



RC-SERIES ELECTRONIC COMMUNICATING THERMOSTATS

- Precise Temperature Control
- Energy Star Energy Saver
- Built-In Communications
- Simple to Install
- UL Listed

Fully Interactive with all HAI controllers and compatible with most others.

DESCRIPTION

The RC-Series is a family of electronic communicating thermostats that can be controlled both locally and remotely. The RC-Series includes models for conventional single stage heat/cool, heat pump, two-speed heat pump, two-stage conventional, and zone control systems.

The RC-Series Thermostats feature a sleek, modern case design that blends in with any décor. The large LCD display shows time, temperature and operational mode. The controls are easy to use, with simple raise and lower temperature keys, mode (off, heat, cool, auto) and fan keys (on, auto). The Prog key is used for programming when the thermostat's internal scheduling features are used. The Hold key maintains the current settings as long as the hold indicator is on. A "remote" indicator shows when the thermostat has been set by remote control.

The thermostats feature a multi-mode communications interface for connection to many types of home and building automation systems. This allows more comprehensive energy and comfort management by setting the thermostats based on occupancy and home or building modes along with traditional scheduling. Two full communication modes are available for connection to automation systems and personal computers. Two additional modes are available for simplified connection to most access control, security and time clock systems.

When used with HAI's Omni family of automation controllers, full control of RC-Series thermostats is available on remote LCD consoles, telephones (with voice response) and over the Internet with HAI Web-Link II. The Omni's advanced programming features add comprehensive energy management capabilities to one or more thermostats. The Omni automatically sets the thermostat's time and outdoor temperature displays.

All models feature advanced logic for superior temperature control, including "anticipation" for maximum comfort. Models with more than one stage feature HAI's advanced Energy Efficient Control (EEC) to minimize the use of expensive auxiliary heat. The installer can set limits on the heat and cool settings, to prevent the thermostat from being set too high or too low. The thermostat prevents short cycling, protecting the system's compressor. A filter reminder tracks running time of the fan, indicating when it is time to replace the filter.

FEATURES

- Compatible with systems using 24 volt (20 to 30 V) AC or DC controls.
- Simple user controls for: Mode, Fan, Set, Hold, Raise and Lower Temperature.
- Automatic Changeover between heating and cooling modes (can be configured for manual changeover if auto is not desired).
- Heat Only and Cool Only modes for systems with only one function (RC-80B, -90B, -122B)
- Adjustable cycle times.
- Adjustable anticipation for wide range of heating system types, including gas, oil or electric, forced air, radiant, hydronic, steam, etc. (RC-80B, -90B).
- Selectable Fahrenheit or Celsius display, AM/PM or 24 hour time format.
- Large LCD Display with time, temperature and mode display.
- System Runtime monitor (this week, last week; hours).
- Filter Clean/Replace indicator reminds owner to clean filter to maintain best efficiency and performance (press Prog key to reset).
- 5-1-1 programming capability: Separate schedules for Weekdays, Saturday and Sunday, with separate heat and cool settings for morning, day, evening and night. Internal scheduler can be disabled for use with automation systems.
- Energy Star compliant.
- High limit for heat setting is adjustable by installer.
- Low limit for cool setting is adjustable by installer.
- Advanced Energy Efficient Control (EEC) monitors performance to minimize use of auxiliary heat (heat pump models RC-100B, RC-112B) or second stage heat (two stage model RC-122B).
- Non-volatile program and setting memory: no batteries required for long term, maintenance-free operation.
- Heat pump and two-stage models have adjustable differential between stages.
- Heat pump models have "emergency heat" mode (in case of heat pump failure).
- RC-80B has power stealing capability for retrofitting 4-wire heating and cooling systems, or can use "common" wire to disable power stealing (All other models use a transformer common wire).

All RC-Series programmable thermostats meet the Environmental Protection Agency's ENERGY STAR Guidelines for energy efficiency.

REMOTE COMMUNICATIONS

- 4 communications modes, selectable during installation: 2 serial modes for connection to home automation systems, building management systems and personal computers, and 2 voltage signal modes for connection to time clocks, remote setback switches and many burglar alarm panels
- Data signal is electrically isolated from heating and cooling system for superior reliability in all modes
- Fully interactive with all HAI manufactured controllers, including mode, heat setting, cool setting, fan and hold settings. (Serial Mode 1)
- Can communicate directly with the RS-232 port of a personal computer—no adapter required. Serial mode protocol: addressable up to 127 units, bi-directional, 1 start bit, 8 data bits, 1 stop bit NRZ; 300-baud data rate. Communicates continuously without loss of function. Protocol is available from HAI web site. (Serial Mode 2)
- Remote selection between Day and Night settings: a remote signal (12 VDC) selects between user programmed "day" and "night" settings for both heating and cooling modes. The settings can be changed by a user, but they will return to the preprogrammed ones on application (for night) or removal (for day) of the signal. Ideal for use with time clocks, building management systems, access control systems, and alarm systems to set to preprogrammed temperatures when building is unoccupied. (Voltage signal mode 1)
- Thermostat Override: a remote signal (12 VDC) overrides the thermostat operation and turns off the HVAC system. Removal of signal restores normal operation. Remote indicator shows that thermostat is overridden. Safety feature will turn on heat if temperature drops below 45 degrees F. (Voltage signal mode 2)

HAI AUTOMATION & ENERGY MANAGEMENT SYSTEMS

HAI's Omni family of controllers provide holiday scheduling, occupancy detection, programming capability and remote access by telephone, personal computer or Internet (with HAI Web-Link II) for up to 64 RC-Series thermostats. Ideal for use in all types of residential and small commercial systems, these controllers pay for themselves in energy savings and convenience. See HAI the web site for more information on Omni Controllers.



RC-SERIES ACCESSORIES

- Remote Temperature Sensors can be mounted in the conditioned space and the thermostat can be mounted remotely for protection from tampering or for aesthetic reasons. Both models can be located up to 50 feet from the thermostat, using 24 gauge 2-conductor plus-shield wire. Remote Sensors must be mounted in the same locations appropriate for a thermostat for best performance (for example, on an inside wall, free of draft from vents, away from sunlight, windows, etc.)



- 23A00-1 Remote Indoor Temperature Sensor / Surface: This small (2 W X 1.5 H X 1 D inches) unit is mounted on the surface of the wall.
- 23A00-2 Remote Indoor Temperature Sensor / Flush: This small unit (disc is 1.5 inches in diameter) can be flush mounted in the drywall and painted over to become almost invisible in a residential installation.



- 29A00-1 Thermostat Isolation Module (TIM) is used when continuous 24V power is not available from the HVAC equipment. It completely isolates an RC-80B series (Rc-8x) thermostat from the heating and cooling system and allows a separate 24 VAC transformer (not supplied) to power the thermostat.

- 30A00-1 Thermostat Power Supply Module (TPSM) is used for RC-80B and retrofits where a 5th "common" wire is needed, but not available. Increases current to thermostat using existing wires.



RC-SERIES MODELS AND APPLICATIONS

- RC-80B: Single stage heating and cooling systems, heat only or cool only, radiant, hydronic, forced air; gas or electric heat (1 stage cool, 1 stage heat)
- RC-90B: Single stage heating and cooling systems with zoned damper control systems (1 stage cool, 1 stage heat with B and O terminals for master control)
- RC-100B: Single speed heat pump heating and cooling system with auxiliary heat (1 stage cool, 2 stage heat)
- RC-112B: Two speed heat pump system with auxiliary heat (2 stage cool, 3 stage heat)
- RC-122B: Two stage (non heat pump) heating and cooling systems, including two speed furnaces and air conditioners. (2-stage cool, 2-stage heat)
- All models work with "variable speed" blowers

See HAI web site for Thermostat Application Directory for terminals and more details.