iCON Intelligence Connected™

Building Automation Solution

COMMERCIAL
PRODUCT SPECIFICATIONS

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iCON by LENNOX
INTELLIGENCE CONNECTED™

The iCON Building Automation Solution by Lennox is a complete single point monitoring and control system consisting of a High Definition iCON Local Display, iCON Mag-Mount, iCON Central Hub, iCON Building Controller, Energy Monitor and various sensor types.

The iCON system is capable of monitoring and controlling all Lennox premium rooftop units featuring the Prodigy® Unit Controller as well as Landmark® Rooftop Units, Lennox' Split Systems and Electro-Mechanically Controlled Third-Party Equipment (using the Network Thermostat Controller).

The system also connects all site equipment, including lighting, security systems, kitchen equipment, occupancy sensors, CO_2 sensors and more using the Building (IO) Controller.

The iCON Central Hub uses wired connections to control S-Bus communicating HVAC components.

A single iCON system can control and configure:

- Up to 31 Rooftop Units .
- Up to 4 Building Controllers
- Up to 8 Energy Monitoring MTUs

The iCON Central Hub uses a wired network connection to the rooftop units and building automation. Once connected, multiple rooftop units can be seen and controlled by a single iCON Central Hub.

Once connected to the local business network, iCON systems connect to iCON Remote Facilities Portal via the Internet and can be remotely accessed and controlled by the business owner or installer through a computer or mobile device.

The simple, easy-to-use, touchscreen iCON Local Display allows complete local system configuration. System warnings and troubleshooting are also displayed on the screen.

All user input collected by the iCON Local Display is sent to the iCON Central Hub for processing.

All screen data shown on iCON Local Display is received from the iCON Central Hub.

Easy to read 7 in. high definition color display (measured diagonally).

Serial communications bus (S-Bus), with less wiring than a conventional heating/cooling system, allows system communication.

High Definition Color iCON Local Display, iCON Mag-Mount, iCON Central Hub, wallplate (for retrofit installations) furnished for easy installation.

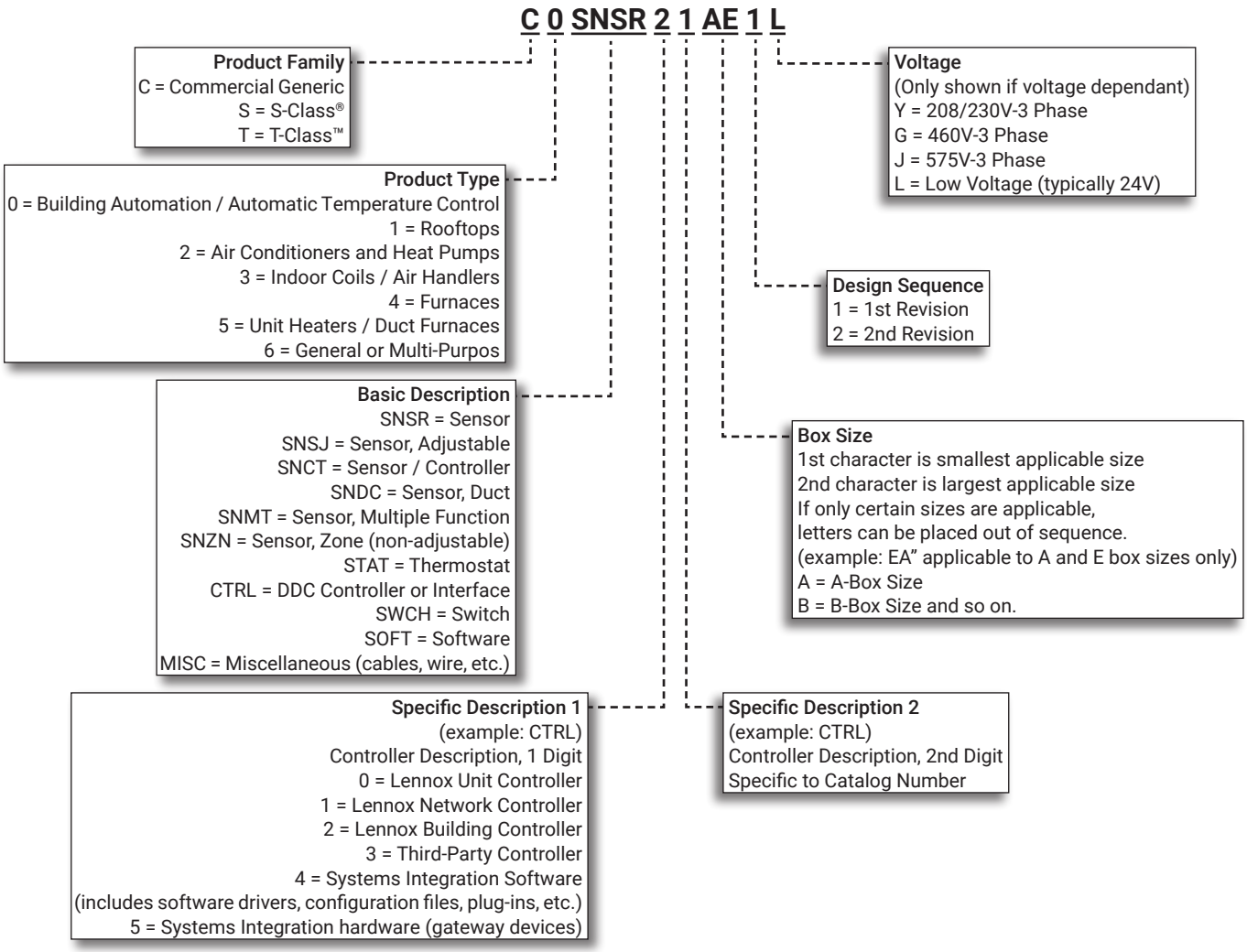
EQUIPMENT WARRANTY

- iCON (iCON Local Display, iCON Mag-Mount, iCON Central Hub) and ComfortSense® 8500 Programmable Thermostat - Limited two years
- Prodigy® Unit Controller (furnished with Energence® premium rooftop units) - Limited three years
- All other covered components - Limited one year

NOTE - Refer to Lennox Equipment Limited Warranty certificate included with unit for specific details.

CONTENTS

MODEL NUMBER IDENTIFICATION



FEATURES AND BENEFITS

Save money and time and provide a higher level of control by commanding a wide range of functions from a single location. The iCON Building Management Solution by Lennox makes it easy to manage HVAC and building operations from a single point of control, minimizing energy and maintenance costs. It was designed to enhance the functionality and performance of Lennox' premium rooftop units featuring the Prodigy® Unit Controller as well as other Lennox rooftop units and split systems. It is also fully compatible with electro-mechanically controlled third-party equipment. It's a cost-effective way to minimize your building's energy use and better manage facility operations.

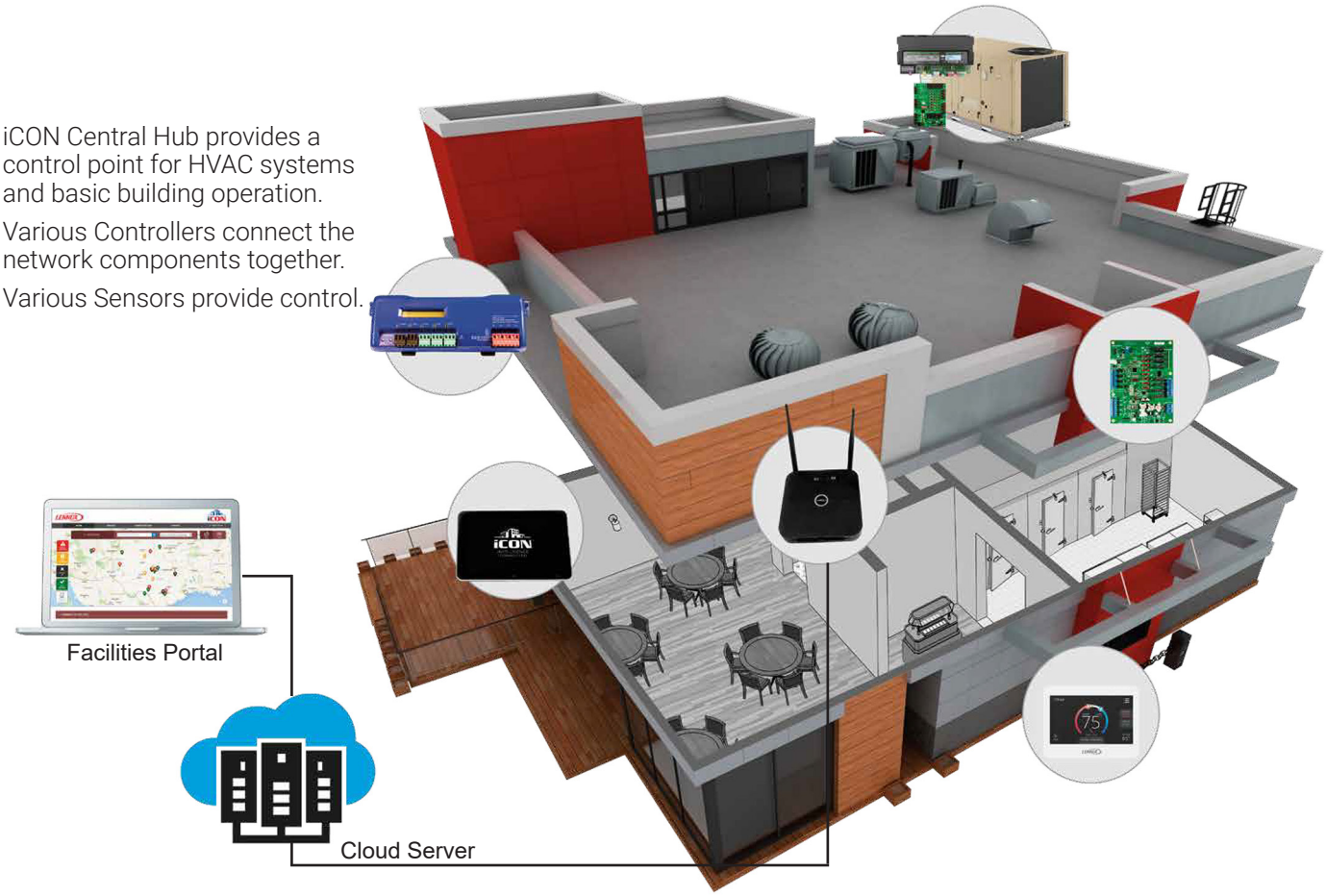
The iCON Building Management Solution not only improves building efficiency and comfort, it also helps to improve staff efficiency and productivity. Temperature setpoints can be adjusted quickly and intuitively at the iCON Local Display. For more advanced control, facility managers can access, control and troubleshoot other Lennox and electro-mechanically controlled third-party equipment along with the building's lights, signage, fire and security systems and miscellaneous equipment (kitchen equipment, etc.) using local or remote interfaces.

The iCON Local Display allows a facility manager advanced monitoring and control capabilities for troubleshooting and configuration adjustments, including scheduling, temperature set-point, humidity control and much more.

Other devices (PC and mobile devices) provide access remotely through the Internet (Internet access to Wi-Fi or Ethernet local area network (LAN) is required). This gives a facility manager or owner advanced control of their building from virtually anywhere and at any time. It also allows a servicing contractor to diagnose and troubleshoot remotely without sending someone to the site.

SYSTEM OVERVIEW

- iCON Central Hub provides a control point for HVAC systems and basic building operation.
- Various Controllers connect the network components together.
- Various Sensors provide control.



1 iCON Local Display (HD Display)

- LCD touchscreen that mounts on the iCON Mag-Mount
- Receives power from the iCON Mag-Mount and communicates to it through electrical contacts on the back of the case
- Shows system information such as room temperature, room humidity, set points, schedules, building automation and system status

- Provides a touch screen graphic interface for the user to turn features on and off, change setpoints, set up and select schedules, and adjust system parameters

2 iCON Mag-Mount

- Attaches to the wall and provides a physical attachment for the iCON Local Display
- Receives power from the iCON Central Hub and communicates to it over regular four-wire thermostat cable
- Acts as a communication bridge between the iCON Central Hub and the iCON Local Display

3 iCON Central Hub

- Typically mounts in the business office space
- Contains the main processor and controls the iCON thermostat/ display and the HVAC components that are connected to it
- Communicates with the installed HVAC equipment over regular two-wire twisted pair shielded cable (S-Bus)
- Connects to the iCON managed network through the local business network to receive firmware updates, and to provide system status information and system control capabilities to business owners remotely

SYSTEM OVERVIEW

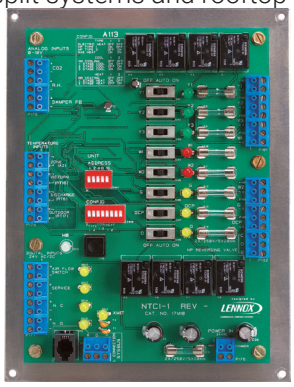
4 Prodigy® 2.0 Unit Controller (Standard on all Energence® rooftop units)

- Intuitive user interface makes setup, troubleshooting and servicing easier than ever
- Each unit tracks the runtime of every major component and records the date and time when service or maintenance is performed
- Intelligently operates the rooftop unit to help ensure reliability, maximum efficiency and comfort

5 Building (IO) Controller (Located in control room or mechanical room)

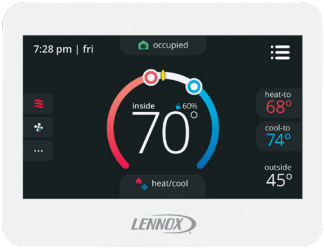
- Connects and controls all basic building operation controls such as lights, signs, security and fire systems and exhaust fans
- Configured via the iCON local Display
- Installer defines rules on the control to trigger alerts

Network Thermostat Controller (Integrates electro-mechanically controlled HVAC equipment)



- Monitors and controls Lennox' split systems and rooftop units without the Prodigy 2.0 unit controller, as well as electro-mechanically controlled third-party equipment
- Up to two-heat, three-cool capability
- Fused outputs and override switches simplify installation testing, set-up, and provide added protection

6 ComfortSense® 8500 Commercial Programmable Thermostat (Sensor)



- Models are available with or without CO_2 sensing capabilities
- Up to 4 stages of heating and cooling
- Auto changeover
- Built-in humidity sensor

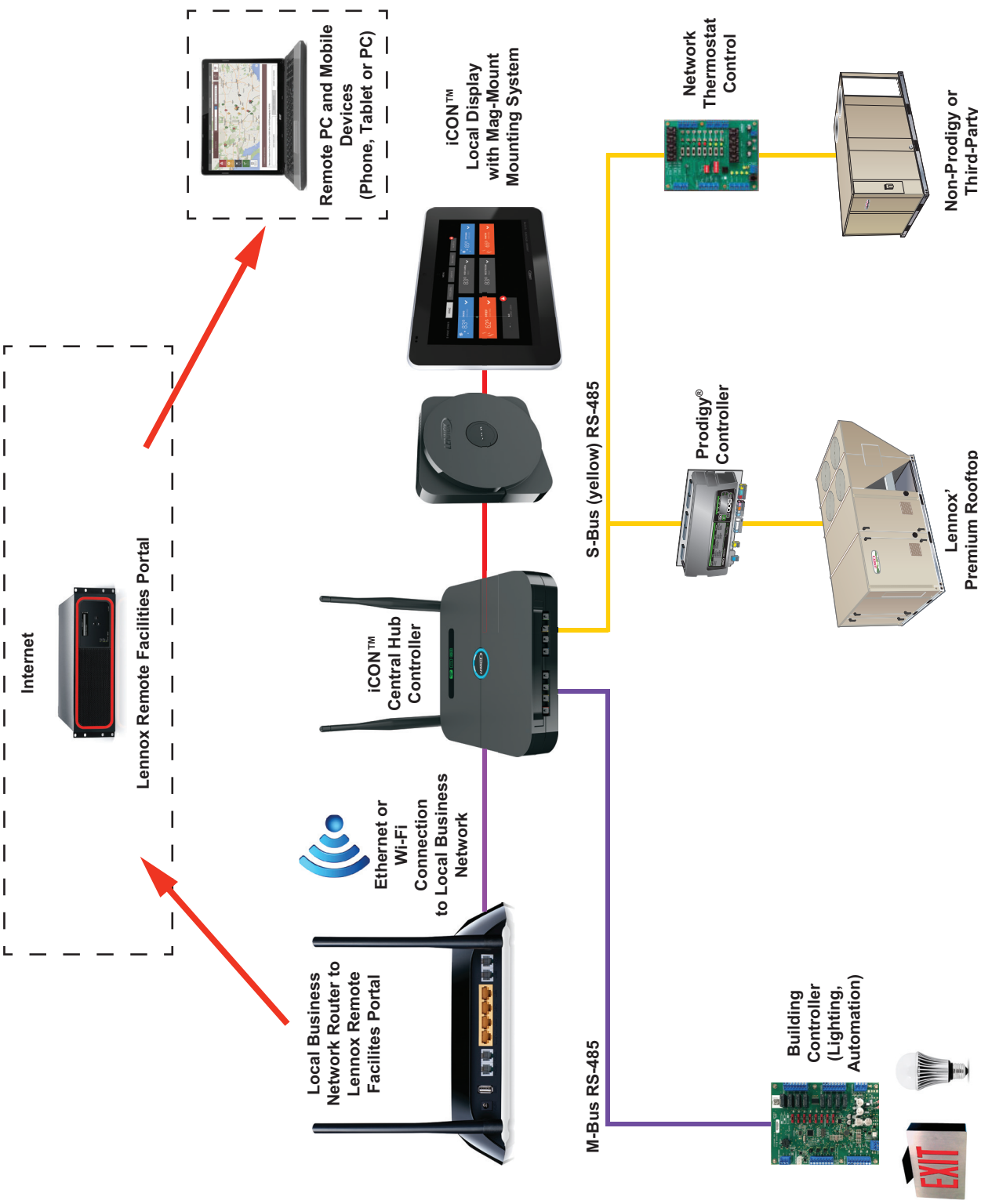
Comfort Sensor

- Temperature sensor with optional relative humidity and/or carbon dioxide sensing capabilities
- Optional LCD user interface with sensor readings and easy temperature adjustment

7 Energy Monitor

- Monitors the voltage, current, power, energy, and many other electrical parameters on single- and three-phase electrical systems
- Uses direct connections to each phase of the voltage, and uses current transformers to monitor each phase of the current
- Information on energy use, demand, power factor, line frequency, and more are derived from the voltage and current inputs
- Up to 8 energy monitors may be connected to a local network communicating to the iCon system via TCP-IP, either by LAN or Wi-Fi. Network connection must be by Ethernet to the local business LAN

TYPICAL SYSTEM COMPONENTS



INSTALLER SETTINGS

INSTALLATION WIZARD SCREEN

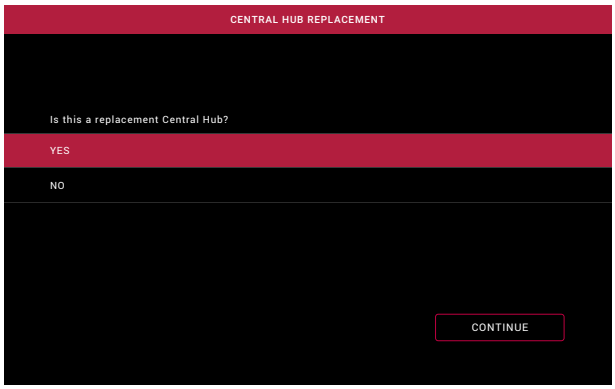
After power is applied to the display for the first time, it displays the Lennox logo screen followed by the iCON logo "splash screen" then the Language Selection screen.

Language Selection

- ENGLISH
- ESPAÑOL
- FRANÇAIS

Touch to select your language, then touch the **Next** button.

The **iCON Central Hub Replacement** Screen opens and asks if this is a replacement Central Hub. Select Yes or No, then touch **Continue**.



If yes is selected the system searches for the new iCON Central Hub and displays the new Central Hub serial number needed for the registration process.

Login to www.lennoxicon.com to complete the replacement process.

Once replacement Central Hub registration is complete there is an option screen to import a previously saved Central Hub Configuration profile using a USB device.

If no is selected the **Welcome** screen opens and displays the steps needed to complete the system setup.

- Equipment Discovery (see page 7)
- PIN Management (see page 8)
- Local Device Setup (Optional) (see page 8)

Touch the **Start** button to begin equipment discovery.

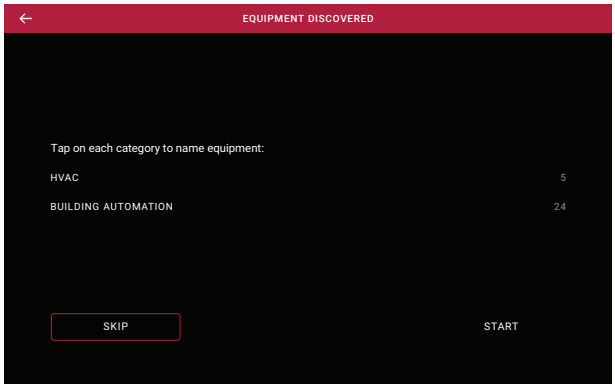
EQUIPMENT DISCOVERING SCREEN

- HVAC Equipment
- Building Automation

The Discovering Equipment Screen displays an animated search for installed HVAC and Building Automation equipment. The number of discovered devices is displayed in each circle.

Touch the **Restart Search** button to button to begin the discovery process again. Touch **Next** if finished.

EQUIPMENT DISCOVERED SCREEN



Touch the **Start** button to begin categorizing and naming equipment discovered. Touch **Skip** button to bypass this procedure.

INSTALLER SETTINGS

CONFIGURE EQUIPMENT SCREEN

Process for naming, categorizing and configuring equipment.

NOTE - Any references to ZONE and ZONE INFORMATION refers to a single HVAC unit, not conventional zoning.

Configure HVAC Equipment

- Zone (HVAC) Name(s)

Configure Building Automation Equipment

- Output and Input Name(s)
- Category(s)

Touch the **Next** button in each category to configure and name each discovered input/output type using the keyboard tool. Touch the **Back** button to go back to the previous screen.

See the Navigation and Setup Flowchart on page 15 for additional information about Inputs/Outputs Setup.

Once all inputs and outputs (digital and analog) have been named and assigned a category the screen returns to the Welcome to iCON screen and indicates the equipment discovery is completed by placing a check-mark next to it. Touch **Next** to continue.

PIN MANAGEMENT

Assigns the Installer and Manager pins for security. A four-digit code must be assigned before commissioning. Pin numbers are unique for both the installer and manager. Use the keypad to input the PIN numbers and confirm each for each role.

Installer Permissions

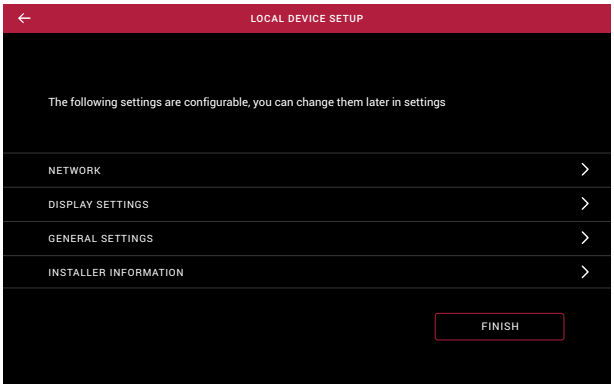
- Commissioning Access
- Schedule Configuration
- Energy Monitoring Configuration
- Custom Alert Configuration
- Input/Output Dependency Configuration

Manager Permissions

- Access to view all advanced HVAC Parameters
- Schedule Configuration and Control
- Ability to View current Energy Data

Another pin management screen will appear which will allow changing either pin before proceeding. Touch **Finish** to continue.

LOCAL DEVICE SETUP SCREEN



Network

- Connect via Wi-Fi
  - Wi-Fi Settings (default **Not Connected**)

Touch **Not Connected** to see a list of available Wi-Fi networks or to add a network connection not shown. Touch a particular network ID to connect to that network. Enter password to connect.

  - **Disabled** (default)
  - Wi-Fi
- Connect via Ethernet
  - Ethernet Settings

Typical ethernet settings are available (DCHP or Static, and manual DNS, IP Address, Router, Submask settings).

Display Settings

- Screen Saver
  - 1, 2, 5, 10 minutes or Never (default **1 minute**)
  - Brightness
  - Adjustable 0 to 100% (default **80%**)

Adjustable slider allows setting brightness to the desired level.

  - Daylight Savings (default **ON**)

General Settings

- Set System Date and Time
- Time Format (**12 hours** or 24 hours)

Date and Time is automatically set when connected to a Wi-Fi network.

- Temperature Units - Fahrenheit or Celsius (default is **Fahrenheit**)

INSTALLER SETTINGS

LOCAL DEVICE SETUP SCREEN (continued)

Installer Information

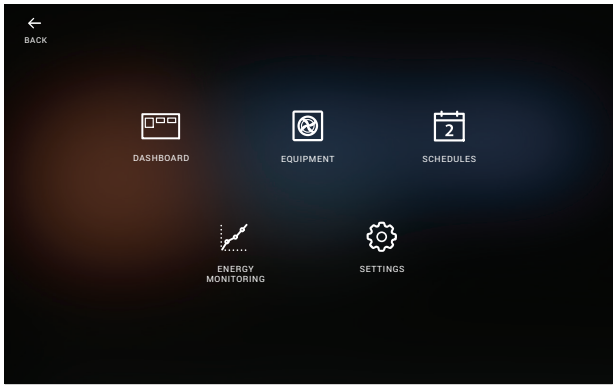
- HVAC Installer
  - Name
  - Zip Code/Postal Code
  - City
  - State
  - Country/Region
  - Address
  - Address 2
  - Phone
  - Email
  - Website

Use the keyboard tool to input installer information.

NOTE - Once the system has been configured the User can access the Dashboard Screen or Equipment screen to set Building Controller Inputs/Outputs (if not already configured during inital setup), Building Controller Auomation, Light Automation, Conditions, Dedendencies, Parameters, Alerts, Energy Monitoring and Schedules.
See Main Screen Menu on page 10

USER SETTINGS

MAIN MENU SCREEN



All control system information is accessed through the Main Menu Screen.

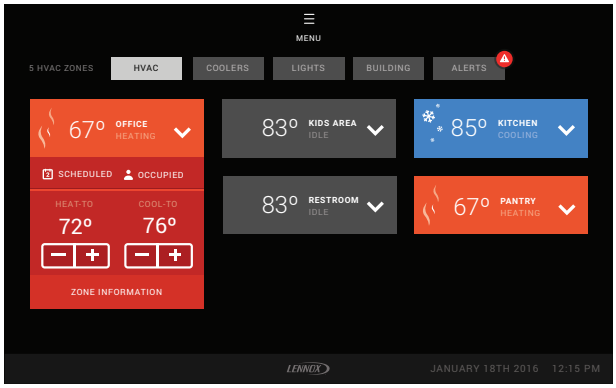
Back Button returns to the previously viewed screen.

Touch blank screen to turn on the backlight. If proximity sensor is on (approximately 12 in. range) display will turn on automatically.

- Dashboard Button (See page 10)
- Equipment Button (See page 12)
- Schedules Button (See page 13)
- Energy Monitoring Button (See page 13)
- Settings Button (See page 13)

HVAC ZONES SCREEN

(Expanded Tile Shown)



See the Navigation and Setup Flowchart on page 16 for additional information about HVAC Automation Setup.

NOTE - Any references to ZONE and ZONE INFORMATION refers to a single HVAC unit, not conventional zoning.

Buttons across the top of the screen display different control areas. Highlighted button is the active screen.

Color-coded tiles display HVAC status and current temperature (°F or °C) for each zone/unit:

- Red = Heating
- Blue = Cooling
- Gray = Blower, Idle, Lockout or Smoke Detected

Menu Button returns to the Main Menu screen.

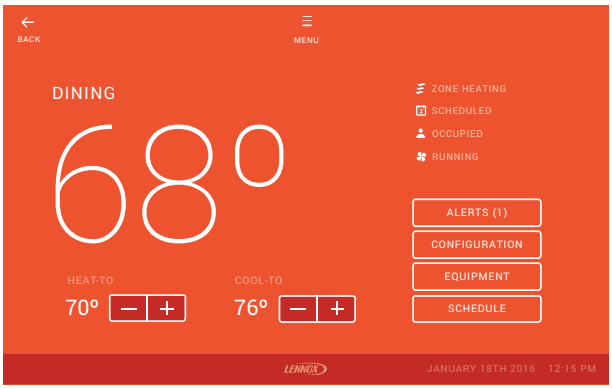
Touch an individual zone tile to expand the tile to view the current status of that area.

Quickly change **HEAT-TO** or **COOL-TO** temperatures on the tile with the Plus (+) and Minus (–) Buttons. Range is limited to coincide with the room temperatures shown on other nearby devices.

- Touch **SCHEDULED** on the tile to view the Schedule Screen
- **OCCUPIED/UN-OCCUPIED** indicates occupied/ unoccupied status
- Touch **ZONE INFORMATION** on the tile to open the HVAC Zone Screen

Any alerts will be displayed with a small red triangle. Touch to view the alert.

HVAC ZONE SCREEN



- Color-coded screen to match HVAC status.
  - Red = Heating
  - Blue = Cooling
  - Gray = Blower, Idle, Lockout or Smoke Detected
- Large display of current indoor temperature (°F or °C)
- Current Heating and Cooling Setpoints
- HEAT-TO and COOL-TO temperature adjustment with Plus (+) and Minus (–) buttons (temporary override from schedule)
- ALERTS Button (See page 12)

Alerts button displays number of alerts (if any).

- CONFIGURATION Button (See page 16)
- EQUIPMENT Button (See page 16)
- SCHEDULE Button (See page 13)

System Status Icons and messages displayed on right side of screen for various operating parameters

Up to four status icons/messages can be displayed at one time on the right side of the screen.

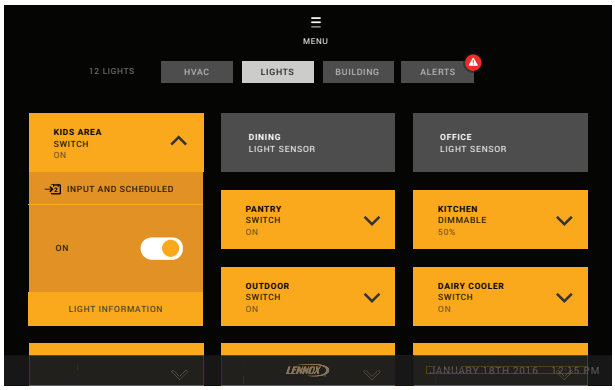
Back Button returns to previous screen.

Menu Button returns to the top level screen (in this case HVAC).

USER SETTINGS

LIGHTS SCREEN

(Expanded Tile Shown)



See the Navigation and Setup Flowchart on page 17 for additional information about Lights Automation Setup.

Displays all system lighting areas and current status.

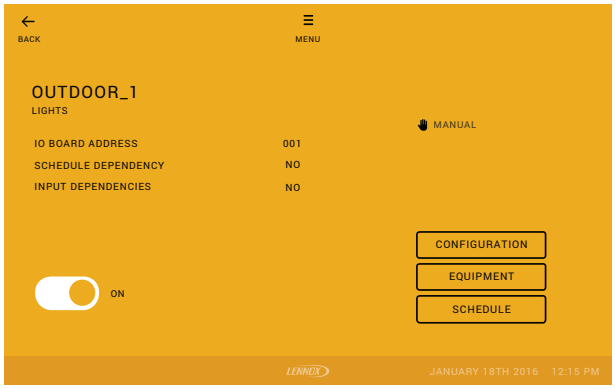
Color-coded tiles display lighting status for each zone.

If a light is not dimmable it can be turned on or off on the tile using the slide button. If a light is dimmable the intensity can be set on the tile using the Plus (+) and Minus (–) buttons.

Any alerts will be displayed with a small red triangle. Touch to view the alert.

- Touch **SCHEDULED** on the tile to view the Schedule Screen (See page 13)
- Touch **LIGHT INFORMATION** on the tile to open the Light Zone Screen (See page 11)

LIGHT ZONE SCREEN



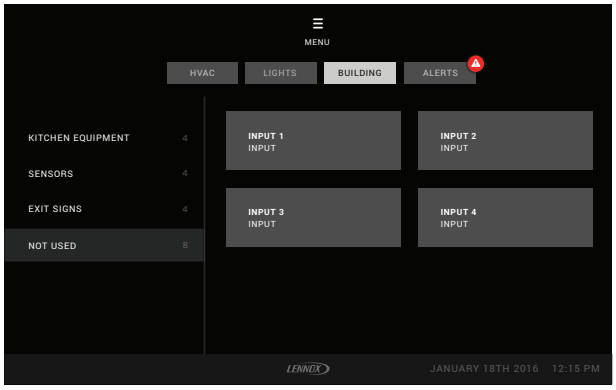
- Current lighting status
- ON/OFF slide button
- DIMMABLE Plus (+) and Minus (–) buttons (analog outputs)
- CONFIGURATION Button (See Page ??)
- EQUIPMENT Button (See Page ??)
- SCHEDULE Button (See page 13)

System Status Icons and messages displayed on right side of screen for various operating parameters.

System Information

- I/O Board Address
- Schedule Dependency
- Input Dependency

BUILDING CONTROLLER AUTOMATION SCREEN



See the Navigation and Setup Flowchart on page 18 for additional information about Building Automation Setup.

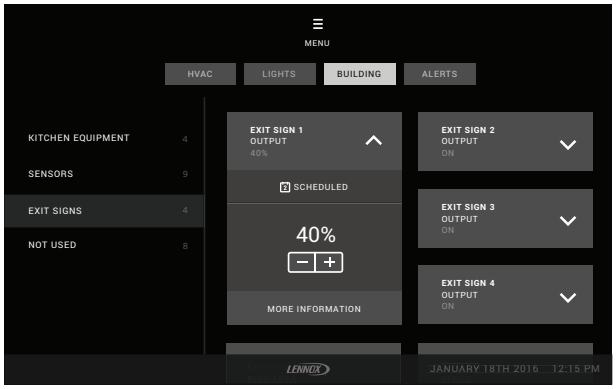
Displays all named areas that have automation settings

Click on a Name on the left to open the configuration screen for that item. Click the Input boxes to open the configuration screen.

Any alerts will be displayed with a small red triangle. Touch to view the alert.

BUILDING CONTROLLER AUTOMATION SCREEN

(Expanded Tile Shown)

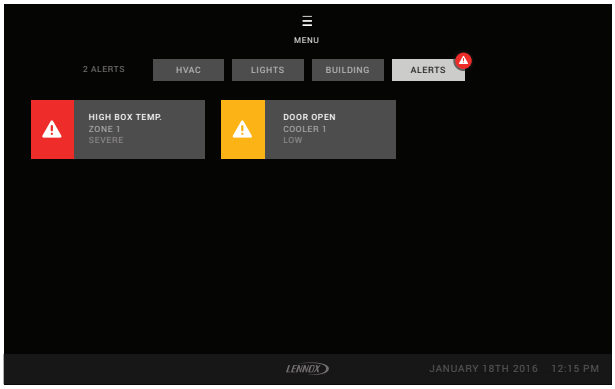


Displays basic building operations such as signs, security and fire systems and exhaust fans.

Touch an individual tile to expand the tile to view more details about the automation settings for a device.

USER SETTINGS

ALERTS SCREEN



See the Navigation Flowchart on page 19 for additional information about Alerts.

Alerts for critical and required service or maintenance issues.

Provides information and troubleshooting on active alert notifications. When selecting an active notification a brief description and alert code will be displayed. Notifications are categorized by system, RTU and iCON.

- Severe (Red Alert) - Displays information that service is required for a major system component as soon as possible
- Low (Yellow Alert) - Displays information about system operation

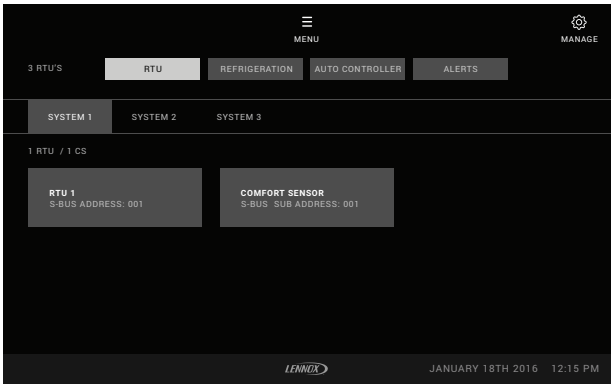
Alert information and normal alerts will also be displayed on the Dashboard screen (if enabled in the portal).

Alert levels and visibility can also be configured from the iCON Remote Facilities Portal for all HVAC alerts.

Alert tab on the Equipment screen will show all alerts. Alerts tab on the Main Dashboard screen will only show severe alerts.

Touch an individual zone tile to expand the tile to to view more details about the alert.

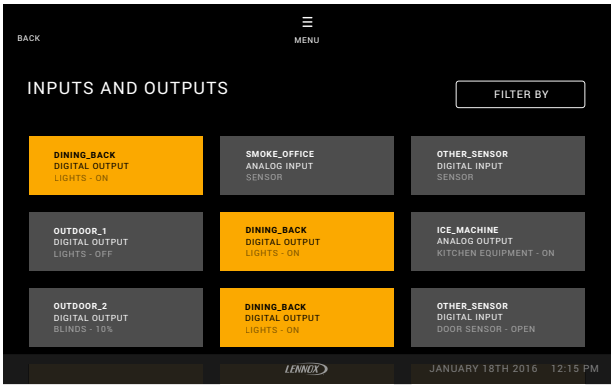
MAIN EQUIPMENT SCREEN



- RTU
- Auto Controller
- Alerts
- Manage Button

Manage Button allows management of equipment on the network.

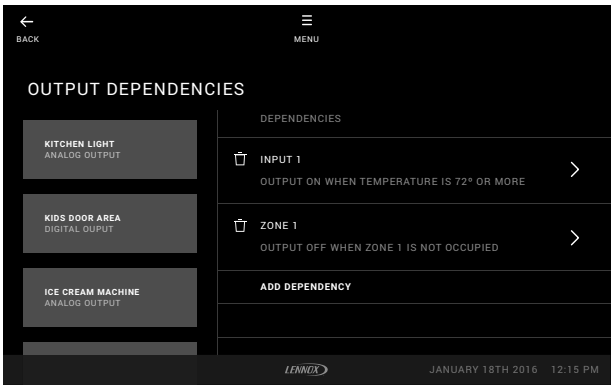
INPUTS / OUTPUTS SCREEN



See the Navigation and Setup Flowchart on page 15 for additional information about Inputs/Outputs Setup.

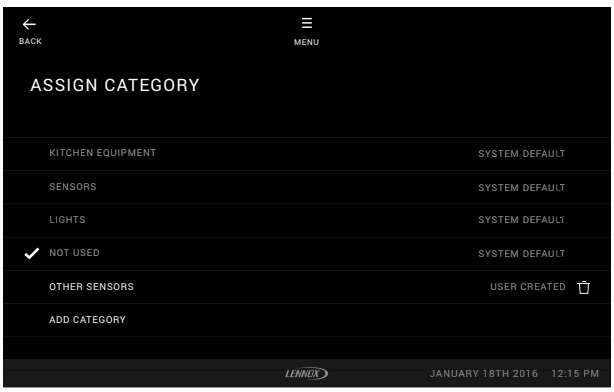
NOTE - Before automation or building schedules can be set up, all inputs and outputs MUST be added to categories. If this task was not accomplished during the installation commissioning phase, then individual inputs or outputs can be setup by type.

ADDING DEPENDENCIES SCREEN



A Dependency can be any input (IO board input or HVAC occupancy) that controls an output (IO board output or HVAC temperature).

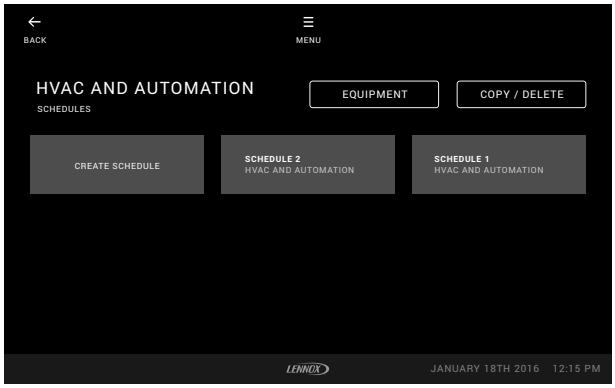
ASSIGNING CATEGORY SCREEN



A Category is any type of input or output used with a sensor or switch used in various areas of a building that are grouped together by the same type or area.

USER SETTINGS

MAIN SCHEDULES SCREEN

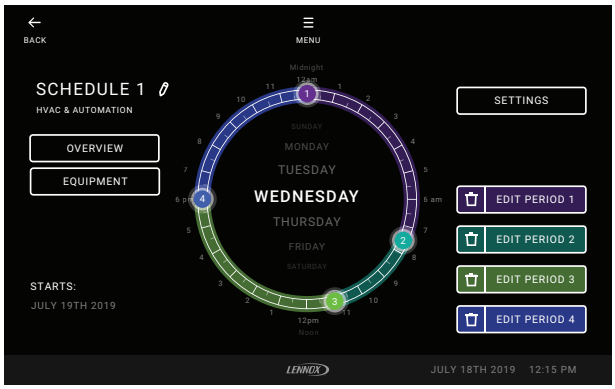


See the Navigation and Setup Flowcharts on page 16, page 23 and page 24 for additional information about different Schedule Types Setup.

- HVAC and Automation
  - Create Schedule
    - Name Schedule
- Copy/Delete schedules to save time
- Equipment Button (maps equipment to a schedule)

Equipment Button assigns HVAC equipment to a particular schedule.

SCHEDULES DETAIL SCREEN



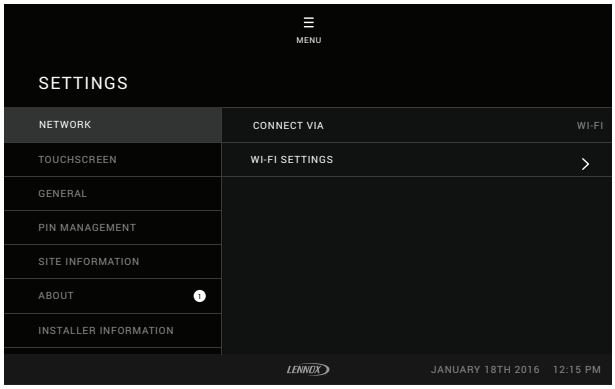
- Schedule name (pen tool)
- Edit Period 1, 2, 3, 4

During inital schedule setup only one period is shown. Up to three additional periods can be added to a schedule.

- Settings Button allows you to edit the schedule name, copy day, adjust relative humidity setpoint, change the schedule start date and type of schedule
- Overview Button displays the weekly schedule
- Equipment Button (maps equipment to a schedule)

Swipe the Day of the Week in the center of the ring to see a visual representation of the daily schedule for different days. Touch a numbered time period on the ring to display the Period Details Screen. Touch the Overview button to display the weekly schedule.

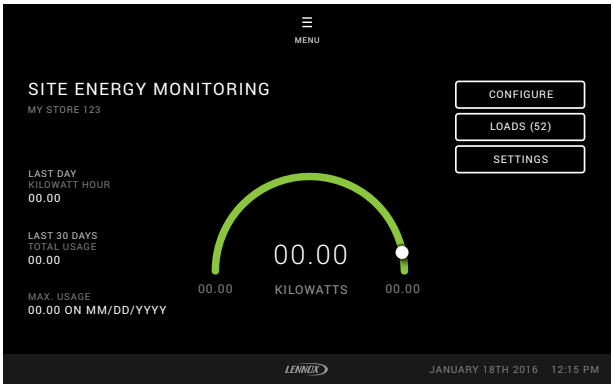
MAIN SETTINGS SCREEN



- Network
- Touchscreen
- General
- PIN Management
- Site Information
- About
- Installer Information
- Portal Pairing
- Advanced

USER SETTINGS

SITE ENERGY MONITORING SCREEN



See the Navigation and Setup Flowchart on page 25 for additional information about Energy Monitoring Setup.

Energy Monitoring screens report the site's energy demands for the Last Day, Last 30 Days, and Maximum Energy Usage with the amount and date. A colored bar displays the hourly Kilowatt usage.

Configure Button

NOTE - If there are no meters added to the system this is the only button button on the screen. The system must be configured correctly to assign monitoring.

- Add a Meter (set Energy Monitor IP address)
  - Meter Type Selection

Menu will display Energy Monitor Model used.

    - Three-Phase Unbalanced
    - Three-Phase Balanced
    - Single-Phase
  - Select a Group (add meter to group A, B, C, etc.)

Each Group displays all of the CONNECTION TYPES (CT), Load Names and Load Types in the Group.

    - CT1 - HVAC Button
    - CT2 - Automation Button
    - CT3 - Other Button

"HVAC" is the cooling/heating equipment. "Automation" is lighting, sensors, fire and security system I/O outputs. "Other" is miscellaneous equipment (fryers, etc.). Each are named and configured separately.

For each Load Type, the following settings can be configured.

    - Load Type Selection
      - Main
      - HVAC
      - Automation
      - Other
      - Not Configured
    - Load Name
    - Max. Value (maximum KW hours expected to be used at the site)
    - CT Type (Millivolt, Rogowski)
    - CT Size (amps) 50, 100, 200, 400, 600, 1000, 3000
    - CT Configuration (split, not split)
  - CT Automation Configuration
  - CT Other Configuration

Loads Button

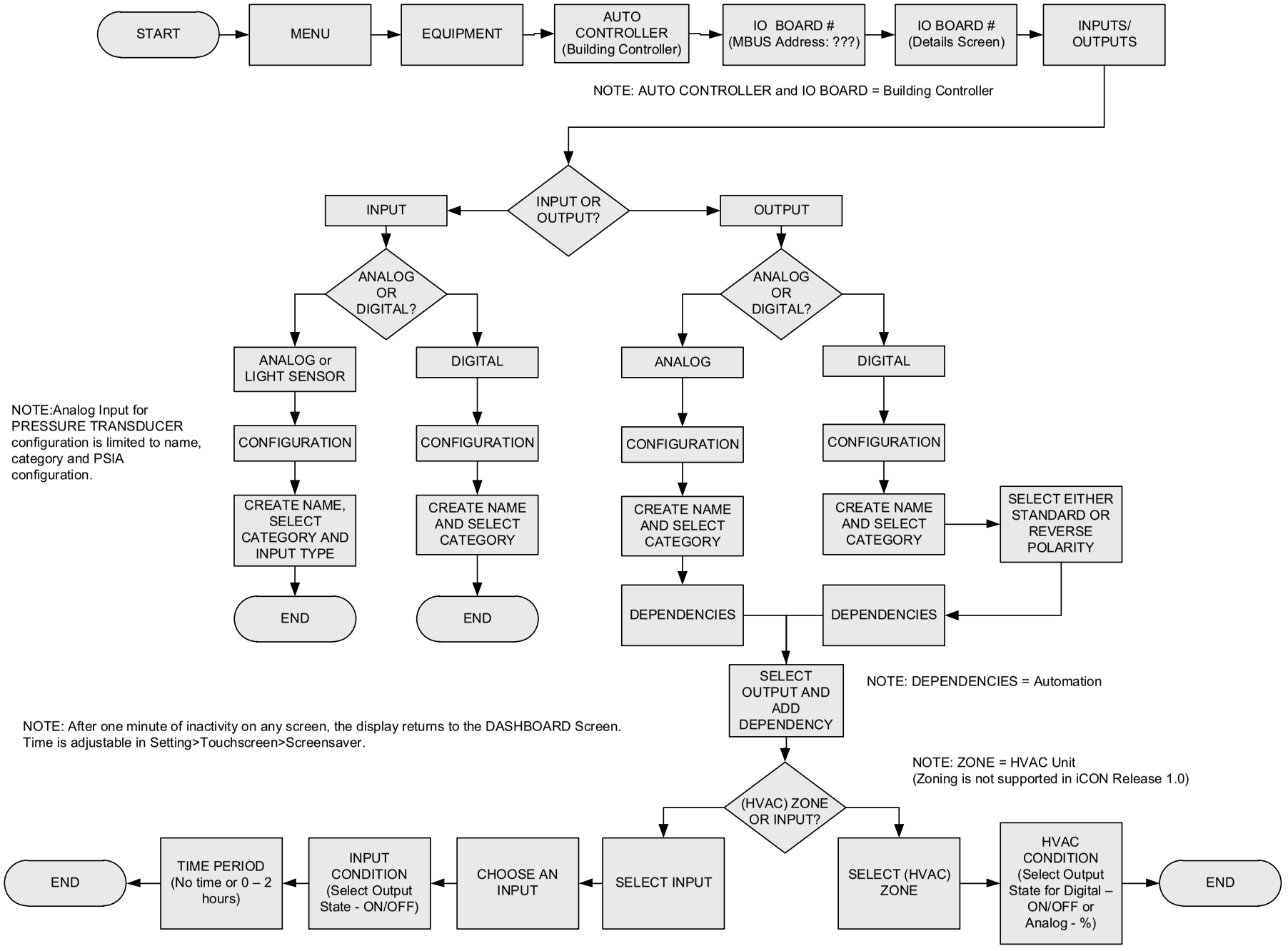
A scrollable list of the individual Site Loads in the system shows kW usage.

Touch a name to display the energy usage and kW hours screen for each load area.

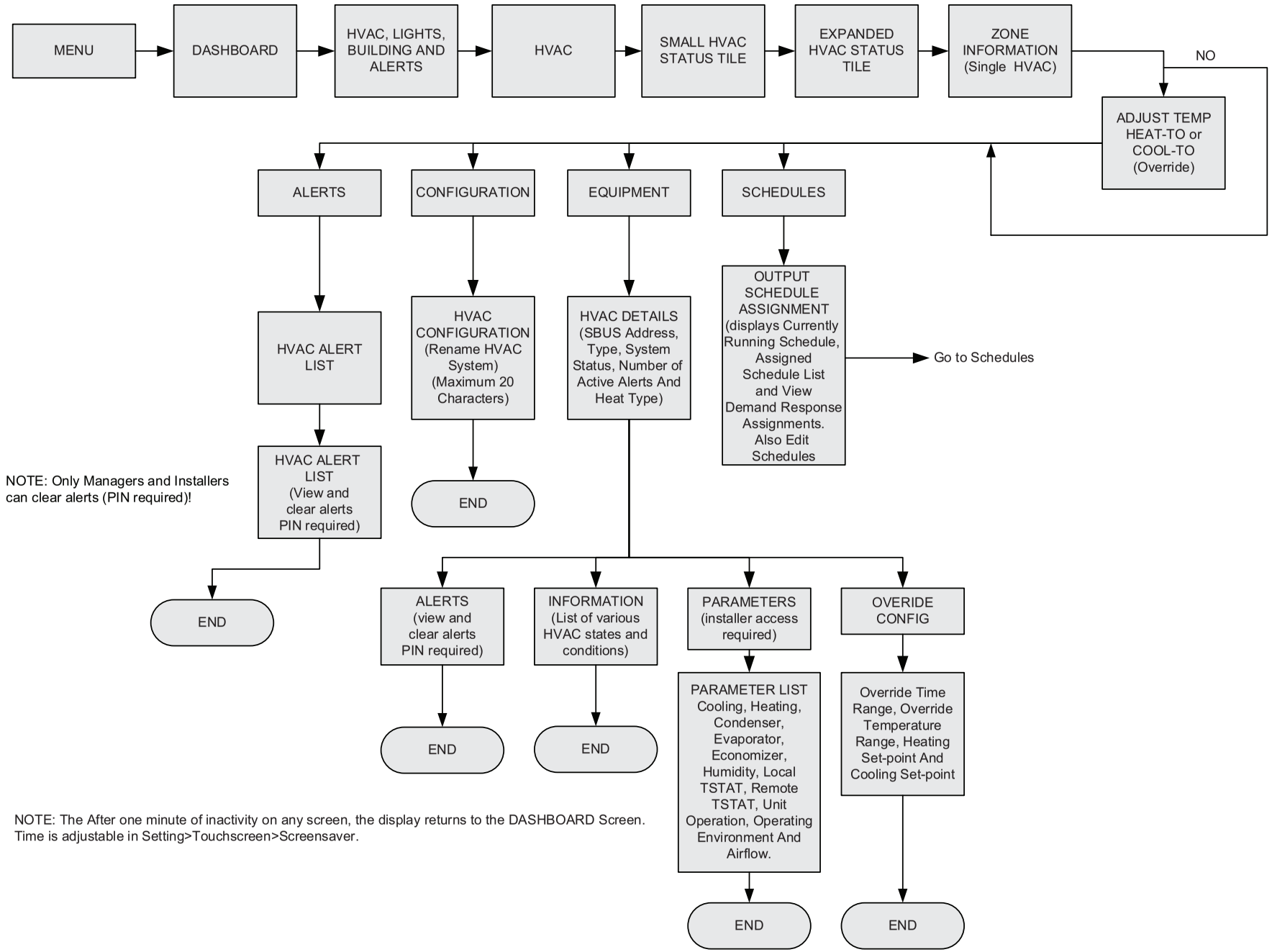
Settings Button

Max Value (kW value)

MENU NAVIGATION - INPUT AND OUTPUTS SETUP

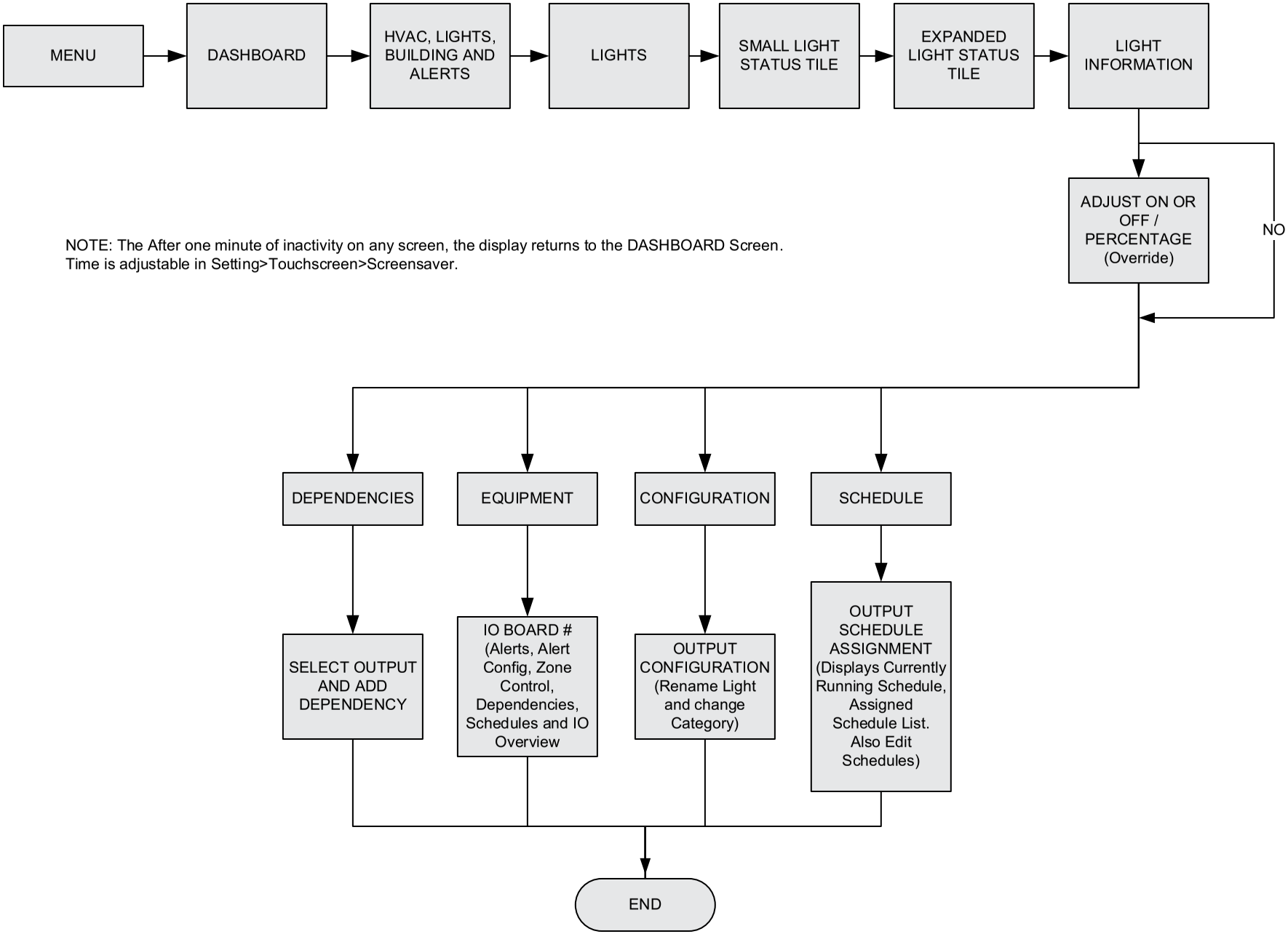


MENU NAVIGATION - DASHGBOARD - HVAC AUTOMATION SETUP

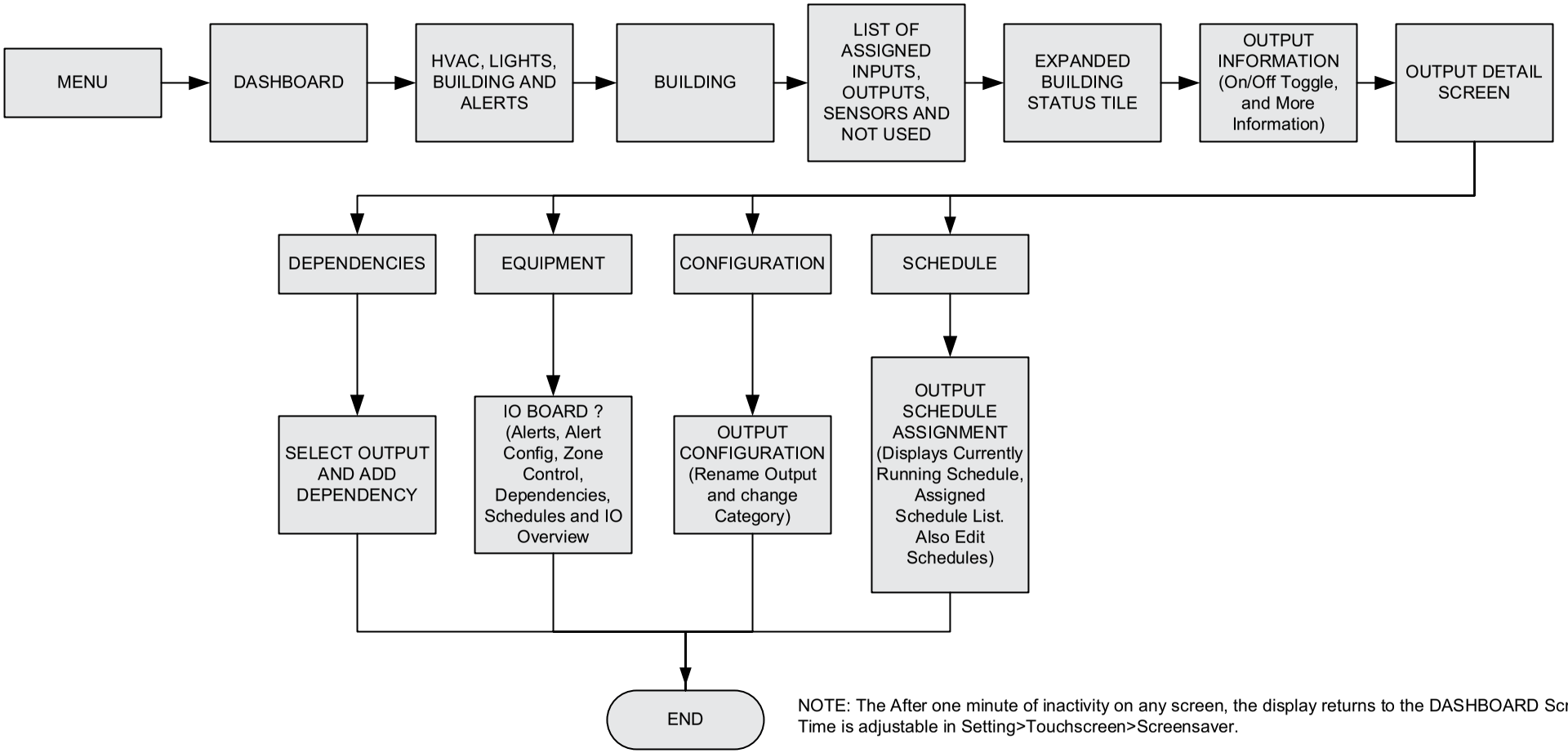


NOTE: The After one minute of inactivity on any screen, the display returns to the DASHBOARD Screen. Time is adjustable in Setting>Touchscreen>Screensaver.

MENU NAVIGATION - DASHBOARD - LIGHTS AUTOMATION SETUP

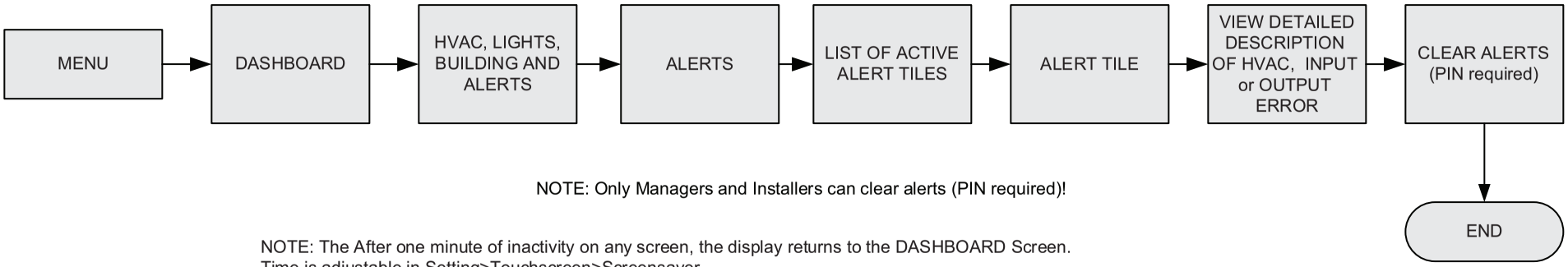


MENU NAVIGATION - DASHBOARD - BUILDING CONTROLLER AUTOMATION SETUP



NOTE: The After one minute of inactivity on any screen, the display returns to the DASHBOARD Screen. Time is adjustable in Setting>Touchscreen>Screensaver.

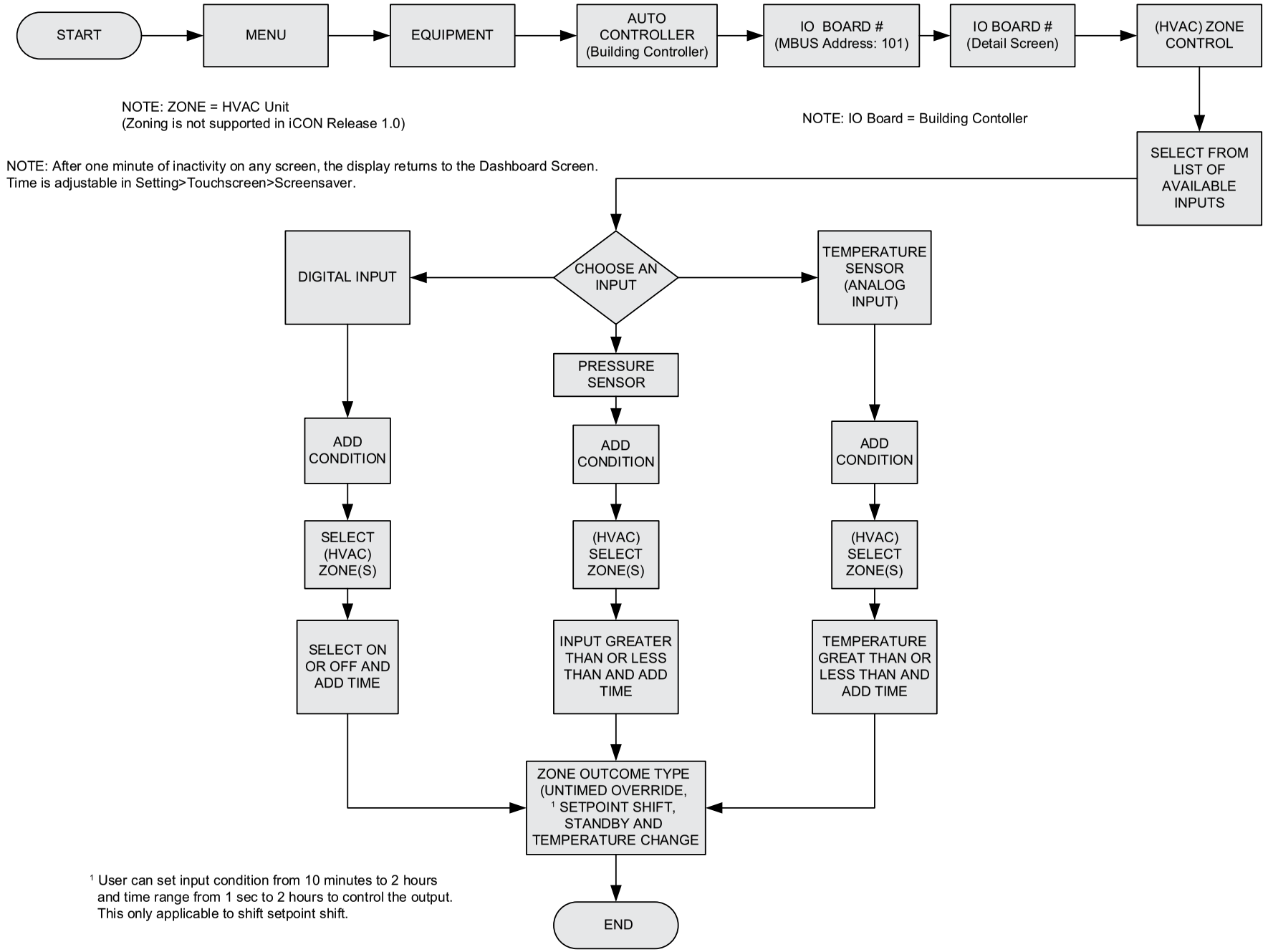
MENU NAVIGATION - DASHBOARD - ALERTS



NOTE: Only Managers and Installers can clear alerts (PIN required)!

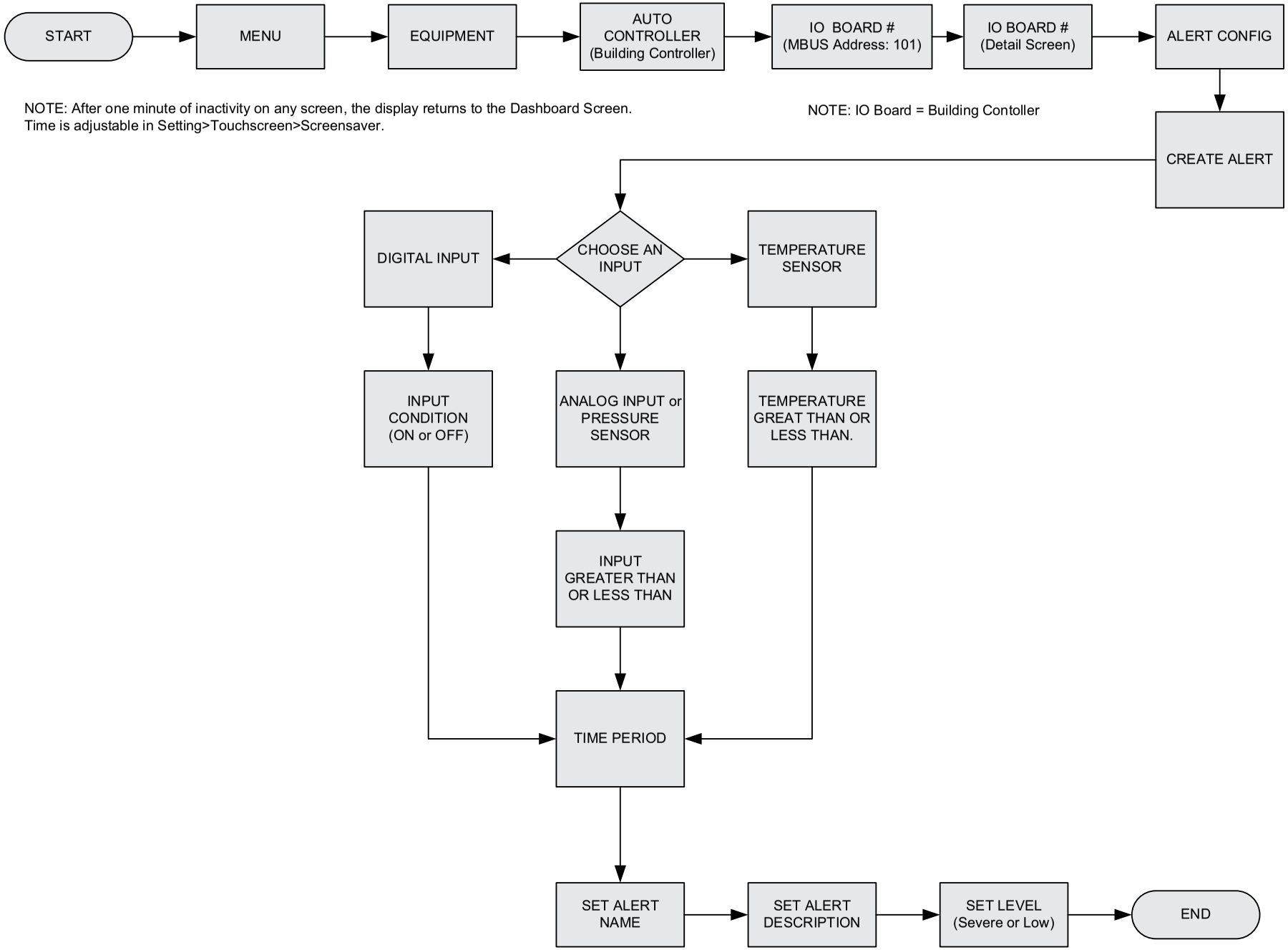
NOTE: The After one minute of inactivity on any screen, the display returns to the DASHBOARD Screen.
Time is adjustable in Setting>Touchscreen>Screensaver.

MENU NAVIGATION - ZONE (HVAC) CONDITIONS SETUP



[1] User can set input condition from 10 minutes to 2 hours and time range from 1 sec to 2 hours to control the output. This only applicable to shift setpoint shift.

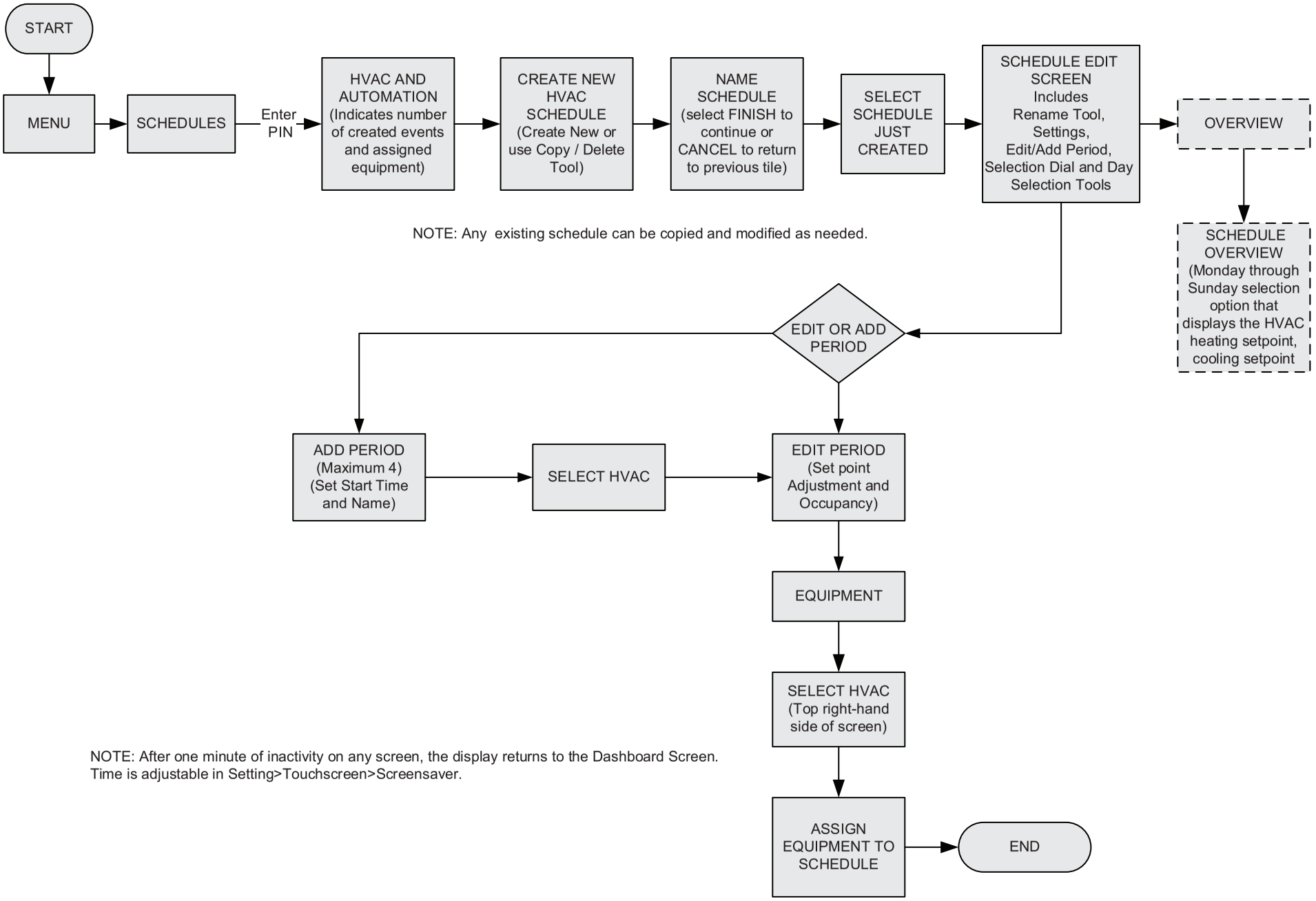
MENU NAVIGATION - BUILDING CONTROLLER ALERTS SETUP



NOTE: After one minute of inactivity on any screen, the display returns to the Dashboard Screen. Time is adjustable in Setting>Touchscreen>Screensaver.

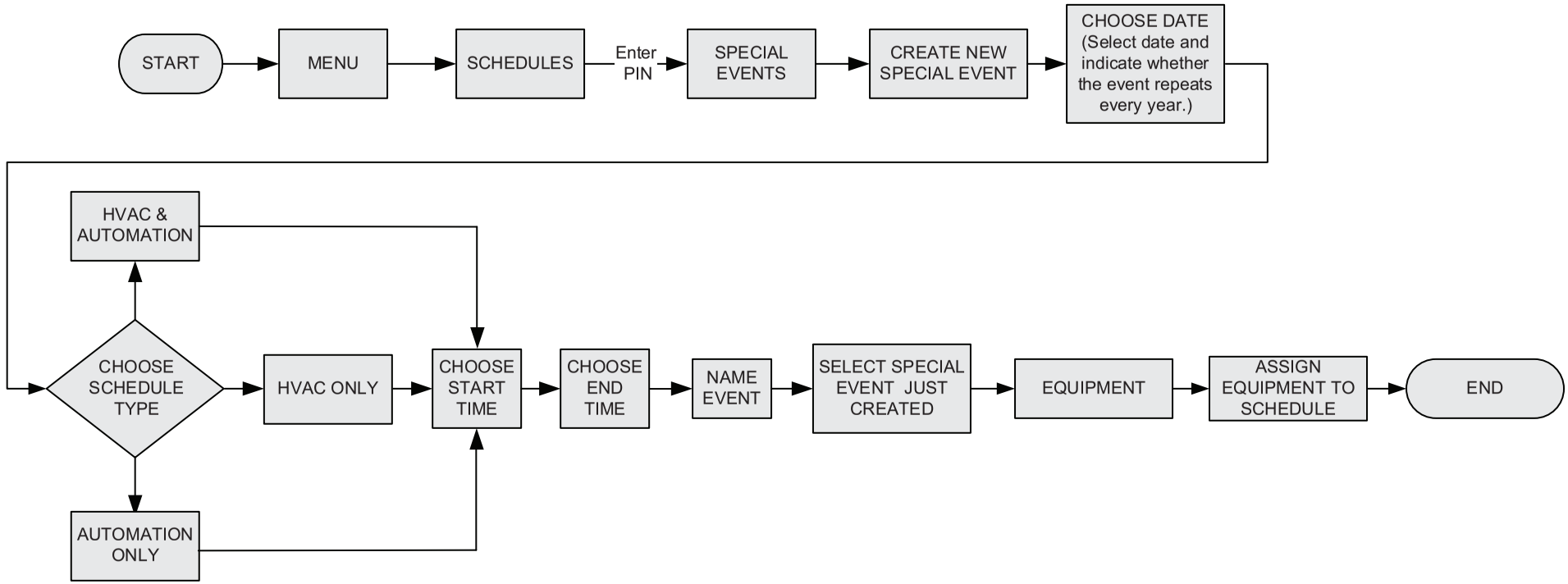
NOTE: IO Board = Building Contoller

MENU NAVIGATION - HVAC SCHEDULES SETUP



NOTE: After one minute of inactivity on any screen, the display returns to the Dashboard Screen. Time is adjustable in Setting>Touchscreen>Screensaver.

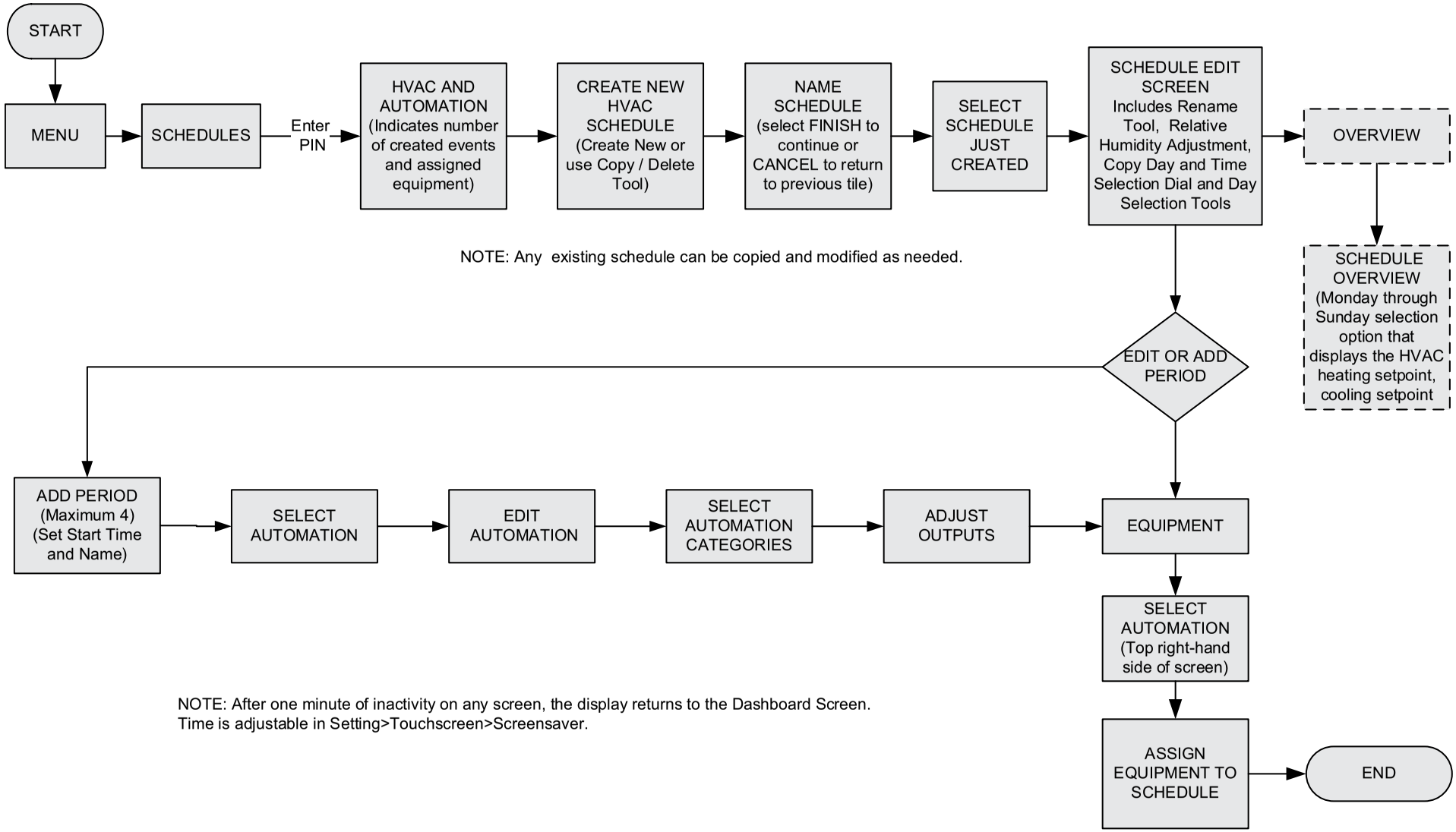
MENU NAVIGATION - SPECIAL EVENT SCHEDULES SETUP



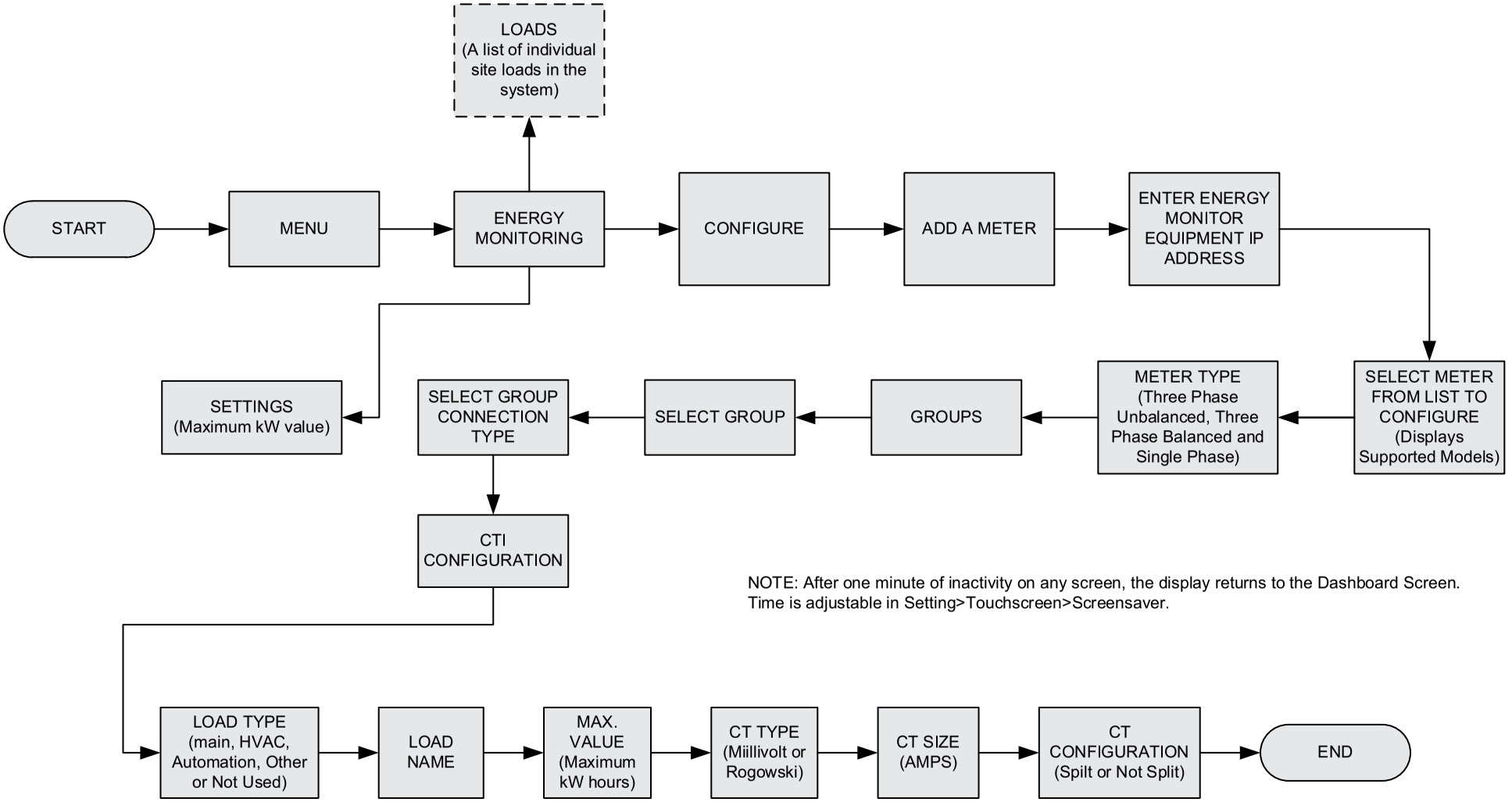
NOTE: You can add additional time periods to an existing Special Schedule Event. Click on the Special Event Tile and select Edit Period to modify the exiting time period or Add Period for additional time periods

NOTE: After one minute of inactivity on any screen, the display returns to the Dashboard Screen.
Time is adjustable in Setting>Touchscreen>Screensaver.

MENU NAVIGATION - AUTOMATION SCHEDULES SETUP



MENU NAVIGATION - ENERGY MONITORING SETUP



NOTE: After one minute of inactivity on any screen, the display returns to the Dashboard Screen. Time is adjustable in Setting>Touchscreen>Screensaver.

BUILDING MANAGER COMPONENTS

iCON LOCAL DISPLAY
C0CTRL10AE1L (16A92)

The iCON Local Display is the iCON Building Automation Solutionnetwork manager screen.

Interfaces with the iCON Mag-Mount and the iCON Central Hub.

It offers sophisticated control and scheduling for up to 31 units. It can also control up to 4 Building Controllers for schedule control of lights, signs, sprinklers and exhaust fans.

All user settings are made on the display (or on the iCON Remote Facilities Portal and stored in the Central Hub Controller.

Main Features

Control Functions

- Interfaces with the iCON Mag-Mount and the iCON Central Hub
- Password (PIN) protection
- When used with the Building Controller, it can schedule up to 8 digital outputs and 2 analog outputs per board (example: lighting zones, exhaust fans, sprinklers, etc.) and display up to 4 digital inputs and 4 analog inputs and light sensor with user-defined names

Integrated System

- Control up to 31 different rooftop units on the iCON Building Automation Solution

Local Interface

- Easy to read 7 in. high definition color tablet-like display interfaces with the Mag-Mount Wall-mount and the Central Hub Controller for viewing and editing system parameters.
- Screen shows scheduling for both the HVAC equipment and the Building Controllers. Also displays network status, time schedules and editing functions.
- Seven day independent programming plus holiday
- Four different time/temperature (°F or °C) schedules per day for up to 31 single zone units

Plug and Play Installation

- ICON Local Display connects directly through the Central Hub to the Prodigy® 2.0 unit controller in the rooftop unit or to the Network Thermostat Controller for non-Prodigy® equipped products by Lennox or third-party equipment manufacturers and to the Building Controller for controlling other building functions.
  - Re-poll function automatically searches for and finds new equipment when activated.

SPECIFICATIONS - ICON LOCAL DISPLAY

Item	Description
Power In	5 VDC at 1.2 A maximum, from iCON Mag-Mount through Magconn connector on rear surface
Internal Battery	4.7 VDC Li-polymer, 1500 mAh
Communication with iCON Mag-Mount	Two-wire serial, 1.8-V signaling, through Magconn connector on rear surface
External Connectors	• Four-conductor Magconn connector at center of rear surface of enclosure (slip rings) that mates with pins on iCON Mag-Mount • Micro USB connector, USB 2.0 Device Type-compatible (on left edge of the enclosure, near top - not enabled) • Micro SD card socket (on left edge of the enclosure, near top - not enabled)
System	• System on Chip (SoC - processor) • 1GB DDR3 SDRAM internal high-speed system memory • 4GB internal flash memory • Operating System (initial load): Android 4.4+ (KitKat)
LCD	• 7-inch diagonal, IPS, color • Resolution: 1280 x 800 pixels • Backlight intensity: 270 - 350 nits, max • Viewing angle: 70° (± 35º) • Touch panel: Capacitive 5 points G + G
Switches, Externally Operable	• Pushbutton switch (on left edge of the enclosure, near top) • Turn iCON Local Display on (from off): hold switch down two seconds and release • Turn iCON Local Display off (from on): hold switch down two seconds and release • Place iCON Local Display in standby mode with LCD off (from off): quick press and release • Turn iCON Local Display on (from standby): quick press and release • Reset the iCON Local Display (hold switch down for 15 seconds)
Sensors	• Ambient light sensor (in bezel, near upper left corner) • Optical proximity sensor: 12 inch range (in bezel, near upper left corner)"
Enclosure Material	Black plastic, dark tinted glass screen
Dimensions (H x W x D)	4-3/4 x 7-1/2 × 5/8 in. (121 × 191 × 16 mm)
Weight	< 1 lb.
Operating Temperature	32 to 104°F (0 to 40°C)
Shipping / Storage Temperature	–4 to 140°F (–20 to 60°C)
Operating Humidity	10% RH to 90% RH
Shipping / Storage Humidity	10% RH to 90% RH
Mounting	Four metal plates affixed to the inside back cover that mate with four magnets in the Mag-Mount, and four slots that mate with plastic hooks on the iCON Mag-Mount. Mount allows approximately ± 5° of rotation.

BUILDING MANAGER COMPONENTS

iCON MAG-MOUNT
C0CTRL10AE1L (16A91)

Secure wall-mount for the High Definition Local Display.

- Sends data between the Local Display/Mag-Mount and the Central Hub Controller through 4-wire, 18-gauge standard thermostat wiring
- Internal microcontroller transfers data between the Central Hub Controller and the Local Display
  - Communication to Central Hub Controller - Two wire serial RS-485 interface, 3.3-V signaling, up to 400 feet
  - Communication to Display - Two wire serial, 1.8-V signaling
  - Power Input (from Central Hub Controller) - 12VDC
  - Power Output (to the Local Display) - 5VDC
- Full communication between the Local Display/Mag-Mount and the Central Hub Controller
- Spring-loaded push connectors for easy wiring hookup
- Electrical interface connects the Mag-Mount to the Local Display when the Display is mounted
- Blue LED indicates power status
  - Solid blue indicates power is connected
  - Blinking blue indicates no communication

NOTE - Only visible when the Local Display is removed.

- Body and cover is constructed of high impact ABS plastic
- Magnets and tabs secure the Local Display to the mounting surface
- Wallplate and mounting hardware is included

SPECIFICATIONS - ICON MAG-MOUNT

Item	Description
Power In	12 VDC (9 VDC to 13 VDC) at 1 amp (max) from iCON Central Hub
Power Out	5 VDC (+/- 0.25 VDC) at 1.5 amp (max) to Display
Maximum Cable Length From iCON Central Hub	Approximately 200 feet - limited by power supply voltage drop
Connections	**To iCON Central Hub** • A (yellow) RS485 - bus A • B (green) RS485 - bus B • + (plus) (blue) Power Input (12 VDC nominal) • – (minus) (black) Ground
Communication with iCON Central Hub	Two wire serial RS-485 interface, 3.3-V signaling, up to 300 feet (subject to power supply voltage drop in cable limitation– see above)
Communication with Display	Two wire serial, 1.8-V signaling
Switches, Externally Operable	No switches
Indicators, Externally Visible	1 blue LED: status, visible from the top left corner of the enclosure
Enclosure Material	Black ABS plastic
Dimensions	Approximately 3-/4 × 3-/14 × 1/2 in. (85 × 85 × 13 mm)
Weight	< 0.5 lb.
Operating Temperature	32 to 120°F (0 to 50°C)
Shipping / Storage Temperature	–4 to 158°F (–20 to 70°C)
Operating Humidity	10% RH to 90% RH
Shipping / Storage Humidity	5% RH to 95% RH
Mounting	Wall-mounted using four screws (and drywall anchors)

BUILDING MANAGER COMPONENTS

iCON CENTRAL HUB
C0CTRL10AE1L (16A90)

Stores user's system settings from the Local Display in non-volatile memory.

Built-in Wi-Fi connection to the local business network is accomplished through the Central Hub Controller and the business local area network (LAN) or the local business Wi-Fi network (LBN).

Wi-Fi connection to the local business Wi-Fi network (LBN) is accomplished through the Local Display.

Supports wireless bands 802.11b, 802.11g and 802.11n.

USB port allows field firmware upgrades for the Central Hub and Local Display.

Firmware updates can also be pushed from the Lennox Remote Facilities server to the Central Hub Controller.

Standard RJ45 connector for local business area network (LBN) connection.

Full communication between the Central Hub Controller and HVAC equipment (S-Bus) and building automation (M-Bus) using twisted pair shielded wiring.

Full communication between the Local Display and the Central Hub Controller using 4-wire, 18-gauge standard thermostat wiring.

Spring-loaded push connectors for easy wiring hookup to S-Bus and Mag-Mount.

Screw terminals/terminal block for M-Bus wiring connections.

Power (24VAC) to the Central Hub Controller is supplied by a separate transformer (ordered separately).

Dual Wi-Fi antennas operate on antenna diversity which eliminates signal fading, dead spots and drop-outs. System constantly monitors the signals from both antennas and automatically uses the stronger of the two.

Mounting hardware for Central Hub Controller is field furnished.

- Four status icons and the Lennox Wi-Fi Ring on case show current operating conditions
  - WI-FI
    Indicates the status of the internal Wi-Fi module and whether or not the Central Hub can connect to the local business network.
    - Red - Wi-Fi initialization issue
    - Amber - No Wi-Fi network detected, not configured
    - Green - Connected to the portal
  - Thermostat (TSTAT)
    Indicates the status of the Mag-Mount and Local Display and whether or not the Central Hub can communicate with the Local Display.
    - Red - Thermostat connection failure
    - Green - Thermostat connected and operational
  - HVAC
    Indicates the status of the HVAC equipment in the business that is controlled by the Central Hub, and whether or not the Central Hub can communicate with it.
    - Red - No HVAC equipment connected to the Smart Hub Controller
    - Green - HVAC equipment connected and S-Bus is functional
    - Amber - Not configured
  - ALERT
    Indicates there is a critical alert condition present.
    - Red - Critical Alert
    - Green - System operating normally and no alerts
  - BUILDING AUTOMATION
    - Green - Equipment functioning normally
    - Yellow - Building automation equipment not yet commissioned
    - Red - No building automation equipment present, or communication error from commissioned equipment
  - Round Lennox Wi-Fi Ring
    - Blue - System is operating normally
    - Flashing Green - Wi-Fi connection attempt in progress

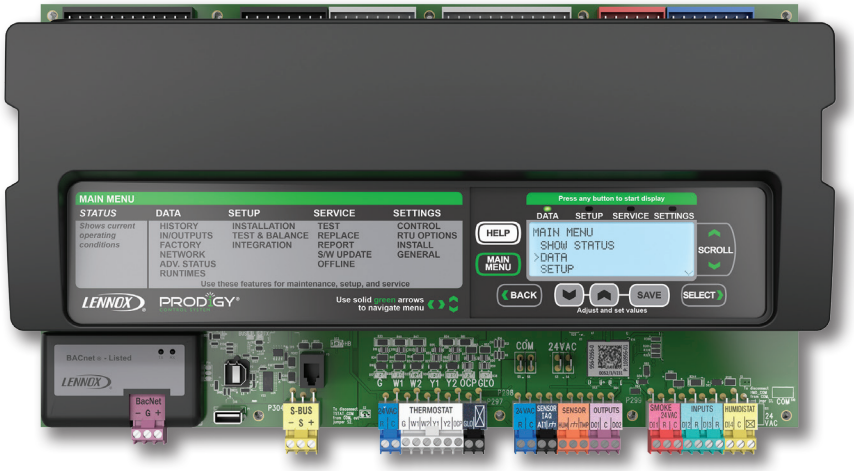
Press and hold the Lennox Wi-Fi Ring for 5 seconds to reset the Central Hub Controller.

See Installation and Setup Guide for additional information.

SPECIFICATIONS - ICON CENTRAL HUB

Item	Description
Power In	24 VAC typical (18 VAC to 30 VAC range) at 1 amp maximum from a field supplied transformer
Power Out	12 VDC (± 0.25 V) at 1 amp maximum to iCON Mag-Mount / iCON Local Display
Communication with HVAC System	Two-wire serial Lennox S-Bus interface, typical connection to a field supplied transformer, up to 200 feet per segment, 1500 feet total length (18 AWG wire)
Communication with Thermostat	Two-wire serial interface, 3.3-V signaling, up to 300 feet to iCON Mag-Mount (18 AWG wire)
Connections	**To S-Bus** • I+ (yellow) - S-Bus high - Data line 1 • I– (green) - S-Bus high - Data line 2 • R (red) - Power Input 24 VAC S-Bus • C (black) - Common input 24 VAC S-Bus **To M-Bus** • + (plus) - S-Bus high - Data line 1 • – (minus) - S-Bus high - Data line 2 • G - Shield **To iCON Mag-Mount** • A (yellow) RS485 - bus A • B (green) RS485 - bus B • + (plus) (blue) Power Input (12 VDC nominal) • – (minus) (black) Ground
USB	One USB 2.0-compatible host interface (can boot and/or update firmware from USB flash drive)
Memory, Internal	• 4GB (512 x 16) of DDR3 SDRAM used for computing and executing the code after fetching from the flash memory • 4KB EEPROM nonvolatile storage which is used for configuration data and device parameters of all HVAC assets • 32GB SD Card (Flash memory) – used to store Linux OS (Kemel), application and software images for all HVAC systems on the S-Bus
Wi-Fi	Wi-Fi 802.11 B/G/N: • Standard Wi-Fi for connection to business Wi-Fi network
Ethernet	Ethernet 100BaseT, RJ-45, 802.3 • Standard connection to local business network
Switches, Externally Operable	Pushbutton switch in center of iCON Central Hub enclosure: • Resets the iCON Central Hub
Indicators, Externally Visible	• Green/blue LED in center pushbutton switch indicates local network status and software update transfer from USB flash drive status • Red/green/amber LED indicates HVAC status • Red/green/amber LED indicates alert status • Red/green/amber LED indicates standard network status • Red/green/amber LED indicates thermostat status • Red/green/amber LED - indicates Building Automation status
Enclosure Material	Black ABS plastic
Dimensions	7 × 7-3/4 × 1-1/4 in. (178 × 197 × 32 mm)
Weight	< 0.5 lb.
Operating Temperature	–40 to 176°F (–40 to 80°C)
Shipping / Storage Temperature	–40 to 185°F (–40 to 85°C)
Operating Humidity	10% RH to 90% RH
Shipping / Storage Humidity	5% RH to 95% RH
Mounting	Two screws - one keyhole on back and one center-hold screw under the cover

PRODIGY 2.0 UNIT CONTROLLER



The Prodigy 2.0 Unit Controller is a microprocessor-based control board that provides flexible control of all unit functions.

All control voltage is provided via a 24V (secondary) transformer with built-in circuit breaker protection.

The Prodigy 2.0 Unit Controller features:

LCD Display - Easy to read menu with buttons for menu navigation.during setup and diagnostics. 4 lines x 20 character display.

Menu LEDs - Four LEDs (Data, Setup, Service, Settings) aid in menu navigation.

Main Menu and Help Buttons - Quick navigation to home screen and built-in help functions.

Scroll, Value Adjustment Select and Save Buttons

Simplified Setup Procedure - SETUP menu insures proper installation and setup of the rooftop unit.

Profile Setup - Copy key settings between units with the same configuration greatly reducing setup time.

USB Port - Allows a technician or user to easily download and transfer unit information (with a time/date stamp and unit serial number) via a USB flash drive to help verify service was performed. USB drive will also allow updating software on the Prodigy Control System to obtain enhanced functionality without the need to change components. A second USB port also offers an easy interface with a PC and the Lennox Unit Controller Software.

Unit Profile - A Unit Profile can also be saved to a USB flash drive and then uploaded to an identical unit, instantly copying all setpoints.

Unit Self-Test - Unit Controller can perform a rooftop unit self-test to verify individual critical component and system performance. Included is an economizer test function that helps assure the economizer is operating correctly.

Time Clock with Run-Time Information - Internal time clock with runtime information on these key components:

Power Applied	Filter	Blower Belt
UV Lamp	Blower	Compressor(s)
Condenser Fan(s)	Heat Stage(s)	Free Cooling
Exhaust Fan	Dehumidification	

Built-in functions include:

Blower On/Off Delay - Adjustable time delay between blower on and off.

Built-In Control Parameter Defaults - No programming required.

Compressor Time-Off Delay - Adjustable time delay between compressor shutoff and start up.

DDC Compatible - Various third party DDC controllers can be factory or field installed.

Dirty Filter Switch Input - When a Dirty Filter Switch is installed, the control will signal when the indoor blower static pressure increases, indicating a dirty filter condition. Switch is optional and can be factory or field installed.

Discharge Air Temperature Control - The controller will cycle up to 4 stages of heating or cooling to maintain the discharge air setpoints for heating or cooling. Optional sensor for remote field installation in the supply duct.

Display/Sensor Readout - Displays control parameters, text status messages, and sensor readings. The unit controller displays temperature readings from return air, supply air, and outdoor air sensors that are furnished as standard on all Energence® units. Controller will also display readings from optional sensors such as room sensors, CO_2 sensors or relative humidity sensors.

Economizer Control Choice - The economizer is controlled by the Prodigy 2.0 unit controller. The control has several options for controlling the economizer.

PRODIGY 2.0 UNIT CONTROLLER (continued)

Fresh Air Tempering - Provides heating and cooling as needed to maintain the supply air temperature within a comfort range, regardless of the thermostat demand. Sensor ships with unit but must be field installed in the supply air duct. Fresh Air Tempering is disabled by default and is enabled via the SETUP menu.

Extensive Unit Diagnostics - The Prodigy 2.0 unit controller monitors all sensors and functions related to unit operation to provide critical information. The controller will display detailed diagnostic information with over 100 diagnostic and status messages to pinpoint any problems and reduce troubleshooting time. All diagnostic messages and status alarms are displayed in plain English.

Exhaust Fan Control Modes - Fans controlled by fresh air damper position.

Permanent Diagnostic Code Storage - Stores last 128 diagnostic messages even in the event of a power failure.

Field Changeable Control Setpoints - Over 200 different control setpoints allow customizing of the unit operation by changing delays, cooling stages, deadbands, and other comfort control parameters.

Indoor Air Quality Input - The Prodigy 2.0 unit controller is Demand Control Ventilation ready from the factory (optional field installed CO_2 sensor required). Two modes of operation are available: setpoint and proportional.

1. Setpoint - Opens the economizer dampers to full position when CO_2 setpoint level is reached.
2. Proportional - Opens the dampers at the first set point and gradually increases it as the CO_2 level increases until the second setpoint is reached.

Low Ambient Controls - Allows unit cooling operation down to 0°F.

Gas Valve Time Delay Between First and Second Stage - Allows gradual increase of input rate.

Minimum Compressor Run Time - Ensures proper oil return to the compressor.

Network Capable - The Prodigy 2.0 unit controller can be daisy chained to other Energence Rooftop Units or the iCON Building Automation Solution using twisted pair wire.

Night Setback Mode - Adjusts setpoints, closes outdoor air dampers and operates the blower on demand, may be customized for special requirements.

Return Air Temperature Limit Control - Allows the user to override the demands based upon the return air temperature during either heating or cooling operation. Helps protect against abnormal operating conditions in the event of a room sensor or thermostat failure.

Safety Switch Input - Normally-closed digital input allows the Prodigy 2.0 unit controller to respond to a external safety switch trip (phase protector, low voltage, etc.) shutting down unit operation.

Service Relay Output - Digital output can indicate a critical error has occurred to an external control device. Can also be configured to energize based on relative humidity, indoor air quality, outdoor air temperature or unit operation.

Smoke Alarm Mode - Control board has four choices for responding to a smoke alarm.

1. Unit Off - unit will turn off.
2. Positive Pressure - blower is energized, exhaust fan is de-energized, and the outdoor air dampers are opened.
3. Negative Pressure - blower is energized, exhaust fan is energized, and the outdoor air dampers are closed.
4. Purge - blower is energized, exhaust fan is energized, and the outdoor air dampers are opened.

Staging - 2 heat/2 cool. Capable of up to 4 heat/4 cool with room sensor or third party DDC control system.

"Strike Three" Protection - Ends cooling or heating operation when any of the following occurs three times (adjustable) within a thermostat cycle: low pressure trip, high pressure trip, heat limit trip, blower proving, or freezestat trip.

Gas Reheat - Control parameter option that allows simultaneous heating and cooling operation for controlling humidity for process air applications such as supermarkets. Field installed relative humidity sensor or dehumidistat can be used.

On-Demand Dehumidification - Monitors and controls condenser hot gas bypass operation with Humiditrol® option. Prioritizes heat and cool demand with dehumidification demand. Reheat demand can be enabled by digital input or a field installed relative humidity sensor can be used.

Thermostat Bounce Delay - Protects compressor from short cycling when mechanical thermostat is used.

Warm Up Mode Delay - Adjustable time that the economizer dampers are kept in the closed position during morning warm-up.

Room Sensor Operation - Controls room temperature with up to 4 stages of heating or cooling with optional room sensor.

APPROVALS

Title 24 Compliant

The Prodigy 2.0 unit controller meets California Code of Regulations, Title 24 requirements for staged airflow operation, economizer fault detection and diagnostics.

SPECIFICATIONS - PRODIGY 2.0 UNIT CONTROLLER

Operating Environment	Temperature: -40°F to 155°F
	Humidity: 10% - 95% RH, Non- Condensing
Power Requirements	24VAC (+/-25%), 50/60Hz
	5 VA for M3 maximum
Memory Type	Re-programmable Flash
Device Commissioning	Auto-poll (real plug and play)
Unit type	Electric/Electric, Gas/Electric (Rooftops)
Cooling stages	4
Heating stages	4
Electronic Parameters	>250
Alarm Codes	>100
Alarm Codes Stored	128
Display Type	LCD, 4 lines x 20 character display Four LEDs (Data, Setup, Service, Settings)
Indicator LEDs	1- Heartbeat
	1- Bus transmit
	1 - Bus receive
	1- each for Y1,Y2,W1,W2,G,OCP, GLO
Dimensions - Main Board	Main Board: Height: 8 in., Width: 14-1/2 in., Depth: 6 in.
Weight	2 lbs. for M3
Cable Type	**S-Bus** - Lennox yellow COMM cable: C0MISC00AE1- (**27M19**) (500 ft. box), C0MISC04AE1- (**94L63**) (1000 ft. box), C0MISC01AE1- (**68M25**) (2500 ft. roll) **M-Bus** - Lennox purple COMM cable: C0MISC05AE1- (**23W99**) (500 ft. box) C0MISC06AE1- (**24W00**) (1000 ft. box) C0MISC07AE1- (**24W01**) (2500 ft. roll)

INPUTS / OUTPUTS - PRODIGY 2.0 UNIT CONTROLLER

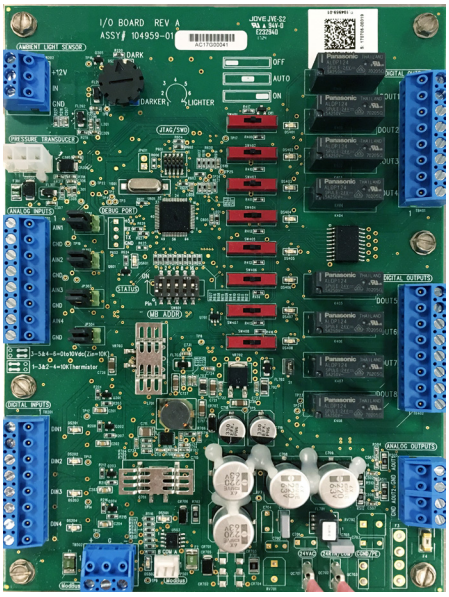
INPUTS / OUTPUTS (M2 MAIN BOARD)

Bus Port	Lennox S-Bus, EIA-485, 9600 baud (SmartWire™ wiring terminal block and phone jack)
	USB Communication Port (1 for Host, 1 for Device)
Expansion Ports	3 expansion ports for adding up to 5 expansion boards
Digital Outputs	13 digital outputs (2 Amps Max)
Digital Inputs	20 (24VAC), 5 (5VDC)
Analog Inputs	8 analog inputs (0-5VDC, 0-10VDC or 4-20 mA)
Temperature Inputs	6 temperature inputs (thermistor type). Outdoor Air, Return Air, Discharge Air and Room, [1] Compressor 1 Sump Temperature, Compressor 2 Sump Temperature
Analog Outputs	2 (0-10VDC)
PWM Outputs	2 (0-18VDC), 1 (0-12VDC)

[1] Energence Ultra rooftiop units only.

BUILDING CONTROLLER

C0CTRL80AE2L (16D71)



The Building Controller is used for controlling lights, vent hoods, exhaust fans, sprinklers and other devices based upon unit occupied operation or time schedule for the iCON Building Automation Solution. It also allows many other interactions between the building and the HVAC equipment such as load shedding, wake up/shut down building switch and overrides based on temperatures and/or analog inputs. The Building Controller requires the iCON Local Display for system control.

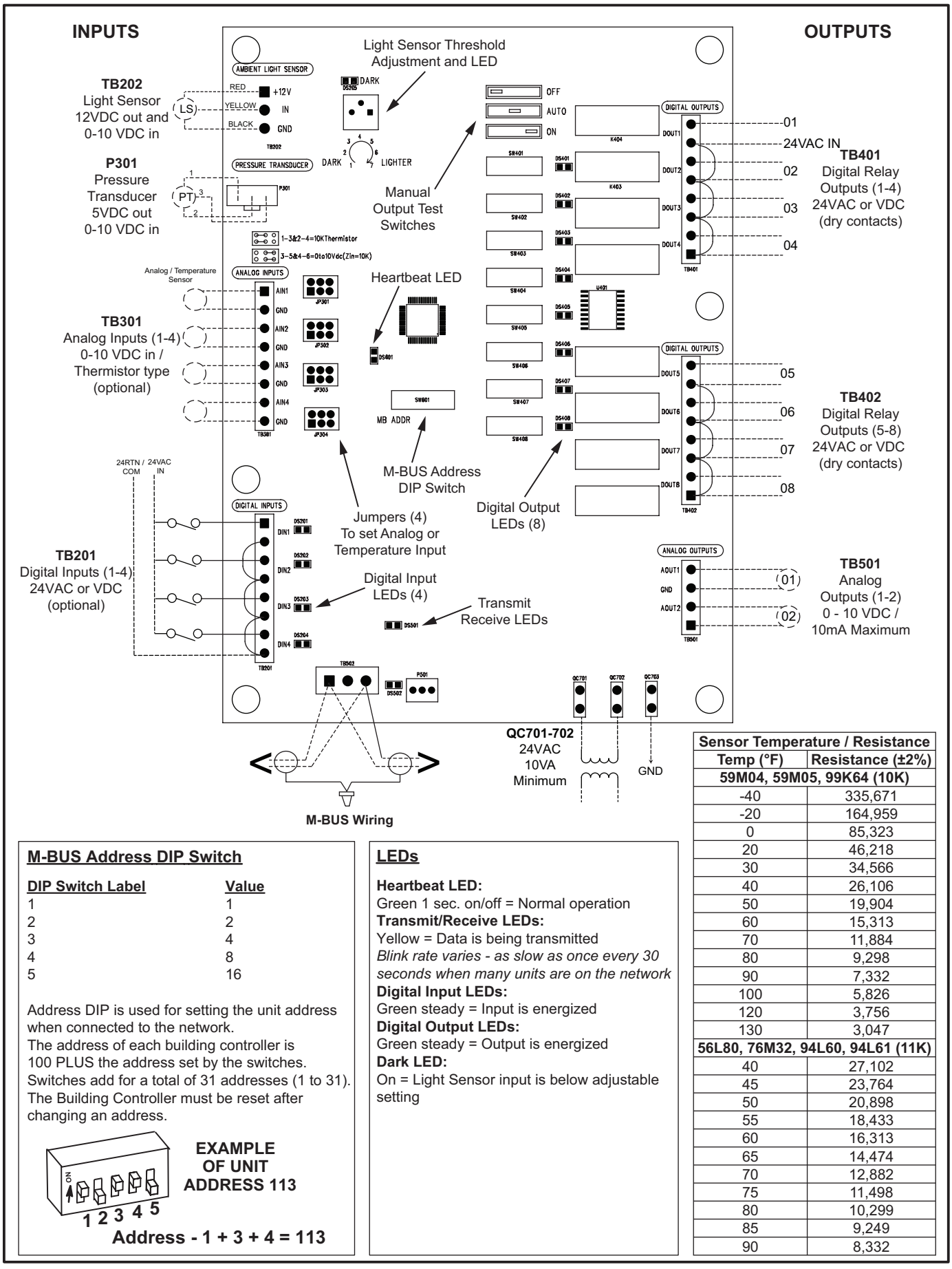
Main Features of the Building Controller

- One light sensor input
- One pressure trandsducer input
- Eight dry contact digital outputs with LED indicator.
- Two analog outputs.
- Four temperature sensor analog inputs, configurable via jumpers on board.
- Four digital inputs with LED indicator.
- Digital inputs may be used to override outputs on or off.
- Temperature and/or analog inputs may be used to override outputs on and off.
- Temperature and/or analog inputs may be used to issue user selected alarms.
- The occupied status of selected HVAC unit may be used to override outputs on or off.
- Digital inputs may be used to instruct selected HVAC units to operate on override setpoints
- Digital inputs may be used to instruct selected HVAC units to go to standby (off). • Digital inputs may be used to instruct selected HVAC units to shift setpoints.
- Each output has a manual “on/auto/off” switch.
- Input for optional Ambient Light Sensor C0SNSR60AE1-(**34M67**) used to automatically control lighting based on the amount of outside light.
- Multiple Building Controllers may be used on iCON Building Automation Solution with the ICON Local Display
- Optional weatherproof NEMA 4 enclosure C0MISC10AE1-(**17M11**) and NEMA 1 enclosure C0MISC13AE1- (**34M23**) are available.

SPECIFICATIONS - BUILDING CONTROLLER

Device Commissioning	Auto-poll (real plug and play)
Operating Environment	Temperature: -40°F to 155°F Humidity: 10% - 95% RH, Non- Condensing
Power Requirements	24VAC, +/- 25%, 50/60Hz, 2VA Class 2 transformer required
Indicator LEDs	1 - Heartbeat 1 - Bus transmit 1 - Each for all 4 digital inputs 1 - Each for all 8 digital outputs 1 - Light sensor (dark indicator) 1 - Bus receive
Memory Type	Re-programmable Flash
Dimensions	Height: 8-1/2 in. Width: 6-1/2 in. Depth: 1-1/2 in.
Weight	1.10 lbs.
INPUTS / OUTPUTS	
Digital Outputs	8 relay contact outputs rated at 24VDC/240VAC, 3 amp. Each one has a manual switch option for on, off or auto. Each output has LED indicator.
Digital Inputs	4 Digital inputs rated for 24VAC or DC. Each has LED indicator.
Analog Inputs	4 Analog inputs (0-10VDC). Compatible with Remote Humidity Sensor Kit C0SNSR31AE1- (**17M50**) and Duct Mount RH Sensor C0SNSR30AE1- (**76M31**). Also compatible with CO_2 Sensors C0SNSR50AE1L (**77M39**), C0SNSR52AE1L (**87N53**), C0SNSR51AE1L (**87N52**), C0SNSR53AE1L (**87N54**).
Temperature Inputs	4 Temperature inputs (-30°F to 140°F). Compatible with Outdoor Temperature Sensor C0SNSR02AE1- (**59M05**), Duct Temperature Sensor C0SNDC04AE1- (**99K64**), Wall-mount Temperature Sensor C0SNZN03AE1- (**59M04**) and Temperature Sensor Probe C0SNSR05AE1- (**14K92**).
Light Sensor Input	1 Light Sensor input (0-10VDC). Compatible with Ambient Light Sensor C0SNSR60AE1- (**34M67**)
Cable Type	**S-Bus** - Lennox yellow COMM cable: C0MISC00AE1- (**27M19**) (500 ft. box), C0MISC04AE1- (**94L63**) (1000 ft. box), C0MISC01AE1- (**68M25**) (2500 ft. roll) **M-Bus** - Lennox purple COMM cable: C0MISC05AE1- (23W99) (500 ft. box) C0MISC06AE1- (24W00) (1000 ft. box) C0MISC07AE1- (24W01) (2500 ft. roll) **24VAC Power** - 2 Conductor thermostat 22 AWG min. (wire gauge depends on distance from transformer) **Digital Outputs** - Thermostat cable 22 AWG min. (wire gauge depends on distance) **Digital Inputs** - Thermostat cable 22 AWG min. (wire gauge depends on distance. **Analog Inputs** - Lennox COMM cable **Temperature Inputs** - Lennox COMM cable **Light Sensor Input** - 3 Conductor thermostat cable 20 AWG min. (wire gauge depends on distance)

BUILDING CONTROLLER - FIELD WIRING



M-BUS Address DIP Switch

DIP Switch Label	Value
1	1
2	2
3	4
4	8
5	16

Address DIP is used for setting the unit address when connected to the network.
The address of each building controller is 100 PLUS the address set by the switches. Switches add for a total of 31 addresses (1 to 31). The Building Controller must be reset after changing an address.

EXAMPLE OF UNIT ADDRESS 113

Address - 1 + 3 + 4 = 113

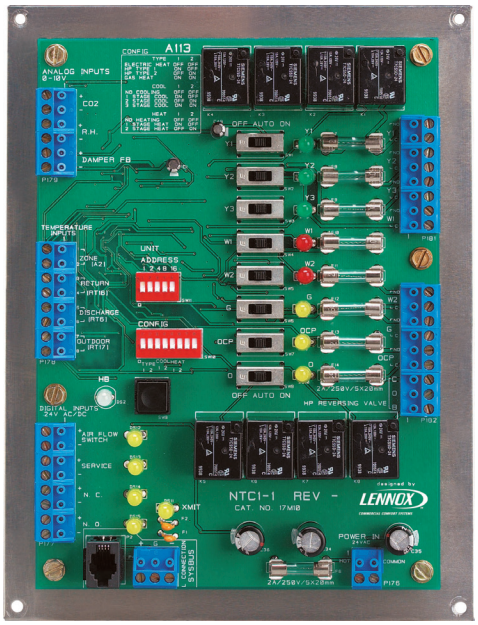
LEDs

Heartbeat LED:
Green 1 sec. on/off = Normal operation
Transmit/Receive LEDs:
Yellow = Data is being transmitted
Blink rate varies - as slow as once every 30 seconds when many units are on the network
Digital Input LEDs:
Green steady = Input is energized
Digital Output LEDs:
Green steady = Output is energized
Dark LED:
On = Light Sensor input is below adjustable setting

Sensor Temperature / Resistance	
Temp (°F)	**Resistance (±2%)**
59M04, 59M05, 99K64 (10K)	
-40	335,671
-20	164,959
0	85,323
20	46,218
30	34,566
40	26,106
50	19,904
60	15,313
70	11,884
80	9,298
90	7,332
100	5,826
120	3,756
130	3,047
56L80, 76M32, 94L60, 94L61 (11K)	
40	27,102
45	23,764
50	20,898
55	18,433
60	16,313
65	14,474
70	12,882
75	11,498
80	10,299
85	9,249
90	8,332

NETWORK THERMOSTAT CONTROLLER

C0CTRL07AE1L (17M10)



The **Network Thermostat Controller** is a direct digital controller (DDC) that provides general monitoring and control capabilities for HVAC equipment for the iCON Building Automation Solution. It can control most electro-mechanically controlled equipment up to 3 stages of cooling and two stages of heating. It can be used to control both non-Lennox equipment and Lennox equipment that is not equipped with the Prodigy® 2.0 unit controller.

The Network Thermostat Controller has test switches and LED indicators for easy testing and diagnostics for each output. It also has LED indicators for each digital input.

Main Features of the Network Thermostat Controller

- Compatible equipment includes:
  - Packaged rooftop units
  - Air handlers
  - Split systems
  - Commercial and residential products
- Multiple settings and controls options allow for advanced control:
  - Up to 2H/3C staging for flexible temperature control.
  - Occupied output for controlling day/night operation.
- 50 optional control parameters.
- 25 alarm codes permanently stored in memory.
- Adjustable options including supplemental heat lockout temperature, heating and cooling on/off blower delays, low ambient lockout, and compressor off delay.
- Plug-able screw terminal blocks.
- Operates over a single communication link.
- Components are clearly labeled.
- Two color heartbeat LED indicates proper functioning.
- Push button for bypassing time delays and resetting control.
- Return air temperature limits options.
- Field upgradeable flash memory
- Four temperature sensor inputs including return air, discharge air and outdoor sensor inputs (sensors ordered separately).
- CO_2 and RH analog inputs (0-10VDC) for monitoring (CO_2 and RH sensors ordered separately).
- Air flow proving switch input for optional air flow switch.
- Normally open switch input (may be set up as optional smoke detector input)
- Normally closed switch input (may be set up as optional blower overload or loss of phase protector input).
- Service relay input (may be set up as optional dirty filter input).
- Reversing valve “O” and “B” outputs for controlling heat pumps.
- Occupied output for enabling economizer.
- Optional weatherproof NEMA 4 enclosure: C0MISC10AE1- (**17M11**) and indoor NEMA 1 enclosure C0MISC14AE1- (**34M24**) are available.

SPECIFICATIONS - NETWORK THERMOSTAT CONTROLLER

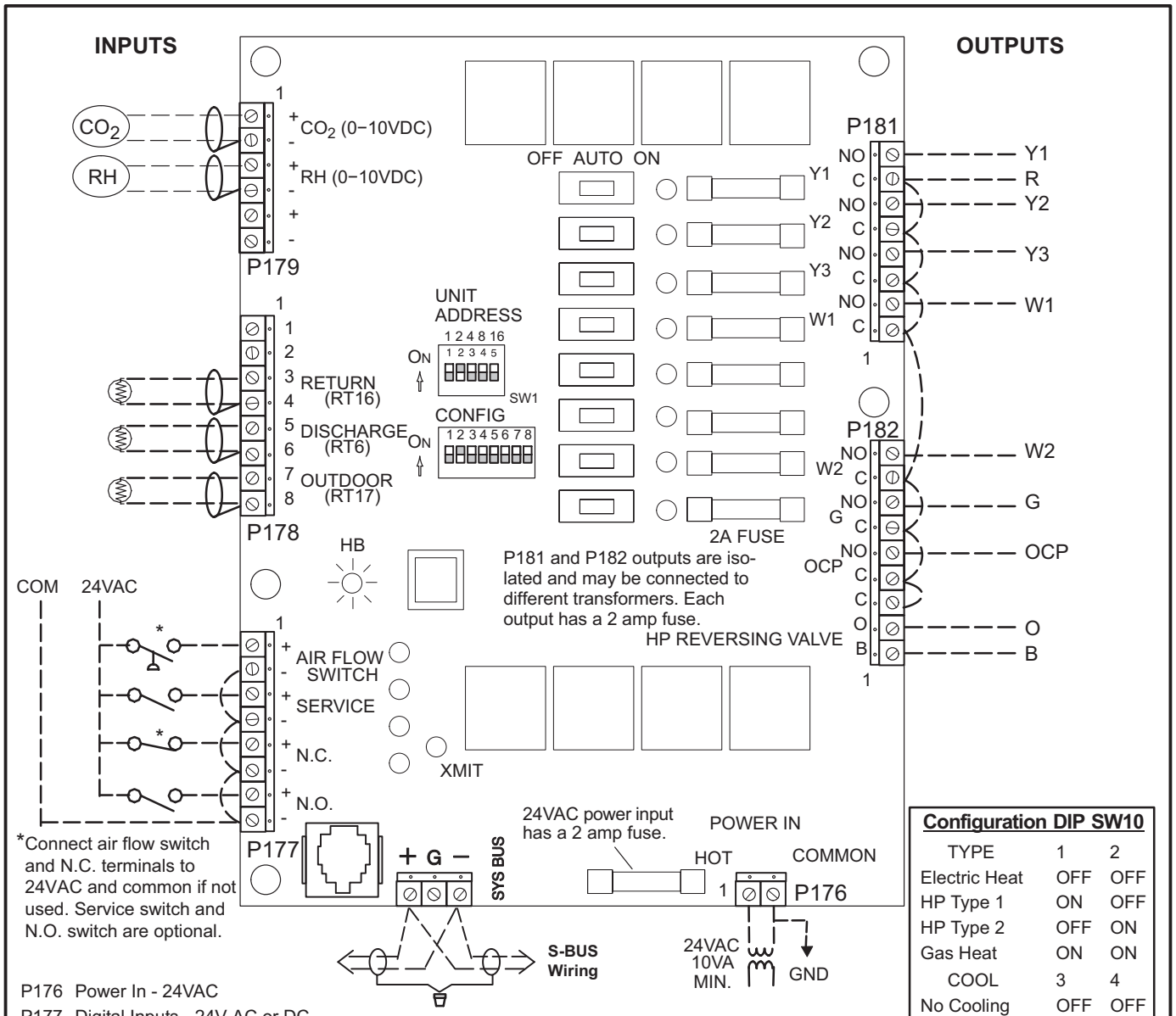
Device Commissioning	Auto-poll (real plug and play)
Operating Environment	Temperature: –40°F to 155°F
	Humidity: 10% - 95% RH, Non- Condensing
Power Requirements	24VAC, +/- 25%, 50/60Hz, 2VA
	Class 2 transformer required
Indicator LEDs	1 - Heartbeat
	1 - Bus transmit
	1 - Air Proving Switch Input
	1 - Service Relay Input
	1 - N.O. Shutdown Input
	1 - N.C. Shutdown Input
	1 - Each for Y1, Y2, Y3, W1, W2, G, O, C, P, O(B) thermostat outputs
Memory Type	Re-programmable Flash
Unit type	Gas/Electric, Electric/Electric and Heat Pumps (rooftop or split systems)
Cooling stages	3
Heating stages	2
Dimensions	Height: 8-1/2 in.
	Width: 6-1/2 in.
	Depth: 1-1/2 in.
Weight	1.10 lbs.
Electronic Configure To Order Parameters	50
Alarm Codes	25
Alarm Codes Stored	84

SPECIFICATIONS - NETWORK THERMOSTAT CONTROLLER (CONTINUED)

INPUTS / OUTPUTS

Digital Outputs	8 relay contact outputs (Y1, Y2, Y3, W1, W2, G, O/B, ECON Enable) rated at 24V, 2amp. Each contact is fused and has a manual switch option for on, off or auto. Each output has LED indicator.
Digital Inputs	1. Blower proving switch. Rated for 24VAC or DC. LED indicator. Compatible with Blower Proving Switch Kit C0SWCH01AE1- (**30K49**). 2. Service relay digital input. Rated for 24VAC or DC. LED indicator. May be set up as Dirty filter input. Compatible with Blower Proving Switch Kit C0SWCH01AE1- (**30K49**). 3. N.O. switch “shutdown” digital input. Rated for 24VAC or DC. LED indicator. May be set up as Smoke detector input. 4. N.C. switch “shutdown” digital input. Rated for 24VAC or DC. LED indicator. May be set up as blower overload or loss of phase protector input.
Analog Inputs	1. 0-10VDC input for monitoring CO_2 sensors. Compatible with CO_2 Sensors C0SNSR50AE1L (**77N39**), C0SNSR52AE1L (**87N53**), C0SNSR51AE1L (**87N52**), C0SNSR53AE1L (**87N54**). 2. 0-10VDC input for monitoring RH. Compatible with Remote Humidity Sensor Kit C0SNSR31AE1- (**17M50**) and Duct Mount RH Sensor C0SNSR30AE1- (**76M31**).
Temperature Inputs	1. Return air sensor. Must be present if return air limit option is used. Compatible with Duct Temperature Sensor C0SNDC04AE1- (**99K64**). 2. Discharge air sensor. Must be present if Discharge Air Control mode used for zoning. Compatible with Duct Temperature Sensor C0SNDC04AE1- (**99K64**). 3. Outdoor air sensor. Must be present if compressor low ambient option is used. Compatible with Outdoor Temperature Sensor C0SNSR02AE1- (**59M05**).
Cable Type	**S-Bus** - Lennox yellow COMM cable: C0MISC00AE1- (**27M19**) (500 ft. box), C0MISC04AE1- (**94L63**) (1000 ft. box), C0MISC01AE1- (**68M25**) (2500 ft. roll) **24VAC Power** - 2 Conductor thermostat 22 AWG min. (wire gauge depends on distance from transformer) **Digital Outputs** - Thermostat cable 22 AWG min. (wire gauge depends on distance) **Digital Inputs** - Thermostat cable 22 AWG min. (wire gauge depends on distance. **Analog Inputs** - Lennox COMM cable **Temperature Inputs** - Lennox COMM cable

NETWORK THERMOSTAT CONTROLLER - FIELD WIRING



*Connect air flow switch and N.C. terminals to 24VAC and common if not used. Service switch and N.O. switch are optional.

P176 Power In - 24VAC
P177 Digital Inputs - 24V AC or DC
P178 Temperature Sensors-Thermistor Type
P179 Analog Inputs - $C0_2$, RH -010VDC,
P181 Relay Outputs - 24V AC or DC 2A max
P182 Relay Outputs - 24V AC or DC 2A max

Configuration DIP SW10

TYPE	1	2
Electric Heat	OFF	OFF
HP Type 1	ON	OFF
HP Type 2	OFF	ON
Gas Heat	ON	ON
COOL	3	4
No Cooling	OFF	OFF
1 Stage Cool	ON	OFF
2 Stage Cool	OFF	ON
3 Stage Cool	ON	ON
HEAT	5	6
No Heating	OFF	OFF
1 Stage Heat	ON	OFF
2 Stage Heat	OFF	ON

Pushbutton

Short push: By-passes on/off delays

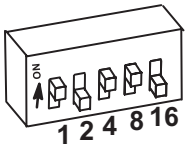
Long push: Resets NTC

ADDRESS DIP Switch

Address DIP is used for setting the unit address when connected to the network.

Switches add for a total of 31 addresses (1 to 31).

NTC must be reset after changing an address.



EXAMPLE OF UNIT ADDRESS 13

1 + 4 + 8 = 13

LED's

Heartbeat LED:
Green 1 sec. on/off= Normal operation
Green 3 sec. on/off= Delay initiated
Red 1 sec. on/off= No run lock−out

XMIT Transmit LED:
Yellow - = Data is being transmitted
Blink rate varies - as slow as once every 30 seconds when many units are on the network

Digital Input LED's:

AFS-Yellow steady= Blower is operating

Service-Yellow steady= Indicates the service input is energized.

N.C.-Yellow steady= Indicates the N.C. input is energized.

N.O.-Yellow steady=Indicates the N.O. input is energized.

Thermostat Output LED's:
Green, red, or yellow steady=Indicates relay is closed.

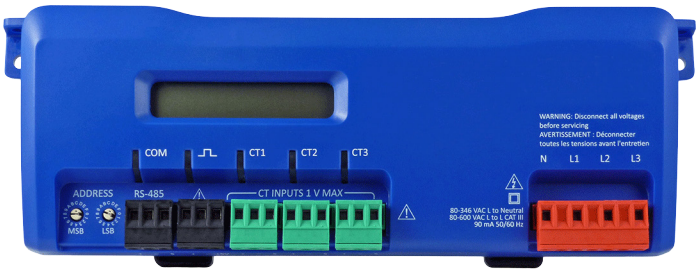
Temperature Thermistor Resistance

	RT6, RT16 RT17	A2
30°F	34,566	NA
40°F	26,106	NA
50°F	19,904	20,904
60°F	15,313	16,313
70°F	11,884	12,884
80°F	9,298	10,298
90°F	7,332	8,332
100°F	5,826	NA

All values are +/− 2%.

ENERGY MONITOR

(16C80)



Adapt To Any Project

The PowerScout 3037 is a revenue-grade, single-point 3-phase power meter from DENT Instruments. The PowerScout Meter can monitor voltage, current, power, energy, and many other electrical parameters on single and three-phase systems.

All PowerScout 3037 models have a broadband power supply (80-600VAC) and can be paired with a variety of current transformers, from split cores that measure < 1A up to large RoCoils designed for measuring 4000A. In addition, communication protocols are field-selectable.

The communications interface to the meters is an Ethernet connection that uses the Modbus protocol for sending commands and retrieving data. A separate remote terminal unit (RTU), Data Logger, or Building Management and Control System is usually connected to the PowerScout to provide data recording and trend logging plus a human interface or display.

Up to 8 meters may be connected to a single iCON network for monitoring and recording power usage at multiple locations within a single site.

Meter is configured via the iCON Local Display (see page 14)

Digital Display

Visual display allows user to cycle through meter information and real-time values of Volts, Amps, KW, KVA, KVAR, etc.

Two rows of 16 characters auto cycle between informational screens every 2 seconds, with real-time values updated every second. A “hold” button will stop the cycle until it is pressed again or a set timeout is reached.

Quick And Easy Setup

Configuring the PowerScout 3037 for a new project is faster than ever before, thanks to the standard USB port. To configure, simply connect the meter to a PC using a USB cable, then use ViewPoint software to select CT type, communication protocol, and other parameters. The meter is powered by the USB port while connected to a PC. Have several meters that require the same configuration? Save your setup table in ViewPoint and use it over and over.

Fast And Easy Installation

The PowerScout 3037 is compact enough to facilitate in-panel mounting. Or, use the built-in DIN rail channel, which is compatible with TS35/7 rail for quick and easy mounting near the circuit panel.

Revenue-Grade Performance

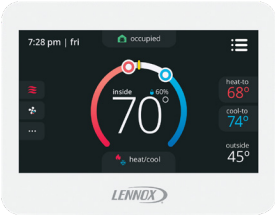
The PowerScout 3037 features revenue-grade ANSI C12.20-2010 qualified Class 0.2 performance. Paired with the appropriate DENT CTs, the PowerScout 3037 is ideal for high-accuracy applications like demand response or tenant submetering.

PowerScout instruments are line-powered and do not require external power. Its power supply can accommodate service voltages ranging from 80-600V (phase-to-phase). DENT’s patented PhaseChek™ circuitry includes a 3 bi-color LED indicator display that confirms proper CT-to-phase placement and orientation.

SPECIFICATIONS - ENERGY MONITOR

TECHNICAL	
Service Types	Single Phase, 3 Phase - 4 Wire (WYE), 3 Phase - 3 Wire (Delta)
Power	From L1 Phase to L2 Phase. 80-600VAC CAT III 50/60Hz, 70mA Max. Non-user replaceable .5 Amp internal fuse protection
Power Out	Unregulated 5VDC output, 140 mA Max, resetting fuse
Voltage Channels	80-346 Volts AC Line-to-Neutral, 600V Phase-to-Phase, CAT III
Current Channels	3 channels, 0.52 VAC max, 333 mV CTs, 0-4,000A
Maximum Current Input	158% of current transducer rating (mV CTs) to maintain accuracy. Measure up to 4000A with RoCoil CTs
Measurement Type	True RMS using high-speed digital signal processing (DSP)
Line Frequency	50/60 Hz
Waveform Sampling	200 samples/60Hz waveform, 240 samples/50Hz waveform 2 waveforms/second
Parameter Update Rate	1 second
Measurements	Volts, Amps, kW, kWh, kVAR, kVARh, kVA, kVAh, aPF, dPF
Accuracy	0.2% (<0.1% typical) ANSI C12.20-2010 Class 0.2
Resolution	0.01 Amp, 0.1 Volt, 0.01 watt, 0.01 VAR, 0.01 VA, 0.01 Power Factor depending on scalar setting
LED Indicators	Bi-color LEDs (red and green): 1 LED to indicate communication, 3 LEDs for correct CT-to-phase installation (per meter element)
Digital Display	2 x 16 character display which auto-cycles between informational screens every 2-3 seconds, with real-time values updated every second
PULSE OUTPUT	Open Collector, 5mA max current, 30V max open voltage
MECHANICAL	
Cable Connection	RJ45
Operating Temperature	-20° to 60°C (-4° to 140°F)
Humidity	5% to 95% non-condensing
Enclosure	ABS Plastic, 94-V0 flammability rating
Weight	12 oz.
Dimensions	9-1/2 x 3-3/8 x 1-5/8 in.
APPROVALS	
Agency	UL Listed Conforms to UL Std 61010-1, 3rd Edition & IEC 61010-2-030, 1st Edition Certified to CSA Std C22.2 No. 61010-1, 3rd Edition

OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

Item	Model No. (Description)	Catalog No.
COMFORTSENSE® 8500 COMMERCIAL 7 DAY PROGRAMMABLE THERMOSTAT		
		
• Fully Communicating Thermostat • Up to 4 Heat and 4 Cool • Automatic Changeover between Heating and Cooling Modes • Designed to maximize Prodigy® Control System Operation • BACNet Compatible • Remote Indoor Temperature Sensing (up to nine averaging sensors) • Intuitive Touchscreen Interface • Backlit Display • Relative Humidity Sensor • Remote Occupancy Sensing • Outside Air Temperature Display • Four-Wire Installation • Scheduled Occupancy Control • Performance Reports (standalone mode) • Full Variable-Speed Control (Energence® 3-6 Ton Ultra High Efficiency units only) • Dehumidification/Humiditrol® Control • Wallplate Furnished • ASHRAE and IECC Compliant	C0STAT03FF2L (Non-Zoning) C0STAT22FF2L (Non-Zoning with CO_2 Sensing)	**17G75** **17G76**
Optional Accessories		
[1] Remote non-adjustable wall mount 10k temperature sensor	C0SNZN01AE2	**47W37**
[1] Remote non-adjustable wall mount 11k temperature sensor	C0SNZN08AE1	**94L61**
Locking cover (clear)	C0MISC15AE1-	**39P21**
[1] Up to nine of the same type remote temperature sensors can be connected in parallel.		
Sysbus Network Cable (Yellow) - Non-Zoning Models		
Twisted pair 100% shielded communication cable, Red and Black 22 AWG, yellow jacket, rated at 75°C, 300V, Plenum rated Insulation - Low smoke PVC, NEC, CMP	500 ft. box - C0MISC00AE1- 1000 ft. box - C0MISC04AE1- 2500 ft. roll - C0MISC01AE1-	**27M19** **94L63** **68M25**

SPECIFICATIONS - COMFORTSENSE 8500

Unit Controller Compatibility	Prodigy® Unit Controller - All versions Network Thermostat Controller - Version 1.10 or higher
Device Commissioning	Auto-poll (real plug and play)
Operating Environment	Temperature: -0°F to 105°F Humidity: 10% - 95% RH, Non- Condensing
Memory Type	Re-programmable Flash
Electronic Configure To Order Parameters	8
Power Requirements	24VAC (+/-25%), 50/60Hz, 3VA Class 2 transformer required
Temperature Range	Temperature: 32°F to 99°F
Temperature Accuracy	+/- 1°F (May be field calibrated to +/- 0.25°F)
RH Range	5-95% RH
RH Accuracy	+/- 5% RH (May be field calibrated to +/-2%)
CO_2 Range (CO_2 Models)	400-2000 ppm
CO_2 Accuracy (CO_2 Models)	+/- 40 ppm + 3% or reading @ 77°F CO_2 sensor has built-in self calibration algorithm
Temperature Setpoint Range	Temperature: -40°F to 95°F
Display Type	Full color, capacitive touch LCD screen
Dimensions	Height: 3-5/16 in. Width: 4-5/16 in. Depth: 7/8 in.
Weight	0.42 lbs.
Enclosure	High impact ABS off-white plastic case.
INPUTS / OUTPUTS	
Remote Temperature Sensor Input	Up to four remote temperature sensors connected in parallel for averaging and remote monitoring. Compatible with Miniature Wall-Mount Zone Sensor C0SNZN08AE1- (94L61) and Wall-Mount Zone Sensor with Adjustable Zone Temperature C0SNAJ01AE1- (56L80).
Occupancy Sensor Input	24VAC input (On for occupied)
Cable Type	**S-Bus** - Lennox yellow COMM cable: C0MISC00AE1- (**27M19**) (500 ft. box), C0MISC04AE1- (**94L63**) (1000 ft. box), C0MISC01AE1- (**68M25**) (2500 ft. roll) **M-Bus** - Lennox purple COMM cable: C0MISC05AE1- (**23W99**) (500 ft. box) C0MISC06AE1- (**24W00**) (1000 ft. box) C0MISC07AE1- (**24W01**) (2500 ft. roll) **24VAC Power** - Two Conductor thermostat 22 AWG min. (wire gauge depends on distance from transformer) **Remote Temperature Sensor** - Two Conductor thermostat cable 22 AWG min. (wire gauge depends on distance) **Occupancy Sensor** - Two Conductor thermostat cable 22 AWG min. (wire gauge depends on distance.

COMFORT SENSOR

The Comfort Sensor is a communicating, single zone unit room temperature sensor that is available with optional built-in relative humidity and CO_2 sensors. It is also available with LCD display with setpoint and fan control. Each model of the Comfort Sensor has an input for up to four additional optional remote room temperature sensors. These sensors may be used for applications that require remote temperature sensing or temperature averaging. In addition, each version also has an input for optional occupancy switch that could be used for controlling the occupied status of the unit as well as the occupied/unoccupied temperature setpoints.

Each model can be used with the ICON Local Display for scheduling setpoints or in a stand-alone mode without the ICON Local Display. No setpoint scheduling is available when used in the stand-alone mode.

Main Features of the Comfort Sensor

- Single unit temperature setpoint control.
  - Works with the ICON Local Display.
  - Also works in stand-alone mode.
- Available with zone RH and/or zone CO_2 sensors.
- CO_2 self calibration system eliminates the need for manual calibration in most applications.
- Available with or without display and setpoint adjustment.
- Easy user interface on models with setpoint control.
- Field upgradeable flash memory.
- Display in degrees °F or °C.
- May use up to four additional averaging sensors (optional).
- May use remote sensor (optional).
- May use optional field provided occupancy sensor.
- Screw terminals for field wiring.
- Off-white plastic enclosure.
- 8 Electronic Configure-To-Order parameters.
- All models have after-hours override push-button.

Models With Display and Setpoint Adjustment

- C0SNAJ02AE1L (**18W68**) - Temperature, Display, Setpoint/Fan Control, After-Hours Override Button
- C0SNMT10AE1L (**18W66**) - Temperature, Relative Humidity, Display, Setpoint/Fan Control, After-Hours Override Button
- C0SNMT20AE1L (**18W67**) - Temperature, CO_2, Display, Setpoint/Fan Control, After-Hours Override Button
- C0SNMT30AE1L (**18W65**) - Temperature, Relative Humidity, CO_2, Display, Setpoint/Fan Control, After-Hours Override Button

User Interface

Display/Setpoint Adjustable Models have a user interface, consisting of an LCD display and three push buttons.

Push button functions:

1. Adjusting zone temperature setpoints.
2. Changing zone occupied mode.
3. Resuming a scheduled program.
4. Viewing zone data, zone temperature (°F or °C), relative humidity (%), carbon dioxide level (PPM) and outdoor temperature (°F or °C).
5. Controlling unit blower.

All models have an after-hours override button on the right side.

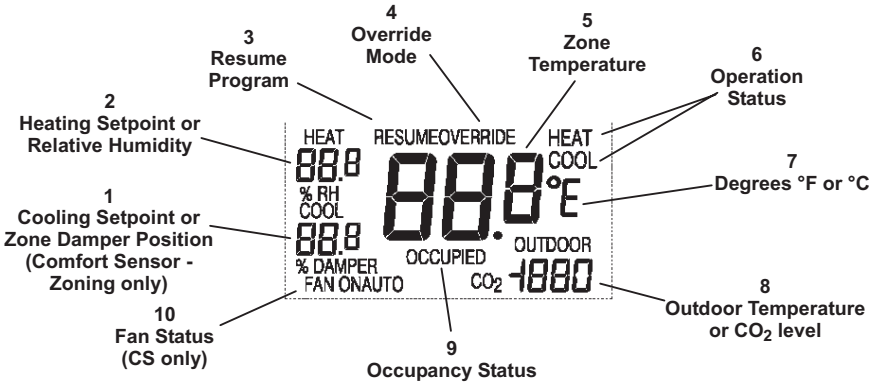
COMFORT SENSOR (continued)

Display Options (Models With Display and Setpoint Adjustment)

The information display on the Comfort Sensor's main screen is configurable using Electronic Configure To Order parameters. The default configuration displays Indoor (zone) Temperature, Operation Status (HEAT or COOL), and Occupancy Status. The Indoor (zone) Temperature and Heating/Cooling Setpoints can be set to display in 0.5 degree increments (default is one degree).

Depending on the type of Comfort Sensor model used, various other data can be displayed on the main screen:

- CO_2 Models - Can be configured to display CO_2 or Outdoor Temperature (You can access the mode not displayed by holding down the select button, the display will alternate between each mode at one second intervals).
- Relative Humidity (RH) Models - May be configured to display Relative Humidity or Heating Setpoint. If Relative Humidity is displayed, pushing any button will display Heating Setpoint.
- CO_2 and Relative Humidity (RH) Models - Displays CO_2 or Outdoor Temperature (You can access the mode not displayed by holding down the select button, the display will alternate between each mode at one second intervals). This model can also be configured to display Relative Humidity or Heating Setpoint. If Relative Humidity is displayed, pushing any button will display Heating Setpoint.



1. Cooling Setpoint or Zone Damper Position - When the parameter is set to display the damper position, any button may be pushed to display the setpoints. Damper position is available for use with Comfort Sensor-Zoning sensors only.
2. Heating Setpoint or Relative Humidity - When the parameter is set to display the relative humidity, any button may be pushed to display the setpoints. Comfort Sensor/Comfort Sensor-Zoning must be equipped with RH option to display RH.
3. Resume Program - Displayed when override mode is returning to a scheduled program.
4. Override Mode - Displayed when a scheduled program has been overridden. Also referred to as After-Hours Override.
5. Zone Temperature
6. Operation Status - Either HEAT or COOL will be displayed when the zone is operating in heating or cooling mode. The appropriate readout will blink if the zone is requesting either heating or cooling and the zone is not yet being serviced.
7. Degrees °C or °F
8. Outdoor Temperature or CO_2 - CO_2 level shown in parts per million. The Comfort Sensor/Comfort Sensor-Zoning must be equipped with CO_2 option to display CO_2.
9. Occupancy Status - Displayed when the zone is in occupied mode. Nothing is displayed in this area during the unoccupied time period.
10. Fan Status - Comfort Sensor only. If enabled, the unit fan control status is displayed, either FAN ON (continuous) or FAN AUTO (cycles with heating or cooling operation).

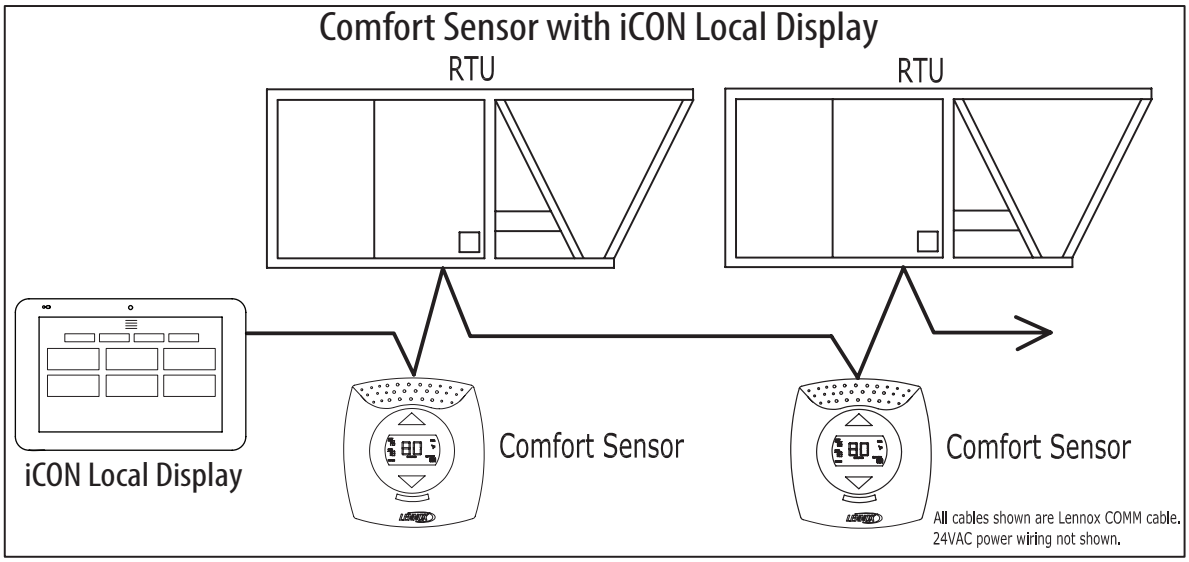
Models Without Display or Setpoint Adjustment

- C0SNZN09AE1- (**18W72**) Temperature, After-Hours Override Button.
- C0SNMT11AE1- (**18W69**) Temperature, Relative Humidity, After-Hours Override Button.
- C0SNMT21AE1L (**18W70**) - Temperature, CO_2, After-Hours Override Button.
- C0SNMT31AE1L (**18W71**) - Temperature, Relative Humidity, CO_2, After-Hours Override Button.

COMFORT SENSOR (continued)

SEQUENCE OF OPERATION

Temperature Setpoint and Occupancy Operation with iCON Local Display



The Comfort Sensor operates to maintain the temperature setpoint. The heating and cooling setpoints originate from the iCON Local Display or the Comfort Sensor. In applications using the iCON Local Display operating in manual mode, a Comfort Sensor with display can fully adjust the setpoints between a minimum of 40°F and the maximum of 95°F.

The system maintains two sets of setpoints, Occupied and Unoccupied. If the area is currently unoccupied, the area may be overridden into the occupied state by:

1. Pressing the UP/DOWN buttons to change the current setpoints, in a display version of Comfort Sensor.
2. Pressing the OVERRIDE button on the side of the Comfort Sensor.
3. Applying an occupied signal to the Comfort Sensor Occupancy Input.
4. Changing the occupied state, at the ICON Local Display.

The Comfort Sensor with display can be used to override the current setpoints within a specified range. This range is set in an internal parameter. A setting of zero disables this feature. Pressing the UP or DOWN buttons will change the current (most-recently serviced) heating or cooling setpoint. Pressing the SELECT button will highlight the other heating or cooling setpoint, allowing adjustment of this setpoint. These override setpoints will be active for the time specified in the Override Timer parameter that is set in the ICON Local Display.

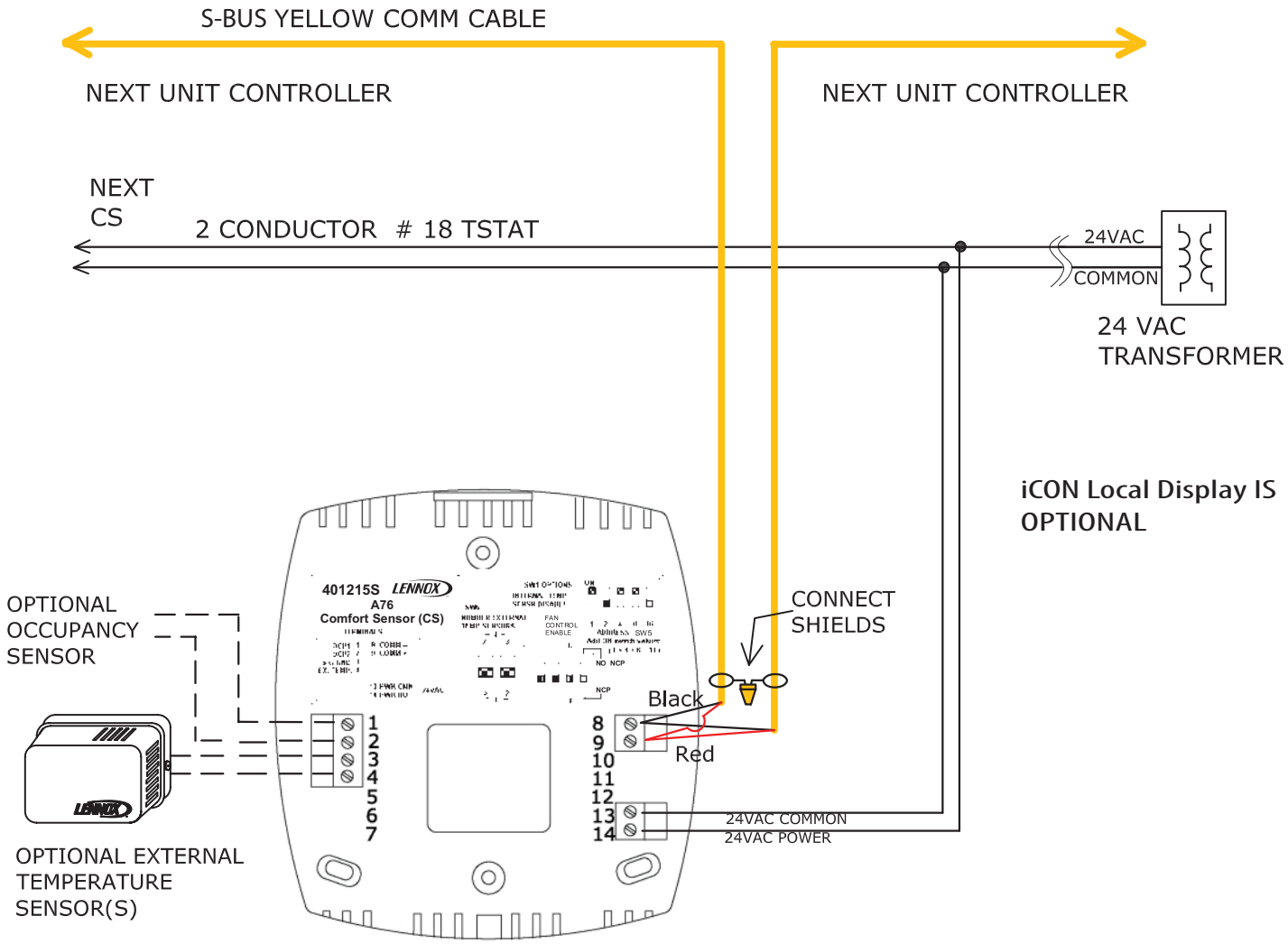
Pressing the side OVERRIDE button will initiate the override timer. The zone will go into the occupied state and use the override setpoints for the time set in the Override Timer parameter that is in the ICON Local Display.

The override operation may be disabled by setting the ICON Local Display override timer parameter to zero.

SPECIFICATIONS - COMFORT SENSOR

Unit Controller Compatibility	Prodigy® Unit Controller - All versions Network Thermostat Controller - Version 1.10 or higher
Device Commissioning	Auto-poll (real plug and play)
Operating Environment	Temperature: -0°F to 105°F Humidity: 10% - 95% RH, Non- Condensing
Memory Type	Re-programmable Flash
Electronic Configure To Order Parameters	8
Power Requirements	24VAC (+/-25%), 50/60Hz, 3VA Class 2 transformer required
Temperature Range	Temperature: –33°F to 99°F
Temperature Accuracy	+/- 0.4°F (May be field calibrated to +/- 0.25°F)
RH Range	10-95% RH
RH Accuracy	+/- 5% RH (May be field calibrated to +/-2%)
CO_2 Range	0-2000 ppm
CO_2 Accuracy	+/- 40 ppm + 3% or reading @ 25C CO_2 sensor has built-in self calibration algorithm
Temperature Setpoint Range	Temperature: -40°F to 95°F
Display Type (for models w/displays)	Liquid Crystal (LCD) with Green LED backlight
Dimensions	Height: 5 in. Width: 4-1/2 in. Depth: 1-3/8 in.
Weight	0.42 lbs.
Enclosure	High impact ABS off-white plastic case.
INPUTS / OUTPUTS	
Bus Port:	Lennox S-Bus, EIA-485, 9600 baud (Field wiring terminal block and phone jack located on side of control).
Remote Temperature Sensor Input	Up to four remote temperature sensors connected in parallel for averaging and remote monitoring. Compatible with Miniature Wall-Mount Zone Sensor C0SNZN08AE1- (94L61) and Wall-Mount Zone Sensor with Adjustable Zone Temperature C0SNAJ01AE1- (56L80).
Occupancy Sensor Input	24VAC input (On for occupied)
Cable Type	**S-Bus** - Lennox yellow COMM cable: C0MISC00AE1- (**27M19**) (500 ft. box), C0MISC04AE1- (**94L63**) (1000 ft. box), C0MISC01AE1- (**68M25**) (2500 ft. roll) **24VAC Power** - Two Conductor thermostat 22 AWG min. (wire gauge depends on distance from transformer) **Remote Temperature Sensor** - Two Conductor thermostat cable 22 AWG min. (wire gauge depends on distance) **Occupancy Sensor** - Two Conductor thermostat cable 22 AWG min. (wire gauge depends on distance.

COMFORT SENSOR - FIELD WIRING



SYSTEM COMPONENTS - SENSORS

ZONE SENSOR - WALL-MOUNT (NON-COMMUNICATING)

C0SNAJ01AE1- (56L80) AND C0SNZN07AE1- (94L60)

Two-wire non-communicating wall-mounted zone sensors. Each sensor is designed to fit a single gang electrical handy box. The C0SNAJ01AE1- has a sensor offset slide that allows for easy temperature adjustment. Each sensor also has SysBus/ZoneBus phone jack that may be connected to the network. The bus connection is not required for sensor operation.

Main Features of Non-Communicating Zone Sensors

- Terminal blocks for wiring connections.
- Simple two-wire sensor connection.
- After-hours override button.
- Off-white plastic enclosure.
- C0SNAJ01AE1- features warmer/cooler zone adjustment on bottom of sensor
- Provides +/- zone temperature offset control.
- Adjustment amount is field selected using a DIP switch located under the cover.
  - Options include:
    - +/- 1°F
    - +/- 4°F
    - Non-adjustable
- Sensor has a phone jack that may be used for connecting a PC converter to a PC with L Connection Network software.
- Sensor does not require a connection to the L Connection Network to function.
- C0SNZN07AE1- does not have the warmer/cooler temperature adjustment feature.

SPECIFICATIONS - Zone SENSOR (NON-COMMUNICATING)

Unit Controller Compatibility	Prodigy® Unit Controller, Network Thermostat Controller
Temperature Range	40°F to 95°F
Offset Adjustment Range (C0SNAJ01AE1- only)	DIP switch options (located under cover) 1. No adjustment 2. +/- 1°F 3. +/- 4°F
Accuracy	+/-0.36°F
Stability	+/-0.23°F
Interchangeability	+/-0.36°F
Sensor Type	NTC thermistor , 11K @76°F w/offset Pot
Enclosure	High impact ABS off-white plastic case
Dimensions	Height: 4-1/2 in. Width: 2-3/4 in. Depth: 1-1/8 in.
Weight	0.0625 lbs.
INPUTS / OUTPUTS	
Sensor	Two-wire (not polarity sensitive)
SysBus/ZoneBus	Optional (polarity sensitive)
Cable Type	**Optional SysBus** - Lennox yellow COMM cable: C0MISC00AE1- (**27M19**) (500 ft. box), C0MISC04AE1- (**94L63**) (1000 ft. box), C0MISC01AE1- (**68M25**) (2500 ft. roll)

SYSTEM COMPONENTS - SENSORS

MINIATURE ZONE SENSOR - WALL-MOUNT (NON-COMMUNICATING)

C0SNZN08AE1- (94L61) AND C0SNZN03AE1- (59M04)

Small non-communicating wall-mount zone sensors.

- C0SNZN08AE1- Non-communicating only.
- C0SNZN03AE1- Non-communicating for use with Building Controller.

Main Features of Non-Communicating Zone Sensor

- Small size.
- Terminal block for wiring connections.
- Off-white plastic enclosure.
- C0SNZN03AE1- for use with the Building Controller.

SPECIFICATIONS - MINIATURE ZONE SENSOR (NON-COMMUNICATING)

Unit Controller Compatibility	C0SNZN08AE1- Prodigy® Unit Controller, Network Thermostat Controller C0SNZN03AE1- Building Controller
Temperature Range	40°F to 95°F
Accuracy	+/-0.36°F
Stability	+/-0.23°F
Interchangeability	+/-0.36°F
Sensor Type	C0SNZN08AE1- NTC thermistor, 11K @76°F C0SNZN03AE1- NTC thermistor, 10K @76°F
Enclosure	High impact ABS off-white plastic case with aluminum base
Dimensions	Height: 1-1/2 in. Width: 2 in. Depth: 1 in.
Weight	0. 06 lbs.
Cable Type	**Sensor** - Lennox yellow COMM cable: C0MISC00AE1- (**27M19**) (500 ft. box), C0MISC04AE1- (**94L63**) (1000 ft. box), C0MISC01AE1- (**68M25**) (2500 ft. roll)

SYSTEM COMPONENTS - SENSORS

ZONE SENSOR - WALL-MOUNT (NON-COMMUNICATING)

C0SNZN77AE1 (21W07)

Non-communicating, wall-mounted zone sensor. Sensor fits a single gang electrical handy box. Sensor may be used for Humiditrol® units or units that use the Supermarket reheat feature.

Main Features of Non-Communicating Zone Sensor

- Terminal blocks for wiring connections.
- Simple two-wire sensor connection.
- Off-white plastic enclosure.
- Non-adjustable.
- Sensor does not require a connection to iCON to function.

SPECIFICATIONS - ZONE SENSOR (NON-COMMUNICATING)

Controller Compatibility	Prodigy® Unit Controller, Building Controller, Network Thermostat Controller
Temperature Range	40°F to 95°F
Accuracy	+/-0.36°F
Stability	+/-0.23°F
Interchangeability	+/-0.36°F
Sensor Type	NTC thermistor , 11K @76°F w/offset Poteniometer
Enclosure	High impact ABS off-white plastic case
Dimensions	Height: 4-1/2 in. Width: 2-3/4 in. Depth: 1-1/8 in.
Weight	0.3 lbs.
INPUTS / OUTPUTS	
Sensor	Two-wire (not polarity sensitive)
Cable Type	**Wire runs under 50 ft.** 2 twisted pair shielded cable (2 Lennox yellow COMM cables): C0MISC00AE1- (**27M19**) (500 ft. box), C0MISC04AE1- (**94L63**) (1000 ft. box), C0MISC01AE1- (**68M25**) (2500 ft. roll)

COMBINATION ZONE TEMPERATURE AND RELATIVE HUMIDITY SENSOR - WALL-MOUNT (NON-COMMUNICATING)

(21W06)

Non-communicating, wall-mounted, combination zone temperature and relative humidity sensor. Sensor fits a single gang electrical handy box. Sensor may be used for Humiditrol® units or units that use the Supermarket reheat feature.

Main Features of Wall-Mounted, Combination Zone Temperature and Relative Humidity Sensor

- Terminal blocks for wiring connections.
- Five-wire sensor connection.
- Off-white plastic enclosure.
- Non-adjustable.
- Relative humidity range: 0 -100%.
- +/- 3% Accuracy.
- Sensor does not require a connection to iCON to function

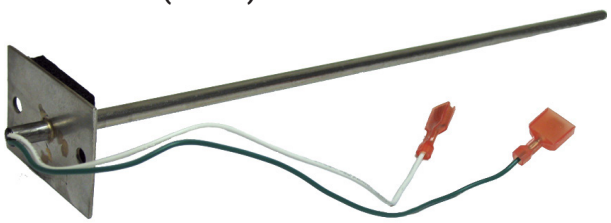
SPECIFICATIONS - REMOTE TEMPERATURE/HUMIDITY SENSOR - WALL-MOUNT

Controller Compatibility	Prodigy® Unit Controller, Building Controller, Network Thermostat Controller
Operating Environment	Temperature: –10°F to 160°F Humidity: 0-95% RH, non-condensing
Power Requirements	24VAC, +/- 25%, 50/60Hz, 1.5 VA
RH Range	5-95%
Accuracy	+/-3% RH from 20 to 95% RH @77°F
Stability	+/-0.23°F, +/- 2% RH from 20 to 95% RH @77°F
Interchangeability	+/-0.36°F, +/- 3% RH from 20 to 95% RH @77°F
Enclosure	High impact ABS off-white plastic case
Dimensions	Height: 4-1/2 in. Width: 2-3/4 in. Depth: 1-1/8 in.
Weight	0.3 lbs.
INPUTS / OUTPUTS	
Temperature Sensor	Two-wire (See Cable-Type below) to RTU
Humidity Sensor	Three-wire (See Cable-Type below) to RTU
Analog Output	0-10VDC, 0-5VDC or 4-20mA (0-10VDC is used for Prodigy® Unit Controller, Building Controller and Network Thermostat Controller)
Cable Type	**Temperature Sensor:** Optional SysBus - Lennox yellow COMM cable: C0MISC00AE1- (27M19) (500 ft. box), C0MISC04AE1- (94L63) (1000 ft. box), C0MISC01AE1- (68M25) (2500 ft. roll) **Humidity Sensor:** **Wire runs under 50 ft.** 2 twisted pair shielded cable (2 Lennox yellow COMM cables): C0MISC00AE1- (27M19) (500 ft. box), C0MISC04AE1- (94L63) (1000 ft. box), C0MISC01AE1- (68M25) (2500 ft. roll)Wire runs over 50 ft. but under 150 ft. 2 twisted pair shielded cable (18 AWG) **Wire runs over 150 ft.** Requires local isolated power transformer: C0MISC30AE1- (18M13), 24VAC, 20VA maximum 1 twisted pair shielded cable (1 Lennox yellow COMM cable): C0MISC00AE1- (27M19) (500 ft. box), C0MISC04AE1- (94L63) (1000 ft. box), C0MISC01AE1- (68M25) (2500 ft. roll)

SYSTEM COMPONENTS - SENSORS

RETURN AIR DUCT MOUNT ZONE SENSOR (NON-COMMUNICATING)

C0SNDC02AE1- (56L81)



Duct mounted non-communicating zone sensor designed for applications where a wall-mounted sensor is not practical. The sensor wires directly to the unit controller zone sensor input.

Main Features of Non-Communicating Zone Sensor

- 12 in. probe with mounting plate.
- Stainless steel construction.

SPECIFICATIONS - RETURN AIR DUCT MOUNT ZONE SENSOR (NON-COMMUNICATING)

Unit Controller Compatibility	Prodigy® Unit Controller, Network Thermostat Controller
Temperature Range	40°F to 95°F
Accuracy	+/-0.36°F
Stability	+/-0.23°F
Interchangeability	+/-0.36°F
Sensor Type	NTC thermistor , 11K @76°F
Mounting	Mounting plate for 2 screws
Dimensions	Length: 12 in. Diameter: 1/4 in.
Weight	0.0625 lbs.
Cable Type	**Sensor** - Lennox yellow COMM cable: C0MISC00AE1- (**27M19**) (500 ft. box), C0MISC04AE1- (**94L63**) (1000 ft. box), C0MISC01AE1- (**68M25**) (2500 ft. roll)

SYSTEM COMPONENTS - SENSORS

AVERAGING ZONE SENSOR KIT - WALL-MOUNT (NON-COMMUNICATING)

C0SNZN71AE1- (23M20)

Two small wall-mounted non-communicating zone sensors that are used for averaging zone temperatures in two locations. These sensors MUST be used together.

Main Features of Averaging Zone Sensor Kit

- Kit includes two wall-mounted sensors.
- Terminal block for wiring connections.
- Wired in parallel for simple installation.
- Off-white plastic enclosure.

SPECIFICATIONS - AVERAGING ZONE SENSOR KIT (NON-COMMUNICATING)

Unit Controller Compatibility	Prodigy® Unit Controller, Network Thermostat Controller
Temperature Range	40°F to 95°F
Accuracy	+/-0.36°F (+/-0.2C)
Stability	+/-0.23°F (+/-0.13C)
Interchangeability	+/-0.36°F (+/-0.2C)
Sensor Type	NTC thermistor , 22K @76°F (Each Sensor) Must be connected in parallel
Enclosure	High impact ABS off-white plastic case.
Dimensions (Each Sensor)	Height: 1-1/2 in. Width: 2 in. Depth: 1 in.
Weight	0.12 lbs.
Cable Type	**Sensor** - Lennox yellow COMM cable: C0MISC00AE1- (**27M19**) (500 ft. box), C0MISC04AE1- (**94L63**) (1000 ft. box), C0MISC01AE1- (**68M25**) (2500 ft. roll)

SYSTEM COMPONENTS - SENSORS

ZONE SENSOR - FLUSH WALL-MOUNT (NON-COMMUNICATING)

C0SNZN04AE1- (76M32)

Non-communicating flush wall-mount zone sensor. Sensor fits a single gang electrical handy box. For applications that require flush mounted wall sensors.

Main Features of Flush Zone Sensor

- Single gang electrical handy box size.
- Stainless steel wall-mounting plate.
- Simple two-wire sensor connection.

SPECIFICATIONS - ZONE SENSOR - FLUSH WALL-MOUNT (NON-COMMUNICATING)

Unit Controller Compatibility	Prodigy® Unit Controller, Network Thermostat Controller
Temperature Range	40°F to 95°F
Accuracy	+/-0.36°F
Stability	+/-0.23°F
Interchangeability	+/-0.36°F
Sensor Type	NTC thermistor , 11K @76°F
Cover Material	Stainless steel
Dimensions (Each Sensor)	Height: 4-1/2 in. Width: 2-3/4 in. Depth: 1/8 in.
Weight	0.4 lbs.
Cable Type	**Sensor** - Lennox yellow COMM cable: C0MISC00AE1- (**27M19**) (500 ft. box), C0MISC04AE1- (**94L63**) (1000 ft. box), C0MISC01AE1- (**68M25**) (2500 ft. roll)

CO_2 SENSOR - WALL-MOUNT (NON-COMMUNICATING)

C0SNSR52AE1L (87N53), C0SNSR50AE1L (77N39), C0SNSR53AE1L (87N54), C0SNSR51AE1L (87N52)

Wall-mounted non-communicating CO_2 sensors. Sensors may be used for demand control ventilation.

Main Features of CO_2 Sensors

- C0SNSR52AE1L - Off-white plastic cover, no display.
- C0SNSR50AE1L - Off-white plastic cover with LCD display.
- C0SNSR53AE1L - Black plastic case, no display, UL94-5V rated, may be used in return air duct.
- C0SNSR51AE1L - Black plastic case, LCD display, UL94-5V rated, may be used in return air duct.

All Models

- Plug and play compatible with the Prodigy® Unit Controller on Lennox' premium units.
- Patented absorption infrared gas sensing engine.
- Self-calibration system eliminates the need for manual calibration in most applications.
- Gas permeable, water resistant CO_2 diffusion filter prevents particulate and water contamination of the sensor
- Screw type terminal blocks.
- +/- 40 ppm + 3% of reading up to 1000 ppm
  +/- 40 ppm + 5% of reading up to 1000-1200 ppm
  +/- 40 ppm + 7% of reading up to 1200-2000 ppm
- Dual outputs (0-10VDC and 4-20mA).

SPECIFICATIONS - CO_2 SENSORS - WALL-MOUNT (NON-COMMUNICATING)

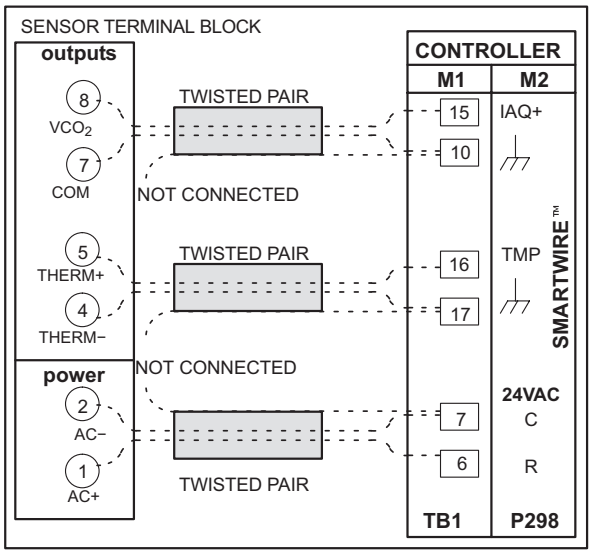
Controller Compatibility	Prodigy® Unit Controller, Building Controller, Network Thermostat Controller
Power Requirements	24VAC (+/–25%), 50/60Hz, 2VA maximum
Operating Conditions	32-122°F 0-95% RH, non-condensing
Measurement Range	400-2000 ppm (0 ppm=0 V, 4mA)
Output Range (Dual)	0-10VDC and 4-20mA
Accuracy	+/- 40 ppm + 3% of reading up to 1000 ppm +/- 40 ppm + 5% of reading up to 1000-1200 ppm +/- 40 ppm + 7% of reading up to 1200-2000 ppm ABC (Automatic Background Calibration) Logic self-calibration system.
Measuring Method	Non-dispersive infrared (NDIR) absorption
Temperature Sensor Type	NTC 10 KΩ thermistor, with 1 KΩ offset in series
Thermistor Accuracy	±1.8° (59 to 95°F)
Display	C0SNSR52AE1L, C0SNSR53AE1L - none C0SNSR50AE1L, C0SNSR51AE1L - LCD type display w/cover
Enclosure	C0SNSR50AE1L, C0SNSR52AE1L - High impact ABS off-white plastic case. C0SNSR51AE1L, C0SNSR53AE1L - High impact ABS black plastic case. UL94-5V rated. (May be used in return duct)
Dimensions	Height: 4-1/2 in. Width: 3-3/16 in. Depth: 1-1/16 in.
Weight	0.5 lbs.
INPUTS / OUTPUTS	
Analog Outputs	1- 0-10VDC (100 Ω output impedance) 1- 4-20mA (RL maximum 500 Ω) (Output not used for Lennox controllers)
Temperature Sensor	Two-wire (not polarity sensitive)
Cable Type	**Wire runs under 50 ft.** 2 twisted pair shielded cable (2 Lennox yellow COMM cables): C0MISC00AE1- (**27M19**) (500 ft. box), C0MISC04AE1- (**94L63**) (1000 ft. box), C0MISC01AE1- (**68M25**) (2500 ft. roll) **Wire runs over 50 ft. but under 150 ft.** 2 twisted pair shielded cable (18 AWG) **Wire runs over 150 ft.** Requires local isolated power transformer: C0MISC30AE1- (**18M13**), 24VAC, 20VA maximum 1 twisted pair shielded cable (1 Lennox yellow COMM cable): C0MISC00AE1- (**27M19**) (500 ft. box), C0MISC04AE1- (**94L63**) (1000 ft. box), C0MISC01AE1- (**68M25**) (2500 ft. roll)

ACCESSORY

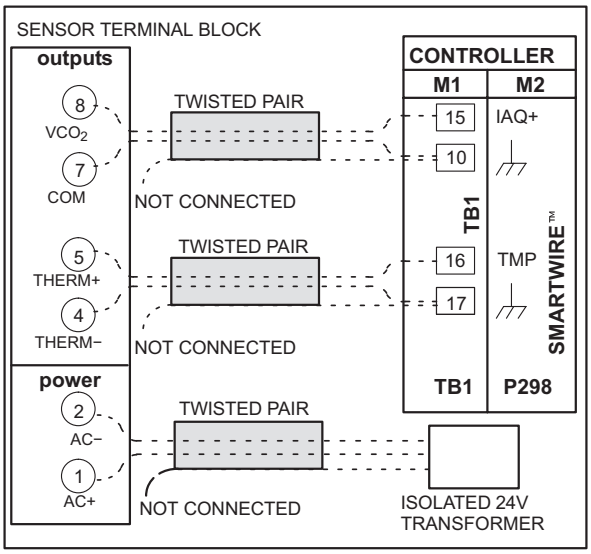
Downflow Duct Mounting Kit	C0MISC19AE1- (**85L43**) - Allows installation of CO_2 sensor in return air opening of packaged rooftop units in downflow applications

CO_2 SENSOR - FIELD WIRING

AC Power 3-Wire System



Isolated AC Power 4-Wire Syatem



SYSTEM COMPONENTS - CO_2 SENSOR ACCESSORIES

CO_2 SENSOR DUCT MOUNT ASPIRATION BOX

C0MISC16AE1- (90N43)

Converts standard wall-mount CO_2 sensors to duct mount applications. The custom internal mounting bracket secures the base of the sensor inside the aspiration box. Power is applied by running conduit through a knockout and wiring to the terminal blocks located on the sensor mounting bracket. The enclosure is lightweight, durable, and can be installed in minutes.

Main Features of CO_2 Sensor Duct Mount Aspiration Box

- See-through cover.
- Custom mounting bracket.
- Duct sample tube.
- Choice of knockouts.

SPECIFICATIONS - CO_2 SENSOR DUCT MOUNT ASPIRATION BOX

Sensor Compatibility	Wall-mount models - C0SNSR52AE1L (**87N53**), C0SNSR50AE1L (**77N39**)
Electrical Knockouts	7/8 in., 1-1/8 in. and 1-1/16 in.
Enclosure Material	ABS plastic
Minimum Air Flow	400 fpm
Dimensions	Height: 7 in. Width: 4-1/4 in. Depth: 3-1/2 in.
Sample Probe Size	Length: 7.00 in. Diameter: 1.125 in.
Weight	2 lbs.

SYSTEM COMPONENTS - SENSORS

REMOTE RELATIVE HUMIDITY SENSOR - WALL-MOUNT (NON-COMMUNICATING)

C0SNSR31AE1- (17M50)

Non-communicating wall-mounted RH sensor. Sensor fits a single gang electrical handy box. Sensor may be used for Humiditrol® units or units that use the Supermarket reheat feature.

Main Features of Remote Relative Humidity Sensor

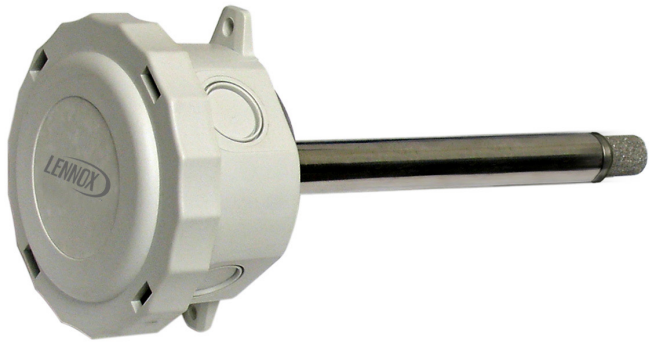
- Terminal blocks for wiring connections.
- Relative humidity range: 0 -100%.
- +/- 3% Accuracy.
- Off-white plastic enclosure.

SPECIFICATIONS - REMOTE RELATIVE HUMIDITY SENSOR - WALL-MOUNT

Controller Compatibility	Prodigy® Unit Controller, Building Controller, Network Thermostat Controller
Operating Environment	Temperature: –10°F to 160°F Humidity: 0-95% RH, non-condensing
Power Requirements	24VAC, +/- 25%, 50/60Hz, 1.5 VA
RH Range	5-95%
Accuracy	+/-3% RH from 20 to 95% RH @77°F
Enclosure	High impact ABS off-white plastic case
Dimensions	Height: 4-1/2 in. Width: 2-3/4 in. Depth: 1-1/8 in.
Weight	0.3 lbs.
INPUTS / OUTPUTS	
Analog Output	0-10VDC, 0-5VDC or 4-20mA (0-10VDC is used for Prodigy® Unit Controller, Building Controller and Network Thermostat Controller)
Cable Type	**Wire runs under 50 ft.** 2 twisted pair shielded cable (2 Lennox yellow COMM cables): C0MISC00AE1- (**27M19**) (500 ft. box), C0MISC04AE1- (**94L63**) (1000 ft. box), C0MISC01AE1- (**68M25**) (2500 ft. roll) **Wire runs over 50 ft. but under 150 ft.** 2 twisted pair shielded cable (18 AWG) **Wire runs over 150 ft.** Requires local isolated power transformer: C0MISC30AE1- (**18M13**), 24VAC, 20VA maximum 1 twisted pair shielded cable (1 Lennox yellow COMM cable): C0MISC00AE1- (**27M19**) (500 ft. box), C0MISC04AE1- (**94L63**) (1000 ft. box), C0MISC01AE1- (**68M25**) (2500 ft. roll)

RETURN AIR DUCT RELATIVE HUMIDITY SENSOR (NON-|COMMUNICATING)

C0SNSR30AE1- (76M31)



Non-communicating return air duct mounted RH sensor designed for applications that require mounting the sensor in the return air duct. Sensor may be used for Humiditrol® units or units that use the Supermarket reheat feature.

Main Features of Return Air Duct Relative Humidity Sensor

- Terminal blocks for wiring connections.
- Relative humidity range: 0 -100%.

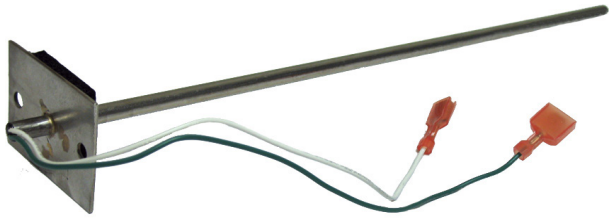
SPECIFICATIONS - RETURN AIR DUCT RELATIVE HUMIDITY SENSOR

Controller Compatibility	Prodigy® Unit Controller, Building Controller, Network Thermostat Controller
Operating Environment	Temperature: –10°F to 160°F
	Humidity: 0-95% RH, non-condensing
Power Requirements	24VAC (+/–25%), 50/60Hz, 1.5 VA
RH Range	5-95%
Accuracy	+/-3% RH from 20 to 95% RH @77°F
Enclosure	High impact ABS off-white plastic case
Dimensions:	Electronics Enclosure: 4 in. dia x 2-1/4 in.
	Duct Probe: 7-7/8 in. x 3/4 in. diameter
Weight	1 lbs.
INPUTS / OUTPUTS	
Analog Output	0-10VDC, 0-5VDC or 4-20mA (0-10VDC is used for Prodigy® Unit Controller, Building Controller and Network Thermostat Controller)
Cable Type	**Wire runs under 50 ft.** 2 twisted pair shielded cable (2 Lennox yellow COMM cables): C0MISC00AE1- (**27M19**) (500 ft. box), C0MISC04AE1- (**94L63**) (1000 ft. box), C0MISC01AE1- (**68M25**) (2500 ft. roll) **Wire runs over 50 ft. but under 150 ft.** 2 twisted pair shielded cable (18 AWG) **Wire runs over 150 ft.** Requires local isolated power transformer: C0MISC30AE1- (**18M13**), 24VAC, 20VA maximum 1 twisted pair shielded cable (1 Lennox yellow COMM cable): C0MISC00AE1- (**27M19**) (500 ft. box), C0MISC04AE1- (**94L63**) (1000 ft. box), C0MISC01AE1- (**68M25**) (2500 ft. roll)

SYSTEM COMPONENTS - SENSORS

REMOTE DISCHARGE TEMPERATURE SENSOR KIT

C1SNSR75AD1 (58W63)



The Remote Discharge Temperature Sensor Kit is for applications that use the Discharge Air Control or Fresh Air Tempering feature available in all Lennox' premium rooftop units. This kit replaces the discharge air temperature sensor that is standard in these units. The kit includes a Duct Temperature Sensor C0SNDC04AE1- (**99K64**) and 22 ft. of cable.

SPECIFICATIONS - REMOTE DISCHARGE TEMPERATURE SENSOR KIT

Controller Compatibility	Prodigy® Unit Controller, Network Thermostat Controller
Accuracy	+/-0.36°F
Stability	+/-0.23°F
Interchangeability	+/-0.36°F
Sensor Type	NTC thermistor , 10K @76°F
Mounting	Mounting plate for 2 screws (Duct Mount)
Dimensions	Length: 12 in. Diameter: 1/4 in.
Weight	0.0625 lbs.
Cable Included	2 - 18AWG 105C wire (22 ft.)

SYSTEM COMPONENTS - SENSORS

OUTDOOR TEMPERATURE SENSOR

C0SNSR02AE1- (59M05)

Outdoor temperature sensor used primarily with the Building Controller and Network Thermostat Controller. It has a water-proof plastic wiring enclosure. The temperature sensor is surrounded by a vented aluminum enclosure to reduce the effect of wind and sunlight on the temperature measurement.

Main Features of Outdoor Temperature Sensor

- Water-proof wiring junction box with conduit knockouts.
- Vented aluminum cover around sensor.
- Compatible with the Building Controller and the Network Thermostat Controller.

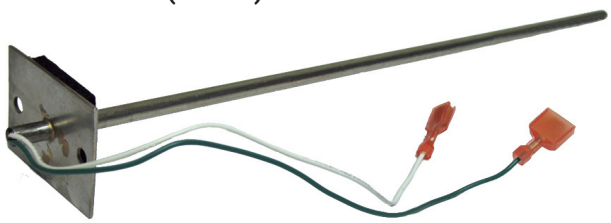
SPECIFICATIONS - OUTDOOR TEMPERATURE SENSOR

Controller Compatibility	Building Controller, Network Thermostat Controller
Accuracy	+/-0.36°F
Stability	+/-0.23°F
Interchangeability	+/-0.36°F
Sensor Type	NTC thermistor , 10K @76°F
Dimensions	Width: 4 in. Height: 6-3/4 in. Depth: 2-1/4 in.
Enclosure	Water-proof plastic junction box (White)
Weight	0.4 lbs.
Cable Type	**Sensor** - Lennox yellow COMM cable: C0MISC00AE1- (**27M19**) (500 ft. box), C0MISC04AE1- (**94L63**) (1000 ft. box), C0MISC01AE1- (**68M25**) (2500 ft. roll)

SYSTEM COMPONENTS - SENSORS

DUCT TEMPERATURE SENSOR

C0SNDC04AE1- (99K64)



When used with Network Thermostat Controller applications, the Duct Temperature Sensor displays the return air temperature on the ICON Local Display. This sensor will act as a backup in case the zone sensor has a wiring problem or malfunctions. It will also allow the use of the return air limit option.

Building Controller Applications

When used with Building Controller applications, the sensor can be used to display the temperature at the ICON Local Display. It can also be used to override an output.

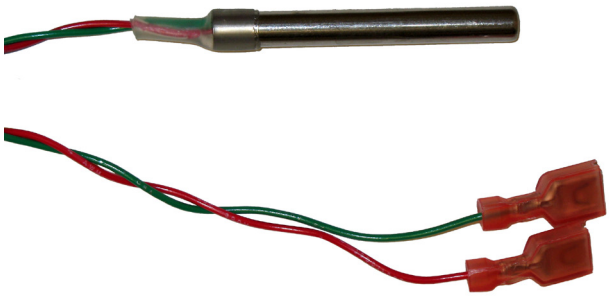
SPECIFICATIONS - DUCT TEMPERATURE SENSOR

Controller Compatibility	Prodigy® Unit Controller, Building Controller, Network Thermostat Controller
Accuracy	+/-0.36°F
Stability	+/-0.23°F
Interchangeability	+/-0.36°F
Sensor Type	NTC thermistor , 10K @76°F
Mounting	Mounting plate for 2 screws
Dimensions	Length: 12 in. Diameter: 1/4 in.
Weight	0.0625 lbs.
Cable Type	**Sensor** - Lennox yellow COMM cable: C0MISC00AE1- (**27M19**) (500 ft. box), C0MISC04AE1- (**94L63**) (1000 ft. box), C0MISC01AE1- (**68M25**) (2500 ft. roll)

SYSTEM COMPONENTS - SENSORS

TEMPERATURE SENSOR PROBE

C0SNSR05AE1- (14K92)



When used with Network Thermostat Controller applications, the Temperature Sensor Probe displays the return air temperature on the ICON Local Display. It can also be used as a general purpose sensor to monitor refrigerated coolers, ice makers, etc. The sensor also allows the low ambient compressor control option and allows use of the heat pump supplemental heat lockout option that keeps the supplemental heat off if outside air temperature is above the selected set-point.

Building Controller Applications

When used with Building Controller applications, the sensor can be used to display the temperature at the ICON Local Display.

SPECIFICATIONS - TEMPERATURE SENSOR PROBE

Controller Compatibility	Prodigy® Unit Controller, Building Controller, Network Thermostat Controller
Accuracy	+/-0.36°F
Stability	+/-0.23°F
Interchangeability	+/-0.36°F
Sensor Type	NTC thermistor , 10K @76°F
Mounting	Mounting plate for 2 screws
Dimensions	Length: 3 in. Diameter: 1/4 in.
Weight	0.06 lbs.
Cable Type	**Sensor** - Lennox yellow COMM cable: C0MISC00AE1- (**27M19**) (500 ft. box), C0MISC04AE1- (**94L63**) (1000 ft. box), C0MISC01AE1- (**68M25**) (2500 ft. roll)

SYSTEM COMPONENTS - SENSORS

SUPPLY STATIC DIFFERENTIAL PRESSURE SENSOR

C0SNSR20AE1 (78M19)

The Supply Static Differential Pressure Sensor has three operating ranges and three output options.

Main Features of Supply Static Pressure Sensor

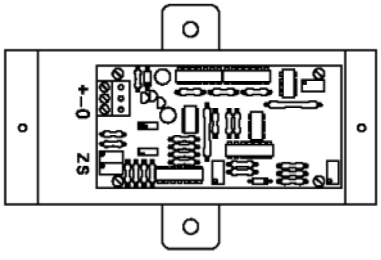
- Pre-set to 0 - 5.0 in. w.c. range and 0-10VDC output.
- Additional ranges and outputs are available by hanging mini-jumpers.
- NIST traceable calibration.
- Compatible with Prodigy® Unit Controller and Network Thermostat Controller Bypass Controller.

SPECIFICATIONS - SUPPLY STATIC DIFFERENTIAL PRESSURE SENSOR

Controller Compatibility	Prodigy® Unit Controller - All versions Building Controller Network Thermostat Controller Bypass Controller
Operating Environment	0 to 175°F 10 to 90% RH
Compensated Temperature Range	25 to 150°F
Power Requirements	24VAC (+/-25%), 50/60Hz, 0.5VA maximum
Operating pressure range	0 - 5 in. w.c., 0 - 2.5 in. w.c., 0 -1.25 in. w.c. (adjustable) Factory Setting: 0 - 5 in. w.c.
Accuracy	+/- 1% F.S.
Overpressure	10 PSID
Output	0-10VDC, 0-5VDC, 4-20mA Factory setting - 0-10VDC
Media Compatibility	Clean dry air or any inert gas
Termination	Un-pluggable screw terminal block
Enclosure	Steel NEMA 4, aluminum probe
Dimensions	Height: 6 in. Width: 4 in. (with mounting tabs) Depth: -2-1/4 in. Probe length: 8 in.
Weight	1 lbs.
Cable Type	**Wire runs under 50 ft.** 2 twisted pair shielded cable (2 Lennox yellow COMM cables): C0MISC00AE1- (**27M19**) (500 ft. box), C0MISC04AE1- (**94L63**) (1000 ft. box), C0MISC01AE1- (**68M25**) (2500 ft. roll) **Wire runs over 50 ft. but under 150 ft.** 2 twisted pair shielded cable (18 AWG) **Wire runs over 150 ft.** Requires local isolated power transformer: C0MISC30AE1- (**18M13**), 24VAC, 20VA maximum 1 twisted pair shielded cable (1 Lennox yellow COMM cable): C0MISC00AE1- (**27M19**) (500 ft. box), C0MISC04AE1- (**94L63**) (1000 ft. box), C0MISC01AE1- (**68M25**) (2500 ft. roll)

SUPPLY STATIC DIFFERENTIAL PRESSURE SENSOR - FIELD WIRING

Legend
S = Span Adjust
Z = Zero Adjust
+ = Supply Voltage
- = Common (Neutral)
0 = Output



RETURN (BUILDING) STATIC DIFFERENTIAL PRESSURE SENSOR

C0SNSR21AE1- (78M20)

The Return (Building) Static Differential Pressure Sensor has three operating ranges and three output options. It is used with optional power exhaust fans to control building static pressure on Lennox' premium rooftop units.

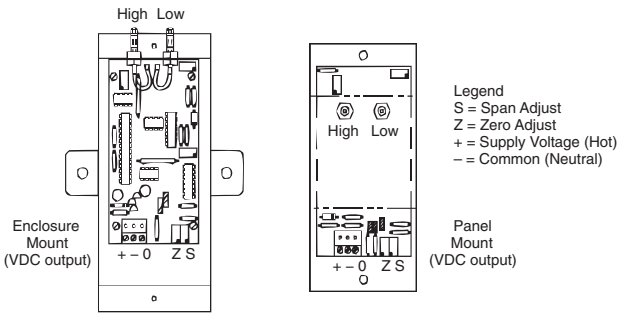
Main Features of Building Static Pressure Sensor

- Pre-set to -0.5 to 0.5 in. w.c. range and 0 to 10VDC output for Prodigy® Unit Controller.
- Additional ranges and outputs are available by changing mini-jumpers.
- Compatible with Prodigy® Unit Controller.
- C0SNSR22AE1- (**79M21**) Outdoor Air Weather Head required for reducing outdoor static pressure fluctuations.

SPECIFICATIONS - BUILDING (RETURN) STATIC DIFFERENTIAL PRESSURE SENSOR

Controller Compatibility	Prodigy® Unit Controller - All versions Building Controller
Operating Temperature	0 to 175°F 10 to 90% RH
Compensated Temperature Range	25 to 150°F
Power Requirements	24VAC (+/-25%), 50/60Hz, 0.5VA maximum
Operating Range	0 - 1.0 in. w.c., 0 - 0.5 in. w.c., 0 - 0.25 in. w.c., -0.5 - 0.5 in. w.c., -0.25 - 0.25 in. w.c., -0.125 - 0.125 in. w.c. Factory Setting is -0.5-+0.5 in. w.c.
Accuracy	+/- 1% F.S.
Overpressure	10 PSID
Output	0-10VDC, 0-5VDC, 4-20mA Factory Settings is 0-10VDC
Enclosure	Steel NEMA 4, aluminum probe
Media Compatibility	Clean dry air or any inert gas
Termination	Un-pluggable screw terminal block
Dimensions	Height: 6 in. Width: 4 in. (with mounting tabs) Depth: 2-1/4 in.
Weight	1 lbs.
Cable Type	**Wire runs under 50 ft.** 2 twisted pair shielded cable (2 Lennox yellow COMM cables): C0MISC00AE1- (**27M19**) (500 ft. box), C0MISC04AE1- (**94L63**) (1000 ft. box), C0MISC01AE1- (**68M25**) (2500 ft. roll) **Wire runs over 50 ft. but under 150 ft.** 2 twisted pair shielded cable (18 AWG) **Wire runs over 150 ft.** Requires local isolated power transformer: C0MISC30AE1- (**18M13**), 24VAC, 20VA maximum 1 twisted pair shielded cable (1 Lennox yellow COMM cable): C0MISC00AE1- (**27M19**) (500 ft. box), C0MISC04AE1- (**94L63**) (1000 ft. box), C0MISC01AE1- (**68M25**) (2500 ft. roll)

SUPPLY STATIC DIFFERENTIAL PRESSURE SENSOR - FIELD WIRING



SYSTEM COMPONENTS - SENSORS

AMBIENT LIGHT SENSOR

C0SNSR60AE1- (34M67)

Outdoor ambient light sensor for use with the Building Controller and ICON Local Display for automatic lighting control.

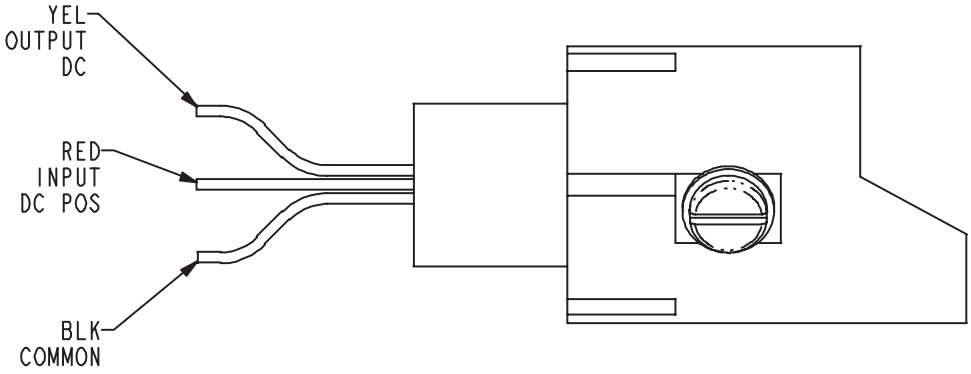
Main Features of Ambient Light Sensor

- Monitors wide range of light.
- Linear output voltage.
- Electronics encased in a clear epoxy and sealed with an electronic grade non-corrosive urethane resin.

SPECIFICATIONS - AMBIENT LIGHT SENSOR

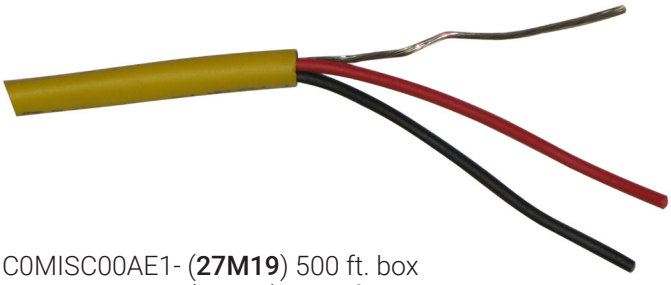
Controller Compatibility	Building Controller
Operating Power	12VDC (provided by Building Controller)
Output Voltage	0-10VDC
Light Sensor Range	0 - 15 FC
Dimensions (diameter x length)	1-1/4 x 2-9/16 in.
Enclosure	White PVC plastic case. Electronics encased in a clear epoxy and sealed with an electronic grade, non-corrosive urethane resin.
Mounting	Mounts to a standard threaded 1/2 in. conduit or 1/2 in. knockout.
Weight	1 lbs.
Cable Type	3-conductor thermostat cable , 18 AWG min.

SYSTEM COMPONENTS - SENSORS



SYSTEM COMPONENTS - NETWORK

S-BUS NETWORK CABLE (YELLOW)



C0MISC00AE1- (**27M19**) 500 ft. box
C0MISC04AE1- (**94L63**) 1000 ft. box
C0MISC01AE1- (**68M25**) 2500 ft. roll

SPECIFICATIONS - S-BUS NETWORK CABLE

Type	Twisted pair 100% shielded communication cable 22 AWG, yellow jacket, rated at 75°C, 300V Plenum rated Insulation - Low smoke PVC NEC, CMP
Color	Outside jacket- Yellow, with order number imprinted Twisted pair - Red and Black
Weight	C0MISC00AE1- 8 lbs. C0MISC04AE1- 14 lbs. C0MISC01AE1- 30 lbs.
Lengths	C0MISC00AE1- (500 ft. box) C0MISC04AE1- (1000 ft. box) C0MISC01AE1- (2500 ft. roll)

M-BUS NETWORK CABLE (PURPLE)

C0MISC05AE1- (**23W99**) 500 ft. box
C0MISC06AE1- (**24W00**) 1000 ft. box
C0MISC07AE1- (**24W01**) 2500 ft. roll

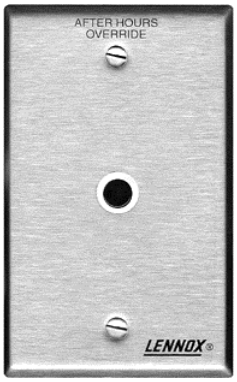
SPECIFICATIONS - M-BUS NETWORK CABLE

Type	Twisted pair 100% shielded communication cable 22 AWG, purple jacket, rated at 75°C, 300V Plenum rated Insulation - Low smoke PVC NEC, CMP
Color	Outside jacket- Purple, with order number imprinted Twisted pair - Red and Black
Weight	C0MISC00AE1- 8 lbs. C0MISC04AE1- 14 lbs. C0MISC01AE1- 30 lbs.
Lengths	C0MISC00AE1- (500 ft. box) C0MISC04AE1- (1000 ft. box) C0MISC01AE1- (2500 ft. roll)

SYSTEM COMPONENTS - MISCELLANEOUS ACCESSORIES

AFTER-HOURS OVERRIDE BUTTON

C0SWCH20AE1- (56L16)



Momentary pushbutton used for after-hours override.

Main Features of After-Hours Override Button

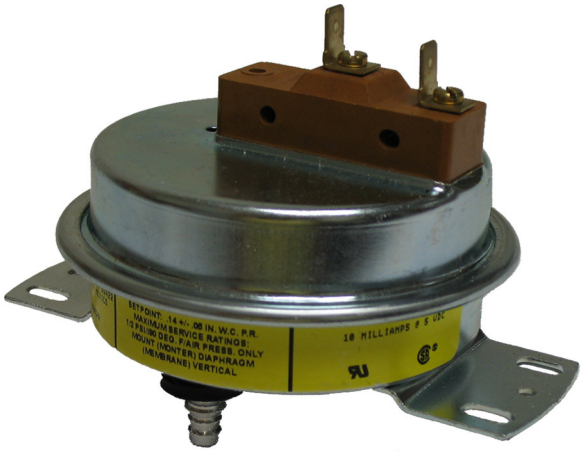
- Single gang electrical handy box size.
- Stainless steel wall-mounting plate.

SPECIFICATIONS - AFTER-HOURS OVERRIDE BUTTON

Button Type	Momentary - Normally open
Cover Material	Stainless steel
Dimensions	Height: 4-1/2 in.
	Width: 2-3/4 in.
	Depth: 1/8 in.
Weight	0.2 lbs.
Cable Type	Two-conductor thermostat wire, 20 AWG min.

BLOWER AIRFLOW PROVING SWITCH KIT

C0SWCH01AE1- (30K49)



Network Thermostat Controller Applications

When used with Network Thermostat Controller unit controller applications, this switch allows the use of the blower proving input. This allows the information to be displayed at the ICON Local Display and will shut down the unit if the airflow is lost. Simple plug-in connection.

Building Controller Applications

When used on Building Controller applications, the switch is used to display the information at the ICON Local Display and to override an output. Simple plug-in connection.

Lennox' Premium Rooftop Unit Applications

When used on Lennox' premium rooftop unit applications, this switch allows the use of the blower proving input. This allows the alarm code to be displayed on the Prodigy® Unit Controller and the ICON Local Display. The unit will shut down if airflow is lost. Simple plug-in connection.

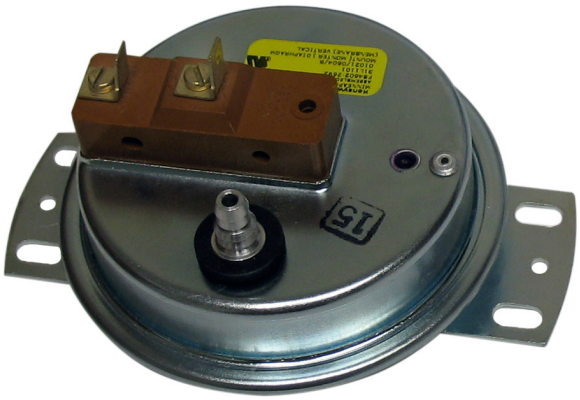
SPECIFICATIONS - BLOWER PROVING AIRFLOW SWITCH KIT

Operating Temperature	-40°F To 190°F
Electrical Switch Type	Single pole, normally open, snap action
Electrical Ratings	10mA @5VDC
Electrical Connections	1/4 in. quick connect terminals
Contact Material	Gold alloy
Operating Pressure	Normally open contacts close on pressure rise at 0.14 (± 0.05) in. w.c. (non-adjustable)
Usage	Air only
Maximum Pressure	0.5 psi
Expected Life	100,000 Cycles
Mounting Position	Recommended diaphragm vertical
Mounting	4 Mounting Holes
Sample Line Connector	Positive: Combination barbed type for use with 1/4 in. or 5/16 in. I.D. flexible plastic or rubber tubing
Dimensions	Height: 4-5/8 in.
	Width: 3-9/16 in.
	Depth: 3-1/8 in.
Weight	0.5 lbs.
Cable Type	Two-conductor thermostat wire, 20 AWG min.

SYSTEM COMPONENTS - MISCELLANEOUS ACCESSORIES

DIRTY FILTER SWITCH KIT

C0SWCH00AE1- (30K48)



Network Thermostat Controller Applications

When used with Network Thermostat Controller applications, switch allows the use of the dirty filter input that will issue a dirty filter alarm. Simple plug-in connection.

Building Controller Applications

When used on Building Controller applications, switch is used to display the information at the ICON Local Display and to override an output. Simple plug-in connection.

Lennox' Premium Rooftop Unit Applications

When used on Lennox' premium rooftop unit applications, switch allows the use of the dirty filter input. This allows the alarm code to be displayed on the Prodigy® Unit Controller, the ICON Local Display. Simple plug-in connection.

SPECIFICATIONS - DIRTY FILTER SWITCH KIT

Operating Temperature	-40°F To 190°F
Electrical Switch Type	Single pole, normally open, snap action
Electrical Ratings	10mA @5VDC
Electrical Connections	1/4 in. quick connect terminals
Contact Material	Gold alloy
Operating Pressure	Normally open contacts close on pressure rise at 1.0 in. w.c. (± 0.10) (non-adjustable)
Usage	Air only
Maximum Pressure	0.5 psi
Expected Life	100,000 cycles
Mounting Position	Recommended diaphragm vertical
Mounting	Mounting bracket furnished for installation in rooftop unit
Sample Line Connector	Negative: Combination barbed type for use with 1/4 in. or 5/16 in. I.D. flexible plastic or rubber tubing
Dimensions	Height: 4-5/8 in. Width: 3-9/16 in. Depth: 3-1/8 in.
Weight	0.5 lbs.
Cable Type	Two-conductor thermostat wire, 20 AWG min.

SYSTEM COMPONENTS - MISCELLANEOUS ACCESSORIES

DUCT PRESSURE LIMIT SWITCH

C0SNSR11AE1 (79M80)

The Duct Pressure Limit Switch is used to shut down the variable frequency drive (VFD) on a variable air volume (VAV) application if the switch's pressure setpoint is reached. A Mounting Kit C0SNSR12AE1 (**79M81**) is also available that includes 18 in. of vinyl tubing, tubing adapters and mounting flange with screws.

Main Features of Duct Pressure Limit Switch

- Compatible with Lennox premium rooftop VAV units.
- Adjustable setpoint.

SPECIFICATIONS - DUCT PRESSURE LIMIT SWITCH

Operating Temperature	-30°F To 180°F
Electrical Switch Type	Single-pole double-throw
Electrical Ratings	15 Amps @120-480VAC , derate to 10 Amps for high cycle rates
Electrical Connections	Screw-type terminals
Pressure Limits	45 in. w.c. continuous, 10 psig surge
Setpoint Adjustment	Screw-type inside conduit enclosure
Deadband	Approximately 0.30 in. w.c.
Operating Pressure Range	1.4 to 5.5 in. w.c..
Usage	Air only
Mounting Position	Diaphragm in vertical position
Mounting	Two mounting holes
Sample Line Connectors	Low pressure and high pressure - 1/8 in. female NPT
Dimensions	Height: 3-1/2 in.
	Width: 3-1/2 in.
	Depth: 2-3/8 in.
Weight	1 lbs.
Cable Type	Two-conductor thermostat wire, 20 AWG min.
Agency	CE

ACCESSORY

Mounting Kit for Duct Pressure Limit Kit	C0SNSR12AE1 (**79M81**) - Includes 18 in. of vinyl tubing, tubing adapters and mounting flange with screws

SYSTEM COMPONENTS - MISCELLANEOUS ACCESSORIES

PRESSURE SWITCH

C0SNSR10AE1 (79M79)

Static pressure switch used to control unit power exhaust fans on Lennox' premium rooftop unit applications using one of the Prodigy® Unit Controller's staged exhaust fan options.

SPECIFICATIONS - PRESSURE SWITCH

Operating Temperature	40°F To 190°F
Electrical Switch Type	Single-pole single-throw, automatic reset
Electrical Ratings	10mA @5VDC
Contact Material	Gold-flash
Electrical Connections	Screw-type terminals
Pressure Limits	13.85 in. w.c.
Setpoint Range	0.05 to 12 in. w.c.
Setpoint Adjustment	Screw-type inside conduit enclosure
Operating Pressure Range	1.4 to 5.5 in. w.c.
Usage	Air only
Mounting Position	Diaphragm in vertical position
Mounting	Two mounting holes
Sample Line Connectors	Compression fittings for 1/4 in. O.D. rigid or semi-rigid tubing, barb fittings for 1/4 in. O.D. polyethylene tubing
Dimensions	Height: 5-9/16 in.
	Width: 6 in.
	Depth: 3-1/8 in.
Weight	1.3 lbs.
Cable Type	Two-conductor thermostat wire, 20 AWG min.
Agency	UL and CSA

SYSTEM COMPONENTS - MISCELLANEOUS ACCESSORIES

OUTDOOR AIR WEATHER-HEAD

C0SNSR22AE1- (79M21)

The Outdoor Air Weather-Head effectively reduces the fluctuation of outdoor static pressures caused by wind gusts. Eliminating this fluctuation is necessary in the control of building pressures which use outdoor static pressure as a reference.

Main Features of Outdoor Air Weather Head

- Includes 50 ft. of vinyl tubing, weather-head, mounting bracket and hardware.
- Adjustable bracket for horizontal or vertical mounting.
- Used with C0SNSR21AE1- (**78M20**) Return (Building) Static Differential Pressure Sensor.

SPECIFICATIONS - OUTDOOR AIR WEATHER HEAD

Tubing Length	50 ft.
Tubing Size	1/8 in. ID
Tubing Material	Vinyl

SYSTEM COMPONENTS - MISCELLANEOUS ACCESSORIES

PLUG-IN 24V TRANSFORMER

C0MISC30AE1- (18M13)

20VA wall plug 120VAC to 24VAC transformer.

Main Features of Plug-In Transformer

- 120VAC primary.
- 24VAC (20VA) secondary.
- Screw terminal 24VAC output.
- Black plastic enclosure.

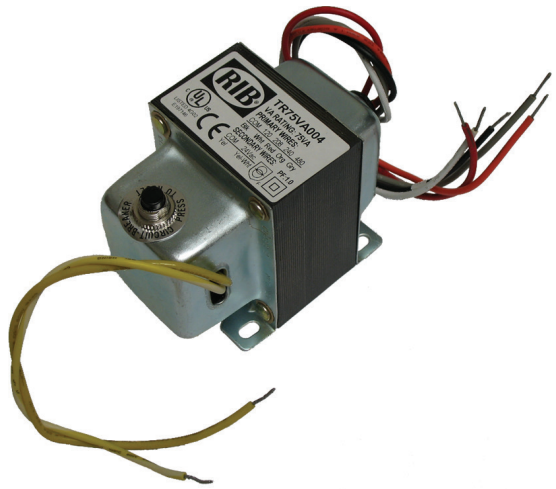
SPECIFICATIONS - PLUG-IN 24V TRANSFORMER

Primary Voltage	120VAC , 60HZ
Secondary Voltage	24VAC, 20VA maximum, Class 2
Secondary Terminals	Two #6-32 screw terminals
Overload Protection	Energy limited
Dimensions	Height: 3 in.
	Width: 2-1/2 in.
	Depth: 2 in.
Weight	1 lbs.
Agency	UL 1310 & CSA listed

SYSTEM COMPONENTS - MISCELLANEOUS ACCESSORIES

TRANSFORMER

C0MISC32AE1- (75VA) (27W14), C0MISC33AE1- (100VA) (27W15)



75VA, 24VAC control transformer has primary taps for 120, 208, 240 and 480VAC.

100VA, 24VAC control transformer has primary taps for 120, 240, 277 and 480VAC.

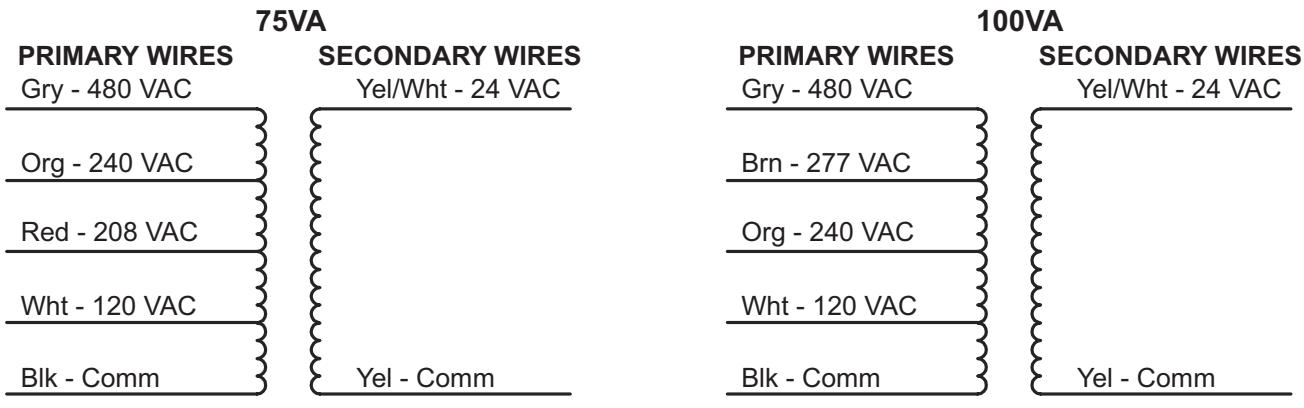
Main Features of Transformer

- Plate or panel mounted.
- 9 in. leads.
- 1/2 in. 14 NPSM conduit connector.
- Circuit breaker overload protection.

SPECIFICATIONS - TRANSFORMER

Model No.	C0MISC32AE1- (75VA)	C0MISC33AE1- (100VA)
Operating Temperature	–20°F to 105°F	–20°F to 105°F
Primary Voltage	120, 208 or 240 VAC, 60HZ	120, 240, 277 or 480 VAC, 60HZ
Secondary Voltage	24VAC, 75VA, Class 2	24VAC, 100VA, Class 2
Lead Wire Length	9 in.	9 in.
Lead Wire Size	18AWG	18AWG
Overload Protection	3.5 Amp circuit breaker , manual reset	3.5 Amp circuit breaker , manual reset
Dimensions	Height: 3 in.	Height: 3 in.
	Width: 2-1/2 in.	Width: 2-1/2 in.
	Length: 3-15/16 in. (w/ 1/2 in. NPT hub)	Length: 4-1/4 in. (w/ 1/2 in. NPT hub)
Weight	4 lbs.	4.5 lbs.
Agency	Meets UL standard UL 1585 for Class 2 not wet, Class 3 wet, UL listed file # E14881 guide # XOKV CSA Certified, CSA file LR95329-18 Meets NEC Class 2 requirements	Meets UL standard UL 1585 for Class 2 not wet, Class 3 wet, UL listed file # E14881 guide # XOKV CSA Certified, CSA file LR95329-18 Meets NEC Class 2 requirements

TRANSFORMER - FIELD WIRING



SYSTEM COMPONENTS - NEMA ENCLOSURES

NEMA 4 HINGED ENCLOSURE

C0MISC10AE1- (17M11)

The NEMA 4 Hinged Enclosure is an optional enclosure that is available for the Building Controller or the Network Thermostat Controller for indoor or outdoor mounting.

Features and Specifications

- Continuous hinge, clamped cover.
- Body and cover formed from 16-gauge steel.
- Includes inner panel with pre-drilled holes to match the Network Thermostat Controller mounting plate.
- Three knockouts on bottom for conduit connections.
- Complies with NEMA type 3R, 4.4X, 12 and 13.
- Finished with smooth ANSI/ASA 61 gray powder coating.
- Dimensions (H x W x D) - 12 x 10 x 5 in.
- Weight - 15 lbs.

NEMA 1 HINGED ENCLOSURE

C0MISC14AE1 - (34M24)

The NEMA 1 Hinged Enclosure is an optional enclosure that is available for the Ethernet Converter Kit for indoor mounting.

Features and Specifications

- Body and cover formed from16-gauge steel.
- Includes inner panel with pre-drilled holes.
- Includes hook-and-loop fasteners (if needed).
- Three knockouts on bottom for conduit connections.
- Finished with smooth white paint.
- Dimensions (H x W x D) - 14 x 12 x 4 in.
- Weight - 14.7 lbs.

SYSTEM COMPONENTS - ORDERING INFORMATION

Description	Model No.	Order No.	Page No.
CONTROLLERS			
iCON Building Automation Solution (includes high definition Local Display with Mag-Mount wall-mount and Central Hub Controller)	- - - -	**16A93**	page 4
Building Controller	C0CTRL80AE2L	**16D71**	page 36
Network Thermostat Controller	C0CTRL07AE1L	**17M10**	page 39
Individual iCON Components			
Local Display	- - - -	**16A92**	page 26
Mag-Mount	- - - -	**16A91**	page 28
Central Hub Controller	- - - -	**16A90**	page 30
ENERGY MONITORING			
Energy Monitor	- - - -	**16C80**	page 43
NETWORK CABLE			
S-Bus			
S-Bus Cable - 500 ft. Box (Yellow Jacket)	C0MISC00AE1-	**27M19**	page 71
S-Bus Cable - 1000 ft. Box (Yellow Jacket)	C0MISC04AE1-	**94L63**	page 71
S-Bus Cable - 2500 ft. Roll (Yellow Jacket)	C0MISC01AE1-	**68M25**	page 71
M-Bus			
M-Bus Cable - 500 ft. Box (Purple Jacket)	C0MISC05AE1-	**23W99**	page 71
M-Bus Cable - 1000 ft. Box (Purple Jacket)	C0MISC06AE1-	**24W00**	page 71
M-Bus Cable - 2500 ft. Roll (Purple Jacket)	C0MISC07AE1-	**24W01**	page 71
SENSORS			
ComfortSense® 8500 Commercial 7 Day Programmable Thermostat			
Temperature, Relative Humidity, Display, Setpoint/Fan Control, After Hours Override	C0SNAJ03FF1L	**17G75**	page 45
Temperature, Relative Humidity, CO_2, Display, Setpoint/Fan Control, After Hours Override	C0SNAJ22FF1L	**17G76**	page 45
Comfort Sensors - With Display and Setpoint Adjustment			
Temperature, Display, Setpoint/Fan Control, After Hours Override	C0SNAJ02AE1L	**18W68**	page 47
Temperature, Relative Humidity, Display, Setpoint/Fan Control, After Hours Override	C0SNMT10AE1L	**18W66**	page 47
Temperature, CO_2, Display, Setpoint/Fan Control, After Hours Override	C0SNMT20AE1L	**18W67**	page 47
Temperature, Relative Humidity, CO_2, Display, Setpoint/Fan Control, After Hours Override	C0SNMT30AE1L	**18W65**	page 47
Comfort Sensors - No Display or Setpoint Adjustment			
Temperature, After Hours Override	C0SNZN09AE1-	**18W72**	page 48
Temperature, Relative Humidity, After Hours Override	C0SNMT11AE1-	**18W69**	page 48
Temperature, CO_2, After Hours Override	C0SNMT21AE1L	**18W70**	page 48
Temperature, Relative Humidity, CO_2, After Hours Override	C0SNMT31AE1L	**18W71**	page 48
CO_2 Sensors - Non-Communicating			
Wall-Mount - Off-White Plastic Cover, No Display	C0SNSR52AE1L	**87N53**	page 59
Wall-Mount - Off-White Plastic Cover With LCD Display	C0SNSR50AE1L	**77N39**	page 59
Wall-Mount - Black Plastic Case, No Display	C0SNSR53AE1L	**87N54**	page 59
Wall-Mount - Black Plastic Case With LCD Display	C0SNSR51AE1L	**87N52**	page 59
Aspiration Box For Duct Mounting CO_2 Sensors	C0MISC16AE1-	**90N43**	page 61
CO_2 Downflow Duct Mounting Kit	C0MISC19AE1-	**85L43**	page 61
Duct Temperature Sensor			
12 in. Probe	C0SNDC04AE1-	**99K64**	page 66

SYSTEM COMPONENTS - ORDERING INFORMATION

Description	Model No.	Order No.	Page No.
SENSORS (continued)			
Outdoor Temperature Sensor			
Water-Proof Wiring Junction Box, Vented Aluminum Cover	C0SNSR02AE1-	**59M05**	page 65
Relative Humidity Sensors - Non-Communicating			
Wall-Mount - Off-White Plastic Case	C0SNSR31AE1-	**17M50**	page 62
Return Air Duct Mount	C0SNSR30AE1-	**76M31**	page 63
Remote Discharge Sensor			
Remote Discharge Temperature Kit - Includes 22 ft. of Cable	C1SNSR75AD1	**58W63**	page 64
Return (Building) Static Differential Pressure Sensor			
Three Operating Ranges, Three Output Options	C0SNSR21AE1-	**78M20**	page 69
Supply Static Differential Pressure Sensor			
Three Operating Ranges, Three Output Options	C0SNSR20AE1	**78M19**	page 68
Temperature Sensor Probe			
General Purpose 3 in. Sensor	C0SNSR05AE1-	**14K92**	page 67
Zone Sensors - Non-Communicating			
Wall-Mount - With Warmer/Cooler Setpoint Adjustment	C0SNAJ01AE1-	**56L80**	page 52
Wall-Mount - No Adjustment	C0SNZN07AE1-	**94L60**	page 52
Wall-Mount - Miniature	C0SNZN08AE1-	**94L61**	page 53
Wall-Mount - Miniature, For use with Building Controller	C0SNZN03AE1-	**59M04**	page 82
Wall-Mount - Averaging Sensor Kit (Two Sensors)	C0SNZN71AE1-	**23M20**	page 57
Wall-Mount - Flush	C0SNZN04AE1-	**76M32**	page 58
Wall-Mount - Two-Wire	C0SNZN77AE1	**21W07**	page 54
Wall-Mount - Five-Wire Combination Temperature and Humidity	- - - -	**21W06**	page 55
Return Air Duct Mount	C0SNDC02AE1-	**56L81**	page 56
Ambient Light Sensor			
Automatic Lighting Control	C0SNSR60AE1-	**34M67**	page 70
NEMA ENCLOSURES			
NEMA 1 - Hinged, For Ethernet Converter Kit	C0MISC14AE1-	**34M24**	page 80
NEMA 4 - Hinged, For Building Controller or Network Thermostat Controller (indoor/ outdoor)	C0MISC10AE1-	**17M11**	page 80
MISCELLANEOUS ACCESSORIES			
After-Hours Override Button	C0SWCH20AE1-	**56L16**	page 72
Blower Airflow Proving Switch Kit	C0SWCH01AE1-	**30K49**	page 73
Dirty Filter Switch	C0SWCH00AE1-	**30K48**	page 74
Duct Pressure Limit Switch	C0SNSR11AE1	**79M80**	page 75
Mounting Kit for Duct Pressure Limit Switch - 18 in. vinyl tubing and connectors	C0SNSR12AE1	**79M81**	page 75
Outdoor Air Weather-Head	C0SNSR22AE1-	**79M21**	page 77
Pressure Switch	C0SNSR10AE1	**79M79**	page 76
Transformer - 120, 208, 240 and 480VAC, 60HZ Primary / 24VAC Secondary, 75VA	C0MISC32AE1-	**27W14**	page 79
Transformer - 120, 240, 277 and 480VAC, 60HZ Primary / 24VAC Secondary, 100VA	C0MISC33AE1-	**27W15**	page 79
Transformer - 24V, Plug-in	C0MISC30AE1-	**18M13**	page 79

REVISIONS

Sections	Description of Change
Document	Updates for software revision 2.1.
Flowchart	Menu Navigation - Input And Outputs Setup - Digital Output - Added Standard or Reverse polarity selection.
System Components	Updated to add addtional zone sensors.