SAMOD
Stand-Alone or Floating Zone
Modulating Damper Control

SAMOD OVERVIEW

The system is designed for over-conditioned areas and prevents over-heating and over-cooling of individual or stand alone zones. The SAMOD is an auto changeover thermostat that communicates to a fully modulating round or rectangular damper.

Auto changeover operation allows the SAMOD thermostat to change from a cooling to a heating thermostat automatically. A duct sensor is included and installed upstream of the damper to determine the temperature in the duct. If the SAMOD thermostat is calling for cooling and cool air is available in the duct the damper will modulate open. A heating call will close the damper. If the sensor determines warm air is available in the duct and the thermostat is calling for heat the damper will modulate open. The SAMOD system senses the duct temperature and compares it to the set point vs. room temperature providing warm or cool air as required. If the thermostat is not calling for heating or cooling the damper will modulate to 40% for ventilation.

The SAMOD allows you to effectively control problem areas by controlling the existing air supply to the problem room or zone. This versatile problem solver is also designed to control supplemental or auxiliary heating devices.

Zonex auto changeover thermostat is designed to control and modulate a stand alone diffuser or damper. Zonex offers 600 unique sizes of round and rectangular dampers for your commercial applications.

SAMOD FEATURES

- Touch Screen Operation
- Control Fully Modulating Dampers
- Display Duct Temp at the Stat
- Adjustable Aux or Reheat Operation
- F or C Temperature Operation
- Single Set Point for Easy End User Operation

- Set point lock
- Auto / Off switch
- Remote Sensor Capability
- Slave capability – up to 3 dampers per stat
- Relative Humidity Reporting
- Non-volatile Memory

ZONEX
SYSTEMS
comfort you control

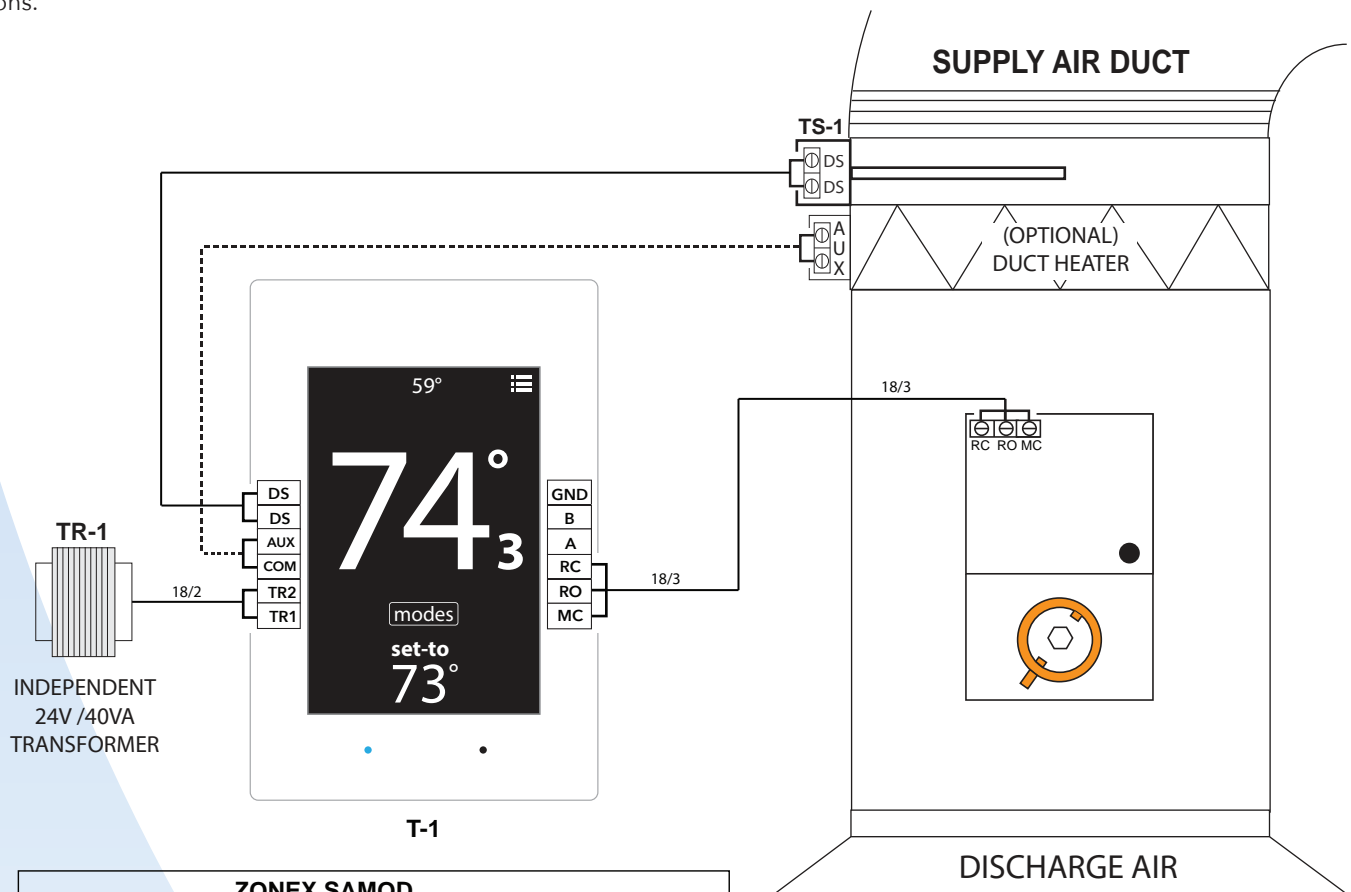**(800) 228-2966 | zonexproducts.com**

SAMOD solves the problem of over-heated and over-cooled rooms for your customers

WIRING INSTALLATION INSTRUCTION

INSTALLATION

1. Install the SAMOD thermostat in the zone on an interior wall away from direct sunlight, supply air currents, or any heat generating source.

2. Install ST series Round, Rectangular damper into the supply air duct.

3. Wire supply damper to SAMOD controller sub-base using three conductor 18 gauge thermostat wire.

4. Install a 24 volt, 40 VA transformer in accordance with local code requirements. From the transformer - run 18/2 wire and connect to SAMOD thermostat terminals TR1 and TR2.

5. Install Leaving Air Temperature Sensor (TS) in the ductwork prior to the supply damper and run sensor wires to the SAMOD. If wires need to be extended, 18 gauge thermostat wire may be used, not to exceed 100 ft. in length.

6. Duct Air Temperature (TS) sensor wires are connected to the DS terminals of the SAMOD thermostat.

*NOTE: An air proving switch (field supplied) must be used for reheat applications. A field supplied relay may be required for VAV box applications.

SUPPLY AIR DUCT

TS-1
DS
DS

AUX

(OPTIONAL)
DUCT HEATER

18/3

RC RO MC

59°

74°₃

modes

set-to
73°

T-1

TR-1

18/2

GND
B
A
RC
RO
MC

18/3

INDEPENDENT
24V /40VA
TRANSFORMER

DS
DS
AUX
COM
TR2
TR1

DISCHARGE AIR

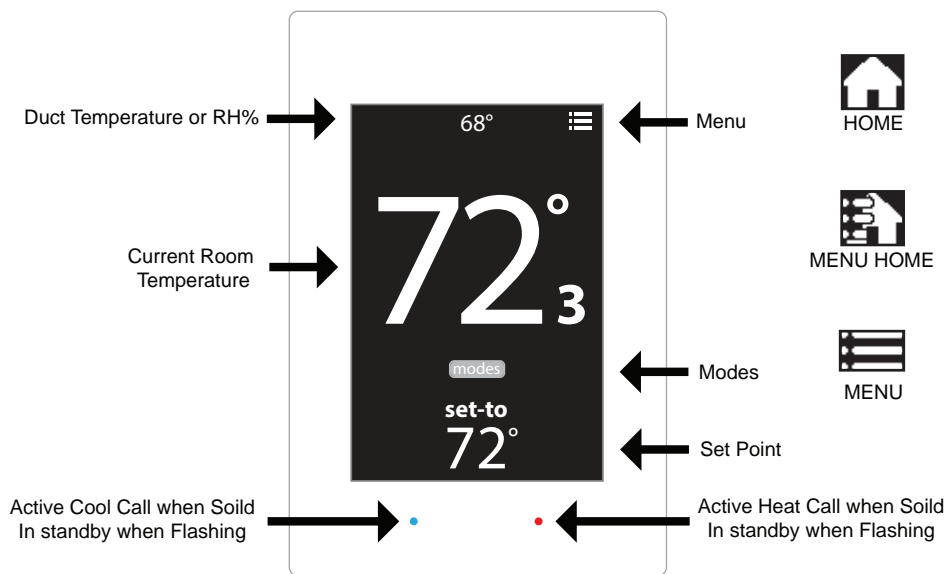| ZONEX SAMOD		
THERMOSTAT	T-1	SAMOD - TOUCH SCREEN THERMOSTAT
TRANSFORMER	TR-1	SYSTEM POWER 24 V- 40 VA
LAT SENSOR	TS-1	DUCT TEMPERATURE SENSOR
TERMINAL CONNECTIONS		
SAMOD CONTROLLER AND ACTUATOR		
TR-1	24 VAC POWER INPUT	
TR-2	24 VAC POWER COMMON	
RO	DAMPER RUN OPEN SIGNAL	
RC	DAMPER RUN CLOSED SIGNAL	
MC	24 VAC MOTOR COMMON	
DS	DUCT TEMPERATURE SENSOR	
AUX	OPTIONAL AUXILIARY HEAT	
COM	AUXILIARY HEAT COMMON	

NOTES: PROVIDE MODULATING ZONEX ROUND OR RECTANGULAR DAMPER DESIGNED TO SUPPORT UP TO 1.75" S.P.

AUX CONTACTS USED TO CONTROL SUPPLEMENTAL HEAT SOURCE: I.E. BASEBOARD OR RADIANT PANEL IF ELECTRIC HEAT IS USED AN AIR PROVING SWITCH MUST BE INSTALLED

VISIT OUR ON-LINE CATALOG AT ZONEXPROUCTS.COM

FOR APPLICATIONS ASSISTANCE CALL 800-228-2966

Duct Temperature or RH%

Current Room Temperature

Active Cool Call when Soild In standby when Flashing

68°

72°₃

modes

set-to
72°

Menu

Modes

Set Point

Active Heat Call when Soild In standby when Flashing

HOME

MENU HOME

MENU

The SAMOD is an Auto Changeover thermostat that modulates a zone damper based on supply air and room temperature. System logic dictates system mode of operation. When duct temperature is 3 degrees or more below room displayed temperature on the SAMOD thermostat, the mode is set as Cool. When duct temperature is 7 degrees or greater than room temperature as displayed on SAMOD thermostat, then mode is set for Heat. If duct temperature is neither 3 degrees below nor 7 degrees above room temperature displayed on SAMOD thermostat, then mode is set for Vent for continuous air circulation.

OPERATION

Tap on the screen, to set your required set point:

UP ⌃ - Increases set point

DOWN ⌄ - Decreases set point

DUCT TEMPERATURE

Tap ▤ and scroll to SELECT TEMP SOURCE using the Up/Down arrows, tap to select. Select DUCT, HUMIDITY or NO DISPLAY, tap 🏠 to save.

SELECT DAMPER TYPE

Tap ▤ and scroll to SELECT DAMPER TYPE using the Up/Down arrows, tap to select. Select ROUND or RECTANGULAR damper, tap 🏠 to save.

SELECT LIGHTS

Tap ▤ and scroll to SELECT LIGHTS using the Up/Down arrows, tap to select. Select desired brightness. tap 🏠 to save.

LOCKING SAMOD CONTROLLER

The SAMOD controller can be locked hiding MENU functions and preventing set point from being changed greater than 2° above or below selected set point. To lock SAMOD controller, Tap ▤ and scroll to LOCK STAT using the Up/Down arrows, tap LOCK to select. tap 🏠 to save.

SELECT MENU TYPE

This will allow the advanced menu option to be hidden.

CALIBRATION

Tap ▤ and scroll to CALIBRATE DISPLAY using the Up/Down arrows, tap to select. Use the Up/Down arrows to set the desired room temperature, tap 🏠 to save.

SETUP AUXILIARY HEAT/REHEAT

Tap ▤ and scroll to SELECT AUX HEAT using the Up/Down arrows, tap to select. Two options are offered, BASEBOARD or REHEAT.

If BASEBOARD is desired tap to select desired temperature dead band by scrolling through 2, 3 or 4 degrees, when selection is confirmed, tap 🏠 to save. If REHEAT is desired tap to select, when selection is confirmed, tap 🏠 to save.

TEMPERATURE FORMAT

Tap ▤ and scroll to TEMPERATURE F/C using the Up/Down arrows, tap to select. Tap Fahrenheit or Celsius to select desired temperature format, tap 🏠 to save.

SET DISPLAY ACCURACY

Tap ▤ and scroll to SET DISPLAY ACCURACY using the Up/Down arrows, tap to select. Select 1/10° or 1° display temperature, tap 🏠 to save.
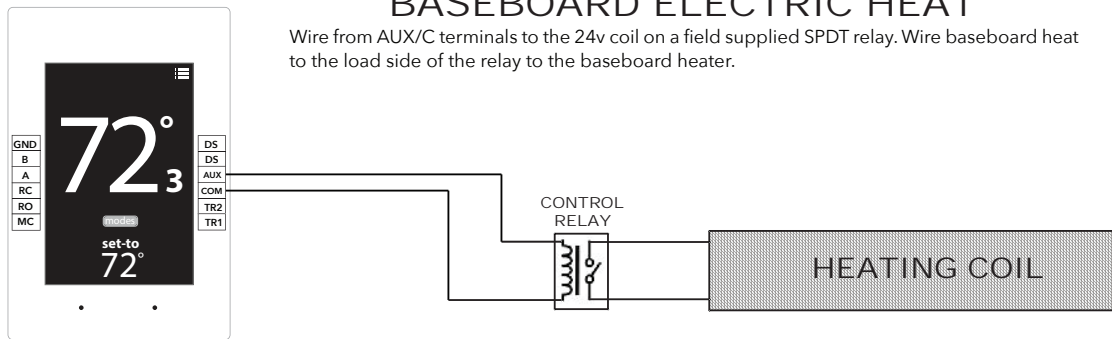
SELECT DIAGNOSTIC

The Diagnostic screen will allow you to confirm damper, aux relay, and LED operation. Tap ▤ and scroll to SELECT DIAGNOSTIC using the Up/Down arrows, tap to select. Tap on damper, aux relay and LED to confirm operation, tap 🏠 to exit.
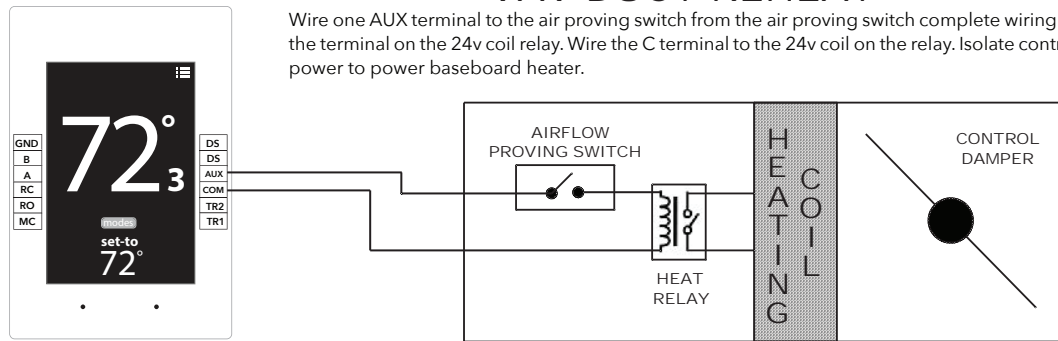
SUPPLEMENTAL HEAT APPLICATIONS

BASEBOARD ELECTRIC HEAT

Wire from AUX/C terminals to the 24v coil on a field supplied SPDT relay. Wire baseboard heat to the load side of the relay to the baseboard heater.

CONTROL RELAY

HEATING COIL

GND
B
A
RC
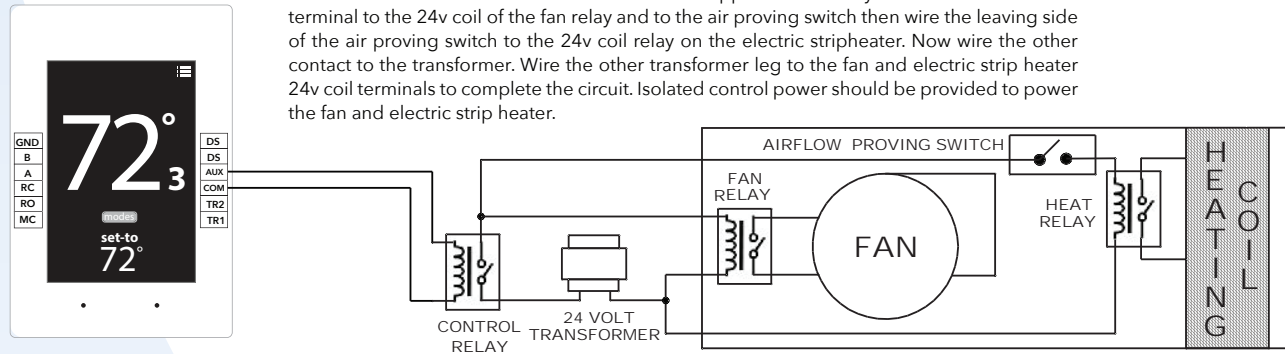RO
MC

DS
DS
AUX
COM
TR2
TR1

72°3
modes
set-to
72°

VAV DUCT REHEAT

Wire one AUX terminal to the air proving switch from the air proving switch complete wiring to the terminal on the 24v coil relay. Wire the C terminal to the 24v coil on the relay. Isolate control power to power baseboard heater.

AIRFLOW PROVING SWITCH

HEAT RELAY

HEATING COIL

CONTROL DAMPER

GND
B
A
RC
RO
MC

DS
DS
AUX
COM
TR2
TR1

72°3
modes
set-to
72°

DUCT FAN REHEAT

Wire from the AUX/C to the 24v coil on a field supplied SPDT relay. Wire from one contact terminal to the 24v coil of the fan relay and to the air proving switch then wire the leaving side of the air proving switch to the 24v coil relay on the electric stripheater. Now wire the other contact to the transformer. Wire the other transformer leg to the fan and electric strip heater 24v coil terminals to complete the circuit. Isolated control power should be provided to power the fan and electric strip heater.

AIRFLOW PROVING SWITCH

FAN RELAY

HEAT RELAY

HEATING COIL

FAN

CONTROL RELAY

24 VOLT TRANSFORMER

GND
B
A
RC
RO
MC

DS
DS
AUX
COM
TR2
TR1

72°3
modes
set-to
72°

BASEBOARD HYDRONIC HEAT

Wire from AUX/C to 24v coil on a SPDT relay then wire from one contact terminal to the transformer and from the other transformer leg to the valve. On the other relay contact terminal wire to the valve to complete the circuit. Isolated control power should be provided to power the valve.

CONTROL RELAY

HYDRONIC VALVE

HEATING COIL

24 VOLT TRANSFORMER

GND
B
A
RC
RO
MC

DS
DS
AUX
COM
TR2
TR1

72°3
modes
set-to
72°