

Multi IAQ Monitor Operating Instructions

Model: ZGkb201

1. General Introduction

Indoor Air Quality is used to measure for the quality of air in interiors; the comfortable indoor environmental quality can make people feel fresh, work effectively and it's good for the health. The CO₂ concentration is the important factor of good indoor air quality. People breath in oxygen and breath out CO₂, nowadays people often close the windows to avoid noise and enjoy the comfortable living and working environment provided by air-conditioning systems, which results in the fact that the indoor concentration of CO₂ is far higher than the outdoor average's. With the high CO₂ concentration and non-proper ventilation, people will feel headaches, dull, fatigued, lose of concentration and correspond to the high levels of dust, chemicals and bacteria in the air.

ppm	Time Weighted Average exposure Limit < 8 Hours
5000	
2500	Adverse health effects expected
1000	General drowsiness
700	Complaints of stiffness and odors
450	Acceptable level
350	Healthy, normal outside level

< 1000 ppm
ASHRAE
Recommend

2. ZGkb201 ----- Multi IAQ Monitor (CO₂ / Temperature / Humidity)

ZGkb201 Multi IAQ monitor is a cost-effective, air quality indicator, the large single digit LED display with three most critical parameters of indoor air quality, the current CO₂ concentration, the ambient temperature and the relative humidity.

CO₂-----CO₂ concentration indicates the amount of fresh air ventilation being introduced to a space.

Ambient temperature----The suitable ambient temperature brings the comfortable space.

Relative humidity----The relative humidity in air indicates the amount of moisture.

Features:

- NDIR (Non-Dispersive-Infrared) technology is being used to measure CO₂ concentration up to 3000 ppm (parts per million)
- The Large single digit LED clearly displays the CO₂ concentration, Relative humidity and ambient temperature
- The various (blue, yellow and red) colors of LED's show the indoor air quality situation
- The Reliable CO₂ sensor provides the long-term calibration stability
- Dimmer Function can automatically adjust the display of single digit LED to reach the power saving

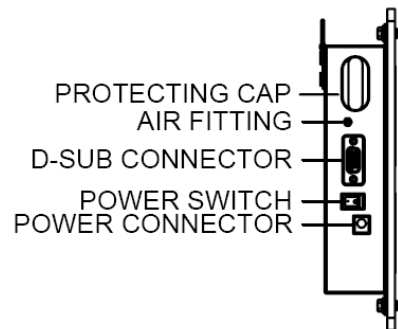
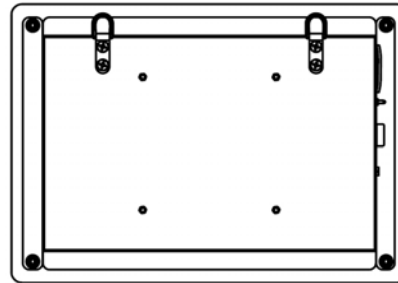
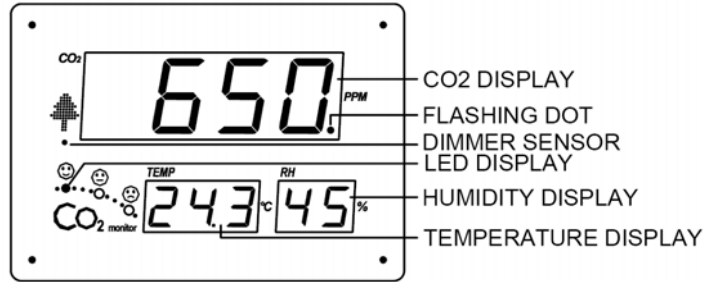
Benefits:

- Enjoy the more comfortable, hygienic and healthier Indoor Air Quality
- Save energy, get the proper ventilation, the over-ventilation of the building can be reduced.
- Improve the IAQ satisfaction in public.

Application:

ZGkb201 has the widely application for classroom, kindergarten, meeting room, office building, shopping mall, theater, exhibition, hospital, hotel, sports center, gymnasium, railway station, bus station, airport and other public place where the comfortable and healthy indoor air quality is important.

3. LED Display



There are three modes: CO₂, RH, Temperature measure mode.

CO₂, RH, Temperature measure mode:

<p>When CO₂ concentration is below 800ppm, the green LED will light.</p>	<p>When CO₂ concentration is between 800ppm and 1200ppm, the yellow LED will light.</p>
<p>When CO₂ concentration exceeds 1200 ppm, the red LED will light.</p>	<p>When CO₂ concentration exceeds the CO₂ measurement range (0-3,000ppm), the CO₂ display area will display with "Hi". It will disappear when the CO₂ concentration returns to the measurement range.</p>
<p>When RH exceeds the RH measurement range 20%, the humidity display area will display with "Lo". It will disappear when the RH returns to the measurement range.</p>	<p>When RH exceeds the RH measurement range 90%, the humidity display area will display with "Hi". It will disappear when the RH returns to the measurement range.</p>

4. SPECIFICATIONS

Method - NDIR

Display – Single Digit LED

Sample Method - Diffusion or flow through (50 ~200 ml/min)

CO₂ & Temperature & RH Specification:

CO ₂	Measurement Range	0-3,000 ppm display
	Display Resolution	1ppm at 0~1,000ppm; 5ppm at 1,001~2,000ppm; 10ppm at 2,001~3,000ppm
	Accuracy	0~2,000ppm: ±70 ppm or ±5% of reading, whichever is greater, over 2000ppm: ±1.7%
	Repeatability	±20 ppm
	Temperature Dependence	Typ. ±0.2% of reading per °C or ±2 ppm per °C, whichever is greater, referenced to 25°C
	Pressure Dependence	0.13% of reading per mm Hg
	Response Time	About 2min for 63% of step change
	Warm-Up Time	<60 seconds at 22°C
Temperature	Temperature Range	0°C ~40°C display
	Display Resolution	0.1°C
	Display Unit	°C
	Accuracy	±1°C
	Response Time	20-30 minutes (case must equalize with environment)
RH	Measurement Range	20%-90% RH
	Display Resolution:	1%RH
	Accuracy	±5%RH@23°C
	Response time	<5 min for 63% of step change
Operating & Storage condition	Operating Temperature	0°C ~ 40°C
	Humidity Range	0 ~ 95% RH non-condensing
	Storage Temperature	-20°C ~ 60°C
Power Supply	Power Source	Universal 100~240VAC, 50/60Hz, External Power Brick (included in package)
	Power Consumption	7 Watts (Max.)

5. Installation Instruction

Please take out the ZGkb201 and AC adaptor from the package carefully. There have two options to install ZGkb201.

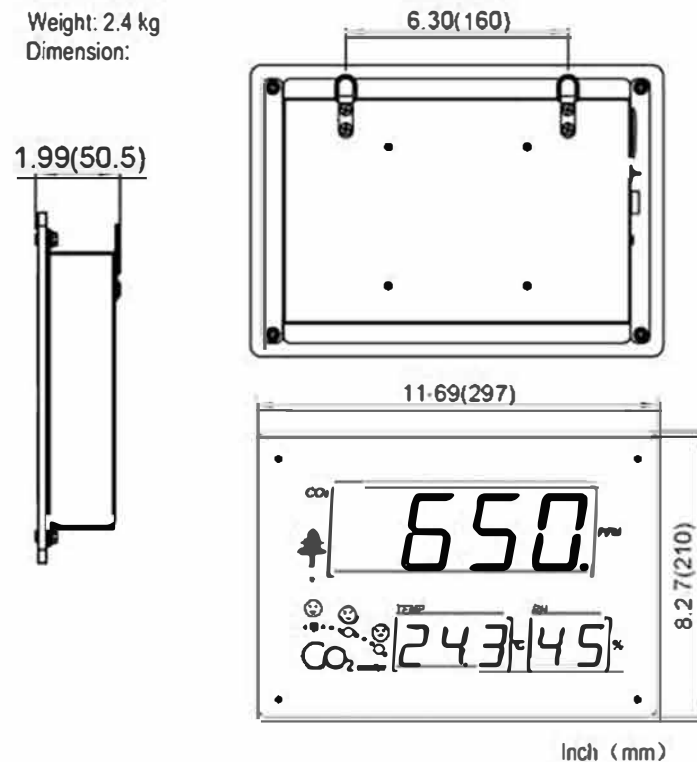
Installation Option

1. Hang up the ZGkb201 with wire rope.
2. Choose a suitable location to install ZGkb201, fix the screw (diameter of wallboard nail is bigger than 4mm) to the wall.

6. Weight & Dimensions

Weight: 2.4 kg

Dimension:



⚠ EMC/RFI

Readings may be affected if the unit is operated within radio frequency electromagnetic field strength of approximately 3 volts per meter, but the performance of the instrument will not be permanently affected.



Ref.No.: 122011



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ZGkb301

ZGkb201p

Item		Description
SW1	SW2	
OFF	OFF	NGC function off
OFF	ON	NGC cycle:1 week
ON	OFF	NGC cycle:2 week
ON	ON	NGC cycle:4 week
SW3		
OFF		Teach mode off
ON		Teach mode on
SW4		
OFF		Temperature unit °C
ON		Temperature unit °F
SW5		
OFF		Self test off
ON		Self test on
SW6	SW7	
OFF	OFF	Dimmer off
OFF	ON	Dimmer on
ON	OFF	Dimmer at dark mode
ON	ON	Dimmer at bright mode
SW8		NA

Dimmer function: When the light indoor become dark, the LED display will also become dark, then it can save power.

NGC Function: When the switch of 'NGC Function' is on, ZGkb301/ZGkb201p will enter into the Nature Gas Calibration mode.(NGC Function is not available in designated area)