Increase the separation between the equipment and receiver.</li> <li>Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.</li> <li>Consult the dealer or an experienced radio/TV technician for help.</li> </ul> <p>This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:</p> <ol style="list-style-type: none"> <li>(1) This device may not cause interference; and</li> <li>(2) This device must accept any interference, including interference that may cause undesired operation of the device.</li> </ol> <p>In order to comply with FCC/ISED RF Exposure requirements, this device must be installed to provide at least 20 cm separation from the human body at all times.</p> <p>Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :</p> <ol style="list-style-type: none"> <li>1) l'appareil ne doit pas produire de brouillage;</li> <li>2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.</li> </ol> <p>Afin de se conformer aux exigences d'exposition RF FCC / ISED, cet appareil doit être installé pour fournir au moins 20 cm de séparation du corps humain en tout temps.</p>	
 Check with your local government for instruction on disposal of this product.	

## DIMENSIONAL DRAWING

