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Thermostats

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RDY2000BN Commercial Room Thermostat with BACnet Communication

NEW!



RDY2000BN Commercial Room Thermostat.

Description

Our advanced, yet straightforward, addition to the Siemens controller family affordably automates stand-alone buildings. The Siemens Series RDY2000BN is designed for light commercial HVAC systems applications with 24 Vac control circuitry and features BACnet communication capability. The RDY2000BN extends a building automation system's coverage to packaged rooftop and heat pump HVAC unit systems with the comfort and control functionality found in direct digital control (DDC) systems.

It can operate as a stand-alone unit or networked to perform complex HVAC control, monitoring, and energy management functions as well as communicate with other devices and the management level.

Features

- BTL listed MS/TP ensures compatibility with any BACnet system
- Easy integration into Tridium systems with prebuilt AX graphics
- Seamless integration into Siemens BAS systems with pre-defined application profiles and graphics that help speed up installation
- Built-in flexible control programs for conventional and heat pump applications
- Controls conventional systems with up to 3 stages heating and 3 stages cooling
- Controls heat pumps with 1 or 2 compressors and up to 2-stage auxiliary heat
- Built-in temperature and humidity sensor in addition to configurable inputs enables advanced room controls based on humidity, CO₂, occupancy, remote or averaging temperature

- Set-up Wizard enables rapid system configuration
- No special tools required for installation or commissioning
- Seven-day, six-event (2- or 4-event) occupancy scheduling
- Sleek design with backlit 5-inch LCD touch screen

Hardware Features

- Standard 24 Vac HVAC interface: Y1, Y2, G, W1, W2 and O/B
- Three selectable relay outputs enable control strategies for humidity/dehumidification control, ventilation, economizer enable and occupancy notification
- Four configurable inputs*:
 - Digital input
 - Resistive temperature input
 - 0 to 10V input

*Requires purchase of external sensor(s).

Applications

The RDY2000BN is designed for light commercial HVAC systems with 24 Vac control circuitry. Compatible with forced air, hydronic and steam systems fired by gas, oil or electricity. Built-in temperature and humidity sensor in addition to configurable inputs enables advanced room controls based on humidity, CO₂, occupancy, remote or averaging temperature. Selectable relays enable control strategies for humidity/dehumidification control, ventilation, economizer enable and occupancy notification.

- Controls conventional systems with up to 3 stages heating and 3 stages cooling.
- Controls heat pumps with 1 or 2 compressors and up to 2-stage auxiliary heat.

D-3

Thermostats

Specifications

Power Supply

Operating Voltage24 Vac ± 20%, Class 2, 4A maximum
Frequency 50/60 Hz
Power Consumption Including Connected Field Devices... Max. 96 VA

24 Vac Supply for Field Devices

Output relay ratingsPilot duty, 1A maximum per output,
4A maximum total

Ambient Conditions and Protection Classification

Enclosure NEMA 1
Transport..... Temperature -13° to 158°F (-25° to 70°C)
Air humidity up to 95% (non-condensing)
Operation..... Temperature 23° to 122°F (-5° to 50°C)
Air humidity Up to 95% (non-condensing)
Setpoint range45° to 95°F (7° to 35°C)

Standards, Directives, and Approvals

UL..... UL 916
cUL..... CSA C22.2 No. 205
CE..... EMC Directive
ICES Canada
NOM-NYCE..... Mexico
Regulatory Compliance Mark..... Australia
Federal Communications Commission Complies with the limits
for a Class B digital device,
pursuant to Part 15 of the FCC rules.
BTL..... BACnet Testing Laboratory
Shipping Weight 14 ounces (0.4 kg)

Product Ordering

Description	Part No.
Commercial Thermostat with BACnet Communication	RDY2000BN
Remote Wall Mounted Temperature Sensor	QAA2230.EWNN
Remote Wall Mounted Temperature & Humidity Sensor	QFA32SS.EWNN
Duct Mounted Temperature Sensor	QAM2030.010
Wall Mounted CO ₂ Sensor	QPA2000
Wall Mounted Temperature + Humidity + CO ₂ Sensor	QPA2062
Outdoor Air Temperature Sensor	QAC2030
Surface Mount Pipe Temperature Sensor	QAD2030

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Thermostats

RDY2000 Room Comfort Controller



RDY2000 Room Comfort Controller.

Description

The Siemens Series RDY2000 Room Comfort Controller is designed for light commercial HVAC systems that utilize 24 Vac control circuitry. It is compatible with forced air, hydronic, or steam systems fired by gas, oil or electricity. The thermostat can control up to 3 stages of heating and 3 stages of cooling in a conventional system and heat pumps systems with up to 2 compressors and 2 stages of auxiliary/emergency heat. The RDY2000 is capable of interfacing with remote sensors and devices to completely manage all aspects of room comfort, including temperature, humidity, and air quality.

Hardware Features

- Compatible with conventional and heat pump applications
- Controls conventional systems with up to 3 stages of heating and 3 stages of cooling
- Controls heat pump systems with 1 or 2 compressors and up to 2 stages of auxiliary heat
- On-board temperature & humidity sensors
- Standard HVAC relay outputs
 - Compressor 1 (Y1)
 - Compressor 2 (Y2)
 - Fan (G)
 - Heating 1 (W1)
 - Heating 2 (W2)
 - Reversing Valve (O/B)

- 3 Configurable relay outputs (configurable via installer set-up menu)
 - Humidification
 - De-humidification
 - Economizer
 - Occupancy
 - ERV/HRV activation
- Configurable input #3 is a dry contact – can be powered with 24VAC via jumper
- 4 Configurable inputs (configurable via installer set-up menu)
- Remote temperature sensor
 - Outdoor temperature
 - Supply / return temperature(s)
 - Indoor temperature (remote or averaging)
- Remote humidity sensor
- CO2 sensor
- Occupancy sensor

Control Features

- Set-up Wizard enables rapid system configuration
- Fully programmable scheduling function
 - 5+2 / 5+1+1 / 7-day capability
 - 2 or 4 periods per day
- Multiple options for determining occupancy
 - Scheduled occupancy
 - CO2 level vs. setpoint*
 - Occupancy / motion detection*
- Real time clock retains time & date for up to 48 hours upon loss of input power
- System configuration data is stored indefinitely upon loss of input power
- Interlocks and timers specifically designed for equipment protection
- Password protected installer set-up menu deters unauthorized changes
- Programmable fan enables fresh air circulation when not in heating/cooling mode
- Selectable lockout levels to minimize tampering with setpoints and schedule
- Programmable service reminders for humidifier pad, UV lamp, and air filter

*Requires purchase of external sensor.

General Features

- Sleek, unobtrusive design with backlit 5" LCD resistive touch screen
- Separable backplate with wiring terminals and mounting holes configured to match most conduit box configurations (screws and anchors included for drywall mounting)
- Designed for horizontal layout
 - 5-1/2" W x 4-1/3" H x 1-1/6" D
 - 11.5 oz.

Product Ordering

Description	Part No.
Room Comfort Controller	RDY2000

RDG110U and RDG160TU Commercial Fan Coil Room Unit and Heat Pump Thermostats

NEW!



RDG110U Commercial Fan Coil Room Unit and Heat Pump Thermostat.



RDG160TU Commercial 3-speed Fan Coil Room Unit.

Description

The RDG110U and RDG160TU Commercial Fan Coil Room Unit and Heat Pump Thermostats enable various control strategies including Comfort, Energy Saving, or Freeze Protection. A built-in temperature sensor or external room/return air temperature sensor enables room temperature control. Multifunctional inputs can be configured for keycard input, window contacts or external sensors.

The RDG160TU is a Commercial 3-speed Fan Coil Room Unit Thermostat that offers a 7-day program with 8 programmable timers to switch over between Comfort and Economy modes.

Features

- 2 multifunctional inputs, configurable for:
 - Operating mode switchover contact (keycard, window contact, and so on)
 - Sensor for automatic heating/cooling mode changeover
 - External room temperature or return air temperature sensor
 - Supply air temperature sensor (RDG160TU)
 - Dew point sensor
 - Electric heater enable
 - Fault sensing
- 1 digital input, configurable for:
 - Operating mode switchover contact (keycard, window contact, and so on)
 - Sensor for automatic heating/cooling mode changeover
 - Dew point switch
 - Electric heater enable
 - Fault sensing
- Configurable relay function (RDG160TU)
 - Disables external equipment during Protection mode
 - Enables external equipment (for example, pump) during H/C demand
 - Output H/C sequence

- Automatic or manual heating and cooling mode changeover
- SPDT relays for valves and SPST relays for 1- to 3-speed fans (RDG110U)
- Modulating or digital outputs for modulating valves, ECM fans, or 1- to 3-speed fans (RDG160TU)
- Purge function when used with 2-port valve in 2-pipe H/C changeover system
- Simple application configuration using DIP switches
- Minimum and maximum supply air temperature limits (RDG160TU)
- Floor heating temperature limit
- Easy operation mode selection with interactive controls
- Filter reminder
- Backlit display with intuitive layout simplifies user interaction during commissioning and daily operation

Applications

The very versatile, wall-mounted RDG110U and RDG160TU Commercial Fan Coil Room Unit and Heat Pump Thermostats are for low voltage, stand-alone applications, such as in hospitality, dormitory or light commercial facilities.

- 2 pipe Fan Coil with electric heater or radiator
- 4 pipe Fan Coil
- Chilled / heated ceiling with heater or radiator
- Simple DX heat or cool

D-7

Thermostats

Specifications

Power Supply

Operating Voltage 24 Vac/24 Vdc, Class 2
Frequency 50/60 Hz
Power Consumption Including Connected Field Devices Max. 2 VA

Multifunctional Inputs

X1-M/X2-M

Temperature Sensor Input Type NTC 3K Ω at 77°F (25°C)
 (Recommended Temperature Sensor: QAH11.1)
 Temperature Range 32° to 120°F (0° to 49°C)
 Cable Length Maximum 262 feet (80m)

Digital Input

Operating Action Selectable (NO/NC)
 Contact Sensing DC 0 to 5V, Maximum 5 mA

D1-GND

Operating action Selectable (NO/NC)
 Contact sensing DC 6 to 15V, 3 to 6 mA

Function Input External Temperature Sensor,
 Changeover Sensor, Mode Switch Contact,
 Dew Point Contact, Electric Heater Enable, Fault Contact

Outputs

RDG110U

Fan Control Q1, Q2, Q3-G0 24 Vac
 Current Min., Max. Resistive or Inductive AC 5 mA to 5A (4A)
 Control Output 24 Vac
 Y11-G0/Y21-G0 AC 5 mA to 5A (3A)

RDG160TU

Q1/Q2/Q3/G-G0 (relay) 24 Vac Class 2
 Use as 3-speed fan control
 Rating Min., Max. Resistive or Inductive 5 mA to 5A (4A)
 Use as actuator control (Q1, Q2)
 Q1 Rating Min., Max. Resistive or Inductive 5 mA to 1A
 Q2 Rating Min., Max. Resistive or Inductive 5 mA to 5A (4A)
 Max. Total Load Current Q1 + Q2 + Q3 5A
 Use as External Load Control (Q1, Q2, Q3)
 Rating Min., Max. Resistive Or Inductive Each 5 mA to 1A
 ECM Fan Control Y50 – G0 Max. DC 0 to 10V \pm 5 mA
 Actuator Control Y10-G0/Y20-G0 (G) DC 0 to 10V \pm 1 mA

Operational Data

Switching Differential, Adjustable

Heating Mode 4°F (2°C); 1° to 12°F (0.5° to 6°C)
 Cooling Mode 2°F (1°C); 1° to 12°F (0.5° to 6°C)

Setpoint Setting and Range

Comfort Mode 70°F (21°C); 41° to 104°F (5° to 40°C)
 Energy Saving Mode 59°F (15°C) or 86°F (30°C) OFF;
 41° to 104°F (5° to 40°C)
 Protection 46°F (8°C) OFF; 41° to 104°F (5° to 40°C)

Multifunctional Inputs X1/X2/D1

Input X1 Selectable
 External Temperature Sensor
 Input X2 Changeover Sensor
 Input D1 Operating Mode Switchover

Built-in Room Temperature Sensor

Measuring Range 32° to 120°F (0° to 49°C)
 Accuracy at 77°F (25°C) \pm 1°F (0.5°C)
 Temperature Calibration Range \pm 6°F (3°C)

Settings and Display Resolution

Setpoints 1°F (0.5°C)
 Current Temperature Value Displayed 1°F (0.5°C)

Operation

Climatic conditions Class 3K5

Temperature 32° to 122°F (0° to 50°C)

Humidity < 95% rh

Connection Terminals 1 x 14 Gauge (1 x 0.4 through 2.5 mm²)
 or 2 x 16 Gauge (2 x 0.4 through 1.5 mm²)

Housing Front Color RAL 9003 White

Weight 0.77 lb (0.350 kg)

Agency Standards

EU Conformity (CE) CEIT3181XX

RCM Conformity CEIT3181en_CI

UL Listing UL 916 PAZX

cUL CSA-C22.2 No. 205 PAZX7

Federal Communications Commission Complies with the
 Limits for a Class B Digital Device,
 Pursuant to Part 15 of the FCC Rules

Safety Class III as per EN 60529

Degree of Protection Housing IP30 as per EN 60529

Pollution Class Normal

Product Ordering

Description	Part No.
24V Wall-mounted Thermostat Fan Coil Unit and Heat Pump	RDG110U
24V Wall-mounted Thermostat Fan Coil Unit, 3-speed/ECM Fan	RDG160TU

RDG400 Commercial VAV Thermostat

NEW!



RDG400 Commercial VAV Thermostat.

Description

Siemens RDG400 is a versatile Single Duct VAV Thermostat Controller for low voltage stand-alone applications such as in hospitality, dormitory or light commercial applications.

Multifunctional inputs can be configured for keycard input, window contacts or external sensors. Select from various control strategies including Comfort, Energy Saving, or Freeze Protection. A backlit display with intuitive layout simplifies user interaction during commissioning and daily operation.

Siemens also offers a broad selection of sensors and actuators that comprise cost-efficient application bundles that are compatible with the RDG400.

Features

- Room temperature control using built-in temperature sensor or external room temperature/return air temperature sensor
- Three multifunctional inputs, configurable for:
 - Operating mode switchover contact (keycard, window contact, and so on)
 - Sensor for automatic heating/cooling mode changeover
 - External room temperature or return air temperature sensor
 - Dew point sensor
 - Fault sensing
- Automatic or manual heating and cooling mode changeover
- Supports electric heater
- Simple application configuration using DIP switches
- Minimum and maximum setpoint limitation
- Floor heating temperature limit
- Easy operation mode selection with intuitive controls
- Button lock (automatic or manual)

Applications

Commercial VAV applications include single-duct; single-duct with auxiliary heater; single-duct and radiator/floor heating; and single-duct heating and cooling coil.

- Single-duct:
DC 0 to 10V damper actuator; 3-position damper actuator
- Single-duct with auxiliary heater:
DC 0 to 10V damper actuator and ON/OFF, PWM or 3-position auxiliary heater, 3-position damper actuator and DC 0 to 10V auxiliary heater
- Single-duct and radiator/floor heating:
DC 0 to 10V damper actuator and ON/OFF, PWM or 3-position radiator, 3-position damper actuator, and DC 0 to 10V radiator
- Single-duct heating and cooling coil:
DC 0 to 10V damper actuator and ON/OFF, PWM or 3-position heating and cooling, 3-position damper actuator, and DC 0 to 10V heating and cooling

D-9

Thermostats

Specifications

Power Supply

Operating Voltage 24 Vac/24 Vdc, Class 2
Frequency 50/60 Hz
Power Consumption Including Connected Field Devices Max. 2 VA

Multifunctional Inputs

X1-M/X2-M

Temperature Sensor Input Type NTC 3K Ω at 77°F (25°C)
(Recommended Temperature Sensor: QAH11.1)
Temperature Range 32° to 120°F (0° to 49°C)
Cable Length Maximum 262 feet (80m)

Digital Input

Operating Action Selectable (NO/NC)
Contact Sensing DC 0 to 5V, Maximum 5 mA

D1-GND

Operating action Selectable (NO/NC)
Contact sensing DC 6 to 15V, 3 to 6 mA

Function Input External Temperature Sensor,
Changeover Sensor, Mode Switch Contact,
Dew Point Contact, Electric Heater Enable, Fault Contact

Outputs

Control Output Y10-G0 DC 0 to 10V
Resolution 39 mV
Current Maximum \pm 1 mA
Control Y1, Y2-G 24 Vac
Rating 15 mA to 1A

Operational Data

Switching Differential, Adjustable

Heating Mode 6°F (2°C); 1° to 12°F (0.5° to 6°C)
Cooling Mode 2°F (1°C); 1° to 12°F (0.5° to 6°C)

Setpoint Setting and Range

Comfort Mode 70°F (21°C); 41° to 104°F (5° to 40°C)
Energy Saving Mode 59°F (15°C) or 86°F (30°C) OFF;
41° to 104°F (5° to 40°C)
Protection 46°F (8°C)

Multifunctional Inputs X1/X2/D1

Input X1 Selectable
Input X2 External Temperature Sensor
Input D1 Changeover Sensor
Input D1 Operating Mode Switchover

Built-in Room Temperature Sensor

Measuring Range 32° to 120°F (0° to 49°C)
Accuracy at 77°F (25°C) $< \pm 1^\circ\text{F}$ (0.5°C)
Temperature Calibration Range $\pm 6^\circ\text{F}$ (3°C)

Settings and Display Resolution

Setpoints 1°F (0.5°C)
Current Temperature Value Displayed 1°F (0.5°C)

Operation

Climatic Conditions Class 3K5

Temperature 32° to 122°F (0° to 50°C)

Humidity $< 95\%$ rh

Connection Terminals 1 \times 14 Gauge (1 \times 0.4 through 2.5 mm²)
or 2 \times 16 Gauge (2 \times 0.4 through 1.5 mm²)

Housing Front Color RAL 9003 White

Weight 0.77 lb (0.350 kg)

Agency Standards

EU Conformity (CE) CEIT3181XX

RCM Conformity CEIT3181en_CI

UL Listing UL 916 PAZX

cUL CSA-C22.2 No. 205 PAZX7

Federal Communications Commission Complies with the
Limits for a Class B Digital Device,
Pursuant to Part 15 of the FCC Rules

Safety Class III as per EN 60529

Degree of Protection Housing IP30 as per EN 60529

Pollution Class Normal

Product Ordering

Description	Part No.
24V Thermostat VAV/CAV	RDG400

Electric Surface Mounted/ High Temperature Limit Control Thermostats



141-0522 Electric Surface Mounted Thermostat.

141-0530 Electric High Temperature Limit Control Thermostat.

Description

The 141 Electric Surface Mounted / High Temperature Limit Control Thermostats are single setpoint electric thermostats for high or low limit control; surface mounted or duct mounted models available.

Features

Electric Surface Mounted Thermostat

- Can be mounted horizontally, vertically or at an angle
- Visual setpoint indication through cover

Electric High Temperature Limit Control Thermostat

- Liquid-filled, rigid bulb sensing unit
- Adjustable high temperature limit stop
- Manual reset to close contacts

Applications

Surface Mounted Thermostat

The 141 Surface Mounted Thermostat is ideal as a low or high limit control on unit heaters. Also can be used as a convector or fan coil changeover control for automatically selecting the heating or cooling function based on water temperature.

High Temperature Thermostat

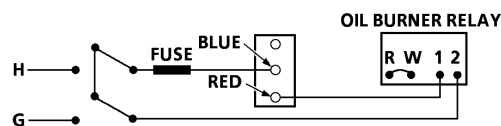
The 141 Electric High Temperature Thermostat is normally located in a duct system and wired to shut down air conditioning or ventilating fans when the air temperature exceeds 125°F (52°C), which would occur during a fire.

This thermostat can also be used as a high limit control for a warm air system when a "lockout" type control is desired or required by code.

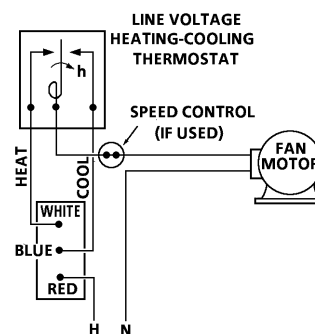
D-11

Thermostats

Typical Connections



Typical High Limit Wiring.



Typical Changeover Wiring.

Specifications

Surface Mounted Thermostat

Setpoint Range50° to 150°F (10° to 65°C)
Maximum Bulb Temperature240°F (116°C)
Switch ActionSPDT
Electrical Ratings
Motor Rating.....7.4 FLA @ 120 Vac
3.7 FLA @ 240 Vac
Locked Rotor.....44.5 A @ 120 Vac
22.2 A @ 240 Vac
Cover Finish Gray Baked Enamel
Dimensions 2.30" W x 5.38" H x 1.84" D
(58 mm W x 173 mm H x 47 mm D)
Shipping Weight2.0 lb. (0.9 kg)

High Temperature Thermostat

Setpoint Range 25° to 215°F (-4° to 102°C)
Switch Action SPST, open-on-rise
Factory Temperature Setting 125°F (52°C)
Electrical Ratings
Motor Rating..... 10 FLA @ 120 Vac
6 FLA @ 240 Vac
Noninductive Rating 1 A @ 0.3 to 12 Vac
6 A @ 12-50 Vac
Agency ApprovalsUL MP3487
CSA LR6246
Cover Finish Gray Baked Enamel
Dimensions 2.94" W x 5.38" H x 2.5" D
(59 mm W x 136 mm H x 64 mm D)
Shipping Weight1.8 lb. (0.82 kg)

Product Ordering

Description	Part No.
Surface Mounted	141-0522
High Temperature Limit Duct Mount	141-0530

Electric Line Voltage Remote Bulb Thermostats



141 Electric Line Voltage Remote Bulb Thermostat.

Description

The 141 Electric Line Voltage Remote Bulb Thermostat is a two-position electric line voltage thermostat with remote bulb.

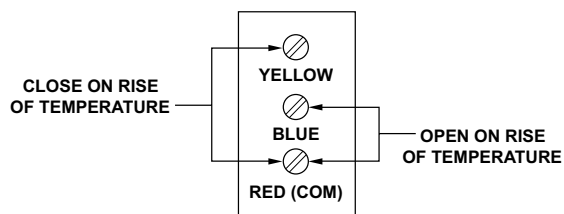
Features

- Temperature sensitive, liquid-filled sensing element
- Single-pole, double-throw snap-acting switches
- Enclosed switches suitable for low or line voltage power switching
- Gray baked enamel case

Applications

The 141 Electric Line Voltage Remote Bulb Thermostat is used for temperature control in heating and cooling application, typically to directly operate two-position damper motor actuators, motor actuated valves, relays and similar equipment. Typical applications includes summer-winter change over and the direct control of liquid or air temperatures where two position (ON-OFF) control is acceptable.

Typical Connections



D-13

Thermostats

Specifications

Inductive Amps

Full Load Amps	
120 Vac.....	7.4
240 Vac.....	3.7
Locked Rotor Amps	
120 Vac.....	44.5
240 Vac.....	22.2

Resistive Amps

120 Vac	25
240 Vac	20

Dimensions 2.5" W x 5.38" H x 2.31" D
(64 mm x 136 mm x 59 mm)

Shipping Weight1.8 lb. (0.82 kg)

Product Ordering

Temperature Scale Range	Max. Bulb Temp.	Bulb Size	Switch Differential	Part No.
50° to 130°F (10° to 55°C)	130°F (54°C)	.038" Diameter x 4.03" L (9.9 mm Diameter x 102 mm L) Capillary 6' (183 cm)	Adjustable 6° to 30°F (3° to 16°C)	141-0520
100° to 240°F (38° to 110°C)	250°F (121°C)	.029" Diameter x 2.33" L (7.4 mm Diameter x 59.2 mm L) Capillary 6' (183 cm)	Adjustable 7° to 45°F (14° to 25°C)	141-0521

Electric Low Temperature Detection Thermostats



134 Electric Low Temperature Detection Thermostat.

Description

The 134 Electric Low Temperature Detection Thermostat is a remote bulb instrument with a Single Pole, Double Throw switch. Any one foot of the capillary element actuates the thermostat switch, making this control ideal for the protection of large coils where air stratification could cause localized freezing conditions.

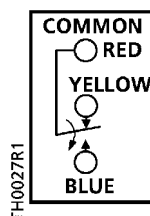
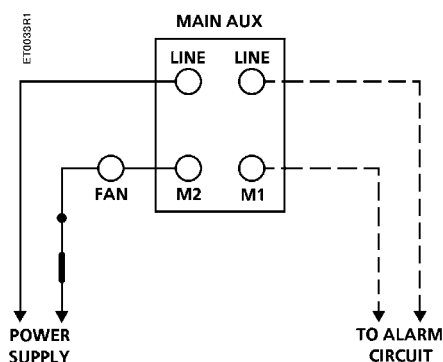
Features

- Compact and durable construction
- Adjustable concealed, low and high range limit stops with a fixed differential
- Available with manual or automatic reset
- Electroplated copper capillary tube for sensitivity and durability
- Switches 120 V or 20 Vac
- Universal mounting bracket included

Applications

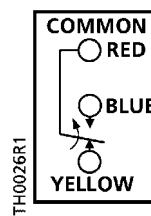
The 134 Electric Low Temperature Detection Thermostats are ideally suited for detecting potential freeze-up conditions of heating coils, cooling coils, liquid heating pipes, and similar applications.

Typical Connections



OPEN ON RISE

Red to Yellow opens on temp. decrease below setpoint.
Red to Blue closes on temp. decrease below setpoint.



CLOSE ON RISE

Red to Blue closes on temp. decrease below setpoint.
Red to Yellow opens on temp. decrease below setpoint.

D-15

Thermostats

Specifications

Part No. 134-1504

Dimensions 4" W x 3.25" H x 2.5" D
 (102 mm W x 83 mm H x 65 mm D)
Shipping Weight 2.4 lb. (1.1 kg)

Part No. 134-1510

Dimensions 2.31" W x 3.19" H x 2.31" D
 (59 mm W x 81 mm H x 59 mm D)
Shipping Weight 1.8 lb. (0.8 kg)

Part No. 134-1511

Dimensions 2.31" W x 3.19" H x 2.31" D
 (59 mm W x 81 mm H x 59 mm D)
Shipping Weight 1.8 lb. (0.8 kg)

Product Ordering

Temperature Range	Switch Action	Bulb Size	Reset Action	Part No.
15° to 55°F (-9.4° to 12.8°C)	DPST, 4-wire 2 Circuit	1/8" x 20' (3 mm x 6 m)	Manual	134-1504
35° to 45°F (1.7° to 7.2°C)	SPDT	1/8" x 20' (3 mm x 6 m)	Automatic	134-1510
35° to 45°F (1.7° to 7.2°C)	SPDT	1/8" x 20' (3 mm x 6 m)	Manual	134-1511

Electric Line Voltage Room Thermostats Heating/Cooling



134 Electric Line Voltage Room Thermostat – Heating/Cooling.

Description

The 134 Electric Line Voltage Room Thermostat is a line voltage On/Off room thermostat for heating and cooling applications.

Models are available with SPST or SPDT contact action and for standard, nominal 1/4 hp / 10 amps noninductive, or heavy duty, nominal 1 hp / 22 amps noninductive applications.

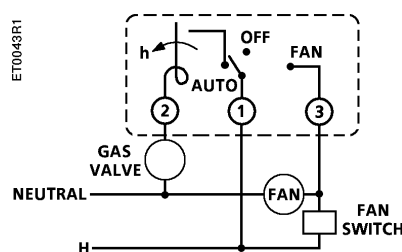
Features

- Single setpoint dial
- Exposed bimetal thermometer
- Temperature range from 50° to 90°F (10° to 30°C)
- High and low limit stops
- Standard or heavy duty models
- Dual Fahrenheit/Celsius scale plate

Applications

The 134 Electric Line Voltage Room Thermostat controls heating and cooling applications or year-round air conditioning units in commercial, industrial, or residential installations.

Typical Connections



D-17

Thermostats

Specifications

Part No. 134-1083

Motor Rating
 120 Vac6.0 A
 240 Vac3.7 A

Switch ActionSPST with "Auto-Off-Fan" switch

Dimensions2.78" W x 5.19" H x 1.88" D
 (71 mm W x 132 mm H x 48 mm D)

Shipping Weight1.3 lbs. (0.6 kg)

Part No. 134-1086

Motor Rating
 120 Vac6.0 A
 240 Vac3.0 A

Switch ActionSPST

Dimensions3" W x 4.75" H x 1.44" D
 (75 mm W x 120 mm H x 36 mm D)

Shipping Weight1.3 lb. (0.6 kg)

Part No. 134-1084

Motor Rating
 120 Vac6.0 A
 240 Vac3.0 A

Resistive Rating
 120 Vac10.0 amps
 240 Vac10.0 amps

Switch ActionSPDT

Dimensions3" W x 4.75" H x 1.44" D
 (75 mm W x 120 mm H x 36 mm D)

Shipping Weight1.0 lb. (0.6 kg)

Part No. 134-1085

Motor Rating
 120 Vac16.0 Heating/8.0 Cooling
 240 Vac8.0 Heating/8.0 Cooling

Resistive Rating
 120 Vac22.0 Heating
 240 Vac22.0 Heating

Switch ActionSPDT

Dimensions3" W x 4.75" H x 1.44" D
 (75 mm W x 120 mm H x 36 mm D)

Shipping Weight1.0 lb. (0.6 kg)

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Thermostats

Product Ordering

Switch Action	Temp. Set Point Range	Temp. Set Point Adjustment	Temperature Difference	Part No.
SPST	40° to 90°F (5° to 30°C)	Concealed	1.8°F (1°C)	134-1083
SPST	40° to 90°F (5° to 30°C)	Concealed	1.8°F (1°C)	134-1086
SPDT	40° to 90°F (5° to 30°C)	Exposed Knob or Concealed ¹	1.8°F (1°C) Heating 2.31°F (1.3°C) Cooling	134-1084
SPDT	40° to 90°F (5° to 30°C)	Exposed Knob or Concealed ¹	3°F (1.7°C) Heating 3.5°F (2°C) Cooling	134-1085

Ordering Notes:

1. Each thermostat is shipped with a blank faceplate for use when concealed adjustment is desired.

EcoView™ Energy Management System

NEW!



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Thermostats

The EcoView Energy Management System (EMS) is a wireless system designed to help retail and small commercial facilities manage energy costs.

Key benefits include:

- Real-time tracking, management, and control of energy consumption
- Remote monitoring and control of HVAC systems and electrical loads, such as lighting
- No monitoring required by on-site personnel

The System Components

EcoView Web – The interface for remotely monitoring and controlling HVAC systems and lighting loads at multiple locations. It maintains historical data on the Internet so that you may access usage and performance reports from any Web-enabled device. A one-year subscription to EcoView Web is included with the initial EcoView equipment purchase. After the first year, you must renew the subscription for each site on your account to continue to use EcoView Web.

EcoView Touchscreen – A full-color 7-inch tactile display device, master controller and Internet gateway built into a single wall-mounted unit. It is used to transmit usage data for the EcoView Web application.

EcoView Multi-phase Meter – Measures real-time energy demand, as well as historical consumption. Delivers usage data to the EcoView Touchscreen in fifteen-second intervals.

EcoView Thermostat – Enables functionality that is not possible with standard 24V HVAC thermostats.

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Thermostats



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EcoView Touchscreen

NEW!



EcoView Touchscreen.

Description

The EcoView Touchscreen is a full-color, 7-inch, tactile display device, master controller and Internet gateway built into a single wall-mounted unit. A single CAT5 cable provides both power and data and makes for a simple and robust field installation.

The touchscreen transmits usage data for the EcoView Web application.

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Thermostats

Specifications

Screen

- LCD: Sharp TFT 7" diagonal with LED backlight
- Format: WVGA (800 × 480) at 16 BPP
- Touch 4-wire resistive

Processing

- CPU: Freescale iMX27 (ARM9) at 400 MHz
- RAM: 128 MB
- Flash: 256 MB
- OS: Windows CE 6.0 R3
- Audio: On-board speaker

Power

- Power-over-Ethernet (PoE)
- 48 Vdc, single CAT5 cable for both power and data

Device to Panel Communications: Device Area Network

- ZigBee/802.15.4 MAC/PHY
- Mesh networking data routing
- Point-to-Point range of 75 ft to >300 ft (22.8 m to >91 m) depending on local conditions
- Range boosting available through the EcoView ZigBee Repeater
- Proprietary application software

Internet Communication (Wired)

- 100Base-T Ethernet (RJ45 on back)

General Specifications

Agency Approvals FCC Part 15.247 FCC ID: MCQ-PROS2B
FCC Part 15.247 FCC ID: MCQ-XBEEPRO2
FCC Part 15, Unintentional Radiators, Class B
Industry Canada (IC) IC: 1846A-PROS2B
Industry Canada (IC) IC: 1846A-XBEEPRO2
ICES-003, Issue 4, Class B
CE

Radio PROS2B

Frequency Range ISM 2.4GHz
Channels 15 (11-25)
Equipment Class Digital Modulation System (DTS)

Radio XBEEPRO2

Frequency Range ISM 2.4GHz
Channels 14 (11-24)
Equipment Class Digital Modulation System (DTS)

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Thermostats

Product Ordering

Description	Part No.
Ecoview Touchscreen (with Power Injector Module and Cables)	60-003
Replacement Ecoview Touchscreen (Screen Only; Power Injector Module and Cables not Included)	60-099

EcoView Multi-phase Meter

NEW!



EcoView Multi-phase Meter.

Description

The EcoView Multi-phase Meter is the multi-phase power meter component of the EcoView System. It is capable of measuring three-phase four-wire 240V wye of up to 1200 Amps. The unit also has the ability to interface to third-party water and gas meters through two pulse inputs.

- Measures real-time energy demand, as well as historical consumption
- Delivers usage data to the EcoView Touchscreen in fifteen-second intervals
- Factory calibrated, three-phase Current Transformers (CTs) must be ordered separately

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Thermostats

Specifications

Electrical Services Supported

- 120 to 230 Vac three-phase four-wire wye with neutral
- 240 Vac single-phase three-wire

Power and Reference Voltage

- For single-phase and three-phase operation the unit receives its operating power and reference voltage from the ØA and N (Neutral) sense input

Current Transformers

- 200A, 400A, 800A, and 1200A Current Transformers (CTs) supported
- Max 25' run from CTs to Multi-phase Meter
- Split core for easy (no disconnect) installation

Device-to-Panel Communications

- ZigBee 802.15.4 two-way link to Touchscreen
- Range of 75 feet to >300 feet (22.8 m to >91 m) depending on local conditions
- Mesh networking with other EcoView products allowing for greater range
- Range boosting available through the EcoView ZigBee Repeater

Pulse Inputs

- Two optically isolated channels
- 0 to 2000 PPS
- 2.5 to 15V pulses
- Either contact closure or electronic pulses
- Can source power for remote devices

Connectors

- One each: 10-position, 5-pin pluggable connector for reference voltage input
Phase A (Board Power)
Phase B
Phase C
Neutral
Ground
- One each: 6-pin pluggable connector for currents
Phase A, B, C: Two wires each
- Two each: 3-pin pluggable connector for pulse inputs
12 Vdc Power out (Power to contact closure or remote pulse generator source)
Pulse
Common
- One each: Pulse input power
12 Vdc, supplies power to isolated meter input circuitry for contact sensing

General Specifications

Agency Approvals FCC Part 15.247 FCC ID: MCQ-PROS2B
FCC Part 15.247 FCC ID: MCQ-XBEEPRO2
FCC Part 15, Unintentional Radiators, Class B
Industry Canada (IC) IC: 1846A-PROS2B
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ICES-003, Issue 4, Class B
CE

Radio PROS2B

Frequency Range ISM 2.4GHz
Channels 15 (11-25)
Equipment Class Digital Modulation System (DTS)

Radio XBEEPRO2

Frequency Range ISM 2.4GHz
Channels 14 (11-24)
Equipment Class Digital Modulation System (DTS)

D-24

Thermostats

Product Ordering

Description	Part No.
EcoView Multi-phase Meter	56-001
3-Phase Current Transformer, 200A (Set of 3)	56-200
3-Phase Current Transformer, 400A (Set of 3)	56-400
3-Phase Current Transformer, 800A (Set of 3)	56-800
3-Phase Current Transformer, 1200A (Set of 3)	56-1200

EcoView Thermostat

NEW!



EcoView Thermostat.

Description

The Siemens 97-004 Thermostat is designed to control light commercial HVAC systems within the EcoView Energy Management System architecture. The thermostat can control up to three stages of heating and three stages of cooling in a conventional system, and heat pump systems with up to two compressors and two stages of auxiliary heat.

- Enables functionality that is not possible with standard 24V HVAC thermostats
- On-site users may control local setpoints and make adjustments within prescribed limits
- A wireless, digital thermostat, designed to control the majority of HVAC systems
- The unit contains a robust thermostat interface and is designed for use with communicating systems where remote monitoring and/or remote control are desired

Hardware Features

- ZigBee radio designed for interface with the EcoView Energy Management System
- Compatible with HVAC systems utilizing 24 Vac control circuitry:
 - Conventional systems with up to three stages of heating and three stages of cooling
 - Heat pump systems with one or two compressors and up to two stages of auxiliary heat
- On-board temperature and humidity sensors
- Standard HVAC relay outputs:
 - Compressor 1 (Y1)
 - Compressor 2 (Y2)
 - Fan (G)
 - Heating 1 (W1)
 - Heating 2 (W2)
 - Reversing Valve (O/B)

- Additional relay outputs can be configured to manage up to three of the following:
 - Humidification
 - De-humidification
 - Economizer Enable
 - Two Configurable inputs*:
 - Remote temperature sensor
 - Outdoor temperature
 - Supply/return temperature(s)
 - Indoor temperature (remote or averaging)
 - Remote humidity sensor
- * Requires purchase of external sensor

Control Features

- Set-up Wizard enables rapid system configuration
- Real time clock retains time and date for up to 48 hours upon loss of input power
- System configuration data is stored indefinitely upon loss of input power
- Interlocks and timers specifically designed for equipment protection
- Password protected installer set-up menu deters unauthorized changes
- Programmable fan enables fresh air circulation when not in heating/cooling mode
- Selectable lockout levels minimize tampering with setpoints and schedule
- Programmable service reminders for humidifier pad, UV lamp, and air filter

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Thermostats

General Specifications

Power Supply 24 Vac +/-20%, Class 2, 4A max.

Output Relay Ratings Pilot duty, 1A max per output,
4A max total

Ambient Temperature Limitations

Operating 0° to 120°F (-18° to 49°C)

Storage/Shipping -30° to 150°F (-34° to 65°C)

Operating Relative Humidity 5% to 95% (non-condensing)

Enclosure NEMA 1

Agency Approvals UL Certified (UL916)
cUL Certified (CSA C22.2 No. 205)
FCC Part 15.247 (ID: MCQ-XBPS2C)
Industry Canada (IC) (IC: 1846A-XBPS2C)
IFETEL (Mexico)

Shipping Weight 14 ounces (0.4 kg)

Product Ordering

Description	Part No.
Commercial Room Thermostat for use with EcoView™ Energy Management System	97-004
Remote Wall-Mounted Temperature Sensor	97-002
Duct Mounted Temperature Sensor	QAM2030.010
Wall Mounted CO2 Sensor	QPA2000
Outdoor Air Temperature Sensor	QAC2030

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Thermostats

EcoView 8 DO Module

NEW!



EcoView 8 DO Module.

Description

The EcoView 8 DO Module is an eight-channel, pilot-duty controller module that is used to manage lighting, ventilation and any energy-consuming electrical load that would benefit from scheduling.

Relay channels may be accessed through the EcoView Touchscreen or remotely through the EcoView Web application. Each channel can switch 3 amps at up to 24 Vac or 30 Vdc for pilot duty service (pass through). Control is accomplished by a ZigBee 802.15.4 link back to the EcoView Touchscreen.

Functionality

- On Timer: On times are passed to the device. Even with loss of communication to the Touchscreen, the channel will turn off after the set Run (On) time.
- Delay Time: Provides a minimum delay time between relays allowing for load shedding with one schedule point.

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Thermostats

Technical Specifications

Input Power

- 12 Vdc at 1 amp supply
- Reverse voltage protected
- Consumption: 30 mA to 240 mA depending on number of channels activated

Communications

- ZigBee 802.15.4 link to Touchscreen
- Range: up to 300' with high power XBee
- Mesh networking with other EcoView products allowing for greater range
- Range boosting available via ZigBee Repeater

Microcontroller/Interface

- Real time clock for program retention if ZigBee network is lost
- Watchdog circuit for reliable operation

Switch Rating

- Eight channels form A contacts (N.O. Contacts)
- Mechanical contacts (>5000V isolation)
- 24 Vac at 3 Amps
- 30 Vdc at 3 Amps
- Greater than 100,000 cycles at 1A or less

General Specifications

Radio PROS2B

Frequency Range ISM 2.4GHz
Channels 15 (11-25)
Equipment Class Digital Modulation System (DTS)

Agency Approvals FCC Part 15.247 FCC ID: MCQ-PROS2B
FCC Part 15, Unintentional Radiators, Class B
Industry Canada (IC) IC: 1846A-PROS2B
ICES-003, Issue 4, Class B
CE

Product Ordering

Description	Part No.
EcoView™ 8 DO Module	57-002
ZigBee Repeater	97-003


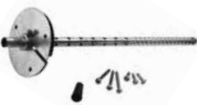





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Thermostats

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Accessories & Service Kits

	Description	Product Group	Quantity	Part No.
RDY2000				
	Mounting Plate.	All models	1	ARG70
141 & 134				
	Remote Bulb Duct Mounting Kit.	141 & 134	1	808-517
	Coil Clip.	141	1	356-115
	Capillary Clip.	141 & 134	Box of 100	7421700060
	Well. For 141-0521. 2-3/8" (60 mm)	141	1	141-337
	Electric Thermostat Guard. For electric thermostats no larger than 5 1/4" H x 3/4" W x 2" D. (133 mm H x 19 mm W x 51 mm D). Made of cast aluminum. Allen Key included.	134	1	134-117
	Concealed Adjustment Faceplate.	134	1	134-034

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Thermostats

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Thermostats



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Thermostats

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