

SPECIFIED
CONTROLS



888-359-0365
www.specifiedcontrols.com

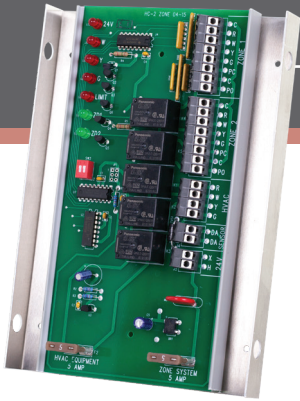
CONTROLS MADE SIMPLE

Commercial and Multifamily Controls...Simplified



STANDARD ZONE PANELS *Ideal for large apartments and townhomes*

2 Zones



SC-Z2-HC (1 Heat / 1 Cool)

3 Zones



SC-Z3-HC-MS (Up to 2 Heat / 2 Cool)

3 Zones

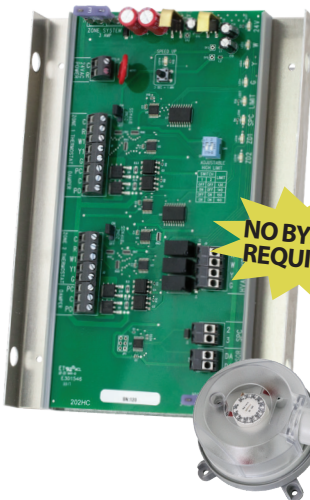


SC-Z3-HPS (Up to 3 Heat / 2 Cool, Heat Pump or Dual Fuel)

These zone panels represent the most contractor-friendly zoning solution available. The SC-Z2-HC is a single-stage heat/cool panel designed to control 2 zones. The SC-Z3-HC-MS and SC-Z3-HPS panels are designed to fit 3-zone applications for single-stage, multi-stage, heat pump or dual fuel systems. All panels can accommodate 2 and 3 wire dampers. In most applications, EB Series Electronic Bypass Dampers will be required. See back page for more information on dampers.

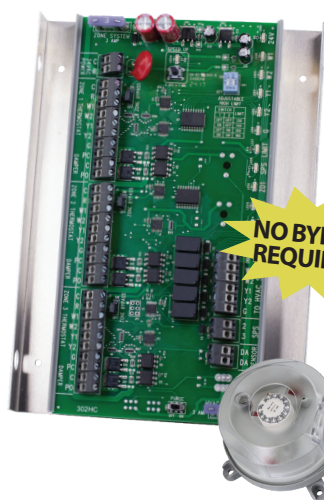
ESP ZONE PANELS *Ideal for large apartments and townhomes*

2 Zones



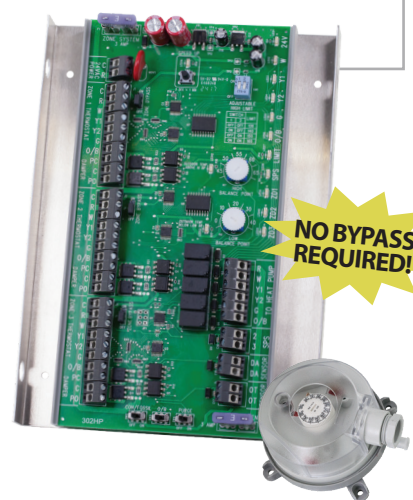
SC-Z2-HC-ESP (Up to 1 Heat / 1 Cool)

3 Zones



SC-Z3-HC-MS-ESP (Up to 2 Heat / 2 Cool)

3 Zones



SC-Z3-HPS-ESP (Up to 3 Heat / 2 Cool, Heat Pump or Dual Fuel)

All of the ESP zone panels are equipped with award-winning electronic static pressure control technology. As zone dampers open and close, the static pressure sensor continuously monitors the system static pressure. If the static pressure goes above the static pressure setpoint, the panel will open the non-calling zones just enough to relieve the excess pressure and bring the system below the desired static pressure setpoint. This eliminates the need for a conventional bypass damper. Static pressure sensor is included.

All zone panels have a 10 year warranty

SD & MD Series Dampers



The SD and MD series dampers are heavy-duty commercial dampers. The 3-wire actuator allows for the damper to be used in both two position and modulating applications. When used with the 2 zone, 3 zone or 6 zone standard or ESP panels, the dampers will provide two position control (open/close). These dampers can also be used as auxiliary dampers in an application where more than one damper is required within a specific zone.

SD Series: 90 second timing

MD Series: 60 second timing

See back page for more damper information.



SC-T32-TS

The SC-T32-TS is a universal, low-cost touchscreen thermostat available exclusively from Specified Controls. The SC-T32-TS can be battery powered or hardwired, which is ideally suited for light commercial applications.



SC-T32-P

The SC-T32-P universal thermostat is a perfect mix of aesthetics, intuitive operation and performance at an affordable price. The SC-T32-P is compatible with most commercial HVAC systems and is ideally suited for use with Specified Controls zoning products.

Panels and dampers are compatible with most major thermostat manufacturers

Honeywell Home **ecobee** **nest** **LUX** **Braeburn** **WHITE-RODGERS** **Aprilaire**

Additional Products



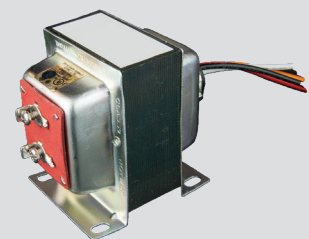
Discharge Air Sensor

SC-Z20-DAS
SC-Z6-DAS



Temperature Sensors

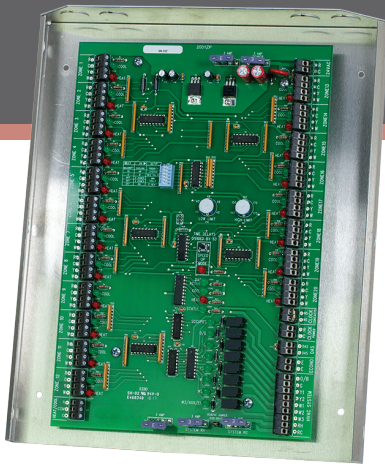
SC-T-OTS Outdoor Temperature Sensor
SC-T-S1 Room Sensor
SC-T-S2 Room Sensor



Transformer

SC-TR20 (20VA)
SC-TR40 (40VA)
SC-TR75 (75VA)

20 Zones



SC-Z20

(Up to 3 Heat / 2 Cool,
Heat Pump or Dual Fuel)

The SC-Z20 Modulating Zone Control System is a commercial zoning system that allows a single HVAC unit to have up to 20 individual zones. Each zone is controlled by its own space thermostat and a modulating damper. The SC-Z20 controls up to 2 stages of heating and 2 stages of cooling on standard equipment, and 3 stages of heating and 2 stages of cooling on heat pump. The system must be used with modulating ZD series dampers, VD series diffusers or a combination of both.

Ideal for club houses and common areas



SC-Z20-T

The SC-Z20-T thermostat is designed to be used with the SC-Z20 modulating zone control panel and the stand-alone damper or VAV diffuser.



SC-Z20-NS

The SC-Z20-NS programmable night stat can be used for occupied and unoccupied scheduling of the SC-Z20.



**Modulating ZD/VD Series
Zone Dampers/VAV Diffusers**

The ZD series dampers and VD series VAV diffusers are heavy duty commercial dampers and VAV diffusers with 3-wire actuators from Belimo. These power open/power closed dampers provide application flexibility and allow for min and max position adjustment. The ZD series dampers and VD series VAV diffusers are used with the SC-Z20-T thermostat.
See back page.

**Modulating SD Series
Zone Dampers/VAV Diffusers**

The SD series dampers and VD-SD series VAV diffusers are heavy-duty commercial dampers and VAV diffusers. Dependent upon the application, the SD series can be used with all SC zone panels. In modulating zoning applications, they are used as drone/auxiliary air devices. These will modulate in parallel with the master dampers (ZD and VD series).
See back page.



EB Series Bypass Dampers

EB series electronic bypass dampers are used to automatically bypass excess air when increases in duct static pressure occur due to closing of zone dampers. They utilize a fully calibrated pressure controller and floating-type actuator to maintain the system static pressure.
See back page.

MODULATING ZONE PANEL FEATURES	SC-Z20
NUMBER OF ZONES	20
HEAT / COOL PANEL	✓
HEAT PUMP PANEL	✓
CONVENTIONAL HEATING STAGES	2
CONVENTIONAL COOLING STAGES	2
HEAT PUMP HEATING STAGES	3
HEAT PUMP COOLING STAGES	2
BUILT-IN DUAL FUEL KIT	✓
AUTO CHANGEOVER	✓
SELECTABLE COOLING PRIORITY	✓
SELECTABLE MAJORITY WINS PRIORITY	✓
HI / LOW LIMIT SENSOR	✓
SYSTEM STATUS LEDES	✓
SHORT CYCLE PROTECTION	✓
TIME DELAY OVERRIDE	✓
PURGE CYCLE	✓
3-WIRE DAMPERS	✓
MODULATING	✓
DOUBLE FUSED	✓
MINIMUM CALL REQUIREMENT	✓
DEDICATED ECONOMIZER OUTPUT	✓
10 YEAR WARRANTY	✓

VENTILATION / OUTSIDE AIR CONTROL

VCS



SC-VCS

The ventilation control system is designed to introduce fresh air into a building through an intake damper controlled by a microprocessor logic panel. The SC-VCS has single adjustment setup, exhaust fan control option, outdoor temperature and/or humidity limit option and damper override capabilities. Meets ASHRAE 62.2 standard. Comes with a 20VA transformer.

Damper not included. Selection of damper based on CFM requirement.

VCS ENHANCED



SC-VCS-ENHANCED

The SC-VCS-ENHANCED has the same great features as the SC-VCS panel, however it is preassembled and wired with 20VA transformer and gang box for line voltage separation. *Damper not included. Selection of damper based on CFM requirement.*

OAD



SC-OAD-XX (24V or 120V)

SC-OAD-P-XX (24V or 120V)

Outside Air Dampers are designed for new construction or retrofit applications requiring exhaust, fresh air intake, on-off and modulating control. Typical applications include bathrooms or restrooms in high rise buildings and outside air for small split systems. SC-OAD-P-XX includes a plate mounted to the damper which allows any direct coupled actuator to be utilized, including DDC controllers.



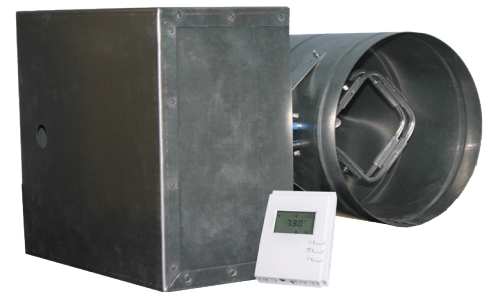
ASENSE-R, ASENSE-D

The ASENSE CO₂ sensors monitor the carbon dioxide levels in industrial, commercial, school, and office environments. Connecting these sensors to the override terminals on the SC-VCS activates the on-demand ventilation function to provide fresh air. Can also be used with SC-OAD dampers for two position or modulating direct demand ventilation. NEMA 4X and high ppm range options available.



SC-MUA

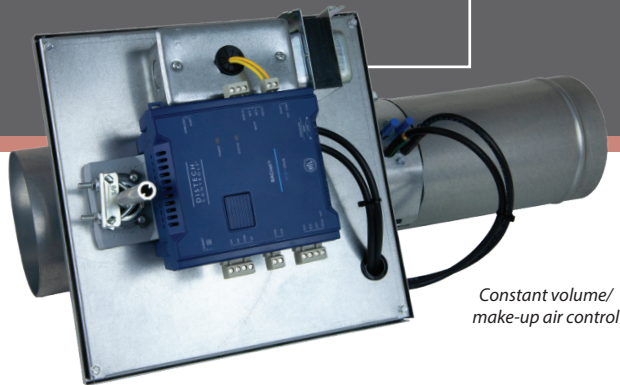
The Make Up Air Damper is designed to bring in outside air when exhaust fans exceed 400 CFM. The adjustable static pressure sensor allows the contractor to calibrate when the make-up air damper opens. Pressure safely equalizes within the building keeping harmful gases from entering the living space due to negative pressure caused by exhaust fans. Ideal for apartments/condos with large kitchen hoods.



SC-IFAD

The intelligent fresh air damper is designed for fresh air requirements in various building applications. Demand fresh air is controlled with either a single or dual CO₂ sensor configuration. The system includes a controller with integral airflow measuring for precise control, 24V transformer, along with various inlet size options. The SC-IFAD can be integrated into virtually any building automation system. Ideal for classrooms.

MMD



Constant volume/
make-up air control

SC-MMD

The SC-MMD is a ventilation/make-up air damper system specifically designed for use in commercial or multifamily buildings. Unlike other make-up air or constant volume damper systems, the SC-MMD has the ability to measure air flow and modulate to maintain the desired minimum and maximum CFM into the space. The most common application of the SC-MMD is in high-rise apartment/condo buildings; in this application, constant ventilation air is required to meet ASHRAE standards. However, when kitchen exhaust hoods or large bathroom exhausts within the apartment/condo are engaged an immediate increase in make-up air is necessary. The SC-MMD does this without the need for complicated and expensive balancing of constant volume regulator and spring return damper combination units. The SC-MMD system is self-balancing. Built with space constraints in mind, the SC-MMD is smaller and less complicated than other products, with the added benefit of BACnet communication. Connecting the SC-MMD into the BAS can have significant cost saving benefits.

SC-BAL-XX

The SC-BAL-XX damper is an electronic balancing damper which utilizes a 9V DC direct coupled actuator. This 9V motor provides direct proportional control of the damper position when using the hand held damper positioner (SC-BAL-A). Simply turn the indicator knob to the appropriate damper position and press the power button for 10 seconds. The damper will open or close to the exact position desired. The hand-held adjuster uses a standard 9V battery to power the damper to the correct position. Electronic balancing dampers are great for inaccessible areas of any building and can be used in any application that may require remote adjustment of balancing dampers. Only Specified Controls SC-BAL-XX dampers provide accurate and definitive damper positioning with our Patent Pending 9V motor and hand-held adjuster.

Round sizes available starting October 2019; Rectangular sizes available February 2020



SPECIFIED COMFORT

Building Automation System

The Specified Comfort™ System integrates HVAC equipment, lighting, fans, and metering to provide a powerful energy management solution. The lighting, thermostat, fan control and metering software share the Specified Comfort™ Energy Manager and operates as an integrated system. The Specified Comfort™ Energy Manager communicates with lighting controllers, motion sensors, thermostats, fans, meters and plugs using a secure wireless 2.4GHz communications network. This network is then controlled and monitored via the simple web-based interface.



SC-EMS-TM

The Specified Comfort™ Energy Manager is a rugged, commercial controller that is the heart of the innovative integrated energy management system. The Energy Manager coordinates all energy management functions utilizing the Specified Comfort™ wireless network.



SC-EMS-T32-P

The Specified Comfort™ SC-EMS-T32-P thermostat communicates with the Specified Comfort Energy Manager. This universal thermostat is used to control unitary equipment and as a night setback thermostat in zoning applications.



SC-EMS-Z20-T

The Specified Comfort™ SC-EMS-Z20-T thermostat is a zoning thermostat used with the SC-Z20 modulating zone control system to communicate with the SC-EMS-TM.



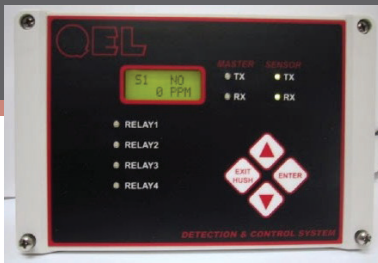
SC-EMS-DAS

The SC-EMS-DAS is an 8" duct probe temperature sensor that is factory wired to a special Specified Comfort wireless transceiver to provide real-time temperature information via the Specified Comfort software. The thermistor offers a higher resistance than Platinum RTD's, creating a larger signal with the same measuring current.

Full listing of Specified Comfort™ accessories available at www.specifiedcontrols.com

GAS DETECTION CONTROLLERS

SC-Q4C



SC-Q4C Digital Controller

The SC-Q4C is a multi-channel controller display and alarm unit that utilizes digital communications to interface with a maximum of 4 remote digital transmitter/sensors.

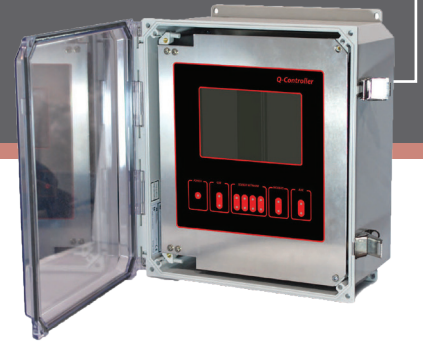
SC-M



SC-M Controller

The SC-M Controller is a multi-channel controller and alarm unit. It utilizes both digital and analog communications to interface with a maximum of 32 remote digital transmitters/sensors, and 8 analog transmitters/sensors.

SC-Q



SC-Q Controller

The SC-Q Controller uses an RS-485 communication protocol that accommodates 128 channels through four digital ports. There are 128 analog inputs from any 4-20mA device and 128 4-20mA outputs. There are also up to 128 binary inputs and 128 binary outputs.

For structures that house running vehicles, one of the most important safety features is the exhaust system. This typically includes a gas detection system consisting of wall mounted carbon monoxide (CO) and nitrogen dioxide (NO₂) sensors. One or more control panels, exhaust fans, supply fans or make-up air units and/or intake louvers is also necessary. It is required for underground or partially in-ground parking structures to have gas detection systems. However, even open-air parking structures often require gas detection systems to meet federal, state and local building, safety, fire and ventilation codes.

Specified Controls offers complete systems for toxic and combustible gas detection. From parking structures, garages, commercial and industrial applications and even refrigerant monitoring, Specified Controls provides the products, experience, custom wiring diagrams and preprogramming/onsite startup and commissioning by experienced factory technicians for every job.



Typical Applications for Gas Detection:

- Parking Structure
- Car Dealership
- Auto Repair/Service Facility
- Warehouse
- Greenhouse/Growhouse
- Food Industry
- Battery Charging Station
- Fire Station

GAS DETECTION SENSORS

SC-Q5



SC-Q6



SC-B5



Q5 Sensor

The SC-Q5 is a microprocessor-based “smart” gas sensor/transmitter. It is paired with either an electrochemical gas sensor for toxic gases, or a catalytic bead sensor for combustible gases. Standalone or networked with a control panel. Each sensor has 3 relays and a 1-10V output.

Q6 Sensor

The SC-Q6 is a microprocessor-based “smart” carbon monoxide gas sensor/transmitter paired with an additional remote gas sensor, such as NO₂. The combination sensor allows different gas sensor mounting heights.



B5 Sensor

The SC-B5 is a BACnet™ enabled, microprocessor based “smart” gas sensor/transmitter. It is paired with either an electrochemical gas sensor for toxic gases, or a catalytic bead sensor for combustible gases. The units can be installed as stand-alone, or networked digitally with a BACnet™ enabled BAS.

Detectable Gas Type Ordering Codes *(Multiple spans available for some gases)*

When ordering, use format SC-QX-XXXX (gas type code)

- **CH3CO-100L** (Acetone, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **NH3** (Ammonia, Electrochemical, 0-100 PPM) (Span: **100P**)
- **ASH3** (Arsine, Electrochemical, 0-1 PPM) (Span: **1P**)
- **C6H6** (Benzene, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **C4H10** (Iso-Butane, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **BUTAN** (Butanol, n-Butane, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **CO2** (Carbon Dioxide, Infrared, 0-5000 PPM) (Span: **5000P**)
- **CO** (Carbon Monoxide, Electrochemical, 0-250 PPM) (Span: **250P**)
- **CL2** (Chlorine, Electrochemical, 0-5 PPM) (Span: **5P**)
- **CLO2** (Chlorine Dioxide, Electrochemical, 0-2 PPM) (Span: **2P**)
- **GENL*** (Combustible, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **B2H6** (Diborane, Electrochemical, 0-2 PPM) (Span: **2P**)
- **C2H4** (Ethylene, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **ETO** (Ethylene Oxide, Electrochemical, 0-20 PPM) (Span: **20P**)
- **H2** (Hydrogen, Electrochemical, 0-1000 PPM) (Span: **1000P**)
- **HBR** (Hydrogen Bromide, Electrochemical, 0-30 PPM) (Span: **30P**)
- **HCL** (Hydrogen Chloride, Electrochemical, 0-30 PPM) (Span: **30P**)
- **HCN** (Hydrogen Cyanide, Electrochemical, 0-50 PPM) (Span: **50P**)
- **H2S** (Hydrogen Sulphide, Electrochemical, 0-25 PPM) (Span: **25P**)
- **CH4** (Methane, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **CH3OH** (Methanol, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **NO** (Nitric Oxide, Electrochemical, 0-100 PPM) (Span: **100P**)
- **NO2** (Nitrogen Dioxide, Electrochemical, 0-10 PPM) (Span: **10P**)
- **O2** (Oxygen, Electrochemical, 0-25% VOL) (Span: **25V**)
- **O3** (Ozone, Electrochemical, 0-1 PPM) (Span: **1P**)
- **C5H12** (Iso-Pentane, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **PH3** (Phosphine, Electrochemical, 0-1 PPM) (Span: **1P**)
- **PH3** (Phosphine, Electrochemical, 0-5 PPM) (Span: **5P**)
- **C3H8** (Propane, Catalytic Bead, 0-100% LEL) (Span: **100L**)
- **SIH4** (Silane, Electrochemical, 0-50 PPM) (Span: **50P**)
- **SO2** (Sulphur Dioxide, Electrochemical, 0-6 PPM) (Span: **6P**)
- **GEH4** (Germane, Electrochemical, 0-2 PPM) (Span: **2P**)
(Specify specific combustible fumes)

Explosion proof sensor bodies also available.



Most common gases detected: CO, NO₂, and Hydrogen

DESIGNING YOUR SYSTEM

CO and NO₂ toxicity levels and toxic health symptoms

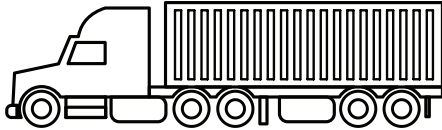
CO



Unleaded

Health Symptoms	CO Level in the Air
Death within 1 to 3 minutes	12,800 ppm
Headache, dizziness in 1-2 minutes. Death in 10-15 minutes	6,400 ppm
Headache, dizziness, nausea within 10 minutes. Death within 30 minutes	3,200 ppm
Headache, dizziness, nausea within 20 minutes. Death within 2 hours	1,600 ppm
Headache, dizziness, nausea within 45 minutes, convulsions. Coma within 2 hours	800 ppm
Frontal headache 1-2 hours, widespread 2 ½ to 3 ½ hours	400 ppm
Slight headache, tiredness, dizziness, nausea after 2-3 hours	200 ppm

NO₂



Diesel

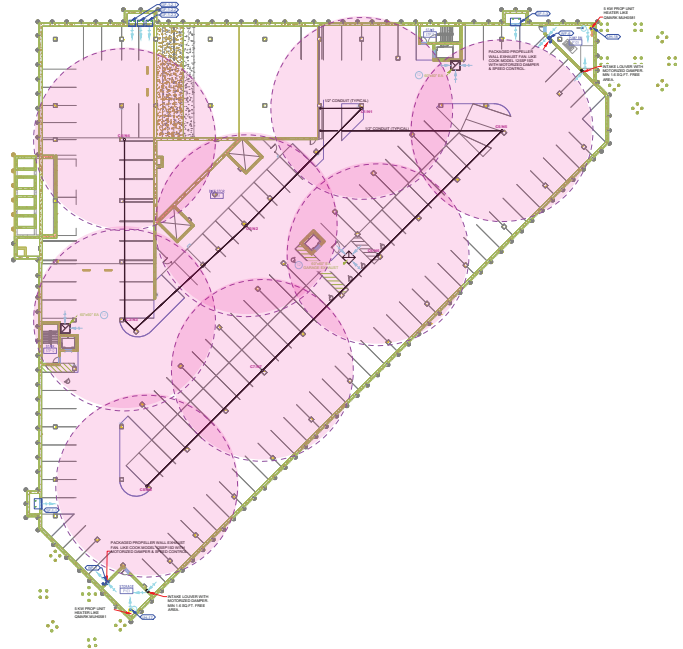
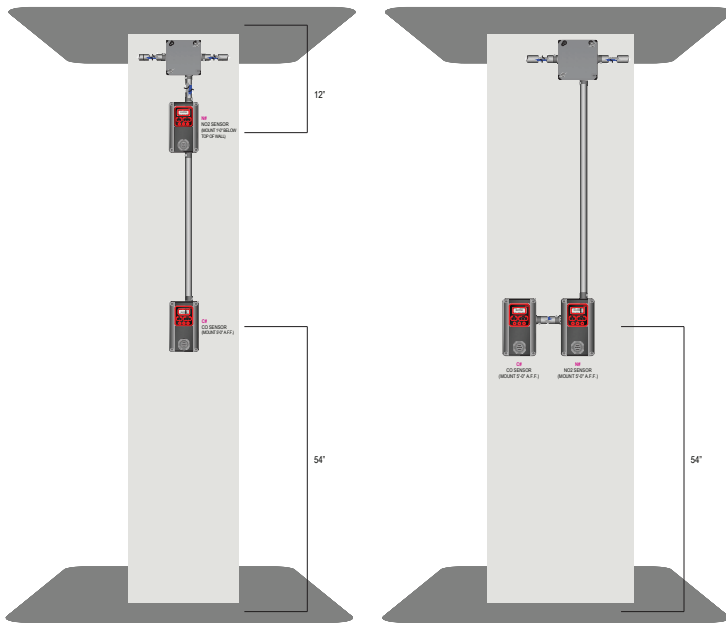
Health Symptoms	NO ₂ Level in the Air
Chronic bronchitis, emphysema	5 ppm
Eye, nose, and upper respiratory irritation	5 ppm
Mild headache	1 ppm
Acute pulmonary edema; lower respiratory irritation (cough, dyspnea)	1 ppm
Eye, nose, and upper respiratory irritation	1 ppm
Lower respiratory irritation	0.2 ppm

National Standards for CO Exposure

CO Level in the Air	Regulation	Alarm Level
200 ppm	Short term exposure limit:15-minute maximum exposure level (NIOSH).	Maximum concentration allowable for high alarm.
50 ppm	The maximum allowable concentration for a worker's continuous exposure in any 8 hour period (OSHA). Recommends to activate the mechanical ventilation when CO is monitored in a parking structure (UMC).	Maximum concentration for low alarm.
35 ppm	35 ppm is the maximum allowable concentration for a worker to be exposed to in any 8 hour period (NIOSH). Recommends 35 ppm or lower as an ambient air quality goal averaged over one hour (EPA).	Acceptable for low level alarm setpoint.
25 ppm	25 ppm is the maximum allowable concentration for a worker's continuous exposure in any 8 hour period (ACGIH). Recommend to actuate the mechanical ventilation when CO is monitored in a parking structure (IMC).	Ideal low level alarm setpoint. Minimum concentration for low alarm.
9 ppm	Recommends 9 ppm or lower as an ambient air quality goal averaged over 8 hours (EPA).	Too low to be a valuable alarm setpoint. Normally used as being the maximum allowable concentration for office spaces

NOTICE:

CO and NO₂ are highly toxic gases and the evacuation of these gases is a matter of life safety. Generally, standard rooftop equipment with economizer should never be used to bring necessary fresh air into the building. Make-up Air units, supply fans or louvers should be used for fresh air. Use of a standard RTU at 100% outside air may void the warranty on the unit, potentially cause heat exchanger failure and ultimately lead to an inoperable gas detection and safety system. Simple design rule: treat toxic gas in the same way that smoke evacuation is treated.



RULE #1

CO Sensors should be mounted 54" from the ground. NO₂ Sensors should be mounted either 12" from the ceiling or at 54" or lower dependent upon the type of vehicle exhaust. Other gases will vary.

RULE #2

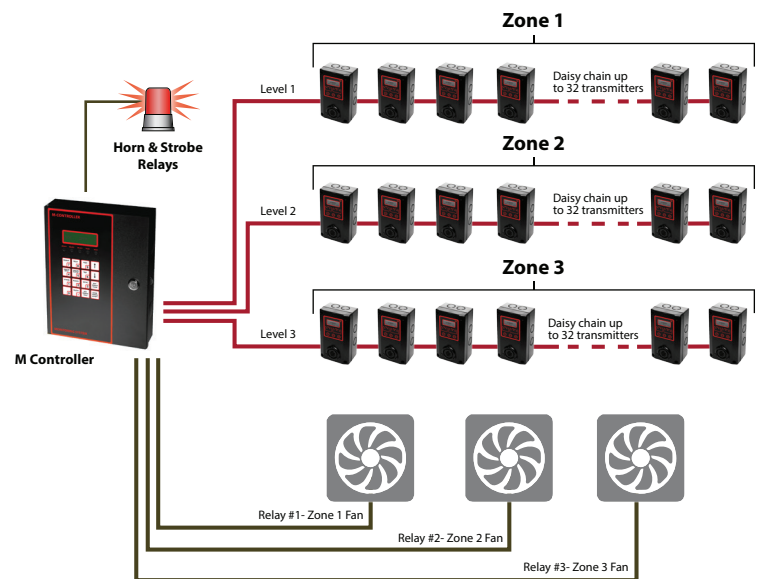
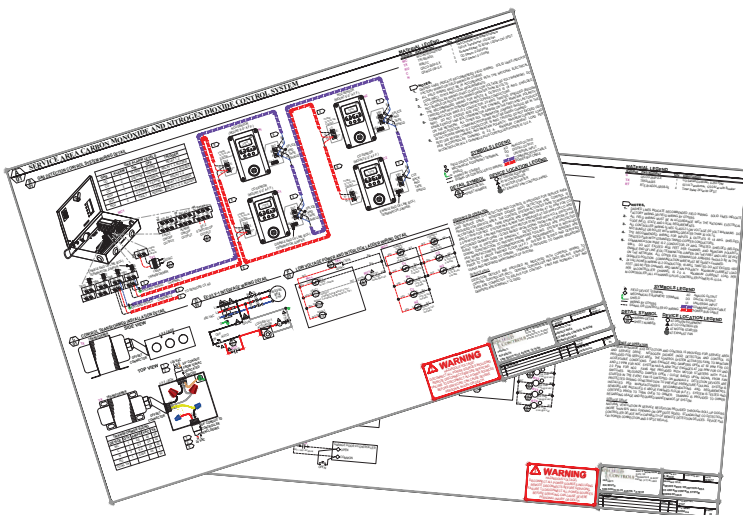
Sensors have an effective radius of 48 ft. or 7,238 sq. ft. Open pillars should be utilized for sensor location if possible.

RULE #3

Each floor of the parking structure should have a minimum of 90% coverage by the sensors.

THE SPECIFIED CONTROLS DIFFERENCE

Whether your needs are parts and components or a full Gas Detection System with factory trained commissioning, Specified Controls is here to provide the best value in gas detection. We are happy to provide customized AutoCAD control drawings, schematics and technical support for each job. We have factory-trained gas detection commissioning experts who can visit your jobsite and assure that the system is installed and functioning properly.

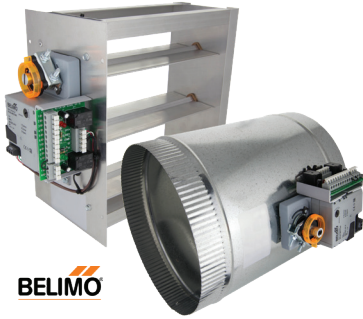


- Custom AutoCAD drawings
- Pre-programming of Gas Detection Systems
- On-site Startup and Commissioning

DAMPER SELECTION GUIDE

Quick ship available on all dampers

Also available as

BELIMO

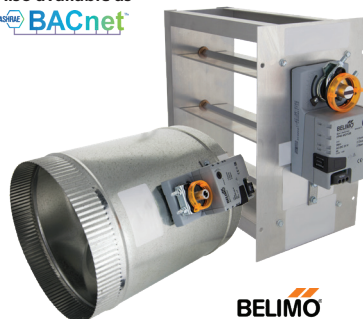
Compatible with SC-Z20 panel
 or as stand alone zone

ZD SERIES ZONE DAMPERS

- 5 year warranty
- SC-ZD-XX
- 4" to 22"
- SC-ZD-XXXX
- 6" x 6" and larger
- Side mount and bottom mount

FP45-Motor
 3-wire PC/PO, floating point
 (2.5VA)
 90 Second Timing

Also available as

BELIMO

Compatible with all zone panels

SD SERIES ZONE DAMPERS

- 3-wire
- 5 year warranty
- SC-SD-XX, SC-SD-XXXX
- 4" to 22"
- 6" x 6" and larger
- Side mount and bottom mount

FP45-Motor
 3-wire PC/PO, floating point
 (2.5VA)
 90 Second Timing

Also available as



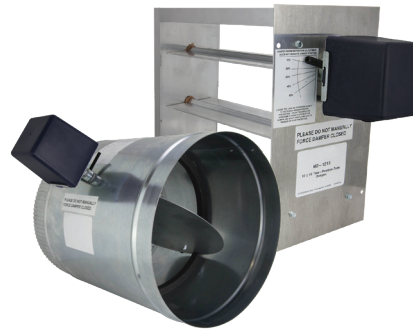

BELIMO

Compatible with all zone panels

ELECTRONIC BYPASS DAMPERS

- 5 year warranty
- SC-EB-XX
- 4" to 22"
- SC-EB-XXXX
- 6" x 6" and larger

FP45-Motor
 3-wire PC/PO, floating point
 (2.5VA)
 90 Second Timing



Compatible with all standard zone panels

D/HD SERIES ZONE DAMPERS

- 2-wire with spring return
- 5 year warranty
- SC-D-XX
- 4" to 22"
- SC-HD-XXXX
- 6" x 6" and larger
- Side mount and bottom mount

HD-Motor
 (10VA)
 30 Second Timing



BELIMO

Compatible with the Carrier® Infinity®
 and Bryant® Evolution® systems

CD ZONE DAMPERS

- 3-wire
- 5 year warranty
- SC-CD-XX
- 4" to 22"
- SC-CD-XXXX
- 6" x 6" and larger
- Side mount and bottom mount

CD-Motor
 3-wire PC/PO, floating point
 (2.5VA)
 15 Second Timing



BELIMO

Compatible with all zone panels

MD SERIES ZONE DAMPERS

- 3-wire
- 5 year warranty
- SC-MD-XX, SC-MD-XXXX
- 4" to 22"
- 6" x 6" and larger
- Side mount and bottom mount

FP18-Motor
 3-wire PC/PO, floating point
 (2.5VA)
 60 Second Timing

Also available as

 BN Series Diffusers



BELIMO

Compatible with SC-Z20 panel,
 BAS systems or as stand alone zone

VD SERIES DIFFUSERS

- 3-wire
- 5 year warranty
- SC-VD-XX
- SC-VD-XX-SD (Drone)
- 6", 8" for 12" x 12" face size
- 6", 8", 10", 12", 14"
 for 24" x 24" face size

FP45-Motor
 3-wire PC/PO, floating point
 (2.5VA)
 90 Second Timing

REPRESENTED BY: