

# Electronic Thermostats



**GENERAL COOLING / HEATING**

- Control with alarm or multiple stages control
- Direct switching of compressor or electrical heater
- Programmable delay on powerup to prevent simultaneous loads
- Alarm functions such as low, high and differential
- Accepts sensors NTC, Pt100 and thermocouples J, K, T

#### MODELS

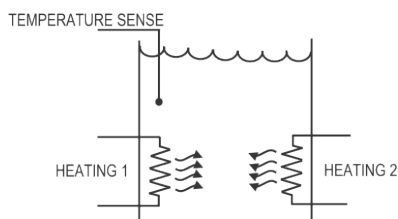
**N321:** one control relay output, low cost version

**N322:** two outputs (control and alarm or second control)

**N323:** three outputs (control and 2 alarms or three control stages)

#### TYPICAL APPLICATIONS:

Chambers and Ovens, Food Industry, Commercial Fridges.



**REFRIGERATION THERMOSTAT WITH DEFROST**

- Refrigeration control with automatic defrost
- Defrost by compressor stop, resistance heating or reverse cycle
- Programmable defrost cycle interval and durations
- Keeps indication during defrosting cycle
- Programmable delay on powerup to prevent simultaneous loads
- Control relay can directly switch compressor up to 1 hp

#### MODELS

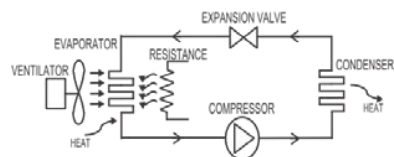
**N321R:** one output for compressor, accepts sensor type NTC, Pt100 and optional voltage protection for compressor

**N323R:** three outputs (compressor, defrost and fan), monitors 2 NTC sensors (chamber and evaporator)

**N323TR:** similar to N323R plus real time clock for scheduling defrost events, with weekly agenda

#### TYPICAL APPLICATIONS:

Cooling Counters, Air Conditioning Systems.





## CONTROLLER FOR SOLAR HEATING



- Solar heating applications
- Operates based on temperature difference between solar collector and storage tank
- Uses 2 NTC-type sensors (Included)
- Control relay output switches the water circulation pump
- Protection against pipeline overheating or freezing

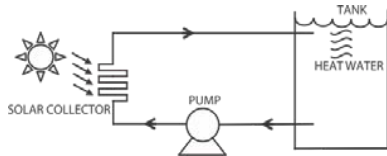
### MODELS

**N321S:** one output for water circulation pump

**N322S:** two outputs (circulation pump and booster water heating control)

### TYPICAL APPLICATIONS:

Thermal Tanks, Pool Heating, Boilers.



## ELECTRONIC THERMOSTAT WITH TIMER



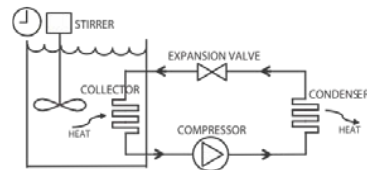
- Suitable to processes with cyclic operation requirements
- Timer for forced cyclic defrost or liquid stirring
- Accepts NTC, Pt100 and thermocouples J, K and T sensors
- Programmable delay on powerup to prevent simultaneous loads
- Control relay can directly switch compressor up to 1 hp
- Optional: Audible alarm and voltage protection for compressor

### MODELS

**N322T:** two outputs (control and defrost or timed output)

### TYPICAL APPLICATIONS:

Milk Refrigerator, Ice Cream Machines.



## ELECTRONIC HUMIDISTAT



- Environment control, shows temperature and humidity
- Configurable interval between indications
- Control relay can directly switch compressor up to 1 hp
- Temperature control: heating or refrigeration
- Humidity control: humidification or dehumidification
- Integrated RHT probe (not included)

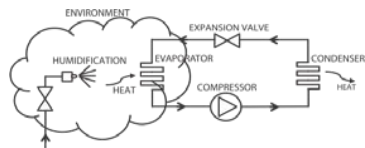
### MODELS

**N322RHT:** two relay outputs (control or alarm)

**N323RHT:** three relay outputs (control, alarm or timer)

### TYPICAL APPLICATIONS:

Climate Chambers,  
Textile Processing,  
Environment Control.



## CONTROLLER FOR EGG INCUBATORS



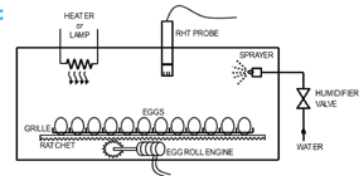
- Egg incubator humidity and temperature control (heating and humidification or refrigeration and deshumidification)
- Cycle timing control for egg rolling
- Configurable interval between temperature and humidity indications
- Integrated RHT probe (included)

### MODELS

**N323RHT (EI):** three outputs (humidification, heating and egg rolling)

### TYPICAL APPLICATIONS:

Egg Incubators



ELECTRONIC THERMOSTAT SELECTION GUIDE	INDICATION	COOLING / HEATING				SOLAR HEATING		COOLING (REFRIGERATION)			HUMIDITY & TEMPERATURE (COOLING / HEATING)		
	N320	N321	N322	N323	N322T	N321S	N322S	N321R	N323R	N323TR	N322RHT	N323RHT	N323RHT (EI)
Sensors		NTC, Pt100 and TC J,K,T				2 x NTC	2 x NTC	NTC, Pt100, 2 x NTC			Integrated Probe RHT	Integrated Probe RHT	Integrated Probe RHT
Output 1 (Relay 16 A - 1 hp 250 Vac)		Control	Control	Control	Control	Circulation	Circulation	Compressor	Compressor	Compressor	Control / Alarm	Control / Alarm	Heater
Output 2 (Relay 3 A 250 Vac)			Control / Alarm	Control / Alarm	Defrost or Timer		Heating		Defrost	Defrost	Control / Alarm	Control / Alarm	Humidifier
Output 3 (Relay 3 A 250 Vac)				Control / Alarm					Ventilator	Ventilator		Control / Alarm	Egg Roll
Power Supply		100-240 Vac/Vdc or 12-30 Vac/Vdc											
Advanced Functions										Defrost schedule: 8 daily programs per week			
Optional Features					Buzzer and Compressor Voltage Monitoring			Compressor Voltage Monitoring					
Communication			RS485 Modbus (optional)	RS485 Modbus (optional)	RS485 Modbus (optional)	RS485 Modbus (optional)	RS485 Modbus (optional)	RS485 Modbus (optional)	RS485 Modbus (optional)	RS485 Modbus (optional)	RS485 Modbus (optional)	RS485 Modbus (optional)	RS485 Modbus (optional)