Programming Troubleshooting Guide

RT-SVP02A-EN

Library	**Service Literature**
Product Section	**Unitary**
Product	**IntelliPak Rooftop Air Conditioning** (Comm. SZ, 20-130 Ton)
Model	**SX, SE, SF, SL, SSHF and HG Units**
Literature Type	**Installation Manual**
Sequence	**2A**
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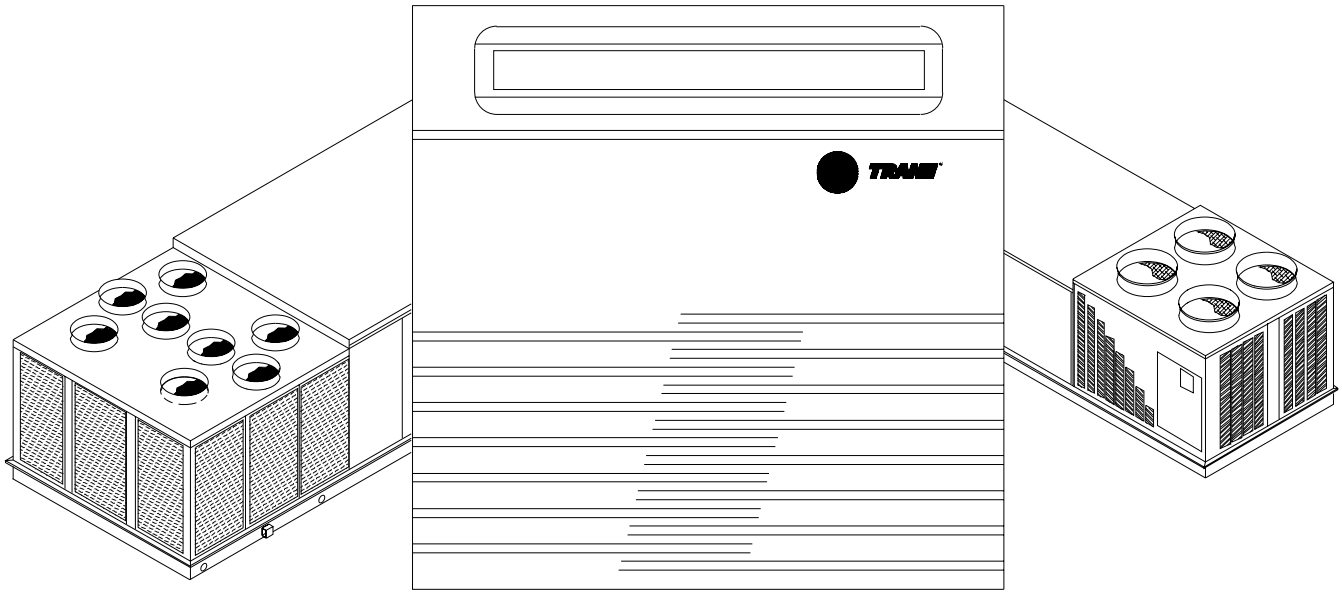
Supersedes	**SAHF-PTG-6**

IntelliPak™

Commercial Single Zone Commercial Rooftop
Air Conditioner with Variable Air Volume (VAV) Controls



Used with Models

SAHF -C20, -C25, -C30, -C40, -C50, -C55, -C60, -C70 and -C75
SEHF -C20, -C25, -C30, -C40, -C50, -C55, -C60, -C70 and -C75
SFHF -C20, -C25, -C30, -C40, -C50, -C55, -C60, -C70 and -C75
SLHF -C20, -C25, -C30, -C40, -C50, -C55, -C60, -C70 and -C75
SSHF -C20, -C25, -C30, -C40, -C50, -C55, -C60, -C70 and -C75
SXHF -C20, -C25, -C30, -C40, -C50, -C55, -C60, -C70 and -C75

SEHG -C90, -D11, -D12, and -D13
SFHG -C90, -D11, -D12, and -D13
SLHG -C90, -D11, -D12, and -D13
SSHG -C90, -D11, -D12, and -D13
SXHG -C90, -D11, -D12, and -D13

Trane has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice.

About The Manual

Literature Change History

RT-SVP02A-EN (May 2003)
Updated issue of this manual; provides specific programming, diagnostic, and troubleshooting information for S_HF with “5” and later design sequence and S_HG with “X” and later design sequence Constant Volume (VAV) Controls.

SAHF-PTG-6 (October 2001)
Original issue of this manual; provides specific programming, diagnostic, and troubleshooting information for S_HF with “1” and later design sequence and S_HG with “V” and later design sequence Variable Air Volume (VAV) Controls

Overview of Manual

Note: One copy of the appropriate service literature ships inside the control panel of each unit.

This manual is divided into multiple sections. Each section provides the operator with specific information about the system operating parameters and their related screens.

By carefully following the screen layout within this manual while scrolling through the Human Interface screens, the operator can monitor operating status, set specific operating parameters, and diagnose system problems.

Screens that are displayed throughout this manual may not appear on the Human Interface while scrolling in the various menus. The screens that are “Configuration” dependent are labeled. Follow the appropriate steps for each screen as they appear and proceed through each section.

Refer to the Table of Contents and Index for specific topics contained in this manual and supporting manuals.

Completion of the “Start-Up” and “Test Mode” procedures in the applicable Installation, Operation and Maintenance manual, before attempting to operate or service this equipment will minimize the risk of improper operation.

Note: The procedures discussed in this manual should only be performed by qualified, experienced HVAC technicians.

Table of Contents

General Information

Commonly Used Acronyms

For convenience, a number of acronyms and abbreviations are used throughout this manual. These acronyms are alphabetically listed and defined below.

Act = active
AH = Air Handler
Annunc = Annunciater
AS = AirSide
Aux = auxiliary
BAS = building automation systems
ccfm = (100 cfm) cubic-feet-per-minute
Cfg = Configured, configuration
cfm = cubic-feet-per-minute
ckt = circuit
Cmd = command
Comp (s) = compressor, compressors
Cond = condenser, condensers
Config = configured, configuration
Ctrl = control
CV = constant volume
Cy = cycle
CW = clockwise
CCW = counterclockwise
Dflt = default
Diag = diagnostic
Dmpr = damper
DWU = Daytime Warm-up
E/A = exhaust air
ECEM = exhaust control/enthalpy module
Econ = economizer, economizing
Ent = entering
Evap = evaporator
F/A = fresh air
Funct = function
GBAS = generic building automation system (module)
Heat = Heat, heating
HEAT = where all caps HEAT (module)
HGBP = hot gas bypass
Hi = high
HI = where all caps Human Interface
HO = History Only (Diagnostic)
HVAC = heating, ventilation and air conditioning
ICS = Integrated Comfort System
IGV = inlet guide vanes
INFO = Information Only (Diagnostic)
I/O = input/output
Indep = Independent
IOM = installation/operation/ maintenance manual
IPC = interprocessor communications
IPCB = interprocessor communicatons bridge (module)
IWC = inches water column
LCI = LonTalk® Communication Interface
LCI-I = LonTalk Communication Interface for IntelliPak
LH = left-hand
Lo = low
Manif = manifolded
Max = maximum
Min = minimum
Misc = miscellaneous
MCM = multiple compressor module
Mod = modulating
MWU = morning warm-up
NSB = night setback panel
Num = number
O/A = outside air
Occ = occupied
PAR = Partial System Disable, Auto Reset (Diagnostic)
PMR = Partial System Disable, Manual Reset (Diagnostic)
Pos = position
Pot = potentiometer
PPM = parts per million
Press = pressure
Propor = proportional
psig = pounds-per-square-inch gauge pressure
PWS = part-winding start
R/A = return air
Refrig = refrigerant
RHI = Remote Human Interface
RH = right-hand
rpm = revolutions-per-minute
RT = rooftop unit
RTM = rooftop module
SA = supply air
SAP = supply air pressure
Sat = saturated
SCM = single compressor module
Setpt = set point
SF = supply fan
SRC = source
Stg = stage
Stnd = standard
STP = set point
Sw = switch
SZ = single-zone (unit airflow)
TCI = Tracer communications interface (module)
Temp = temperature
UCM = unit control (module)
Unocc = unoccupied
VAV = variable air volume
VCM = ventilation control module
VDC = volts DC
Ventil = ventilation
VFD = variable frequency drive
VOM = ventilation override module
W/ = with
w.c. = water column
WU = warmup
XL = across-the-line start

General Information

Glossary of Terms

Carefully review these definitions since they are used throughout this document and the I.O.M.. Knowledge of these terms is essential in gaining an understanding of how these units operate.

Active Set point
The set point which is currently being used for control by the set point source selection.

Comm3/4
Trane proprietary network communication protocol.

Comm5
Trane's implementation of LonTalk (an open network communication protocol.)

Compressor Protection Switch
A pressure switch installed on the suction line that prevents compressor operation below the switch's set point. The purpose is to prevent no-flow scroll compressor operation.

Control Band
The range of temperatures or pressures which would normally be maintained by the various control functions.

Control Point
The value of a set point that an algorithm is using at any given time.

Deadband
As applied to SA temp control, this refers to a range of temperatures equally spaced above and below the SA temp control point in which the control algorithm is satisfied.

Economizer Zone Temp Set point Suppression
a parameter used for setting the Zone Temp set point at a lower value than the mechanical cooling zone temp set point.

External Stop
a binary input on the RTM that allows unit shutdown when connected to a field-supplied switch.

LonTalk
An open, device networking communications protocol for controls. This protocol is defined in ANSI approved standard EIA/CEA-709.1-A-1999.

Low Ambient Compressor Lockout
A function which prevents compressor operation at low outdoor ambient temperatures.

Night SetBack (NSB)
Applies to the control of the rooftop unit during unoccupied periods.

OA Reset
Outdoor Air Reset - Supply Air Temperature Reset based on Outdoor Air Temperature.

Occupied Zone Low Temperature Limit Set point
the temperature that initiates Daytime Warmup.

Purge
a function which causes zone air to be purged and replaced by outside air.

Reference Enthalpy
an outdoor enthalpy value above which economizing will be disabled.

Remote Human Interface
a human interface module designed to be mounted remotely from the unit. There are some functional differences between a unit mounted and a remote mounted human interface module.

Reset Amount Maximum
The maximum amount of reset allowed.

Reset End Temperature
the temperature at which the maximum reset amount will occur.

Reset Start Temperature
the temperature at which reset will begin.

Space Pressure
the pressure in the building as measured by the Space Pressure Transducer, referenced to outside (atmospheric) pressure.

Supply Air Pressure High Limit
a pressure limit to prevent unit casing and/or ductwork overpressurization.

Statitrac
a trademark for control of space pressurization.

Supply Air Pressure
The pressure in inches water column (IWC) of the supply duct plenum or outlet as measured by the Supply Air Pressure Transducer, referenced to local outside (atmospheric) pressure.

Supply Air Tempering
turning on heat when the supply air temperature drops below a preset value usually due to cold outside air being brought in to provide building ventilation.

Supply Air Temperature Control Point
the revised value of supply air temperature set point after supply air temp reset has been applied.

Supply Air Temperature Reset
a function that shifts the SA Temp Set point an amount based on the value of another parameter—typically Zone Temp or Outdoor Air Temp. The purpose of this function is to lower unit capacity to better meet load requirements.

General Information

UCM Control System

Trane Large Commercial Rooftop Units are controlled by a microelectronic control system that consists of a network of modules and are referred to as Unit Control Modules (UCM).

The unit size, type (CV or VAV), heating functions, peripheral devices, options, exhaust capabilities, etc. determine the number and type of modules that a particular rooftop unit may employ.

The UCM receives analog and binary inputs, then processes this information and supplies outputs in the form of modulating voltages, contact closures, etc. to control damper actuators, fan motors, compressors, valves, electric heating coils and other electrical devices in the unit to maintain set comfort levels.

The UCM provides some equipment protection functions both directly and indirectly, such as duct pressure limits and compressor lockouts.

Listed below are the various modules that may be employed in a UCM control system.

Rooftop Module (1U48)
(Standard on all units) The RTM is the central processor of the system. It continuously receives information from the other unit modules, sensors, the remote control panel, and customer supplied relays. It then interprets this information and responds to cooling, heating, and ventilation requests by directing the other modules in the system to energize the proper unit components. It also directly initiates supply and exhaust fan operations, and economizer operation.

Compressor Module (SCM & MCM - Size Specific)(1U49)
The Compressor module, (Single Circuit & Multiple Circuit), upon receiving a request for mechanical cooling, energizes the appropriate compressors and condenser fans. It monitors the compressor operation through feedback information it receives from various protection devices.

Heat Module (1U50)
(Standard on all heating units) The Heat module directs the unit's heater to stage up and down to bring the temperature in the controlled space to within the applicable heating set point.

Exhaust/Comparative Enthalpy Module (1U52)
(Option - used with Statitrac and/or comparative enthalpy) The ECEM receives data from the return air humidity sensor, the return air temperature sensor, and the return air space pressure transducer and controls the exhaust fans and dampers to maintain set space pressure and humidity levels.

Generic BAS Module (1U51)
(Optional - used on units with additional requirements to interface with non-Trane building control systems) The Generic BAS module links the Rooftop UCM with non-Trane building control systems and enables communication (input/output interface) between the systems. It can accept external set points for cooling, heating, demand limiting, and S/A pressure.

Lontalk Communication Interface Module (LCI) (1U54)
(Optional - used on units with Trane ICS ™ or 3rd party Building Automation Systems)
The LonTalk Communication Interface module expands communications from the unit's UCM network to a Trane Tracer Summit ™ or a 3rd party building automation system, that utilizes LonTalk, and allows external setpoint and configuration adjustment and monitoring of status and diagnostics.

Ventilation Override Module (1U53)
(Optional - used on units with special ventilation requirements) The Ventilation Override module can control the unit's air handling functions to perform customer specified functions such as space pressurization, exhaust, purge, unit off, etc.

Interprocessor Communications Board (IPCB 1U55 - used with Optional Remote Human Interface)
The Interprocessor Communication Board expands communications from the unit's UCM network to a Remote Human Interface Panel. DIP switch settings on the IPCB module for this application should be; Switches 1 and 2 "Off", Switch 3 "On".

Trane Communications Interface Module (TCI) (Optional 1U54 - used with Trane ICS™ Systems)
The Trane Communication Interface module expands communications from the unit's UCM network to a Trane Tracer 100 ™ or a Tracer Summit ™ system and allows external setpoint adjustment and monitoring of status and diagnostics. DIP Switch settings on the TCI module for these applications should be: Tracer 100 (Comm3): Switches 1, 2, and 3 are "Off"; Tracer Summit (Comm4): Switch 1 is "On", switches 2, and 3 are "Off".

Human Interface Module (Local = 1U65, Remote = 5U66)

The Human Interface (HI) Module illustrated in Figure 2-1 is the device which enables the customer, building owner, or contractor, to communicate to the Rooftop unit the necessary parameters for unit operation such as cooling and heating set points, demand limiting, ventilation override modes, etc.

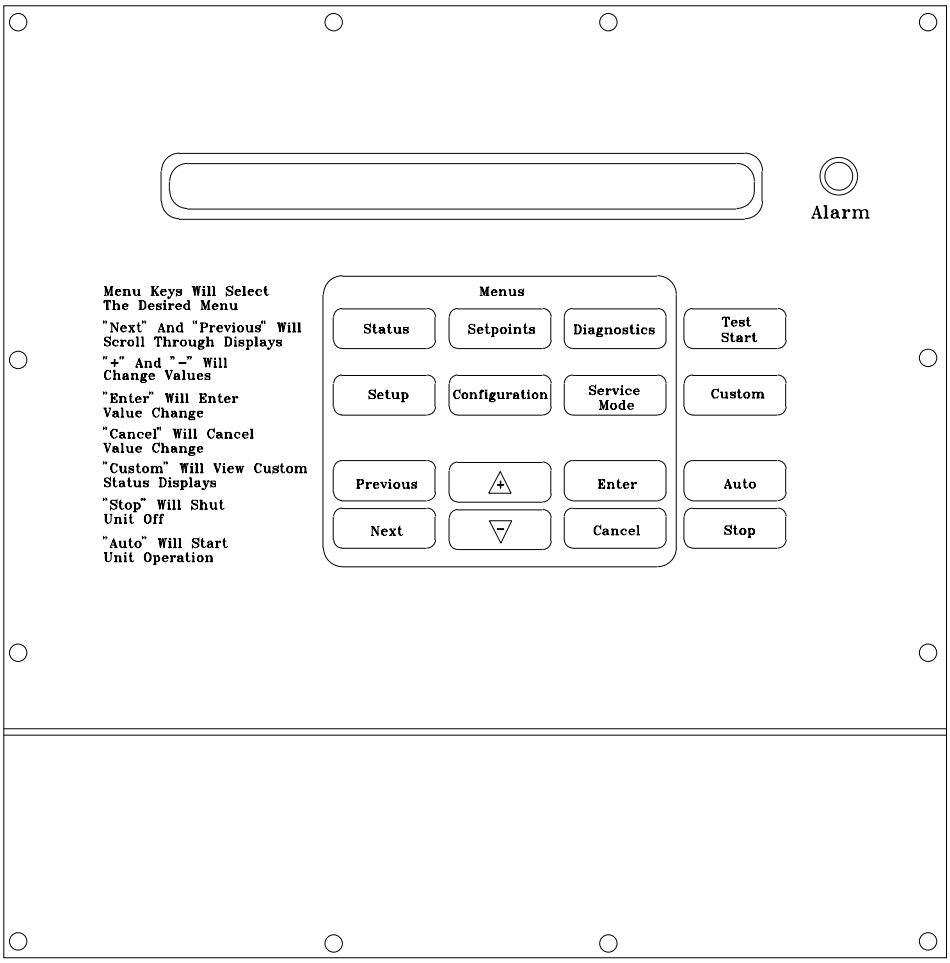
The local (unit mounted) Human Interface and the Remote Human Interface Panels' functions are identical, except for Service mode which is not available on the Remote Human Interface Panel.

The HI Module is located in the unit's main control panel. A small door located in the unit's control panel door allows access to the HI Module's keypad and display window.

There is a 2 line by 40 character LCD screen which provides status information for the various unit functions as well as menus used to set or modify the operating parameters. There is a 16 key keypad adjacent to the LCD screen, which allows the operator to scroll through the various menus and make adjustments to the set points, etc.

The information displayed in the LCD window will be top-level status information unless the operator initiates other displays.

Figure 2-1
Human Interface Module



At power-up, the Human Interface LCD will display one of four initial screens illustrated in the “General Status” section.

1. Unit Status (Unit Off or Stopped) (The unit is configured and operational, but is not running). This screen shows state, mode, and function information when the unit is off or stopped.

2. Unit Status (Unit On) (The unit is configured and operational, and is running). This screen shows state, mode, and function information when the unit is on.

3. VOM Active (a ventilation override command was received) This screen shows that the unit is in a Ventilation Override Mode.

4. No Configuration (the unit needs to be configured). This screen shows that required configuration data is missing.

The LCD screen has a backlight that makes the information easier to read. The light will go out if no keys are pressed for 30 minutes. If it goes out, simply press the STATUS key.

Menu Keys

The six keys illustrated in Figure 2-2 in the MENU area (STATUS, SET POINTS, SET UP, CONFIGURATION, DIAGNOSTICS, and SERVICE MODE) are used to bring up the various interactive menus where the user inputs and accesses unit operating data. Pressing these keys will display the initial screen for the menu designated by the key’s name. The following information describes the keys and their functions when viewing the various menus.

If no key is pressed for 30 minutes while the LCD is displaying a menu screen, it will revert back to the unit operating status screen.

STATUS Key

Pressing the STATUS key causes the LCD to display the operating status screen; i.e. “On”, “Unit Stop”, “External Stop”, “Emergency Stop”, “Service Mode”. Pressing the NEXT key allows the operator to scroll through the screens which provide information such as air and refrigerant temperatures, humidity levels, fan operation, compressor operation, heater operation, economizer positoning, exhaust operation, as well as heating, cooling, and compressor

lockout set points. Pressing the STATUS key while viewing any of the data screens will cause the LCD to go back to the operating status screen.

SET POINTS Key
Pressing the SET POINTS key will cause the LCD screen to display the first of the set point screens where the operator will designate default temperature and pressure set points. While scrolling through the set point screens, pressing this key again will cause the LCD to display the first set point screen.

DIAGNOSTICS Key
Pressing the DIAGNOSTICS key at any time will allow the operator to view any unit function failures. The LCD screen will display one of the diagnostic screens (depending on which diagnostic, if any, is present). If no key is pressed for 30 minutes while the screen is displaying diagnostic information, it will revert back to the operating status display.

CONFIGURATION Key
Pressing the CONFIGURATION key will cause the LCD screen to display the first of the configuration screens where the operator will designate unit configuration data such as unit type, capacity, system control, etc...

This information was programmed at the factory. Pressing the configuration key at any level in the configuration menu will display the first configuration screen.

Note: This key should be used if the unit's configuration data is lost or new options are added in the field, and to view current configuration.

SET UP Key
Pressing the SET UP key will cause the LCD screen to display screens where the operator will designate various operating parameters such as temperature and pressure ranges, limits, percentages, set point source selections, and sensor input definitions for the control of the rooftop unit's various operating modes. Pressing the SET UP key at any level in the SET UP menu will display the first SET UP screen.

SERVICE MODE Key
Pressing the SERVICE MODE key causes the LCD to display the first of the service test mode screens showing various unit components which may be turned on or off for the particular test being performed. Once the status of these components is designated, the LCD will display screens that allow the operator to designate the TEST START time delay for each test.

Data Manipulation Keys

The six data manipulation keys illustrated inFigure 2-2, (ENTER, CANCEL, + (Plus), - (Minus), PREVIOUS, and NEXT are used to modify the data within the screens (change values, move the cursor, confirm choices, etc...)

ENTER Key
This key will confirm the new values that were designated by pressing the + (Plus) or - (Minus) keys at all edit points. When viewing status and diagnostics screens, it has no function.

CANCEL Key
After changing data, at an editable screen, but before confirming it with the ENTER key, pressing the CANCEL key will return the data to its previous value. This key shall also function to clear active diagnostics.

+ (Plus) Key
When viewing a set point screen, this key will increase the temperature or pressure value of the set point. When working with a status menu, it will add the current status display to the custom menu. When viewing the set up or service test screens, it will increase set points or toggle choices On or Off at each edit point.

- (Minus) Key
This key when viewing the set point screen will decrease the temperature or pressure value of the set point. When viewing the set up or service test screens, it will decrease set points or toggle choices On or Off at each edit point. When viewing the custom menu, pressing the - (Minus) key will remove the status screen from the custom menu. When viewing diagnostics screens it has no function.

PREVIOUS Key
Pressing the PREVIOUS key causes the LCD to scroll backwards through the various displays for each menu. At displays with multiple edit points, it moves the cursor from one edit point to another.

NEXT Key
Pressing the NEXT key causes the LCD to scroll forward through the various displays for each menu. At displays with multiple edit points it moves the cursor from one edit point to another.

Unit Operation Keys

AUTO Key
Pressing the AUTO key at any time will cause the display to go to the top level status display and, if the unit is shutdown, will cause the unit to begin operation in the appropriate mode no matter what level in the menu structure is currently being displayed. If the current display is an editable display, the AUTO key will confirm the desired edit.

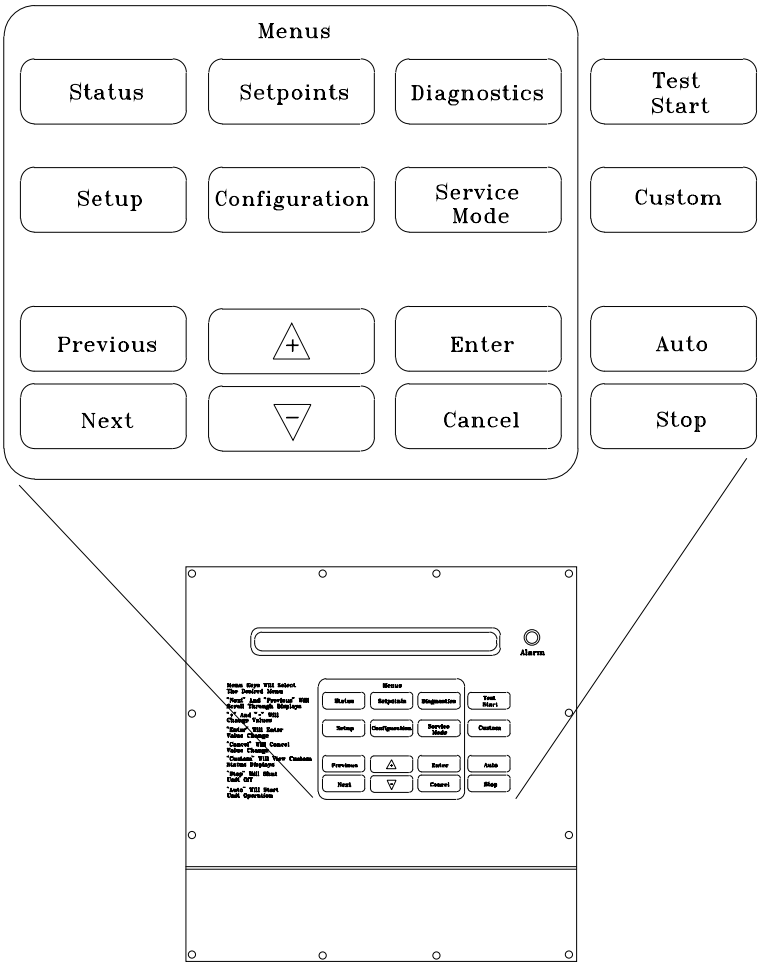
STOP Key
Pressing the STOP key will cause the unit to transition to the stop state. If the current display is editable, pressing the STOP key will cancel the desired edit.

TEST START Key (SERVICE)
Pressing this key while viewing any screen in the SERVICE Mode menu will start the service test. When viewing status, set up, set point, and diagnostics screens, it has no function.

CUSTOM Key

The Custom menu is simply a status menu that contains screens that the user monitors most frequently. The Custom menu can only contain five status screens. To create the Custom menu, press the STATUS key, followed by the NEXT key (this brings up the initial status screen). If you want to add this screen to the Custom menu, press the + (Plus) key, if not, press the Next key again until a status screen appears that you would like to add to the Custom menu. Pressing the + (Plus) key while viewing any of the various status screens will add that screen to the Custom menu. Once the Custom menu is programed it can be accessed by pressing the CUSTOM key. To remove a status screen from the Custom menu, press the CUSTOM key, then press the NEXT key until the status screen that you want to remove appears, then press the - (Minus) key.

Figure 2-2
Human Interface Keypad

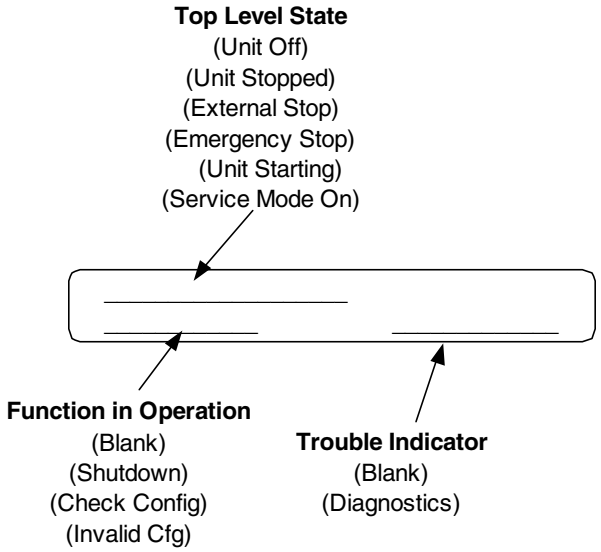


General Status Display

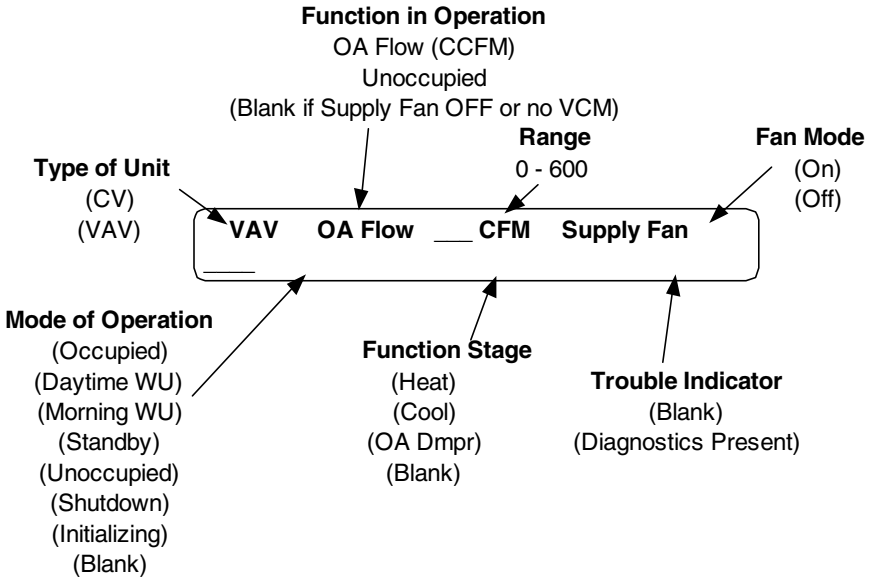
Anytime the rooftop unit is powered up, or the STATUS, AUTO, or STOP keys are pressed, the unit mounted Human Interface will display one of the following four general status display screens. The operator will then be able to enter keystrokes which will allow him to navigate through a set of menus and submenus in order to provide/access various monitoring, set up, and configuration information. The Human Interface will not display screens or parts of screens for which the unit is not configured.

General Information

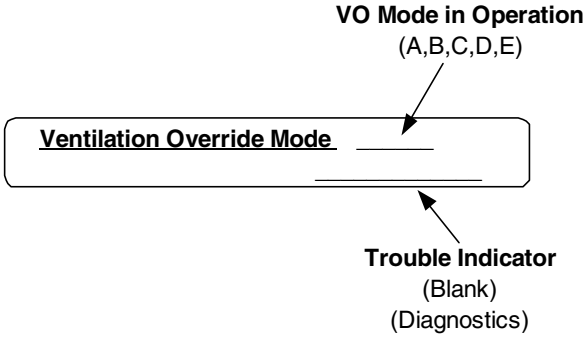
Unit "Off" or "Stopped"
If at power up the unit is not running, the following display will appear on the Human Interface LCD screen. When this screen is being displayed, the only functional keys are the six menu keys (STATUS, SET POINTS, DIAGNOSTICS, SET UP, CONFIGURATION, AND SERVICE MODE), the AUTO key, the CUSTOM key, and the STOP key.



Unit "On"
If the unit has entered an operating state (running), the following display will appear on the Human Interface LCD screen. When this screen is being displayed, the only functional keys are the six menu keys (STATUS, SET POINTS, DIAGNOSTICS, SET UP, CONFIGURATION, AND SERVICE MODE), the AUTO key, the CUSTOM key, and the STOP key.



VOM Active
If at power up the unit is running and has entered a Ventilation Override mode of operation, the following display will appear on the Human Interface LCD screen.



Emergency Override Active (units with LCI module)
If the unit has entered an Emergency Override mode of operation, one of the following displays will appear on the Human Interface LCD screen.

Ventilation Override Mode
PRESSURIZE

Ventilation Override Mode
DEPRESSURIZE

Ventilation Override Mode
PURGE

Ventilation Override Mode
SHUTDOWN

Ventilation Override Mode
FIRE

No Configuration
If at power up the unit has not been programmed with the necessary configuration data for normal unit operation, the following display will appear on the Human Interface LCD screen. When this screen is being displayed, the only functional key is the CONFIGURATION key.

Note: This screen will only appear when the RTM has been field replaced. Refer to the Configuration Menu.

No Configuration Present
Press Configuration Key

Factory Presets

The UCM controlled unit has many operating functions whose settings are preset at the factory, but may be modified to meet the unique requirements of each job. The following list identifies each of the unit's adjustable functions and the value assigned to it. If these factory presets match your application's requirements, simply press the AUTO key at the Human Interface module to begin unit operation (after completing the Pre-Start and Start-Up procedures in the Installation, Operation, and Maintenance manual). If your application requires different settings, turn to the listed page beside the function, press the designated function menu key, then press and hold the NEXT or PREVIOUS key until its screen appears on the LCD. Once the proper screen appears, simply follow the programming instructions given below the applicable screen in this manual.

Note: Record any changes made to the factory-preset values in the corresponding space provided.

General Information

Adjustable Functions	Factory Preset	Changed To	See page... to adjust	To adjust Press....
Control Parameters				
Default system mode	Auto		26	SETUP
Demand limit definition for cooling	None		27	SETUP
Demand limit definition for heating	None		27	SETUP
Economizer minimum position w/o IGV / VFD	15%		45	SETUP
Economizer minimum position w IGV / VFD @ 0%	15%		45	SETUP
Economizer minimum position w IGV / VFD @ 100%	10%		45	SETUP
Economizer control enable type	Reference		30	SETUP
Exhaust enable point	25%		46	SETUP
Morning Warmup type	Full		27	SETUP
Power-up start time delay	0 seconds		28	SETUP
Supply air low limit	50 deg F		43	SETUP
Supply Air Temperature deadband for cooling	8 deg F		43	SETUP
Supply Air Temperature deadband for heating	4 deg F		43	SETUP
Supply Air Temperature OA reset start temp cooling	90 deg F		29	SETUP
Supply Air Temperature OA reset end temp cooling	70 deg F		29	SETUP
Supply Air Temperature OA reset start temp heating	10 deg F		29	SETUP
Supply Air Temperature OA reset end temp heating	60 deg F		29	SETUP
Supply Air Temperature reset type cooling	None		28	SETUP
Supply Air Temperature reset type heating	None		28	SETUP
Supply Air Temperature zone reset start temp cooling	72 deg F		29	SETUP
Supply Air Temperature zone reset end temp cooling	69 deg F		29	SETUP
Supply Air Temperature zone reset start temp heating	65 deg F		29	SETUP
Supply Air Temperature zone reset end temp heating	68 deg F		29	SETUP
Supply Air Temperature reset maximum amount cooling	5 deg F		29	SETUP
Supply Air Temperature reset maximum amount heating	10 deg F		30	SETUP
Unit Address (Comm3 / Comm4 only)	1		26	SETUP
Unit Control	ICS (Tracer) (Local)		26	SETUP
Default Setpoints				
Daytime warmup - initiate	67 deg F		44	SETPOINTS
Daytime warmup - terminate	71 deg F		44	SETPOINTS
Low ambient compressor lockout (Std. units)	50 deg F		46	SETPOINTS
Economizer drybulb enable setpoint	75 deg F		20	SETPOINTS
Space pressure - deadband	0.1 iwc		46	SETPOINTS
Space pressure - setpoint	0.08 iwc		46	SETPOINTS
Supply air pressure - high limit	4.0 iwc		45	SETPOINTS
Supply air pressure - deadband	0.5 iwc		45	SETPOINTS
Supply air temp - cooling	55 deg F		45	SETPOINTS
Supply air temp - heating	100 deg F		45	SETPOINTS
Unoccupied zone temp - cool	85 deg F		44	SETPOINTS
Unoccupied zone temp - heat	60 deg F		44	SETPOINTS
unoccupied zone temp - morn warmup	72 deg F		44	SETPOINTS
Functions enable/disable				
Compressor lead/lag	Enable		28	SETUP
Daytime warmup	Enable		27	SETUP
Morning warmup	Enable		27	SETUP
OA CFM Compensation	Enable		27	SETUP
Supply air tempering	Enable		27	SETUP
Unoccupied economizer	Enable		30	SETUP
Unoccupied heating	Enable		27	SETUP
Unoccupied mechanical cooling	Enable		27	SETUP

General Information

Adjustable Functions (Continued)	Factory Preset	Changed To	See page... to adjust	To adjust Press....
GBAS Input/Output Assignments...				
GBAS analog input assignments	Not Assigned	_____	36	SETUP
		_____	36	SETUP
		_____	36	SETUP
		_____		
GBAS output assignments	Not Assigned	_____	37	SETUP
		_____	37	SETUP
		_____	37	SETUP
		_____	37	SETUP
		_____	37	SETUP
Information format				
Text displays	English	_____	26	SETUP
Unit displays	English	_____	26	SETUP
Reference enthalpy	25 Btu/lb	_____	44	SETUP
RTM alarm output assignments	Any Active Diagnostic	_____	37	SETUP
Sensor source selection for...				
Daytime warmup	Heat MWU	_____	27	SETUP
Monitor	RTM Zone Temp	_____	32	SETUP
Morning warmup	Heat MWU	_____	32	SETUP
Unoccupied zone control	RTM Zone Temp	_____	32	SETUP
Zone reset	RTM Aux Temp	_____	32	SETUP
Setpoint source selection for...				
Cooling supply air temp	Default	_____	46	SETUP
Economizer minimum position	Default	_____	47	SETUP
Heating supply air temp	Default	_____	46	SETUP
Morning warmup	Default	_____	47	SETUP
Supply air pressure	Default	_____	47	SETUP
Unoccupied zone cooling	Default	_____	47	SETUP
Unoccupied zone heating	Default	_____	47	SETUP
Actuator setup...				
(Direct/reverse action)	Direct Acting	_____	39 - 42	SETUP
(Max stroke time)	30 seconds	_____	39 - 42	SETUP
(Max voltage)	10 VDc	_____	39 - 42	SETUP
(Min voltage)	2 VDC	_____	39 - 42	SETUP
Coil frost cutout temperature	30 deg F	_____	28	SETUP
Condenser temp control band...				
(Temporary low limit suppression)	10 deg F	_____	31	SETUP
(Upper limit)	120 deg F	_____	30	SETUP
(Low limit)	80 deg F	_____	30	SETUP
Condenser Temp...				
(Efficiency check point)	105 deg F	_____	31	SETUP
(Low ambient control point)	90 deg F	_____	31	SETUP
Control Algorithm tuning parameters	N/A	_____	42	SETUP
Max IGV position occupied	100%	_____	30	SETUP
Temperature input offset for...				
(Heat morning warmup)	0 deg F	_____	37	SETUP
(Return air)	0 deg F	_____	37	SETUP
(RTM zone temperature)	0 deg F	_____	37	SETUP
(RTM aux temperature)	0 deg F	_____	37	SETUP
(Outdoor air)	0 deg F	_____	37	SETUP
Ventilation override definition		_____	34	SETUP

Password Protected Screens

Some of the operating displays on the Human Interface LCD screen are intended to be accessed by qualified users only, and require a password to change. The following screens display the various programming sections that require a password in order to view or to modify the preset operating parameters. The password for each screen is a different series of + (Plus) or - (Minus) key strokes in a predefined sequence. Shown below are the password protected screens, and the passwords for accessing them.

The following screens display the various programming sections that require a specific PASSWORD to be entered by a qualified operator in order to modify the operating parameters.

The following screen will appear if the PASSWORD is not entered within approximately 15 seconds.

Password Entry Time Limit Exceeded

1. Press the NEXT key until the following screen is displayed.

Configuration is Password Protected
Please Enter Pasword: _____

2. Press the + or - keys in this sequence (+ - - -) to access this restricted screen.
3. Press the ENTER key to confirm the password and enter the menu.
4. Press the NEXT key until the following screen is displayed.

Ventilation Override Mode _____
Enter Password To Lock Definition:

1. Press the + or - keys in this sequence (+ - - +) to lock each VO Mode.
2. Press the ENTER key to confirm the password and Lock the definitions.
3. Press the NEXT key until the following screen is displayed.

Diagnostic Reset is Password Protected
Please Enter Pasword: _____

1. Press the + or - keys in this sequence (- + +) to access this restricted screen.
2. Press the ENTER key to confirm the password and Lock the definitions.
3. Press the NEXT key until the following screen is displayed.

Diagnostic Log is Password Protected
Please Enter Pasword: _____

1. Press the + or - keys in this sequence (- + + -) to access this restricted screen.
2. Press the ENTER key to confirm the password and Lock the definitions.
3. Press the NEXT key until the following screen is displayed.

System Operating Status

STATUS Menu

The STATUS menu is used to view various operating conditions such as temperatures and humidity levels. It's used to view unit component status such as fan, compressor, heater, and economizer operation, as well as setpoint status.

The screens shown in this section are for example only. Pressing the + (Plus) key while viewing any of the status display screens will add that screen to the Custom menu. When a status screen is displayed for 30 minutes without a key being pressed, the LCD screen will revert to the general operating status display. If this happens, press the STATUS key again to return to the status menu. The following are examples of status screens that may be viewed by pressing the STATUS key.

Note: Many of the screens displayed in this section are applicable only for the options that are installed in the unit and may not be visible on your unit.

Press the STATUS key to begin viewing the status screens.

Note: The range for all temperature inputs is –40 to 200 F. "ERR" will appear if the temperature is out of range.

Press the STATUS key to enter into the status menu. The "STATUS MODE" will automatically return to the power up screen after 30 minutes, if no keys are pressed.

VAV OA FLOW *350.0 CCFM SUPPLY FAN ON **OCCUPIED OA DMPR 0% DIAGNOSTICS**	***Note: *VCM only - if the unit does not have a VCM this section of the screen is blank.***

1. Press the NEXT key until the following screen is displayed.

General System Status Submenu **Press ENTER to View Data in This Submenu**	**Used With:** All Units

1. Pressing the NEXT key will bypass this section.

RTM Supply Fan Relay: OFF **RTM Supply Airflow Proving: FLOW**	**Used With:** All Units **Possible Values:** Fan = ON, OFF Airflow = FLOW, NO FLOW

1. Pressing the NEXT key will scroll forward through the screens.
2. Pressing the PREVIOUS key will scroll backwards to view the previously displayed screen.
3. Press the + (Plus) key while viewing any screen to add that screen to the custom menu. Refer to the custom menu for the creation and maintenance of customized menus.
4. Press the NEXT key until the following screen is displayed. (if applicable)

IGV/VFD Cmd 30 % **Active Supply Air Pressure 2.0 IWC**	**Used With:** Rooftop units and Air Handlers when IGV/VFD is installed. **Possible Values:** Increasing to 0 to 100% Decreasing to 100 to 0%

1. Press the NEXT key until the following screen is displayed.

Active Supply Air Pressure 2.0 IWC	**Used With:** Rooftop units and Air Handlers when IGV/VFD is not installed and valid SAP sensor is present. **Possible Values:** 0.0 IWC - 5.0 IWC

1. Press the NEXT key until the following screen is displayed.

Exhaust Fan OFF **Exhaust Damper/VFD Opening to 32 %**	**Used With:** All units when Power Exhaust without Statitrac is installed **Possible Values:** Fan= ON, OFF, Damper= 0 to 100%

Exhaust Fan OFF Space Pressure 0.00 IWC **Exhaust Damper/VFD Opening to 32 %**	**Used With:** All units when Power Exhaust with Statitrac is installed **Possible Values:** Fan= ON, OFF, Damper= 0 to 100%

1. Press the NEXT key until the following screen is displayed. (if applicable)

System Operating Status

Electric Heat ENABLED
Stage 1 OFF Stage 2 OFF Stage 3 OFF

1. Press the NEXT key until the following screen is displayed. (If applicable)

Used With: All units when Electric Heat is installed
Possible Values: ON, OFF

Note: enabled indicates OK to heat; disabled indicates NOT OK to heat, such as during cooling

---

Gas Heat ENABLED
Stage 1 OFF Stage 2 OFF

1. Press the NEXT key until the following screen is displayed. (If applicable)

Used With: All units when staged gas heat is installed
Possible Values: ENABLED, DISABLED
Stages = OFF, ON

Hydronic Heat ENABLED 0 %
Low Air Temp Limit OK

1. Press the NEXT key until the following screen is displayed. (If applicable)

Used With: All units when hydronic heat is installed
Possible Values: ENABLED, DISABLED, the valve position may be 0% to 100% open
Low temp air may be OK or tripped

Mod Gas Heat ENABLED 0 %

1. Press the NEXT key until the following screen is displayed. (If applicable)

Used With: All units when modulating gas heat is installed
Possible Values: ENABLED, DISABLED, the valve position may be 0% to 100% open

---

Chilled Water ENABLED 0 %
Low Air Temp Limit OK

1. Press the NEXT key until the following screen is displayed. (If applicable)

Used With: Air Handlers when Chilled Water Cooling is installed
Possible Values: ENABLED, DISABLED
Opening to, closing to = 0 to 100%
Limit = OK, TRIPPED

Active Min OA Flow Setpoint 342.0 CCFM
OA Flow 350.0 CCFM OA Damper Pos 0 %

1. Press the NEXT key until the following screen is displayed. (If applicable)

Used With: All units when ventilation control module is installed
Possible Values: 0 to Max Unit Airflow

Active Min OA Flow Setpoint 342.0 CCFM
C02 Level 1512 PPM OA Damper Pos 0 %

1. Press the NEXT key until the following screen is displayed. (If applicable)

Used With: All units when ventilation control module is installed and CO2 reset is enabled
Possible Values: 0 to Max Unit Airflow

OA Preheat Output Control: ON

1. Press the NEXT key until the following screen is displayed. (If applicable)

Used With: All units when ventilation control module is installed and preheat is enabled
Possible Values: ON, OFF

End of Submenu (NEXT) to Enter STATUS

1. Press the NEXT key until the following screen is displayed.

Compressor Status Submenu
Press ENTER to View Data in This Submenu

1. Pressing the NEXT key will bypass this section.

Used With: All Rooftop Units and Air Handlers whe DX Cooling is installed.

Compressor Relay K10 Enabled	**OFF**

3. Press the NEXT key until the following screen is displayed.

Used With: 20, 25 & 30 Ton Rooftop units and Air Handlers when DX cooling is installed
Possible Values: K10 = ON, OFF

Compressor Relay K11 Enabled	**OFF**

Disabled By:

Compressor Protection	Frost Protection
Contactor Failure	Tracer Lockout
Low Pressure Cutout	Minimum OFF Time
Bad Cond Temp Sensor	Low Ambient Lockout
Demand Limit	Ventilation Override

Used With: 20, 25 & 30 Ton Rooftop units and Air Handlers (Casings 1, 2 or 3) when DX cooling is installed
Possible Values: K11 = ON, OFF

OR

Compressor Relay K11 Enabled	**OFF**

1. Press the NEXT key until the following screen is displayed.

Used With: 40 thru 130 Ton Rooftop units and Air Handlers (Casings 4, 5, 6 or 9) when DX Cooling is installed
Possible Values: K11 = ON, OFF, LOCKED, ENABLED, DISABLED

Compressor Relay K12 Enabled	**OFF**

1. Press the NEXT key until the following screen is displayed.

Used With: 40 thru 130 Ton Rooftop units and Air Handlers (Casings 4, 5, 6 or 9) when DX Cooling is installed
Possible Values: K12 = ON, OFF, LOCKED, ENABLED, DISABLED

Compressor Relay K3 Enabled	**OFF**

1. Press the NEXT key until the following screen is displayed.

Used With: 40 thru 130 Ton Rooftop units and Air Handlers (Casings 4, 5, 6 or 9) when DX Cooling is installed
Possible Values: K3 = ON, OFF, LOCKED, ENABLED, DISABLED

Compressor Relay K4 Enabled	**OFF**

Compressor Relays may be Disabled By:

Compressor Protection	Frost Protection
Contactor Failure	Tracer Lockout
Low Pressure Cutout	Minimum OFF Time
Bad Cond Temp Sensor	Low Ambient Lockout
Demand Limit	Ventilation Override

Used With: 40 thru 130 Ton Rooftop units and Air Handlers (Casings 4, 5, 6 or 9) when DX Cooling is installed
Possible Values: K4 = ON, OFF, LOCKED, ENABLED, DISABLED

1. Press the NEXT key until the following screen is displayed.

Active Outside Air Temperature	**86.0 F**
Low Ambient Comp Lockout Temp:	**32 F**

1. Press the NEXT key until the following screen is displayed.

Used With: All Rooftop Units and Air Handlers when DX Cooling is installed
Possible Values: Lockout Temp = -20 to 80 F

System Operating Status

Compressor Module Ckt 1
Evap Temp 75.0 F Sat Cond Temp 81.0 F

1. Press the NEXT key until the following screen is displayed. (if applicable)

Used With: All Rooftop Units and Air Handlers when DX cooling is installed

Compressor Module Ckt 2
Evap Temp 72.0 F Sat Cond Temp 97.0 F

1. Press the NEXT key until the following screen is displayed.

Used With: 40 - 130 Ton Rooftop Units and Air Handlers (Casings 4, 5, 6 or 9) when DX Cooling is installed

End of Submenu (NEXT) to Enter SETUP

1. Press the NEXT key until the following screen is displayed.

Economizer Status Submenu
Press ENTER to View Data in This Submenu

1. Pressing the NEXT key will bypass the next section.

Used With: All Units when an economizer is installed

Air Economizing: DISABLED
Outside Air Damper Pos: 0 %

1. Press the NEXT key until the following screen is displayed.

Used With: All units when an Economizer is installed.
Possible Values: Economizing: ENABLED/DISABLED
Outside Air: Opening To/Closing To
0 - 100%

Note: ENABLED means conditions are OK to economize; DISABLED means conditions are not OK to economize, regardless of current state.

Active Outside Air Enthalpy 12.0 BTU/LB
ECEM Return Air Enthalpy 34.0 BTU/LB

1. Press the NEXT key until the following screen is displayed.

Used With: All Units when an Economizer is installed. "RA Enth" is displayed if Comparative Enthalpy is installed.
Possible Values: 10 to 99 BTU/LB

Active Outside Air Temperature 86.0 F
ECEM Return Air Temperature 78.0 F

1. Press the NEXT key until the following screen is displayed. (if applicable)

Used With: All Units when an Economizer is installed. "RA Enth" is displayed if Comparative Enthalpy is installed.

Active Outside Air Humidity 30 %
ECEM Return Air Humidity 62 %

1. Press the NEXT key until the following screen is displayed.

Used With: All Units when an Economizer is installed. "RA Humidity" is displayed if Comparative Enthalpy is installed.
Possible Values: 0 to 100 %

End of Submenu (NEXT) to Enter STATUS

1. Press the NEXT key until the following screen is displayed.

Controlling Setpoint Status Submenu
Press ENTER to View Data in This Submenu

1. Pressing the NEXT key will bypass this section.

Used With: All Units

Active Supply Air Cooling STP From
HI (KEYPAD) SETPOINT MENU Is 55 F

1. Press the NEXT key until the following screen is displayed.

Used With: All Units
Possible Values: HI (Keypad) Setpoint Menu
Zone Sensor Setpnt Input
NSB Panel Setpoint Input
GBAS 0-5 VDC Module
BAS/NETWORK

System Operating Status

Active Supply Air Heating STP From
HI (KEYPAD) SETPOINT MENU Is 71 F

1. Press the NEXT key until the following screen is displayed.

Used With: All Units when Hydronic Heat or Modulating Gas Heat is installed.
Possible Values: HI (Keypad) Setpoint Menu
Zone Sensor Setpnt Input
NSB Panel Setpoint Input
GBAS 0-5 VDC Module
BAS/NETWORK

Active Daytime Warmup Setpoints
Initiate: 67 F Terminate: 71 F

1. Press the NEXT key until the following screen is displayed.

Used With: All Units when Gas, Electric, Hydronic or External Heat is installed.
Possible Values: HI (Keypad) Setpoint Menu

Active Occupied Zone Heating STP From
HI (KEYPAD) SETPOINT MENU Is 71 F

1. Press the NEXT key until the following screen is displayed.

Used With: All Units when Gas, Electric, Hydronic or External Heat is installed and Daytime Warmup enabled.
Possible Values: HI (Keypad) Setpoint Menu
Zone Sensor Setpnt Input
NSB Panel Setpoint Input
GBAS 0-5 VDC Module
BAS/NETWORK

Active Unoccupied Zone Cooling STP From
HI (KEYPAD) SETPOINT MENU Is 85 F

1. Press the NEXT key until the following screen is displayed. (if applicable)

Used With: All Units
Possible Values: HI (KEYPAD) SETPOINT MENU
ZONE SENSOR SETPNT INPUT
NSB PANEL SETPOINT INPUT
GBAS 0-5 VDC MODULE
BAS/NETWORK
Setpoint range: 50 - 90 F

Active Unoccupied Zone Heating STP From
HI (KEYPAD) SETPOINT MENU Is 60 F

1. Press the NEXT key until the following screen is displayed. (if applicable)

Used With: All Units when Gas, Electric, Hydronic or External Heat is installed
Possible Values: HI (KEYPAD) SETPOINT MENU
ZONE SENSOR SETPNT INPUT
NSB PANEL SETPOINT INPUT
GBAS 0-5 VDC MODULE
BAS/NETWORK
Setpoint range: 50 - 90 F

Active Morning Warmup Setpoint From
HI (KEYPAD) SETPOINT MENU Is 72 F

1. Press the NEXT key until the following screen is displayed. (if applicable)

Used With: All Units when Gas, Electric, Hydronic or External Heat is installed
Possible Values: HI (KEYPAD) SETPOINT MENU
ZONE SENSOR SETPNT INPUT
NSB PANEL SETPOINT INPUT
BAS/NETWORK
Setpoint range: 50 F to 90 F

Active Econ DB Enable Setpoint From
HI (KEYPAD) SETPOINT MENU Is 75 F

1. Press the NEXT key until the following screen is displayed. (if applicable)

Used With: All Units when an Economizer is installed
Possible Values: HI (KEYPAD) SETPOINT MENU
Setpoint range: 50 F to 140 F

System Operating Status

Active Min OA Flow Setpoint From
HI (KEYPAD) SETPOINT MENU 342.0 CFM

1. Press the NEXT key until the following screen is displayed. (if applicable)

Used With: All Units when VCM is installed
Possible Values: HI (KEYPAD) SETPOINT MENU
GBAS 0 - 5 VDC MODULE
Setpoint range: 0 to Max Unit Airflo
Refer to the table in the setpoint section, "Default Mi OA Flow Setpoint Screen" for max airflow setpoints.

Active Supply Air Pressure STP From
HI (KEYPAD) SETPOINT MENU is 2.0 IWC

1. Press the NEXT key until the following screen is displayed.

Used With: Rooftop units and Air Handlers when IGV/VFD is installed.
Possible Values: HI (Keypad) Setpoint Menu
Generic BAS Module

Active Supply Air Pressure Setpoints
High Limit: 4.0 IWC Deadband: 0.5 IWC

1. Press the NEXT key until the following screen is displayed.

Used With: Rooftop units and Air Handlers with IGV/VFD installed.
Possible Values: High Limit: 1.2 - 4.7 IWC
Deadband: 0.1 - 2.0 IWC

Active Space Pressure Setpoint From
HI (KEYPAD) SETPOINT MENU is 0.00 IWC

1. Press the NEXT key until the following screen is displayed. (if applicable)

Used With: All Units when Power Exhaust with Statitrac is installed
Possible Values: HI (KEYPAD) SETPOINT MENU
GBAS 0-5 VDC MODULE
BAS/NETWORK
Setpoint range: 0.03 to 0.30 IWC

Active Space Pressure Deadband 0.00 IWC

1. Press the NEXT key until the following screen is displayed.

Used With: All Units when Power Exhaust with Statitrac is installed
Possible Values: HI (KEYPAD) SETPOINT MENU
Setpoint range: 0.04 to 0.20 IWC

Comp(s) OFF If OA Temp Below This Value
Low Ambient Comp Lockout Temp: 32 F

1. Press the NEXT key until the following screen is displayed.

Used With: All Rooftop units and Air Handlers when DX Cooling is installed
Possible Values: -20 F to 80 F

End of Submenu (NEXT) to Enter SETUP

1. Press the NEXT key until the following screen is displayed.

Controlling Sensor Status Submenu
Press ENTER to View Data in This Submenu

1. Pressing the NEXT key will bypass this section.

Used With: All Units

Active Supply Air Temp Sensor Input From
SUPPLY AIR is 50.0 F

1. Press the NEXT key until the following screen is displayed.

Used With: All Units
Possible Values: RTM Supply Air Temp Input
BAS/NETWORK

System Operating Status

Active Daytime WU Temp Sensor Input From
RTM ZONE TEMP INPUT is 82.0 F

1. Press the NEXT key until the following screen is displayed. (if applicable)

Used With: All units when Gas, Electric, Hydronic or External Heat is installed and DWU is enabled
Possible Values: RTM Zone Temp Input
NSB Panel Temp Sensor Input
RTM Aux Temp Input
Heat Module Aux Temp Input
ECEM Return Air Temp Input
BAS/NETWORK
Sensor range: -40 F to 200 F

Active Occupied Zone Temp Sensor Input From
RTM ZONE TEMP INPUT Is 90 F

1. Press the NEXT key until the following screen is displayed.

Used With: All Units when Gas, Electric, Hydronic or External Heat and DWU is installed.
Possible Values: RTM Zone Temp Input
NSB Panel Temp Setpoint Input
RTM Aux Temp Input
Heat Module Aux Temp Input
ECEM Return Air Temp Input
BAS/NETWORK
Sensor Range: -40 F to 200 F

Active Unocc Zone Temp Sensor Input From
RTM ZONE TEMP INPUT is 75.0 F

1. Press the NEXT key until the following screen is displayed. (if applicable)

Used With: All Units
Possible Values: RTM Zone Temp Input
NSB Panel Temp Sensor Input
RTM Aux Temp Input
Heat Module Aux Temp Input
ECEM Return Air Temp Input
BAS/NETWORK
Sensor range: -40 F to 200 F

Active Morning WU Temp Sensor Input From
RTM ZONE TEMP INPUT is 82.0 F

1. Press the NEXT key until the following screen is displayed. (if applicable)

Used With: All Units when Gas, Electric, Hydronic or External Heat is installed and Morning Warmup is enabled
Possible Values: RTM Zone Temp Input
NSB Panel Temp Sensor Input
RTM Aux Temp Input
Heat Module Aux Temp Input
ECEM Return Air Temp Input
BAS/NETWORK
Sensor range: -40 F to 200 F

Active Zone Reset Sensor Input From
RTM ZONE TEMP INPUT is 82.0 F

1. Press the NEXT key until the following screen is displayed. (if applicable)

Used With: All Units
Possible Values: RTM Zone Temp Input
NSB Panel Temp Sensor Input
RTM Aux Temp Input
Heat Module Aux Temp Input
ECEM Return Air Temp Input
BAS/NETWORK
Sensor range: -40 F to 200 F

Active OA Temperature Sensor Input From
RTM OUTSIDE AIR TEMP INPUT is 86.0 F

1. Press the NEXT key until the following screen is displayed. (if applicable)

Used With: All Units
Possible Values: RTM Outside Air Temp Input
BAS/NETWORK

System Operating Status

Active Outside Air Humidity Input From
OA HUMIDITY SENSOR INPUT is 30 %

1. Press the NEXT key until the following screen is displayed. (if applicable)

Used With: All Units when an Economizer is installed
Possible Values: OA Humidity Sensor Input
BAS/NETWORK
Sensor range: 0 to 100%

Active Supply Air Press Sensor Input From
RTM SA PRESSURE INPUT is 2.1 IWC

1. Press the NEXT key until the following screen is displayed. (if applicable)

Used With: All units when IGV/VFD is installed or when the SAP Sensor is enabled
Possible Values: RTM SA Pressure Input
BAS/NETWORK

Active Space Pressure Sensor Input From
ECEM SPACE PRESSURE INPUT is 0.00 IWC

1. Press the NEXT key until the following screen is displayed. (if applicable)

Used With: All Units when Power Exhaust with Statitrac is installed
Possible Values: ECEM Space Pressure Input
BAS/NETWORK
Sensor range: 0.0 to 0.30 IWC

Temp Sensor Input Being Monitored:
RTM ZONE TEMP INPUT is 82.0 F

1. Press the NEXT key until the following screen is displayed.

Used With: All Units
Possible Values: RTM Zone Temp Input
NSB Panel Temp Sensor Input
RTM Aux Temp Input
HEAT Module Aux Temp Input
ECEM Return Air Temp Input
BAS/NETWORK
No Sensor Selected
Sensor range: -40 F to 200 F

End of Submenu (NEXT) to Enter SETUP

1. Press the NEXT key until the following screen is displayed.

Temperature Input Status Submenu
Press ENTER to View Data in This Submenu

1. Pressing the NEXT key will bypass this section.

Used With: All Units

Temp Measured By Sensor Connected To
RTM ZONE TEMP INPUT 82.0 F

1. Press the NEXT key until the following screen is displayed.

Used With: All Units

Temp Measured By Sensor Connected To
RTM SUPPLY AIR TEMP INPUT 50.0 F

1. Press the NEXT key until the following screen is displayed. (if applicable)

Used With: All Units

Temp Measured By Sensor Connected To
NSB Panel Temp Sensor Input 79.5 F

1. Press the NEXT key until the following screen is displayed.

Used With: All Units when Night Setback is installed

Temp Measured By Sensor Connected To
RTM AUX TEMP INPUT 62.0 F

1. Press the NEXT key until the following screen is displayed.

Used With: All Units

System Operating Status

Temp Measured By Sensor Connected To
RTM OUTSIDE AIR TEMP INPUT 86.0 F

1. Press the NEXT key until the following screen is displayed. (if applicable)

Used With: All Units

Temp Measured By Sensor Connected To
HEAT MODULE AUX TEMP INPUT 82.0 F

1. Press the NEXT key until the following screen is displayed.

Used With: All Units when Gas, Electric, Hydronic or Modulating Heat is installed

Temp Measured By Sensor Connected To
ECEM RETURN AIR TEMP INPUT 78.0 F

1. Press the NEXT key until the following screen is displayed. (if applicable)

Used With: All Units when Comparative Enthalpy is installed

Temp Measured By Sensor Connected To
VCM MODULE AUX TEMP INPUT 50.0 F

1. Press the NEXT key until the following screen is displayed.

Used With: All Units when VCM is installed and OA Preheater is enabled

Compressor Module Ckt 1
Evap Temp 75.0 F Sat Cond Temp 81.0 F

1. Press the NEXT key until the following screen is displayed. (if applicable)

Used With: All Rooftop Units and Air Handlers when DX cooling is installed

Compressor Module Ckt 2
Evap Temp 72.0 F Sat Cond Temp 97.0 F

1. Press the NEXT key until the following screen is displayed.

Used With: 40 - 130 Ton Rooftop Units and Air Handlers (Casings 4, 5, 6 or 9) when DX Cooling is installed

End of Submenu (NEXT) to Enter SETUP

1. Press the NEXT key until the following screen is displayed.

Misc Input Status Submenu
Press ENTER to View Data in This Submenu

1. Pressing the NEXT key will bypass this section.

Used With: All Units

RTM Supply Airflow Proving Input: FLOW

1. Press the NEXT key until the following screen is displayed. (if applicable)

Used With: All Units
Possible Values: FLOW, NO FLOW

RTM Remote Min Position Pot Input 0 %

1. Press the NEXT key until the following screen is displayed. (if applicable)

Used With: All Units when Minimum Position Pot is assigned to function
Possible Values: 0 to 100%
Note: If input is out of range (30 - 240 ohms) this screen will not appear.

RTM Supply Air Pressure Input 2.1 IWC

1. Press the NEXT key until the following screen is displayed. (if applicable)

Used With: All units when IGV/VFD is installed or without IGV/VFD but Supply Air Pressure is present.

System Operating Status

Active Outside Air Humidity 30 %

1. Press the NEXT key until the following screen is displayed.

Used With: All Units when an economizer is installed
Possible Values: 0 to 100 %

Active Outside Air Humidity 30 %
ECEM Return Air Humidity 62 %

1. Press the NEXT key until the following screen is displayed.

Used With: All Units when an economizer and Comparative Enthalpy is installed
Possible Values: 0 to 100 %

ECEM Space Pressure Input 0.00 IWC

1. Press the NEXT key until the following screen is displayed. (if applicable)

Used With: All Units when Power Exhaust with Statitrac is installed
Possible Values: 0.0 to 0.3 IWC

VCM Outside Air Flow Input 350.0 CCFM

1. Press the NEXT key until the following screen is displayed. (if applicable)

Used With: All Units when VCM is installed
Possible Values: 0 to Max Unit Air Flow
Refer to the table in the setpoint section, "Default Min OA Flow Setpoint Screen" for max airflow setpoints.

VCM CO2 Level Input 1512 PPM

1. Press the NEXT key until the following screen is displayed.

Used With: All Units when VCM is installed and C02 Reset is enabled
Possible Values: 0 to 2000 PPM

End of Submenu (NEXT) to Enter STATUS

1. Press the NEXT key until the following screen is displayed.

GBAS 0 - 5VDC Module Status Submenu
Press ENTER to View Data in This Submenu

1. Pressing the NEXT key will bypass this section.

Used With: All Units when GBAS 0-5 VDC is installed

GBAS 0-5VDC Module Input 1 0.00 VDC
Assignment: Not Assigned

1. Press the NEXT key to display GBAS 0-5 VDC inputs 2, 3 and 4.
2. Press the NEXT key until the following screen is displayed.

Used With: All Units when GBAS 0-5 VDC is installed
Possible Values: The inputs 1, 2, 3 & 4 may be assigned to Occ Zone Cooling setpoint,
Occ Zone Heating setpoint,
Unocc Zone Cooling setpoint,
Unocc Zone Heating setpoint,
Space Static Pressure setpoint,
Supply Air Static Pressure Setpoint
Min OA Flow setpoint, and
"Not Assigned"

GBAS (0-5VDC) Demand Limit Input Status
OPEN

1. Press the NEXT key until the following screen is displayed.

Used With: All Units when GBAS 0-5 VDC is installed
Possible Values: OPEN, CLOSED

GBAS 0-5VDC Module Relay Output Status
Output 1 OFF

1. Press the NEXT key to display GBAS 0-5 VDC Outputs 2, 3, 4 and 5.
2. Press the NEXT key until the following screen is displayed.

Used With: All Units when GBAS 0-5 VDC is installed
Possible Values: ON, OFF

System Programming SET UP

After the unit is installed, the control module must be programmed with certain set up information in order to operate and function properly. The data necessary for unit operation will vary depending on certain factors such as unit size, type, and installed options.

This section of the manual provides step by step instructions for programming this information. Also provided are instructions for checking unit operating status, accessing and clearing diagnostics, and performing service tests.

Some of the displays shown in this manual may not appear on the Human Interface (HI) LCD screen during programming. Only the applicable screens for the specific unit options and operating parameters will be displayed.

Start with the first set up screen in the SET UP menu and program the necessary information by completing the steps located below each illustrated window. Information that pertains to when the screens are applicable, the factory preset values, and the possible values that may be designated is located to the right of each programmable screen.

Ignore the steps that do not apply to your unit and application, and move on to the next applicable set of instructions in the manual. Continue this process until all applicable screens are programmed with the required information.

SET UP Menu

The set up menu is used to input initial operating information such as control parameters, set point source selection, sensor source selections, ventilation override definitions, functions enable/disable, status, text display (language), temperature display (C or F), and system tuning parameters. When a set up screen is displayed for 30 minutes without a key being pressed, the LCD screen will revert to the appropriate power-up display. If this happens, press the SET UP key again to return to the set up menu.

Note: Many of the screens displayed in this section are applicable only for the options that are installed in the unit and may not be visible on your unit.

Press the SET UP key to begin viewing or modifying the set up screens.

If a screen is not visible on the Unit Human Interface Module, refer to the “Used With” information listed to the right of each screen in this book.

Press the SETUP key to display the following screen.

Display Text in: ENGLISH LANGUAGE
Display Units Using: ENGLISH NOTATION

Used With: All Units
Factory Presets: Text and Units: ENGLISH
Possible Values: Text: ENGLISH, FRENCH, SPANISH
Units: ENGLISH, SI

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Unit Control: LOCAL
Unit Address: 32

Used With: All Units when TCI or LCI is installed
Factory Presets: Control: LOCAL
Address: 32 (TCI only)
Possible Values: Unit Control: LOCAL,
BAS/NETWORK
Unit Address: 0 to 127 COMM 3
Unit Address: 32 to 127 COMM 4

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed

General Unit Functions Setup Submenu
Press ENTER to Review or Adjust

Used With: All Units

1. Pressing the NEXT key will bypass this section.

If Remote Panel Mode Input Not Present:
System Mode: AUTO

Used With: All Units
Possible Values: System Mode = OFF/AUTO

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Daytime Warmup Function: ENABLED

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed. (if applicable)

Used With: All Units
Possible Values: ENABLED, DISABLED

Morning Warmup Function: ENABLED
Morning Warmup Type: FULL CAPACITY

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Used With: All Units when Gas, Electric, or Hydronic Heat is installed
Factory Presets: Function: ENABLED
MU Type: FULL CAPACITY
Possible Values: Function: ENABLED, DISABLED
MU Type: FULL CAPACITY, CYCLING CAPCITY

Supply Air Tempering Function: ENABLED
Warm Up Outside Air Used For Ventilation

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when Modulating Gas or Hydronic Heat is installed
Factory Preset: ENABLED
Possible Values: ENABLED, **DISABLED***

Note: *Supply Air Tempering is not used with staged gas or electric heat.

Unocc Mech Cooling Function: ENABLED

OR

Unocc Mech Cooling Function: ENABLED
Unocc Heating Function: ENABLED

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Used With: All Rooftop Units and Air Handler Units when DX Cooling is installed
Factory Preset: ENABLED
Possible Values: Cooling: ENABLED, DISABLED

Used With: All Units when Gas, Electric, Hydronic, or External Heat is installed
Factory Presets: Cooling & Heating: ENABLED
Possible Values: Cooling & Heating: ENABLED, DISABLED

OA Preheater Output Control: ENABLED
Activate If Preheat Temp Below Setpoint

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when VCM is installed
Factory Preset: DISABLED
Possible Values: ENABLED, DISABLED

Demand Limit Definition:
Cooling: 100%

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Rooftop units (or Air Handler with DX Cooling) and GBAS, TCI or LCI install
Factory Presets: None
Possible Values: NONE, 50% or 100%

Demand Limit Definition:
Cooling: 100% Heating: 100%

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All units with Gas, Electric, or Hydronic heat and GBAS, TCI, or LCI installed
Factory Presets: None
Possible Values: NONE, 50% or 100%

Compressor Lead/Lag Function: ENABLED
Vary Staging Order To Distribute Runtime

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Rooftop Units and Air Handlers when DX Cooling is installed
Factory Preset: ENABLED
Possible Values: ENABLED, DISABLED = Stage Comp(s) Up/Down In Fixed Sequence

Reduce Multi-Unit Startup Power Demand.
After Power-Up, Delay Unit Start: 0 Sec

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units
Factory Preset: 0 Seconds
Possible Values: 0 - 255 Seconds

Coil Frost Cutout Temperature. Shut off
Compressors If Evap Temp Is Below: 30 F

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Rooftop Units and Air Handlers when DX Cooling is installed
Factory Preset: 30 F
Possible Values: 25 F to 35 F

End of Submenu (NEXT) to Enter STATUS

1. Press the NEXT key until the following screen is displayed.

VAV Control Functions Submenu
Press ENTER to Review or Adjust

1. Press the NEXT key until the following screen is displayed.

Used With: All Units

Supply Air Temp Reset Type:
Cooling: NONE

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: Rooftops and Air Handlers when no cooling is installed
Possible Values: Cool: NONE, ZONE, OA

Supply Air Temp Reset Type:
Cooling: NONE Heating: NONE

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Used With: All Units when Hydronic or Modulating Gas Heat is installed
Possible Values: Cool/Heat: NONE, ZONE, OA

Supply Air Temp Zone Reset For Cooling:
Start Temp: 72 F End Temp: 69 F

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Used With: All Units when Zone Cooling Reset is selected
Factory Presets: StartTemp = 72 F
End Temp = 69 F
Possible Values: Start: 51 - 90 F
End: 50 - 89 F

Supply Air Temp Outside Air Reset For Cooling:
Start Temp: 90 F End Temp: 70 F

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Used With: All Units when Outside Air Reset is selected
Factory Presets: Start Temp = 90 F
End Temp = 70 F
Possible Values: Start: 1 - 95 F
End: 0 - 94 F

Supply Air Temp Zone Reset For Cooling:
Maximum Amount of Reset Applied: 5 F

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Used With: All Units when Zone Reset is selected
Factory Preset: 5 F
Possible Values: 0 - 20 F

Supply Air Temp Outside Air Reset For Cooling:
Maximum Amount of Reset Applied: 5 F

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Used With: All Units when Outside Air Cooling Reset is selected
Factory Preset: 5 F
Possible Values: 0 - 20 F

Supply Air Temp Zone Reset For Heating:
Start Temp: 65 F End Temp: 68 F

1. Press the NEXT key until the following screen is displayed.

Used With: All Units when Zone Heating reset is selected
Factory Presets: Start Temp: 65 F, End Temp: 68 F
Possible Values: Start: 50 - 89 F
End: 51 - 90 F

Supply Air Temp Outside Air Reset For Heating:
Start Temp: 10 F End Temp: 60 F

1. Press the NEXT key until the following screen is displayed.

Used With: All Units when Outside Air Heating Reset is selected
Factory Presets: Start Temp: 10 F, End Temp: 60 F
Possible Values: Start: 0 - 94 F
End: 1 - 95 F

System Programming SET UP

Supply Air Temp ZONE Reset For Heating:
Maximum Amount of Reset Applied: 10 F

1. Press the NEXT key until the following screen is displayed.

Used With: All Units when Zone Heating is selected
Factory Preset: 10 F
Possible Values: 10 - 90 F

Supply Air Temp OA Reset For Heating:
Maximum Amount of Reset Applied: 10 F

1. Press the NEXT key until the following screen is displayed.

Used With: All Units when Outside Air Heating is selected
Factory Preset: 10 F
Possible Values: 10 - 90 F

VAV Box Max Stroke Time: 0 Min

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units
Factory Presets: 6 Min
Possible Values: 0 to 10

Max Occupied IGV/VFD Command: 100 %

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when IGV//VFD is installed
Factory Presets: 100%
Possible Values: 0 to 100%

End of Submenu (NEXT) to Enter SETUP

1. Press the NEXT key until the following screen is displayed.

Economizer Control Functions Submenu
Press ENTER to Review or Adjust

1. Pressing the NEXT key will bypass this seciton.

Used With: All Units when an economizer is installe

Economizer Cntrl Enable Type: REFERENCE
When Comparative Enthalpy Not Available

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when an economizer is installed
Possible Values: REFERENCE, DRYBULB
Factory Preset: REFERENCE

Unocc Air Economizer Function: ENABLED

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when an economizer is installed
Factory Preset: ENABLED
Possible Values: ENABLED, DISABLED

End of Submenu (NEXT) to Enter STATUS

1. Press the NEXT key until the following screen is displayed.

System Programming SET UP

Head Pressure Ctrl Setup Submenu
Press ENTER to Review or Adjust

1. Pressing the NEXT key will bypass this seciton.

Used With: Rooftops and Air Handlers when DX cooling is installed

Cond Temp Control Band
Lower Limit: 80 F Upper Limit: 120 F

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Used With: All Rooftop Units and Air Handlers when DX cooling is installed
Factory Presets: Upper: 120 F, Lower: 80 F
Possible Values: Lower: 70 F to 90 F
Upper: 110 F to 130 F

Cond Temp Control Band
Temporary Low Limit Suppression: 10 F

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Rooftop Units and Air Handlers when DX Cooling is installed
Factory Preset: 10 F
Possible Values: 0 to 20 F

Cond Temp
Efficiency Check Point: 105 F

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Rooftop Units and Air Handlers when DX Cooling is installed
Factory Preset: 105 F
Possible Values: 95 F to 115 F

Cond Temp
Low Ambient Control Point: 90 F

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Rooftop Units and Air Handlers when DX Cooling and low ambient dampers are installed.
Factory Preset: 90 F
Possible Values: 80 F to 100 F

Note: The low ambient damper controls to this condensing temperature.

End of Submenu (NEXT) to Enter SETUP

1. Press the NEXT key until the following screen is displayed.

Sensor Source Selections Submenu
Press ENTER to Review or Adjust

1. Pressing the NEXT key will bypass this section.

Used With: All Units

For Daytime Warmup Temp Crtl, Use Sensor
Connected To: RTM ZONE TEMP INPUT

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when Gas, Electric, Hydronic or External Heat is installed
Possible Values: RTM ZONE TEMP INUT
NSB PANEL TEMP SENSOR INPUT
RTM AUX TEMP INPUT
HEAT MODULE AUX TEMP INPUT
ECEM RETURN AIR TEMP INPUT

For Unoccupied Zone Temp Ctrl, Use Sensor
Connected To: RTM ZONE TEMP INPUT

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units
Factory Preset: RTM ZONE TEMP INPUT
Possible Values: RTM ZONE TEMP INPUT
NSB PANEL TEMP SENSOR INPUT
RTM AUX TEMP INPUT
HEAT MODULE AUX TEMP INPUT
ECEM RETURN AIR TEMP INPUT

For Morning Warmup Temp Control, Use Sensor
Connected To: RTM ZONE TEMP INPUT

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when Gas, Electric, Hydronic or External Heat is installed
Factory Preset: RTM ZONE TEMP INPUT
Possible Values: RTM ZONE TEMP INPUT
NSB PANEL TEMP SENSOR INPUT
RTM AUX TEMP INPUT
HEAT MODULE AUX TEMP INPUT
ECEM RETURN AIR TEMP INPUT

For Zone Reset Function, Use Sensor
Connected To: RTM ZONE TEMP INPUT

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units
Possible Values: RTM ZONE TEMP INUT
NSB PANEL TEMP SENSOR INPUT
RTM AUX TEMP INPUT
HEAT MODULE AUX TEMP INPUT
ECEM RETURN AIR TEMP INPUT

Monitor Specific Temp Input, Use Sensor
Connected To: RTM ZONE TEMP INPUT

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units
Factory Preset: RTM ZONE TEMP INPUT
Possible Values: RTM ZONE TEMP INPUT
NSB PANEL TEMP SENSOR INPUT
RTM AUX TEMP INPUT
HEAT MODULE AUX TEMP INPUT
ECEM RETURN AIR TEMP INPUT
NO SENSOR SELECTED

End of Submenu (NEXT) to Enter SETUP

1. Press the NEXT key until the following screen is displayed.

Outside Air Ventilation Setup Submenu
Press ENTER to Review or Adjust

1. Pressing the NEXT key will bypass this section.

Used With: All Units when VCM is installed

OA Flow Compensation Function: DISABLED
Use Fixed OA Damper Minimum Position

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units with an economizer when IGV/VFD is installed
Possible Values: ENABLED, DISABLED
Enabled 2nd line = "OA Damper Min Pos Depends on IGV/VFD Pos"
Disabled 2nd line = "Use Fixed OA Damper Minimum Position"

OA Flow CO2 Reset Function: DISABLED

Used With: All Units when VCM is installed
Possible Values: ENABLED, DISABLED

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

OR

OA Flow CO2 Reset Function: ENABLED
CO2 Start: 800 PPM CO2 Max: 1000 PPM

Used With: All Units when VCM is installed and CO2 Reset is enabled
Possible Values: ENABLED, DISABLED
CO2 Start = 0 to 1900 PPM
CO2 Max = 100 to 2000 PPM

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

OA Flow Calibration Data:
Gain: 1.0 Offset: 0.0 CCFM

Used With: All Units when VCM is installed
Factory Presets: Gain: 1.0, Offset: 0.0
Possible Values: Gain: 0.0 to 1.5
Offset: -25.0 to 25.0

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

End of Submenu (NEXT) to Enter SETUP

1. Press the NEXT key until the following screen is displayed.

Ventilation Override Definitions

Each of the five VOM modes have factory presets, that when initiated by a VOM contact closure, will accomplish five predefined operations (listed below). Any of the five sequences may be user-redefined by changing the factory presets at the unit mounted Human Interface or through Tracer.

Ventilation Override Mode A - (Unit Off)
Supply Fan - Off
Inlet Vanes / VFD - Closed/0%
Exhaust Fan - Off, (if equipped)
Exhaust Dampers - Closed (if equipped)
OA Dampers - Closed
Heat - All heat stages Off (staged gas and elec.), Hydronic heat & Mod Gas Heat output at 0%.
Occupied/Unoccupied output-Deenergized
VO Relay - Energized
OA Preheater State - Off (with VCM installed)

Ventilation Override Mode B - (Pressurize)
Supply Fan - On
Inlet Vanes / VFD - Open/100%
Exhaust Fan - Off, (if equipped)
Exhaust Dampers - Closed (if equipped)
OA Dampers - Open
Heat - All heat stages Off (staged gas and elec.), Hydronic heat & Mod Gas Heat output at 0%.
Occupied/Unoccupied output-Energized
VO Relay-Energized
OA Preheater State - Off (with VCM installed)

Ventilation Override Mode C - (Exhaust)
Supply Fan - Off
Inlet Vanes - Closed (if equipped)
Exhaust Fan - On, (if equipped)
Exhaust Dampers - Open (if equipped)
OA Dampers - Closed
Heat - All heat stages Off (staged gas and elec.), Hydronic heat & Mod Gas Heat output at 0%.
Occupied/Unoccupied output-Deenergized
VO Relay-Energized
OA Preheater State - Off (with VCM installed)

Ventilation Override Mode D- (Purge)
Supply Fan - On
Inlet Vanes / VFD - Closed/0%
Exhaust Fan - On (if equipped)
Exhaust Dampers - Open (if equipped)
OA Dampers - Open
Heat - All heat stages Off (staged gas and elec.), Hydronic heat & Mod Gas Heat output at 0%.
Occupied/Unoccupied output-energized
VO Relay - Energized
OA Preheater State - Off (with VCM installed)

Ventilation Override Mode E- (Purge with Duct Pressure Control)
Supply Fan - On
Inlet Vanes / VFD - Open/100%
(Controlled by SA Pressure Control function, SA Pressure High Limit is disabled)
Exhaust Fan - On (if equipped)
Exhaust Dampers - Open (if equipped)
OA Dampers - Open
Heat - All heat stages Off (staged gas and elec.), Hydronic heat & Mod Gas Heat output at 0%.
Occupied/Unoccupied output - Energized
VO Relay - Energized
OA Preheater State - Off (with VCM installed)

"OFF" - will appear in the Ventilation Override screen after all VOM binary inputs have been reset (opened).
Emergency Override Definitions (with LCI-I module installed)

Emergency Override Definitions (with LCI-I module installed)
When an LCI-I module is installed, the user can initiate one of five (5) Emergency Override sqeuences that have the following predefined unit operation:
PRESSURIZE
Supply Fan - On
Inlet Vanes - Open (if equipped)
Exhaust Fan - Off (if equipped)
Exhaust Dampers - Closed (if equipped)
OA Dampers - Open
Heat - All heat stages Off (staged gas and elec.), Hydronic heat & Mod Gas Heat output at 0%.
Occupied/Unoccupied output - Energized
VO Relay - Energized (with VOM module installed)
OA Preheater State - Off (with VCM installed)
DEPRESSURIZE
Supply Fan - Off
Inlet Vanes - Closed (if equipped)
Exhaust Fan - On (if equipped)
Exhaust Dampers -Open (if equipped)
OA Dampers - Closed
Heat - All heat stages Off (staged gas and elec.), Hydronic heat & Mod Gas Heat output at 0%.
Occupied/Unoccupied output - De-energized
VO Relay - Energized (with VOM module installed)
OA Preheater State - Off (with VCM installed)
PURGE
Supply Fan - On
Inlet Vanes - Open (if equipped)
Exhaust Fan - On (if equipped)
Exhaust Dampers - Open (if equipped)
OA Dampers - Open
Heat - All heat stages Off (staged gas and elec.), Hydronic heat & Mod Gas Heat output at 0%.
Occupied/Unoccupied output - Energized
VO Relay - Energized (with VOM module installed)
OA Preheater State - Off (with VCM installed)
SHUTDOWN
Supply Fan - Off
Inlet Vanes - Closed (if equipped)
Exhaust Fan - Off (if equipped)
Exhaust Dampers - Closed (if equipped)
OA Dampers - Closed
Heat - All heat stages Off (staged gas and elec.), Hydronic heat & Mod Gas Heat output at 0%.
Occupied/Unoccupied output - De-energized
VO Relay - Energized (with VOM module installed)
OA Preheater State - Off (with VCM installed)
FIRE
Supply Fan - Off
Inlet Vanes - Closed (if equipped)
Exhaust Fan - Off (if equipped)
Exhaust Dampers - Closed (if equipped)
OA Dampers - Closed
Heat - All heat stages Off (staged gas and elec.), Hydronic heat & Mod Gas Heat output at 0%.
Occupied/Unoccupied output - De-energized
VO Relay - Energized (with VOM module installed)
OA Preheater State - Off (with VCM installed)

Ventilation Override Definitions
Press ENTER to Review or Adjust

1. Pressing the NEXT key will bypass this section.

Used With: All Units when VOM is installed

Ventilation Override Definition Mode A
Supply Fan ON

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when VOM is installed
Factory Presets: Refer to Definitions
Possible Values: ON, OFF

Ventilation Override Definition Mode A
IGV/VFD Cmd MIN

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All units when IGV or VFD is installed.
Factory Presets: Refer to Definitions
Possible Values: IN CONTROL, MIN, or MAX

Ventilation Override Definition Mode A
Exhaust Fan/Dampers ON /OPEN

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when VOM and Power Exhaust with Statitrac is installed
Factory Presets: Refer to Definitions
Possible Values: ON /OPEN, OFF /CLOSED

Ventilation Override Definition Mode A
Exhaust Fan ON /OPEN

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when VOM and Power Exhaust without Statitrac is installed
Factory Presets: Refer to Definitions
Possible Values: ON /OPEN, OFF /CLOSED

Ventilation Override Definition Mode A
Outside Air Dampers OPEN

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when VOM and an economizer is installed
Factory Presets: Refer to the Definitions
Possible Values: OPEN/CLOSED

Ventilation Override Definition Mode A
Heat OFF

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when VOM and Gas, Electonic or Hydronic Heat is installed
Factory Presets: Refer to the Definitions
Possible Values: OFF, IN CONTROL

Ventilation Override Definition Mode A
VAV Box Relay DEENERGIZED

1. Press the NEXT key until the following screen is displayed.

Used With: All Units
Factory Presets: Refer to the Definitions
Possible Values: ENERGIZED/DEENERGIZED

Ventilation Override Definition Mode A
OA Preheater State IN CONTROL

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when VOM is installed and OA preheater function is enabled
Factory Presets: Refer to the Definitions
Possible Values: IN CONTROL, OFF

Ventilation Override Definition Mode A
VO Relay ENERGIZED

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when VOM is installed
Factory Presets: Refer to the Definitions
Possible Values: ENERGIZED, DEENERGIZED

Ventilation Override Definition Mode A
Enter Password to Lock Definition:

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units
Factory Presets: Refer to the Definitions
Possible Values: + (Plus), - (Minus)

Note: After locking a MODE (by entering the password), the display for that MODE becomes "Reporting" only and the definition can not be changed unless the Ventilation Override Module is replaced. It the password was entered, pressing the NEXT key will scroll through the previous screens to confirm the selected choices for each mode as follows:

Ventilation Override Mode A Is Locked
Supply Fan

Key functions for the locked VOM displays are as follows:
The ENTER, +, and - keys are disabled.
The PREVIOUS and NEXT keys will advance to the previous and next screens respectively. After all of the VOM modes have been viewed or modified, the following screen will be displayed.

Used With: All Units when VO mode is locked
Factory Presets: Refer to the Definitions
Possible Values: N/A

Ventilation Override Mode B
Supply Fan

1. Follow the preceding steps used to program MODE "A" to program MODE B", "C", "D", and "E" if modifications are needed. After all of the Ventilation Override Definitions have been programmed, pressing the NEXT key will advance to the following screen.

Used With: All Units
Factory Presets: Refer to the Definitions
Possible Values: ON, OFF

End of Submenu (NEXT) to Enter SETUP

1. Press the NEXT key until the following screen is displayed.

GBAS 0 - 5VDC Module I/O Assignments
Press ENTER to Review or Adjust

1. Pressing the NEXT key will bypass this section.

Used With: All Units when GBAS 0-5VDC is installe

GBAS (0 - 5 VDC) Analog Input 1 Assignment
NOT ASSIGNED

1. Press the + or - key until the proper selection is displayed for the number 1 assignment.
2. Press the ENTER key to confirm this choice. Only one input definition can be assigned to each input and they can not be duplicated.
3. Press the NEXT key to advance to the number 2 input assignment screen and repeat steps 1 & 2. Follow these steps for input assignments 3 and 4.
4. Press the NEXT key until the following screen is displayed.

Used With: All Units when GBAS 0-5VDC is installe
Factory Presets: Not Assigned
Possible Values: Not Assigned, Occupied Zone Cooling Setpoint, Unoccupied Zone Cooling Setpoint, Occupied Zone Heating Setpoint, Unoccupied Zone Heating Setpoint, Space Static Pressure Setpoint, SA Static Pressure Setpoint, Min OA Flow Setpoint

GBAS (0 - 5 VDC) Output 1 Alarm Assignments
Press ENTER to Review or Adjust

1. Pressing the NEXT key will bypass this section.
2. Press the + or - key until the proper selection is displayed for th number 1 assignment. + (Plus) key will assign ALL Diagnostics and - (Minus) key will allow diagnostic selection.
3. Press the ENTER key to confirm this choice. If (Yes) was assigned to the Output assignment, the output 2 assignment screen will be displayed. Repeat step 1 for each of the remaini 4 Outputs. If (NO) was assigned, only one output assignment can be assigned to each output assignment and they can not b duplicated. Once the output diagnostics have been defined, press the NEXT key to advance to the number 2 output assignment screen and repeat steps 1 & 2.

Note: Assigning "Yes" to a GBAS output definition means that if the assigned diagnostic is present, the output assigned to it will be energized.

Used With: All Units when GBAS 0-5VDC is installe
Factory Presets:
Output 1 = Dirty Filters
Output 2 = Compressor Trip
Compressor Trip - Ckt 1
Compressor Trip - Ckt 2
Low Pressure Control Open
Low Pressure Control Open - Ckt 1
Low Pressure Control Open - Ckt 2
Comp Contactor Fail
Comp Contactor Fail - Ckt 1
Comp Contactor Fail - Ckt 2
Output 3 = Heat Fail
Output 4 = Supply Fan Failure
Output 5 = Any Active Diagnostic
Possible Values: Refer to the list of active diagnosti that can be assigned to each of the five (5) output definitions in the "Diagnostics Menu" section.

End of Submenu (NEXT) to Enter SETUP

1. Press the NEXT key until the following screen is displayed.

RTM Alarm Output Diagnostic Assignments
Press ENTER to Review or Adjust

1. Pressing the NEXT key will bypass this section.

Used With: All Units

Assign Diagnostic to RTM Alarm Output ?
Any Active Diagnostic (No)

1. Press the ENTER key then the NEXT key to display the possible diagnostics that may be assigned to the RTM alarm output definition.
2. Press the + (Plus) key to assign "Yes" to the output definition or - (Minus) key to assign "No" to the output definition.
3. Press the ENTER key to confirm each selection.

Note: Assigning "Yes" to an Alarm output definition means that if the assigned diagnostic is present, the RTM alarm output will be energized.

Used With: All Units
Factory Preset: Any Active Diagnostic
Possible Values: Refer to the list of active diagnosti that can be assigned to each of the five (5) GBAS output definitions in the "Diagnostics Menu" section.

End of Submenu (NEXT) to Enter SETUP

1. Press the NEXT key until the following screen is displayed.

Temperature Input Calibration

The following five (5) Offset screens are used only if calibration of a sensor designated to perform the listed function is necessary.

Example: If the temperature sensor for Morning Warm Up (MWU) is checked and a difference between the actual measured room temperature and the corresponding measured sensor value is found, by programming the amount of error into the Temperature Input Offset for Morning Warm Up (MWU) Heat — The sensor can be calibrated.

Calibration and Offset Submenu
Press ENTER to Review or Adjust

1. Pressing the NEXT key will bypass this section.

Used With: All Units

Temperature Calibration Offset For
RTM Zone Temperature Input 0.0 F

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units
Factory Preset: 0.0 F
Possible Values: Plus or Minus 5.0 F

Temperature Calibration Offset For
RTM Aux Temperature Input 0.0 F

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units
Factory Preset: 0.0 F
Possible Values: Plus or Minus 5.0 F

Temperature Calibration Offset For
RTM Outside Air Temperature Input 0.0 F

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units
Factory Preset: 0.0 F
Possible Values: Plus or Minus 5.0 F

Temperature Calibration Offset For
Heat Module Aux Temp Input 0.0 F

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when Gas, Electric, or Hydronic Heat is installed
Factory Preset: 0.0 F
Possible Values: Plus or Minus 5.0 F

Temperature Calibration Offset For
ECEM Return Air Temperature Input 0.0 F

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when comparative enthalpy is installed
Factory Preset: 0.0 F
Possible Values: Plus or Minus 5.0 F

End of Submenu (NEXT) to Enter SETUP

1. Press the NEXT key until the following screen is displayed.

System Programming SET UP

Device Characteristic Setup Definitions Press ENTER to Review or Adjust

Used With: All Units

1. Pressing the NEXT key will bypass this section.

Actuator Setup	OA Damper
Max Stroke Time	30 Sec

Used With: All Units when an economizer is installed
Factory Preset: 30 Seconds
Possible Values: 1 - 255 Seconds

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Actuator Setup	OA Damper
Min Voltage	2.0 VDC

Used With: All Units when an economizer is installed
Factory Preset: 2.0 VDC
Possible Values: 0.0 to 9.9 Volts DC

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Actuator Setup	OA Damper
Max Voltage	10.0 VDC

Used With: All Units when an economizer is installed
Factory Preset: 10.0 VDC
Possible Values: 0.1 to 10.0 Volts DC

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Actuator Setup	OA Damper
Direct/Reverse Act	DIRECT ACTING

Used With: All Units when an economizer is installed
Factory Preset: DIRECT ACTING
Possible Values: DIRECT ACTING, REVERSE ACTING

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Actuator Setup	IGV/VFD Cmd
Max Stroke Time	30 Sec

Used With: All Units when IGV/VFD is installed
Factory Preset: 30 Seconds
Possible Values: 1 - 255 Seconds

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Actuator Setup	IGV/VFD Cmd
Min Voltage	2.0 VDC

Used With: All Units when IGV/VFD is installed
Factory Preset: 2.0 VDC
Possible Values: 0 to 10.0 Volts DC

Note:
For VFD set to 0.0 VDC
For IGV set to 2.0 VDC

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Actuator Setup	IGV/VFD Cmd
Max Voltage	10.0 VDC

Used With: All Units when IGV/VFD is installed
Factory Preset: 10.0 VDC
Possible Values: 0 to 10.0 Volts DC

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Actuator Setup	IGV/VFD Cmd
Direct/Reverse Act	DIRECT ACTING

Used With: All Units when IGV/VFD is installed
Factory Preset: DIRECT ACTING
Possible Values: DIRECT ACTING, REVERSE ACTING

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

System Programming SET UP

Actuator Setup	Exhaust Damper/VFD
Max Stroke Time	30 Sec

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when Power Exhaust with Statitrac is installed
Factory Preset: 30 Seconds
Possible Values: 1 - 255 Seconds

Actuator Setup	Hydronic
Max Stroke Time	60 Sec

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when Hydronic Heat and/or Chilled Water is installed.
Factory Preset: 60 Seconds
Possible Values: 1 - 255 Seconds

Actuator Setup	Exhaust Damper/VFD
Min Voltage	2.0 VDC

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when Power Exhaust with Statitrac is installed
Factory Preset: 2.0 VDC
Possible Values: 0.0 to 9.9 Volts DC

Actuator Setup	Exhaust Damper/VFD
Max Voltage	10.0 VDC

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when Power Exhaust with Statitrac is installed
Factory Preset: 10.0 VDC
Possible Values: 0.1 to 10.0 Volts DC

Actuator Setup	Exhaust Damper/VFD
Direct/Reverse Act	DIRECT ACTING

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when Power Exhaust with Statitrac is installed
Factory Preset: DIRECT ACTING
Possible Values: DIRECT ACTING, REVERSE ACTING

Actuator Setup	Hydronic
Min Voltage	2.0 VDC

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when Hydronic Heat and/or Chilled Water is installed.
Factory Preset: 2.0 VDC
Possible Values: 0.0 to 9.9 Volts DC

Actuator Setup	Hydronic
Max Voltage	10.0 VDC

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when Hydronic Heat and/or Chilled Water is installed.
Factory Preset: 0.0 VDC
Possible Values: 0.1 to 10.0 Volts DC

Actuator Setup	Hydronic
Direct/Reverse Act	DIRECT ACTING

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when Hydronic Heat and/or Chilled Water is installed.
Factory Preset: DIRECT ACTING
Possible Values: DIRECT ACTING, REVERSE ACTING

Actuator Setup	Num 1 Low Ambient
Max Stroke Time	60 Sec

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Rooftop Units and Air Handlers when DX Cooling is installed
Factory Preset: 60 Seconds
Possible Values: 1 - 255 Seconds

Actuator Setup	Num 1 Low Ambient
Min Voltage	2.0 VDC

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Rooftop Units and Air Handlers when DX Cooling is installed
Factory Preset: 2.0 VDC
Possible Values: 0.0 to 9.9 Volts DC

Actuator Setup	Num 1 Low Ambient
Max Voltage	10.0 VDC

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Rooftop Units and Air Handlers when DX Cooling is installed
Factory Preset: 10.0 VDC
Possible Values: 0.1 to 10.0 Volts DC

Actuator Setup	Num 1 Low Ambient
Direct/Reverse Act	DIRECT ACTING

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Rooftop Units and Air Handlers when DX Cooling is installed
Factory Preset: DIRECT ACTING
Possible Values: DIRECT ACTING, REVERSE ACTING

Actuator Setup	Num 2 Low Ambient
Max Stroke Time	60 Sec

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: 40 thru 130 Ton Rooftop units and Air Handlers (Casings 4, 5, 6 or 9) when DX Cooling is installed
Factory Preset: 60 Seconds
Possible Values: 1 - 255 Seconds

Actuator Setup	Num 2 Low Ambient
Min Voltage	2.0 VDC

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: 40 thru 130 Ton Rooftop units and Air Handlers (Casings 4, 5, 6 or 9) when DX Cooling is installed
Factory Preset: 2.0 VDC
Possible Values: 0.0 to 9.9 Volts DC

Actuator Setup	Num 2 Low Ambient
Max Voltage	10.0 VDC

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: 40 thru 130 Ton Rooftop units and Air Handlers (Casings 4, 5, 6 or 9) when DX Cooling is installed
Factory Preset: 10.0 VDC
Possible Values: 0.1 to 10.0 Volts DC

Actuator Setup	Num 2 Low Ambient
Direct/Reverse Act	DIRECT ACTING

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: 40 thru 130 Ton Rooftop units and Air Handlers (Casings 4, 5, 6 or 9) when DX Cooling is installed
Factory Preset: DIRECT ACTING
Possible Values: DIRECT ACTING, REVERSE ACTING

Actuator Setup	Modulating Gas Heat
Max Stroke Time	60 Sec

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Rooftop Units and Air Handlers when DX Cooling is installed and Modulating Gas is installed
Factory Preset: 60 Seconds
Possible Values: 1 - 255 Seconds

Actuator Setup	Modulating Gas Heat
Min Voltage	5.0 VDC

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Rooftop Units and Air Handlers when DX Cooling is installed and Modulating Gas is installed
Factory Preset:
5 VDC for units configured for 1000 MBH
6 VDC for units configured for 500 MBH
7 VDC for units configured for 850 MBH
Possible Values: 0.0 to 9.9 Volts DC

Actuator Setup	Modulating Gas Heat
Max Voltage	9.7 VDC

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Rooftop Units and Air Handlers when DX Cooling is installed and Modulating Gas is installed
Factory Preset: 9.7 VDC
Possible Values: 0.1 to 10.0 Volts DC

Actuator Setup	Modulating Gas Heat
Direct/Reverse Act	REVERSE ACTING

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Rooftop Units and Air Handlers when DX Cooling is installed and Modulating Gas is installed
Factory Preset: REVERSE ACTING
Possible Values: DIRECT ACTING, REVERSE ACTING

End of Submenu (NEXT) to Enter SETUP

1. Press the NEXT key until the following screen is displayed.

Control Algorithm Tuning Parameters
Press ENTER to Review or Adjust

1. Contact the Trane Company before making any adjustments to these settings.
2. Press the ENTER key until the following screen is displayed.

End of Submenu (NEXT) to Enter SETUP

1. Press the NEXT key until the following screen is displayed.

SET POINT Menu

The SET POINT menu is used to designate default zone temperature set points, supply air and space pressure set points, and low ambient compressor lockout set points.

These set points will be active (in use) for the “Set point Source Selection” designated as “DEFAULT” for these inputs.

When a set point screen is displayed for 30 minutes without a key being pressed, the LCD screen will revert to the general operating status display. If this happens, press the SET POINT key again to return to the set point menu.

Note: Many of the screens displayed in this section are applicable only for the options that are installed in the unit and may not be visible on your unit.

Press the SET POINT key to begin viewing or modifying the unit Set points.

Default Supply Air Temp Setpoint(s)
Cooling: 67 F

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units
Factory Presets: 100 F
Possible Values: 40 F to 90 F

Default Supply Air Temp Setpoint(s)
Cooling: 67 F Heating: 71 F

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Used With: All Units
Factory Presets: 100 F
Possible Values: Cool: 40 F to 90 F
Heat: 40 F to 180 F

Supply Air Temperature Deadband
Cooling: 8.0 F

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units
Factory Presets: 8.0 F
Possible Values: Cooling: 4 - 20 F

Supply Air Temperature Deadband
Cooling: 8.0 F Heating: 4.0 F

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Used With: All Units with Heating SA Temp Deadband Screen shown only if (Hydronic or Modulating Gas) Heat installed
Factory Presets: Cooling: 8 F,
Heating: 4 F
Possible Values: Cooling: 4 to 20 F
Heating: 2 to 10 F

System Programming SET POINTS

Default Daytime Warmup Setpoints
Initiate: 67 F Terminate: 71 F

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Used With: All units
Factory Presets: Initiate: 74 F, Terminate: 71 F
Possible Values: DWU Initiate: 50 F to 90 F
DWU Terminate: 50 F to 90 F

Default Occupied Zone Temp Setpoint(s)
Heat: 71 F

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Used With: All Units when Gas, Electric, Hydronic or External Heat is installed and Daytime warmup is enabled
Factory Presets: Heat: 71 F
Possible Values: Heat: 50 F to 72 F
This is the set point to which the heat is controlled during Daytime Warmup mode.

Default Econ DryBulb Enable Setpoint
Enable Economizer Below: 75 F

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units with an economizer installed
Factory Preset: 75 F
Possible Values: 50 F to 140 F

When Economizer Cooling, Reduce Zone Temperature Cooling Setpoint By: 1.5 F

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when an economizer is installe
Factory Presets: 1.5 F
Possible Values: 0.0 to 3.0 F

Default Unoccupied Zone Temp Setpoint(s)
Cool: 85 F

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when cooling only
Factory Presets: 85 F
Possible Values: 50 F to 90 F

Default Unoccupied Zone Temp Setpoint(s)
Cool: 85 F Heat: 60 F Morn Warmup: 72 F

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Used With: All Units when Gas, Electric, Hydronic or External Heat is installed
Factory Presets: Cool: 85 F, Heat: 60 F, Morning Warmup: 72 F
Possible Values: Cool: 50 F to 90 F, Heat: 50 F to 8
Morning Warmup: 50 F to 90 F
Minimum difference of 2 degrees F maintained between Heating & Cooling setpoints. Morning Warmup cannot be lower than Heating setpoint.

Reference Enthalpy: Enable Air Econ
When OA Enthalpy is Below: 25 BTU/LB

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when an economizer is installe
Factory Presets: 25 BTU/LB
Possible Values: 19 to 28 BTU/LB

Supply Air Low Limit - Modulate Economizer Toward Min Pos if SA Temp below: 50 F

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when an economizer is installe
Factory Presets: 50 F
Possible Values: 40 to 65 F

Note: This set point applies to CV modes only. This is ignored during VAV modes.

Default OA Damper Min Position: 15 %

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when an economizer is installe
Factory Presets: 15 %
Possible Values: 0 to 100%

Default OA Damper Minimum Position: 15 % with IGV/VFD Command at Minimum (0 %)

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All units when an economizer and OA CFM Compensation and IGV/VFD or (VAV unit with IGV/VFD and VCM but No Air Economizer
Factory Presets: 15 %
Possible Values: 0 - 100 %

Default OA Damper Minimum Position: 10 % with IGV/VFD Command at Maximum (100 %)

1. Press the NEXT key until the following screen is displayed.

Used With: All Units with an economizer and OA CF Compensation and IGV/VFD or (VAV unit with IGV/VFD and VCM but No Air Economizer
Factory Presets: 10 %
Possible Values: 0 - 100 %

Default Min OA Flow Setpoint: 40 CCFM
Min OA Flow Deadband: 10.0 CCFM

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Used With: All Units when VCM is installed
Factory Presets: See Airflow Deadband in table be
Possible Values: Setpoint: 0 to Max Unit Airflow
Max Unit Airflow: See table below
Deadband: 5.0 to 20 CCFM

Unit Cap Tons	Max. Airflow (ccfm)	Airflow Deadband (ccfm)
20 - 25	140	5.00
30	170	5.00
40	220	5.00
50 - 55	280	5.00
60 - 75	330	7.00
90 - 130	460	10.00

CCFM = System design CFM / 100

Preheat Output ON If Preheat Temp Below Preheat Activation Temperature: 40 F

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when VCM is installed and preheat is enabled
Factory Presets: 35 F
Possible Values: 35 F to 75 F

System Programming SET POINTS

Default Supply Air Pressure: 2.0 IWC
High Limit: 4.0 IWC Deadband: 0.5 IWC

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Used With: All Units when IGV/VFD is installed. High Limit shown when VAV without IGV/VFD Supply Air Pressure Sensor is installed.
Factory Presets: Setpoint: 2.0 IWC
High Limit: 4.0 IWC
Deadband: 0.5 IWC
Possible Values: Setpoint 1 - 4.3 IWC
High Limit 1.2 - 4.7 IWC
Deadband 0.1 - 2.0 IWC
Note: Setpoint cannot be adjusted above:
High Limit = Deadband divided by 2 minus 0.1

Default Space Pressure Setpoint: 0.08 IWC
Space Pressure Deadband: 0.10 IWC

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Used With: All Units when Power Exhaust with Statitrac is installed
Factory Presets: Setpoint: 0.08 IWC
Deadband: 0.10 IWC
Possible Values: Setpoint: 0.03 to 0.30 IWC
Deadband: 0.04 to 0.20 IWC

Exhaust Enable Point. Enable Exhaust Fan
When Outside Air Damper Is Above: 25 %

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when Power Exhaust without Statitrac is installed
Factory Presets: 25 %
Possible Values: 0 to 100%

Low Ambient Comp Lockout Temp: 50 F
Comp (s) OFF If OA Temp Below This Value

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units
Factory Presets: 50 F
Possible Values: -20 F to 80 F

Setpoint Source Selections Submenu
Press ENTER to Review or Adjust

1. Pressing the NEXT key will bypass this section.

Used With: All Units

For Supply Air Temp Cooling Control, Use
Setpoint From: HI (KEYPAD) SETPOINT MENU

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units
Factory Presets: Default
Possible Values: HI (KEYPAD) SETPOINT MENU
ZONE SENSOR SETPOINT INPUT
NSB PANEL SETPOINT INPUT
GBAS 0-5 VDC MODULE

For Supply Air Temp Heating Control, Use
Setpoint From: HI (KEYPAD) SETPOINT MENU

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when Hydronic Heat or Modulating Gas Heat is installed
Factory Presets: Default
Possible Values: HI (KEYPAD) SETPOINT MENU
GENERIC BAS MODULE

System Programming SET POINTS

For Occ Zone Temp Heating Control, Use Setpoint From: HI (KEYPAD) SETPOINT MENU

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when Gas, Electric or Hydronic Heat is installed
Factory Presets: HI (KEYPAD) SETPOINT MENU
Possible Values: HI (KEYPAD) SETPOINT MENU
ZONE SENSOR SETPOINT INPUT
NSB PANEL SETPOINT INPUT
GBAS 0-5 VDC MODULE

For Unocc Zone Temp Cooling Control, Use Setpoint From: HI (KEYPAD) SETPOINT MENU

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units
Factory Presets: HI (KEYPAD) SETPOINT MENU
Possible Values: HI (KEYPAD) SETPOINT MENU
ZONE SENSOR SETPOINT INPUT
NSB PANEL SETPOINT INPUT
GBAS 0-5 VDC MODULE

For Unocc Zone Temp Heating Control, Use Setpoint From: HI (KEYPAD) SETPOINT MENU

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when Gas, Electric, Hydronic Heat or External Heat is installed
Factory Presets: HI (KEYPAD) SETPOINT MENU
Possible Values: HI (KEYPAD) SETPOINT MENU
ZONE SENSOR SETPOINT INPUT
NSB PANEL SETPOINT INPUT
GBAS 0-5 VDC MODULE

For Morning Warmup Temp Control, Use Setpoint From: HI KEYPAD) SETPOINT MENU

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All units when Gas, Electric, Hydronic or External Heat is installed
Factory Presets: HI (KEYPAD) SETPOINT MENU
Possible Values: HI (KEYPAD) SETPOINT MENU
NSB PANEL SETPOINT INPUT

For Default OA Damper Min Position, Use Setpoint From: HI (KEYPAD) SETPOINT MENU

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when an economizer or VCM is installed
Factory Presets: HI (KEYPAD) SETPOINT MENU
Possible Values: HI (KEYPAD) SETPOINT MENU
REMOTE MIN POS POT INPUT

For Min Outside Air Flow Rate Ctrl, Use Setpoint From: HI (KEYPAD) SETPOINT MENU

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when VCM and GBAS is installed
Factory Presets: HI (KEYPAD) SETPOINT MENU
Possible Values: HI (KEYPAD) SETPOINT MENU
GBAS 0-5VDC MODULE

For Supply Air Pressure Control, Use Setpoint From: HI (KEYPAD) SETPOINT MENU

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All units when IGV/VFD and GBAS 0-5 VDC Module is installed
Factory Presets: Default
Possible Values: HI (KEYPAD) SETPOINT MENU
GENERIC BAS MODULE

For Space Pressure Control, Use Setpoint From: HI (KEYPAD) SETPOINT MENU

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when Power Exhaust with Statitrac is installed
Factory Presets: HI (KEYPAD) SETPOINT MENU
Possible Values: HI (KEYPAD) SETPOINT MENU
GBAS 0-5VDC MODULE

End of Submenu (NEXT) to Enter STATUS

1. Press the NEXT key until the following screen is displayed.

CONFIGURATION Menu

The electronically controlled unit has many operating functions whose settings are preset at the factory. The following configuration programming steps are provided for those cases where the Human Interface module has been replaced after the unit has been in operation and must be reconfigured.

Refer to the Model number stamped on the unit nameplate located on the control panel door while scrolling through the configuration screens. Certain digits of this alpha/numeric model number provide information that must be entered at the Human Interface (HI) in order for the UCM network to operate properly.

Note: Many of the screens displayed in this section are applicable only for the options that are installed in the unit and may not be visible on your unit.

Press the CONFIGURATION key to begin viewing or modifying the configuration screens.

Configuration - Model Num Digit 1
Unit Type ROOFTOP UNIT

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units
Possible Values: ROOFTOP UNIT, AIR HANDLER

Configuration - Model Num Digit 2
Unit Type GAS

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units
Possible Values: ELECTRIC, GAS, HYDRONIC, EXTERNAL HEAT, NONE (COOLING ONLY)

Configuration - Model Num Digit 5, 6, 7
Unit Capacity 50

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Rooftop Units
Possible Values: 20, 25, 30, 40, 50, 55, 60, 70, 75 90, 105, 115, 130

Configuration - Model Num Digit 5
Unit Capacity 50

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: Air Handlers
Possible Values: 20, 30, 40, 50, 60, 90

Configuration - Model Num Digit 6
Cooling Type DX COOLING

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: Air Handlers
Possible Values: CHILLED WATER, DX COOLING, NO COOLING

System Configuration

Configuration - Model Num Digit 9
Gas Heat Type MODULATING

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when gas heat is installed
Possible Values: STAGED, MODULATING

Configuration - Model Num Digit 11
Power Exhaust 100% WITH STATITRAC

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units
Possible Values: NONE, 100% WITH STATITRAC, 50/100% WITHOUT STATITRAC

Configuration - Model Num Digit 16
Air Economizer INSTALLED

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units
Possible Values: INSTALLED, NOT INSTALLED

Configuration - Model Num Digit 17
System Control CV

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units
Possible Values: CV, VAV WITH IGV/VFD, VAV WITHOUT IGV/VFD

Configuration Model Num Digit 19
Ambient Control STANDARD

1. Press the NEXT key until the following screen is displayed.

Used With: All Units
Possible Values: STANDARD, 0 Deg F

Configuration - Model Num Digit 21+
Comparative Enthalpy INSTALLED

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units
Possible Values: INSTALLED, NOT INSTALLED

Note: Reference Enthalpy and Dry Bulb control are configured in SETUP under the Economizer Control Functions Setup Submenu.

Configuration - Model Num Digit 21+
GBAS 0 - 5 VDC Module INSTALLED

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units
Possible Values: INSTALLED, NOT INSTALLED

Configuration - Model Num Digit 21+
Ventilation Override (VOM) INSTALLED

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units
Possible Values: INSTALLED, NOT INSTALLED

Configuration - Model Num Digit 21+
Ventilation Control (VCM) INSTALLED

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units
Possible Values: INSTALLED, NOT INSTALLED

Configuration - Model Num Digit 21+
BAS Communications Module INSTALLED

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units
Possible Values: INSTALLED, NOT INSTALLED

Configuration - Model Num Digit 21+
Remote Human Interface INSTALLED

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units
Possible Values: INSTALLED, NOT INSTALLED

Unit Model Number

1. Press the NEXT key until the following screen is displayed.

Used With: All Units unless RTM has been changed.
Possible Values: Model Number

Software Revision Number Report:
RTM 1.00

1. Press the NEXT key until the following screen is displayed.

Used With: All Units

Software Revision Number Report:
Single Compressor Module (SCM) 1.00

1. Press the NEXT key until the following screen is displayed.

Used With: All Units

Software Revision Number Report:
Multiple Compressor Module (MCM) 1.00

1. Press the NEXT key until the following screen is displayed.

Used With: All Units

Software Revision Number Report:
GBAS 0-5VDC Module 1.00

1. Press the NEXT key until the following screen is displayed.

Used With: All Units when GBAS is installed

Software Revision Number Report:
Ventilation Override (VOM) 1.00

1. Press the NEXT key until the following screen is displayed.

Used With: All Units when VOM is installed

Software Revision Number Report:
Exhaust/Comp Enthalpy Module 1.00

1. Press the NEXT key until the following screen is displayed.

Used With: All Units when comparative enthalpy or Power Exhaust is installed with Statitrac

Software Revision Number Report:
Heat Module 1.00

1. Press the NEXT key until the following screen is displayed.

Used With: All units are not cooling only and without External Heat

Software Revision Number Report:
Unit Human Interface 12.00

1. Press the NEXT key until the following screen is displayed.

Used With: All Units

Software Revision Number Report:
Remote Human Interface 1.00

1. Press the NEXT key until the following screen is displayed.

Used With: All Units when Remote HI is installed

Software Revision Number Report:
Ventilation Control (VCM) 1.00

1. Press the NEXT key until the following screen is displayed.

Used With: All Units when VCM is installed

Software Revision Number Report:
BAS Communications: Comm 3/4 1.00

1. Press the NEXT key until the following screen is displayed.

Used With: All Units when TCI or LCI is installed

SERVICE MODE Menu (Local Human Interface only)

The SERVICE MODE menu is used to input operating parameters for unit operation during a service test. Depending on the particular test being conducted, the user will cycle through all unit outputs (compressors, fans, dampers, heaters, etc.) and selectively turn them On or Off for the test. After designating the operating status for each unit component, the operator will designate the “TEST START” delay time.

When a service mode screen is displayed for 30 minutes without a key being pressed, the LCD screen will revert to the general operating status display. If this happens, press the SERVICE MODE key again to return to the service menu.

Note: Many of the screens displayed in this section are applicable only for the options that are installed in the unit and may not be visible on your unit.

To operate the system in the TEST MODE, press the SERVICE MODE key to enter into the service mode menu and scroll through all of the system outputs and selectively turn them “On” or “Off”.

Supply Air Controls
Supply Fan OFF

Used With: All Units without IGV/VFD.
Possible Values: ON, OFF, AUTO

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.

Supply Air Controls
Supply Fan OFF IGV/VFD Cmd 35%

Used With: All Units when IGV/VFD is installed.
Possible Values: ON, OFF, AUTO
IGV/VFD Cond: 0 - 100 %

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.

RTM VAV Box Relay
RTM Alarm Output

Used With: All Units
Possible Values: RTM VAV Box relay
Occupied/Unoccupied
Alarm Output On / Off

1. Press the NEXT key until the following screen is displayed.

Condenser Fan Outputs
1A OFF 1B OFF

Used With: 20, 25 & 30 Ton Rooftop Units & Air Handlers (Casings 1, 2, or 3) when DX Cooling is installed
Factory Presets: OFF
Possible Values: ON, OFF, AUTO

1. Press the + or - key until the proper value is displayed. "If "AUTO" is selected for any output on a circuit, then all outputs for that circuit are set to "AUTO".
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Condenser Fan Outputs
1A OFF 1B OFF 2A OFF 2B OFF

Used With: 40 - 130 Ton Rooftop Units & Air Handlers (Casings 4, 5, 6 or 9) when DX Cooling is installed
Factory Presets: OFF
Possible Values: ON, OFF, AUTO

1. Press the + or - key until the proper value is displayed. "If "AUTO" is selected for any output on a circuit, then all outputs for that circuit are set to "AUTO".
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Condenser Fan Speed
Ckt 1 0 %

1. Press the + or - key until the proper value is displayed. "If "AUTO" is selected for any output on a circuit, then all outputs for that circuit are set to "AUTO".
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: 20, 25 & 30 Ton Rooftop Units & Air Handlers (Casings 1, 2 or 3) when DX Cooling is installed
Factory Presets: 0%
Possible Values: 0 to 100%, AUTO

Note: This is the Low Ambient damper % open set point.

Condenser Fan Speed
Ckt 1 0 % Ckt 2 0 %

1. Press the + or - key until the proper value is displayed. "If "AUTO" is selected for any output on a circuit, then all outputs for that circuit are set to "AUTO".
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Used With: 40 - 130 Ton Rooftop Units & Air Handle (Casings 4, 5, 6 or 9) when DX Cooling is installed
Factory Presets: 0%
Possible Values: 0 to 100%, AUTO

Note: This is the Low Ambient damper % open set point.

Compressor Relays:
K10 OFF K11 OFF

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Used With: 20, 25 & 30 Ton Rooftop Units & Air Handlers (Casings 1, 2 or 3) when DX Cooling is installed
Factory Presets: OFF
Possible Values: ON, OFF

Compressor Relays:
K11 OFF K12 OFF K3 OFF K4 OFF

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Used With: 40 - 130 Ton Rooftop Units & Air Handlers (Casings 4, 5, 6 or 9) when DX Cooling is installed
Factory Presets: OFF
Possible Values: ON, OFF

Hydronic Heat
Actuator 0 %

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Rooftop Units when Hydronic Heat is installed and Air Handlers when DX Cooling is installed
Factory Preset: 0%
Possible Values: 0 - 100%

Modulating Gas Heat
Actuator 0 %

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Rooftop Units when Modulating Gas is installed and Air Handlers when DX Cooling is installed
Factory Preset: 0%
Possible Values: 0 - 100%

Heat Stages
Stage Off

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when Staged Gas or Electric Heat is installed
Factory Presets: OFF
Possible Values: OFF, Stage 1, 2, 3

Relay State	**COOL ON**
Hydro Heat/Chilled Water Output	**0 %**

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Used With: Air Handlers when Chilled Water cooling and Hydronic Heat is installed
Factory Presets: Relay State: HEAT ON
Hydro Output: 0%
Possible Values: Relay State: HEAT ON, COOL ON, OVERRIDE
Hydro Output: 0 to 100%

Relay State	**HEAT ON**
Mod Gas Heat/Chilled Water Output	**0 %**

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Used With: Air Handlers when Chilled Water cooling and Modulating Gas is installed
Factory Presets: Relay State: HEAT ON
Output: 0%
Possible Values: Relay State: HEAT ON, COOL ON, OVERRIDE
Output: 0 TO 100%

Chilled Water Actuator	**0 %**

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: Air Handlers when Chilled Water cooling and Heat type is NOT Hydronic or Modulating Gas
Factory Preset: 0%
Possible Values: 0 to 100%

OA Damper Pos	**0 %**

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Used With: All Units when an economizer is installed without power exhaust
Factory Presets: OA Damper: 0%
Possible Values: OA Damper: 0 to 100%

OA Damper Pos	**0 %**
Exhaust Fan	**OFF**

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Used With: All Units when an economizer with Power Exhaust without Statitrac is installed
Factory Presets: OA Damper Pos: 0%
Exhaust Fan: OFF
Possible Values: OA Damper Pos: 0 to 100%
Exhaust Fan: ON, OFF

OA Damper Pos	**0 %**	**Exhaust**	**0 %**
		Exhaust Fan	**OFF**

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Used With: All Units when an economizer and Power Exhaust with Statitrac is installed
Factory Presets: OA Damper Pos: 0%
Exhaust: 0%
Exhaust Fan: OFF
Possible Values: OA Damper: 0 to 100%
Exhaust: 0% to 100%
Exhaust Fan: ON, OFF

Ventilation Override Module Output Relay
OFF

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when VOM is installed
Factory Presets: OFF
Possible Values: ON, OFF

OA Preheater State OFF

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key until the following screen is displayed.

Used With: All Units when VCM is installed
Factory Presets: OFF
Possible Values: ON, OFF

GBAS 0-5 VDC Module Relay Outputs
#1 OFF #2 OFF #3 OFF #4 OFF #5 OFF

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Used With: All Units when GBAS 0-5VDC is installed
Factory Presets: OFF
Possible Values: 1, 2, 3, 4, 5 = ON, OFF

Status/Annunc Test Sys On (Blinking)
Heat: OFF Cool: OFF Service: OFF

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Used With: All Units
Factory Presets: OFF
Possible Values: HEAT = ON, OFF
COOL = ON, OFF
SERVICE = ON, OFF

Start Test In 5 Seconds
Press TEST START To Begin, STOP To Halt

1. Press the + or - key until the proper value is displayed.
2. Press the ENTER key to confirm this choice.
3. Press the NEXT key to advance the cursor.
4. Repeat steps 1 and 2 for the next value.
5. Press the NEXT key until the following screen is displayed (if applicable).

Used With: All Units
Factory Presets: 5 Seconds
Possible Values: 0 to 120 Seconds

DIAGNOSTICS Menu

The DIAGNOSTICS menu is used to view diagnostics that have resulted from system failures within the unit. There are two lists where diagnostics reside; the Active list, and the Diagnostic Event Log.

The Active list is used for viewing all active diagnostics and for clearing manually resetable diagnostics. These lists of diagnostics are displayed after pressing the DIAGNOSTICS key if active diagnostics are present.

Active manual diagnostics can be cleared in batch form at the unit mounted Human Interface. When an Active diagnostic is manually or automatically cleared, it is removed from this buffer. Automatically resetting diagnostics can not be reset by the Human Interface, because the condition that caused the diagnostic has to be corrected for the diagnostic to clear.

The word “MORE” is displayed on all screens if more than one diagnostic exist, except for the last diagnostic. Upon reaching the last diagnostic, the word “MORE” disappears. Pressing the NEXT key at this point causes the display to advance to the first diagnostic in the Diagnostic Event Log.

The Diagnostic Event Log screens are displayed after scrolling through the Active list or after pressing the DIAGNOSTICS key when no active diagnostics are present. It’s used to view the past 20 diagnostics. Diagnostics in this log are stacked in inverse chronological order, with the first diagnostic screen being the most recently reported diagnostic.

When a new diagnostic is displayed, the words “NOT VIEWED” are displayed with it. After viewing the last unviewed diagnostic, the words “NOT VIEWED” change to “VIEWED” for every diagnostic in the log. The diagnostic will remain this way as long as it is in the log. This allows the operator to distinguish between old and new diagnostics in the Event Log.

Pressing the NEXT key after reaching the last diagnostic in the Event Log advances the display to the first diagnostic in the Active list if any exist. If not, the display reverts back to the first Event Log diagnostic. If the Diagnostic Event Log is full (20 events), and another diagnostic occurs, the oldest diagnostic is pushed off the end of the list. If all 20 diagnostics in the list are active when the 21st occurs, then the oldest Active diagnostic is pushed off the end of the list. When an Active diagnostic is automatically or manually cleared in the Active buffer, its status in the Diagnostic Log changes from Active to History. If the operator does not clear an active diagnostic in the Active log, its status will still show as active in the Diagnostic Log.

When a diagnostic screen is displayed for more than four hours without a key being pressed, the screen will return to the operating status display.

One of the following screens will be the first screen displayed when the DIAGNOSTIC" key is pressed.

Diagnostic Menu ---- Info
No Active Diagnostics (NEXT) History Log

OR

Press CANCEL to Clear All Active Manual Diagnostics, or Press NEXT to View

1. Pressing the "CANCEL" key to clear the diagnostics will prompt the following screen.

Diagnostic Reset Is Password Protected
Please Enter Password: _____

Used With: All Units
Factory Presets: N/A
Possible Values: + (Plus) and - (Minus)

1. Press the + (Plus) or - (Minus) keys to enter the password
2. Press the ENTER key to confirm this choice. When the correct password is entered, the following screen will be displayed.

Resetting Active Manual Diagnostics
Sending Reset Request

and then the following screen will be displayed

Resetting Active Manual Diagnostics
Updating Unit Data, Please Wait

and then the following screen will be displayed

Active Diagnostic ---- Info
Please Wait, Unit Is In Reset Mode

OR

3. Pressing the "NEXT" key to view the diagnostics will prompt the following screen if a "MANUAL RESET" failure has occurred.

Active Diagnostic ---- Manual Reset
More

Used With: All Units
Factory Presets: N/A

The word MORE will only appear if more than one failure has occurred.

Possible Values:

Compressor Contactor Fail - Ckt 1
Compressor Contactor Fail - Ckt 2
Compressor Trip - Ckt 1
Compressor Trip - Ckt 2
Emergency Stop
Exhaust Fan Failure
Low Air Temperature Limit Trip
Low Pressure Control Open - Ckt 1
Low Pressure Control Open - Ckt 2
Manual Reset SA Static Pressure Limit
Supply Fan Failure

OR

Pressing the "NEXT" key to view the diagnostics will prompt the following screen if an "AUTO RESET" failure has occurred.

Used With: All Units
Factory Presets: N/A

Active Diagnostic ---- Auto Reset
More

The word MORE will only appear if more than one failure has occurred.

Possible Values:

Auto Reset SA Static Pres Limit
CO_2 Sensor Failure
Cond Temp Sensor Failure - Ckt 1,
Cond Temp Sensor Failure - Ckt 2,
ECEM Communications Failure,
Evap Temp Sensor Failure - Ckt 1,
Evap Temp Sensor Failure - Ckt 2,
GBAS 0-5VDC Module Comm Failure,
Heat AUX Temp Sensor Fail,
Heat Module Comm Failure,
MCM Communications Failure,
Mode Input Failure,
NSB Panel Comm Failure,
NSB Panel Zone Temp Sensor Fail
OA Humidity Sensor Failure,
OA Temp Sensor Failure,
Occ Zone Cool Setpoint Failure,
Occ Zone Heat Setpoint Failure,
RA Humidity Sensor Failure,
Return Air Temp Sensor Failure,
RTM AUX Temp Sensor Failure,
RTM Zone Temp Sensor Failure,
SCM Communications Failure,
Space Pressure Sensor Failure,
Space Static Pres Setpt Failure,
Supply Air Pres Sensor Failure,
Supply Air Pres Setpt Failure,
Supply Air Temp Cool Setpt Fail,
Supply Air Temp Heat Setpt Fail,
Supply Air Temp Sensor Failure,
BAS Module Comm Failure,
BAS/NETWORK Comm Failure,
Unit HI Communications Failure,
Unocc Zone Cool Setpt Failure,
Unocc Zone Heat Setpt Failure,
VCM Aux. Temp Sensor Failure
VCM Module Comm Failure
Velocity Pressure Sensor Failure
VOM Communications Failure,

OR

Pressing the "NEXT" key to view the diagnostics will prompt the following screen if an "Information Only" failure has occured.

Active Diagnostic ---- Info	
	More

Used With: All Units
Factory Presets: N/A
Possible Values: Heat Fail, Dirty Filter, Ventilation Override Mode A, B, C, D, or E, Rooftop Module Data Storage Error

The word MORE will only appear if more than one failure has occured.

Note: Activation of any VOM Mode can be viewed within the "Active Diagnostic" screen.

and then the following screen will be displayed

Log 1	

Used With: All Units
Factory Presets: N/A
Possible Values: Log Number 1-20, Viewed or Not Viewed, Active or History, Manual, Auto, or Info., Any diagnostic listed under the previous screens associated with the type of diagnostic including VOM activated Mode.

1. Pressing the "CANCEL" key to clear the diagnostics will prompt the following screen.

Diagnostic Log Is Password Protected
Please Enter Password:

Used With: All Units
Factory Presets: N/A
Possible Values: + (Plus) and - (Minus)

1. Press the + (Plus) or - (Minus) keys to enter the password
2. Press the ENTER key to confirm this choice. When the correct password is entered, the following screen will be displayed.

Active Diagnostics	
Please Wait, Updating Diagnostic Log	

Used With: All Units
Factory Presets: N/A
Possible Values: Manual, Auto, or Info

If the "DIAGNOSTIC LOG" is empty when the "CANCEL" key is pressed, the following screen will be displayed.

Active Diagnostics ---- Info
"Diagnostic Buffer Is Already Empty !"

Used With: All Units
Factory Presets: N/A
Possible Values: Manual, Auto, or Info

Press the AUTO or STOP key to return to the top level status screen.

Failure Modes

When any condition results in the rooftop unit's inability to perform a normal function, it is said to have entered a failure mode. There are two types of failure modes.

1. An "Analog input out of range" failure mode.

   This failure mode occurs when a sensing device such as a zone temperature sensor or a humidity sensor begins to transmit information that is outside its allowable range.

2. A "Fault recognition by input logic" failure mode.

   This failure mode occurs when the UCM receives information that does not "make sense" or does not conform to its predefined logic.

Communications Link Problems

If one of these messages appear on the Human Interface screen, that Human Interface is not communicating with the unit.

LOCAL HI COMMUNICATIONS LOSS
CHECK COMM LINK WIRING BETWEEN MODULES

Used With: All Units with Local HI
Problem: The Unit Mounted (Local) Human interface has lost communications with the RTM. See "Fail Diagnostic" for additional information.
Check: Wiring between Unit Mounted (Local) Human Interface and RTM. Verify crimping and polarity of communications wiring. There should be no loose connections or crimps on wire insulation.

OR

REMOTE HI COMMUNICATIONS LOSS
CHECK COMM LINK WIRING TO UNIT NUMBER 3

Used With: All Units with Remote Human Interface
Possible Values: Unit Number 1 through 4
Problem: The Remote Human Interface has lost communications with the unit whose number is specified (#3 in this example).
Check: Field/unit wiring between Remote Human Interface and the IPCB on the unit number specified. Also, verify wiring between the IPCB and RTM of the unit whose number is specified. Verify crimping and polarity of communications wiring. There should be no loose connections or crimps on wire insulation.

If one of these messages appear on the Human Interface screen, the link is noisy or there is another Human Interface of the same type on the link.

IMPROPER HUMAN INTERFACE CONFIGURATION
MORE THAN ONE LOCAL HI ON LINK

Used With: All Units with Local HI
Problem: Noisy Communications link or a second Local HI has been installed on the link.
Check: Wiring between Unit Mounted (Local) Human Interface and RTM. Verify crimping of communications wiring. There should be no loose connections or crimps on wire insulation. If a Remote HI was installed, verify that a Local HI was not installed by mistake.

OR

IMPROPER HUMAN INTERFACE CONFIGURATION
MORE THAN ONE REMOTE HI ON LINK

Used With: All Units with Remote Human Interface
Problem: Noisy Communications link or a second Remote HI has been installed on the link.
Check: Field/Unit wiring between Remote Human Interface and the IPCB and RTM. Verify crimping of communications wiring. There should be no loose connections or crimps on wire insulation. Verify that no other Remote HI's have been connected to the same communications link/unit.

Diagnostics

There are four types of diagnostics:

1. (PMR) Partial System Disable, Manual Reset
2. (PAR) Partial System Disable, Auto Reset
3. (INFO) Information Only
4. (HO) History Only

The following Troubleshooting chart list possible Failure Modes and:

1. The Diagnostic Displayed on the Human Interface's LCD screen and if it is a PMR, PAR, INFO or HO diagnostic.
2. The condition which caused the failure mode to occur or the Reason for Diagnostic.
3. The UCM's Reaction to the failure mode.
4. The Reset Required to remove the diagnostic.

DIAGNOSTIC DISPLAYED	REASON FOR DIAGNOSTIC	UCM'S REACTION	RESET REQUIRED
Auto Reset SA Static Pressure Limit Problem: The Supply Air Static Pressure went too high.	The SA static pressure exceeded the SA static pressure limit setpoint for at least one second continuously.	A "Supply Air Pressure Shutdown" signal is sent to the following functions; a. Compressor Staging Control, b. Economizer Actuator Control, c. Heat Operation.	(PAR) An automatic reset occurs after the Inlet Vanes have closed. The Supply Fan will not be allowed to restart for 15 seconds after the diagnostic has occurred.
Compressor Contactor Fail - Circuit 1 (20-30 ton units) Compressor Contactor Fail - Circuit 1 (Circuit #1 40-130 Ton units) Problem: The Compressor Contactor for Circuit. #1 has malfunctioned.	The circuit #1 compressor proving input is detected closed continuously for more than 3 seconds while neither compressor output on circuit #1 is closed.	A "Lockout Circuit #1 request is issued to the Compressor Staging Control function.	(PMR) A manual reset is required after the disgnostic is set. It can be reset by the HI or Tracer, or by cycling power to the RTM.
Comp Contactor Fail - Circuit 2 (Ckt #2 40-130 Ton units) Problem: The Compressor Contactor for Circuit. #2 has malfunctioned.	The circuit #2 compressor proving input is detected closed continuously for more than 3 seconds while neither compressor output on circuit #2 is closed.	A "Lockout circuit #2 request is issued to the Compressor Staging Control function.	PMR) A manual reset is required after the disgnostic is set. It can be reset by the HI or Tracer, or by cycling power to the RTM.
Compressor Trip - Circuit 1 (20-30 ton units) Compressor Trip - Circuit 1 (Circuit #1 40-130 Ton units) Problem: The Compressor Circuit #1 has tripped.	The circuit #1 compressor proving input is detected open continuously for more than 3 seconds when either or both compressor outputs on circuit #1 are energized (as described in the Compressor Protection function).	A "Lockout circuit #1" request is issued to the Compressor Staging Control function.	(PMR) A manual reset is required after this diagnostic occurs. The Diagnostic can be reset by the unit mounted Human Interface Module or Tracer, or by cycling power to the RTM.
Compressor Trip - Circuit 2 (Circuit #2 40-130 ton units) Problem: The Compressor Circuit #2 has tripped.	The circuit #2 compressor proving input is detected open continuously for more than 3 seconds when either or both compressor outputs on circuit #2 are energized (as described in the Compressor Protection function).	A "Lockout circuit #2" request is issued to the Compressor Staging Control function.	(PMR) A manual reset is required after this diagnostic occurs. The Diagnostic can be reset by the unit mounted Human Interface Module or Tracer, or by cycling power to the RTM.

DIAGNOSTIC DISPLAYED	REASON FOR DIAGNOSTIC	UCM'S REACTION	RESET REQUIRED
Cond Temp Sensor Failure - Circuit 1 (20-30 ton units) Cond Temp Sensor Failure - Circuit 1 (Circuit #1 40-130 Ton units) Problem: The Saturated Condenser Temperature Input is out of range for Circuit #1. Check: Sensor resistance should be between 830 ohms (200 F) and 345.7Kohms (-40 F). If so, check field/unit wiring between Sensor and MCM/SCM.	The unit is reading a signal that is out of range for the circuit #1 Saturated Condenser Temperature sensor. (Temp < -55 F or Temp > 209 F).	A "Lockout Circuit # 1" request is issued to the Compressor Staging Control function.	(PAR) An automatic reset occurs after the #1 Condenser Temp input returns to its allowable range within 10 seconds.
Cond Temp Sensor Failure - Circuit 2 (Circuit #2 40-130 Ton units) Problem: The Saturated Cond. Temp Input is out of range for Circuit #2. Check: Sensor resistance should be between 830 ohms (200 F) and 345.7Kohms (-40 F). If so, check field/unit wiring between Sensor and MCM.	The unit is reading a signal that is out of range for the circuit #2 Saturated Condenser Temperator sensor. (Temp < -55 F or Temp > 209 F).	A "Lockout Circuit #2" request is issued to the Compressor Staging Control function.	(PAR) An automatic reset occurs after the #2 Condenser Temp input returns to its allowable range within 10 seconds.
CO2 Sensor Failure Problem: The VCM CO2 sensor input signal is out of range. Check: Check field/unit wiring between Sensor and VCM.	The unit is reading a signal that is out of range for the CO2 Sensor transducer input.	The CO2 Reset Function is disabled.	(PAR) An automatic reset occurs after the CO2 Sensor transducer input receives a signal that is within range for 10 continuous seconds.
Dirty Filter Problem: There is a Dirty Filter.	The filter switch input on the RTM is closed for more than 60 seconds continuously.	An Information Only Diagnostic is set.	(INFO) An automatic reset occurs after the Dirty Filter input reopens for 60 continuous seconds.

DIAGNOSTIC DISPLAYED	REASON FOR DIAGNOSTIC	UCM'S REACTION	RESET REQUIRED
ECEM Communications Failure Problem: The RTM has lost communications with the ECEM. Check: Check field/unit wiring between RTM and ECEM Module.	The RTM has lost communications with the ECEM.	If the unit has the Comparative Enthalpy option, the Economizer Enable r.e. Enthalpy function will revert to Level 2 enthalpy comparison. On units with Statitrac; a. Space pressure control is deactivated, b. the Exhaust Fan Control function receives an "Exhaust Fan Fail" command, c. the Exhaust Damper control function receives a "Close Damper" request, and d. The Outside Air Damper	(PAR) An automatic reset occurs after communication has been restored.
Emergency Stop Problem: The Emergency Stop input is open.	An open circuit has occurred on the Emergency Stop input caused either by a High Duct Temp T-stat trip, or the opening of field-provided contacts, switch, etc...	"OFF or "Close" requests are issued as appropriate to the following functions; a. Compressor staging/Chilled Water Cooling control b. Heat operation c. Supply fan control and proof of operation d. Exhaust fan control and proof of operation. e. Exhaust actuator control f. Outside Air Damper Control g. On VAV units, IGV/VFD control	(PMR) A manual reset is required after the Emergency Stop input recloses. The Diagnostic can be reset by the Human Interface or Tracer or by cycling power to the RTM.
Exhaust Fan Failure Problem: There is no exhaust airflow indication after the exhaust fan has been requested on. Check: Check belts, linkages, etc. on the Exhaust Fan assembly. If these are ok, check field/unit wiring between RTM and Exhaust Fan. If Exhaust Fan will run in service mode, then verify airflow proving	The unit has power exhaust and the Exhaust Proving input is detected OPEN for 40 continuous seconds during any period of time in which the Exhaust Fan binary output is ON. ***Note: If StatiTrac or an ECEM is installed but not communicating, Exhaust Fan Failure will appear as an active diagnostic at all times.***	A "minimum position" request is issued to the Economizer Actuator Control function. And a "Fan off" request is issued to the Exhaust Fan Control function.	(PMR) A manual reset is required anytime after the Diagnostic is set. The Diagnostic can be reset by the Human Interface or Tracer, or by clyling power to the RTM.

DIAGNOSTIC DISPLAYED	REASON FOR DIAGNOSTIC	UCM'S REACTION	RESET REQUIRED
Evaporator Temperature Sensor Failure - Circuit 1 (20-30 ton units) Evaporator Temperature Sensor Failure - Circuit 1 (Circuit #1 40-130 Ton units) Problem: The Evaporator Temperature Sensor (Circuit #1) is out of range. Check: Sensor resistance should be between 830 ohms (200 F) and 345.7Kohms (-40 F). If so, check field/unit wiring between Sensor and MCM/SCM.	The unit is reading a signal that is out of range for the circuit #1 Evaporator Temperature sensor input (Temp < -55 F or Temp > 209 F).	The Coil Frost Protection function for refrigeration circuit #1 only is disabled.	(PAR) An automatic reset occurs after the #1 Evaporator Temperature input returns to its allowable range for 10 seconds.
Evaporator Temperature Sensor Failure - Circuit 2 (Circuit #2 40-130 Ton units) Problem: The Evaporator Temperature Sensor (Circuit #2) input is out of range. Check: Sensor resistance should be between 830 ohms (200 F) and 345.7Kohms (-40 F). If so, check field/unit wiring between Sensor and MCM.	The unit is reading a signal that is out of range for the circuit #2 Evaporator Temperature sensor. (Temp < -55 F or Temp > 209 F).	The Coil Frost Protection function for refrigeration circuit #2 only is disabled.	(PAR) An automatic reset occurs after the #2 Evaporator Temperature input returns to its allowable range for 10 seconds.

DIAGNOSTIC DISPLAYED	REASON FOR DIAGNOSTIC	UCM'S REACTION	RESET REQUIRED
GBAS 0-5VDC Module Communications Failure Problem: The RTM has lost communications with the GBAS Module. Check: Check field/unit wiring between RTM and GBAS.	The RTM has lost communications with the GBAS Module.	The UCM will initiate the following actions; a. If the Demand Limit input was closed prior to the communications loss, then the Demand Limit commands issued to the Heat Operation function (if applicable) and the Compressor Staging/Chilled Water Cooling function will be cancelled. b. If any of the GBAS setpoint control parameters are the HI-selected setpoint sources, then those setpoints will revert to the default HI setpoints. c. Any active GBAS output control parameters will be ignored. d. A failsafe function in the GBAS module will cause all GBAS outputs to be zeroed and de-energized.	(PAR) An automatic reset occurs after communication has been restored.
Heat Failure Problem: The Heat has Failed. (Gas or Electric heat unit) Typically, this is because the gas heater's ignitor failed to light the gas, or because the electric heat section became too hot.	The Heat Fail input on the Heat module was closed: a. for more than 80 seconds, b. for 10 consecutive occurrances (each lasting 5 seconds or more) within a 210 second period.	An Information Only diagnostic is set.	(INFO) An automatic reset occurs after the Heat Fail input remains open for 210 seconds continuously.
HEAT Mod Aux Temp Sensor Fail (formerly: MWU Zone Sensor Fail) Problem: The HEAT Mod Aux Temp Sensor Input is out of range. Check: Sensor resistance should be between 830 ohms (200 F) and 345.7Kohms (-40 F). If so, check field/unit wiring between Sensor and HEAT Module.	At least one enabled unit function has the HEAT Module Auxillary Temperature input designated as its sensor, and the unit is reading a signal that is out of range for this input (Temp < -55 F or Temp > 209 F).	The functions that designated the Heat Module Auxillary Temperature Input as their input are disabled.	(PAR) An automatic reset occurs after the Heat Module Auxillary Temperature input returns to its allowable range for 10 seconds.

DIAGNOSTIC DISPLAYED	REASON FOR DIAGNOSTIC	UCM'S REACTION	RESET REQUIRED
Heat Module Communication Failure Problem: The RTM has lost communications with the Heat Module. Check: Check field/unit wiring between RTM and Heat Module.	The RTM has lost communications with the Heat Module.	An "All Heat Off" request is sent to the Heat Operation function. If the unit has staged gas or electric heat, all Heat Module outputs will be zeroed and deenergized. If the unit has Hydronic Heat or Chilled Water installed, the unit will turn off the Supply fan and close the Outside Air Damper upon the occurrance of a HEAT Module comm failure. A failsafe function in the Heat Module will cause all water valves to be set to 100% to provide full water flow. Unless used for switching purposes (Air Handlers with Chilled Water and Mod Gas, or Chilled Water and Hydronic Heat) all binary outputs will be deenergized.	(PAR) An automatic reset occurs after communication has been restored.
Low Air Temperature Limit Trip (formerly: Freezestat Trip) Problem: The Low Air Temperature Limit has Tripped. (Units with Steam or Hot Water heating, or Air Handlers with Chilled Water Cooling)	A Low Air Temperature Limit Trip is detected continuously for more than one second. This can occur if the Hydronic Heat Low Air Temperature Limit input closes for > 1 second, or if the Chilled Water Low Air Temperature Limit Trip input opens for > 1 second. On units with both Hydronic Heat and Chilled water, both Low Air Temperature Limit inputs are active, and the unit will respond in the same manner regardless of which input is used.	The UCM will initiate the following actions; a. An "Open All Water Valves" request is issued to the Heat Module function, causing any Steam, Hot Water, or Chilled Water valves on the unit to open. b. An "All Heat OFF" request is issued to the Heat Control function. c. A "Fan Off" request is sent to the Supply Fan Control function. d. A "Close Damper" request is sent to the Economizer Actuator Control function.	(PMR) A manual reset is required after the Low Air Temperature Limit Trip condition clears. The Diagnostic can be reset at the unit mounted Human Interface, by Tracer, or by cycling power to the RTM.

DIAGNOSTIC DISPLAYED	REASON FOR DIAGNOSTIC	UCM'S REACTION	RESET REQUIRED
Low Pressure Control Open - Circuit 1 (20-30 ton units) Low Pressure Control Open - Circuit 1 (Ckt #1 40-130 Ton units) Problem: The Low Pressure Control (LPC) for Circuit #1 is open. Check: State of refrigerant charge for circuit #1.	The Circuit # 1 LPC input is detected open as described in the Compressor Protection function.	A "Lockout Circuit # 1" request is issued to the Compressor Staging Control function.	(PMR) A manual reset is required anytime after the Diagnostic is set. The Diagnostic can be reset by the Human Interface or Tracer, or by cycling power to the RTM.
Low Pressure Control Open -Circuit 2 (Circuit #2 40-130 Ton units) Problem: The Low Pressure Control (LPC) for Circuit #2 is open. Check: State of refrigerant charge for circuit #2.	The Circuit # 2 LPC input is detected open as described in the Compressor Protection function.	A "Lockout Circuit # 2" request is issued to the Compressor Staging Control function.	(PMR) A manual reset is required anytime after the Diagnostic is set. The Diagnostic can be reset by the Human Interface or Tracer, or by cycling power to the RTM.
Manual Reset Supply Air Static Pressure Limit Problem: The Supply Air static pressure went too high for the third consecutive time.	The Auto Reset Supply Air Static Pressure Limit diagnostic has occurred for the 3rd time while the unit is operating in any mode.	A "Supply Air Pressure Shutdown" signal is sent to the following functions; a. Compressor Staging Control, b. Economizer Actuator Control, c. Heat Operation, d. Supply Fan Control, e. IGV / VFD Control, f. Exhaust Fan Control g. Exhaust Actuator Control	(PMR) A manual reset is required and can be accomplished at the Human Interface or by Tracer, or by cycling the power to the RTM.
MCM Communications Failure (40-130 Tons) Problem: The RTM has lost communications with the MCM. Check: Check field/unit wiring between RTM and MCM.	The RTM has lost communications with the MCM.	A "Lockout" request is sent to the Compressor Staging Control function. And a failsafe function in the MCM will cause all MCM outputs to be zeroed and deenergized.	(PAR) An automatic reset occurs after communication has been restored.

DIAGNOSTIC DISPLAYED	REASON FOR DIAGNOSTIC	UCM'S REACTION	RESET REQUIRED
MODE Input Failure Problem: The RTM Mode input is out of range. Check: Mode input resistance should be between 1 Kohm and 40 Kohms. If so, check field/unit wiring between Sensor and RTM.	The mode input signal on the RTM is out of range (R < 1k ohm or R > 40k ohm).	The system mode reverts to the default (HI set) System Mode.	(INFO) An automatic reset occurs after the Mode input returns to its allowable range for 10 seconds.
NSB Panel Zone Temp Sensor Failure Problem: The NSB panel's zone temp sensor input is out of range. (This input is at the NSB Panel, not on the Rooftop unit itself). Check: If have an external sensor connected to the NSB Panel Zone Sensor input, then the internal NSB Panel zone sensor should be disabled. Verify sensor resistance. If in valid range, check wiring between Sensor and NSB Panel.			
NSB Panel Communication Failure Problem: The RTM has lost communications with the Night SetBack Panel (programmable zone sensor). Check: Field/unit wiring between RTM and NSB Panel.	The RTM has lost communications with the NSB panel.	The unit reverts to the next lower priority mode switching source (typically the HI default mode). If the NSB Panel Zone Sensor is the designated sensor source for any functions, those functions are disabled.	(PAR) An automatic reset occurs after communication has been restored.
OA Humidity Sensor Failure Problem: The Outside Air Humidity sensor data is out of range. Check: Check field/unit wiring between Sensor and RTM.	The unit is reading a signal that is out of range for the Outside Air humidity sensor (Humidity < 5% or Humidity > 100%).	The Economizer Enable r.e Enthalpy function reverts to Dry-Bulb Temperature changeover ("Level 1") control.	(PAR) An automatic reset occurs after the OA Humidity input returns to its allowable range for 10 seconds.

DIAGNOSTIC DISPLAYED	REASON FOR DIAGNOSTIC	UCM'S REACTION	RESET REQUIRED
OA Temperature Sensor Failure Problem: The Outside Air Temperature sensor input is out of range. Check: Sensor resistance should be between 830 ohms (200 F) and 345.7Kohms (-40 F). If so, check field/unit wiring between Sensor and RTM.	The unit is reading a signal that is out of range for the Outside Air Temperature sensor input on the RTM. (Temp < -55 F or Temp > 209 F).	Unit functions that are disabled include; a. Low Ambient Compressor Lockout b. The Outside Air Damper drives to minimum position. c. On VAV units with SA Temp Reset type selected as OA Temp Reset, the Reset type reverts to NONE for the duration of the failure.	(PAR) An automatic reset occurs after the OA Temp input returns to its allowable range. In order to prevent rapid cycling of the Diagnostic, there is a 10 second delay before the automatic reset.
Occupied Zone Cool Setpoint Failure Problem: The Occupied Zone Cooling Setpoint Input out of range.	The input designated as Occupied Zone Cooling setpoint source is out of range (Temperature < 45 F or Temperature > 94 F).	The active Occupied Zone Cooling Setpoint reverts to the default Occupied Zone Cooling setpoint.	(PAR) An automatic reset occurs after the designated Occupied Zone CSP input returns to its allowable range for 10 continuous seconds, or after a different, valid Occupied Zone CSP selection source is user-defined.
Occupied Zone Heat Setpoint Failure Problem: The Occupied Zone Heating Setpoint Input is out of range.	The input designated as Occupied Zone Heating setpoint source is out of range (Temperature < 45 F or Temperature > 94 F).	The active Occupied Zone Heating Setpoint reverts to the default Occupied Zone Heating setpoint.	(PAR) An automatic reset occurs after the designated Occupied Zone HSP input returns to its allowable range for 10 continuous seconds, or after a different, valid Occupied Zone HSP selection source is user-defined.
RA Humidity Sensor Failure Problem: On units with both Air Economizer and Comparative Enthalpy Installed: The Return Air Humidity sensor input is out of range. Check: Check field/unit wiring between Sensor and ECEM.	The unit is reading a signal that is out of range for the Return Air humidity sensor (Humidity < 5% or Humidity > 100%).	The Economizer Enable r.e. Enthalpy function reverts to Reference Enthalpy changeover ("Level 2") control.	(PMR) An automatic reset occurs after the RA Humidity input returns to its allowable range continuously for 10 seconds.

DIAGNOSTIC DISPLAYED	REASON FOR DIAGNOSTIC	UCM'S REACTION	RESET REQUIRED
Return Air Temperature Sensor Failure Problem: On units with the Comparative Enthalpy option, the Return Air Temperature sensor input is out of range. Check: Sensor resistance should be between 830 ohms (200 F) and 345.7Kohms (-40 F). If so, check field/unit wiring between Sensor and ECEM.	The unit is reading a signal that is out of range for the Return Air humidity sensor (Temperature < -55 F or Temperature > 209 F).	The Economizer Enable r.e. Enthalpy function reverts to Reference Enthalpy changeover ("Level 2") control.	(PAR) An automatic reset occurs after the RA Temperature input returns to its allowable range continuously for 10 seconds.
Rooftop Module Data Storage Error Problem: There was a data transmission error. Check: This can be caused by an intermittant power loss. Turn the unit off for 1-2 minutes, then back on again. If diagnostic persists, then the RTM may need to be replaced.	An error occurred while the RTM was writing data to its internal non-volitile memory (EEPROM).	An information only diagnostic will be displayed at the Human Interface.	(INFO) A manual reset may be made at the Human Interface, at Tracer, or by cycling power to the RTM.
RTM Auxiliary Temperature Sensor Failure Problem: The RTM Auxillary Temperature sensor data is out of range. Check: Sensor resistance should be between 830 ohms (200 F) and 345.7Kohms (-40 F). If so, check field/unit wiring between Sensor and RTM.	At least one enabled unit function has the RTM Auxillary Temperature input designated as its sensor, and the unit is reading a signal that is out of range for this input (Temperature < -55 F or Temperature > 209 F).	The functions with the RTM Aux Temperature input designated as their sensor are disabled.	(PAR) An automatic reset occurs after the designated Zone Temperature input returns to its allowable range. In order to prevent rapid cycling of the Diagnostic, there is a 10 seconds delay before the automatic reset.

DIAGNOSTIC DISPLAYED	REASON FOR DIAGNOSTIC	UCM'S REACTION	RESET REQUIRED
RTM Zone Temperature Sensor Failure Problem: The RTM Zone Temperature sensor input is out of range. Check: Sensor resistance should be between 830 ohms (200 F) and 345.7Kohms (-40 F). If so, check field/unit wiring between Sensor and RTM.	At least one enabled unit function has the RTM Zone Temperature input designated as its sensor, and the unit is reading a signal that is out of range for this input (Temperature < -55 F or Temperature > 150 F).	The functions with the RTM Zone Temperature input designated as their sensor are disabled.	(PAR) An automatic reset occurs after the designated Zone Temperature signal returns to its allowable range. In order to prevent rapid cycling of the Diagnostic, there is a 10 second delay before the automatic reset.
SCM Communications Failure (20-30 Tons) Problem: The RTM has lost communications with the SCM. Check: Check field/unit wiring between RTM and SCM.	The RTM has lost communications with the SCM.	A "Lockout" request is sent to the Compressor Staging Control function. And a failsafe function in the SCM will cause all SCM outputs to be zeroed and de-energized.	(PAR) An automatic reset occurs after communication has been restored.
Space Pressure Sensor Failure Problem: The Space Pressure input signal is out of range. Check: Check field/unit wiring between Sensor and ECEM.	The unit is reading a signal that is out of range for the Space Pressure transducer input (During calibration: V < 40 mV or V > 420 mV, During operational times: V < 40 mV or V > 0.75 V).	The Space Pressure Control function is disabled, and the exhaust fan and the exhaust damper actuator are controlled as if the unit did not have Statitrac. Default exhaust enable point is used.	(PAR) An automatic reset occurs after the designated Space Pressure transducer sends a signal within range for 10 continuous seconds.
Space Static Pressure Setpoint Failure Problem: The active Space Static pressure setpoint is out of range. Check: Check Setpoint value. Also, if Space Pressure Setpoint source is GBAS, but this setpoint has not been assigned to any of the 4 analog inputs on GBAS, this message will occur.	The unit is reading a signal that is out of range for the Space Static Pressure Setpoint (Input < 0.03 IWC or Input > 0.20 IWC).	The default Space Pressure setpoint will become the active Space Pressure setpoint.	(PAR) An automatic reset occurs after the designated Space Pressure setpoint source sends a signal within range for 10 continuous seconds, or after a different Space Pressure setpoint source is user-defined.
Supply Air Pressure Sensor Failure Problem: The Supply Air Pressure sensor voltage input is out of range. Check: Check field/unit wiring between Sensor and RTM.	The unit is reading a signal that is out of range for the Supply Air Pressure sensor voltage input (Input < 40mV or Input > 4.75V)	The IGVs will drive closed, and the following functions are disabled; a. SA Pressure Control b. SA Static Pressure Limit	(PAR) An automatic reset occurs after the SA Pressure input returns to its allowable range for 10 seconds.

DIAGNOSTIC DISPLAYED	REASON FOR DIAGNOSTIC	UCM'S REACTION	RESET REQUIRED
Supply Air Pressure Setpoint Failure Problem: The Supply Air pressure input signal is out of range.	The Supply Air Pressure Setpoint input is sending a signal that is out of range (Input < 1.0 IWC or Input > 4.3 IWC)	The default Supply Air Pressure setpoint will become the active Supply Air Pressure setpoint.	(PAR) An automatic reset occurs after the designated SA Pressure setpoint source sends a signal within range for 10 continuous seconds, or after a different SA Pressure setpoint source is user-
Supply Air Temperature Cool Setpoint Failure Problem: The active Supply Air Temperature Cooling setpoint is out of range.	The input designated as the Supply Air Temperature Cooling Setpoint is out is out of range (Temperature < 35 F or Temperature > 95 F).	The default HI-set Supply Air Temperature Cooling Setpoint becomes the active Supply Air Temperature Cooling Setpoint.	(PAR) An automatic reset occurs after the SA Temp Cooling setpoint input returns to within range for 10 continuous seconds, or after a different SA temp cooling setopint selection source
Supply Air Temperature Heat Setpoint Failure Problem: The active Supply Air Temperature Cooling setpoint is out of range.	The input designated as the Supply Air Temperature Heating Setpoint is out is out of range (Temperature < 35 F or Temperature > 185 F).	The default HI-set Supply Air Temperature Heating Setpoint becomes the active Supply Air Temperature Heating Setpoint.	(PAR) An automatic reset occurs after the SA Temp Heating setpoint input returns to within range for 10 continuous seconds, or after a different SA temp heating setopint selection source is user-defined.
Supply Air Temperature Sensor Failure Problem: The Supply Air Temperature sensor input is out of range. Check: Sensor resistance should be between 830 ohms (200 F) and 345.7Kohms (-40 F). Check field/unit wiring between Sensor and RTM.	The unit is reading a signal that is out of range for the Supply Air Temperature input on the RTM (Temperature < -55 F or Temperature > 209 F).	These unit functions are disabled; a. Supply Air Tempering b. Economizing c. On CV units, the Supply Air Temperature low limit function is disabled. d. On VAV units, the Supply Air Temperature Control heating and cooling functions are disabled.	(PAR) An automatic reset occurs after the designated Supply Air Temperature input returns to its allowable range. In order to prevent rapid cycling of the Diagnostic, there is a 10 second delay before the automatic reset.
Supply Fan Failure Problem: There is no supply airflow indication after the supply fan has been requested on. Check: Check belts, linkages, etc. on the Supply Fan assembly. If these are ok, check field/unit wiring between RTM and Supply Fan. If Supply Fan will run in service mode, then verify airflow proving switch and wiring.	The supply airflow input is detected OPEN for 40 continuous seconds during any period of time in which the supply fan binary output is ON. This input is ignored for up to 5 minutes after the supply fan is first started, until airflow is first detected.	"OFF or "Close" requests are issued as appropriate to the following functions; a. Compressor staging /Chilled Water control b. Heat operation c. Supply fan control and proof of operation. d. Exhaust fan control and proof of operation e. Exhaust actuator control f. Economizer actuator control g. IGV / VFD control	(PMR) A manual reset is required anytime after the Diagnostic is set. The Diagnostic can be reset by the Human Interface or Tracer, or by cycling power to the RTM.

DIAGNOSTIC DISPLAYED	REASON FOR DIAGNOSTIC	UCM'S REACTION	RESET REQUIRED
TCI or LCI Module Communications Failure Problem: The RTM has lost communications with the TCI. Check: Check field/ unit wiring between RTM and TCI or LCI Module.	The RTM has lost communications with the TCI or LCI Module.	All active commands and setpoints provided by the network through the TCI or LCI will be cancelled and/ or ignored. Where the network has been designated as set point source, local HI default setpoints will be used.	(PAR) An automatic reset occurs after communication has been restored.
BAS/NETWORK Comm Failure Problem: The TCI or LCI has lost communications with Tracer. Check: Network (Tracer or 3rd party building control panel) is powered up and running properly. If so, check unit wiring between TCI or LCI and network (Tracer or 3rd party building control panel).	The TCI or LCI has lost communications with the Tracer for > 15 minutes.	All active commands and set points provided by the network through the TCI or LCI will be cancelled and/ or ignored. Where the network has been designated as setpoint source, local HI default set points will be used.	(PAR) An automatic reset occurs after communication between the network and TCI or LCI has been restored.
Unit HI Communications Failure Problem: The RTM has lost communications with the Unit mounted (local) Human Interface (HI). Check: Field/unit wiring between RTM and Local HI.	The RTM has lost communications with the unit-mounted Human Interface.	A failsafe function in the HI will; a. disallow any interaction between the HI and the RTM (or any other modules), b. render all HI keystrokes ineffective, and c. cause the following to be displayed on the unit-mounted HI display: LOCAL HI COMMUNICATIONS LOSS CHECK COMM LINK WIRING BETWEEN MODULES (If the unit has a remote HI option, then on the remote HI module, this diagnostic will be reported and displayed as any other automatic reset diagnostic.	(INFO) An automatic reset occurs after communication has been restored between the RTM and the HI. When the failure screen is cleared, the General display is restored and HI interaction with the interaction with the RTM is again permitted.

DIAGNOSTIC DISPLAYED	REASON FOR	UCM'S REACTION	RESET REQUIRED
Unoccupied Zone Cool Setpoint Failure Problem: The Unoccupied Zone Cooling Setpoint Input out of range.	The input designated as Unoccupied Zone Cooling setpoint source is out of range (Temperature < 45 F or Temperature > 94 F).	The active Unoccupied Zone Cooling Setpoint reverts to the default Unoccupied Zone Cooling setpoint.	(PAR) An automatic reset occurs after the designated Unoccupied Zone CSP input returns to its allowable range for 10 continuous seconds, or after a different, valid unoccupied Zone CSP selection source is user-defined.
Unoccupied Zone Heat Setpoint Failure Problem: The Unoccupied Zone Heating Setpoint Input is out of range.	The input designated as Unoccupied Zone Heating setpoint source is out of range (Temperature < 45 F or Temperature > 94 F).	The active Unoccupied Zone Heating Setpoint reverts to the default Unoccupied Zone Heating setpoint.	(PAR) An automatic reset occurs after the designated Unoccupied Zone HSP input returns to its allowable range for 10 continuous seconds, or after a different, valid unoccupied Zone HSP selection source is user-defined.
VCM Communications Failure Problem: The RTM has lost communications with the VCM. Verify: Check field/unit wiring between RTM and VCM.	The RTM has lost communications with the VCM.	All active commands and setpoints provided by the VCM will be canceled and/or ignored. A failsafe function in the VCM will cause all outputs to be deenergized and/or set to zero. The Outside Air Damper Minimum Position function will revert to using the OA Flow compensation function if OA Flow Conpensation is ENABLED or to the default minimum position function if OA Flow Compensation is DISABLED or not available.	(PAR) An automatic reset occurs after communication has been restored.
Velocity Pressure Sensor Failure Problem: The Velocity Pressure input signal is out of range. Check: Check field/unit wiring between Sensor and VCM.	The unit is reading a signal that is out of range for the Velocity Pressure transducer input (During calibration: V < 40 mV or V > 420 mV, During operational times: V < 40 mV or V > 0.75 V).	The Minimum Airflow Control Function is disabled. The Outside Air Damper Minimum Position function will revert to using the OA Flow compensation function if OA Flow Conpensation is ENABLED or to the default minimum position function if OA Flow Compensation is DISABLED or not available.	(PAR) An automatic reset occurs after the designated Space Pressure transducer sends a signal within range for 10 continuous seconds.
VOM Communications Failure Problem: The RTM has lost communications with the VOM. Verify: Check field/unit wiring between RTM and VOM.	The RTM has lost communications with the VOM.	Ventilation override actions will not be allowed, and the VO Output relay will be deenergized.	(PAR) An automatic reset occurs after communication has been restored.

DIAGNOSTIC DISPLAYED	REASON FOR	UCM'S REACTION	RESET REQUIRED
Velocity Pressure Sensor Failure Problem: The Velocity Pressure input signal is out of range. Check: Check field/unit wiring between Sensor and VCM.	The unit is reading a signal that is out of range for the Velocity Pressure transducer input (During calibration: V < 40 mV or V > 420 mV, During operational times: V < 40 mV or V > 0.75 V).	The Minimum Airflow Control Function is disabled. The Outside Air Damper Minimum Position function will revert to using the OA Flow compensation function if OA Flow Conpensation is ENABLED or to the default minimum position function if OA Flow Compensation is DISABLED or not available.	(PAR) An automatic reset occurs after the designated Space Pressure transducer sends a signal within range for 10 continuous seconds.
VOM Communications Failure Problem: The RTM has lost communications with the VOM. Verify: Check field/unit wiring between RTM and VOM.	The RTM has lost communications with the VOM.	Ventilation override actions will not be allowed, and the VO Output relay will be deenergized.	(PAR) An automatic reset occurs after communication has been restored.

Generic BAS Module	There are 4 analog inputs. Each input can be configured as one of the following definitions: the inputs 1, 2, 3, & 4 may be assigned to Occupied Zone Cooling setpoint, Occupied Zone Heating setpoint, Unoccupied Zone Cooling setpoint, Unoccupied Zone Heating setpoint, Space Static Pressure setpoint, or Minimum OA Flow setpoint. No 2 inputs can be assigned to the same definition	• None	• Demand Limit Contacts	• Dirty Filter (K1) Relay • Refrigeration Fail (K2 Relay • Heat Fail (K3) Relay • Fan Fail (K4) Relay • TBD (K5) Relay
Heat Module	• Morning Warmup Temperature Sensor	• Modulating Heat Actuator (Hydronic)	• Heat Fail Freezestat, Contacts or Relays	• Heat 1 (K1) Relay • Heat 2 (K2) Relay • Heat 3 (K3) Relay
Human Interface Module	• None	• None	• None	• None
Interprocessor Communications Bridge (IPCB) Module	• None	• None	• None	• None
LonTalk Communications Interface (LCI)	• None	• None	• None	• None

UNIT MODULE	ANALOG INPUTS	ANALOG OUTPUTS	BINARY INPUTS	BINARY OUTPU
Multiple Circuit Compressor Module (MCM)	• Evap Temperature Sensor (Ckt #1) • Evap Temperature Sensor (Ckt #2) • Saturated Condensor Temperature Sensor (Ckt #1) • Saturated Condensor Temperature Sensor (Ckt #2)	• Condensor Fan Speed (Low Ambient Ckt #1) • Condensor Fan Speed (Low Ambient Ckt #2)	• Low Pressure Control (Ckt #1) • Low Pressure Control (Ckt #2) • High Pressure Control (Ckt #1) • High Pressure Control	• Compressor Relay • Compressor Relay • Compressor Relay • Compressor Relay • Condensor Fan 1A • Condensor Fan 1B • Condensor Fan 2A • Condensor Fan 2B
Rooftop Module	• Zone Temperature Sensor • S/A Temperature Sensor • Zone Reset Temperature Sensor • O/A Temperature Sensor • Mode Input Channel (from the remote panel) • Cooling Setpoint (from the remote panel) • Heating Setpoint (from the remote panel) Supply Air Pressure Transducer • Outdoor Air Humidity Sensor	• Economizer • Inlet Vanes	• Emergency Stop • Emergency Stop • External Auto/Stop • Occupied/Unoccupied • Supply Airflow Proof • Dirty Filter • VAV Changeover	• Occupied/Unoccup Relay • Alarm Relay • Supply Fan Relay • LED 1-4 Transistor • Exhaust Fan Relay
Single Circuit Compressor Module (SCM)	• Evaporator Temperature Sensor • Saturated Condensor Temperature Sensor	• Condensor Fan Speed (Low Ambient)	• Low Pressure Control • High Pressure Control	• Compressor Relay • Compressor Relay • Condensor Fan A • Condensor Fan B
Trane Communication Interface (TCI) Module	• None	• None	• None	• None
Ventilation Override Module	• None	• None	• VOM Mode A Contacts • VOM Mode B Contacts • VOM Mode C Contacts • VOM Mode D Contacts • VOM Mode E Contacts	• VOM Relay

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