

*KAD*

**Carbon Monoxide Detector Operation Manual**

**Henan Hanwei Electronics Co., Ltd**

**ISO9001-2008**

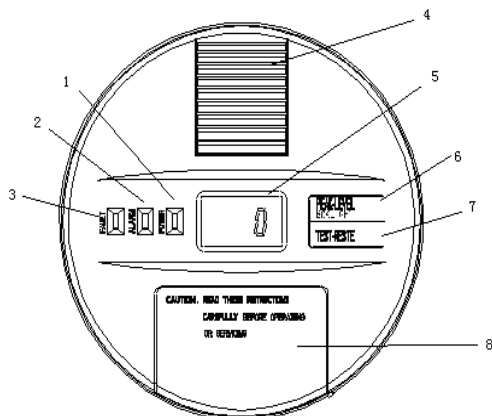
## 1. Brief introduction

KAD carbon monoxide gas detector, adopting high quality electrochemical gas sensor and advanced technology, has the advantages of good stability and long life span. The installation method can be tap-top, ceiling hung and wall mounted. Easy to install and operate. When the CO concentration in the air reaches the presetting alarming level, the detector will give audio and video alarming promptly, which informs the user to adopt measurement to avoid the fire, explosion etc. dangerous accidents happening.

## 2. Specifications

Model	KAD
Working voltage	DC3V (2pcs of AA alkaline batteries)
Working Current	< 170 $\mu$ A
Alarming current	< 20mA
Standard	EN50291
Detecting gas	Carbon Monoxide
Working Environment	Temperature: -10 $^{\circ}$ C~50 $^{\circ}$ C Humidity: <95%RH
Gas Sampling	Natural diffusion
Alarm method	Visual and audible
Alarm sound	$\geq$ 85dB(1m)
Sensor type	Electrochemical carbon monoxide sensor
Sensor life	>5 years
Weight	About 240g
Dimension	dxh ,mm:136.5x43

### 3. Function and indication



1. Power indication LED
2. Fault indication LED
3. Alarm indication LED
4. Sound window
5. LCD display window
6. Backlight /Peak level check button
7. Test/Reset button
8. Battery cover

### 4. Installation

#### 4.1 Installation position

The detector and the fuel using device should be installed inside the same room.

- If the detector is wall mounted, its height should be higher than any door or window, and at least 150mm to the ceiling. If the detector is ceiling hung, the distance between it and any wall should be more than 300mm.
- The detector should be horizontally 1-3 meters to the gas source.
- If there is obstacle inside the room, then the detector and the potential gas source should be in the same side of the obstacle.
- If in the room with slant ceiling, the detector should be installed in the higher side of the room.
- The detector should be installed nearby to the place where user always breathes.

#### 4.2 Avoid installed to the following places:

- Outside of the building
- Inside or below the Fresh cabinet
- Right upper of the water pool or cooking utensils
- Near the window or easily influenced by the air flow, like exhaust fans or holes.
- The place where the air flow through the detector is easily blocked by the curtain or furnace.

- The place where the gas sensor is easily blocked by the dust.
- The place where the temperature is out of the range of  $-10^{\circ}\text{C}$  to  $50^{\circ}\text{C}$ .
- The place where the detector is easily touched, broken or moved.
- The place where it's moist.

#### 4.3 Installation rooms

Ideally, install one detector in each room where there is fuel using device. If there are more fuel using devices while the detector quantity is limited, please consider the followings to decide the installation position:

Please install one detector inside the bedroom which has fuel using device.

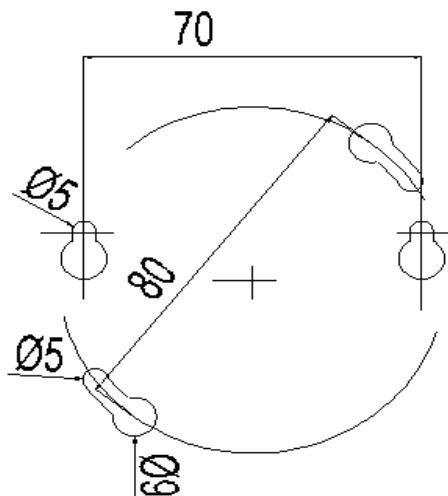
Please install one detector inside the room where there is a non-chimney or normal chimney fuel using device.

Please install one detector inside the room where there is electric machine.

Inside the bedroom and sitting room, the detector should be far away from the cooker and be near to the sleeping place.

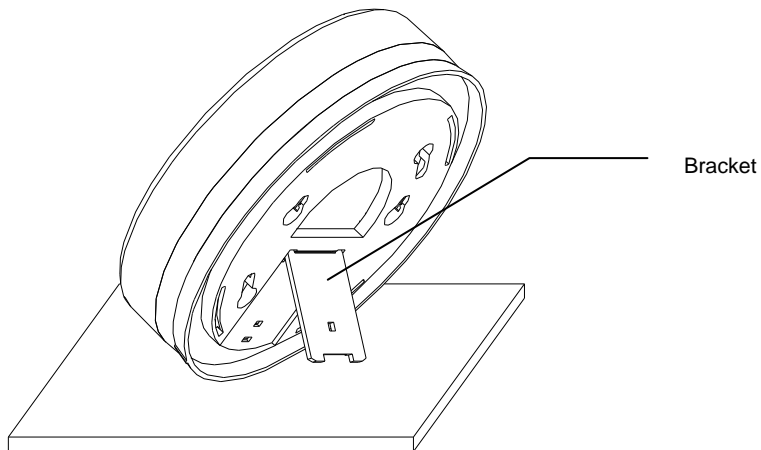
The detector should be installed outside the room if the fuel using device is installed inside the room where the device is not used frequently (such as the boiler room). So that the alarm sound can be heard easily.

#### 4.4 Installation configuration

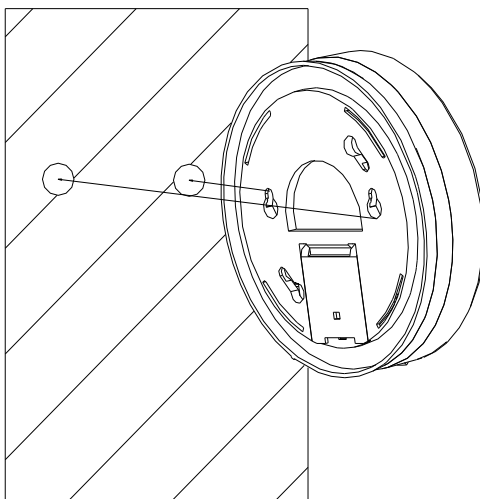


#### 4.5 Installation method

##### 4.5.1 Tap top:



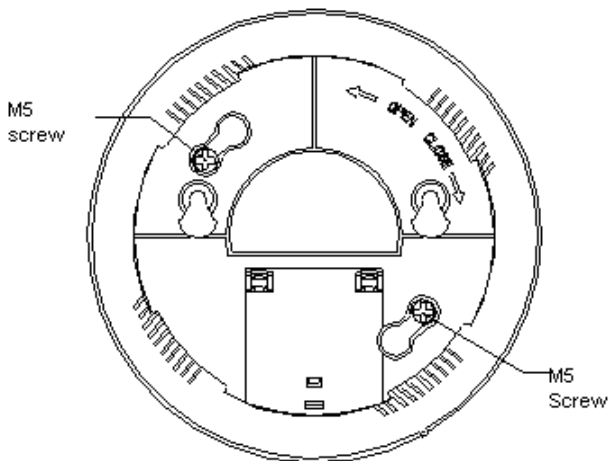
##### 4.4.2 Wall mounted:



Dimensions of the fixing holes

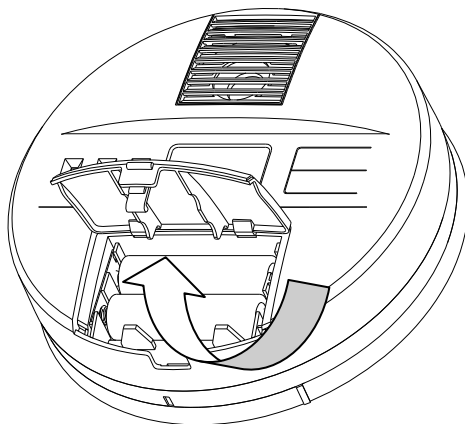
Please choose the suitable wall firstly. Fix M5 screw on the wall with distance as 70mm. The screws should be 3.5mm higher than the wall. Then hang the detector on the wall as the above drawing.

#### 4.4.3 Ceiling hung



Choose the suitable ceiling. Fix the panel on the ceiling with M5 screw, then rotate the upper and down covers in different direction. The upper cover should be rotated clockwise.

#### 4.4.4 Battery installation





First, please turn off the battery cover according to the orient on the above drawing. And then, install the batteries inside according to the indication.

**Note:** Please replace the used batteries with 1.5V same new batteries. Different type or low quality battery will reduce life of the detector.

## 5. Operation instruction

5.1.1. After putting batteries inside the detector, the buzzer gives sound once, the screen displays ""8888", and then the detector starts warm up of 30 seconds. During warm up, the detector doesn't have detection function. After warm up, the detector enters in to monitoring status and the screen displays "0".

5.1.2. THIS CO ALARM MEETS THE FOLLOWING ALARM TIME / CONCENTRATIONS REQUIREMENTS:

At 30 PPM, the unit makes no alarm in less than 120 minutes

At 50 PPM, the unit makes alarm within 60-90 minutes

At 100 PPM, the unit makes alarm within 10-40 minutes

At 300 PPM, the unit makes alarm within 3 minutes

5.1.3. Green indicator: This light flashes once per 60s. It means the detector is under normal detection status.

5.1.4 Red indicator:

After entering the alarming status, the red ALARM LED flickers quickly and the buzzer gives audio alarm. The audio alarming signal is composed of 4 cycles, and each cycle has 0.1s on/off time. Then 5-second-off-time. The signal will repeat until the detector is reset when CO drops away or mute it manually.

#### 5.1.5. Yellow indicator

If the yellow indicator is on every 60s and off every 200ms, it means the detector has fault. Please contact the distributor. If on every 60s and off every 50ms, it means the voltage is too low. Please replace the batteries.

#### 5.1.6. Operation button

**Back light / peak level button:** When the detector is in detecting status, press this button and back light of the screen will turn on, and it will display peak level after 2.5 seconds. And then 2.5 seconds later, the detector resumes to normal detecting status and the back light will turn off.

**Test/Reset button:** When the detector is in normal detecting status, press this button, all the lights flickers at the same time and the buzzer will tweet simultaneously. If any light doesn't flicker or the buzzer is not normal, please repair it so as to avoid abnormal alarming. While in alarming status, press this button, the alarming will stop, the detector enters normal detection status and the internal timer will starts counting from zero.

### 6. Maintenance of the detector

The detector was calibrated at the factory. During using it, please always clean the housing of the detector and keep the gas windows not being covered by dust. Please use soft cloth or brush to clean the housing. Cleanser, bleaching powder and polish are forbidden to be used for cleaning.

#### **Termination of the detector life:**

In detecting status, the detector makes self test once every minute.

Under normally working condition, the detector can work 5 years. When the detector life is terminated, please dispose it according to the local regulation.

**Warning:** This detector is designed for domestic use. Please avoid it from rain, moisture, dropping, beating, opening and modifying. Otherwise, the operation will cause problem to the detector.



## 7. Troubleshooting

Phenomenon...	Possible reason	Solution
Green power LED off	Battery fault connected or power supply problem	Change battery installation position or make the connection in a correct way
	LED broken	Contact the distributor
No alarm after pressing test button	Circuit fault	Contact the distributor
Can not detect CO	Warm-up doesn't finish	Wait until warm-up finishes
	Circuit fault	Contact the distributor
Keep alarming after warm-up	Too much smoke, alcohol or perfume or other volatile gas in the air.	Move it into clean air and test it again
	Stored for long time	Electrify it for more than 2 hours
	Circuit fault	Contact the distributor

## 8. Notice

8.1 It's possible that the detector makes alarm in the environment with much smoke, alcohol, perfume, gasoline, paint and other volatile gases.

8.2 Please do not use unknown-concentration gas to test the detectors. If the gas concentration is too high, it will damage the detector. Also it is harmful for the health of the user.

8.3 Please contact the dealer/distributor/manufacturer for annual periodical maintenance with the standard gas.

8.4 Please do not use or store the detectors in the corrosive gases (such as Cl<sub>2</sub>) environment.

8.5 Clean the dust or dirt on the detector frequently to keep air vent unblocked and the indicators clear.

8.6 In order to assure the best sensitivity, please electrify it for at least 24 hours when you use it the first time after long time shipment or storage.

8.7 Lifetime of the detector is 5 years in normal detection. In order to get accurate detecting result of CO and protect your life and belongings safety, we strongly suggest you change a new detector when its lifetime over.

**9. Packing list**

KAD gas detector	1pc
M5 bolt	2pcs
Operation manual	1pc

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