

Air Quality Control and Access Control Solution

Comprehensive Air Monitoring Solution



Talking, shouting, sneezing, or coughing are common actions that generate aerosols. In enclosed spaces, these aerosols can remain suspended in the air for hours. To reduce the spread of COVID-19, clean air must be brought in and potentially contaminated air removed.

That is why ZKTeco focuses on providing integral COVID-19 solutions with a complete Access Control portfolio. ZKTeco's **AQD-WM300 (RS485)** CO2 Air Quality Monitoring Device, can be connected to a building's Access Control system with **ZKBioSecurity** and work to bring the levels back to the optimum level by activating ventilation, introducing fresh air, and helping to create a healthier, safer, and more productive indoor environments. A compact and portable device suitable for desktop or wall-mounted applications that can measure indoor Air Quality within 1.5 seconds.

Air Quality Control and Access Control Solution

Inside the controlled area



1
Air Quality
Measurement Terminal



2
Access Control
Panel



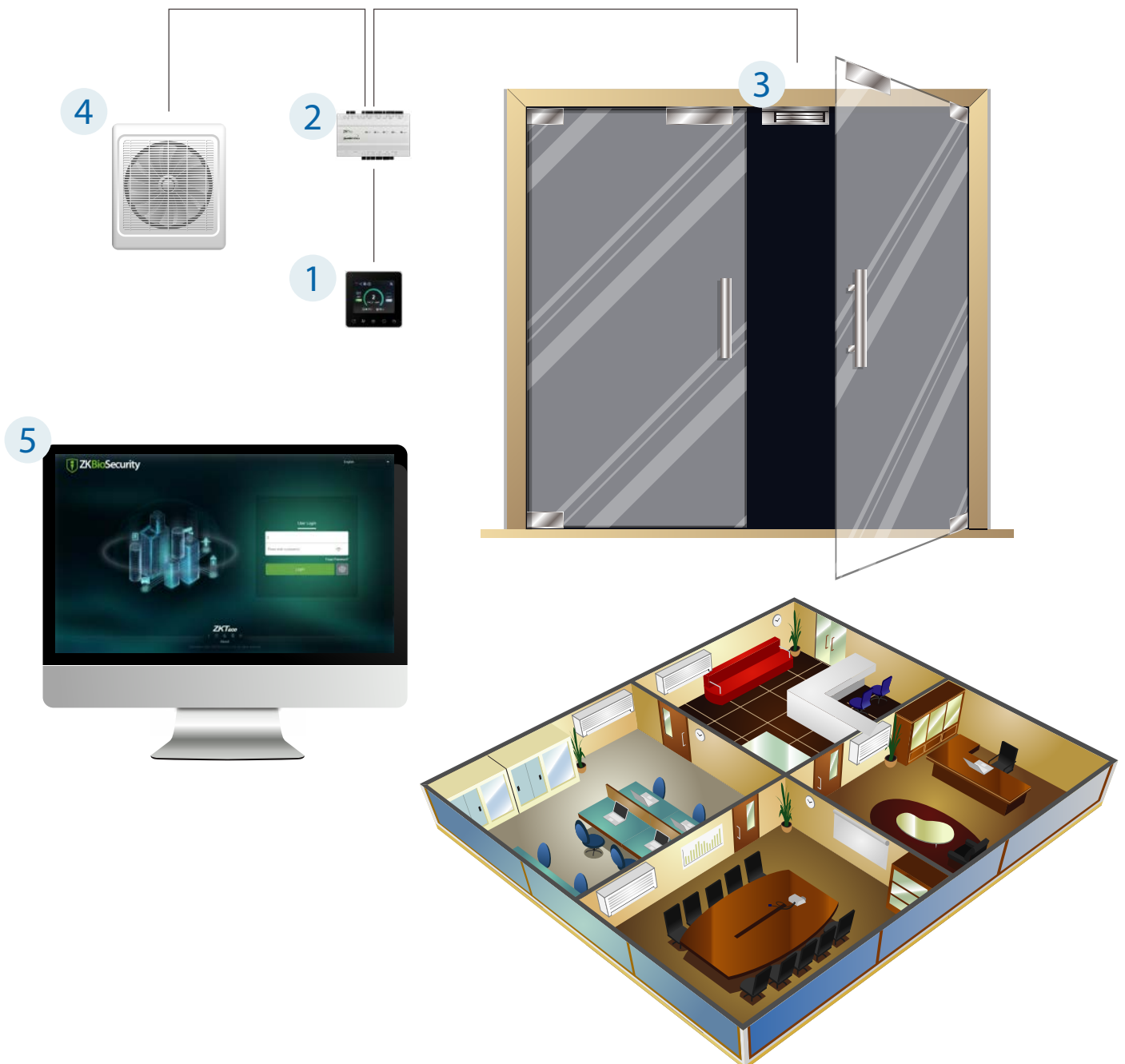
3
Magnetic Lock



4
Fan



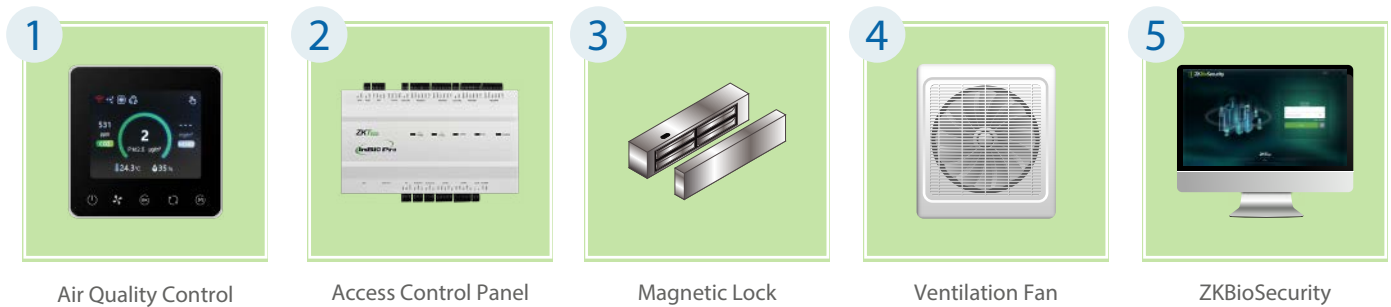
5
ZKBioSecurity





Air Quality Control and Access Control Solution

ZKTeco Air Quality Measurement Terminals measure toxins and chemicals in indoor air and provide instant air quality information. By providing real-time air quality actionable insights, ZKTeco can respond with integrated solutions to create healthier, safer, and more productive indoor environments.



1. Air Quality Measurement

Air Quality Control is a system controller integrated with NDIR CO₂, HVAC, and Laser PM_{2.5} sensor, to monitor and display density levels of CO₂, PM_{2.5}, temperature, and humidity. It releases signals and directly controls operations of ventilation fans.

2. Access Control Panel

If the system detects that the air quality in a particular area does not meet the standards and is potentially harmful to human health, ZKTeco Access Control Panels can enable access lockdown of a particular area, multiple areas, or complete lockdown.

3. Magnetic Lock

ZKTeco Electronic Locks are controlled by the Access Control Panel and the Air Quality Control monitor according to the air quality level.

4. Ventilation Fan

Ventilation Fans and HVAC systems are under the direct control of the Access Control Software and they can be activated or deactivated depending on the air quality levels..

5. ZKBioSecurity Software

ZKBioSecurity is ZKTeco's all-in-one Access Control software that enables tracking of real-time air quality within enclosed areas and manages devices for a comprehensive understanding of air quality levels and their relevant health risks.



- CO2 concentration
- PM2.5 concentration
- RH&T

Real-time indoor air quality monitoring

AQD-WM300 (RS485) is an indoor air quality controller that provides users and customers with visual data of the indoor air quality, such as PM2.5, CO2, temperature, humidity, etc. This device includes a demo and a communications protocol for integration with Smart Homes and Building Management Networks, thanks to RS485 connectivity.

It is widely used in residential, commercial, and industrial applications. Furthermore, AQD-WM300 (RS485) can effectively improve air quality and create healthy, comfortable, efficient, environmentally friendly, and energy-saving living and working environments.

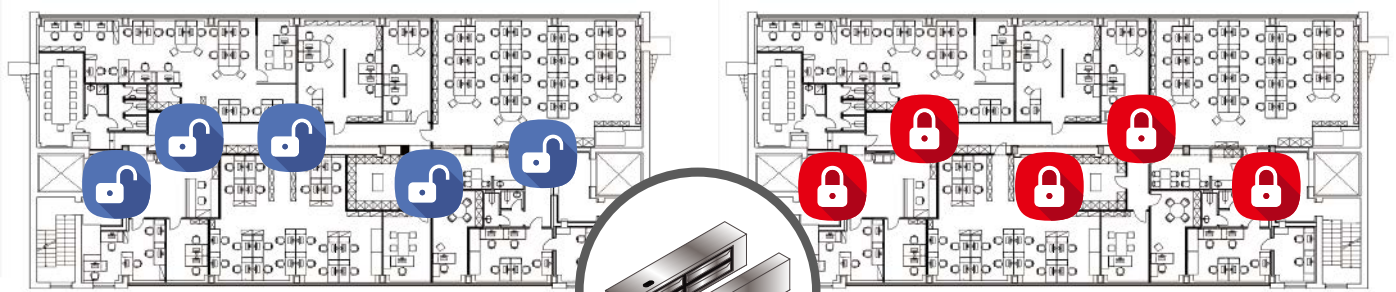
Parameter Range Corresponding to Color List

Gas	Level	Range	Color
PM2.5 (µg/m³) per day	Good	0 ~ 10	Green
	Normal	11 ~ 20	Yellow
	Bad	≥ 21	Red
CO2 (ppm)	Good	0 ~ 800	Green
	Normal	801 ~ 1000	Yellow
	Bad	≥ 1001	Red



Limited Entry by Air Quality

ZKTeco air quality control devices monitor and display indoor and outdoor air quality rates in real-time.



The door will unlock upon adequate air quality levels

If the levels of CO₂, PM_{2.5} and RH meet the standard quality levels in the air, access to the indoor area will be granted.

The door will lock upon polluted air quality levels

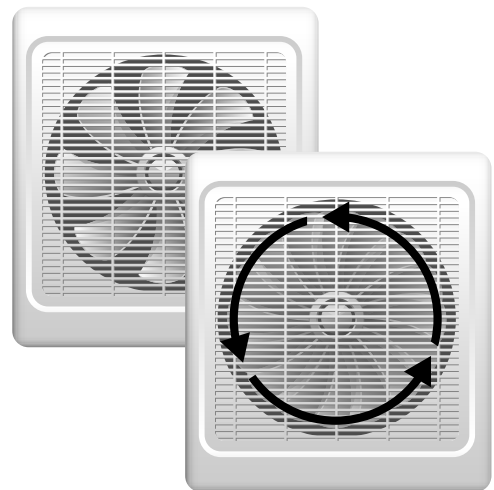
If the levels of CO₂, PM_{2.5} and RH reach maximum levels of contamination, the access to those areas meaning a health risk will be automatically restricted until the air quality levels return to standards.



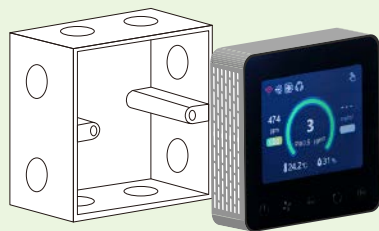


Ventilation Control

In the event that the levels of CO2 concentration, PM2.5 concentration, and RH of a particular area detected to exceed the recommended levels of security for human health, the control panel triggers signals and directly controls operations of ventilation fans activating or deactivating them until the air quality levels return to adequate levels.



Compatible with wall-mounted installation
Standard 86 box size with thickness less than 24mm



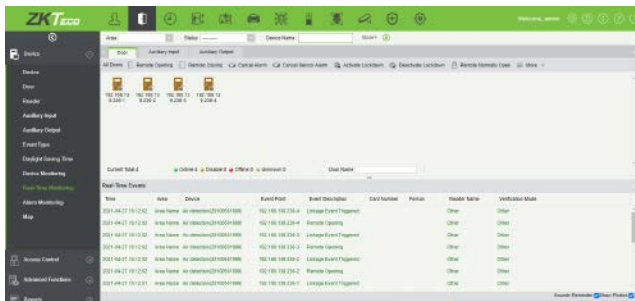
Push-button and touch-screen operation available





Customizable filter alert function.

ZKBioSecurity is an all-in-one security platform with real-time indoor air quality levels tracking functionalities to detect and alert any abnormality in the recommended levels that could result in a health risk.



Real-Time Monitor with Door Linkage



Real-Time Monitor

Application scenarios

Suitable for any size company, the AQD-WM300 (RS485) is an ideal solution for system integrators and manufacturers, to create better solutions for their clients in all kinds of application scenarios: Residential ventilation systems, Business ventilation systems, Industrial ventilation systems, small to medium enterprises, IT parks, and government organizations.



Small to Medium Enterprises



Business Organizations



IT Parks



House / Villa

