Day in, day out reliability on the job

Comfort, energy efficiency and ease of installation and use

Relax in the knowledge that we are delivering accurate and reliable temperature control solutions for all your ducted air, hydronic, fan coil unit and heat pump applications. Siemens Electronic Thermostats and Controllers are ideal for an economical electronic solution or for replacing older pneumatic thermostats.

Designed with a modern, low-profile exterior, these thermostats blend seamlessly into any environment and provide the functionality to ensure occupant comfort and consistent temperature control. Environmentally safe and loaded with the features you need, such as tamperproof exterior and day/night changeover, there is a Siemens Electronic Thermostat or Controller to meet all of your needs for state-of-the-art temperature control—day in, day out with outstanding reliability.
Controlling the room without saying a word

Universal Room Control Applications

Designed specifically for room control applications, the RAA..., RCU... and RDU... Series of Electronic Room Thermostats and Controllers deliver extreme accuracy of control in an easy-to-use package. Extremely affordable—it is one of those products that does its job—and does it well. Features include:

- Affordable electronic solution
- On/off, 0 to 10 Vdc, or floating output control
- Proportional (P) or Proportional + Integral (P+I) control algorithm
- Automatic or manual heat/off/cool modes
- Day/night operating mode changeover inputs
- Microprocessor-based technology
- Digital LCD display and functionality
- Modern, low-profile design
- Mechanical or electronic temperature limit stops
RAA... Series Electronic Room Thermostats
A single packaged electronic thermostat that delivers precise control, accuracy without a fancy price tag, the RAA... Series delivers. Ideal for schools, public buildings, storage or maintenance rooms requiring on/off control output, the RAA10C is the basic electronic thermostat that delivers a clean, modern look in a tamper-proof housing. Designed for light industrial buildings and for use in conjunction with zone valves, thermal valves, gas or oil burners, and pumps, the RAA20U delivers heating or cooling only capabilities for maintaining room temperatures with on/off control outputs.

RCU... Series Electronic Room Controllers
Featuring the same unique, low-profile design, the RCU... Electronic Room Controllers deliver even more features with integral microprocessor-based technology for extremely accurate control. Excellent for compact VAV or universal applications that require proportional control capabilities with 0 to 10 Vdc output for heating and cooling, the RCU50U provides automatic heat/cool changeover with remote air temperature sensor inputs and operation mode changeover inputs. Available with three operating modes: normal, energy saving and freeze protection, the RCU50.2U provides manual heat/cool changeover.

Designed for both cooling and heating universal applications, including compact VAV applications, the RCU61U features a proportional control algorithm with 0 to 10 Vdc cooling and 3-point floating heating outputs. This model features external setpoint shift and minimum air volume limitation cooling functionality. Operating modes include: normal, energy saving and freeze protection for added energy efficiencies. The RCU15U provides two independent on/off outputs for separate heating and cooling systems. For added accuracy in sensing overall room air temperature, a remote temperature sensor input is available for air sensing at the air return, as well as at the controller. For 4-pipe applications, the RLA162.5U delivers two modulating 0 to 10 Vdc outputs.

RDU... Series Modulating Electronic Room Controllers
Featuring all the advantages of digital technology, the RDU... Modulating Room Controllers are loaded with functionality for universal heating or cooling applications that require three-point output control, three operating modes: normal, energy saving and freeze protection, and other in-demand features such as operation mode changeover, heat/cool changeover and return air temperature input. Designed for universal or VAV applications that require 0 to 10 Vdc output control, the RDU50U delivers a easy-to-read LCD and the capability for automatic heat/cool changeover with a minimum air volume limitation for the cooling function with the touch of a button. The RDU50.2U features a manual heat/cool changeover control on the thermostat for easy adjustment by the user.

With 11 adjustable parameters for extremely customized temperature control, the RDU20U provides a three-point floating output for heating and/or cooling applications with automatic changeover using a sensor. The controller has an adjustable run time to adapt to valve and damper actuator operation.
The bar has been raised—performance and economy

Fan Coil Control Applications

Delivering a unique three-tiered approach, the RAB..., RCC... and RDF... Series of Electronic Room Thermostats and Controllers with a smart mix of economy and features to meet your fan coil control application needs—even if you are on a budget. Features include:

- On/off output control
- Proportional 0 to 10 Vdc control
- 3-point floating control
- Operating mode changeover inputs
- Microprocessor-based technology
- Digital LCD display and functionality
- Automatic or manual heat/cool changeover input for day/night temperature settings for energy conservation
- Operating modes: normal, night setback, freeze protection or standby
- Selectable control parameters depending on model
- Modern, low-profile design
**RAB... Series Electronic Room Thermostats**

Designed for good control and minimal complexity, the RAB... Electronic Room Thermostats deliver fan coil control at a very economical price. Ideal for schools, public buildings, storage or maintenance rooms requiring on/off control output, the **RAB10.1U** is the basic electronic thermostat that delivers 2-pipe fan coil control. Designed for use in conjunction with zone valves, thermal valves and fans, the **RAB20.1U** provides 2-pipe fan coil control with an external setpoint knob and an external changeover switch for easy adjustment by users. Also designed for use in conjunction with zone and thermal valves in 4-pipe fan coil systems, the **RAB30.1U** offers two outputs to control separate heating and cooling zone valves, a manual setpoint knob, manual changeover and fan speed control. The **RAB90.1U** provides remote control of a 3-speed fan.

**RCC... Series Electronic Fan Coil Unit Controllers**

Featuring integral microprocessor-based technology for extreme accuracy, the RCC... Electronic Fan Coil Unit (FCU) Controllers are a step above their peers—offering the ease of operation and the added flexibility of automatic heat/cool changeover with three operating modes: normal, energy saving and freeze protection. Other highly desirable features, such as LEDs for easy, at-a-glance monitoring of mode and fan speed, are also included. Designed for 2-pipe fan coil units, the **RCC10U** provides one output with automatic heat/cool changeover, remote air temperature sensor inputs and operation mode changeover inputs. The **RCC20U FCU Controller** is designed for 2-pipe fan coil units with an additional electric heat output and has the same features as the **RCC10U**. For 4-pipe fan coil units with Free Energy Band™ for automatic changeover, the **RCC30U FCU Controller** provides two on/off outputs and a return air sensor for additional control response and accuracy to maintain comfort. Designed with two control sequences with Free Energy Band™, the **RCC30U** allows the room temperature to float several degrees around the setpoint without switching into heating and cooling mode for optimal energy efficiency.

**RDF... Series Modulating Electronic Fan Coil Unit Controllers**

Offering the advantages of digital technology and precise microprocessor-based control, the RDF... Modulating Electronic Fan Coil Unit Controllers deliver superior control of two- and four-pipe fan coil applications as well as the features users want most. The RDF... Series delivers the ease of operation together with the most flexibility, featuring operation mode changeover, heat/cool changeover and return air temperature input. Excellent for 2-pipe fan coil heating or cooling applications, the **RDF10U** provides one on/off input for valve control and outputs for a 3-speed fan. The **RDF20U** adds an additional output for applications with electric heat. For 4-pipe heating and cooling, the **RDF30U** features two on/off outputs. Ideal for office, hotel and other high profile installations where comfort and asset protection is a must, the **RDF50.1U** provides 0 to 10 Vdc output while the **RDF60.1U** provides 3-point floating 24 Vac output. Both models deliver Proportional (P) or Proportional + Integral (P+I) control. All models feature an easy-to-read LCD and the capability for automatic heat/cool changeover as well as display of either setpoint or room temperature.
Right to the point
digital is the way to go

Heat Pump Control and Universal Room Applications

Featuring all the advantages of digital technology, the microprocessor-based RDX... Modulating Heat Pump Controller controls heat pumps with a single-stage compressor, reversing valve and optional electric heating or provides control of temperature in individual rooms that have separate heating and cooling systems with optional electric heat. Features include:

- Day/Night operating mode change-over inputs for window contacts or card key access to rooms
- Microprocessor-based technology
- Digital LCD display and functionality
- Manual heat/cool changeover switch
- Auxiliary heating input
- Continuous or automatic fan cycling
- Adjustable switching differentials for heating and cooling outputs
- Modern, low-profile design
- Remote temperature sensor input
- Selectable setpoint or room temperature display
- Electronic setpoint limiters
RDX... Series Modulating Electronic Room Controllers

For easy installation and use, together with the latest in digital technology and LCD, the RDX... Heat Pump Controller is an excellent choice for light commercial applications, such as hotels and commercial offices. With an easy-to-read LCD, the RDX42.22U features selectable temperature control and a manual heat/cool changeover switch for easy adjustment by users.
Features, functions and benefits

**Keeping occupants comfortable, buildings in control and you on budget**

- LCD for at-a-glance monitoring and easy user adjustment of setpoint and control parameters
- Space temperature sampling performed in the room or the return air duct—rather than just at the thermostat itself—for accurate temperature detection with immediate response
- Extremely accurate sensor calibration for accurate temperature detection
- Operating modes: normal, energy saving or off for added control flexibility
- Operating mode changeover input for remote economy mode via card access, presence detection or door contact to save energy
- Selectable control parameters for added energy efficiency
- Separate heating and cooling setpoints in economy mode for night setback saves energy
- Adjustable minimum limitation for cooling output for added energy efficiency
- Selectable Fahrenheit or Celsius scales—no need to order separate models
- Min. and max. electronic limit stops for normal mode prevent unauthorized or excessive temperature adjustments to conserve energy

**RDX42.22U shown.**

Features on individual models vary. Refer to Submittal Summary for the specific product features and functionality.
## Accessories

<table>
<thead>
<tr>
<th>Description</th>
<th>Product</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adapter Plate.</td>
<td>All</td>
<td>ARG70</td>
</tr>
<tr>
<td>Used to adapt for 4-inch x 4-inch or 2-inch x 4-inch conduit boxes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lockable Thermostat Guard.</td>
<td>All</td>
<td>141-570</td>
</tr>
<tr>
<td>Contains mounting screws and two (2) keys.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Changeover/Remote Temperature Sensor.</td>
<td>RCC</td>
<td>QAH11.1</td>
</tr>
<tr>
<td>RCU</td>
<td>RDF</td>
<td>RDX</td>
</tr>
<tr>
<td>Changeover Sensor.</td>
<td>RLA162.5U</td>
<td>QAP22</td>
</tr>
</tbody>
</table>
Submittal Summary

**RAA... Series Electronic Room Thermostats**

**Features**
- Two-point control algorithm (on/off)
- Two mounting styles: electrical wall box or drywall
- Wall plate adapter (ARG70) included with electrical wall box mounting styles
- Dual temperature scales—Fahrenheit or Celsius
- Operates Normally Closed (NC) valves
- Tamperproof (concealed) setpoint (RAA10C)

**Specifications**
- **Operating voltage**
  - 24 to 120 Vac, 277 Vac
- **Frequency**
  - 50/60 Hz
- **Setpoint range**
  - 50°F to 85°F (10°C to 30°C)
- **Setpoint limit stops**
  - Adjustable (except RAA10...)
- **Switching differential (SD)**
  - 1.8°F (1°C), fixed
- **Switch rating**
  - 6A RES, 3.5A FLA, 12A LRA
- **Switch action**
  - Single-pole, single-throw (SPST)
- **Output**
  - Two-position (on/off)
- **Weight**
  - 5 oz. (0.14 kg)
- **Color**
  - Ivory white (housing)
  - Gray (selector knobs)

**Ambient conditions**
- **Operation temperature**
  - 32°F to 122°F (0°C to 50°C)
- **Operation rh**
  - <95%
- **Transportation temperature**
  - –4°F to 122°F (~–20°C to 50°C)
- **Transportation rh**
  - <95%

**Housing**
- **Material**
  - Plastic
- **Enclosure rating**
  - NEMA1
- **Bellows**
  - Environmentally-friendly gas

**Wiring**
- **Screw terminals**
  - 2 x 16 AWG or 1 x 14 AWG
  - Minimum 20 AWG

**Agency certifications**
- **UL listed to 873**
  - (E35918)
- **cUL listed to Canadian standard C22.2 No. 24-93**

Submittal Summary

**Universal Room Control**

Two-wire, gas diaphragm-based room thermostats are designed for use in heating or cooling two-pipe systems.

### Features

- Two-point control algorithm (on/off)
- Two mounting styles: electrical wall box or drywall
- Wall plate adapter (ARG70) included with electrical wall box mounting styles
- Dual temperature scales—Fahrenheit or Celsius
- Operates Normally Closed (NC) valves
- Tamperproof (concealed) setpoint (RAA10C)

### Specifications

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Mounting Style</th>
<th>Control</th>
<th>Cover</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAA10C</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>RAA10CW</td>
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<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>RAA20U</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>RAA20UW</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
</tbody>
</table>

1. Thermostat must be mounted to an ARG70 wall plate to be UL compliant.
Submittal Summary

RCU... Series Electronic Room Temperature Controllers

Features
• Upper and lower setpoint limit stops
• Dual scale setpoint indication
• Digital contact for operating mode selection*
• Built-in temperature sensor
• Selectable DIP switches for setting various control parameters
• Heating only, cooling only or heating and cooling applications
• Attractively styled, modern housing
• Automatic or manual changeover selection
• Freeze protection mode*

*except RCU50.2U

Specifications
Operating voltage .......................24 Vac
Frequency .............................50/60 Hz
Setpoint range .........................50°F to 85°F
(10°C to 30°C)
Setpoint limit stops.....................Adjustable
Switch rating at 24 Vac.............. 6 (1)A resistive
(inductive)
Control Action .........................See table.

Output

<table>
<thead>
<tr>
<th>Product</th>
<th>Heating</th>
<th>Cooling</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCU15U</td>
<td>On/off/PWM</td>
<td>On/off/PWM</td>
</tr>
<tr>
<td>RLA162.5U</td>
<td>0 to 10 Vdc</td>
<td>0 to 10 Vdc</td>
</tr>
<tr>
<td>RCU50U</td>
<td>0 to 10 Vdc</td>
<td>0 to 10 Vdc</td>
</tr>
<tr>
<td>RCU50.2U</td>
<td>0 to 10 Vdc</td>
<td>0 to 10 Vdc</td>
</tr>
<tr>
<td>RCU61U</td>
<td>3P</td>
<td>0 to 10 Vdc</td>
</tr>
</tbody>
</table>

Weight.......................................0.5 oz. (0.23 kg)
Color........................................Ivory white (cover)
                     Gray (base)

Ambient conditions
Operation temperature ..........32°F to 122°F
(0°C to 50°C)
Operation rh ..........................<95%
Transportation temperature ....−13°F to 158°F
(−25°C to 70°C)
Transportation rh ....................<95%

Wiring
Screw terminals ......................2 × 16 AWG or
1 × 14 AWG
20 AWG Maximum

Agency certifications ..................UL listed to UL 873
cUL certified to
Canadian Standard
C22.2 No. 24-33

Universal Room Control

Microprocessor-controlled constant air volume room controller is designed for air only or air and water heating, and/or cooling systems with proportional (P) response.

Part Number | Application | Control | Output | Changeover |
<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>2-pipe</td>
<td>4-pipe</td>
<td>Cooling/ heating</td>
<td>0 to 10 Vdc</td>
</tr>
<tr>
<td>RCU15U</td>
<td>•</td>
<td>*</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>RLA162.5U</td>
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<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>RCU50U</td>
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<td>•</td>
<td>•</td>
<td>•</td>
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<tr>
<td>RCU50.2U</td>
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<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Free Energy Band™ RCU61U</td>
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</tr>
</tbody>
</table>

* Reverse Acting (RA) heating/ Direct Acting (DA) cooling
Universal Room Control

Microprocessor-based room temperature controllers are designed for heating and cooling systems.

Features

- Highly visible digital display of room temperature or setpoint
- Control depends on room or return air temperature
- Remote temperature sensor
- Operating modes: normal, energy saving or off
- Operating mode changeover input for remote control card key access or window contact
- Selectable installation and control parameters
- Minimum and maximum setpoint limitation
- Adjustable proportional band
- Sensor calibration

Specifications

Operating voltage .......................24 Vac + 20%
Frequency ..............................50/60 Hz
Power consumption ....................Maximum 4 VA
Control action ..........................P+I algorithm
Setpoint range ..........................41°F to 95°F
                                            (5°C to 35°C)
Display ....................................Large, 1-1/2” diagonal LCD
Output
    RDU50U, RDU50.2U ..................0 to 10 Vdc
                                            (can be inverted)
    RDU20U ................................3POn/Off
Weight ....................................0.5 oz (0.23 kg)
Color ....................................Ivory white (cover)
                                            Gray (base)
Ambient conditions
    Operation temperature .............32°F to 122°F
                                            (0°C to 50°C)
    Operation rh ..........................<95%
    Transportation temperature .......–13°F to 140°F
                                            (~–25°C to 60°C)
                                            Transportation rh ..........<95%
Wiring
    Screw terminals ....................22 AWG to 14 AWG
Agency certification ....................Conforms to UL requirements
Enclosure housing .....................NEMA 1

Part Number | Application | Output | Input | Changeover |
------------|-------------|--------|-------|------------|
            | 2-pipe 0 to 10 Vdc | 0 to 10 Vdc | Remote sensor | Auto | Manual |
RDU20U      | •           | •      | •     | •          | •    |
RDU50U      | • • • • • | • • • | •     | •          | •    |
RDU50.2U    | • • • • • | • • • | •     | •          | •    |
**Features**
- Control depends on room or remote air temperature
- Heating or cooling applications
- Remote temperature sensor
- Operating modes: normal, energy saving or off
- Operating mode changeover input for remote control
- Selectable installation and control parameters
- Adjustable minimum limitation for cooling output
- Selectable display of room temperature or setpoint
- Fahrenheit or Celsius selectable scales
- Minimum and maximum setpoint limitation
- Operating voltage—24 Vac
- Sensor calibration

**Specifications**
- Operating voltage ....................... 24 Vac + 20%
- Frequency ................................... 50/60 Hz
- Control action ............................. On/off
- Power consumption ..................... Maximum 4 VA
- Setpoint range ......................... 41°F to 95°F (5°C to 35°C)
- Display.................................... Large, 1-1/2” diagonal LCD
- Output ................................. On/off
- Weight.................................... 0.5 oz (0.23 kg)
- Color...................................... Ivory white (cover) Gray (base)
- Ambient conditions
  - Operation temperature ........... 32°F to 122°F (0°C to 50°C)
  - Operation rh ...................... <95%
  - Transportation temperature ....... –13°F to 140°F (–25°C to 60°C)
  - Transportation rh .............. <95%
- Wiring
  - Screw terminals ...................... 22 AWG to 14 AWG
- Agency certification .................... Conforms to CE requirements
- Enclosure housing ...................... NEMA 1

**Part Number**
- **Control**
- **Application**
- **Output**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Control</th>
<th>Application</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>RDX42.22U</td>
<td>•</td>
<td>•</td>
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</tbody>
</table>
Submittal Summary

RAB... Series Electronic Room Thermostats

**Fan Coil Unit**

Two-wire, gas diaphragm-based room thermostats are designed for use in heating or cooling only and heating and/or cooling for two-pipe or four-pipe fan coil unit systems.

**Features**

- Manual, three-speed fan switch
- Fan release function
- Dual setpoint temperature scales
- Two-point control algorithm (on/off)
- 24 to 120 Vac, 277 Vac operating voltage
- Two mounting styles: electrical wall box or drywall
- Wall plate adapter (ARG70) included with electrical wall box mounting styles
- Manual or automatic changeover switch
- Operates Normally Closed (NC) valves
Specifications

Operating voltage .......................24 to 120 Vac, 277 Vac
Frequency ...................................50/60 Hz
Setpoint range ............................50°F to 85°F (10°C to 30°C)
Setpoint limit stops......................Adjustable
Switching differential (SD) ...........<1.8°F (1°C), fixed
Switch rating ..............................6A RES, 3.5A FLA, 12A LRA
Switch action ..............................Single-pole, single-throw (SPST)
Fan selector switch ......................Off/low/medium/high
Weight ........................................5 oz. (0.14 kg)
Color ...........................................Ivory white (housing)
Ambient conditions
    Operating temperature ...........32°F to 122°F (0°C to 50°C)
    Operating rh .........................<95%
    Transportation temperature .......~4°F to 122°F (~20°C to 50°C)
    Transportation rh ......................<95%
Housing
    Material .................................Plastic
    Enclosure rating ......................NEMA1
    Bellows .................................Environmentally-friendly gas
Wiring
    Screw terminals ......................2 × 16 AWG or 1 × 14 AWG
Agency certifications ...................UL listed to 873 (E35918)
                                      cUL listed to Canadian standard C22.2 No. 24-93

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Application</th>
<th>Mounting Style</th>
<th>Control</th>
<th>Changeover</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAB10.1UW</td>
<td>•</td>
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<td>RAB10.1U</td>
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<tr>
<td>RAB30.1U</td>
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</tbody>
</table>
Submittal Summary

RCC... Series Fan Coil Unit Controllers

Fan Coil Unit
Microprocessor-based room temperature controllers are designed for use in heating or cooling only and heating and cooling for two-pipe or four-pipe fan coil systems.

Features
• Manual, three-speed fan switch
• Setpoint temperature scales in °F and °C
• Selectable control parameters
• Operating modes changeover input for remote control
• Automatic heat/cool changeover
• Free Energy Band™ between heating and cooling (Free Energy Band™ RCC30U only)
• Operating modes: normal, energy saving, freeze protection and off

Applications Matrix

<table>
<thead>
<tr>
<th>Part Number</th>
<th>2-pipe</th>
<th>4-pipe</th>
<th>Electric Heat</th>
<th>Control Output</th>
<th>Valve Action</th>
<th>Valve Actuator</th>
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</thead>
<tbody>
<tr>
<td>RCC10U</td>
<td>•</td>
<td></td>
<td></td>
<td>On/off</td>
<td>NO</td>
<td>SFT11U</td>
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<tr>
<td>RCC20U</td>
<td>•</td>
<td>•</td>
<td></td>
<td>On/off</td>
<td>NO</td>
<td>SFP11U</td>
</tr>
<tr>
<td>RCC30U</td>
<td></td>
<td>•</td>
<td></td>
<td>On/off</td>
<td>NC</td>
<td>SFA11U</td>
</tr>
<tr>
<td>RCC50.1U</td>
<td>•</td>
<td></td>
<td></td>
<td>0-10 Vdc</td>
<td>NC</td>
<td>SFA61</td>
</tr>
</tbody>
</table>
Specifications

Operating voltage .......................120 Vac, 24 Vac (RCC50.1U)

Frequency ..................................50/60 Hz

Setpoint range ............................50°F to 85°F (10°C to 30°C)

Setpoint limit stops ......................Adjustable

Switching differential (SD)

In heating mode ..........................2°F or 7°F (1°C or 4°C)

In cooling mode ..........................1°F or 4°F (0.5°C or 2°C)

Switch rating @ 120V

RCC10U ..................................5 Res., 3.5 FLA/7.0 LRA

RCC20U, RCC30U ....................3 Res., 3.5 FLA/7.0 LRA

Switch action ..............................Single-pole, single-throw (SPST)

Selector switch ............................Standby/low/medium/high

Proportional band

Heating ..................................7°F (4°C)

Cooling ..................................3.5°F (2°C)

Weight ........................................0.5 lb (0.23 kg)

Color

Cover ......................................Gray and white

Base .......................................Gray

Selector knobs ..........................Gray

Ambient conditions

Operating temperature ...........32°F to 122°F (0°C to 50°C)

Operating rh ..........................<95%

Transportation temperature ....−13°F to 158°F (−25°C to 70°C)

Transportation rh .....................<95%

Housing

Material .................................Plastic

Enclosure rating ......................NEMA 1

Wiring

Screw terminals ......................2 × 16 AWG or 1 × 14 AWG

Minimum 20 AWG

Agency certifications ...................UL listed to 873 cUL listed to Canadian standard C22.2 No. 24-93

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<tr>
<th>Part Number</th>
<th>Application</th>
<th>Output</th>
<th>Power</th>
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Submittal Summary

**RDF... Series Fan Coil Unit Controllers**

**Features**
- Selectable digital display indicates either setpoint or room temperature
- Automatic heat/cool changeover via remote sensor
- Control depending on room/return air temperature
- Three-speed fan switch
- Operating mode changeover input for day/night temperature settings for energy conservation
- Operating modes: normal, night setback freeze protection or standby
- Selectable control parameters for:
  - Independently adjustable night cooling or night heating setpoints
  - Minimum/maximum electronic limit stops
  - Adjustable heating/cooling changeover switch point
  - Sensor calibration
  - Adjustable Free Energy Band™ for four-pipe model
  - Adjustable switching differentials for digital outputs or proportional band adjustment for modulating outputs
  - Minimum/maximum output on/off time for compressor protection
  - Fan overrun

**Applications Matrix**

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<tr>
<th>Part Number</th>
<th>2-pipe</th>
<th>4-pipe</th>
<th>Electric Heat</th>
<th>Control Output</th>
<th>Valve Action</th>
<th>Valve Actuator</th>
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Fan Coil Unit

Microprocessor-based room controllers with digital display are designed for use in heating or cooling only and heating and cooling (two-pipe or four-pipe) fan coil systems.
Specifications

Operating voltage .......................24 Vac
Frequency ..................................50/60 Hz
Setpoint range ...........................50°F to 85°F
(10°C to 30°C)
Setpoint limit stops......................Adjustable
Switching differential (SD)-adjustable
  In heating mode ....................2°F or 7°F
  (1°C or 4°C)
  In cooling mode ......................1°F or 4°F
  (0.5°C or 2°C)
Switch action ..............................Single-pole,
  double-throw (SPDT)
Selector switch ............................Standby/
  low/medium/high
Proportional band
  Heating ..................................7°F (4°C)
  Cooling ...................................3.5°F (2°C)
Weight ........................................0.5 lb (0.23 kg)
Color
  Cover......................................Gray and white
  Base .......................................Gray
  Selector knobs .........................Gray
Ambient conditions
  Operating temperature ...........32°F to 122°F
  (0°C to 50°C)
  Operating rh .........................<95%
  Transportation temperature ....−13°F to 158°F
  (−25°C to 70°C)
  Transportation rh .....................<95%
Housing
  Material ..................................ABS Plastic
  Enclosure rating ......................NEMA 1
Wiring
  Screw terminals ......................2 × 16 AWG or
  1 × 14 AWG
  Minimum 20 AWG
Agency certifications .....................UL listed to 873
  cUL listed to
  Canadian standard
  C22.2 No. 24-93

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Wiring Diagrams

Universal Room

RAA... Series Wiring Diagrams

Key
D1 Heating device
D2 Cooling device
L Operating voltage
N Neutral
N1 Room thermostat
T Thermal switch
W Heating control output
Y Cooling control output

RAA10U/RAA20U

RAA30U

RDU... Series Wiring Diagrams

Key
D1, GND Signal input for potential-free operating mode changeover switch
1 0 to 10 Vdc output
2 Heat/cool changeover sensor input
3 Measuring neutral
4 Remote temperature sensor input
6* Operating voltage, 24 Vac negative
5* Ground for control signal
7 Operating voltage, 24 Vac positive
*5 and 6 are connected internally.
RCU... Series Wiring Diagrams

Universal Room

Key
E1 Electric heater, fan or auxiliary unit
G Operating voltage 24 Vac
L Operating voltage 120 Vac
M1 Three-speed fan
N Neutral
N1 Room temperature controller
B1 Return air temperature sensor (QAH11.1)
B2 Changeover sensor (QAH11.1*)
S1 External operating mode changeover switch
Y1 599 Series zone valve
Y1 Valve actuator, 0 to 10 Vdc, heating or cooling (RLA162.5U)
Y2 599 Series zone valve
Z9 Limit controller input
F2 Low temperature detection thermostat
*RLA162.5U uses QAP22 sensor.

RCU15U

RLA162.5U

RCU50U

RCU50.2U

Free Energy Band™ RCU61U

RDX... Series Wiring Diagrams

Universal Room/Heat Pump

Key
9 Remote temperature sensor (QAH11.1)
D1, GND Signal input for potential free operating mode changeover
10 Heating output, NO contact
7 Auxiliary heating output
1,2,3 Operating voltage, 24 Vac negative
12 Fan output at single speed
4 Operating voltage, 24 Vac positive
6 Cooling output, NC contact
5 Cooling output, NO contact
8 Measuring neutral remote sensor

Four-pipe System

Heat Pump
Wiring Diagrams

Fan Coil Unit

RAB... Series

Key
- AS: Aqua sensor (by others)
- D1: Heating valve
- D2: Cooling valve
- L: Operating voltage
- M1: Three-speed fan
- N: Neutral
- N1: Room thermostat
- G1: Control output fan speed I
- G2: Control output fan speed II
- G3: Control output fan speed III
- W: Heating control output
- W/Y: Heating or cooling output
- Y: Cooling control output
- ZV: Zone valve

RCC... Series

Key
- Y1: 599 Series zone valve (heating mode)
- Y2: 599 Series zone valve (cooling mode)
- E1: Electric heater
- G: Operating voltage 24 Vac
- L: Operating voltage 120 Vac
- M1: Three-speed fan
- N: Neutral
- N1: Room temperature controller
- B1: Return air temperature sensor (QAH11.1)
- B2: Changeover sensor (QAH11.1)
- S1: External operating mode changeover switch
- Y1: 599 Series zone valve
- Y1: Valve actuator, 0 to 10 Vdc, heating or cooling
- Y2: 599 Series zone valve

Free Energy Band™ RCC30U
RDF... Series Wiring Diagrams

Key
B1  Return air temperature sensor (QAH11.1)
B2  Changeover sensor (QAH11.1)
E1  Electric heater
M1  Three-speed fan
N  Neutral
N1  Room temperature controller
S1  External operating mode changeover switch
SP  Operating voltage 24 Vac positive
SN  Operating voltage 24 Vac neutral
Y1  599 Series zone valve
Y2  599 Series zone valve (cooling mode)

Fan Coil Unit
Comfort, energy, efficiency, ease of installation and use...

There’s a Siemens Electronic Thermostat or Controller that meets the spec!

Just turn the page.
<table>
<thead>
<tr>
<th>Model</th>
<th>Application</th>
<th>Functionality</th>
<th>Outputs</th>
<th>Inputs</th>
<th>Power</th>
<th>User Interface</th>
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