

# ROOFTOP AC TERMINAL UNIT CONTROLLER

## OVERVIEW

The HVAC controls market requires an economical DDC controller that provides optimum zone control for packaged rooftop air conditioning terminal unit applications.

The Circon SCC-300-RTC comes complete with easy to configure rooftop AC terminal unit control software combined with a cost-effective hardware platform to provide exceptional flexibility. Configurable for a variety of applications, the SCC-300-RTC is all you need in a 13-point rooftop AC unit DDC controller.

## APPLICATIONS

The SCC-300-RTC can be used in any packaged rooftop AC unit application. It maintains a constant zone temperature by configurable, energy-efficient, sequenced control of the supply fan, heating source, cooling source and an optional outdoor air damper and exhaust air damper or fan. Optional secondary terminal or perimeter heating control increases application flexibility.

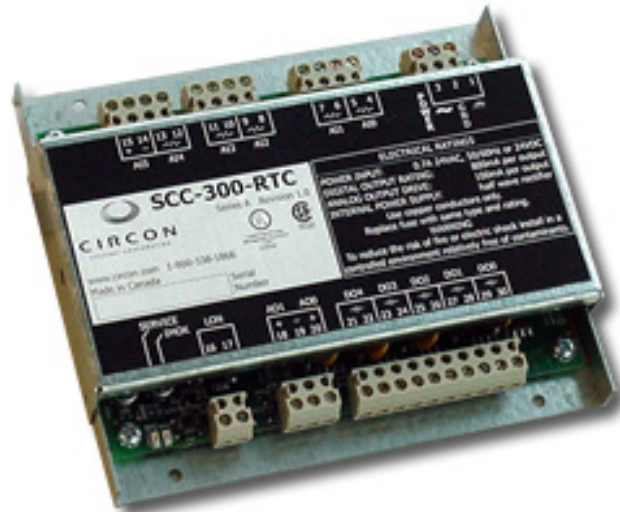
An internal time-of-day schedule allows the SCC-300-RTC to optimize energy usage by adapting its control sequence to occupied, unoccupied or standby setpoints. Using demand limiting, a supervisory controller can instruct the SCC-300-RTC to decrease the rooftop unit's energy usage with minimal impact on comfort.

A versatile general-purpose side loop provides three styles of independent control for wide range of equipment including unit heater, baseboard heater, exhaust fan, lighting, maintaining space static or duct pressure, and more. The side loop together with otherwise unused I/O saves the cost of additional controllers for simple applications.

The SCC-300-RTC's inputs, outputs, control sequences, demand limiting and alarming, trending, and scheduling functions are all easily configured using simple Windows® - based software which is all fully compatible with Echelon® Corporation's LNS®.

## ORDERING INFORMATION

Part number 10-0392



## FEATURES AND BENEFITS

- Seamless integration into interoperable LonWorks® networks; adaptable for standalone installation
- Easily mounts directly inside the rooftop unit enclosure
- Five digital (TRIAC) outputs simplify connecting with standard rooftop unit five-wire interface
- Analog output provides modulated economizer control to optimize use of outdoor air
- Five resistive inputs for space temperature (required) with / without bypass button and any four of: supply air temperature, mixed air temperature, setpoint adjust, fan, filter, window and occupancy sensors
- An analog input enables CO<sub>2</sub>-based demand control ventilation or dehumidification control
- A side loop provides independent control for additional simple HVAC equipment
- Onboard soft clock, scheduling, and trending to decrease costs and increase flexibility
- Transmits alarms for local or remote annunciation
- Faster, easier to use LNS plug-ins
- LonMark® Space Comfort Controller functional profile 8504



**SPECIFICATIONS**

**I/O CAPABILITY**

6 Inputs	Five 10 kΩ thermistor, Precon curve: Type II model 24 or Type III model 3, or dry contact One voltage 0–10 VDC
2 Analog outputs	0–10 VDC Max drive 100 mA per output
5 Digital outputs	Isolated TRIAC 800 mA maximum 30 mA minimum, at 24 VAC Short-circuit protected, auto-reset

**COMMUNICATIONS**

Transceiver	Echelon Free Topology Transceiver (FTT-10A) @ 78 kbps
Wire type	AWG22 to AWG16 stranded (use only twisted pair wiring and copper conductors for network)
Neuron®	3150, 10 MHz

**POWER SUPPLY**

Controller	2.0 A, 24 VAC 50–60 Hz or 24 VDC
Fuse	2.0 A slow-blow (Bussman GMD-2.0A, Littlefuse 23902.0A)
Rectifier	Half-wave

**MECHANICAL**

Operating temperature	32°F to 122°F (0°C to 50°C)
Relative humidity	5% to 95% RH (non-condensing)
Weight	15 oz. (420 grams)
Dimensions	0.8" x 5" x 5.8" (20.3 mm x 127 mm x 147 mm)
Enclosure material	Metal
Mounting	Four sheet metal screws, optional DIN rail adaptor

**AGENCY LISTINGS AND REGULATORY COMPLIANCE**

Class II device (when powered by class II supply)  
 CSA 22.2 #205-M1983, #950-M89  
 UL 916 certification for Energy Management Equipment  
 FCC Part 15, Class B of the FCC rules for Radio Frequency Devices  
 EMC Directive 89/336/EEC  
 LonMark 3.3 certified, LonMark functional profile: 8504

**CIRCON SYSTEMS CORPORATION**

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Circon Systems Corporation operates a quality management system independently certified to comply with the requirements of ISO 9001:2000.

# ROOFTOP AC TERMINAL UNIT CONTROLLER

## OVERVIEW

The HVAC controls market requires an economical DDC controller that provides optimum zone control for packaged rooftop air conditioning terminal unit applications.

The Circon SCC-310-RTC comes complete with easy-to-configure rooftop AC terminal unit control software combined with a cost-effective hardware platform to provide exceptional flexibility. Configurable for a variety of applications, the SCC-310-RTC is all you need in a 13-point rooftop AC unit DDC controller with onboard relays.

## APPLICATIONS

The SCC-310-RTC can be used in any packaged rooftop AC unit application. It maintains a constant zone temperature by configurable, energy-efficient, sequenced control of the supply fan, heating source, cooling source and an optional outdoor air damper and exhaust air damper or fan. Optional secondary terminal or perimeter heating control increases application flexibility.

An internal time-of-day schedule allows the SCC-310-RTC to optimize energy usage by adapting its control sequence to occupied, unoccupied or standby setpoints. Using demand limiting, a supervisory controller can instruct the SCC-310-RTC to decrease the rooftop unit's energy usage with minimal impact on comfort.

A versatile, general-purpose side loop provides three styles of independent control for wide range of equipment including unit heater, baseboard heater, exhaust fan, lighting, maintaining space static or duct pressure, and more. The side loop together with otherwise unused I/O saves the cost of additional controllers for simple applications.

The SCC-310-RTC's inputs, outputs, control sequences, demand limiting and alarming, trending, and scheduling functions are all easily configured using simple Windows® - based software which is all fully compatible with Echelon® Corporation's LNS®.

## ORDERING INFORMATION

Part number 10-0433



## FEATURES AND BENEFITS

- Seamless integration into interoperable LonWorks® networks; adaptable for standalone installation
- Easily mounts directly inside the rooftop unit enclosure
- Five relay outputs simplify connecting with standard rooftop unit five-wire interface
- Analog output provides modulated economizer control to optimize use of outdoor air
- Five resistive inputs for space temperature (required) with / without bypass button and any four of: supply air temperature, mixed air temperature, setpoint adjust, fan, filter, window and occupancy sensors
- An analog input enables CO<sub>2</sub>-based demand control ventilation or dehumidification control
- A side loop provides independent control for additional simple HVAC equipment
- Onboard soft clock, scheduling, and trending to decrease costs and increase flexibility
- Transmits alarms for local or remote annunciation
- Faster, easier to use LNS plug-ins
- LonMark® Space Comfort Controller functional profile 8504



CIRCON

**SPECIFICATIONS**

**I/O CAPABILITY**

6 Inputs	Five 10 kΩ thermistor, Precon curve: Type II model 24 or Type III model 3, or dry contact One voltage 0–10 VDC
2 Analog outputs	0–10 VDC. Maximum drive 100 mA per output
5 Digital outputs	Dry contact relay: 2.0 A maximum at 24 VAC or 24VDC

**COMMUNICATIONS**

Transceiver	Echelon Free Topology Transceiver (FTT-10A) @ 78 kbps
Wire type	AWG22 to AWG16 stranded (use only twisted pair wiring and copper conductors for network)
Neuron®	3150, 10 MHz

**POWER SUPPLY**

Controller	2.0 A, 24 VAC 50–60 Hz or 24 VDC
Fuse	2.0 A slow-blow (Bussman GMD-2.0A, Littlefuse 23902.0A)
Rectifier	Half-wave

**MECHANICAL**

Operating temperature	32°F to 122°F (0°C to 50°C)
Relative humidity	5% to 95% RH (non-condensing)
Weight	15 oz. (420 grams)
Dimensions	0.8" x 5" x 5.8" (20.3 mm x 127 mm x 147 mm)
Enclosure material	Metal
Mounting	Four sheet metal screws, optional DIN rail adaptor

**AGENCY LISTINGS AND REGULATORY COMPLIANCE**

Class II device (when powered by class II supply)  
 CSA 22.2 #205-M1983, #950-M89  
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