AIRZOE™

Be In Control

CONTROL SYSTEMS

Be In Control of your Air Flow and Air Quality with AirZoe!

Integrated Control Systems

Smart, Reliable Control Solutions for HVAC/R Systems

At D-VAC Commercial Corp, we design and build intelligent **Air Zoe** control packages that seamlessly integrate with relays, sensors, and transmitters — delivering precision control for a wide range of HVAC/R measurement and management applications.

Our programmable control panels receive both analog and digital signals, empowering your system to automatically respond to real-time conditions with single or variable outputs. The result: smarter, more efficient, and reliable system performance.

Applications We Power:

Garage Exhaust & Ventilation Control
Building Air Exchange Systems
Rooftop Unit & Air Handler Management
Chiller & Boiler Controller Integration
Toxic Gas Detection & Alarm Systems
Indoor Air Quality (IAQ) Monitoring
Static Pressure, Temperature, and Humidity Control
...and so much more.

Products That Complete Your System:

Relays & Control Modules
CO, NO_2, CO_2, Temperature, Humidity, and Static Pressure Sensors
Variable Frequency Drives (VFDs)
Supply & Exhaust Fans
Energy Recovery & Heat Recovery Ventilators (ERV/HRV)
Control Dampers

Why Choose Us?

Because we don't just build controls — we deliver complete, customized solutions that keep your environments safe, comfortable, and efficient.

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SOUTHEAST 516 603-2209

AirZoe Supply & Exhaust Fan Control System Component Flow Chart

Detectors/Sensors

Optional Relay

Integrated Control Panel

Optional
Variable Frequency Drives

Fans, VAV/Dampers & Alarms

Applications:

Garage Exhaust & Ventilation Control
Building Air Exchange Systems
Rooftop Unit & Air Handler Management
Chiller & Boiler Controller Integration
Toxic Gas Detection & Alarm Systems
Indoor Air Quality (IAQ) Monitoring
Static Pressure, Temperature, and Humidity Control

Building Your HVAC Application Panel

1. Select your Sensors and Range(s)
2. Select your Sensor Quantities
3. Optional Relays (Y or N)
4. Select Integrated Panel I & O Design
5. Optional VFD Selection
6. Select Equipment & Accessories

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The AZP - GES Garage Exhaust System have inputs and outputs that can be individually configured for use in various CO /NO2 gas sensing applications. Inputs will accept a variety of common signal types and can be named by the user. Outputs can then act based upon local inputs and/or data received from the network; this allows for enhanced sequencing, flexibility, and functionality within the garage control system.

INPUTS MAY BE CONFIGURED TO GAS LEVELS IN PARTS PER MILLION (PPM)

- Input signals include 10k type 3 thermistor, dry contact, 4-20mA, 0-5 VDC, 0-10 VDC
- Configurable names and display options for each input and output
- Configurable scales for pressure and gas inputs accommodates any sensor
- Selectable facets for dry contact inputs
- Outputs can act based on any local input, or on data received from the network
- Various output logic sequences are available:
  - ON/OFF, PI Loop, 24V, Direct or Reverse acting, Pulsed
- Outputs can be interlocked with each other
- Operates standalone or can be integrated into a compatible network
- Virtual Outputs available for additional control logic
- Two outputs can be linked together with Lead/Lag and Backup capabilities

The **AZC-GDT** Series of gas monitoring sensors monitor levels of carbon monoxide (CO) and/or nitrogen dioxide (NO2)

The AZ-FCS Multi Channel System Controller

is a high performance Controller with logic and priority settings for monitoring **toxic, combustible and refrigerant gases** with versatile control functionality. Available with Modbus® or BACnet® communication with BAS, supports 4-20 mA and Modbus® driven VFDs

Key Features

- Available in 4 channels, 8 channels, 32 channels and 128 channels
- AZ-FCS-M models offer Modbus® RTU RS-485 digital output signal for LAN & WAN communications
- AZ-FCS-B models offer BACnet® MS/TP RS-485 output signal for WAN communications
- Graphic, full color, touchpad LCD screen with LED indicators
- Intuitive menu system with password protection
- Optional internal analog inputs and/or analog outputs with flexible configuration settings
- Enhanced logic control, zoning and priority structure capabilities
- Supports 4-20 mA and Modbus® driven VFDs
- 4 dry contact relays, 5A @ 240V each
- 2 dedicated horn/strobe output drives, 0.5A @ 24VDC max
- Line Voltage (90 - 240 VAC)
- USB port for firmware upgrades and data logging
- Configurable to comply with California Title-24 Energy Efficiency Standards
- Door mounted audible alarm, optional water tight version available
- Standard water / dust tight, corrosion resistant enclosure (drip proof); IP54 rated with water tight, door mounted audible alarm installed

Detects:

Carbon Dioxide (CO2)
Carbon Monoxide (CO)
Nitrogen Dioxide (NO2)
Nitric Oxide (NO)
Oxygen (O2)
Hydrogen Sulphide (H2S)
Ethylene (C2H4)
Sulphur Dioxide (SO2)
Hydrogen (H2)
Methane (CH4)
Propane (C3H8)
TVOCs

AZS-CGas
Analog or Digital Transmitter

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The AZC-TCGToxic/Combustible/Refrigerant Gas Detectors use various sensing technologies to detect a wide assortment of gases. These units are housed in a NEMA 4X rated plastic enclosure that will meet the most stringent applications. All models feature an internal clock, LCD Display for displaying gas concentrations and setup, LED Status Indication, integral buzzer with three user configurable relays and a number of different communication protocols for use with one of our gas controllers or your building management system. Factory calibrated sensor module replacements are available and are easily replaced in the field by removing two screws on the previous module. All units should be checked for proper functionality and calibration once the replacement sensor module is reinstalled and has had a chance to warm up. A user selectable password can be used to protect the system integrity. The Q5 can be used as a standalone gas detector or in conjunction with the Q4C, M-Controller or Q-Controllers using the proprietary RS-485 Optomux communication protocol. The B5 uses BACnet™ MSTP (RS485) protocol to communicate directly with a BAS. ACI also offers a full line of horns and strobes that can be used with the Gas detectors or building management system to alert building occupants of an alarm condition. Refer to all applicable Federal, State, Provincial and Local Health and Safety laws and regulations before using these products. The Q5/B5-GENL can be ordered to monitor specific combustible gases such as Gasoline, Ethanol, Diesel or Jet fuel. Contact ACI for specific gases

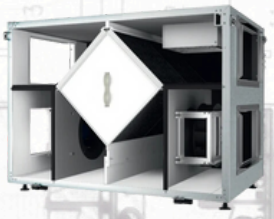
Ammonia, Carbon monoxide, Carbon dioxide, Chlorine, Ethylene, Ethylene oxide, Formaldehyde, Hydrogen, Hydrogen fluoride, Hydrogen sulfide, Nitric oxide, Nitrogen dioxide, Oxygen, Ozone, Sulfur dioxide, Ethanol, Dimethyl ether, Methanol, Methane, Propane, Hydrogen, TVOCs, Refrigerants

Temperatue & Humidity Control Systems

The **AZP-TAH** Temperature & Humidity Control Systems have inputs and outputs that can be individually configured for various temperature and humidity set points. Inputs will accept a variety of common signal types and can be named by the user. Outputs can then act based upon local inputs and/or data received from the network; this allows for enhanced sequencing, flexibility, and functionality variable demand temperature and humidity applications.

Building Air Exchange Control Panel

The **AZP-BAC** Building Air Control Systems have inputs and outputs that can be individually configured for CO2 gas, VOC and Particulates' sensor for buildings requiring variable occupancy level air changes. Inputs will accept a variety of common signal types and can be named by the user. Outputs can then act based upon local inputs and/or data received from the network; this allows for enhanced sequencing, flexibility, and functionality within the air recovery system.



- Inputs may be configured to gas or other measurement level in parts per million (PPM)
- Input signals include 10k type 3 thermistor, dry contact, 4-20mA, 0-20mA, 0-5 VDC,1-5 VDC
- Configurable names and display options for each input and output
- Configurable scales for inputs accommodates most sensors
- Selectable actions for dry contact inputs
- Outputs can act based on any local input
- Various output logic sequences are available
- Outputs can be interlocked with each other
- Operates standalone or optional integration into a compatible networks.
- Outputs can be configured to maintain a fixed setpoint or a variable setpoint based on a reset curve

- **AZC-CD2R** Wall Mount or **AZC-CD2D** Duct Mount CO2 Sensors
- **AZC-PMR** Wall Mount or **AZC-PMD** Duct Mount Particulate Matter Sensors
- **AZS-AQR** Wall Mount or **AZS-AQD** Duct Mount VOC Sensors
- **AZS-IAQ-MS** Multi-Sensing Wall Mount Sensor

Airflow & Static Pressure Control Systems

The **AZP-ASP** Air Flow & Static Pressure Control Systems have inputs and outputs that can be individually configured for air static pressure for buildings requiring variable exhaust or supply demands. Inputs will accept a variety of common signal types and can be named by the user. Outputs can then act based upon local inputs and/or data received from the network; this allows for enhanced sequencing, flexibility, and functionality variable demand exhaust and supply systems.

AZS-MLP2
Differential Pressure Transmitters

AZC-GDT
Differential Pressure Switch

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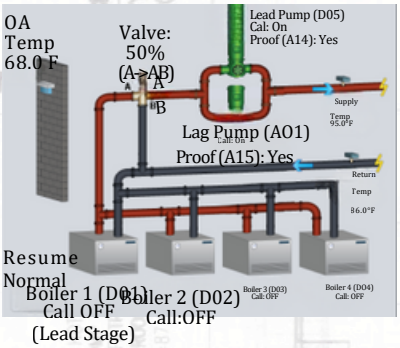
Boiler Control Panel

The **AZP-BCP** Boiler controller is designed to control a variety of different boilers.

- Pump activity based on outside temperature or call for heat (or both)
- Configurable pump exercise sequence for extended periods of inactivity
- Supply water setpoint reset based on outside temperature
- Control up to 4 boiler stages (multiple boilers or a single multistage boiler or combination)
- Control up to 2 modulating boilers with optional backup stage
- Various lead-lag sequences for the pumps and boilers
- Internal clock w/ configurable schedules & calendars
- Offset the supply water setpoint based on a network received demand or occupancy
- Optional control sequence for a three-way valve
- A manual/off/auto switch for each of the eight outputs
- Optional Remote monitoring and configuration
- Standalone or networked (up to 127 nodes)
- Proportional integral (PI) control loops maximize performance
- 5 digital outputs and 3 analog outputs equipped with resettable fuses
- Built-in protection sequences with configurable temperature limits and minimum delays
- Dedicated input that requests maximum heat setpoint upon contact closure
- Dedicated input that deactivates all boilers upon contact closure



Air or Water Sourced Heatpumps		
Master / Follower logic *(see note 1)*		
Inputs	Supply Air Temperature (10K Type III)	
	Return Air Temperature (10K Type III)	
	Filter Status (Dry Contact)	
	Schedule Override (Dry Contact)	
	Water Intake Temperature (10K Type III)	
	Outside Air Temperature (10K Type III)	
	Alarm Input (Dry Contact)	
	Proof of Fan (Dry Contact)	
	Occupancy Input (Dry Contact)	
	CO_2 Sensor (4-20mA)	
	Static Pressure Transducer (0-5 VDC)	
	Room Temperature Sensor	
	Room Temperature Setpoint	
Outputs	# Heatpump Compressor Stages	
	DO	Fan
		Compressor 1 (Y1)
		Compressor 2 (Y2)
		Reversing Valve (B)
		Auxiliary Staged Heat (W)
	AO	Auxiliary Staged/Mod. Heat (W)
		Fresh Air Damper (Economizer)
		Static Pressure (VFD/Bypass Damper)

Heat Pump Control Panel

The **AZP-HPS Heat Pump Controller** is designed to control a variety of heat pump units and systems. The on-board microcontroller offers precise digital control to maximize performance. The available control sequences are fully configurable, either locally or remotely, using free software. The AZP-HPS uses PI (Proportional-Integral) control loops to optimize heat pump management and offers a variety of functions such as economizer, preheating, emergency auxiliary heating, static pressure and more.

Boiler Room Gas Detection Controls

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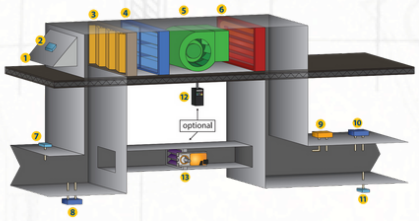

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Single-Zone Rooftop Control Panel

The **AZP-RTU-M** rooftop controller is designed to control a variety of different rooftop units or HVAC air treatment equipment. Perfect for use of units up to 25 tons of cooling. Also adaptable to units up to 60 tons of cooling. The on-board microcontroller offers precise digital control to maximize performance. The available control sequences are fully configured via AirZoe engineering staff before shipment. (Optional on site and remote programing & system monitoring.) The AZP-RTU-M uses PI (Proportional-Integral) control loops to optimize HVAC management and offers a variety of functions such as economizer, preheating, CO2 levels, dehumidification, static pressure control and more.

Features:

- Pre-wired industrial control panel equipped with clearly marked terminal blocks and fuses.
- Remote monitoring and configuration option.
- Stand-alone or networked (up to 127 nodes).
- Proportional integral (PI) control loops maximize performance.
- 5 digital outputs and 3 analog outputs equipped with resettable fuses and Hand/Off/Auto switches.
- Built-in real time clock can run standalone schedule up to 4 periods per day, 7 days per week.
- Clock stays accurate for up to 10 days without power.
- Highly customizable MRTU-S control sequences with protective limits, delays, and interlocks.
- All digital outputs are isolated with relays that are built into the panel.
- Onboard LEDs allows for quick diagnostics of power, communication, and operation.
- Certification: UL916 Energy Management Equipment.
- Environment: -4 to 122 ºF (-20 to 50 ºC) non-Condensing.
- CAN/CSA-C22.2, RoHS, FCC part 15: 2012 class B.

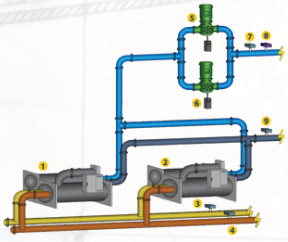
1. Economizer
2. Outside Air Temperature
3. Filter
4. Cooling Coils
5. Fan
6. Heating Coils
7. Return Air Temperature
8. CO_2 Sensor
9. Fan Status
10. Duct Static Pressure Transducer
11. Supply Air Temperature
12. Variable Frequency Dive
13. Bypass Damper

Also Available: Multi-Zone Rooftop Controller

AZP-CHL Chiller Control Panel

The **AZP-CHL** control panel effectively controls ALL components of a light commercial chiller system. Whether it be multiple chiller stages, pumps and their variable frequency drives, pump status and sensors, it all connects to a single controller! Everything connects to a single controller and every input and output is preset out of the box, allowing true plug-and-play operation. The AZP-CHL controller is capable of managing both Air Cooled or Water-Cooled Chillers. No matter the type of chilled water installation in your building, this versatile controller can easily adapt to the most common installations, each configuration type with their own set of specific sequences, interlocks and safeties.

1. Chiller #1
2. Chiller #2
3. Entering Condenser Water Temperature Sensor
4. Leaving Condenser Water Temperature Sensor
5. Pumps
6. Variable Frequency Drive for pumps
7. Chilled Water Supply Temperature Sensor
8. Pressure transmitter
9. Chiller Water Return Temperature Sensor



Features:

- Pump activity based on outside temperature and/or schedule
- Configurable pump exercise sequence for extended periods of inactivity
- Supply water setpoint reset based on outside temperature, return temperature or demand
- Control up to 4 chiller stages
- Various lead-lag sequences for the pumps and chillers
- Chiller lockout or stage down based on entering or leaving condenser water temperature limits
- Can modulate a VFD for each pump to maintain a fixed water pressure setpoint
- Internal clock with configurable schedules and calendars
- A manual/off/auto switch for each of the eight outputs
- Remote monitoring and configuration options
- Standalone or networked (up to 127 nodes)
- 5 digital outputs and 3 analog outputs equipped with resettable fuses
- Built-in protection sequences with configurable temperature limits and minimum delays
- Dedicated input that can deactivate the pumps upon contact closure