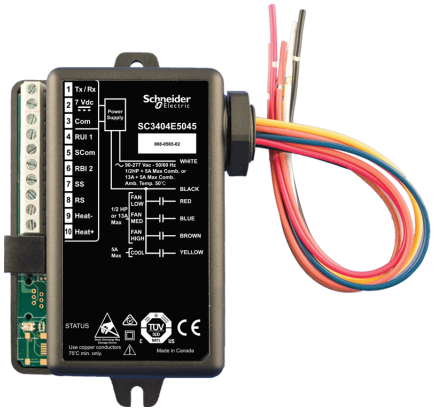
Compatible with
SmartStruxure™ solution
SmartStruxure Lite solution

Room Controllers

SER8300 Line Voltage Fan Coil Controller with SC3000 Relay Pack

Application specific controller with customizable covers and screen colors. The SER8300 is a line-voltage fan coil terminal equipment controller with relay packs. Suitable for both commercial and high end hospitality markets.



Schneider Electric

SER8300 Room Controller and SC3000 Relay Pack Features

The perfect balance between simplicity and sophistication. Select from a wide variety of casings, fascias, and configurable screen colors to match decor. Display your own logo and custom messages on screen to reinforce your brand and provide a more enjoyable occupant experience.

AT A GLANCE

Custom design

- Touch screen with customizable user experience
- 2 different casing options
- 10 different fascia options
- 5 selectable screen colors out of the box
- Supports the upload of a custom standby screen
- Supports the display of custom messages when integrated to a BACnet system
- English, French, Spanish, Chinese and other languages selectable out of the box
- One touch changes °C / °F

Options and accessories

- SC3000 relay pack to interface with line-voltage fan coil
- On-board PIR occupancy sensor (optional)
- RH sensor with dehumidification control (optional)
- Can be used with ZigBee Pro wireless sensors
- Free downloadable Uploader SE8000 tool for the upload of Lua Scripts, standby screen images, and firmware upgrades, using a USB/ Micro-USB cable

Integration

- Multiple options for integration to other Schneider Electric systems

Introduction

This two component retrofit option consists of the SER8300 terminal equipment controller and the SC3000 relay pack. Together, they provide an easy solution for retrofitting fan coil unit thermostats without requiring other components such as relays, transformers, controllers, sensors, and network wiring to be upgraded. Existing line voltage wiring between the fan coil unit and temperature controller can be reused further minimizing overall labor and installation costs for both retrofit and new construction control projects. Additional flexibility and energy savings can be achieved with optional wireless door and window switches.

Application specific and programmable

The SER8300 controllers are both application-specific AND programmable. This enables the modification of pre-configured control sequences, or the creation of entirely new control sequences for HVAC, lighting and other applications. The room controllers are specifically designed to provide exceptional temperature control of multi-speed fan coil units. When compared to traditional building automation room controllers, the SER8300 series fan coil room controllers provide unmatched return on investment.

Touch screen with customizable user experience

The touch screen of the SER8300 offers a customizable user experience with selection of languages, units, buttons, and screen colors. It also supports the upload of an image or logo that becomes the default standby screen of the device. Custom messages can also be displayed on-screen using BACnet objects when the SER8300 is integrated to a BACnet system.

Selectable languages

Select from the following 20 languages: English, French, Spanish, Chinese, Russian, Arabic, Czech, Danish, Dutch, Finnish, German, Hungarian, Indonesian, Italian, Norwegian, Polish, Portuguese, Slovak, Swedish and Turkish.

Optional passive infrared motion sensor

All models can be equipped with a discrete optional Passive Infrared (PIR) motion sensor. With the embedded sensor, the SER8300 uses advanced occupancy routines to generate automatic energy savings during occupied and unoccupied periods without sacrificing occupant comfort.

SER8300 Room Controller and SC3000 Relay Pack Features

Product highlights

- Suitable for both commercial and hospitality markets and systems
- Customizable color digital touch screen interface with multi-language support
- Fully programmable control sequences using scripting
- Humidity sensor with on-board dehumidification strategy (model dependent)
- Optional occupancy sensor cover
- Advanced occupancy functions for commercial and lodging applications
- Optional wireless door and window switches available for wireless communicating models only
- Configurable fan sequence of operation
- On board configuration interface utility
- Configurable scheduler
- Change of value (COV) function for BMS integration

Networking between SER8300

- ZigBee PRO wireless mesh network (P)
- BACnet MS/TP (B)

Integration with Schneider Electric systems

SER8300 can be integrated to SmartStruxure™ solution (StruxureWare™ Building Operation), SmartStruxure Lite solution (StruxureWare Building Expert), and other Schneider Electric systems.

- Direct wired integration to BACnet MS/TP
- ZigBee Pro integration to MPM device
- MPM device integration to BACnet IP, oBIX and EWS

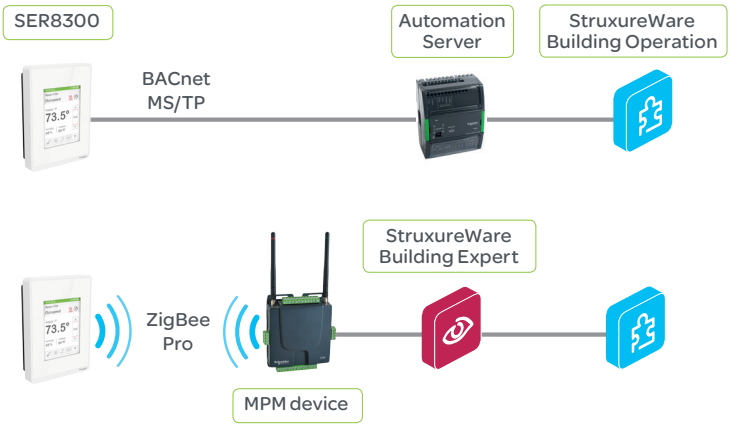
SC3000

For SC3000 relay pack features, consult the SC3000 datasheet.

Architects can custom match styling to decor

- Select from 2 casings and multiple fascias
- Five screen colors are also selectable through the interface

INTEGRATION



CUSTOM STANDBY SCREEN & MESSAGES

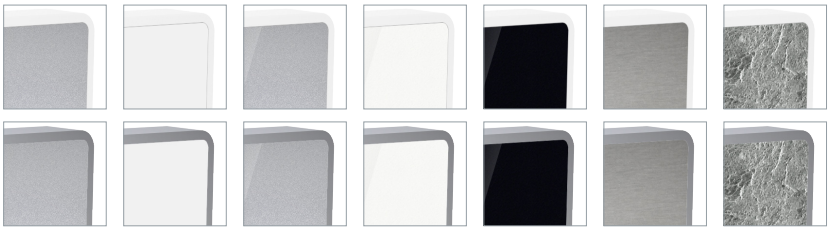
> Custom standby screen

> Custom BACnet MS/TP messages

> 5 configurable screen colors

> 10 fascias

> 2 casings



**Wireless not available for this model

SER8300 Controller Features

Programming the SER8300 with Lua

The SER8300 room controllers are programmable using the open programming language Lua. Although building management systems often use open protocols and standards, their program BACnet objects and scripting features remain proprietary and incompatible with third party devices. The SER8300 use of an open language enables interopreability with all systems.

Programming with BMS integration

When integrated into a BACnet MS/TP building management system, the SER8300 offers 10 Program BACnet objects, each able to contain 480 characters. No special software, license or tool is required.

- BACnet MS/TP integration into BMS
- 10 Program BACnet objects (Lua scripts)
- Each object can contain 480 characters max

Programming without integration

When there is no BACnet MS/TP integration, a Lua script can be uploaded directly to the SER8300 using the Uploader SE8000 tool. Unlike the 10 PG objects used when the unit is integrated via BACnet MS/TP, there is only one script, which can contain up to 16KB.

- No BACnet MS/TP integration
- 1 Lua script of 16KB max
- Uploader SE8000 to upload scripts using PC software tool and a USB/Micro-USB cable

HVAC applications and beyond

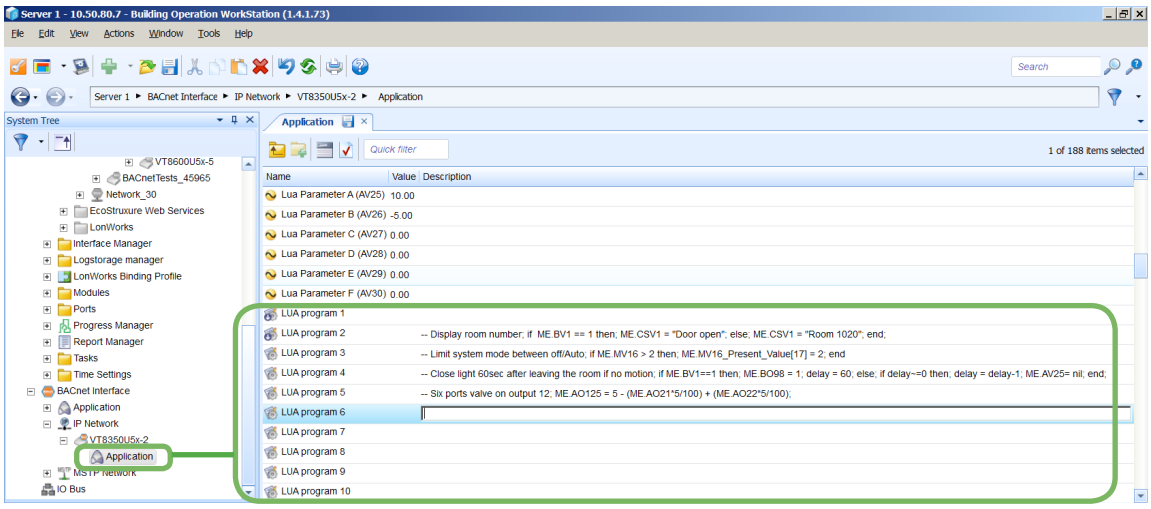
Programming can be used to go beyond the pre-configured control sequences of the SER8300 to create customized HVAC applications. It can also be used to comply with specific project requirements and manage other applications, such as lighting and other equipment.

Using Lua scripts enables you to take advantage of the extra inputs and outputs of the SER8300 to manage other devices, such as sensors and relays.

Uploader SE8000

Lua scripts, standby screen images and firmware upgrades can be loaded to the SER8300 using the Uploader SE8000 tool and a USB/Micro-USB cable.

> PG objects of the SER8300 viewed through a BMS

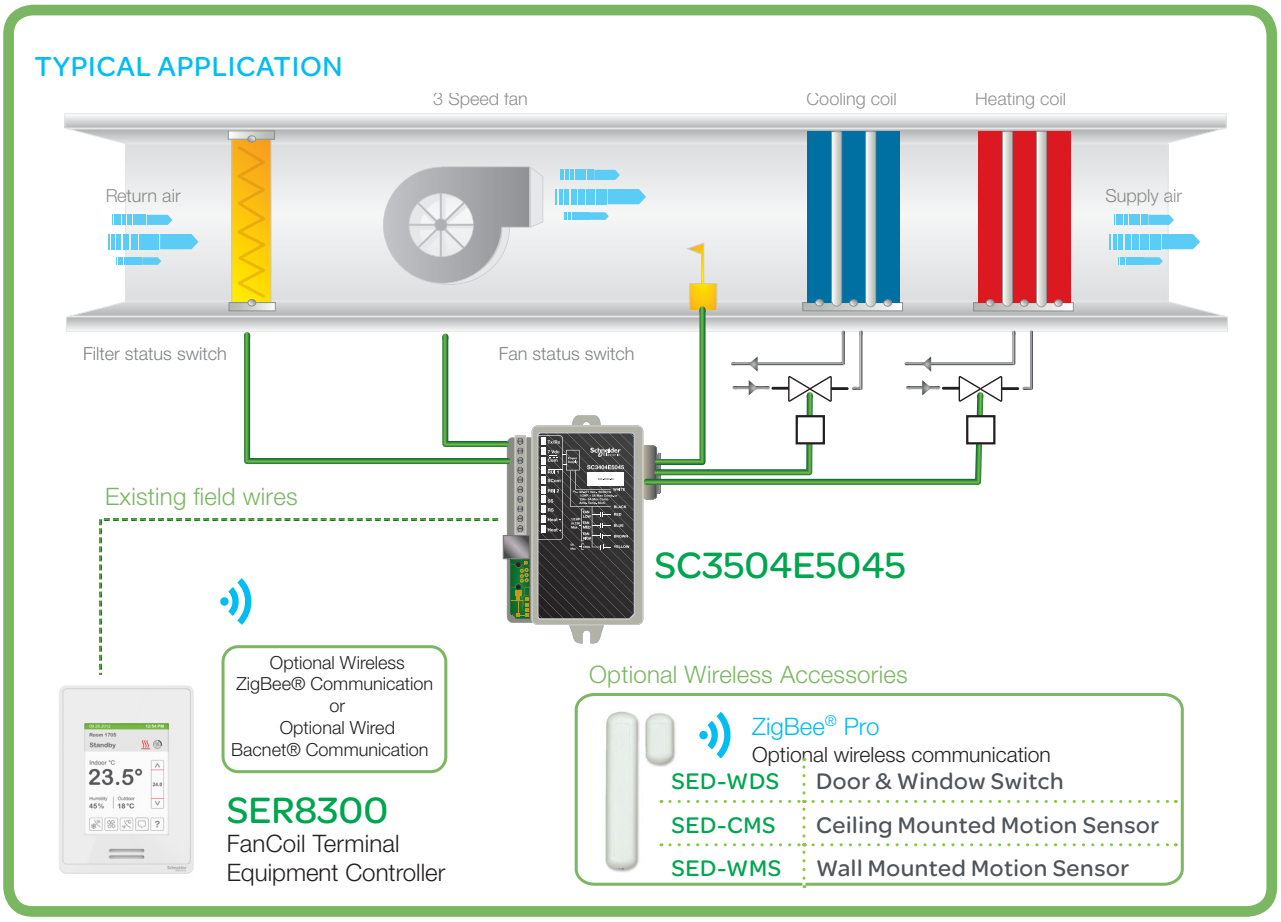


> PG objects of the SER8300 viewed through touch-screen display

SER8300 Room Controller and SC3000 Relay Pack Features

Line Voltage Fan Control Units

The SER8300 is configured to manage up to 10 different SC3000 relay packs, each controlling a line voltage fan coil installation. The diagram below shows an example of a typical line voltage fan coil application and how it would be wired to the relay pack (controlled by the SER8300).



SER8300 Room Controller and SC3000 Relay Pack

Specifications

SC3000 and SER8300

Dimensions
Height: 12cm/4.72in
Width: 8.6cm/3.38in
Depth: 2.5cm/1in

SC3000 Power Requirements
90 - 277 Vac universal, 50/60Hz

SER8300 Power Requirements (supplied by SC3000)
7 Vdc
2.4 watts minimum

Operating Conditions
0 °C - 50 °C (32 °F - 122 °F)
0% - 75% R.H. non-condensing

Storage Conditions
-30 °C - 50 °C (-22 °F - 122 °F)
0% - 75% 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: 10%
20% to 80% precision: 5%
80% to 90% precision: 10%

Humidity Sensor Stability
Less than 1.0 % yearly (typical drift)

Dehumidification Setpoint Range
30% - 95% R.H.

Occ, Stand-By and Unocc Cooling Set-point Range
12.0 - 37.5 °C (54 - 100 °F)

Occ, Stand-By and Unocc Heating Setpoint Range
4.5 °C - 32 °C (40 °F - 90 °F)

Room and Outdoor Air Temperature Display Range
-40 °C - 50 °C (-40 °F - 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 and UI3 to Scom

Wire Gauge
Power supply: 18 gauge or larger
Communication: 24 gauge or larger

Fan Line Voltage Contact Electrical Ratings
Brown, Blue, Red wires 1/2 HP or 13A maximum.

Approximate Shipping Weight
0.34 kg (0.75 lb)

Main Heat Voltage Electrical Ratings
Orange wire, 10A maximum

Cool Line Voltage Electrical Ratings
Yellow wire, 5A maximum

Output Ratings
Fan: Brown, Blue, Red wires 1/2 HP or 13A at 277Vac maximum.

Safety Standards All Models
UL 61010 - 1 (3rd edition)
CSC 61010 - 1 (3rd edition)
IEC 61010 - 1 (3rd edition)

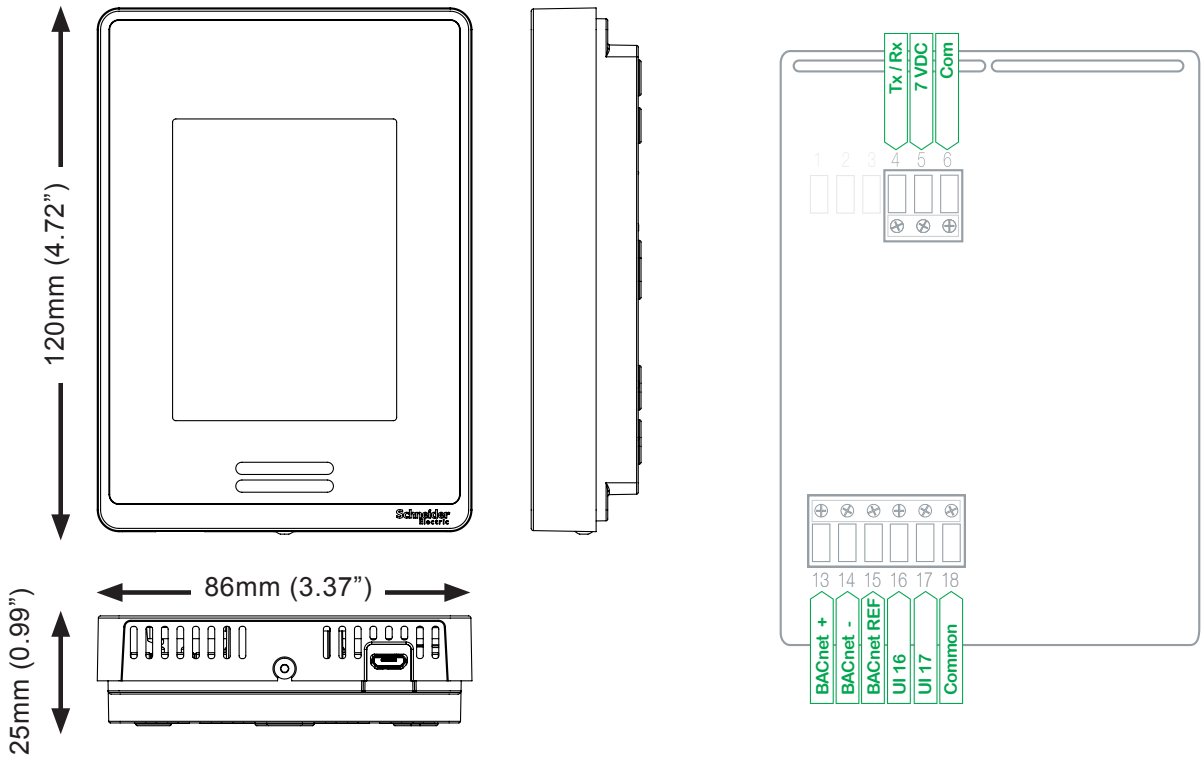
EMC Standards All Models
EMC Directive 2004/108/EC
IEC 61326-1:2005
FCC 15 Subpart B
ICES-003

Radio Standards (Wireless Models)
R&TTE Directive 1999/5/EC
IEC 61326-1:2005
EN 301 489-1 V1.9.2
EN 301 328 V1.8.1
FCC 15 Subpart C
RSS 210

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 UNDESIRED OPERATION.

Check with your local government for instruction on disposal of these products.

Dimensions



SER8300 Room Controller and SC3000 Relay Pack

Ordering information

SER8350A5B00

RH sensor and control
-00 = No RH sensor or control
-50 = RH sensor with dehumidification control

PIR motion sensor
-0 = No PIR
-5 = PIR on board

Network
-B = BACnet® MS/TP
(ZigBee Pro communication module available separately)

Casing and fascia
-00 = Silver/Silver
-11 = White/White
(Replacement fascias available separately)

ZigBee® Pro communication module (ordered separately)
VCM8000V5045P

Replacement fascias (ordered separately)

FAS-00	Silver
FAS-01	White
FAS-02	Glossy translucent silver
FAS-03	Glossy translucent white
FAS-04	Glossy translucent black
FAS-08	Brushed aluminium finish**
FAS-09	Light grey slate finish

Part numbers

SER8300 part numbers	RH sensor & control	PIR motion sensor	Silver casing & fascia	White casing & fascia
SER8300A0B00			x	
SER8350A0B00	x		x	
SER8300A5B00		x	x	
SER8350A5B00	x	x	x	
SER8300A0B11				x
SER8350A0B11	x			x
SER8300A5B11		x		x
SER8350A5B11	x	x		x
SER8300A0B11LTD*				x
SER8300A0B00LTD*			x	

*Fascias on limited edition SER8300 Room Controllers are not replaceable.

Part numbers

For
- Communication modules
- Fascias
- SC3000 relay packs

Consult their respective datasheets for the latest available part numbers and features

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