

# EC-STAT-ZN Series

**DISTECH**  
CONTROLS™

BUILDING OPEN CONTROL PRODUCTS

## easyCONTROLS™ LONMARK V3.3 Communicating Thermostat & Controller for Zoning Applications

- 2 Digital inputs (software configurable)
- 1 Analog/Digital input (software configurable) for remote changeover sensor/contact or supply sensor
- 1 Digital auxiliary output (triac)
- 2 Analog (EC-STAT-ZA)
- 4 triac outputs for 2 floating actuator valves (EC-STAT-ZF)
- 1 Remote room sensor input
- 1 Internal temperature sensor



### Applications

Designed to meet the requirements of local zoning applications such as:

- Control of pressure dependent Variable Air Volume (VAV) damper actuator, with options such as local reheat and changeover sensor
- Control of local hydronic reheat valve, with or without changeover sensor

### Features

#### Interoperability

- Based on LONWORKS® technology for peer-to-peer communication between controllers
- LONMARK® certified according to the Interoperability Guidelines Version 3.3
- LONMARK Functional Profile: Generic Space Comfort Controller #8500

#### Hardware

- Neuron® 3120® processor
- Two-line (8 characters per line) LCD display, to display all needed information including room temperature, unit status, temperature setpoints as well as changeover or supply temperature for diagnostic purposes
- Status indicator for heating and cooling modes
- Robust and modern looking ABS resin casing
- Easy connections for inputs and outputs, with removable terminals
- Multiple outputs can manage On/Off, floating or analog 0-10 Vdc control, depending on model
- Configurable output triac on all models to control lighting or auxiliary reheat

#### Space Comfort Controller Object

- Configure the device using the simple Distech Controls LNS® plug-in
- Programmable digital inputs for added flexibility, including remote supply temperature or changeover sensing capability for enhanced control, as well as remote room temperature sensing capability with temperature averaging of multiple remote sensors
- Digital input 1 reserved for occupancy sensor or dry contact, to maximize energy efficiency
- Maximum On/Off device cycles per hour, to reduce wear and maximize life span of mechanical equipment
- Adjustable maximum heating and minimum cooling setpoints, as well as occupancy setpoints (adjustable by hardware and software)
- Non volatile EEPROM memory prevents loss of parameters during power shortage
- Lockable keypads for tamper proofing. No need for thermostat guards



Based on the LONWORKS open network protocol, the EC-STAT-ZN series of zoning controllers is LONMARK certified and incorporates the Space Comfort Controller Object #8500 as defined by the LONMARK association. The EC-STAT-ZN series thermostat product line is specifically designed for simple zoning applications, including:

- Control of a local hydronic reheat valve (for systems with 2 or 4 pipes), with or without changeover sensor
- Control of a variable air volume damper actuator, with or without changeover sensor (single or dual duct applications)
- Control of reheat stage

Accurate temperature control is achieved using the product's proportional-integral control algorithm, which virtually eliminates the temperature offset, associated with traditional, differential-based thermostats. For added flexibility, all digital inputs are programmable, to cover applications such as remote supply temperature sensing, changeover sensing, as well as remote room temperature sensing with temperature averaging capabilities for multiple sensors.

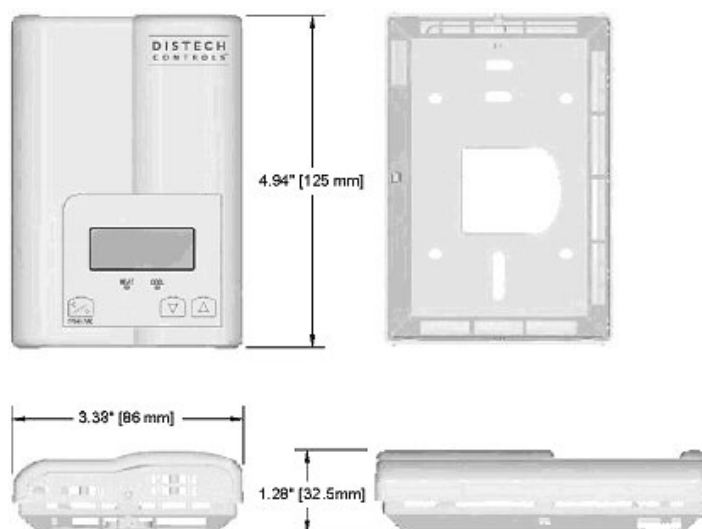
The EC-STAT-ZN series device can either be configured manually via the buttons on the faceplate of the controller, or by using any LNS network management tool, such as Distech Controls' Lonwatcher, allowing for the use of this device on projects of all sizes.

Furthermore, an easy-to-use Distech Controls EC-Configure LNS based plug-in is available to configure the features of the EC-STAT-ZN series. This configuration interface is designed to simplify all programming and sequencing procedures, by prompting the user for the necessary configuration data. The controller then automatically selects the operation sequence according to the input and output settings, and dynamically adapts itself to the network variables that are bound to the controller.

The easyCONTROLS product line is built to meet rigorous quality standards and carries a two-year warranty. The complete line of easyCONTROLS controllers is designed for use with any LNS based system and/or any other open and interoperable system – such as EC-Net R2. This provides both the contractor and the end user with the flexibility of using “best of breed” products in system design.

Distech Controls' quality management system is ISO 9001:2000 certified.

## Product Specifications



<b>Power</b>		<b>Inputs</b>	
Voltage	19-30 VAC, 50/60HZ, Class 2	2 Digital	Analog or digital, according to configuration settings
Protection	5 Amp Removable Fuse	1 Universal	
Typical Consumption	2 VA	<b>Outputs</b>	
Maximum Consumption	13 VA	1 Auxiliary Output	Isolated Triac
<b>Environmental</b>		EC-STAT-ZA	2 analog outputs 0 to 10Vdc, 2kΩ resistance min. 1 input (AO1) for cooling/heating 1 input (AO2) for heating
Operating Temperature	0°C to 50°C, 32°F to 122°F	EC-STAT-ZF	4 triac outputs used to control 2 floating actuator valves 30 Vac, 1A Max, 3A in-rush 2 triac outputs (BO1 & BO2) for floating actuator cooling/heating 2 triac outputs (BO3 & BO4) for floating actuator heating
Storage Temperature	-30°C to 50°C, -22°F to 122°F		
Relative Humidity	0 to 95% Non-Condensing	<b>LCD Display</b>	
<b>General</b>		Type	Backlit LCD Display
Processor	Neuron <sup>®</sup> 3120 <sup>®</sup> ; 8 bits; 10MHZ	Display area	2 rows of 8 characters each
Memory	EEPROM	<b>Functionality</b>	
Communication	LonTalk <sup>®</sup> Protocol	Sensor Resolution	±0.1 °C (±0.2°F)
Transceiver	TP/FT-10; 78 Kbps	Control Accuracy	±0.5 °C (±0.9°F) @21 °C (70°F) typically calibrated
<b>Enclosure</b>		Temp Sensor Range:	
Material	ABS Resin	- Occ and Unocc Setpoints	
Color	Off white	Cooling	12.0 °C to 37.5 °C (54 °F to 100 °F)
Dimension	4.94" x 3.38" x 1.28" (124 x 85 x 28 mm)	Heating	4.5 °C to 32 °C (40 °F to 90 °F)
Shipping Weight	0.75 lbs (0.34 kg)	- Room air Temp.	-40 °C to 50 °C (-40 °F to 122 °F)
<b>Agency Approvals</b>		Proportional band for room temp. control	Heating and cooling: 1.1 °C (2.0 °F)
CE	<i>Emissions</i>		
		Adheres to directive 89/336/EEC including CEI 61000-4-2, CEI 61000-4-3, CEI 61000-4-4, CEI 61000-4-5, CEI 61000-4-6, CEI 61000-4-11, ENV 50204	
	<i>Immunity</i>	CISPR 22 class B	
FCC Class B		Class B computing device, Subpart B of Part 15	
UL Listed (CDN & US)		UL873 File E234137 with CCN's XAPX (US) and XAPX7 (Canada)	

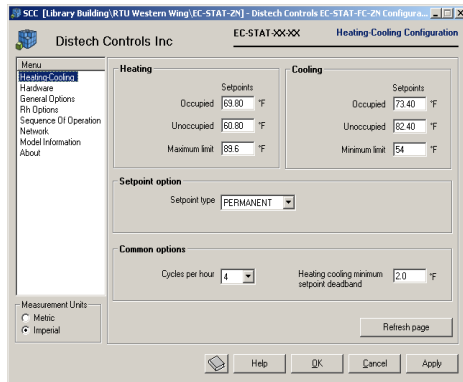
## EC-STAT-ZN Series Thermostat Selection Guide

The EC-STAT-ZN series of controllers is comprised of two types of devices, differentiated only by the type of output each device can control. The following table describes the output type according to the model of the controller.

Model	Description / application	
	2 & 4 Pipe Floating & On/Off	2 & 4 Pipe Analog
EC-STAT-ZF	✓	
EC-STAT-ZA		✓

### Software Preview

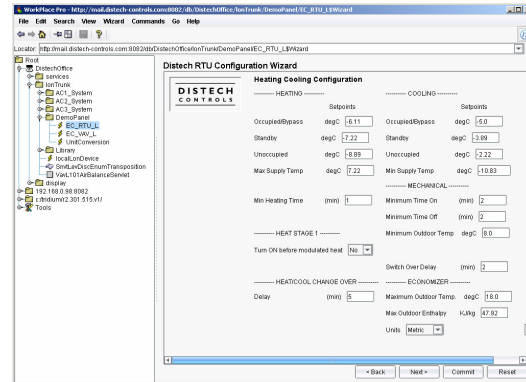
#### LNS Configuration Plug-in\*



Easily configure all of the devices' parameters including inputs, outputs, fan and valve settings, heating and cooling setpoints, amongst others. You can also enable and configure additional built-in features such as optimum start, load shedding, frost protection and slave operation mode.

\* LNS Plug-ins can be used with any LNS based network management and GUI tools, such as Distech Controls' Lonwatcher, Londisplay or Echelon's LonMaker.

#### EC-Net R2 Wizard for Niagara Framework



Designed for use with the Niagara Framework, the EC-Net R2 wizard allows you to configure the device.

## Recommended Peripherals

### Recommended Optional Accessories

#### Temperature Sensors



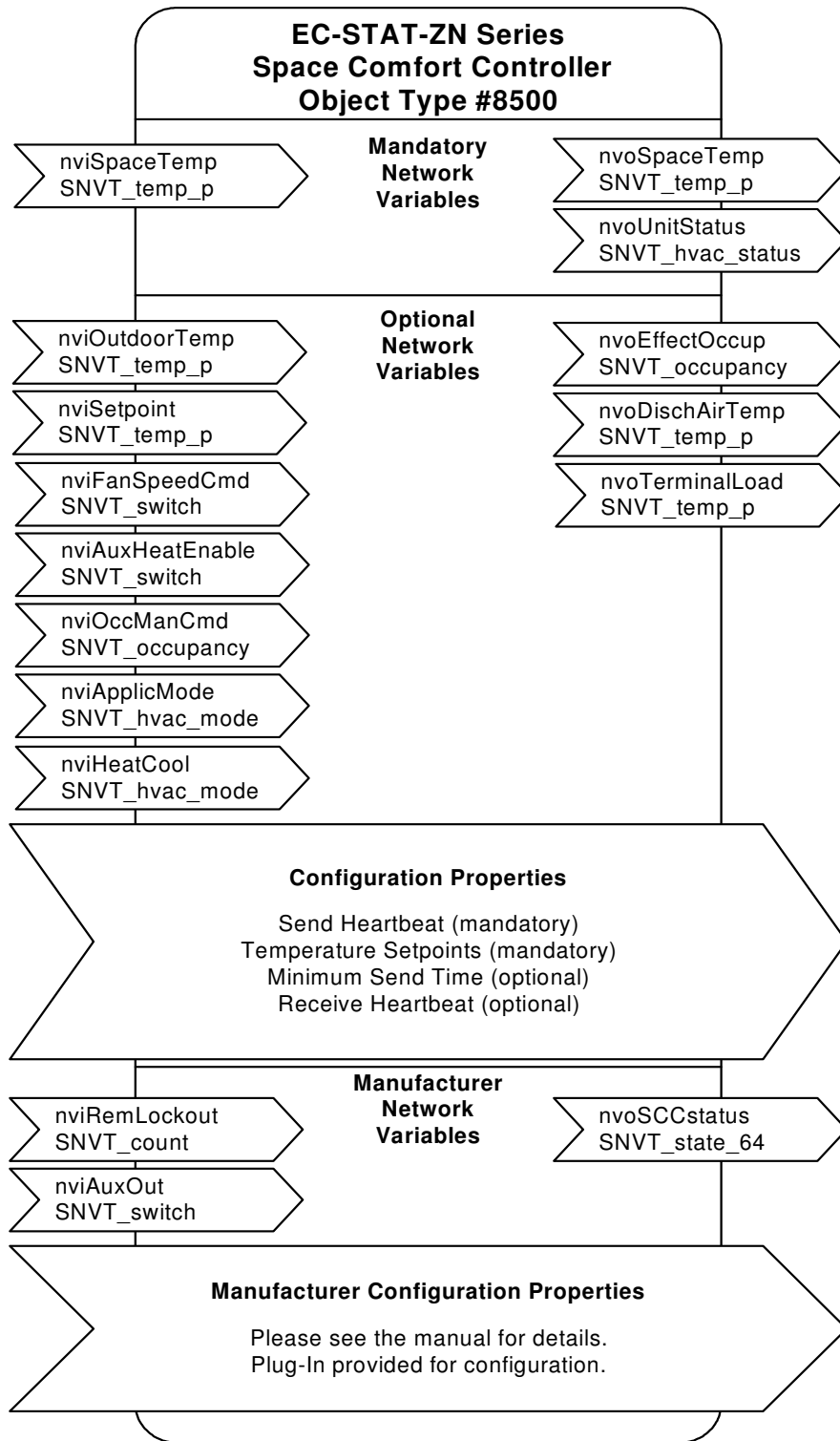
EC-SENSOR	Room sensor
EC-SENSOR-LO	Room sensor with LED and Override push button
EC-SENSOR-SLO-CW	Room sensor with LED, Override push button and setpoint adjustment (cool/warm)
EC-SENSOR-SLO-C	Room sensor with LED, Override push button and setpoint adjustment (°C)
EC-SENSOR-SLO-F	Room sensor with LED, Override push button and setpoint adjustment (°F)
EC-SENSOR-AVG	Averaging room sensor, no setpoint (Up to 3 in parallel)
EC-SENSOR-AVG-LO	Averaging room sensor with LED and Override push button

#### Other Peripherals

In addition to the Distech Controls easyCONTROLS product line, we invite you to take advantage of our wide array of peripheral product offering. We are confident our peripheral product offering can:

- Facilitate your ordering process;
  - Simplify your search for equal or better prices on all items;
  - Help standardize your purchasing process while providing quality and performance-proven products.
- Please contact [sales@distech-controls.com](mailto:sales@distech-controls.com) for a complete list of available products and peripherals.

# LONMARK® Objects & Network Variables



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**EC-STAT-ZN  
Series**

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