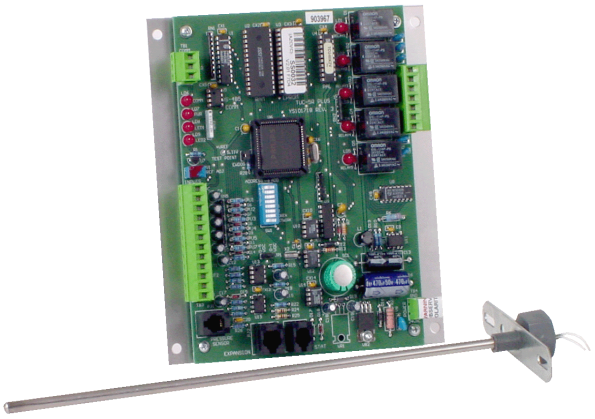
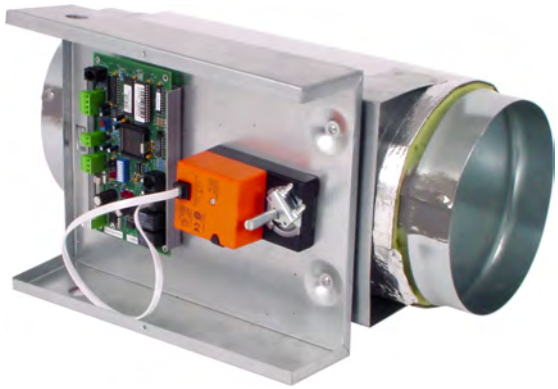
WattMaster CONTROLS

Auto-Zone Control Systems

A New Way to Look at Building Controls





Introduction & Overview

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NOTE: Any reference in this document to roof top HVAC units are for ease of communication. Auto-Zone can also be used on split systems.

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Introduction

Thank you for your interest in the WattMaster Auto-Zone Control System. This booklet was created to give you an overview of the different systems and system components. The Auto-Zone Control System is a new approach to providing simple, cost effective, control solutions to many standard HVAC systems. Auto-Zone provides a very competitive solution for buildings which need more control than a programmable thermostat yet for which building automation systems are too costly.

These systems come pre-engineered, pre-programmed, and fully documented.

This provides two main benefits for the contractor, engineer, and end user:

- Advanced direct digital control technology for comfort and energy savings at up to 50% lower cost than traditional direct digital control systems.
- A system that is simple to use allowing almost any HVAC technician to install and start-up the system without the need for specialized training.

The Auto-Zone Controls Concept

How many HVAC projects do you see every week that essentially requires a standard control sequence? I mean, there is nothing unique about how most of the equipment is to be operated. Many projects fit into a standard set of applications. Sometimes these simple projects end up with complete building automation systems, adding substantial cost to the project.

The reason building automation can be so expensive, even for the most simple HVAC systems, is because of the effort required to complete the project. When a controls contractor uses building automation equipment, the time required to estimate the job, assemble all of the components required, write software, generate installation drawings, debug the software, assemble documentation, etc., etc., etc., it adds a significant amount of cost to the project. When the cost becomes too great, many times the project has to be scaled back. Sometimes the building automation system is eliminated all together and standard electric or electronic controls are used. Unfortunately the end user loses many benefits that a building automation system can provide.

The Auto-Zone System is a new approach in HVAC controls to provide engineers, contractors, and end users a control system with many of the benefits of building automation without the high cost and complexity. Auto-Zone is an “Application specific control system”. This means you order a control system package, based on the application, which is ready to install and start up without the expense and hassles normally associated with building automation systems.

Auto-Zone Systems are currently offered in four system configurations. Depending on the building size, use or comfort requirements, one of the four following systems is the best choice. The following information describes each system and its uses and capabilities.

Auto-Zone CV
This system is used in applications which only require the control of single zone HVAC units, typically roof top units. The CV system can control up to thirty single zone, constant volume HVAC units. The Auto-Zonε CV is a superior alternative for buildings where multiple programmable thermostats would have normally been installed.

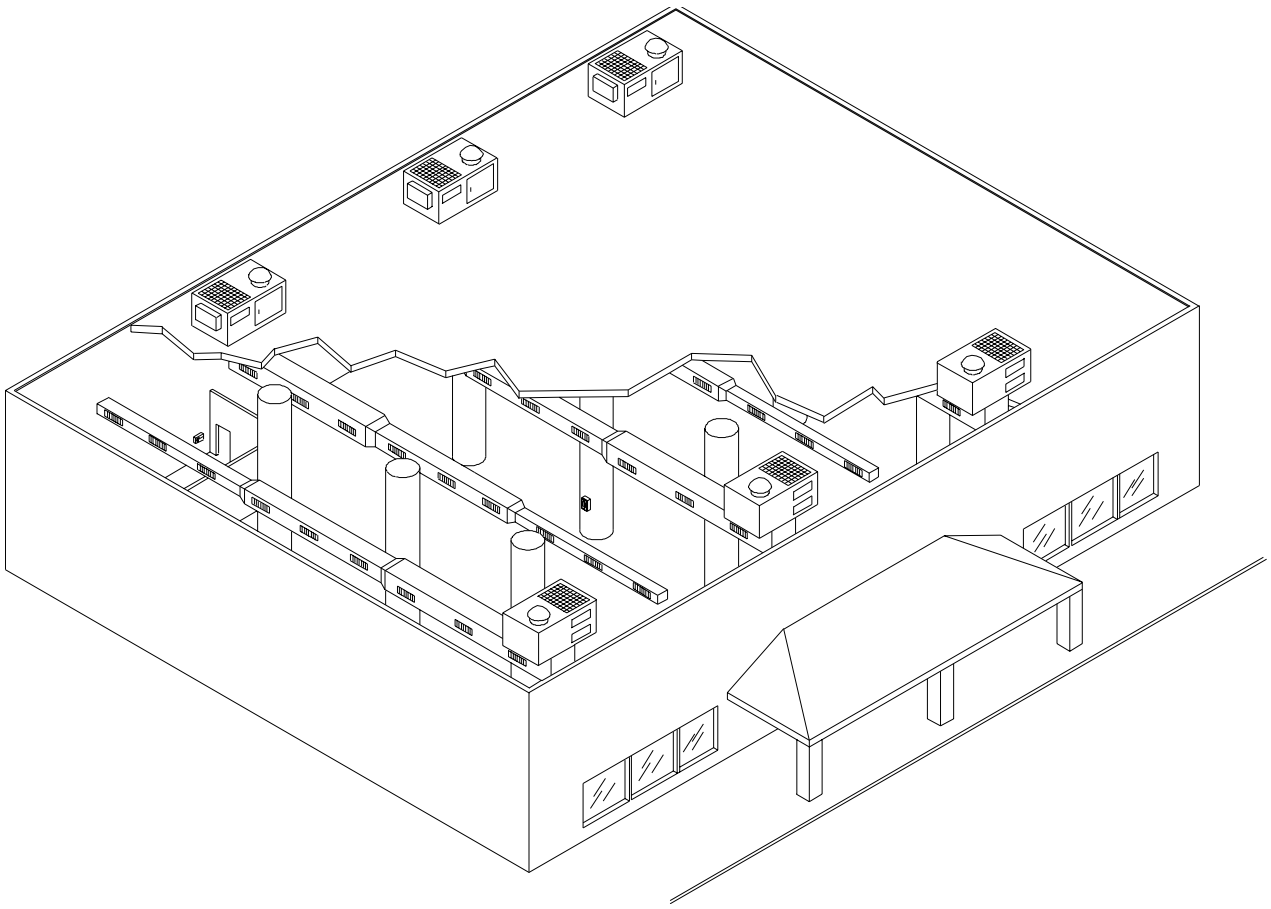
Auto-Zone CV-EX
This system is used in applications which have more than thirty single zone HVAC units. The CV-EX system can control up to sixty single zone, constant volume HVAC units, and each loop expansion kit allows for thirty more single zone HVAC units to be added to the system. A maximum of two loop expansion kits may be added to a CV-EX system allowing for a total of up to 120 single zone HVAC units on the system.

Auto-Zone Basic
This system is used in applications where you have one constant volume HVAC unit and need to independently control individual zones. The Basic system controls up to sixteen zones.

Auto-Zone Plus
This system combines both multiple zone control and single zone, constant volume control in one integrated system. You can control up to 30 zoned HVAC units with each unit having up to 16 zones. In addition to the 16 zones you can also control up to a maximum of 13 single zone, constant volume units per zoned HVAC unit controller.

These four configurations can cover a broad range of building types such as offices, retail stores, schools, manufacturing facilities, and warehouses.

CV System - Overview



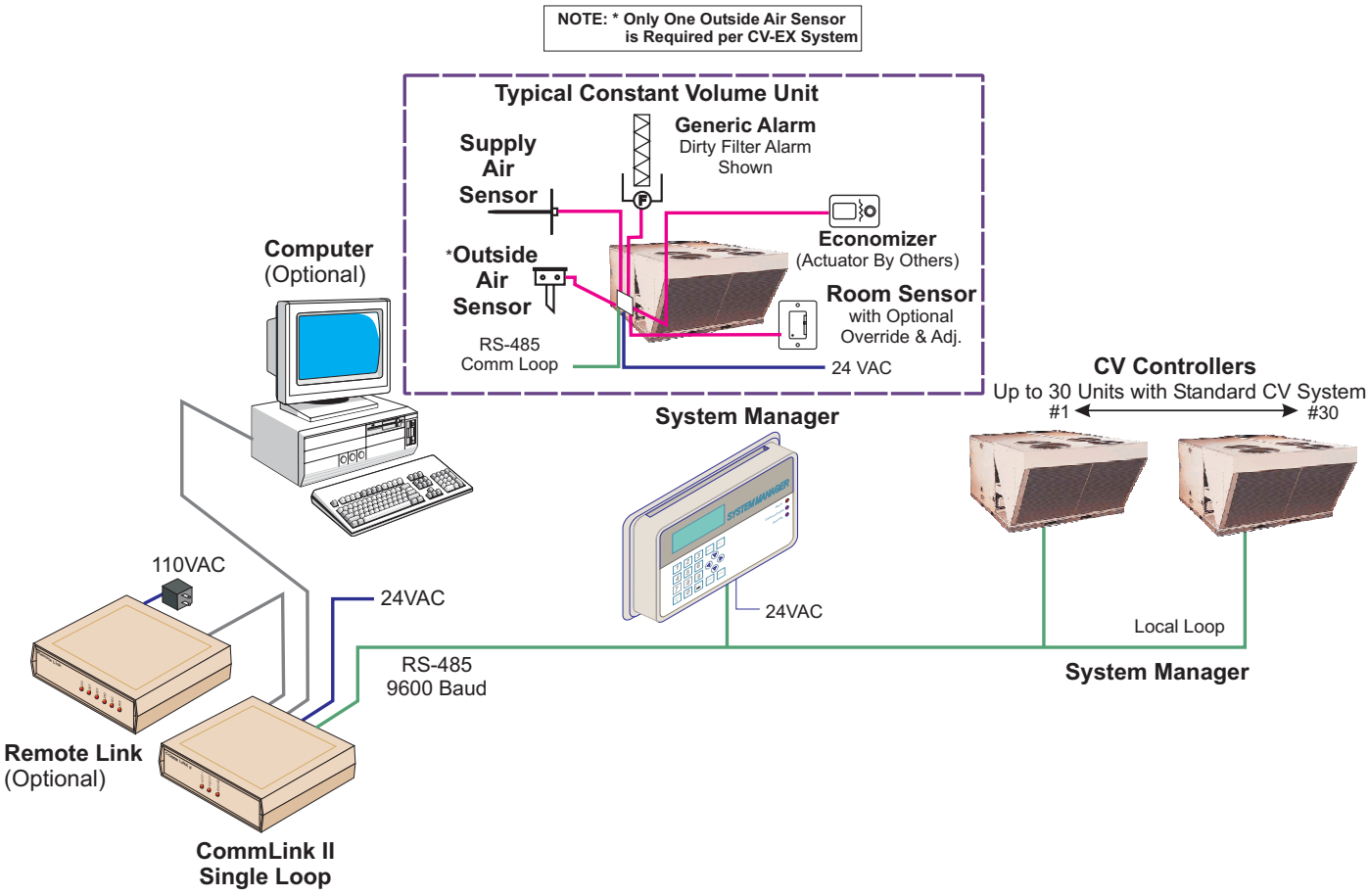
Typical Building For The CV System

CV System Applications

The Auto-Zone CV system is used in buildings which have multiple rooftop units and is an excellent alternative to programmable thermostats. The CV system provides one central location to monitor and program the controllers instead of having to program each thermostat individually. The system has many features typically not found with programmable thermostats such as: central operators interface, heating/cooling failure alarm, change filter alarm, full energy saving economizer control, and holiday scheduling. This gives the end user a very versatile constant volume control system at a price well below a building automation system.

Below are a few of the typical building applications the CV system is commonly used for.

- Office Buildings
- Retail Stores
- Theaters
- Supermarkets
- Manufacturing
- Houses of Worship
- Schools
- Warehouses
- Clinics
- Restaurants

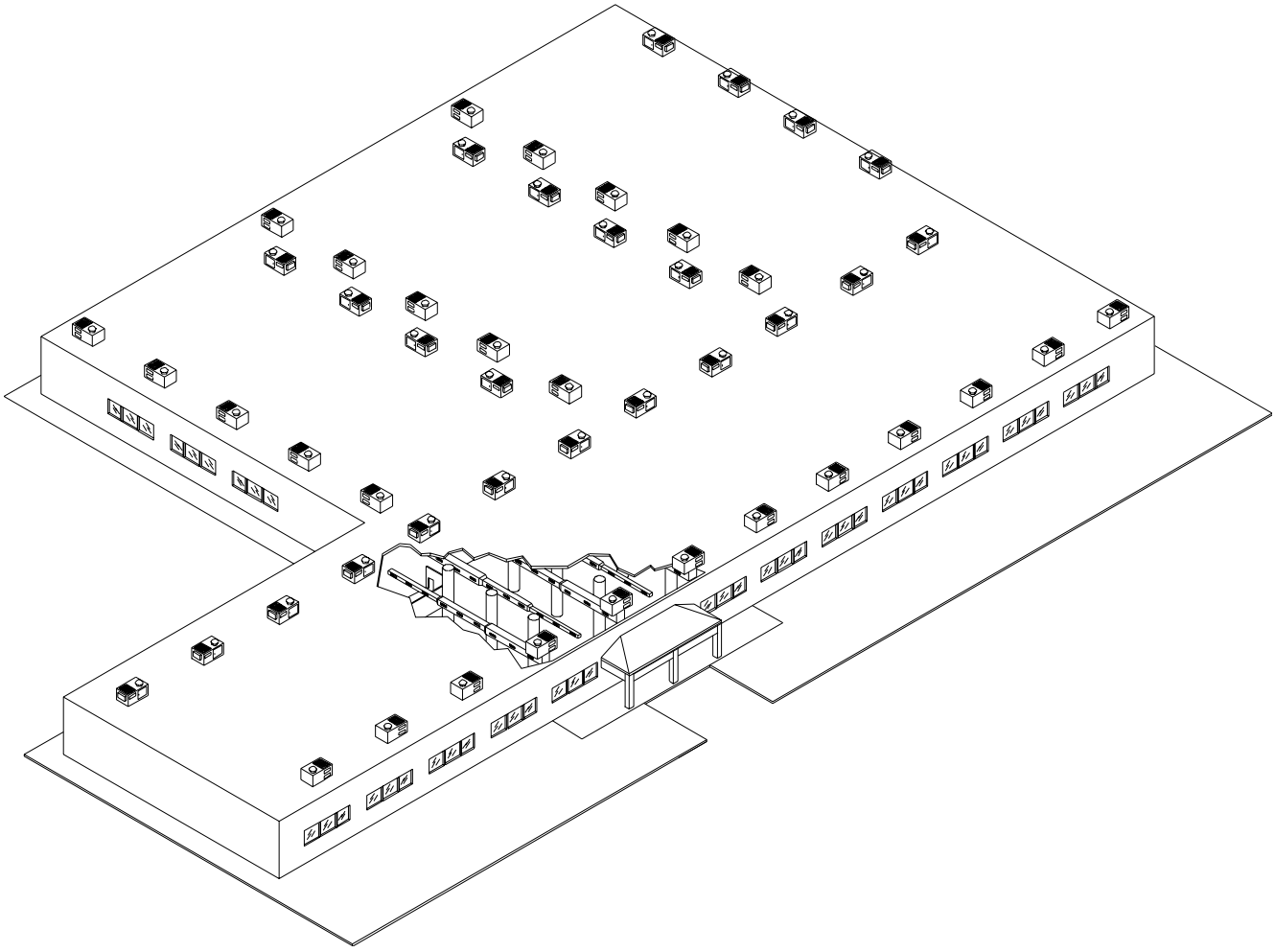


Typical CV System

CV System Features

- CV system supports up to thirty constant volume units. For systems with more than thirty constant volume units, use the CV-EX system
- System Manager is housed in an attractive, plastic enclosure suitable for wall mounting in the space and can be connected anywhere in the communications network
- Complete modulating economizer control functions
- CommLink II interface included with the system. Provides connections for computer and Remote Link (modem) for on-site or remote communications. Remote Link & personal computer are optional
- Trend Logging capability if connected to a personal computer with free Prism™, Windows® based software installed

CV-EX System - Overview



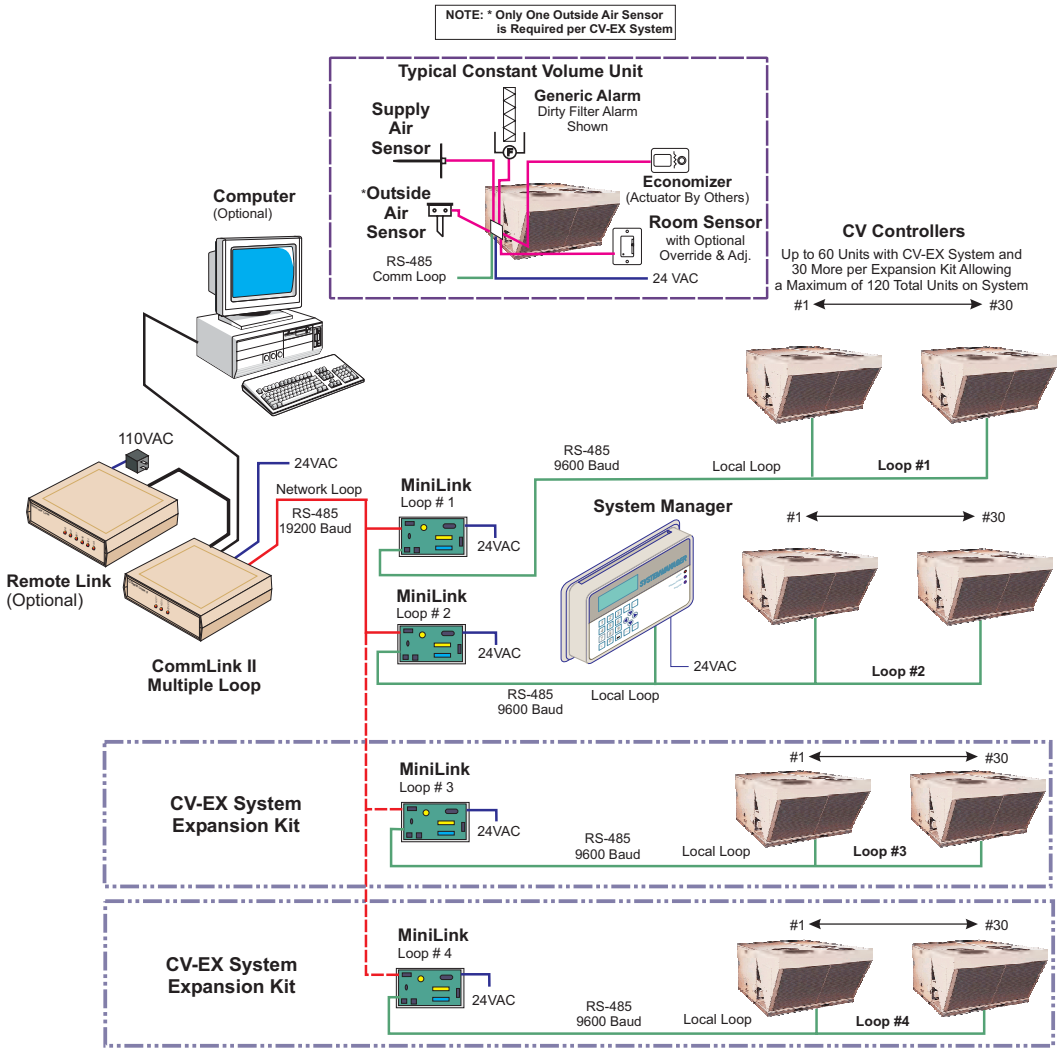
Typical Building For The CV-EX System

CV-EX System Applications

The Auto-Zone CV-EX system is used in buildings which because of their size or design requirements, have more than thirty rooftop units. Standard CV-EX systems can facilitate up to sixty constant volume units. With the addition of a CV-EX Loop Expansion Kit an additional thirty units may be added to the CV-EX system. Two loop expansion kits can be added to the CV-EX system bringing the maximum total system capability up to 120 units. The versatile CV-EX system provides one central location to monitor and program the controllers instead of having to program individual thermostats. The system has many features typically not found with programmable thermostats such as: central operators interface, heating/cooling failure alarm, change filter alarm, full energy saving economizer control, and holiday scheduling.

Below are a few of the typical applications the CV-EX system is commonly used for.

- Office Buildings
- Retail Stores
- Theaters
- Supermarkets
- Manufacturing
- Houses of Worship
- Schools
- Warehouses
- Clinics
- Restaurants

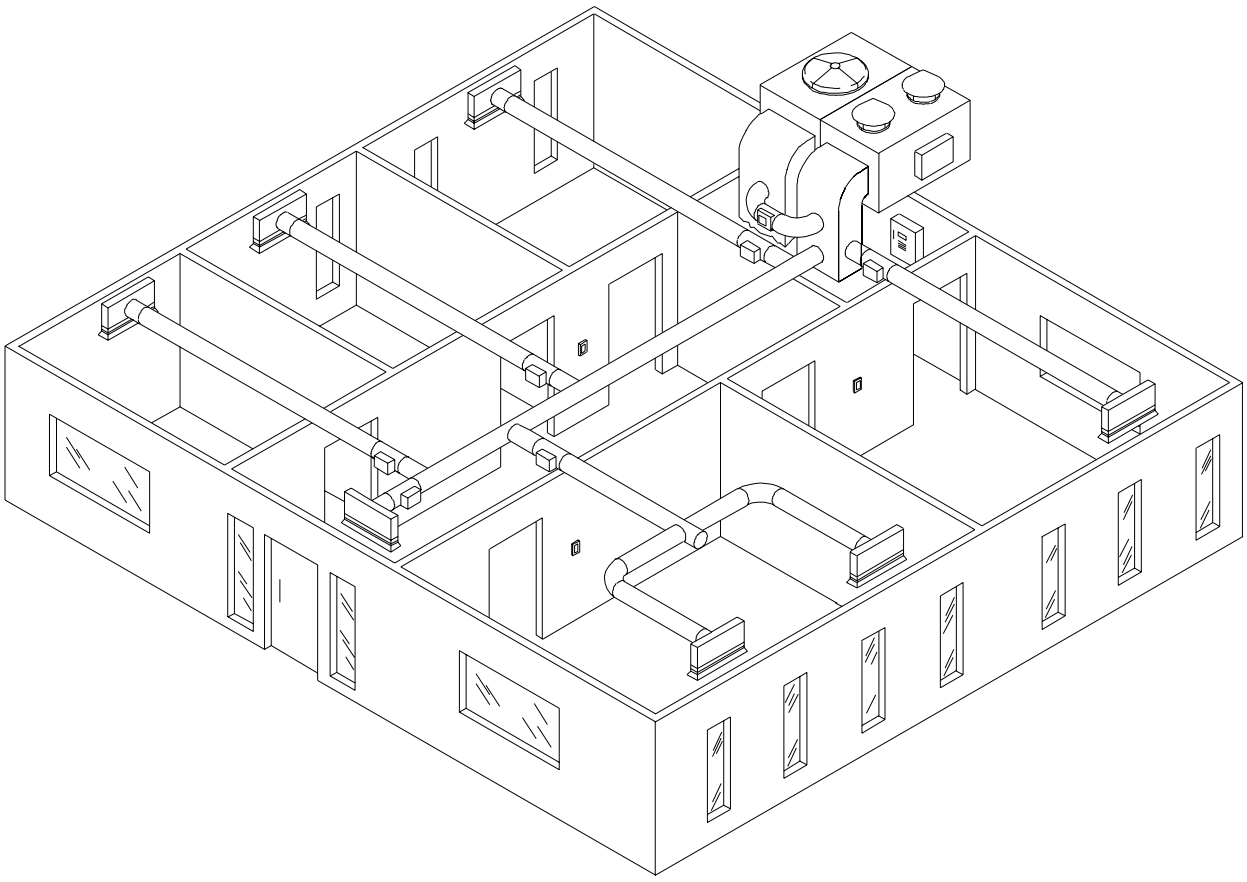


Typical CV-EX System

CV-EX System Features

- CV-EX system supports from thirty one to one hundred twenty constant volume units. For systems with thirty or less constant volume units, use the CV system
- System Manager is housed in an attractive, plastic enclosure suitable for wall mounting in the space and can be connected anywhere in the communications network
- Complete modulating economizer control functions
- CommLink II interface included with the system. Provides connections for computer and Remote Link (modem) for on site or remote communications. Remote Link & computer are optional
- Trend Logging capability if connected to a personal computer with free Prism™, Windows® based software installed

Basic System - Overview



Typical Building For The Basic System

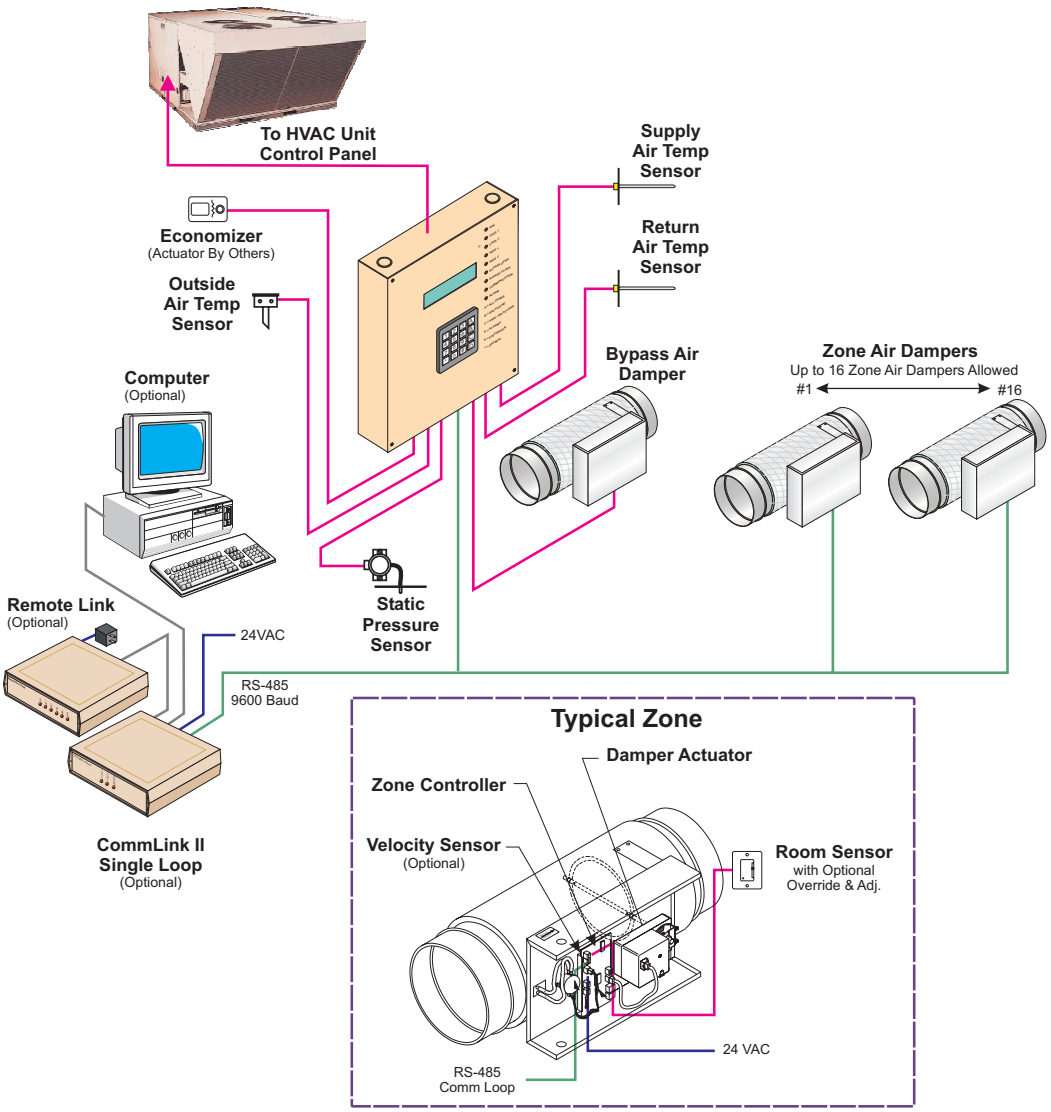
Basic System Applications

The Auto-Zone Basic system is used in buildings which have only one constant volume HVAC unit and the need to provide independent comfort to individual zones. Zoning converts a constant volume HVAC unit to supply variable volume and variable temperature air only to the zones that need it at the particular time. This typically allows the HVAC unit to be downsized because peak loads vary throughout the building and normally only a few of the total number of zones are requiring conditioned air to satisfy comfort levels at the same time. The Basic system controls up to 16 individual zones. It also allows many additional features, such as; heating/cooling failure alarm, change filter alarm, full energy saving economizer control, and holiday scheduling.

Below are a few of the typical applications the Basic system is commonly used for.

- Office Buildings
- Retail Stores
- Theaters
- Houses of Worship
- Clinics
- Restaurants

The Zone Manager is housed in a aluminum metal enclosure and has a keypad and display to allow complete programming and status monitoring. Nine individual LED's are also provided for visual confirmation of key system operational functions.

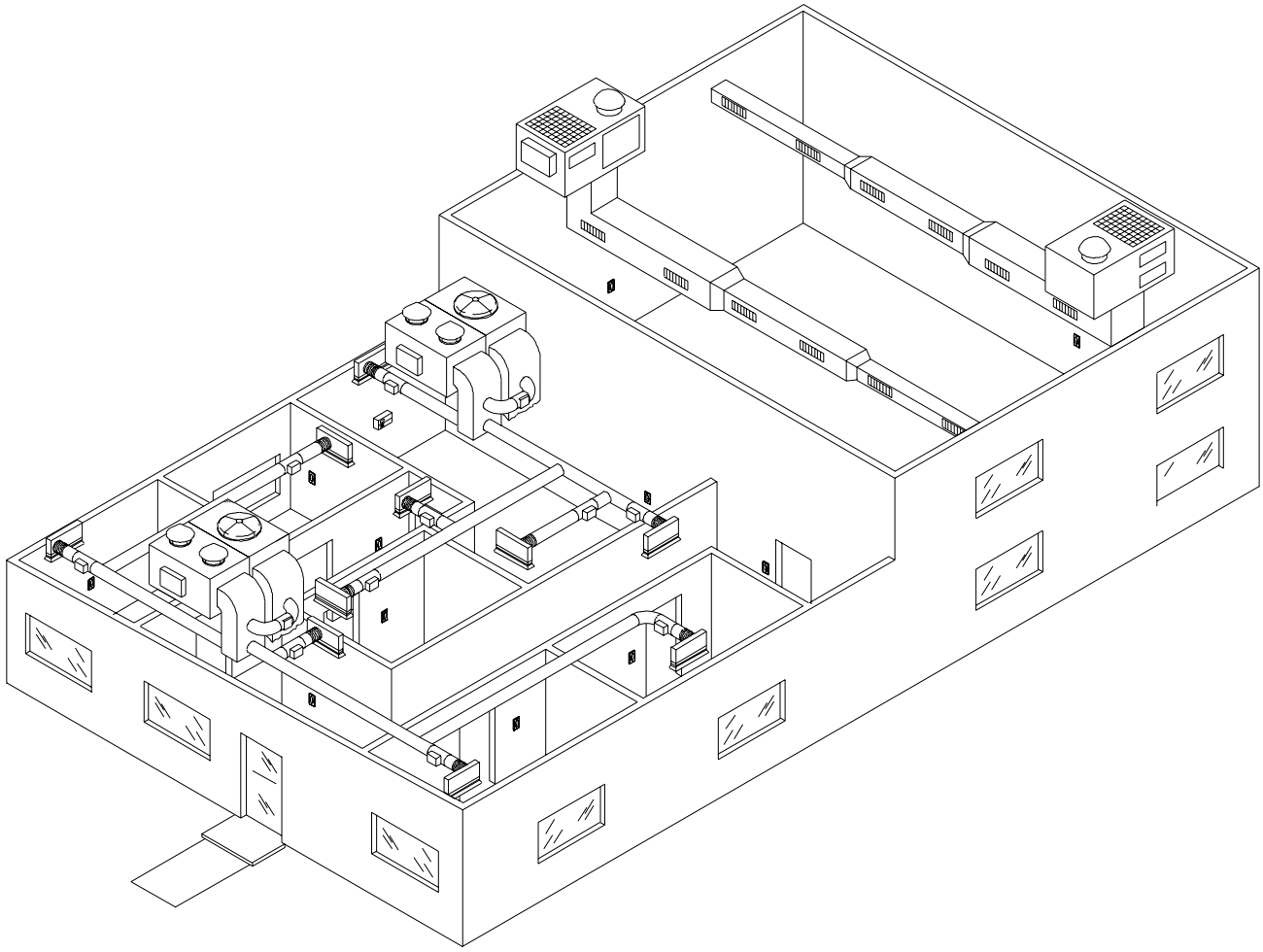


Typical Basic System

Basic System Features

- System will support up to 16 independent zone controllers
- Complete modulating economizer control functions
- Zone Manager housed in control enclosure with keypad and display. Status LED's for Fan, Cooling, Heating, Bypass, Communications and Alarms
- Bypass Damper for duct pressure control can be configured for direct or reverse acting operation.
- Contact output for exhaust/relief fan(s). Digital input for change filter alarm.
- Optional CommLink II interface provides connections for personal computer and Remote Link (modem) for on site or remote communications. Remote Link & personal computer are optional
- Trend Logging capability if connected to a personal computer with free Prism™, Windows® based software installed

Plus System - Overview



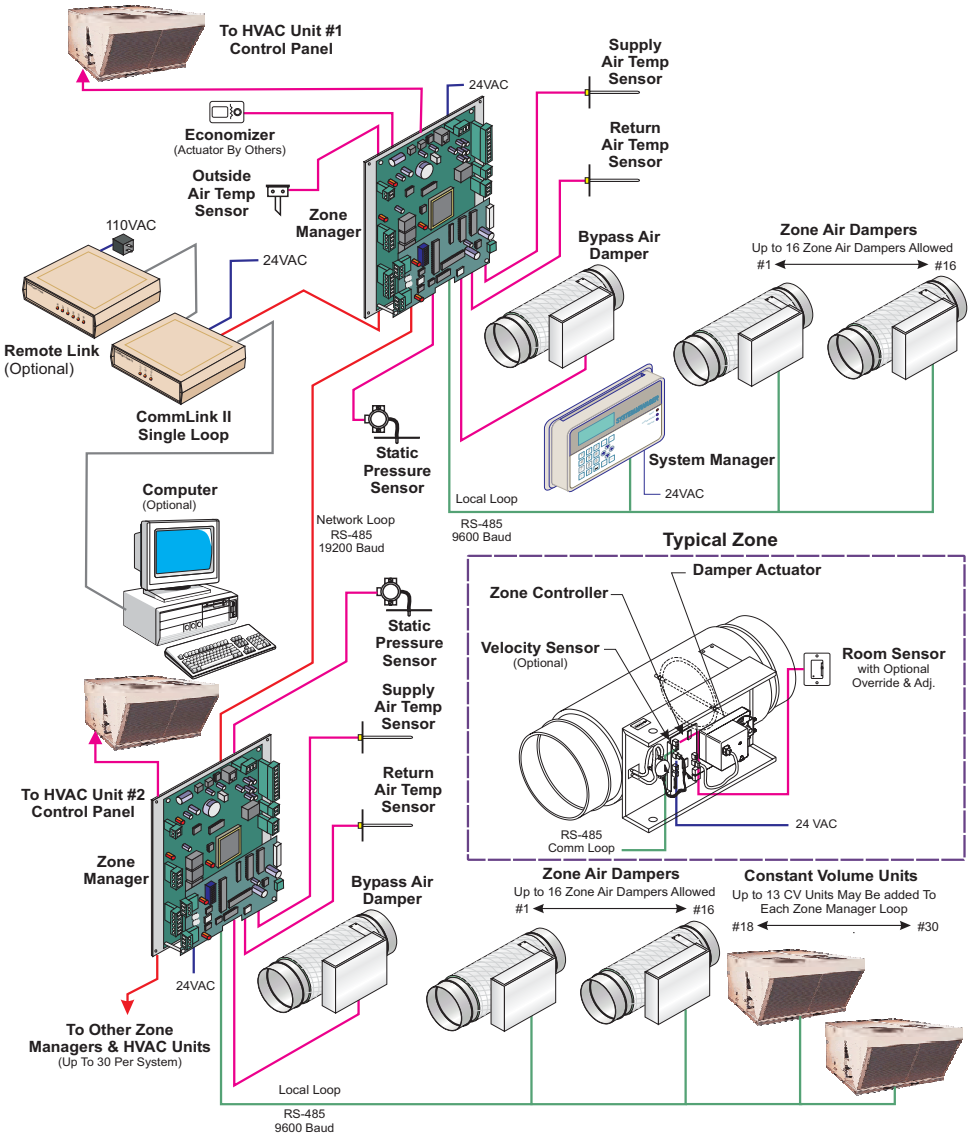
Typical Building For The Plus System

Plus System Applications

The Auto-Zone Plus system is used in buildings which have one or more HVAC units requiring zoning and also require control of single zone constant volume HVAC units. The zoning control features of the Plus system are identical to the Basic system, allowing up to 16 individual zones to be controlled by each HVAC unit, Zone Manager controller. In addition, this system also will allow control of up to thirteen constant volume single zone units per each zoned HVAC unit on the system. All HVAC units on the system are tied together through a communications network that provides for central point programming and monitoring from the System Manager operators interface. A personal computer with the free Prism™, Windows® based software installed, can also be used. Up to 30 Zone Managers, each capable of controlling up to sixteen zones and up to thirteen CV controllers, can be interconnected with this system.

Below are a few of the typical building applications the Plus system is commonly used for.

- Office Buildings
- Retail Stores
- Theaters
- Supermarkets
- Manufacturing
- Houses of Worship
- Schools
- Warehouses
- Clinics
- Restaurants



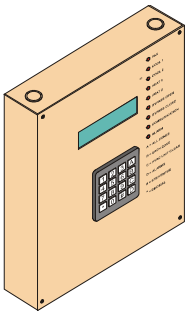
Typical Plus System

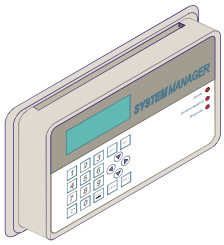
Plus System Features

- Each Zone Manager will support up to sixteen independent zone controllers and up to thirteen CV controllers
- Complete modulating economizer control functions
- System Manager, central operators interface, is housed in an attractive, plastic enclosure suitable for wall mounting in the space
- Bypass Damper for duct pressure control, can be configured for direct or reverse acting operation
- Contact output for exhaust/relief fan(s). Digital input for change filter alarm.
- Standard CommLink II interface provides connections for personal computer and Remote Link (modem) for on site or remote communications. Remote Link & personal computer are optional
- Trend Logging capability if connected to a personal computer with free Prism™, Windows® based software installed

Key Components - Overview

Central Operators Interfaces





Zone Manager - Basic

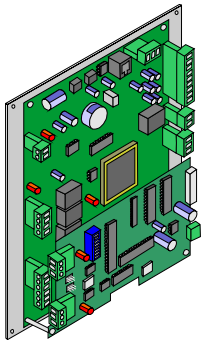
The Auto-Zone systems utilize two different central operators interfaces. The Zone Manager, used for the Basic system, is mounted in an aluminum enclosure with keypad and display mounted on the front. It is designed for wall mounting in the equipment room or other similar space or it can be mounted to the casing of an indoor HVAC unit if desired. The Zone Manager is not suitable for outdoor mounting. The Auto-Zone CV, CV-EX and Plus systems utilize the System Manager as the central operators interface. The System Manager has a plastic enclosure with keypad and display. The System Manager is designed for indoor wall mounting. The pleasing color scheme and design of the System Manager make it suitable for wall mounting with virtually any room decor.

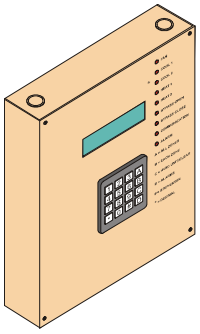
System Manager - CV/CV-EX & Plus

Features of the both central operators interfaces include:

- Access and Programming to the Entire System
- Access is Password Protected
- Maintenance Free Keypads
- 4 Line by 20 Character Display
- Backlighted Display is Easy to Read Even in Low Light Environments
- Status LED's

Zone Managers





Zone Manager - Plus

The Zone Manager is the "master controller" for the Basic & Plus zone control functions. The Zone Manager calculates the heating and cooling requirements for each zone based on real time information received over the network from the Zone Controllers. The Zone Manager then directs the HVAC unit to provide the appropriate amount of heating, cooling, and ventilation to satisfy each zone's requirements. The Zone Manager also controls economizer and static pressure/bypass damper functions.

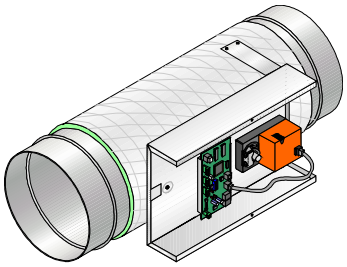
The Basic system Zone Manager comes mounted in an enclosure with a keypad & display. The Zone Manager for the Plus system comes mounted on a backplate for mounting in the HVAC unit or remotely.

Zone Manager - Basic

Both Zone Managers include these features:

- Controls two stages each of heating & cooling. The Plus system is capable of expanding to six stage control with the optional staging expansion board
- 0-10 VDC economizer output and contact output for exhaust/relief fan(s)
- Bypass damper/static pressure control
- Digital input for change filter alarm
- On board time clock for scheduling/night setback functions

Zone Controller With Round Damper



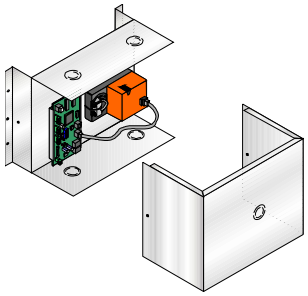
Zone Controller With Round Damper Assembly

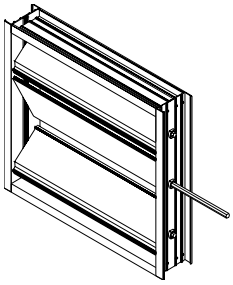
The Zone Controller monitors the space temperature and allocates the proper air flow into its assigned space to achieve desired comfort and ventilation levels. The zone controller modulates the actuator motor to move the round damper blade to the correct position to maintain the required airflow.

Zone Controller & Round Damper Features:

- Modular plug-in connections for actuator, flow sensor, & optional auxiliary relay board
- Reduces installation time
- Eliminates potential wiring errors
- Both Pressure Dependent and Independent Control available from the same controller
- Optional relay board for control of auxiliary heat and series or parallel fan boxes
- Damper comes factory insulated reducing labor cost in the field
- Controller automatically recognizes presence of flow sensor and auxiliary relay board at system power up and automatically configures controller to address those functions
- Heavy duty, high reliability actuator with real-time feedback
- Diagnostic LED's verify proper operation
- Heavy gauge metal round damper housing and damper blade

Zone Controller With Rectangular Damper





Rectangular Damper Kit

The Rectangular Damper is used in applications where rectangular duct is specified or required because of space limitations or job requirements. The Rectangular Damper utilizes opposed blades of airfoil design for improved air flow control. Damper frame, blades and linkage are made of extruded aluminum. The Zone Controller and actuator are mounted in the rectangular damper kit. The Rectangular Damper Kit has a sheet metal enclosure and is designed for easy over the shaft mounting to the rectangular damper.

Rectangular Dampers feature:

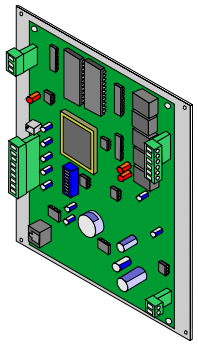
- Damper frame, blades and linkage are made of extruded aluminum

Rectangular Damper

- Blade pins are 7/16" hexagon shaped aluminum, fixed to a Celcon inner bearing that rotates within a polycarbonate outer bearing inserted in the damper frame
- Damper linkage is mechanically assembled and located in the damper frame
- Blade gaskets are of extruded EPDM material which are secured within an integral slot on the blade. Jamb seals are of extruded TPE material for low leakage through the damper when closed

Key Components - Overview

CV Controller



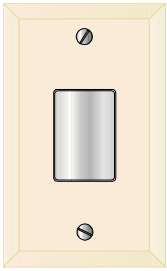
CV Controller Board

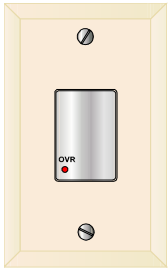
The CV Controller is used in both the Auto-Zone Plus, CV and CV-EX systems. It is designed to control a single zone constant volume unit. The controller can be mounted in the control panel of the roof top unit or remotely.

CV Controllers Feature:

- Four configurable relay outputs for heating/cooling control
- Economizer output 0-10 VDC
- Digital input for change filter alarm
- On board time clock for scheduling/night setback functions
- Unique alarming feature notifies you of heating or cooling failures

Room Sensors





Room Sensor Options

The flush mount Room Sensor comes in an attractive, off white color compatible with most decors. The sensor can be painted or wall papered without affecting performance.

The patented design provides accurate sensing of room temperature with the benefit of a tamper proof package.

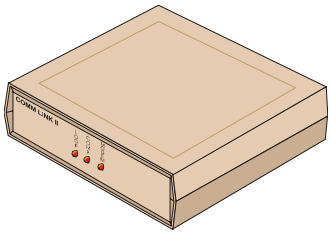
The design of the sensors allow them to be mounted vertically in a standard 2 x 4 handy electrical box. Where electrical codes do not require low voltage wiring to be enclosed in conduit, they may be mounted directly into the drywall. A template is provided with the sensors to facilitate cutting of the correct size hole for mounting.

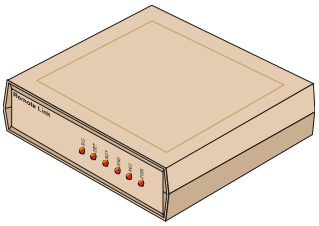
The sensor comes in four different configurations:

- Sensor Only
- Sensor with override
- Sensor with setpoint adjustment
- Sensor with override & setpoint adjustment

Setpoint adjustment affect can be programmed ±0-5°F from the central operators interface.

CommLink II & Remote Link





CommLink II

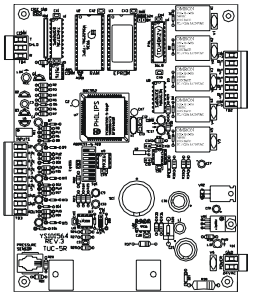
The CommLink II communications interface acts as a network hub for token passing on the system communications loop. It also handles alarm gathering for remote callout. The CommLink has connections for both computer and the Remote Link modem.

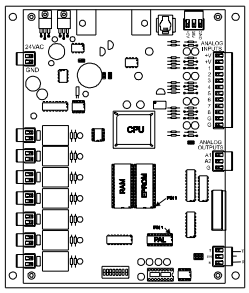
The CommLink is included with the Auto-Zone CV, CV-EX and Plus Systems. It is optional for the Basic system and is only required if the system requires remote alarm callout or is to be connected locally or remotely to a personal computer for use with the Prism™, Windows® based software.

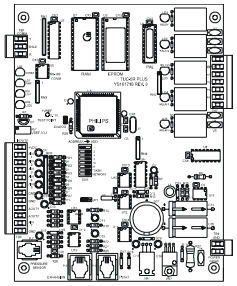
Remote Link

The optional Remote Link is a specialized 14,400 baud modem that is used in conjunction with the CommLink interface to allow for remote alarm callout or remote connection of a personal computer. It connects to the CommLink II via a serial data cable. A telephone line connects the Remote Link to the local phone service.

Add On Devices







Add On Device Boards

Various Add On Devices are available in addition to the standard controllers previously described. Listed below are the various devices available.

CV-C Controller. The CV-C Controller is a field configurable Constant Volume controller for single zone applications where additional capability is required beyond the standard functions of the CV controller. The CV-C can be configured for applications for CO2/IAQ economizer control, dehumidification, modulating of HW and CW control valves. The CV-C digital outputs can be expanded via a plug-in expansion board for applications requiring additional staging control of heating and cooling.

General Purpose Controller. The GPC has (5) Universal Inputs that can accept a contact closure, thermistor temperature sensors, or 4-20mA or 0-5VDC signal. The controller has (5) digital outputs for on/off control and (1) analog output to modulate a valve or damper. These inputs and outputs can be configured in a variety of ways using And/Or logic functions, time schedules, setpoints, etc., to perform many different tasks.

The GPC can be used for many applications including, but not limited to:

- Control Unit Heaters
- Control Boilers
- Control Exhaust Fans
- Monitor Temperature
- Monitor Humidity
- Monitor Status Contacts

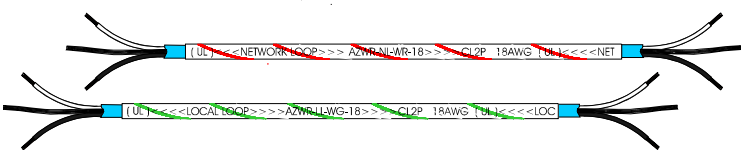
Optimal Start Scheduler. Provides expanded scheduling capabilities beyond those incorporated with the standard systems. Scheduler provides for optimal Start/Stop and up to (7) independent schedules with 2 Start/Stop events per day and (14) Start/Stop holiday events per schedule.

Lighting Panel Controller. Adds Lighting Control Capability to the system. The controller provides up to (7) Independent time schedules and light level controls.

Wetbulb Module. Provides wetbulb temperature monitoring for control of all economizer equipped units on all of the systems.

Key Components - Overview

Communications Cables



Network & Local Loop Communications Cables

Imagine This Common Dilemma:

The contractor is at the job site looking up at the ceiling. There are cables strung everywhere…. cables for alarms, speakers, computers, control systems, etc.. These cables all look the same, except for the Auto-Zone communication cables. These are easily recognizable because of the color coding and labeling printed on the cable. The labeled and color coded communication cable is an enhancement that makes the contractors job easier. Pre-marked and color coded cables save the contractor expensive wire tracing and troubleshooting time.

In keeping with our philosophy of making Auto-Zone systems simple to install, we have developed Auto-Zone Communication Cables that make the installer's job even easier! This new cable meets the specifications of our recommended Belden #82760 cable but has a very unique feature. *The cables are color coded and labeled for both the Network Loop and Local Loop!*

You may ask - Why is that important? In both the Auto-Zone Plus and CV-EX Systems, two types of communication loops are required.

Network Loop. This Loop originates at the CommLink and interconnects the MiniLink Network cards for each of the Zone and/or CV Controller loops. MiniLinks are supplied factory mounted on the Zone Mangers for the Plus System. In the CV-EX System, MiniLinks are mounted on a backplate. The Network Loop cable comes in 500 foot spools.

Local Loop. This is always the communications loop to which the individual Zone Controllers, System Manager, CV Controllers and any other controllers (GPC, Optimal Start Scheduler, Lighting Panel) are connected. The Local Loop cable comes in 1000 foot spools.

Color coded cables help the installer keep the two communication cables separate and identifies the cable, during installation and after, as being installed for the Auto-Zone Systems. Even when installing the Auto-Zone Basic and CV Systems, where there is only one communication loop, color coded cable can be beneficial to a quality installation. In addition, making the color coding part of the controls specification can add additional cost to your competitors bid by requiring them to locate nonstandard cable to meet the specifications.

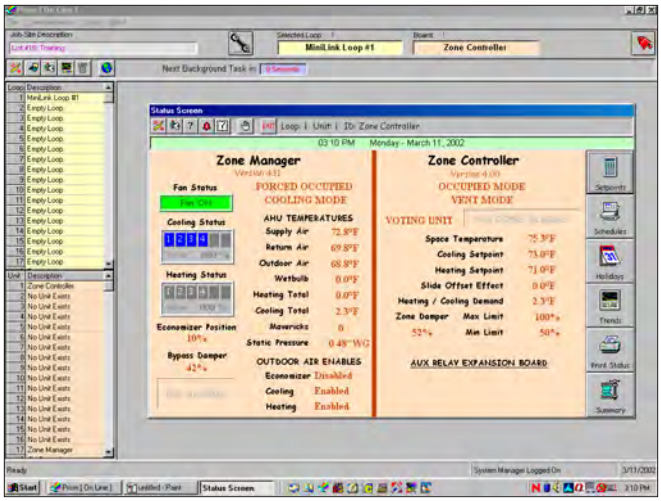
Computer Front End Software

The Prism™, Windows® based software is an easy to use graphical user interface for the. The Auto-Zone family of systems. The Prism™ software has many features typically found in only expensive building automation software packages such as:

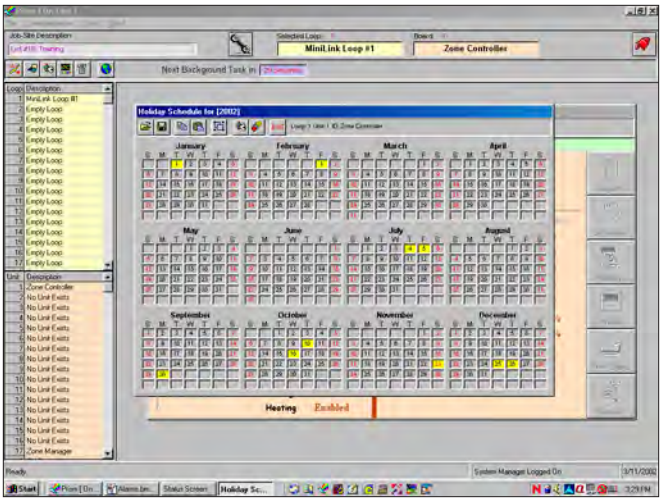
- Software is **FREE** when ordered with a system
- Very easy to use
- Color graphic status screens
- Password Access (9 Levels)
- User definable passcode levels for every available setpoint
- Trend logging using Excel™ compatible spreadsheets
- Graphics editor for drawing custom floor plans, etc.
- English language descriptors for all control points
- Alarm reporting
- Dial in/out to multiple installations
- User friendly navigation
- Built in text editor for viewing all history logs, etc.
- History logging of users actions
- Current status printouts
- Alarm callout from remote locations

See the adjoining page for various sample screens from the Prism™ computer front end software package.

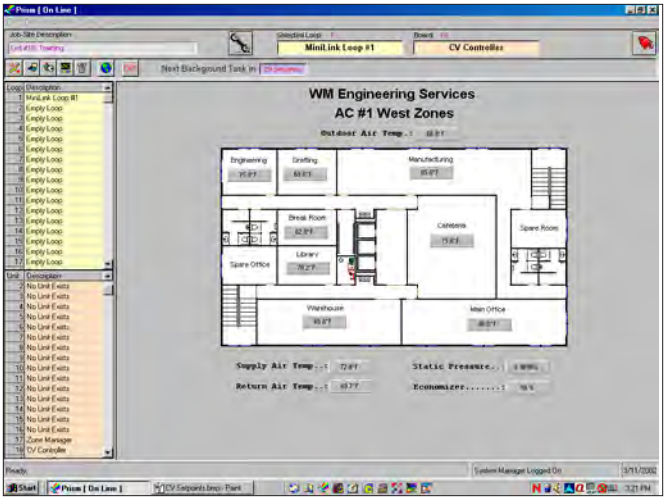
Computer Front End Software



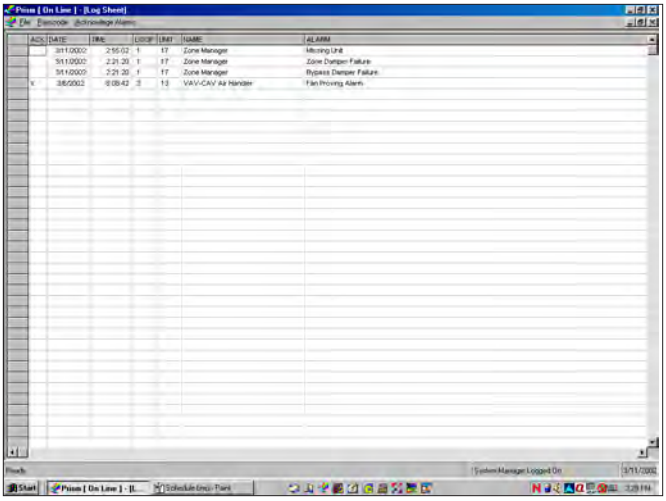
Zone Manager/Zone Controller Status



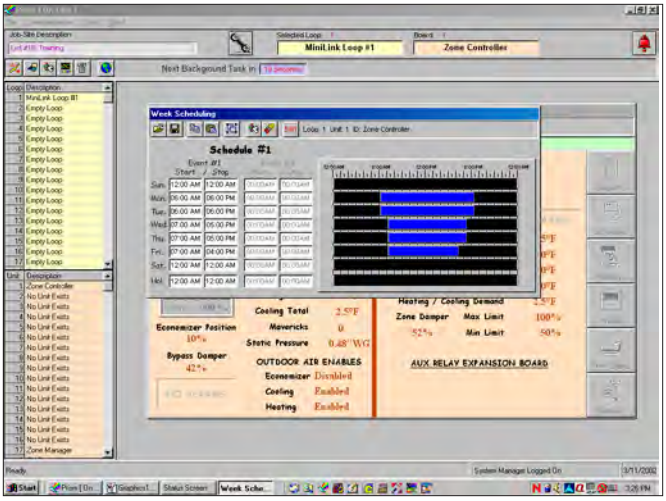
Holiday Scheduling



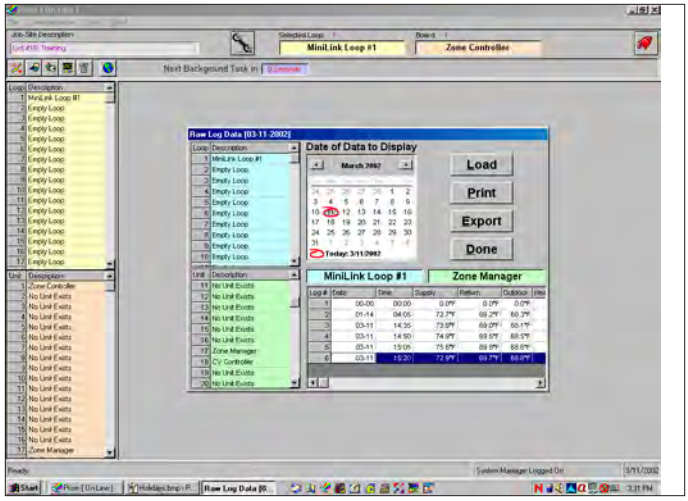
Custom Graphics - Typical Screen



Alarm Logging



Daily Scheduling



Trend Logging

Features & Benefits

All Systems

Non-Proprietary
Auto-Zone will work on any manufacturers HVAC equipment that will accept a standard thermostat connection. This protects the end user from being locked in to one source for service and support. In addition, Auto-Zone Systems include very comprehensive documentation, which was written in a format specifically for a "non-controls technician". Because the manuals are so user friendly, it prevents the end user from being "locked-in" to one contractor for service. Any new contractor needs only a copy of the system manual to have as much technical information as any previous contractor.

Pre-engineered & Application Specific
System design, software, and documentation have already been done for you. This eliminates the costly expense usually associated with conventional DDC systems, making the Auto-Zone system more competitive and easier to install and operate.

One System for both Zoned & Single Zone Systems
Not only does Auto-Zone provide a networked control system for one or multiple zoned HVAC units, but also allows connection of individual single zone units to the system, eliminating the need to use programmable thermostats.

Easy to Configure
Since Auto-Zone components are grouped into packages, configuring a system has been simplified. This reduces the chance of ordering errors and makes system layout effortless!

User Friendly Set Up
Since the Auto-Zone System comes with menu driven, fill in the blank programming, system setup is simple. The system manual takes you step by step through the set up process. Default parameter values are programmed into permanent memory so the system can be operational at start-up. Specialized training is not required.

True Network Communications
The Auto-Zone system uses a three wire, RS-485 loop for communication between all controllers in the system. This provides a very reliable form of communication with flexibility of installation. The loop can be wired in a "daisy chain" or "star" configuration. Many other zoning systems utilize "home run" wiring that requires all communication cables to be brought back to a central point adding additional cost to the project and complicating wiring.

High Integrity Communications
Many communicating control systems are susceptible to electrical interference. One major manufacturer of zoning systems recommends that their communication cable should not be strapped to conduit because of potential interference. The Auto-Zone Systems have a communication bus that is almost immune to any noise problems that may be found in commercial facilities.

Microprocessor Controllers
All controllers in the Auto-Zone System have an on board microprocessor. This is what gives the Auto-Zone System its powerful features and capabilities not found in other systems.

Stand Alone Systems
All Auto-Zone Systems are true stand-alone. A computer is not required for operation. Controllers maintain their own 7-day time clock, 365-day holiday scheduling, and setpoints.

Operators' Interface
All Auto-Zone Systems have an operators' keypad and display terminal. This gives you access to all system status and parameter values without the need for a computer. The 4 line by 20 character display is backlighted making it easy to read even in low light environments.

Heavy Duty Actuators with Real Time Feedback
All Auto-Zone System actuators utilize true modulating control unlike many systems, which are two position. This gives the system improved control which translates to better comfort levels. Our actuators are also rated for 2-½ million cycles making our actuators some of the most reliable in the industry. One other critical feature is the real time feedback. Many other systems have no feedback at all. They blindly estimate the travel time of their actuator, which, in the real world, is not a very repeatable estimate. To help correct the problems inherent with this approach, they recycle all the actuators in the system once or twice a day. They may save a few dollars by not including feedback but they sacrifice system performance. Not so with Auto-Zone.

Patented Room Sensors
Our flush mount room sensors are so unique, they are patented (U.S. Patent No. 4,659,236). Even though part of the sensor is recessed into the wall to provide an attractive yet tamper proof flush mounting, internal wall temperatures do not influence the sensor. A special plate on the face of the sensor accurately senses space temperature. Even though the attractive off white plastic housing is a preferred color, the sensor housing can be painted or wallpapered to blend with room decor without affecting sensor performance. The sensors are offered in four different configurations:

- Sensor Only
- Sensor with override
- Sensor with setpoint adjustment
- Sensor with override & setpoint adjustment

All Systems

Modular Connections
Many Auto-Zone auxiliary devices are connected to the controllers via modular plugs like the ones used on telephones. This simplifies installation and eliminates the possibility of wiring errors. The devices which utilize this method are; damper actuators for zone and bypass control, auxiliary relay boards, and static pressure/air flow sensors. There is one interesting side note about the auxiliary relay board and airflow sensors. These devices are typically used on the zone controllers in the Auto-Zone Basic & Plus systems. When the system is powered up, it automatically looks to see if these devices are connected to the controller. If they are, the controller automatically reconfigures itself to utilize these devices and activates the appropriate set up screens back at the operators interface. Pretty neat don't you think!

FREE! Windows® based Color Graphics Software
Each Auto-Zone system can be monitored on site or remotely using a PC and our Auto-Zone Windows® based software. This full-featured package is very user friendly and can be used to monitor one system or hundreds. Auto-Zone is not copy protected so it can be installed on multiple PC's' without additional expense. Just some of its many features include but not limited to:

- Pre-designed status screens for all controllers
- Alarm dial out capability
- Programming of all system parameters
- Trend logging to Excel™ spreadsheets
- Alarm Handling
- Custom graphics capability

Open Protocol
Auto-Zone is an open protocol based system allowing other manufacturers to develop direct interfaces to the communications loop. This gives you the ability to integrate the Auto-Zone system into products from other vendors. Our engineering staff will be glad to assist any vendor in this process.

Zoning Systems

In addition to the features already mentioned, the Basic & Plus systems zoning features include:

- Pressure Dependent and Pressure Independent zone operation from the same controller
- Pressure Independent control is automatically detected by the Zone Manager upon start up. System automatically displays appropriate setpoints and status screens
- Bypass Damper actuator can be software selected for direct or reverse acting operation
- Zone Manager controls up to two stages each of heating and cooling. An optional expansion board provides control for up to six stages each
- Room sensor slide adjustment effect can be programmed from ±0°F to 5°F.
- Global and individual zone override modes
- Basic & Plus systems have manual airflow/damper force modes available for troubleshooting or air balancing purposes
- Zones can be programmed for VOTING or NONVOTING status which allows the user to eliminate troubled zones from the Zone Managers decision process

WattMaster CONTROLS

Form: WM-AZA-IN-03A
Printed in the USA
August 2003
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