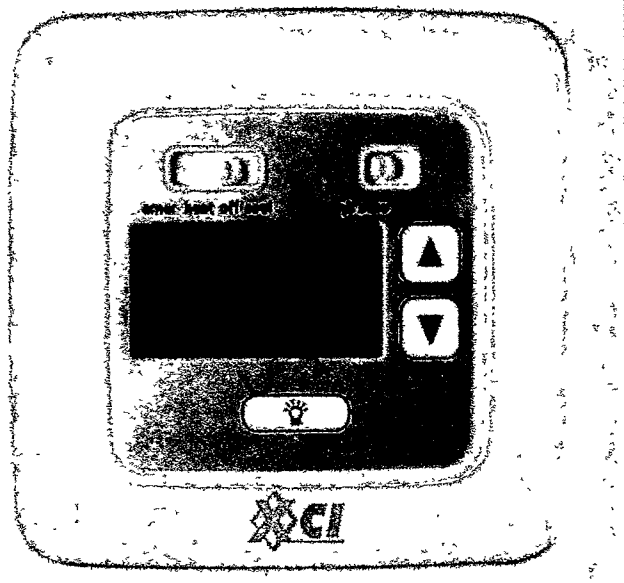
CustomStat™

SZN-1 / SZN-2 Digital Thermostats

SINGLE and MULTIPLE STAGE MODELS

SZN-1 1 Heat / 1 Cool

SZN-2 2 Heat / 2 Cool



SZN-2 Pictured

GENERAL DESCRIPTION

The XCI CustomStat Series combines function with customizable fashion.

The SZN-1 and SZN-2 thermostats are universal products that are compatible with ALL 24 VAC heating and cooling equipment including heat pumps. They have a large backlit display – 80% larger than other competitive models. They operate with a 24V common wire.

The CustomStat™ thermostats can blend with any decor using exclusive StatTRIM™ (sold separately). Four styles of faceplates are available: *Glossy Black, Antique Bronze, Brushed Stainless, and Custom Clear.* The Custom Clear can be painted or wall papered to custom match any decor.

FEATURES AND BENEFITS

StatTRIM™
The custom thermostat cover that easily snaps in place.
Larger Back Lit Display
Makes viewing and setting the temperature easy and accurate.
Automatic Compressor Short Cycle Protection
A system safeguard. Reduces wear and tear of HVAC equipment.
Worry-Free Memory Storage
Even during power outages, the thermostat maintains set point and programmed parameters.
Adjustable 1st and 2nd Stage Temperature Differential
(Available with 2-Stage models only)
Maintains optimal customer comfort.
O & B Terminals
Greater system flexibility, zoning compatible.
Zone System Compatible
In zoning applications where temperature is precisely controlled, the thermostat acts as a sensor within the system. Works flawlessly with SmartZone-2 and SmartZone-4.
Quick Wire Terminal Block
Fast and easy installation. Uses sturdy wire clamps – no wrap-around of screws.

SPECIFICATIONS

Electrical rating: 24 Volt AC (18-30 VAC)
1 amp maximum load per terminal
3 amp total maximum load
(all terminals combined)
Temperature control range: 45°- 90°F (7°- 32°C)
Accuracy: +/-1°F (+/-.5°C)
Power: 24 VAC
System configurations:
SZN-1: Single stage gas, oil, or electric heating/cooling systems (including single stage heat pump systems)
SZN-2: Multi-stage heat pump systems – two stage heat, two stage cool (including emergency heat switch)
Terminations: See Diagrams on Reverse.

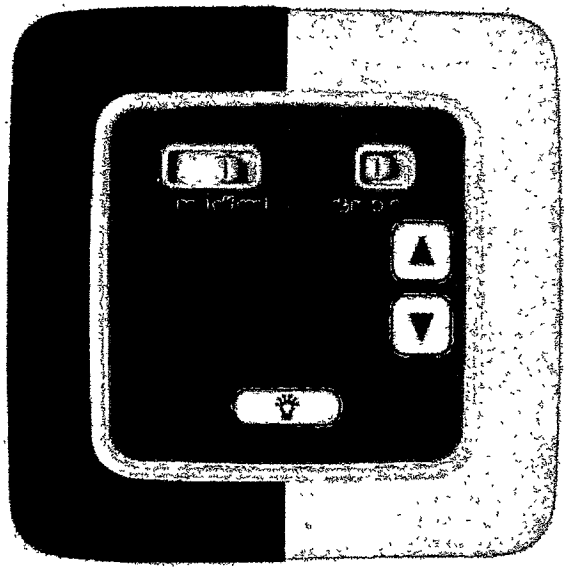
XCI Controls, L.P., 1304 W. Walnut Hill Lane, Suite 200, Irving, Texas, 75038-3066 <> http://www.xcicontrols.com

telephone (972) 580-1166 <> fax (972) 580-7774

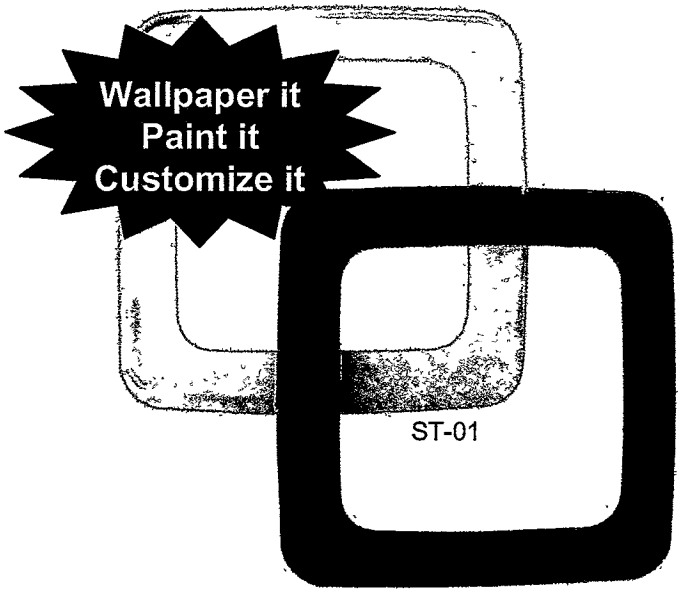
P/N 220004-001

StatTRIM™

- Decorative StatTRIM™ thermostat cover can be used on all the SZ CustomStat series thermostats.
- A simple and quick snap into place.
- Creates a CUSTOM finish to any room.
- Reduces wall hardware.
- Durable, sturdy, non-fading material.
- Custom Clear can be painted or wallpapered.
- Blends-in or creates accent to any décor.



SZN-1 Pictured



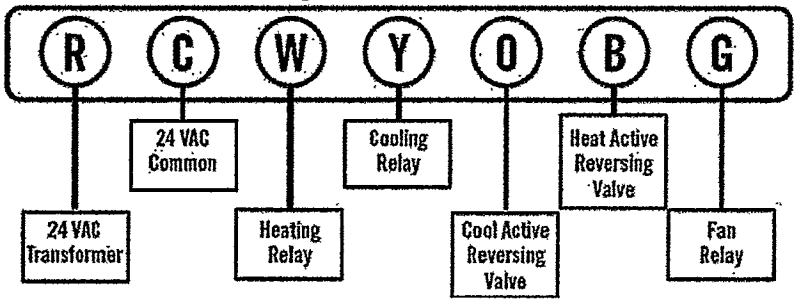
ST-01

ST-02

StatTRIM™ ORDERING

ST-01 Custom Clear StatTRIM™
ST-02 Glossy Black StatTRIM™
ST-03 Brushed Stainless StatTRIM™
ST-04 Antique Bronze StatTRIM™

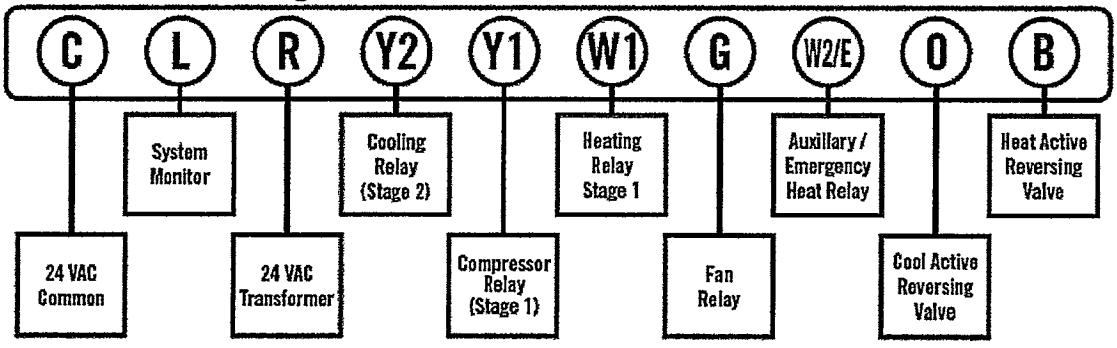
SZN-1 Terminal Designations



SHIPPING INFORMATION

Indiv. Ctn. Dim.: 5.1" x 5.1" x 1.8"
Master Ctn. Qty.: 6
Master Ctn. Dim.: 10.9" x 5.6" x 6.1"
Master Ctn. Cu. Ft.: .22
Master Ctn. Wt.: 3.7 lbs.
Max. Pallet Qty.: 1176
Max. Pallet Dim.: 40" x 48" x 48"
Max. Pallet Cu. Ft.: 53.8
Max. Pallet Wt.: 775 lbs.

SZN-2 Terminal Designations



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telephone (972) 580-1166 <> fax (972) 580-7774

P/N 220004-001

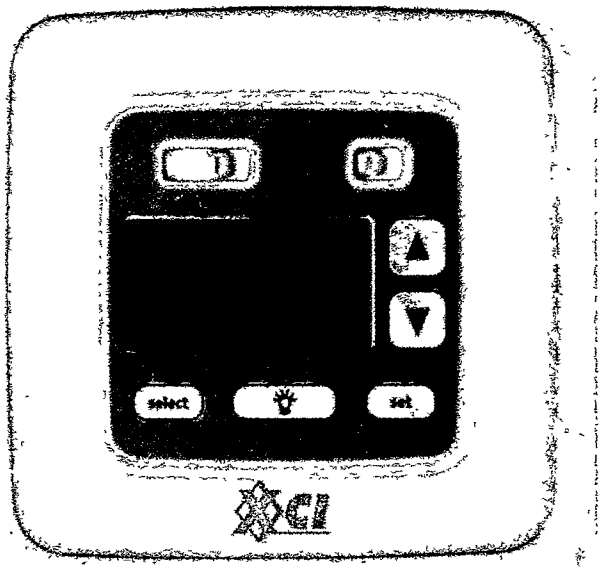
CustomStat™

SZP-1 / SZP-2 Digital Programmable

5 - 2 DAY SINGLE and MULTIPLE STAGE MODELS

SZP-1 1 Heat / 1 Cool

SZP-2 2 Heat / 2 Cool



SZP-1 Pictured

GENERAL DESCRIPTION

The XCI CustomStat Series combines function with customizable fashion.

The SZP-1 and SZP-2 thermostats are universal products that are compatible with ALL 24 VAC heating and cooling equipment including heat pumps. They have a large backlit display – 80% larger than other competitive models. They operate with a 24V common wire.

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FEATURES AND BENEFITS

StatTRIM™
The custom thermostat cover that easily snaps in place.
Larger Back Lit Display
Makes viewing and setting the temperature easy and accurate.
Automatic Compressor Short Cycle Protection
A system safeguard. Reduces wear and tear of HVAC equipment.
5 - 2 Day Programming
Set your weekly program once with four time and temperature settings. The four set points are followed for 5 consecutive days. On the weekend, four different set points can be set for all day comfort.
LCR™ (Low Consumption Recovery)
Decrease energy consumption. LCR™ allows gradual recovery from setback temperature to minimize use of auxiliary systems. (available only with SZP-2)
Adjustable Temperature Differential
Maintains optimal customer comfort.
Temporary Program Override
Allows for manual temperature adjustment.
Zone System Compatible
In zoning applications where temperature is precisely controlled, the thermostat acts as a sensor within the system. Works flawlessly with SmartZone-2 and SmartZone-4.
Quick Wire Terminal Block
Fast and easy installation. Uses sturdy wire clamps – no wrap-around of screws.

SPECIFICATIONS

Electrical rating: 24 Volt AC (18-30 VAC)
1 amp maximum load per terminal
3 amp total maximum load
(all terminals combined)
Temperature control range: 45°- 90°F (7°- 32°C)
Accuracy: +/-1°F (+/-.5°C)
Power: 24 VAC
System configurations:
SZP-1: 2-5 wire single stage gas, oil, or electric heating/cooling systems (including single stage heat pump systems)
SZP-2: Multi-stage heat pump systems (up to 10 wire) – two stage heat, two stage cool (Includes emergency heat switch)
Terminations: See Diagrams on Reverse.

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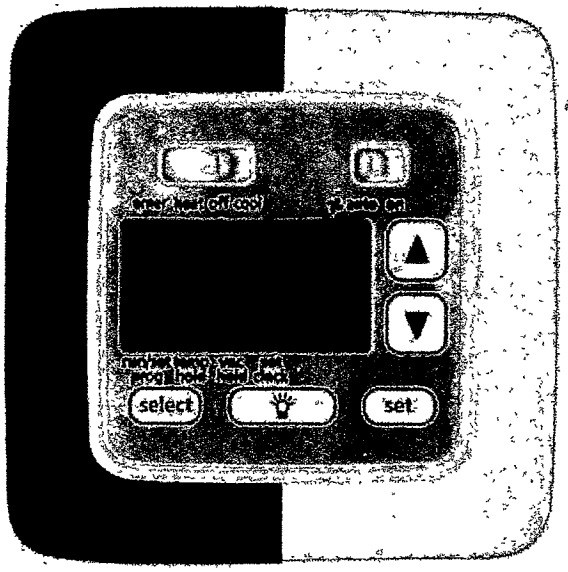
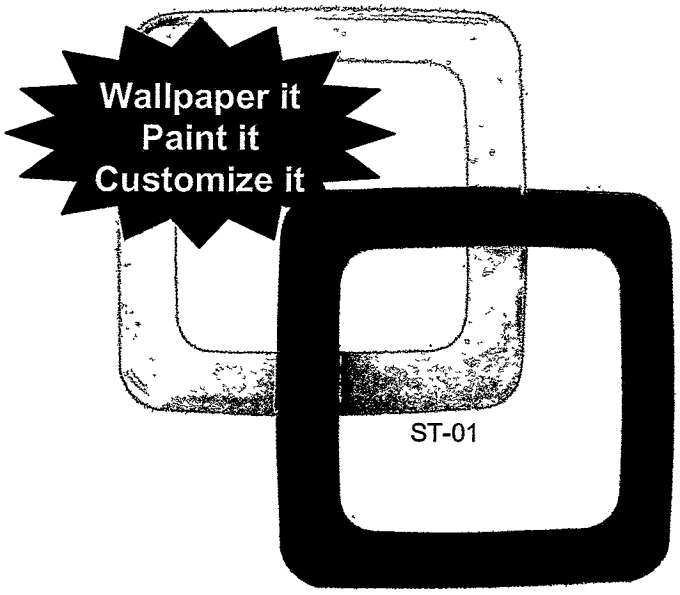


SZP-2 Pictured



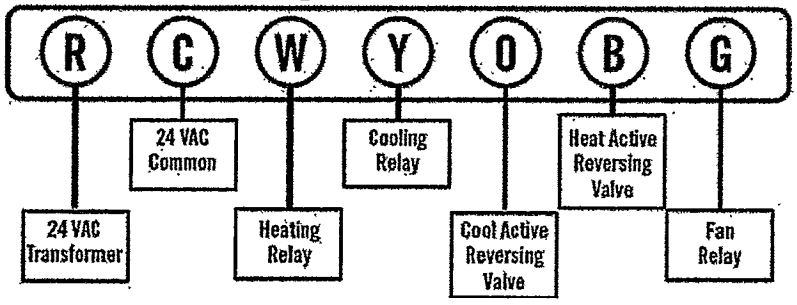
ST-01

ST-02

StatTRIM™ ORDERING

ST-01 Custom Clear StatTRIM™
ST-02 Glossy Black StatTRIM™
ST-03 Brushed Stainless StatTRIM™
ST-04 Antique Bronze StatTRIM™

SZN-1 Terminal Designations



SHIPPING INFORMATION

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Master Ctn. Qty.: 6
Master Ctn. Dim.: 10.9" x 5.6" x 6.1"
Master Ctn. Cu. Ft.: .22
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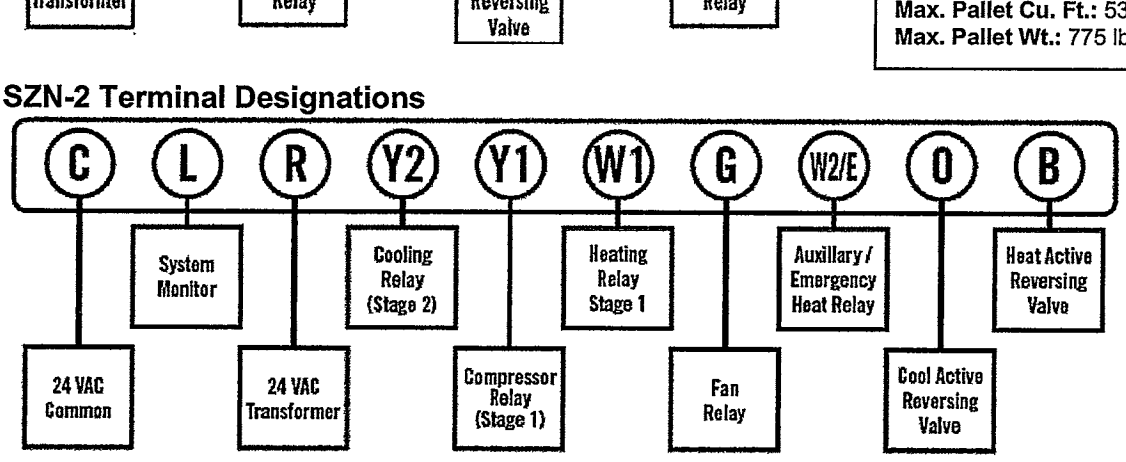
SZN-2 Terminal Designations



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P/N 220005-001

it's gotta be simple...

Computer Controlled HVAC Building Management Systems

Making Your World Conveniently Comfortable

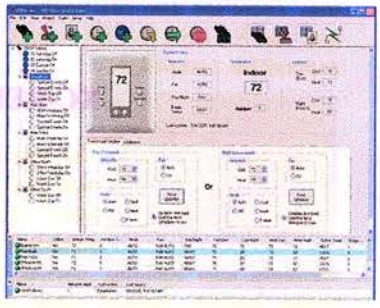
System Expansion Port

Network Controller(s)

Internet / Ethernet Bridge

Modem

Windows Software



On Site Control

Control from Remote Sites

Programmable Relay Module(s)

Outdoor & Common Area Lighting

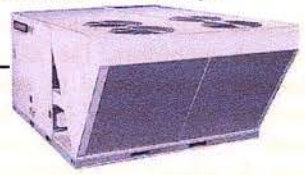
Exhaust Fans

Outdoor Signs

Circulation Pumps

Network Thermostats

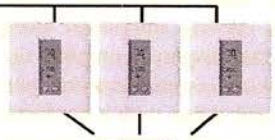
Commercial Rooftop Units G/E and Heat Pumps



Residential and Commercial G/E and Heat Pumps

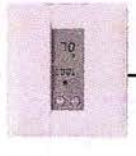
Commercial Package Units (PTAC)

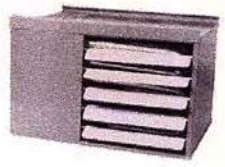
Remote Sensors



Zone Control Damper Systems

Commercial Unit Heaters





Residential Split Systems

* XCI Components in Red *3rd Party Components in Blue

XCI Corporation 1304 W. Walnut Hill Lane, Suite 200, Irving, Texas 75038 www.xcicorp.com phone (972)580-1166 fax (972)580-7774

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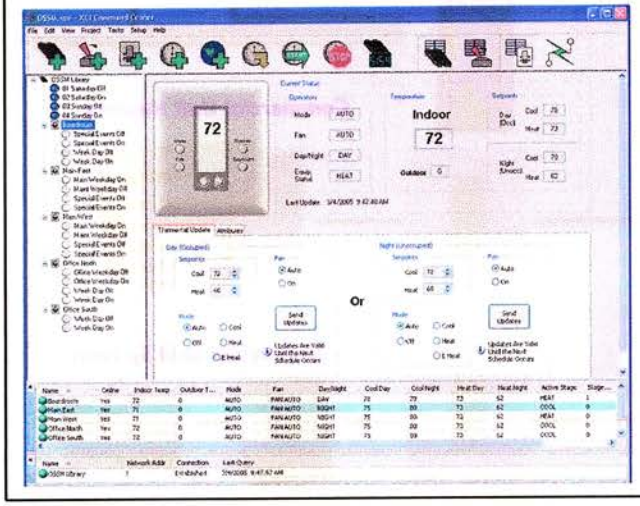
Components and Specifications

XC-LAN232 Internet/ Ethernet Bridge

The XC-LAN232 allows simple integration with any XCI network and a personal computer. The XC-LAN232 is a complete local Area Network adapter designed to work the XC-SSA family of network controllers. The XC-LAN232 includes all of the necessary intelligence to enable Plug-N-Play capability between any 10BaseT LAN and any XCI thermostat network. One RS-232C and one 10BaseT port is included with the adapter for complete versatility of environments. The unit ships complete with a power supply and a 10BaseT LAN connection cable. Also included is XCI's ComPort redirector software that allows the Com port on the host PC to be automatically redirected to the TCP/IP address selected for the XC-LAN232 adapter. With the TCP/IP addressing, any XCI network can be accessed over the Internet.

SST-1 / MST-1 / HPT-1 / HPT-2 Communicating Thermostats

The SST-1 and MST-1 communicating thermostats are designed for new or replacement commercial or residential conventional applications. The Serial-Stats represent the latest in solid-state surface mount electronics and manufacturing techniques incorporated into an extremely low-profile, ultra-slim white, and durable ABS plastic case. Both units offer "user-friendly" control of heating and cooling equipment along with easy-to-read vertical LCD that displays complete operating status. An included 2-wire communications port allows complete remote control and status with a hardware controller. A direct-wire, easy- to-install subbase mounts directly on a standard vertical outlet box or any drywall surface using hardware provided. The multistage version provides intelligent logic to initiate second stages of equipment. Two heat pump versions are also available.



XC-SSA2/CLK
XC-SSA32/CLK
XC-SSA16/CLK
Network Controllers

The XCI family of Network Controller & Schedulers is the heart of XCI's HVAC control networks. There are several different network adapters to satisfy the requirements of any installation. The entire Serial-Stat Network Controller family enables simple integration with any control system or personal computer. The XC-SSA2/CLK network controller is the workhorse of XCI's commercial grade controllers. It is an expandable network controller which allows control of up to several 1000's of thermostats, in increments of 32 thermostats. The controllers include a real-time clock/calendar which allows simple, yet robust environment control. There are also two smaller controllers, the XC-SSA32/CLK and the XC-SSA16/CLK which are 32 and 16 thermostat non-expandable controllers.

XC-REL Relay Module

The purpose of the relay module is to provide pilot duty relay contacts to control other items than heating and cooling equipment. There are many things such as common area lighting, outside lighting, exhaust fans, Fresh-air intake louvers, lighted signs, swimming pool pumps, outdoor sprinkler systems, and the list goes on and on. These items can be scheduled to operate on any schedule required. The Relay Module requires the XC-SSA2/CLK Controller.

Windows Based Software

The software which is included with the system is designed to be user-friendly point and click. The software is designed to work on all windows based operating systems. The operator develops the schedules that are required for the building and then transmits this information to the network controller(s). The computer then can be used for other purposes. If you need a schedule change, temperature change, or simply want to monitor any part of the system, simply start the program and make the adjustments or monitor what you need to monitor.

Automatic Temperature Control Specification

Section 15950 - Building Automation System/Automatic Temperature Control

PART 1 General

1.1 The automatic temperature controls (ATC) under this section will be supplied and installed in accordance with the General Conditions, Supplementary Conditions, and all Division I General Requirements and Referenced Documents.

1.2 The installation of the ATC shall be in accordance with all National, State and Local codes pertaining to this type of work.

1.3 All work must comply with Section 15050 - Basic Materials and Methods, and all other Division 15 Sections, as applicable.

1.4 The scope shall include furnishing and installing a temperature control system to include remote control panels, temperature control devices, appurtenances, etc., to accomplish specific control sequences specified herein

1.5 The scope shall include all thermostats, sensors, network controllers, modem, LAN adapters and all other new components of the system requiring connections.

PART 2: General Instructions:

2.1 The Building Automation System/Automatic Temperature Control (BAS/ATC) Contractor herein shall provide the BAS/ATC Systems as specified in their entirety. The BAS/ATC Contractor shall base his Bid on the system as specified and on the sequence of operations.

2.2 As part of the Bid, the BAS/ATC Contractor shall submit for review by the owner's authorized representatives a written description of his BAS/ATC systems, including block diagrams showing all major components and control panels, and required cabling between each.

2.3 The BAS/ATC contractor shall include manufacturer's literature for each type of panel, controller, or related device for the BAS/ATC System that may be shown on the Mechanical/Electrical/Plumbing (MEP) Diagrams.

2.4 The MEP Diagrams shall show schematically, the entire building system with all major components identified, including Riser Diagrams as needed.

PART 3: Scope of Work:

3.1 The BAS/ATC systems shall be supplied and installed completely under the BAS/ATC Contract. Control components shall be mounted and wired by the BAS/ATC Contractor.

3.2 The BAS/ATC Contractor shall provide the engineering, installation, calibration, software programming and checkout necessary for complete and fully operational BAS/ATC systems, as specified hereafter.

3.3 Cabling in exposed areas and in mechanical rooms shall be in EMT or otherwise required by code. Cabling in accessible concealed areas, open ceiling return air plenums or where cable penetrates any supply or return air duct shall be plenum rated cable.

PART 4: Submittals

4.1 The following data/information shall be submitted for approval:

4.2 Complete sequence of operation.

4.3 Control system drawings, including all pertinent data, shall provide a functional operating system.

4.4 Data sheets for all hardware control components.
4.5 A description of the installation materials including conduit, wire, flex, etc.
4.6 Thermostat and Sensor locations.
4.7 Network Controller locations.
4.8 Remote Access equipment locations, including Ethernet Network Adapters and modems.
4.9 Provide as part of the submittal five copies of all data and control drawings.

PART 5: Qualifications:

5.1 The BAS/ATC Contractor shall have an office within 100-mile radius of the job site, staffed with factory-trained personnel shall be capable of providing instruction, routine maintenance and 24-hour emergency maintenance service for all system components.
5.2 The BAS/ATC Contractor shall have a minimum of three years experience of installing and servicing similar microprocessor based control systems.
5.3 The Contractor shall be prepared to provide evidence of this history as condition of acceptance and approval prior to bidding.

PART 6: Control Manufacturer:

6.1 The control system will by XCI Corporation of Irving, TX. Any substitution of the above specified control system will require a 10-day prior approval by the engineer. Contact XCI at (972)580-1166 for pricing & assistance)
6.2 For substitution submit complete description, engineering data, names of existing installations of substitute products.
6.3 Be prepared to provide a field inspection by the engineer, if he so chooses to observe actual installation of proposed substitution.

PART 7: Network Adapters:

7.1 Each Network Controller shall have the ability to control up to 32 separate thermostats.
7.2 Additional Network Controllers and Relay Modules may be connected to the XCI-Bus (RS-485) CAT 5e wiring. This RS-485 bus not to exceed 4000 total feet in length.
7.3 The RS-485 Bus shall support up to 254 Network Controllers and/or Relay Modules combined total.
7.4 The Network Controllers shall each have its own address and be configured in a master/slave, with only one master and many slaves.
7.5 The total system shall not include more than 8,160 controlled devices (thermostats).
7.6 Computer interface with Serial port (RS-232). 7-foot connection cable furnished.
7.7 Network Controller shall be powered by 16 Volt AC transformer supplied with the Controller.
7.8 Network Controller shall contain real-time clock and calendar that maintains accurate time to within one minute for one week without power for a minimum of 7 days.
7.9 Network Controllers shall have non-volatile memory and return to normal operation after a power loss of less than seven days without human intervention.

PART 8: Thermostats:

8.1 All thermostats will have LCD that shows current room temperature.
8.2 All thermostats shall display mode of operation.
8.3 All multiple stage thermostats shall display stage of operation.

8.4 All thermostats shall be able to be over-ridden in unoccupied periods for one hour of occupied operation.
8.5 All thermostats shall be able to display current setpoints.
8.6 All thermostats shall be able to display outside temperature when associated sensor is installed.
8.7 All thermostats shall operate with "Fuzzy Logic" for efficiency and closer temperature control.
8.8 All thermostats shall have a minimum of 2°F dead-band between heat and cool setpoints.
8.9 All thermostats shall communicate with a two-wire bi-directional signal with the network controller.
8.10 All thermostats shall have independent addressable function for communication independently with Network Controller.
8.11 All thermostats shall provide automatic changeover of mode of operation.
8.12 All thermostats shall have three-wire digital communications remote sensor bus available for operation by one remote sensor or a series of remote sensors up to 6. When utilizing multiple remote sensors the temperature will be the average of the remote sensors. Thermostats shall employ microcontroller intelligence to automatically average the number of sensors connected and ignore the sensor internal to the thermostat when remote sensors are connected.
8.13 Thermostats shall have the optional ability to lock out the front panel of the thermostat to prevent tampering by area occupants.
8.14 Thermostats shall have the ability to change from occupied to unoccupied scheduling by the Network Controller, front panel control, and an independent contact closure.

Part 9: Relay Module:
9.1 Each relay module shall contain (4) independent relays.
9.2 Each relay can be programmed with its own independent schedule, based on daily needs or specific calendar dates.
9.3 Each relay module shall have independent addressable function for communication independently with Network Controller over the integrated RS-485 bus.
9.4 Each relay module shall have non-volatile memory for retention of schedules in the event of power loss, and return to normal operation after a power loss.
9.5 Each relay module shall have its own real-time clock and calendar and control schedules independently from any other relay module or network controller.

PART 10: Additional Sensors:

10.1 Remote temperature sensors shall employ a three-wire digital communications bus that shall be wired in series, starting at the associated thermostat and continuing from one sensor to the next, with a working range of up to 300 feet between sensors.
10.2 Remote temperature sensors shall be serial communication type with direct three-wire connection for data and power.
10.3 Remote Sensors shall be available for surface mount in conditioned spaces and for duct mount for duct sensors.
10.4 The outdoor sensor electronics shall be mounted in a dry environment and sensor probe be able to withstand normal exterior conditions.
10.5 The outdoor sensor shall be able to communicate directly with its thermostat for outdoor temperature readout at the thermostat.

PART 11: Communication/Scheduling Software & Hardware:
12.1 The communication and scheduling software shall be housed on an independent computer with a Microsoft 2000, NT or XP operating system.
12.2 The software shall be MS-Windows based.

12.3 The software shall have the ability to manage multiple projects from local or remote locations.

12.4 Software shall provide for event scheduling of the various thermostats and relay modules throughout the RS-485 network.

12.5 The scheduling capabilities of each thermostat and relay module shall be independent of each other with a minimum two occupied and two unoccupied schedules for each device.

12.6 The scheduling capabilities of each relay on each relay module shall be independent of each other with a minimum two occupied and two unoccupied schedules for each relay, both for daily and date driven operations.

12.7 Once the scheduling has been completed, schedules shall be downloadable to the Network Controllers for the system to operate those schedules.

12.8 After successful completion of downloading the computer shall be needed only for schedule changes, adjustment of time/date, or monitoring the system as required.

12.9 The computer shall communicate to the BAS/ATC network system by a bi-directional communications with RS-232 serial port connections, via optional modem or 10baseT Ethernet connection.

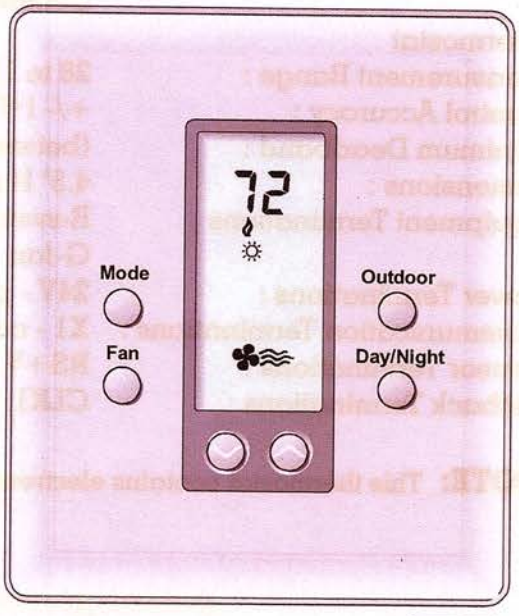
END OF SECTION 15950

Serial-Stat™

SST-1 / MST-1 Communicating Thermostats

SINGLE and MULTIPLE STAGE MODELS

SST-1 1 Heat / 1 Cool
MST-1 2 Heat / 2 Cool



GENERAL DESCRIPTION

The SST-1 and MST-1 communicating thermostats are designed for new or replacement commercial or residential conventional applications. The Serial-Stats represent the latest in solid-state surface mount electronics and manufacturing techniques incorporated into an extremely low-profile, ultra-slim white ABS plastic case. Both units offer "user-friendly" control of the heating/cooling equipment along with an easy-to-read vertical LCD that displays complete operating status. An included 2-wire communications port allows complete remote control and status with a hardware adapter. A direct-wire, easy-to-install subbase mounts directly on a standard vertical outlet box or any drywall surface using hardware provided.

Standard Features

- Selectable Celsius or Fahrenheit temperature display
- Fan selector for continuous fan operation
- Built-in anticipation and droop
- Built-in short cycle protection
- Electronic circuitry replaces conventional mechanical anticipator
- Internal switch to lockout the keypad to prevent unauthorized tampering
- Day/Night (Occupied/Unoccupied) button allows setpoint setback for energy savings
- No battery required (maintains last setpoint/mode of operation following power outages)
- Lockable access cover
- Front panel lockout with 1 hour temporary override; +/- 3oF adjustment during override
- Plenum fan switch
- MST-1 has 2 LED lights available for status indication with switchable LCD icons
- Automatic changeover from heat-to-cool and cool-to-heat
- 2°F (1°C) minimum Heat/Cool separation
- Complete control and status via XC-SSA2 Serial-Stat communications controller family
- Selectable minimum on/off time (2 or 4 minutes)
- HVAC equipment control using dry contact relays
- Optional remote indoor, outdoor and wet location sensing modules

Note : Specifications subject to change without notice.

ACTUAL SIZE

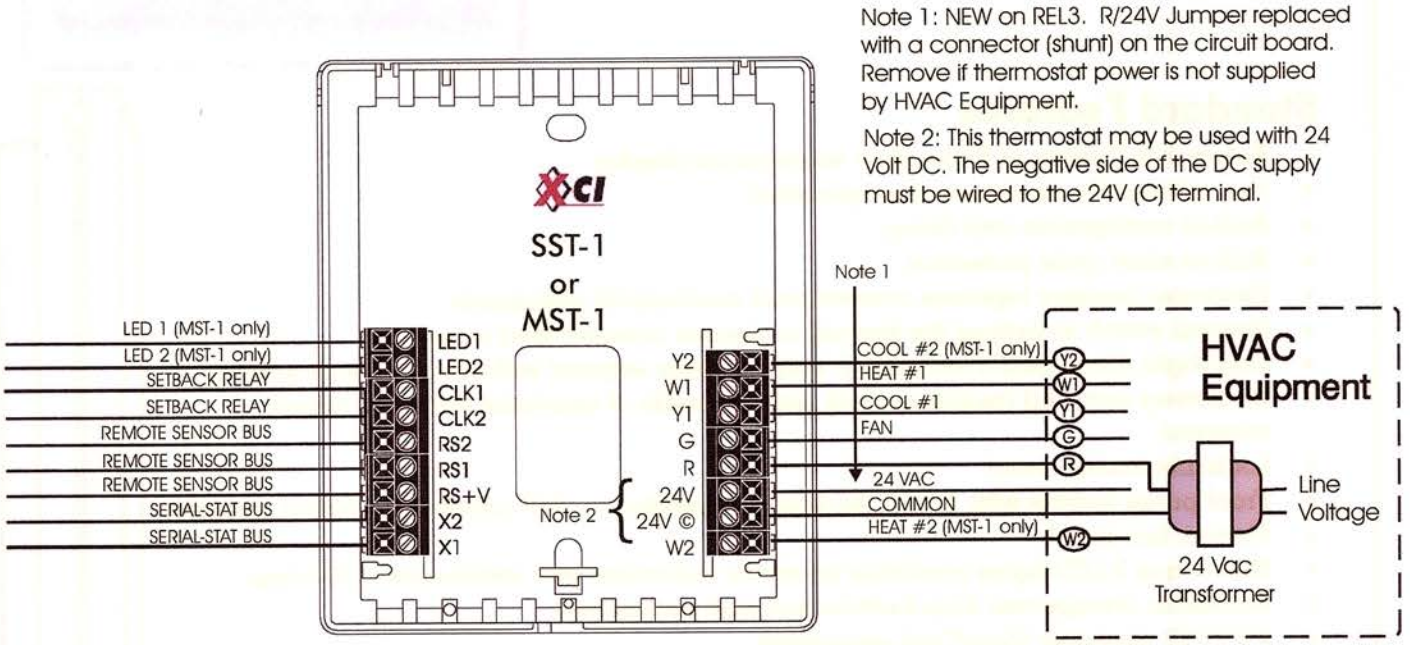
XCI Controls, L.P., 1304 W. Walnut Hill Lane, Suite 200, Irving, Texas, 75038-3066 <> http://www.xcicontrols.com
telephone (972) 580-1166 <> fax (972) 580-7774

P/N 220002-001

SPECIFICATIONS

Rated Voltage :	20 to 30Vac, DC 24 nominal
Rated A.C. Current :	0.05 to 0.75 Amp continuous per output, with surges to 3 Amps maximum
Rated D.C. Current :	0.0 to 0.75 Amp continuous per output, with surges to 3 Amps maximum
Control Range :	Heating : 38 to 88°F in 1° steps (6 to 30°C in 1° steps) Cooling : 60 to 108°F in 1° steps (16 to 40°C in 1° steps)
Thermostat	
Measurement Range :	28 to 124°F or 0 to 48°C
Control Accuracy :	+/- 1°F @ 68°F (0.5°C @ 20°C)
Minimum Deadband :	(between heating and cooling) 2°F or 1°C
Dimensions :	4.5" H x 4" W x 7/8" D (114mm x 102mm x 22mm)
Equipment Terminations :	R-switching voltage, W1-heat stage 1, Y1-cool stage 1, G-fan MST-1 only - Y2-cool stage 2, W2-heat stage 2
Power Terminations :	24V - power, 24V(c) - power common
Communication Terminations :	X1 - comm(+), X2 - comm(-)
Sensor Terminations :	RS+V - sensor power, RS1 - comm(+), RS2 - comm(-)
Setback Terminations :	CLK1, CLK2 dry contact closure

NOTE: This thermostat contains electronic circuitry that replaces the conventional mechanical anticipator



OUTPUT TERMINAL FUNCTIONS

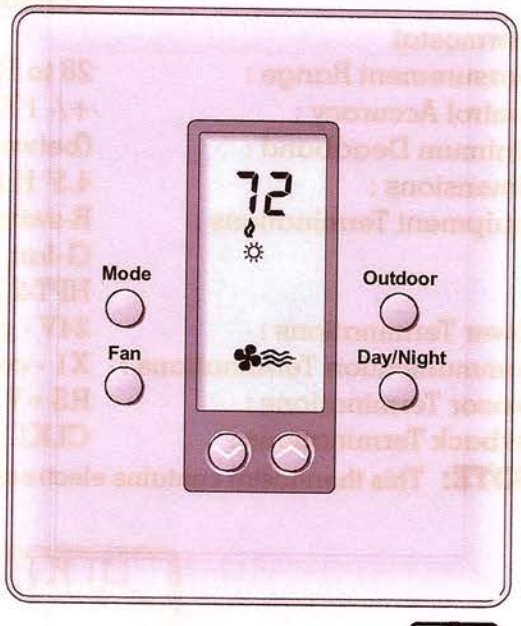
LED1	Free light for status or function indication
LED2	Free light for status or function indication
CLK1	Dry contact closure input for setback
CLK2	Dry contact closure input for setback
RS2	Remote indoor, outdoor and/or wet
RS1	location sensor
RS+V	Power for remote sensors
X2	Communications bus input/output
X1	Communications bus input/output
Y2	Energizes on a call for second stage cool, MST-1 only
W1	Energizes on a call for first stage heat
Y1	Energizes on a call for first stage cool
G	Energizes the fan circuit
R	Independent Switching Voltage
24V	24Vac
24V(c)	24Vac Common
W2	Energizes on a call for second stage heat, MST-1 only

Serial-Stat™

HPT-1 / HPT-2 Communicating Thermostats

SINGLE and MULTIPLE STAGE HEAT PUMP MODELS

HPT-1 2 Heat / 1 Cool
HPT-2 3 Heat / 2 Cool



GENERAL DESCRIPTION

The HPT-1 and HPT-2 communicating thermostats are designed for new or replacement commercial or residential heat pump applications. The Serial-Stats represent the latest in solid-state surface mount electronics and manufacturing techniques incorporated into an extremely low-profile, ultra-slim white ABS plastic case. Both units offer "user-friendly" control of the heating/cooling equipment along with an easy-to-read vertical LCD that displays complete operating status. An included 2-wire communications port allows complete remote control and status with a hardware adapter. A direct-wire, easy-to-install subbase mounts directly on a standard vertical outlet box or any drywall surface using hardware provided.

Standard Features

- Selectable Celsius or Fahrenheit temperature display
- Fan selector for continuous fan operation
- Built-in anticipation and droop
- Built-in short cycle protection
- Electronic circuitry replaces conventional mechanical anticipator
- Internal switch to lockout the keypad to prevent unauthorized tampering
- Day/Night (Occupied/Unoccupied) button allows setpoint setback for energy savings
- No battery required (maintains last setpoint/mode of operation following power outages)
- Lockable access cover
- Front panel lockout with 1 hour temporary override; +/- 3°F adjustment during override
- Plenum fan switch
- Two LED lights available for status indication with switchable LCD icons
- One LED light available for emergency heat status indication
- Automatic changeover from heat-to-cool and cool-to-heat
- 2°F (1°C) minimum Heat/Cool separation
- Complete control and status via XC-SSA2 Serial-Stat communications controller family
- Selectable minimum on/off time (2 or 4 minutes)
- HVAC equipment control using dry contact relays
- Optional remote indoor, outdoor and wet location sensing modules

Note : Specifications subject to change without notice.

ACTUAL SIZE

XCI Controls, L. P., 1304 W. Walnut Hill Lane, Suite 200, Irving, Texas 75038-3066 <> http://www.xcicontrols.com
telephone (972) 580-1166 <> fax (972) 580-7774

P/N 220001-001

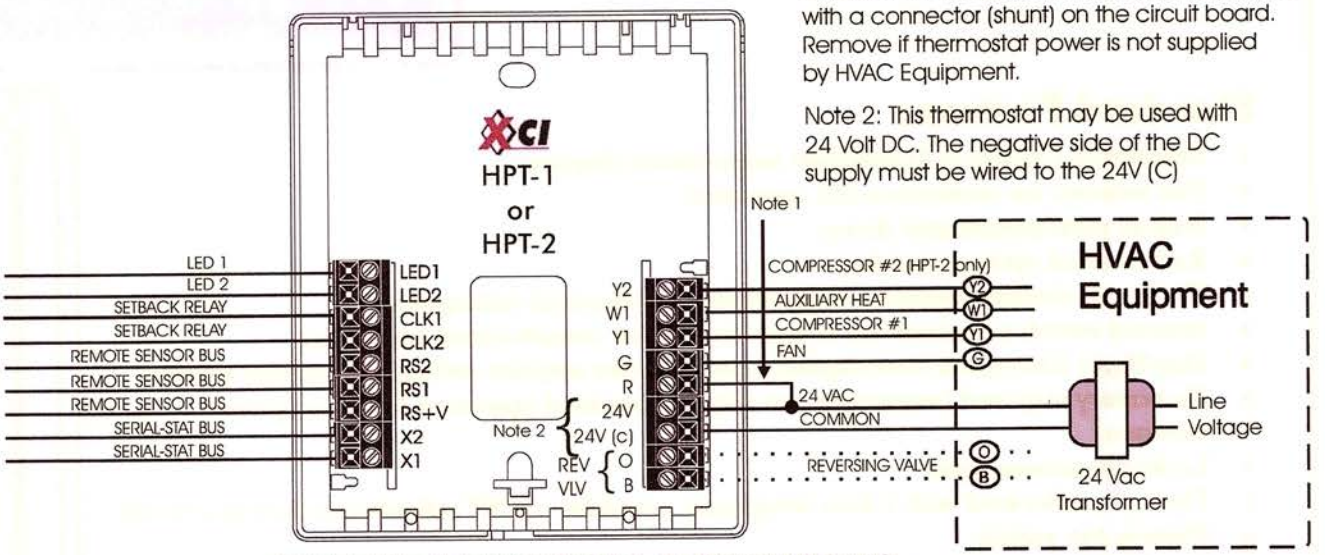
SPECIFICATIONS

Rated Voltage :	20 to 30Vac, DC 24 nominal
Rated A.C. Current :	0.05 to 0.75 Amp continuous per output, with surges to 3 Amps maximum
Rated D.C. Current :	0.0 to 0.75 Amp continuous per output, with surges to 3 Amps maximum
Control Range :	Heating : 38 to 88°F in 1° steps (6 to 30°C in 1° steps) Cooling : 60 to 108°F in 1° steps (16 to 40°C in 1° steps)
Thermostat Measurement Range :	28 to 124°F or 0 to 48°C
Control Accuracy :	+/- 1°F @ 68°F (0.5°C @ 20°C)
Minimum Deadband :	(between heating and cooling) 2°F or 1°C
Dimensions :	4.5" H x 4" W x 7/8" D (114mm x 102mm x 22mm)
Equipment Terminations :	R-switching volt., W1-aux heat, Y1-compressor stage 1, G-fan, O/B-reversing valve cool/heat, LED1-light, LED2-light HPT-2 only Y2-compressor stage 2
Power Terminations :	24V - power, 24V(c) - power common
Communication Terminations :	X1 - comm(+), X2 - comm(-)
Sensor Terminations :	RS+V - sensor power, RS1 - comm(+), RS2 - comm(-)
Setback Terminations :	CLK1, CLK2 dry contact closure

NOTE: This thermostat contains electronic circuitry that replaces the conventional mechanical anticipator

Note 1: NEW on REL3. R/24V Jumper replaced with a connector (shunt) on the circuit board. Remove if thermostat power is not supplied by HVAC Equipment.

Note 2: This thermostat may be used with 24 Volt DC. The negative side of the DC supply must be wired to the 24V (C)



OUTPUT TERMINAL FUNCTIONS

LED1	Free light for status or function indication
LED2	Free light for status or function indication
CLK1	Dry contact closure input for setback
CLK2	Dry contact closure input for setback
RS2	Remote indoor, outdoor and/or wet
RS1	location sensor
RS+V	Power for remote sensors
X2	Communications bus input/output
X1	Communications bus input/output
Y2	Energizes compressor for second stage heating or cooling, HPT-2 only
W1	Energizes Auxiliary Heat as second stage heating or Emergency Heat
Y1	Energizes compressor with a call for heating or cooling
G	Energizes fan circuit with a call for heating or cooling
R	Independent Switching Voltage
24V	24Vac
24V(c)	24Vac Common
O	Energizes the reversing valve in cooling mode
B	Energizes the reversing valve in heating mode

Using Your New XCI Electronic Thermostat

it's gotta be simple...

Your new XCI electronic digital thermostat is designed to provide accurate control on your residence in the most energy efficient manner possible. *A summary of these instructions are displayed on the inside cover of your thermostat.*

The thermostat normally displays the room temperature, mode of operation and whether Cooling or Heating is on. The six buttons on the front of the unit allow complete control of your equipment. The buttons are **Mode** *(selects Off, Cool, Heat, Auto),* **Fan** *(selects Auto, Continuous),* **Outdoor** *(outdoor temperature),* **Day/Night** *(selects Day or Night setpoints),* and **Up** and **Down** *(change the temperature).* The thermostat is called an *auto-changeover* type which means you can set different temperatures to be maintained, such as 68° in heating and 72° in cooling, and the thermostat will automatically turn on the heater or the air conditioner as needed without you having to touch anything. In addition, the thermostat has the capability of remembering two more setpoints, one heat and one cool, to enable you to save energy when you are not at home. *Don't worry about setting something wrong. There is nothing you can do to damage the thermostat or your heating and air conditioning equipment.*

Thermostat Display

Mode Button

- **COOL** - When the **Snowflake** symbol is displayed, the thermostat is in **Cooling** mode. When the unit is <u>On</u> in Cooling mode, the <u>Snowflake will flash</u>.
- **HEAT** - When the **Flame** symbol is displayed, the thermostat is in **Heating** mode. When the unit is <u>On</u> in Heating mode, the <u>Flame will flash</u>.
- **AUTO** - When the **Snowflake** and the **Flame** symbols are both displayed, the thermostat is in **Auto** mode. The thermostat will automatically change from Heat or Cool as needed. When the unit is <u>On</u>, the <u>Snowflake or the Flame will flash</u>.
- **OFF** - When the word **Off** is displayed, the thermostat is completely off.

Fan Button

- In normal use, the **Fan** symbol should be off. In this mode, the **Fan** will turn on and off with the Heater or Air Conditioner as needed. To have the **Fan** blow air continuously, press the **Fan** button again, and the **Fan** symbol will be displayed.

Day/Night Button

- **Day** - When the **Sun** symbol is displayed, the thermostat is in **Day** (*At Home*) mode. Use this mode when you are at home. See *Setting the Thermostat*, below for set up and use.
- **Night** - When the **Moon** symbol is displayed, the thermostat is in **Night** (*Away*) mode. Use this mode when you are NOT at home. See *Setting the Thermostat*, below for set up and use.

Setting the Thermostat

Day (*<u>At Home</u>*) Settings

- Press the **Day/Night** button until the **Sun** symbol is displayed.
- Press the **Mode** button until the **Cooling** symbol is displayed.
- Press the **Up** or **Down** Arrows to select the desired **Cooling** temperature to be maintained while at home. *Typical occupied cooling comfort is* ***about 72° - 74°***.
- Press the **Mode** button until the **Heating** symbol is displayed.
- Press the **Up** or **Down** Arrows to select the desired **Heating** temperature to be maintained while at home. *Typical occupied heating comfort is* ***about 68° - 70°***.

Night (*<u>Away</u>*) Settings

- Press the **Day/Night** button until the **Moon** symbol is displayed.
- Press the **Mode** button until the **Cooling** symbol is displayed.
- Press the **Up** or **Down** Arrows to select the desired **Cooling** temperature to be maintained while *<u>away</u>* from home. For optimal efficiencies, *set the cooling mode to* ***about 76° to 78°***, or about 6° to 8° warmer than your Day (At Home) Cooling temperature.
- Press the **Mode** button until the **Heating** symbol is displayed.
- Press the **Up** or **Down** Arrows to select the desired **Heating** temperature to be maintained while *<u>away</u>* from home. For optimal efficiencies, *set the heating mode to* ***about 62° to 64°***, or about 6° to 8° cooler than your Day (At Home) Heating temperature.

P/N 220017-001

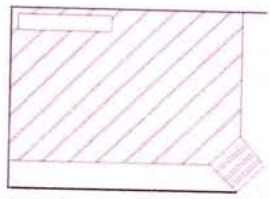
Serial-Stat™

XC-IDS Remote Indoor Sensor
XC-DUCT Remote Duct Sensor
XC-ODT Remote Outdoor Sensor

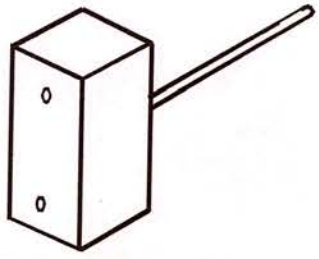
COMMUNICATING TEMPERATURE SENSOR MODULES
Works Directly with Serial-Stat™ Thermostats
Connect Up To Six (6) Indoor and One (1) Outdoor Sensor

GENERAL DESCRIPTION

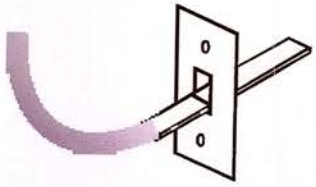
The XC-IDS, XC-DUCT and XC-ODT serial communicating temperature sensors are designed to work in conjunction with the XCI Serial-Stat™ thermostat family. The XC-IDS is the indoor temperature model that allows remote sensing of temperature in the occupied space, and the XC-DUCT includes an 8" stainless steel probe & box for use at a return air duct. The XC-ODT is the outdoor temperature model that allows monitoring of the ambient outside temperature. Integration with the Serial-Stat™ thermostats is a simple three wire bus supplying power and data to the thermostat. An external 10K sensor probe may be connected for complete versatility of environments. Screw terminal connections are included for power, data, and external sensors.



XC-IDS Sensor Electronics



XC-DUCT 8" Duct Probe



XC-ODT Outdoor Sensor Probe

Standard Features

Sensor Module Hardware

- Up to Six (6) XC-IDS or XC-DUCT sensors may be daisy-chained to one Serial-Stat™ Thermostat
- Automatic Averaging of all indoor sensors; No series-parallel configuration needed
- All input/output/power on easy access screw terminals
- One (1) XC-ODT outdoor sensor may be daisy-chained in combination with the XC-IDS(s)
- No addressing needed
- Sensor Electronics Module Dimensions : 3.5" W x 2.5" H x 0.75" D

Temperature Sensors

- XC-IDS contains an internal temperature sensor; Screw terminals included for an alternate external 10K thermistor
  XC-DUCT contains an 8" stainless steel duct probe with a wiring junction box
- XC-ODT model contains an external 10K thermistor and mounting hardware for outside temperature measurements

Note : Specifications subject to change without notice.

XCI Controls, L.P., 1304 W. Walnut Hill Lane, Suite 200, Irving, Texas 75038

telephone (972)580-1166 <> fax (972) 580-7774 <> http://www.xcicontrols.com

P/N 220054-001