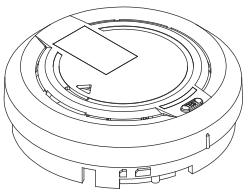
# Carbon Monoxide Detector Manual

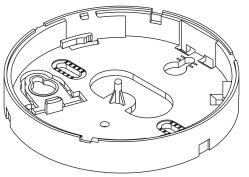
Model: EDKA1 (Standalone) EDKB1 (System)

HORING LIH INDUSTRIAL CO., LTD.

## 1.Introduction



Detector



Base

| Model | EDKA1 | EDKB1 |
|---|---|---|
| Power Source | 3V DC | 12~24V DC |
| Standby Current | 20uA | 1.5mA |
| Alarm Current | under 280mA | under 45mA at 24V |
| Alarm Sound | 85dB/3M and above | |
| LCD Display | Available | |
| Relay Output | A set of relay output | |
| Ambient Temperature | -10℃ ~ 50℃ | |
| Dimensions | 102 mm(Dia.) × 43.1 mm(H.) | |
| Weight | about 180g | about 160g |
| Material | fire-proof plastic | |

## 2.Source of CO

**1.Home:** The heating installation, such as hot-water heaters with gas and gas stoves, is easy to combust incompletely and then produce CO.

**2.Parking lots & garage:** The scooters/cars or general machine tools can exhaust fumes with high concentration.

**3.Fire:** Smolder is a kind of incomplete combustion. It often occurs before & after the fire as a disaster and produce a large amount of CO.

## 3.Symptoms of CO poisoning

CO enters the body through breathing. CO poisoning can be confused with flu symptoms, food poisoning and other illnesses. Some symptoms include shortness of breath, nausea, dizziness, light headedness or headaches. High levels of CO can be fatal, causing death within minutes.

The concentration of CO, measured in parts per million (ppm) is a determining factor in the symptoms for an average, healthy adult.

| Carbon monoxide concentration | The underlying symptom |
|---|---|
| 50 ppm | No adverse effects with 8 hours of exposure. |
| 200 ppm | Mild headache after 2-3 hours of exposure. |
| 400 ppm | Headache and nausea after 1-2 hours of exposure. |
| 800 ppm | Headache, nausea, and dizziness after 45 minutes; collapse and unconsciousness after 1 hour of exposure. |
| 1,000 ppm | Loss of consciousness after 1 hour of exposure. |
| 1,600 ppm | Headache, nausea, and dizziness after 20 minutes of exposure. |
| 3,200 ppm | Headache, nausea, and dizziness after 5-10 minutes; collapse and unconsciousness after 30 minutes of exposure. |
| 6,400 ppm | Headache and dizziness after 1-2 minutes; unconsciousness and danger of death after 10-15 minutes of exposure. |
| 12,800 ppm | Immediate physiological effects, unconsciousness and danger of death after 1-3 minutes of exposure. |

Source: NFPA's Fire Protection Handbook, 20th Edition.

## 4.Recommended mounted location

Mounting detector in the house with heating installations, furnaces or garages, such as living room, corridor, kitchen, boiler room, parking lot, basement and so on.

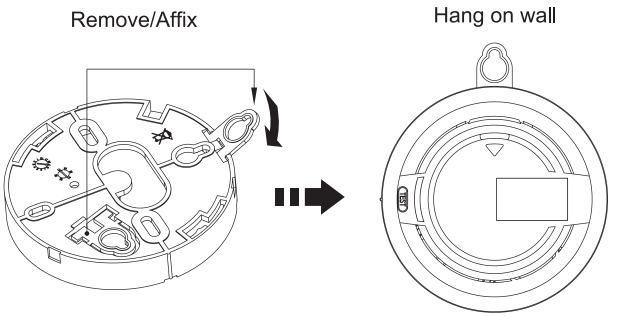
Installed quantity should correspond to the room size to make sure the best warning effect.

## 5.Not recommended mounted location

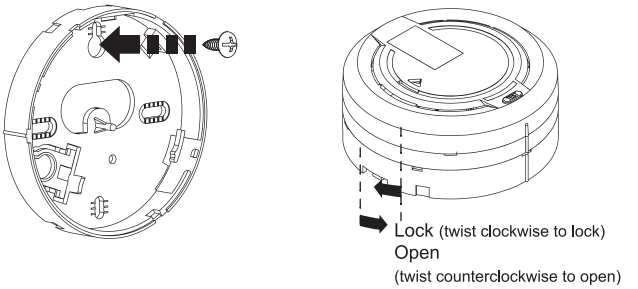
1. Keep a distance of above 1.5m from any heating installations or avoid mounting right above.
2. Avoid mounting in the house with full of dust, pollution, dirt, grease and high humidity.
3. Avoid mounting around air vent, conditioner vent and the ceiling fan.
4. If there are any volatile chemicals in the mounting place, they should be sealed well in case that volatile gas will bring about detector malfunction.If the house is being refurbished and painted, please dismantle the detector and store away. After all is done, please install it back.

## 6.Mounting Detector

**A. Hang on wall**

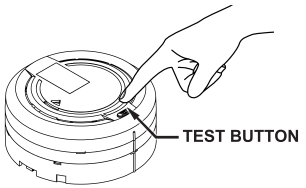



**B. Screw** (Screw to ceiling/wall)



## 7.Testing

There is a test button on the surface to test if it is normal or not.
And it also can delete detection data.

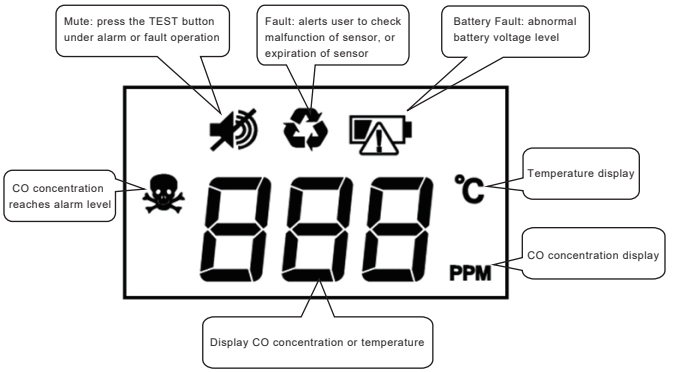



## 8.Operation

1.The product acts in accordance with CO concentration of EN standard inspection procedure as follows:

| | CO concentration | Alarm time |
|---|---|---|
| **Alarm levels** | ≧30ppm | ——— |
| | ≧43ppm | ～70min |
| | ≧90ppm | ～20min |
| | ≧270ppm | ～1min |

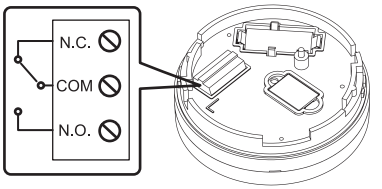
2. Status Descriptions:
   A. Power-on: LCD displays the CO concentration measured.
   B. Standby: Green LED flashes every 60 second (EDKA1). Green LED stays ON (EDKB1).
   C. Alarm: Red LED and the buzzer output ON 0.9s/ OFF 0.1s four times, every 5-second for a cycle.
   D. Fault:
      1. Low power alert: Yellow LED flashes once every 60 second, followed by 1 beep.
      2. Sensor malfunction: Yellow LED flashes twice every 60 second, followed by 2 beeps.
      3. Battery life expiration alert (10 years): Yellow LED flashes 3 times every 60 second, followed by 3 beeps.
3. Reset: when the CO concentration is below 30ppm, detector will reset automatically.
4. TEST button function:
   A. General operation: Press it to display the temperature. Press and hold for 5 seconds to perform an alarm test, the Green and Yellow LED are on, the Red LED flashes four times, followed by 4 beeps. Long press on TEST button for the alarm simulation status, and resume monitoring immediately after the long press is released.
   B. Alarm operation: Press TEST button for temporary mute during alarm mode, the buzzer output will resume after 10 minutes of silence. When the CO concentration exceeds 270ppm, the buzzer will sound immediately.
   C. Fault operation: Press TEST button for temporary mute during fault alert, the buzzer output will resume after 24 hours of silence.



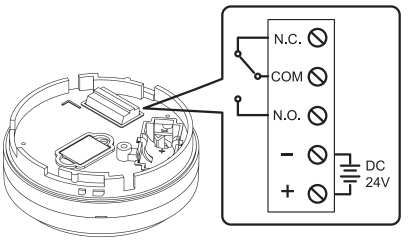

## 9.Battery installation/Wiring Diagram

■ EDKA1 (Standalone)-Battery installation

**Black line** (POSITIVE) **Red line** (NEGATIVE)




■ EDKB1 (System)-Wiring Diagram




## 10.Maintenance

There is no need to clean & maintain, please just keep the surface of detectors clean. In normal times, you can press the test button to make sure it is under normal condition.

## 11.Warning

1. Avoid using detergent or solvent to wipe. Please don't use water or detergent to wash, either.
2. Keep a certain distance from home appliances with electronic interference.
3. Prohibit from taking down the product to overhaul or make a change to it.