Ventilation Controllers

Arens International ventilation controllers can be tailored to naturally ventilate a whole building, part of a building or specified zones. They can be controlled by various Building Management Systems, such as air conditioning, lighting controls, security system or integrated fire systems to either open or close the windows when required.

Controlling Ventilation Naturally

Arens Ventilation Control Systems use the principles of 'natural ventilation', to assist airflow by either manually or automatically adjusting the window opening according to environmental factors such as temperature, humidity, rain and wind.

Inadequate ventilation in a building leads to the build-up of heat, moisture and chemicals that may cause health problems for the building's occupants. Natural ventilation is a preferable system to modern heating and air conditioning systems as it assists in achieving a higher air quality.

Modern approaches to design have recognised the importance of airflow in achieving higher thermal comfort levels and increased productivity, therefore, leading to ventilation standards for preventing an excess accumulation of airborne contaminants in the home, school or workplace.

Arens Ventilation Controls are designed to be incorporated into any existing or conceived project to assist with increase of airflow, comfort levels and reduce the concentration of common pollutants.

Arens International has developed many techniques over the years that are in line with the recognised leading design processes, such as the 'night purge' system that is often employed in schools. Through the manipulation of low voltage actuators, the Arens system purges the room of heat build-up and allows replacement by cooler air at night. These systems result in more comfortable temperatures and can drastically reduce energy consumption and associated costs. ●

Fire System Integration

Arens Ventilation Control Systems may be configured to either open or close the windows when fire is signaled. When a fire signal is detected, the control system ignores all other inputs until the fire signal is removed.

We can also provide failsafe power supplies to ensure your windows still open and close even when power is lost. ●

Building Management System (BMS) Integration

Arens Ventilation Controllers are designed to integrate with a BMS and operate under its full control, partial control or independent of the BMS. All that we require is a voltage free contact. Our system also has the ability to provide the BMS with status information as to whether the windows are open or closed. ●

Arens Ventilation Controllers

Arens has a range of ventilation controllers with different features for different applications. You will find the major features and technical specifications here – for more details see their respective brochures.

Smart Switch Controller

Provides low-force tactile switches that can signal actuators to open and close windows on command. The switches may function as either momentary switching for partial operation, or latch switching to allow for one-touch operation.

Master open and close inputs are provided that may be used to request the Smart Switch to open or close the windows.

Smart Switch WR Controller

Supports rain and wind sensors that signal the Smart Switch WR to close the windows when rain is detected or the wind speed exceeds a preset setting, either 15, 20 or 25Km/Hr (configurable on site).

Two additional inputs available to co-ordinate with other systems such as fire and lock controls. In a standalone configuration, the inputs can be used for rain and wind sensors as well as a master open/close function. Other inputs can be used for the support of CO_2 detectors, light detectors and room occupancy detectors.

Automatic Controller and Zone Controller

Coordinates the ventilation of multiple room/zones with zone controllers (up to 8 additional zone controllers). The automatic controller sends environmental details such as external temperature, rain or wind detection and the current time to each zone controller. The zone controller uses this information and internal temperature within the small zone to determine position of the windows either automatically or manually by the occupant.

WindowMaster NV Comfort

Arens also have the WindowMaster NV Comfort™ ventilation system that provides additional features that enable finer control of the natural ventilation of a building, class room or home.

It uses KNX building automation protocol that enables it to easily integrate with other KNX components within the building such as lighting and air conditioning. Refer to the WindowMaster product line. BACnet integration is possible with a gateway. ➊

Automatic Ventilation Comparison

The Arens range of smart controllers provides manual ventilation control with optional auto close for excessive wind or rain.

The Arens Automatic Ventilation and Zone controllers enables control of up to 8 zones of actuators. The controller automatically modulates the windows based on the differences between the internal zone temperature and external temperature, wind speed, rain, time of year (season) and time of day.

The window opening or closing may also be overridden manually during operating hours and if there are no wind or rain alarms.

Features

Features	Smart Switch	Smart Switch WR	Automated Ventilation & Zone Controller
Master Open	◉	◉	◉
Master Close	◉	◉	◉
Open on Fire	◉		◉
Close on Fire	◉	◉	◉ [1]
Close and Lock	◉	◉	◉ [2]
Security Integration	◉	◉	◉
HVAC Integration	◉	◉	◉
Rain		◉	◉
Wind		◉	◉
Temperature (INT, EXT)			◉
Humidity			◉
CO_2 Sensor			◉
Lighting Panel Integration			◉
Multiple Room Functionality			◉
Time & Date			◉
Natural Ventilation			◉

Notes:

1. Room temperature and humidity sensor required.
2. Room temperature, humidity and CO2 sensor required.