Allure Communicating Thermostat RT Series

PIR Motion Detector-Ready Rooftop Thermostats

Applications

- Controls rooftop and self-contained units, providing:
  - Single stage and multi stage temperature control
  - RH control
- Improves energy efficiency when used with the optional PIR motion detector cover by automatically adjusting temperature setpoints based on a zone's occupancy mode

Overview

The ECL-STAT-RT, ECB-STAT-RT, and ECW-STAT-RT series represent three thermostat families specifically designed for single stage and multi stage control of heating and cooling equipment such as rooftop and self-contained units. In particular, the ECL-STAT-RT series uses the LonTalk® communication protocol and is LONMARK® certified. The ECB-STAT-RT series uses the BACnet® MS/TP communication protocol and is BTL® listed as an Application Specific Controller (B-ASC). Lastly, the ECW-STAT-RT series communicates over a wireless mesh network.

Every thermostat model has an internal temperature sensor and some models offer relative humidity control. For more advanced applications, there are models that contain economizer control logic for proportional damper economizer actuators. All thermostats can be equipped with an optional PIR motion detector cover for advanced occupancy functionality.

All thermostat families can be configured using Distech Controls' EC-Net^{AX}, an open multiprotocol integration solution that is powered by the Niagara^{AX} Framework®. In particular, the ECL-STAT-RT and ECB-STAT-RT families can also be configured using the EC-Configure wizard. Furthermore, the ECL-STAT-RT family can also be configured using the EC-Configure plug-in, another configuration interface that is accessible through any LNS®-based software, such as Distech Controls' Lonwatcher 3.

Features & Benefits

- Internal embedded RH sensor and remote RH input with humidification and dehumidification sequences of operation, providing proportional humidity control[1]
- Remote room and outdoor temperature sensors with system mode lock out, override, and humidity set point reset[1]
- Remote discharge air sensor input for monitoring system efficiency
- 0 to 10V DC economizer output for retrofit opportunities[1]
- Smart fan operation saves energy during night mode
- Compatible with an optional PIR motion detector cover, bringing advanced occupancy functionality and energy savings
- Up to 2 software configurable digital inputs for monitoring filter status, activating a remote temporary occupancy switch, or acting as a general purpose service indicator
- Configurable auxiliary SPST output switch for lighting, exhaust fan or fresh air control
- Intuitive, menu-driven programming with 7 day scheduling and 6 hour typical clock reserve time in case of power loss[1]
- Lockable keypads for tamper proofing

1. Specific models only, check table on second page for details.

Product Warranty & Total Quality Commitment

All Distech Controls product lines are built to meet rigorous quality standards and carry a two-year warranty. Distech Controls is an ISO 9001 registered company.

Models Available

Model	EC(α)-STAT-RT1	EC(α)-STAT-RT1P	EC(α)-STAT-RT2	EC(α)-STAT-RT2P	EC(α)-STAT-RT2E	EC(α)-STAT-RT2EP	EC(α)-STAT-RT2H	EC(α)-STAT-RT2HP
1 digital input							■	■
2 digital inputs	■	■	■	■	■	■		
1 remote room sensor input	■	■	■	■	■	■		
1 remote outdoor sensor input	■	■	■	■	■	■	■	■
1 remote mixed air sensor input	■	■	■	■	■	■		
0-10V DC remote humidity sensor input							■	■
0-10V DC remote high limit humidity sensor input							■	■
RH sensor (built-in)							■	■
1 digital auxiliary output	■	■	■	■	■	■	■	■
0-10V DC economizer output					■	■		
0-10V DC humidification output							■	■
1 dehumidification output							■	■
Cooling stage 1	■	■	■	■	■	■	■	■
Cooling stage 2			■	■	■	■	■	■
Heating stage 1	■	■	■	■	■	■	■	■
Heating stage 2			■	■	■	■	■	■
Smart fan	■	■	■	■	■	■	■	■
PIR motion detector ready	■	■	■	■	■	■	■	■
Programmable		■		■		■		■
Scheduling		■		■		■		■
Product Number	CDIVI-7600A50(β)1	CDIVI-7652A50(β)1	CDIVI-7600B50(β)1	CDIVI-7652B50(β)1	CDIVI-7605B50(β)1	CDIVI-7656B50(β)1	CDIVI-7607B50(β)1	CDIVI-7657B50(β)1

Recommended Applications

Model	EC(α)-STAT-RT1	EC(α)-STAT-RT1P	EC(α)-STAT-RT2	EC(α)-STAT-RT2P	EC(α)-STAT-RT2E	EC(α)-STAT-RT2EP	EC(α)-STAT-RT2H	EC(α)-STAT-RT2HP
1 heating/ 1 cooling stage	■	■						
2 heating/ 2 cooling stages			■	■	■	■	■	■
Economizer					■	■		
Humidity control							■	■

α represents either L for LonWorks, B for BACnet, or W for Wireless
β represents either E for LonWorks, B for BACnet, or W for Wireless

Thermostat Covers – Optional

Allure PIR Motion Detector Cover

RTxxx/HPx Allure PIR Motion Detector Cover

Allure PIR motion detector cover for all roof top and heat pump thermostat models

Allure Cover

RTxxx/HPx Allure Cover

Allure cover for all roof top and heat pump thermostat models

For replacing Traditional covers on thermostats in existing installations in order to have a uniform Allure look across all wall units.

Traditional Cover

RTxxx Traditional Cover

Traditional cover for all roof top thermostat models

For replacing Allure covers on thermostats that will be used as replacements or additions in existing installations where there is already a uniform Traditional look across all wall units.

Wireless Card (Required for ECW-STAT-RT Models Only)

ECW-STAT Add-On Card w/Whip Antenna

Add-on card with whip antenna

ECW-STAT Add-On Card w/Remote Antenna

Add-on card with remote antenna

Add-on card needs to be installed in an EC-BOS-2^{AX} or EC-BOS-6^{AX} for communication with wireless thermostat models. JAR file is available free of charge and is included in Distech Controls EC-NET-AX Support Package.

Wireless Repeater

ECW-STAT Repeater

Repeater for communication with out-of-range wireless thermostat models

Wireless Survey Tool

ECW-STAT Survey Tool

Kit for measuring signal strength of wireless transmissions. Used to establish suitable locations for installation of wireless thermostat models

Supported Platforms

EC-Net^{AX}

EC-Net^{AX} is a web-enabled multiprotocol integration solution powered by the Niagara^{AX} Framework, establishing a fully Internet-enabled, distributed architecture for real-time access, automation and control of devices. EC-Net^{AX}'s open framework creates a common development and management environment for integration of LONWORKS®, BACnet®, ZigBee™, and other protocols. Regardless of manufacturer and protocol, the EC-Net^{AX} system provides a unified modeling of diverse systems and data, providing one common platform for development, management and enterprise applications.

LONWORKS Network Services (LNS)

LNS® is a client-server platform that allows multiple users, running different LNS-compatible applications, to access a common source for directory, installation, management, monitoring and control services for the network system being managed. Distech Controls' Lonwatcher is an example of a LNS-based network management tool that can use Plug-Ins to configure and monitor controllers and devices in the control system.

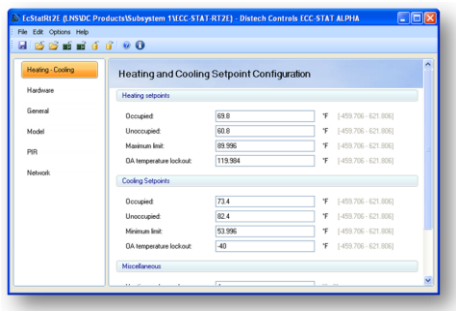
EC-Net^{AX} Wizards and LNS Plug-Ins

EC-Configure EC-Net^{AX} Wizards (ECL-STAT-RT and ECB-STAT-RT models only)

Designed for use with EC-Net^{AX} (powered by the Niagara^{AX} Framework), the EC-Configure EC-Net^{AX} Wizards can be used to easily configure a device's parameters including inputs, outputs, fan and valve settings, heating and cooling setpoints, amongst others. Moreover, these wizards can be used to enable and configure additional built-in features such as morning warm-up, load shedding, frost protection and slave operation mode.

EC-Configure LNS Plug-in (ECL-STAT-RT models only)

Similar to an EC-Configure EC-Net^{AX} Wizard, the EC-Configure LNS Plug-in is a user-friendly configuration interface, which is accessible through any LNS®-based software, such as Distech Controls' Lonwatcher 3.



Complementary Products

Temperature Sensors

Allure EC-SENSOR	Room temperature sensor with communication jack
Allure EC-SENSOR-O	Room temperature sensor with occupancy override button and communication jack

SS Plate Wall Sensor	Room temperature sensor with stainless steel plate cover
Tamper Proof SS Plate Wall Sensor	Room temperature sensor with stainless steel plate cover and tamper proof screws

Duct Probe Sensor	Duct temperature sensor with various enclosure types and probe lengths

Flexible Duct Averaging Sensor	Duct temperature sensor with various enclosure types and cable lengths
Copper Duct Averaging Sensor	Duct temperature sensor with various enclosure types and tube lengths

Outside Air Sensor	Outside air temperature sensor with various enclosure types

Humidity Sensors

2% Accuracy Room Sensor	Room relative humidity sensor (2%) with temperature sensor, override control and LCD options
3% Accuracy Room Sensor	Room relative humidity sensor (3%) with temperature sensor, override control and LCD options
5% Accuracy Room Sensor	Room relative humidity sensor (5%) with temperature sensor, override control and LCD options

2% Accuracy Duct Sensor	Duct relative humidity sensor (2%) with temperature sensor and LCD options
3% Accuracy Duct Sensor	Duct relative humidity sensor (3%) with temperature sensor and LCD options
5% Accuracy Duct Sensor	Duct relative humidity sensor (5%) with temperature sensor and LCD options

For more information on these or other Distech Controls products please refer to our web site at www.distech-controls.com or contact sales@distech-controls.com.

Dimensions

Units Legend: inches

Specifications

Power

Voltage	19-30V AC; 50/60Hz; Class 2
Maximum Consumption	2VA

Interoperability

ECL-STAT-RT series:	
Communication	LonTalk protocol
Channel	TP/FT-10; 78Kbps
LONMARK Interoperability Guidelines	Version 3.4
LONMARK Functional Profile	Space Comfort Controller #8500
ECB-STAT-RT series:	
Communication	BACnet MS/TP
BACnet Profile	B-ASC
Baud Rate	9600, 19200, 38400, or 76800 bps
Address	BACnet MS/TP MAC address; adjustable range from 1 – 127
ECW-STAT-RT series:	
Communication	Wireless
Addressing	Adjustable range from 0 – 254
Frequency (depends on channel parameter)	2.4GHz, 802.15.4

Hardware

Memory	EEPROM
Backup (for programmable models only)	Super capacitor, good for approx. 6 hours

Environmental

Operating Temperature	0°C to 50°C; 32°F to 122°F
Storage Temperature	-30°C to 50°C; -22°F to 122°F
Relative Humidity	0 to 95% non-condensing

Enclosure

Material	ABS Resin
Color	White
Dimensions	4.93” x 3.41” x 1.43” (124mm x 85mm x 36mm)
Shipping Weight	0.75lbs (0.34kg)

Agency Approvals

UL	UL873 (US) and CSA C22.2 No.24 (Canada)
Industry Canada	ICES-003 (Canada)
FCC	Compliant to CFR 47, Part 15, Subpart B, Class A (US)
C-Tick	AS/NZS CISPR 22 Compliant (Australia/New Zealand)
ECW-STAT-RT Series only	
FCC	Compliant to Part 15, Subpart C

Inputs

Digital Input	
- EC-STAT-RT2H and EC-STAT-RT2HP models	Relay dry contact only across C terminal to DI1
- All other models	Relay dry contact only across C terminal to DI1 or DI2
Analog High Limit and Remote Humidity Inputs[1]	0-10V DC into 10KΩ input load

Outputs

Contact Output Rating	Each relay output (Y1, Y2, G, W1, W2 and AU) has: 30V AC, 1A maximum 30V AC, 3A in-rush
Humidification Analog Output[1]	
- Rating	0-10V DC into 2KΩ resistance min.
- Accuracy	±3% typical
Economizer Analog Output[1]	
- Rating	0-10V DC into 2KΩ resistance min.
- Accuracy	±3% typical

LCD Display

Type	Backlit LCD display
Display Area	2 rows of 8 characters each

Functionality

Resolution	
- Temperature	±0.1°C (±0.2°F)
- Humidity[1]	±0.1%
Control Accuracy	
- Temperature	±0.5°C (±0.9°F) @ 21°C (70°F) typ. calibrated
- Humidity[1]	±5% RH from 20-0% RH at 10-32°C (50-90°F)
Temp and Humidity Ranges	
- Occ and Unocc Setpoints	
Cooling	12.0-37.5°C (54-100°F)
Heating	4.5-32.0°C (40-90°F)
- Humidification Setpoint[1]	10-90% RH
- Dehumidification Setpoint[1]	15-95% RH
- Room Air Temperature	-40-50°C (-40-122°F)
- Outdoor Air Temperature	-40-50°C (-40-122°F)
Proportional Band for Room Temperature Control	Factory set, heating and cooling at 1.1°C (2.0°F)
Temperature Sensor Type	Local 10KΩ NTC thermistor

Electromagnetic Compatibility

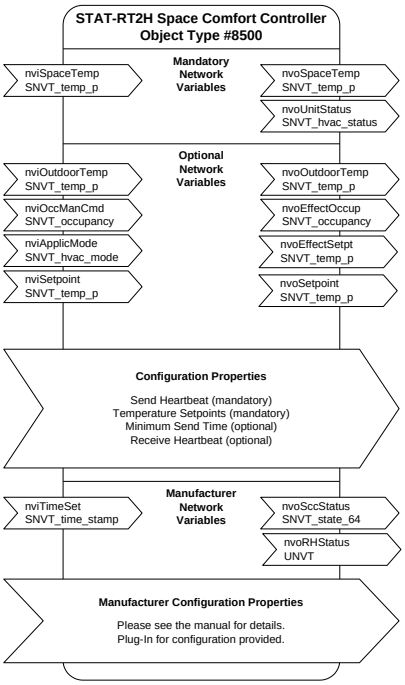
CE	EMC Directive 89/336/EEC (European Union)
FCC	Compliant with Part 15

OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERANCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERANCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

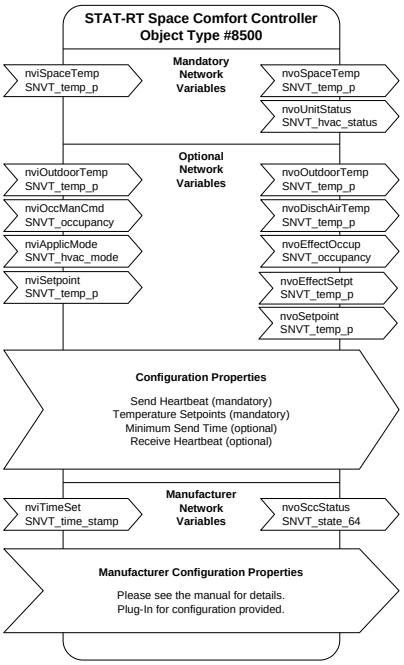
Communication Protocols and Standards

1. Specific models only, check table on second page for details.

LonMark Objects and Network Variables (STAT-RT2H and STAT-RT2HP Models Only)



LonMark Objects and Network Variables (All Other Models)



BACnet Objects and Services

For information on the BACnet objects and services, refer to the BACnet Protocol Implementation Conformance Statement (PICS).