SIEMENS

Smart Thermostat

RDS120-B Submittal Sheet

Advanced cloud connected thermostat for light commercial and residential applications

- Bacnet over IP Certified
- Controls conventional HVAC systems up to 3H/2C and heat pumps up to 4H/2C
- Easy-to-read, backlit, auto-dimming 3.5-inch, color, LCD touchscreen
- Intuitive remote user control using Apple iOS and Android mobile phone applications
- One-touch green leaf button to maximize energy efficiency
- Built-in Volatile Organic Compounds (VOC) sensor enables ventilation strategies for optimum indoor air quality
- Built-in humidity sensor
- Built-in occupancy sensor enables occupancy control
- Easy-to-program user schedule

Thermostat Highlights

- Easy to understand tri-level air quality indication: "Good", "Okay", "Poor"
- Inputs for remote or averaging temperature and humidity sensors
- Password protected screen lock
- PID algorithm for precise control
- Advanced energy saving control with free cooling capability
- Two multifunctional inputs, optional and configurable for:
  - Room temperature
  - Operating mode switch
  - Window / door contact
  - Outside air temperature
  - Room air humidity
  - Presence detector
  - Room air quality
- Six relay outputs for:
  - Conventional systems up to 3H/2C
  - Heat pumps with up to 2 compressors and 2 stages of auxiliary heat
  - Humidity or ventilation control
- Guided Setup Wizard
- Green Leaf button engages occupants in maximizing system efficiency. If the scheduled setpoint is overridden, the green leaf turns red. One touch returns the system to the programmed setpoint and the leaf returns to green.

Mobile App Features

- Support iOS and Android smartphones
- Full 7-day programmable schedule with three modes:
  - "Comfort": comfort settings during occupied periods
  - "Economy": setting for transition between "Unoccupied" and "Comfort"
  - "Unoccupied": setting for periods during absence to maximize energy savings
- Duplicates thermostat HMI on smartphone screen
- User account management
- Monitor room conditions
- Data security with Siemens Cloud Computing Platform

Ordering Information

Model Number	Orderable Part Number	Description
RDS120-B	RDS120-B	Room Thermostat

Associated Equipment

Part Number	Description
QAA2330.EWNN	Remote Wall Mounted Sensor – Temperature Only
QFA33SS.EWNN	Remote Wall Mounted Temperature and Humidity Sensor
QAM2030.010	Duct Mounted Temperature Sensor
QFM2160U	Duct Mounted Temperature and Humidity Sensor
QPA2000	Wall Mounted CO2 Sensor
QPA2062	Wall Mounted Temperature + Humidity + CO2 Sensor
QPM2162	Duct Mounted Temperature + Humidity + CO2 Sensor
QAC2030	Outdoor Air Temperature Sensor
QAD2030	Surface Mount Pipe Temperature Sensor

Power Supply

Power Supply	
Operating voltage	24 Vac (±20%)
Frequency	48 to 63 Hz
Power consumption	Max. 9 VA
Maximum power supply current	4A current limited

Radio Data

Radio Parameter	
Frequency band	2.4 to 2.4835 GHz
Maximum radio-frequency power	18 dBm
WLAN standard	IEEE 802.11b/g/n (HT20)
WLAN channel	1-11

Inputs

Connections to Multifunctional Inputs X1 - M - X2	
Passive temperature sensors - Cable length max. (copper cable section) - NTC type - Ni type - Pt type	300 ft (90 m) (16 AWG wire), 230 ft (70 m) (18 AWG wire) 200 ft (60 m) (18 AWG wire), 130 ft (40 m) (20 AWG wire) NTC10K Type 2 Thermistor Ni1000 at 32°F (0°C) RTD Pt1000_375/Pt1000_385 at 32°F (0°C) RTD

Inputs, Continued

Connections to Multifunctional Inputs X1 - M - X2	
Active DC 0 V to 10 V sensors - Room temperature range (default) - Outdoor temperature range (default) - Humidity range (default) - CO_2 range (default)	**NOTE**: min./max. configurable via parameters 32°F to 122°F (0 to 50°C) -32°F to 176°F (-50 to 80°C) 0 to 100% 0 to 2000 ppm
Digital contacts - Operating action - Contact sensing - Parallel connection - Input function	Selectable N.O./N.C. DC 14 to 40 V, 8 mA (typical) Max. 20 thermostats per switch Selectable

Outputs

Relay Contact Capacity	
Voltage	24 Vac (±20%)
Current	Min. 0.02 A, Max. 1A per output

Operational Data

Setpoint Range
45°F to 95°F (7°C to 35°C)

Built-in Room Temperature Sensor		
Temperature range	Accuracy at 77°F (25 ℃)	Display resolution
32°F to 122°F	±0.9°F or 0.5℃	1°F (0.5℃)

Built-in Room Humidity Sensor		
Humidity range	Accuracy at 77°F (25°F)	Display resolution
0% to 100%	± 5% r.h.	1%

Connections

Interfaces	
Micro USB	A service port is provided for firmware upgrade

Wiring Connections	
Screw terminals	Solid wires or prepared stranded wires: Max. 1 × 16 to 20 AWG

Standards, Directives and Approvals	
BTL	BACnet Testing Laboratory
RCM conformity	A5W90002477*
FCC standards	FCC CFR 47 Part 15 Subpart C
IC standards	RSS-247 issue 1 May 2015, RSS-GEN issue 4 November 2014
UL	UL916
Environmental compatibility	The product environmental declaration A5W90003412* (RoHS compliance, materials composition, packaging, environmental benefit, disposal).

* The documents can be downloaded from http://siemens.com/bt/download.

General Data

General		
Dimension	H 3.58" × W 3.58" × D 1.02"	
Weight	Thermostat with package, user document and accessory	15.3 oz (435 g)
	Thermostat	9.5 oz (268 g)