AirTest™
Sensors That Make Buildings Smart!

CN7232 Advanced Garage Ventilation Controller

For Demand Controlled Ventilation Using:
Carbon Monoxide (Gas Vehicles)
Nitrogen Dioxide (Diesel)
Combustible Gases (Alternative Fuels)
Carbon Dioxide (Any Combustion Source)

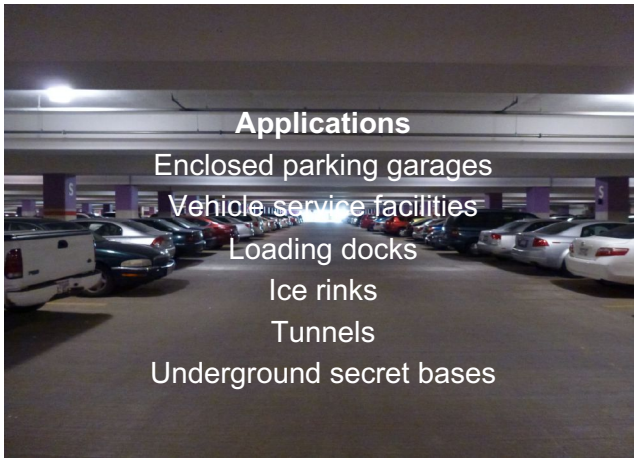
Ensure Excellent Ventilation For Garages &
Reduce Energy Usage by up to 95%*
Reduce Peak Demand by up to 95%*
** Verified by in-field measurements by PGE on VFD installations*

CN7232 Overview

The CN7232 is a stand-alone, smart controller designed for new or retrofit enclosed vehicle facilities that require fan ventilation because of the operation of combustion-based vehicles. The controller senses vehicle activity based on the measurement of carbon monoxide, nitrogen dioxide carbon dioxide or combustible gases. Based on concentrations measured throughout the garage the fans are modulated to ensure adequate air quality is always maintained. An easy to use keypad and display allow for easy user adjustment and check on system operating status.

The system's control algorithms are designed to deliver maximize savings for operating energy (kWh) and peak energy (kW demand) particularly for fans using VFDs (Variable Speed Drives). As verified by utility in-field measurements, savings of up to 95% for operating and peak energy are possible by taking advantage of the fact that VFDs consume very little energy when fans can be operated at low speeds (e.g. at 25% speed a VFD uses about 2% of the energy needed when fans are at full power).

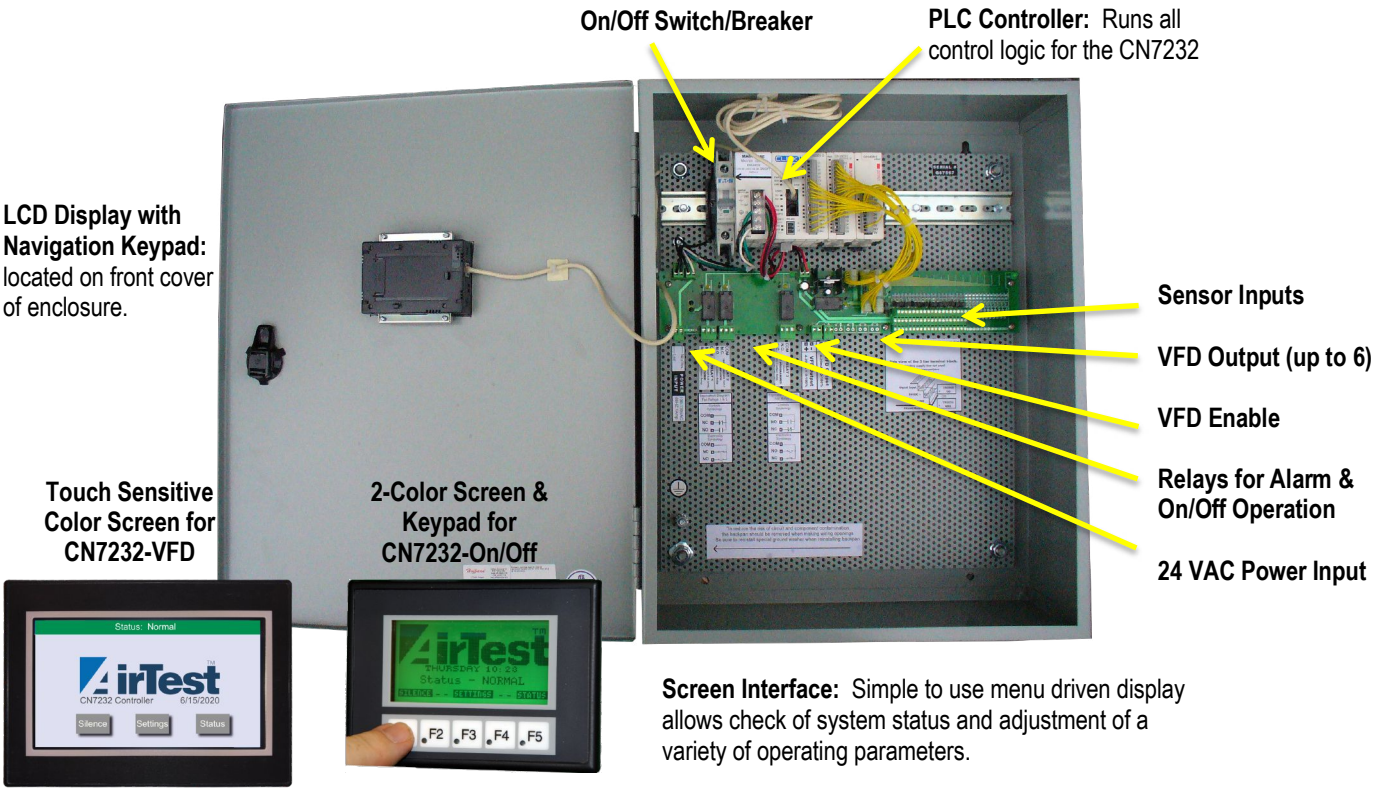
The CN7232 VFD strategy provides a low level of ventilation at all time to ensure there is always a reservoir of fresh air in the garage to handle an uptick in vehicle activity. Once levels exceed a base concentration of gases, the ventilation level is slowly increased based on garage gas concentrations. Users can also establish a number of control thresholds based on gas concentrations to ensure that fans do not go to full speed if there is a short-term rise in gas concentrations. This allows for maximum energy savings for system operation and reduction of kW demand.



Key Features

- Inputs for up to 32 or more AirTest analog sensors.
- Versions for VFD or On/Off control.
- Easy to use color touch screen (VFD), or two-color display and keypad (on/off) provides operating status and user adjustments.
- Control set-points easily adjusted to local code requirements or operator preference.
- Provides up to 6 VFD or On/Off outputs
- Control up to 6 ventilation zones.
- One controller can work with up to 4 different type of sensors (CO, NO2, CO_2 and Combustible).
- Durable metal enclosure (NEMA1/UL50).
- Impressive energy savings & provides much more ventilation to the garage resulting in lower gas levels than conventional on/off systems.
- User adjustable 7-day occupancy schedule.
- Controller, sensor and control wiring are all low voltage. Controller requires 24VAC.
- Control response is based on an adjustable average concentration over time (e.g. 2-min) which reduces fan cycling.
- Horn connection to warn of high levels in the garage.
- Strobe connection to warn of system fault or malfunction.

CN7232 Major Components



Screen Interface: Simple to use menu driven display allows check of system status and adjustment of a variety of operating parameters.

Gas Transmitters Available With The CN7232

Carbon Monoxide (CO) TR2000

Type: Electrochemical
Life: 5 Years
Range: 0-200 ppm
Repeatability: ± 5% of measured value
Response Time: T90 > 1 min
Warm Up Time: < 2 min
Power: 12-30 VDC
Output: 4-20 mA loop powered (2 wire)
Sensor Life: 5 years
Approval: CSA/NRTL (UL Equivalent)
Application: Used to sense the exhaust of petroleum-fueled vehicles.

Nitrogen Dioxide (NO_2) TR3210-NO2

Type: Electrochemical
Life: 5 Years
Range: 0-10 ppm
Repeatability: ± 5% of measured value
Response Time: T90 > 1 min
Warm Up Time: < 2 min
Power: 12-30 VDC
Output: 4-20 mA loop powered (2 wire)
Sensor Life: 2 years
Approval: CSA/NRTL (UL Equivalent)
Application: Used to sense the exhaust of diesel-fueled vehicles.

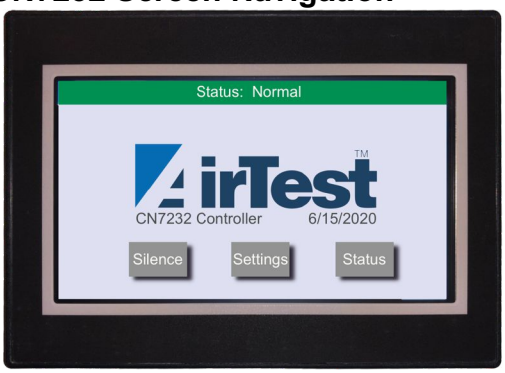
Combustibles (CB) TR5200

Type: Catalytic Bead
Life: 5 Years
Range: 0-100% LEL
Repeatability: ± 5% of measured value
Response Time: T90 > 1 min
Warm Up Time: < 2 min
Power: 12-30 VDC
Output: 4-20 mA (3 wire)
Sensor Life: 2 years
Approval: CSA/NRTL (UL Equivalent)
Application: Used to detect combustible gases from special fuel vehicles or from ground sources.

Carbon Dioxide (CO_2) TR9293

Type: Non-Dispersive Infrared
Life: 15 Years
Range: 0-2000 ppm
Repeatability: ± 1% of range + 3% of measured value
Response Time: T90 > 2 min
Warm Up Time: < 2 min
Power: 24 VAC
Output: 1) 0-10 V, 2) 4-20 mA (3 wire)
Sensor Life: 15 years
Approval: CE, FCC Part B
Application: Used to detect combustion fumes from any source.

CN7232 Screen Navigation



Main Screen (Above)

- ↑ **Silence Horn**
- ↑ **Status**
  - ➢ VFD/Fan Output Overview
  - ➢ All sensor readings (mA)
  - ➢ All sensor readings (ppm)
- ↑ **Settings**
  - ➢ ***View***
    - Occupancy Schedule
    - Sensor Time Averaging
    - Horn & Strobe Alarm Levels
    - Horn Silence Timer Settings
    - VFD Control Settings
  - ➢ ***Edit***
    - Date & Time
    - Occupancy Hours
    - Sensor Averaging
    - Horn Alarm Settings
    - Horn Silence Timer
    - VFD/Fan On, Ramp & Hold Settings
    - Test Horn & Strobe

Screen Examples

This screen allows adjustment of the VFD response to set different VFD fan speed targets for 4 different target gas concentrations. Here the backlighting is on.

This screen displays sensor mA output. Another screen shows ppm gas concentrations.

Why VFD Fan Control?

While the CN7232 offers ordering options for both on/off and VFD control we are strong advocates for the use of VFDs on garage ventilation fans for a number of reasons.

- Allows continuous ventilation and low gas concentrations in the space at minimal energy cost. For example, a fan running at 25% speed consumes about 2% of the fan energy required at 100% speed.
- AirTest's VFD strategy always ensures that as much ventilation as possible occurs at lower fan speeds where energy use is very low. A secondary effect of this is that gas concentrations in the garage are also always extremely low, ensuring optimum garage occupant comfort. When operated with the CN7232 more ventilation and lower gas levels occurs with less energy use.
- Maintains continuous negative pressure in the garage to ensure fumes do not enter attached structures.
- Allows for significant reduction in energy bills where demand charges are applied.
- Very significant rebates are provided by some utilities for demand reduction delivered by VFDs. Often the complete change-out of an on/off system and control can be funded by the rebate for reducing electric kW demand.
- Wear and tear on fans is significantly reduced versus on/off operation by always providing a "soft start".
- AirTest offers Danfoss VFDs, which offer high reliability and a built-in energy meter to track energy use and savings.
- Code required maximum ventilation rates have been reduced by 50% about 7 years ago from 1.5 cfm/square foot to 0.75 cfm/sq ft. In garages designed to the old higher ventilation rate, a VFD control strategy used with the CN7232 can set maximum ventilation levels to the lower rate, immediately reducing energy use compared to full speed operation by 80%.

AirTest CN7232 Garage Controller with Danfoss VFD installed in St Francis Hotel at Union Square in San Francisco.

CN7232 Controller: Examples/Case Studies

Westin Plaza Hotel
94.7% Energy Savings - $31,800 annually
94.8% Reduction in Peak Demand - 25.5 kW

The Westin St Francis Hotel near Union Square is a San Francisco Landmark. The hotel has enclosed parking for over 250 cars. Prior to installation their 40 horsepower fan capacity was operated 24/7 (full speed).

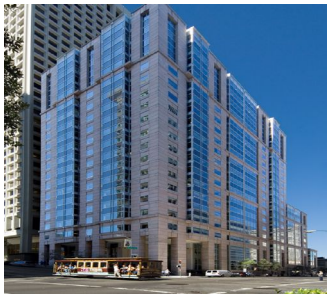
After installation of the CN7232 smart garage controller with VFD control, the garage was ventilated 24/7 continuously at low level, only ramping up fan speed proportionally when CO levels from auto traffic increased. Pre and post energy measurements by PGE showed dramatic reduction in operating (kWh) and peak (KW) energy use.

Ocean View Village
95.4% Energy Reduction - $59,400 annually
95.5% Reduction in Peak Demand – 44.7 kW

Ocean View Village is a mixed use residential, commercial and retail space with enclosed parking facilities for 425 cars. Their 54 horsepower of fan capacity was operated 24/7 at maximum speed.

Variable Speed Drives were installed on all fans with control provided an AirTest CN7232 controller with 25 AirTest TR2000 CO sensors used to detect automobile activity. The system runs fans at a low baseline level that requires minimal energy use. The system slowly ramps up fan speed as CO levels increase from vehicle activity. Significant operational and peak energy were verified by the local utility.

600 California St
93.9% Energy Savings - $21,100 annually
95.7% Reduction in Peak Demand - 87.7 kW



600 California Street is a high-rise commercial building in the heart of San Francisco's business district. The building has 3 levels of parking for 220 cars. The garage is ventilated by 5 fans (130 horsepower). A timer operated the fans at full speed for 3.5 hours per day.

By using the CN7232 and VFD fan control, fan run times were increased by a factor of 4 (14 hrs/day). The controller operates the fans to operate at more energy efficient lower speed levels only ramping up slowly when automobile activity is detected by the TR2000 CO sensors. The result of this smarter control strategy is significant energy and peak reductions were measured while improving air quality by operating fans during all occupied hours.

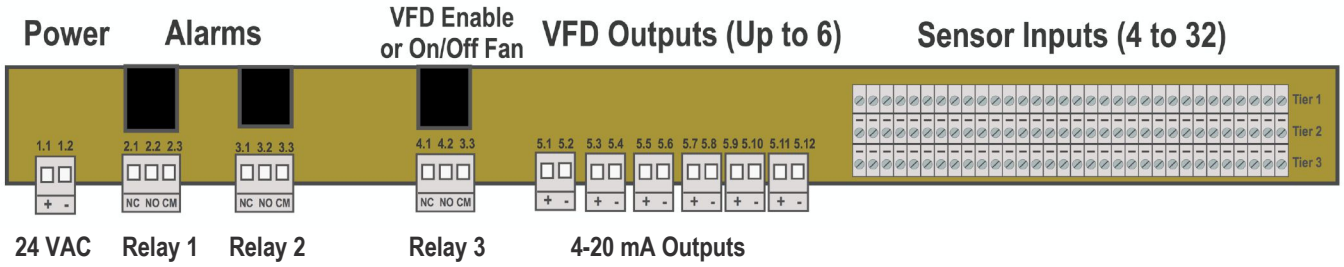
Pacific Renaissance Plaza
82.0% Energy Savings - $43,250 annually
95.2% Reduction in Peak Demand - 281.5 kW

Pacific Renaissance Plaza is multi-story residential complex incorporating a large two-level retail mall in Oakland, CA. The facility has enclosed parking for approximately 1,000 cars. Ten ventilation fans with 375.5 horsepower capacity operated intermittently on a malfunctioning on/off CO control system.

A retrofit using theCN7232, VFD fan control and TR2000 CO sensors was undertaken. With the new AirTest system, fans were operated during all occupied hours (317% increase in run time) to meet recent code requirements in CA (while still decreasing energy use dramatically). This smarter control provided significant energy savings over a previous CO based control system that was barely functional.

Wiring of The CN7232

The flexible design of the CN7232 series controller allows for custom configurations to meet demanding specifications. Detailed below are general wiring considerations for the 2 basic operational modes: VFD and On/Off. Contact AirTest if your application cannot be satisfied by these stock configurations. All controllers are provided with specific detailed wiring labeling corresponding to the ordered configuration.



Power Input

Terminals 1.1 (Hot), 1.2 (Common)
24 VAC to 73VA Max

This removable terminal block provides mains power to the controller. All devices operating on the power supply must operate on 24 VAC or less.

Relay 1 & 2 (Alarm On/Off Control)

Relay 1 Terminals: 2.1 (NO), 2.2 (NC), 2.3 (Comm)
Relay 2 Terminals: 3.1 (NO), 3.2 (NC), 3.3 (Comm)
120VAC @ 10 Amp Max
30VDC @ 10 Amp Max
120VAC **1/3 HP** Max

***Note**: A contactor must be used with motors over 1/3 HP. Exceeding ratings will damage interface board relays.*

Relay 1: This relay is configured in 2 ways depending on the operational mode of the system. In On/Off mode this relay responds to low gas level settings and is normally used to control a ventilation system. In VFD mode this relay responds to high gas level settings and can be used to control an annunciator (horn). Other configurations are possible. See labeling inside panel for custom configuration details.

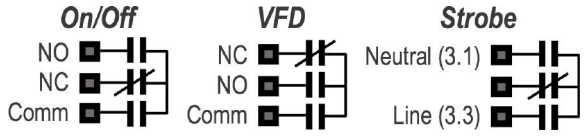
Relay 2: This relay is configured in 2 ways depending on the operational mode of the system. In On/Off mode this relay responds to high gas level settings and can be used to control an annunciator (horn). In VFD mode this relay responds to fault conditions and can be used to control an annunciator (Strobe). Other configurations are possible. See labeling inside panel for custom configuration details.

Relay 3

Terminal 4.1, 4.2, 4.3 (See wiring configuration below)
120VAC @ 7 Amp Max, 30 VDC @ 7 Amp Max

***Note:** Not rated for inductive (motor) loads. Exceeding rating will damage interface board relays.*

This relay is configured in 2 ways depending on the operational mode of the system. In On/Off mode this relay responds to fault conditions and can be used to control an annunciator (Strobe). This relay is configured as **failsafe** – see **FailSafe Relay Operation** details below. In VFD mode this relay responds to a VFD output of more then 4mA and can be used as a VFD enable, if required. Other configurations are possible. See labeling inside panel for custom configuration details.



VFD Outputs (4-20 mA Outputs)

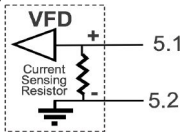
Terminals: 5.1, 5.2, 6.1, 6.2, 7.1, 7.2, 8.1, 8.2, 9.1, 9.2, 10.1, 10.2

Up to six 4-20mA VFD outputs (1 stock) are provided in VFD mode. These terminals are not installed for On/Off mode. VFD signal levels with respect to gas levels are configured in the VFD settings. VFD outputs can be "zoned" where a group of sensor levels affect a single or group of VFD outputs. Up to 6 zones can be configured as a factory option.

Signals are sourcing 4-20mA output type where the negative is common to all outputs. Unique configurations such as zoning are labeled on each controller.

VFD Wiring Example

18 to 24 AWG communication grade wiring recommended. Shielding may be required in noisy environments when not in conduit.



Sensor Inputs (Three tier terminals)

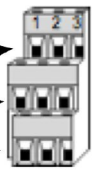
Up to 32 4-20mA inputs (in groups of 4) are provided. These terminals supply 24VDC to sensors as well as signal input points. The 4-20mA inputs are designed to be used with sourcing (common negative) 4-20mA signals. Inputs are over current protected to 50mA. 18 to 24 AWG communication grade wiring recommended. Shielding may be required in noisy environments when not in conduit.

Three Tiered Non-Removable Terminal Blocks

Teir 1 (upper row): 4-20 mA signal inputs. Each connection point is an individual sourcing input. Inputs 1,2,& 3 are shown.

Teir 3 (bottom row): Connection points for Negative -24VDC. The entire row of connection points are common to -24VDC.

Teir 2 (middle row): Connection points for Positive +24VDC. The enitre row of connection points are common to 24VDC.

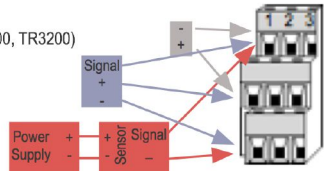


Examples Of Sensor Wiring

A) 2-Wire Loop Powered Sensors (TR2000, TR3200)

B) 3-Wire 24VDC Sensors (TR5500)

C) Externally Powered Sensors (common Negative w/power)



Failsafe Relay Operation

In common usage a relay is energized to close a Normally Open (N.O.) contact set. A power loss or controller failure will not energize the relay to signal these fault conditions.

A relay configured in failsafe mode is energized by the controller to hold open a contact set when no fault (normal) is detected and de-energize on fault detection thus closing the held open contacts. Held open contacts close at power loss or controller failure.

Contacts are appropriately marked N.O. & N.C. where "normal" is a no-fault condition and an energized relay holds open the contact set marked N.O. For full failsafe operation a separate uninterrupted power source must be connected to this relay to signal a total power loss to the panel.

CN7232-VFD Sequence Of Operation

User Inputs (These are all set using the Controller keypad and display)

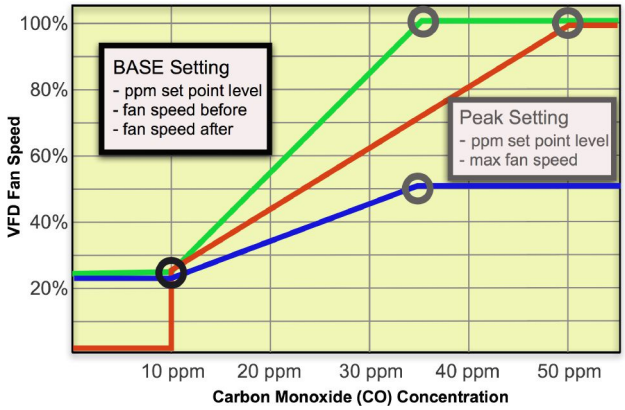
A. Set current **Time**

B. **Occupied/Unoccupied** periods on a 7-day schedule

C. Set **Base Setting Operating Mode.** This defines the behavior of the fan under low gas concentrations in occupied mode. There are three settings for this mode: 1) A gas set point level for the Base Setting is selected (e.g. 10 ppm). 2) A base fan speed is selected that operates whenever the space is occupied and below gas set point level. 3) A second stage fan speed is set when gas concentrations exceed the base level. This setting defines the fan speed that will occur until the low target gas concentration is exceeded. It can be used in two ways: 1) The VFD(s) can be set to run at a low, energy efficient speed to provide a continuous level of ventilation to the space (Speed should be 25% or higher as lower speeds may damage the fan motor). 2) The is setting can also define the conditions that the fan(s) will remain off when gas concentrations are low (e.g. 10 ppm).

D. Set **Peak Operating Setting.** Once the base gas set point level is exceeded the fans will proportionately ramp up to a user defined maximum fan speed and target maximum gas level. There are two setting for this mode: 1) The maximum fan speed. 2) The upper gas ppm level that will correspond to the maximum fan speed.

Examples of three different setting for the two operational modes above are shown in the chart. This maximum fan speed is also the setting that will operate the fans during unoccupied hours if elevated concentrations are measured.



E. **Set Measurement Time Averaging** period in minutes. Here the control signal will be based on the average high concentration measured over X minutes. (default is 2 minutes).

F. Set **High Gas Level Alarm** (horn) typically indicating loss of ventilation (default is 100 ppm).

G. If the controller is ordered for **Multiple Zone** control, all zones will use the set-points and sequence described here.

H. If the controller is ordered to also control of Nitrogen Dioxide (Diesel), Carbon Dioxide, and/or Combustibles, inputs will also be provided for incorporating set points for these gases.

Sequence of Operation

1) VFD will operate based either the Occupied or Unoccupied sequence as defined by the schedule inputted by the user. Note even if the garage is left in occupied mode continuously, operation of the fan at a 25% base rate will have minimal energy impact. (See Why VFD Control? section above)

2) VFD control for a zone is based on the highest level measured by the control over the average time period (F).

3) VFD runs continuously at Base fan speed (C) unless levels exceed the Base CO level (C).

4) If a concentration in a zone exceeds the base CO level (C), the VFD will control speed proportionately to the Mid-Point fan speed and target gas concentration (D).

5) If concentrations in a zone exceed the Mid-Point gas concentration the VFD will control speed proportionally to the Maximum fan speed and target gas concentration (E).

6) During the unoccupied schedule, fans remain off unless levels exceed the Maximum gas concentration (E). At this point fans will operate at Maximum level (E) until gas concentration drop below the maximum gas concentrations.

7) If the High Gas Level concentration is exceeded (G) at any time, the high alarm relay will be activated. Typically, a horn is connected to this relay. Fans will also be activated to 100% speed for the duration of the high-level event. The signal can be silenced via the keypad for a user defined time period. This relay can also be tied into a monitoring network within the building.

8) If a fault is detected in the controller or in the sensor network the fault indication relay will be activated. Typically, a strobe is connected to this relay to indicate a fault that should be investigated. Generally, there is enough redundancy in the control and sensor system design that ventilation control will be maintained in the garage during a fault incident. However, the installer can use the fault detection relay to provide a high-speed override signal to the VFD(s) if the user would like to ensure maximum ventilation in fault conditions.

9) Fire Safety Systems: Note for fire override control the wiring should always be to the VFD directly rather than through the controller. All VFD have fan override inputs designed for this purpose.

CN72032-VFD Controller Configuration

- Select gases to be measured and number of sensors required: CO (TR2000), NO_2 (TR3210-NO2), Combustibles (TR5200), CO_2 (TR9293). Default assumption is that all gases will be measured in the same locations. Each gas location should cover 5,000 to 7000 sq ft, up to 10,000 sq ft. Up to 32 sensors can be accommodated in one CN7232. If there are more than 32 points multiple controllers may have to be used.
- Select number of VFD outputs required. Options are: 1, 4 or 6 outputs.
- Select number of zones to be controlled. For a number of reasons most garages operate best as a single zone. Up to 6 Zones are possible. Contact AirTest to discuss your application if you would like help in determining if zoning is the best approach for your application (604 517-3888).
- Two NC/NO relays are provided for high level alarm and system fault.
- The CN7232 can also be customized in a number of ways to meet a specific requirement for control sequence or other sensor types (e.g. motion sensors). Contact AirTest to discuss the customization you need. Also contact us for customization if you only need certain types of sensors in limited areas and not at every measurement point.

There are two ways to select your CN7232 controller configuration. 1) You can contact AirTest to discuss you application and we will suggest the best configuration with you. 2) Download our CN7232 order guide that allows you to configure the CN7232 to your needs.

CN7232 On/Off Sequence of Operation

User Inputs

A. Set Current Time

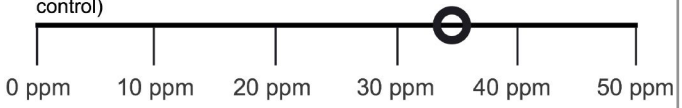
B. Set the control gas concentration levels that will activate fans for all zones (default is 35 ppm). A configuration can also be selected that provides a second stage relay that support use of two speed motors or programming of VFD control based on two relay settings. If the controller is ordered to also control of Nitrogen Dioxide (Diesel) and/or Combustibles and or CO_2, inputs will also be provided for incorporating set points for these gases.

C. Set the on-delay time and off delay time. The on-delay timer (C1) holds activation of the fans for a specific time period once the control set point has been reached. The off-delay timer (C2) runs the fans for a minimum amount of time after the gas concentrations have dropped below the control set point. Both of these settings are designed to prevent short cycling of fans that might occur if there is a momentary increase in CO levels at a particular sensor, or if gases are just over/above the control set point.

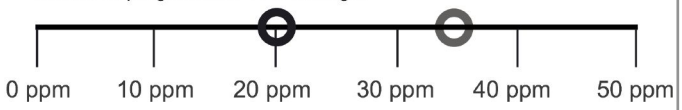
D. Set **High Gas Level Alarm** (horn) typically indicating loss of ventilation (default is 100 ppm).

On/Off Control Settings Examples (User adjustable)

1) Stage 1 Fan Activates At Target CO Setpoint (Traditional on/off control)



2) Low and high setpoint for two speed fan control using 2 speed motors or programmed VFD settings.



Sequence of Operation

1) The system will operate 24/7 based on the sequence below.

2) On/off fan control for a zone is based on the highest level measured by sensors connected to the CN7232 controller.

3) When the Control gas concentration (B) is exceeded the fan delay on timer (C1) will be activated. If the gas level drop below the low trip point before the fan delay on time is complete, the timer will zero out and wait for the next trip point activation. Once the fan is activated it will run until concentrations drop below the set point, which will trigger the delay off time (C2), that will continue to run the fan for the set time period. This applies to single stage and two-stage fan operation.

4) If the High Gas Level concentration is exceeded (G) at any time, the fan on time delay will be activated (D1) If the gas level drop below the low trip point before the fan delay on time is complete, the timer will zero out and wait for the next trip point activation. Once the fan and Alarm is activated it will run until concentrations drop below the set point, which will trigger the delay off time (D2), that will continue to run the fan and indicate an alarm for the set time period. Typically, a horn is connected to this relay. Fans will also be activated for the duration of the high-level event. The signal can be silenced via the keypad for a user defined time period. This relay can also be tied into a monitoring network within the building.

5) If a fault is detected in the controller or in the sensor network the fault indication relay will be activated. Typically, a strobe is connected to this relay to indicate a fault that should be investigated. Generally, there is enough redundancy in the control and sensor system design that ventilation control will be maintained in the garage during a fault incident. However, the installer can use the fault detection relay to provide a fan on override signal to the VFD(s) if the user would like to ensure maximum ventilation in fault conditions. This relay can also be tied into a network monitoring system.

6) Fire Safety Systems: Note for fire override control the wiring should always be to fan, fan starters or VFD directly rather than through the controller. Most fan starters have fan override inputs designed for this purpose.

CN72032-VFD Controller Configuration

- Select gases to be measured and number of sensors required: CO (TR2000), NO_2 (TR3210-NO2), Combustibles (TR5200), CO_2 (TR9293). Default assumption is that all gases will be measured in the same locations. Each gas location should cover 5,000 to 7000 sq ft, up to 10,000 sq ft. Up to 32 sensors can be accommodated in one CN7232. If there are more than 32 points multiple controllers may have to be used.
- Select number of VFD outputs required. Options are: 1, 4 or 6 outputs.
- Select number of zones to be controlled. For a number of reasons most garages operate best as a single zone. Up to 6 Zones are possible. Contact AirTest to discuss your application if you would like help in determining if zoning is the best approach for your application (604 517-3888).
- Two NC/NO relays are provided for high-level alarm and system fault.
- The CN7232 can also be customized in a number of ways to meet a specific requirement for control sequence or other sensor types (e.g. motion sensors). Contact AirTest to discuss the customization you need. Also contact us for customization if you only need certain types of sensors in limited areas and not at every measurement point.

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CN7232 Specifications

Description: PLC based garage ventilation controller configured for relay (on/off, staged) fan control or VFD control.

Power Input: 24 VAC, UL Approved, Class 2, 40-120 W depending on no of Transmitters and control output (Integrated power provided sensors).

Enclosure Dimensions: 16"W X 20"H X 6"D

Rating: NEMA1 metal enclosure rated UL50 (File:E27567), CSA Approved (File:LL42184, Type 1)

User Interface: Mounted on exterior of enclosure.

CN7232-VFD Inputs & Outputs

- Up to 32 Analog Sensor Inputs (two or three wire). Can accommodate up to 4 sensor types simultaneously. Can be customized for more inputs.
- Up to 6 VFD outputs (4-20 mA).
- Up to 6 Ventilation zones.
- Occupancy/Enable 10A Relay (NC/NO).
- High level alarm 10A Relay (NC/NO), Fault indication 10A Relay (NC/NO) Capable of switching 110 or 24V (24V power must be provided externally).
- Interface: High resolution, color touch-screen.

Download Detailed Engineering Spec:
www.AirTest.com/ds/AirTestGarageEngSpec.zip

CN6232-On/Off Inputs & Outputs

- Up to 32 Analog Sensor Inputs (two or three wire). Can accommodate up to 4 sensor types simultaneously. Can be customized for more inputs.
- Up to 6 One Stage or 2-Stage 10A Relays
- Up To 6 Ventilation Zones
- High level alarm 10A Relay (NC/NO), Fault indication 10A Relay (NC/NO) Capable of switching 110 or 24V (24V power must be provided externally).
- Interface: 2 Color display with keypad.

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AirTest™ Sensors That Make Buildings Smart!

6/16/20