

RDU/RDX Series Room Temperature Controllers

Product Numbers

RDX42.22U	RDU20U	RDU50U	RDU50.2U	Description
•	•	•		Heating only
•	•	•		Cooling only
•			•	Manual heat/cool changeover
	•	•		Automatic heat/cool changeover
	•	•	•	Two-pipe application
•				Four-pipe application
		•	•	0-10V valve or actuator output
	•			Floating (3-position) or on/off actuator output
•				On/off single or two-stage
•				Single speed fan output
•				Auxiliary electric heat
		•	•	Selectable DA or RA, P + I modulating input

Features

- Control depends on room or remote air temperature
- Heating or cooling applications
- Remote temperature sensor (Except RDU50.2U)
- 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
- Minimum and maximum setpoint limitation
- Operating voltage – 24 Vac

Accessories

- o ARG70 Wall Plate Adapter
- o QAH11.1 Changeover/Remote Temperature Sensor
- o 141-570 Lockable Thermostat Guard

Description

The RDU/RDX series room controllers are designed for heating and cooling systems, including heat pumps.



Typical Specifications

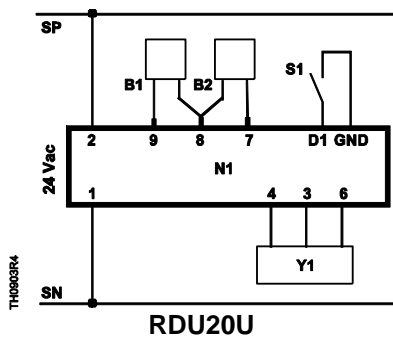
Controller shall provide heating and cooling control of room space. Controller shall have an LED display for comfort information, and remote control of energy conservation mode.

Technical Data

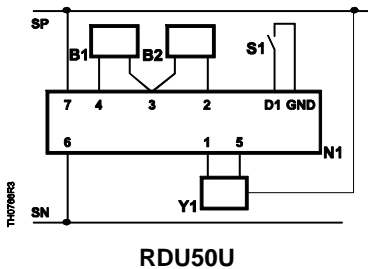
Operating voltage:	24 Vac + 20/-25%
Control action	
RDU	P+I algorithm
RDX	On/off
Frequency:	50/60 Hz
Power consumption:	Maximum 4 VA
Control output terminals 1 - 6 (RDU...):	
Resolution	39 mV
Effective current	Maximum ± 1 mA
Setpoint range:	41°F to 95°F (5°C to 35°C)
Display:	Large, 1-1/2" diagonal LCD
Output:	
RDU50U, RDU50.2U	0V to 10V (can be inverted)
RDU20U	Floating or on/off
RDX	On/Off
Weight:	0.5 oz (0.23 kg)
Color:	Ivory white (cover) Gray (base)
Ambient conditions:	
Operation temp.	32°F to 122°F (0°C to 50°C)
Operation rh	<95%
Transportation temp.	-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 NEMA 1

Wiring Diagrams

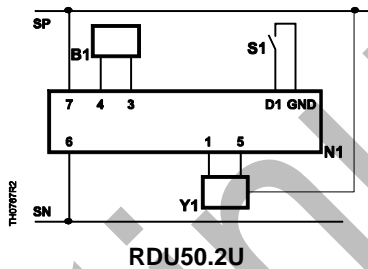
- B1 Return air sensor
- B2 Changeover sensor
- S1 Time clock or switch
- Y1 Damper or valve actuator



- 1 Operating voltage, 24 Vac negative
- 2 Operating voltage, 24 Vac positive
- 3 Operating voltage, 24 Vac positive
- 4 Control signal, opening, 24 Vac
- 6 Control signal, closing, 24 Vac
- 7 Changeover, heat/cool input
- 8 Measuring neutral (sensors)
- 9 Remote temperature sensor
- D1, Signal input for potential-free
- GND operating mode changeover

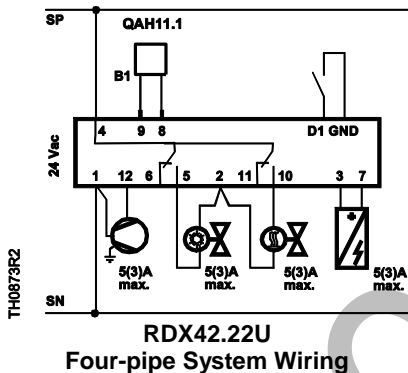


RDU50U

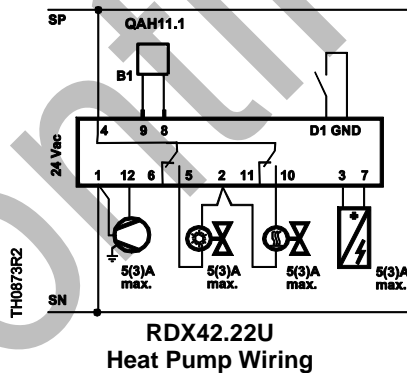


RDU50.2U

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



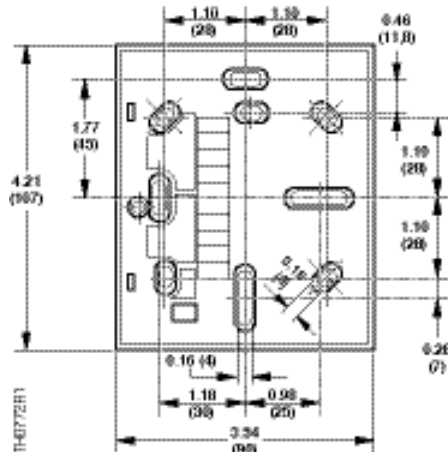
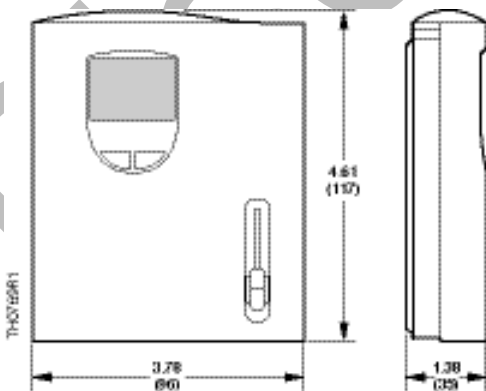
**RDX42.22U
 Four-pipe System Wiring**



**RDX42.22U
 Heat Pump Wiring**

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

Dimensions in Inches (Millimeters)



Inches (mm)

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