SpaceLogic™

TRC3500

Touchscreen Room Controller
Low-Voltage Fan Coil Unit & Zone Control

Specification Sheet

Green Premium™ ecolabel product – Sustainable performance, by design

Introduction

Application-specific and programmable Room Controller with different color and screen theme options. The SpaceLogic Touchscreen Room Controller TRC3500 is a low-voltage fan coil unit and zone control Room Controller, suitable for commercial and high-end hospitality markets.

The perfect balance between simplicity and sophistication. Select a black or white theme for the screen. Display custom standby images on the screen to reinforce your brand and provide a more enjoyable occupant experience.

Features

All models are equipped with an embedded Passive Infrared Sensor (PIR) for occupancy detection.

- Automatic energy savings
- Configurable for °C/°F temperature measurement
- 22 selectable languages
- Available in 2 casing color options: white and black

- Configurable proportional and integral terms for room temperature control
- Fully programmable control sequences using scripting
- Configurable Scheduler
- Change of Value (COV) function for building management system integration
- Universal inputs and outputs including a CO_2 sensor input, and a fresh air station input
- Humidity sensor with onboard dehumidification sequence
- Light sensor screen brightness adjustment acording to ambiant lighting for an optimal user experience
- Designed to comply with the BACnet B-ASC (Application-Specific Controller) profile
- Real-time clock with a 7-day internal battery backup

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Smart energy management has never been easier than with the Touchscreen Room Controller for fan coil unit applications. Designed for new construction and retrofit projects, the Touchscreen Room Controller dramatically decreases project delivery costs by reducing installation, configuration, and commissioning time. No complex software or tools are required to customize functionality to meet the applications requirements. The Room Controllers provide all the advanced features and monitoring functions required by modern building automation systems in a simple compact enclosure.

Application Specific & Programmable

The Touchscreen Room Controller is both application-specific AND programmable. This enables the modification of pre-configured control sequences, or the creation of entirely new control sequences for fan coil applications. Their configurable control sequences, and scheduler functionalities deliver all the flexibility necessary for optimal applications.

Scalable Capabilities Controller

Up to 17 I/Os (Inputs and Outputs) with universal I/O support to cover any kind of application in any room, from standard to advanced functionality. This provides the flexibility to tackle any type of energy efficiency application.

Easy to Use

The commissioning flow has been completely redesigned to make commissioning the product hassle and fault-free, while increasing the speed of loading sites.

Touchscreen with Customizable User Experience

The screen of the Touchscreen Room Controller offers a customizable user experience with a selection of languages, temperature scales, buttons, and screen themes. With the Uploader Tool or via BACnet, the screen also supports the upload of an image or logo that can be used as the standby screen of the device.

Passive Infrared Motion Sensor

All models are equipped with a discrete passive infrared (PIR) motion sensor as a standard feature. With this sensor, the Touchscreen Room Controller uses advanced occupancy routines and optional additional Lua scripts to generate automatic energy savings during occupied and unoccupied periods without sacrificing comfort. It can have adjustable sensitivity with up to a 9 m (29.5 ft) detection range.

Automatic Demand Response

The Automatic Demand Respond (ADR) implements the load shedding and pricing applications compatible with regulations for Occupant Controlled Smart Thermostats. The application requires a BACnet command from interfacing equipment to turn on/off the Load Shedding feature. Messaging and confirmations are performed by adjoining equipment having Internet connectivity and then providing the Touchscreen Room Controller with the BACnet or Modbus command message.

Communication & Connectivity

Ready for networking communication with a building management system using BACnet (onboard MS/TP) or Modbus RTU (RS-485), as needed.

Integration to Building Management Systems

The Touchscreen Room Controller can be seamlessly integrated with the following:

- EcoStruxure Building Operation
- Most third-party building management system that support open protocols
- Direct wired integration to BACnet MS/TP and Modbus
- Firmware upgrades over-the-wire (BACnet) for easy upgrades in large installations in EcoStruxure Building Operation

Custom Match Styling to Decor

- 2 color casing options (white and black)
- LED-backlit LCD touchscreen with customizable standby screens
- 22 selectable languages
- Customized home screens for specific use cases (e.g. Commercial and Hospitality)

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Applications

2 or 4 Pipe Low-Voltage Fan Coil

The Touchscreen Room Controller can also be used as a Zone Controller to control ON/OFF, floating, or 0 to 10 Vdc heating or cooling terminal equipment such as valves, and other end devices.

The following are typical Zone Controller applications:

- 3 speed or ECM fan
- 2 or 4 pipe FCU with reheat
- Fin-tube radiators
- Cabinet heaters
- Radiant panel heaters
- Electric re-heat zones
- Terminal reheat

SXWTRC3500
Low-Voltage Fan Coil Controller
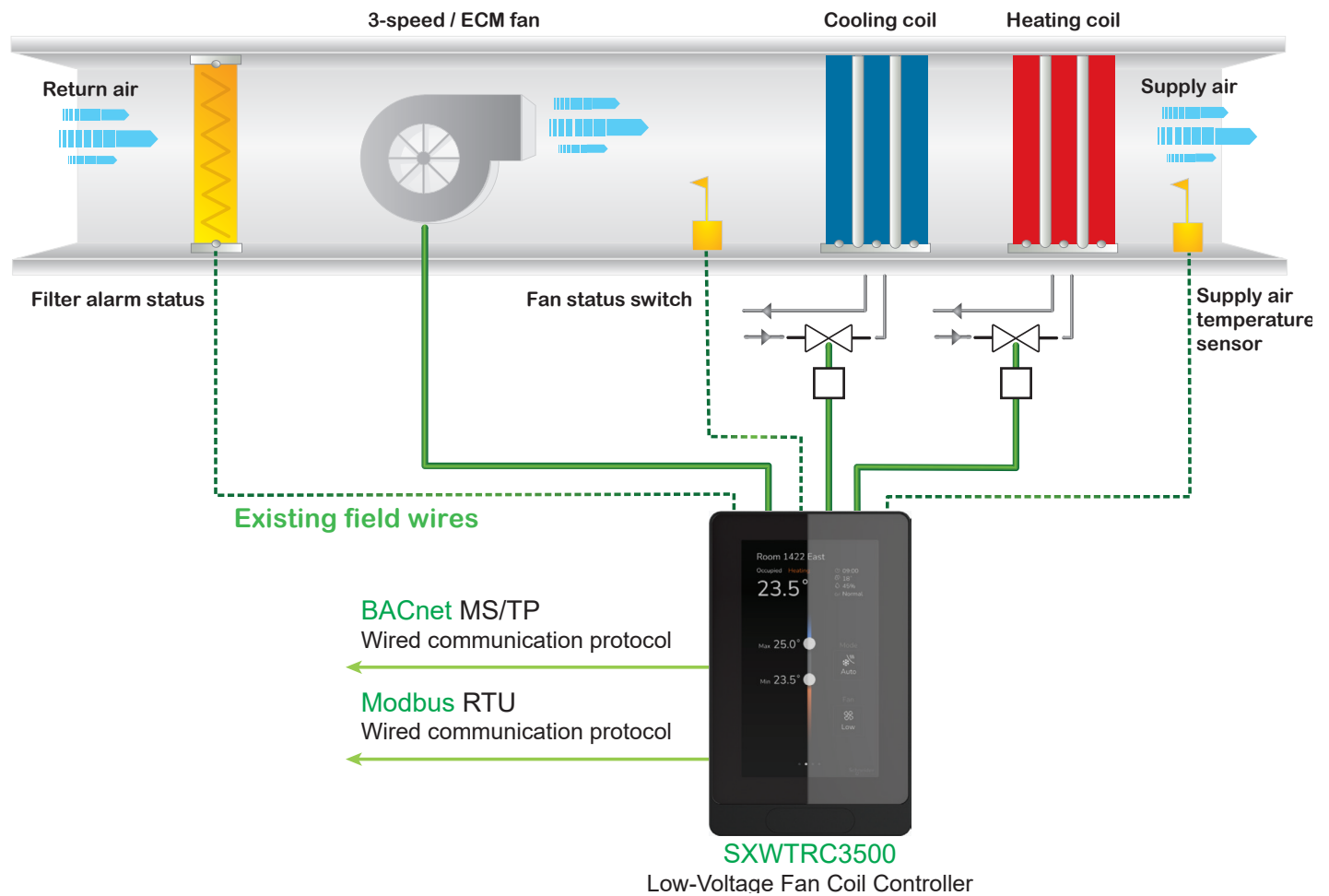
For more information on the possible applications for the TRC3500, refer to the Application Guide.

Part Numbers

Product	BACnet/ MSTP	RF (Wi-Fi + ZB)	RH Sensor	Passive IR Sensor	Color	Part number
Touchscreen Room Controller Low-Voltage Fan Coil Unit & Zone Control	●		●	●	White	SXWTRC3500B11X
Touchscreen Room Controller Low-Voltage Fan Coil Unit & Zone Control	●		●	●	Black	SXWTRC3500B00X

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Specifications

TRC3500	
Electrical	
Input	24 Vac ±15 % recommended, Absolute Max 29.5 Vac, 50/60 Hz or 24 Vdc ±15 %
Peak device consumption	Up to 6 VA with CO2 sensor Plus Output Load (max total 94 VA)
Transformer maximum rating	100 VA, 4.17 A , Class 2
Output ratings	**5 DO (Electronic Relays):** 24 Vac or 24 Vdc ±15%, 50/60 Hz, 1.0 Amp. **4 UO (Electronic Relays or Analog Outputs – Configurable):** 0 - 10 Vdc, 5 mA max
Analog outputs	4 (A1 - A4)
Universal I/Os	4 (U1 - U4)
Universal inputs	4 (U5 - U8)
Digital outputs	9 (D1 - D9)
Supported signals	0 - 10 Vdc
Real-time clock	7-day internal battery backup
UL file number	E527425
Environment	
Environmental conditions	Indoor use only
Ambient temperature, operating	0 to 50 °C (32 to 122 °F)
Humidity, operating	0 to 95 % RH non-condensing
Ambient temperature, storage	-30 to 50 °C (-22 to 122 °F)
Humidity, storage	0 to 95 % RH non-condensing
Dehumidification setpoint range	30 to 95% R.H.
Occ, unocc and standby cooling setpoint range	12 to 37.5 °C (54 to 100 °F)
Occ, unocc and standby heating setpoint range	4.5 to 32 °C (40 to 90 °F)
Room and outdoor air temperature display range	-40 to 50 °C (-40 to 122 °F)
Proportional band for room temperature control	Cooling and Heating: Default: 1.8°C (3.2°F)
Sensors	
Temperature sensor resolution	± 0.1 °C (± 0.2 °F)
Temperature control accuracy	±0.5 ° C (± 0.9 °F) @ 21 °C (70 °F) typical
Humidity sensor accuracy	Reading range from 10 - 90 % R.H. non-condensing 10 to 20% precision: 10% 20 to 70% precision: 5% 70 to 90% precision: 10%
Humidity sensor stability	Less than 0.25 % yearly (typical drift)
Mechanical	
Dimensions	132.8 L x 82.5 W x 27.9 H mm (5.2 L x 3.2 W x 1.1 H in)
Weight	241.4 g (0.5 lb)
Material	
Wire gauge	Power supply: 18 AWG Communications: 22-24 AWG
Enclosure	Polycarbonate
Display	Glass
Ingress protection rating	IP 20
Plastic flame rating	UL94 V-0

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Pollution degree	2
Color	White or Black
Surface finish	Matte
Display	
Display resolution	800 x 480 pixels (WVGA)
Display aspect ratio	16:10
Display size	109.2 mm (4.3 in)
Display type	Capacitive 226 Pixels per Inch (PPI)
Color	16 million colors
Display languages	Arabic, Chinese (Simplified), Czech, Danish, Dutch, English (Default), Finnish, French, German, Hebrew, Hungarian, Indonesian, Italian, Japanese, Norwegian, Polish, Portuguese, Russian, Slovak, Spanish, Swedish, Turkish
Brightness control	400 cd/m2, 16 levels
LED lifetime[a]	50,000 hours.
a) The LED lifetime is defined as the time when the LED continues to operate at the ambient temperature 25 °C +/-2 °C (77 °F +/- 3.6 °F) until the brightness is reduced to 25% of its original value	
Installation	
Placement	Wall mounted in rooms and open spaces

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Regulatory Notices

Federal Communications Commission
FCC Rules and Regulations CFR 47:
Part 15, Subpart B, Class B – EMC Radiated and Conducted Emissions for Residential User

UL 60730-1 – Standard for Safety Automatic Electrical Controls
UL 60730-2-9 – Particular Requirements for Temperature Sensing Controls
UL 60730-2-13 – Particular Requirements for Humidity Sensing Controls
UL E527425 – Plastics for Additive Manufacturing

Listed products for the United States and Canada, Open Class Energy Management Equipment.

UK Conformity Assessed
BS/EN 60730-1 – Standard for Safety Automatic Electrical Controls
BS/EN 60730-2-9 – Particular Requirements for Temperature Sensing Controls
BS/EN 60730-2-13 – Particular Requirements for Humidity Sensing Controls

UKCA	UK Representative	Manufacturer
	Schneider Electric Limited	Schneider Electric Industries SAS
	Stafford Park 5	35 rue Joseph Monier
	Telford, TF3 3BL	Rueil Malmaison 92500
	United Kingdom	France

International Electrotechnical Commission
IEC 60068-2-27 – Environmental Testing, Test Ea And Guidance: Shock
IEC 60068-2-6 – Environmental testing, Test Fc: Vibration (sinusoidal)

ICES-003, Issue 7, Class B – EMC Radiated and Conducted Emissions for Residential Users

CE - Compliance to European Union (EU)
2014/30/EU – Electromagnetic Compatibility Directive
2014/53/EU – Radio Equipment Directive
EN 60730-1 – Standard for Safety Automatic Electrical Controls
EN 60730-2-9 – Particular Requirements for Temperature Sensing Controls
EN 60730-2-13 – Particular Requirements for Humidity Sensing Controls

This equipment complies with the rules, of the Official Journal of the European Union, for governing the Self Declaration of the CE Marking for the European Union as specified in the above directive(s).

CAN/CSA-E60730-1 – Automatic Electrical Controls, General Requirements
CAN/CSA-E60730-2-9 – Particular Requirements for Temperature Sensing Controls

This equipment and its packaging carry the waste of electrical and electronic equipment (WEEE) label, in compliance with European Union (EU) Directive 2012/19/EU, governing the disposal
and recycling of electrical and electronic equipment in the European community.

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