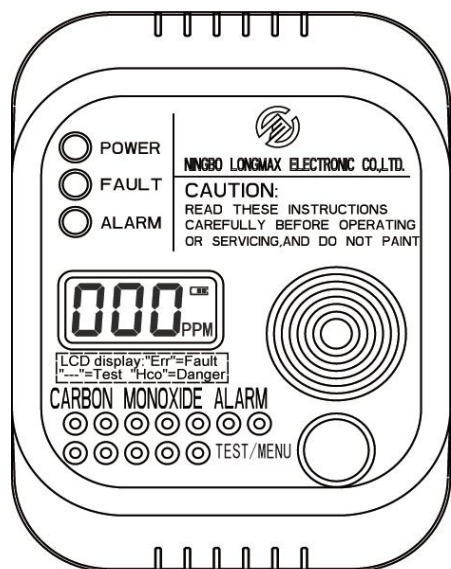


# Carbon Monoxide Alarm Operating Instruction

Model: LM-201A



NINGBO KINGDUN ELECTRONIC INDUSTRY CO., LTD

## Foreword

At first, thanks for purchasing our corporation's carbon monoxide alarms. Before using the product, please read the instruction seriously and use the product correctly.

### key point:

This carbon monoxide alarm is used for detecting carbon monoxide rather than used as smoke alarm or any other gas alarms. Besides, this alarm can only detect the carbon monoxide in the air. if you want to protect the whole family effectively, please install the alarm in every room, living room, kitchen and washing room, which will effectively protect your family.

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### 一、 LM-201A Usage of carbon monoxide alarms

### 二、 1. LM-201A Electrical ratings of carbon monoxide alarms:

effective detecting gas: carbon monoxide  
detecting methods: electronic and chemical sensor

size specifications: 90\*120\*40MM

weight: 220g

type: B type (non-controlled output)

using voltage: DC 4.5V(LR6 1.5V 3 AA high energy alkaline batteries that can use for one year)

low voltage prompt: When the voltage is lower than 3.5V, the low voltage will prompt, and it will still keep working for 7 days.

Working condition: temperature from 0°C to 45°C  
relative humidity 0-90%RH

static working current:  $80 \pm 10 \mu\text{A}$

alarm current:  $45 \sim 75 \text{mA}$

Alarm sound loudness:  $>85 \text{dB}$  (1M distance)

display scope of concentration:  $25 \sim 550 \text{PPM} \pm 10\%$   
deviation

When the concentration exceeds 550PPM, it displays "Hco". When the concentration is less than 25PPM, it displays 0PPM.

Temperature display : from  $-15$  to  $50$  °C  
deviatio :  $\pm 1$  °C The temperature will display only when the Alternate display is about 20 seconds when CO concentration is less than 25PPM.

Battery indicator: sufficient、normal、on the low side、battery power is low; four conditions  
 CO alarm rating: carry out EN50291 Standard

CO concentration	Don't alarm before	alarm before
33PPM	120 min	--
55PPM	60 min	90 min
110PPM	10 min	40 min
330PPM	--	3 min

relieve the alarm condition: when the alarm starts, it must be relieve automatically within 6seconds in the air where the CO concentration is less than 40PPM.

power light: blink every 45 seconds

fault inspection: inspect every 2 minutes

suitable place: family、hotel room、warehouse、basement

effective life time: 7 years

**key point:**

After 7 years' life time, forbid to use the products that exceed the life time for your safety and reject them according to the local law and regulation.

**2. LM-201A Brief instruction of carbon monoxide alarms:**

LM-201A The basic function of the alarm is to detect CO and the basic parts are as follows:

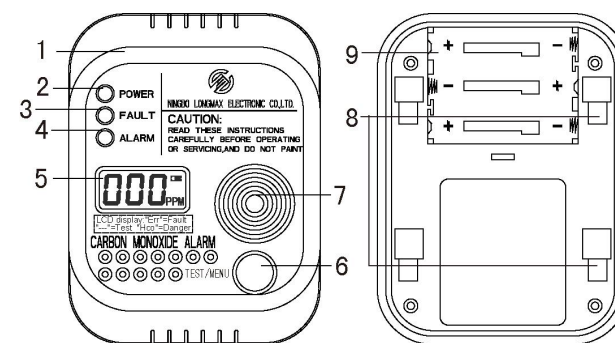
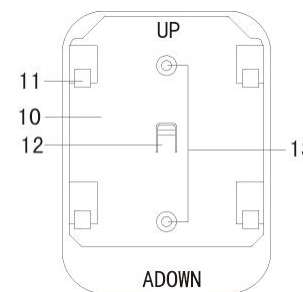


图 1

- 1: alarm 2: power light 3: fault light
- 4: alarm light 5: display screen 6: test/reset button
- 7: buzzer 8: mounting hole 9: battery warehouse



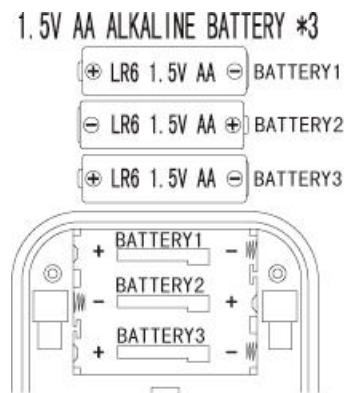
- 10 : fixed installation board
- 11: buckle
- 12: elastic buckle
- 13 : fixed installation tapping hole

**3. Battery installation and battery indicator**

**3.1 battery installation:**

LM-201A CO alarm uses 3 1.5V AA high energy alkaline batteries. Put the battery's positive and negative poles into the battery warehouse according to Battery install chart. After that, the alarm will

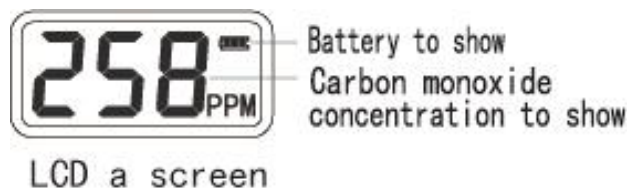
make a “di” sound and the “POWER” 、 “FAULT” and “ALARM” indicator will blink. When the display screen shines, it begins to display information, which means the battery is installed successfully and the alarm can work normally.



### Battery install

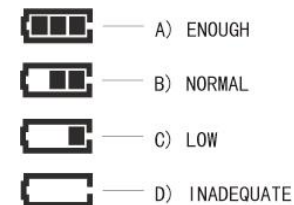
#### 3.2 information of battery indicator

LM-201A Alarm has the function of checking the battery quantity automatically. When it is standby, the battery quantity will be checked every 45 seconds. The battery quantity has two kinds of display information that is “POWER” indicator and LCD battery quantity display.



The green LED “POWER” indicator will blink for 0.5 seconds every 45 seconds when the voltage is more than 3.5V, which means the battery is under normal use. When the voltage is less than 3.5V, the “POWER” indicator will blink and we will hear “di” , which means the power shortage, and please replace the new battery at once.

LCD display screen shows 4 kinds battery conditions:



You can see the battery quantity condition at any time. When LCD display screen shows condition D, please replace the new LR6 high energy alkaline batteries. After the alarm makes the first low voltage prompt, it still can work for more than 7 days. Please don’ t replace the battery in this period in order to protect your health.

**key point:**  
 When you hear “di” every 1 minutes or see the condition D in the LCD screen, please replace the new high energy alkaline battery. If you don’ t do so, you will be under the threat of carbon monoxide because the alarm can’ t work normally.

#### 4. Test and silent reset

##### 4.1 inspection test:

When the alarm is working under normal condition, the probe indicator and buzzer are required to be checked by “TEST/MENU” test reset button to see whether they are normal at least once a month.

Press “TEST/MENU” test reset button, “POWER”、“FAULT” and “ALARM” indicator will blink. After 0.5 seconds, loosen the button, and the LCD back will blink at the same time. If the sensor in the alarm is under normal working condition, the buzzer and red “ALARM” indicator will work in the cycle of making 4 sounds and blink 1 second and then after 1 second alarm again. If the sensor has the fault, the yellow “ALARM” indicator and buzzer will blink and make sounds 2 times and LCD display screen will show “Err”, which means the alarm appears abnormal condition. In the normal testing process, when the LCD display screen shows “---”, it means the alarm is being checked.

##### key point:

In order to make sure the alarm is under normal working condition, please check it at least once a month.

##### 4.2 Silent reset

Sometimes because of the influence of outer factors,

for example, the smoke which contains certain CO concentration or other chemical gases make the alarm alarms, but the content or other chemical source can't threat the life, the users will press “TEST/MENU” test reset button, if the concentration is less than 150PPM, the alarm can withdraw from alarm condition directly and check the gas again. If the concentration exceeds 150PPM, the alarm can't stop, the red “ALARM” indicator will blink according to the alarm condition, but the buzzer will stop for 5 minutes. If after 5minutes the concentration still exceeds 150PPM, the alarm will continue to alarm.

##### key point:

The alarm is for your safety. You can press silence reset button only when you are sure the condition will not harm your health and safety.

#### 5. Alarm condition, temporary silence function and LCD concentration display

##### 5.1 Alarm condition information and temporary silence

When the alarm alarms, the red “ALARM” indicator works in the cycle of blinking for 1 second and after 1 second blinks again, and repeats 4 times. At the same time, the buzzer will make sound with the same

cycle as the indicator. If in the alarm period press the “TEST/MENU” test reset button, you can see the indicator blinks but don’ t hear the sound, it the temporary silence function condition.

after the alarm gets into the alarm condition, the LCD back will blink. If the CO concentration is more than 40PPM, the alarm will lock in the alarm condition, and alarms every period in the form of 3-7 seconds time span until the CO concentration is below 40PPM will it stops alarming. The time span is different according to the CO concentration:

<90PPM 7 second time span (make a period of alarm information every 7 seconds)

90-250PPM 5 second time span (make a period of alarm information every 5 seconds)

250-500PPM 3 second time span (make a period of alarm information every 3 seconds)

>500PPM 1.5 second time span ( make sound continually)

The less the concentration the longer the time span and the more concentration the shorter the time span, which will make people sense the harmful extent of CO more easily.

## 5.2 Carbon monoxide concentration display:

CO alarm has the LCD displaying concentration function, which will display between 10-550PPM and the error is  $\pm 10\%$ . It can be used for reference in ordinary occasion, but can’ t be used as professional measuring instruments. When the concentration exceeds 550PPM, it shows “Hco”, which means very dangerous and all the people shall

leave the site.

**key point:**

**When you hear the alarm continually alarms or the LCD displays “Hco”, it may exist high concentration CO. You and all the personnel shall leave the dangerous site at once and seek help.**

## 6. Sensor fault self-check information and management

**When the sensor has fault, the LCD screen displays:**



### 6.1 Sensor fault inspection information

CO alarm has the sensor fault automatic inspection function. When the alarm is power on and standby, the sensor will be checked automatically every 2 minutes. If the working condition is abnormal, it will make two continue “di” sounds and the yellow “FAULT” indicator will blink with the sound. The LCD back will also blink and it will show “Err”. After the alarm makes fault information, the sensor will be checked every 10 seconds. If the fault has not been removed, the fault information will be made every 10 seconds until the fault disappears.

In the manual test, if the sensor occurs the fault,

the same fault information will be made.

## 6.2 Sensor fault management

When the alarm has the fault information, it can be the broken circuit of sensor, short circuit or has the permanent damage like the electron damage. It can also be caused by volatile chemical gases like alcohol. This fault shall be recovered with the alarm power off after being put in the pure air for 24 hours.

If the alarm that makes fault information can't be recovered in the pure air after 24 hours, it is the permanent damage. Please do not use it again. Don't repair it yourself or send to the service point that is not authorized by the producer to repair.

### Warning:

When the alarm is damaged permanently, please stop using it. Don't repair it yourself or send to the service point that is not authorized by the producer to repair.

## 7. View function of alarm record concentration

After the occurrence of CO alarm, it will keep the maximum concentration and the average concentration in

the 24 hours in order to see whether the CO accident has been occurred.

### 7.1 View alarm record concentration

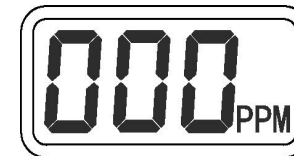
Press the "TEST/MENU" button long (pressing for more than 10 seconds can be called "press long", pressing for less than 3 seconds can be called "press short".) until the LCD shows "Ph=", then get into the alarm record view condition. The alarm data record information can be divided into 5 pages. When getting into the view condition, it will display according to the order from page 1 to 5 for 10-30 seconds until the end. If you don't want to see the current page or wait too long, directly press "TEST/MENU" button to skip. The followings are the contents that every page displays:

Page 1, display "Ph="

Indicates the next page (page 2) will display the maximum CO concentration that has been occurred.

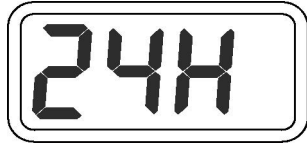


Page 2, displays the maximum concentration and fixed "PPM" concentration unit.



Page 3, displays “24H”

Indicates the next page (page 4) will display the CO concentration average value that has been occurred within 24 hours.



Page 4, Indicates the next page (page 4) will display the CO concentration average value that has been occurred within 24 hours. “PPM” concentration unit displays blink so as to be distinguished from page 2.



Page 5, displays “cLr” . It indicates that it will delete record values. If press “TEST/MENU” button long in this page, the content in page 2 and 4 will be deleted to 0.

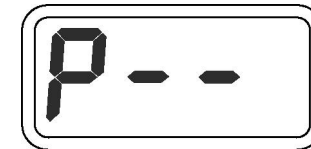


## 7.2 delete alarm record concentration

If the users have seen the alarm record and do not want to retain the content, they can delete the record data. The ways are:

In page 5, “cLr” indicates press “TEST/MENU” button long until the screen displays “P--”, which means return to normal standby working condition. Besides, if the battery powers off and then powers on again, the alarm record maximum and average values will also be deleted to 0. When put the battery on again or replace the battery, there will be no record of alarm concentration.

after deletion, it displays “P--” :



### **Warning:**

View function of alarm record concentration is a secondary additional function. It is convenient for users to understand whether it alarms. The record data is used for users to refer to, but can be used as medical, accident or scientific evidence.



## 1. Choose the place to install alarms

Install the alarms in the bedroom or the places where people often do activities or where you think may easily produce carbon monoxide or carbon monoxide may divulge. Make sure every place where people sleep can hear the alarm. The alarms are suggested to install in every floor in the multi-floored building.

In order to gain an ideal protective environment and avoid the damage of alarm or the unnecessary misinformation or the possibility when the harmful carbon monoxide produces, it does not alarm, please keep away from the following places:

- 1.1 Do not put the alarm in the closed room (such as in the kitchen cabinet or behind the curtain).
- 1.2 Do not put the alarm in the obstructive place (such as behind the furniture).
- 1.3 Do not put the alarm on the floor or in the water channel.
- 1.4 Do not put the alarm beside the door and window.
- 1.5 Do not put the alarm behind the fan, air vent of air conditioner or fan inlet.
- 1.6 Do not put the alarm behind the vent or air-vent.
- 1.7 Do not put the alarm in the place where the temperature can easily decrease to  $-10^{\circ}\text{C}$  or exceed  $40^{\circ}\text{C}$ , unless you especially need to install like this.
- 1.8 Do not put the alarm in the place where there are a lot of lampblack and dust which will block up the sensor.
- 1.9 Do not put the alarm in the place where there is too moist.

- 1.10 Do not put the alarm near the kitchen wares.

## 2. How to install alarms

When installing alarms, choose the place where it is convenient to test and operate as well as replace batteries. If fixing the alarms on the wall, the height shall be higher than 1.5M and 0.3M lower than ceiling. Besides, it shall keep 1.5M away from the corner, wall side and large furniture.

steps of alarm installation:

- a) Use the drilling tools to drill two  $\phi 6\text{MM}$  holes whose depth is 40MM in the wall according to the distance and direction of “fixed installation tapping hole” in the “fixed installation boards”.
- b) Put the expanded plastic pieces used to fix screws into the wall holes and lock the fixed installation boards upwards by screws.
- c) After making sure the “fixed installation boards” have been fixed, install the battery according to 3.1 of battery installation program and test it according to program 4.1. If the test is normal, buckled with the “fixed installation boards” to finish the installation.

## 3. main points of installation:

- Because the alarm has the battery leakage installation, if it does not install battery, it can not buckle with “fixed installation boards”. If there is no battery, please do not buckle the alarm with “fixed installation

boards” , or will damage the product.

- If install the alarm in the garage, please do not install the alarm near the exhaust port. Because when your car starts, the high-concentration CO will be discharged and the temporary CO that will not kill lives may cause the alarm.

 **Warning:**

In order to ensure the alarm can be correctly installed and used, it should be installed by qualified professional personnel.

### 三、 main points and daily maintenance

#### 1. Other chemical gases' influence to the alarms:

LM-201A alarm can not only respond to carbon monoxide, but also respond to the following chemical gases or damage the sensor:

Almost all the methane、propane、isobutane、ethylene、ethanol、alcohol、isopropanol、benzene、methylbenzene、acetic ether、hydrogen、hepatic gas、sulfur dioxide、aerosol propellant、alcohol preparation、paint、thinner、dissolvant、adhesion agent、shampoo agent、zegna Intenso aftershave balm、perfume、auto exhaust (cold start) and some cleaners. When the alarm is polluted and damaged by high concentration chemical gases, the sensor may be hurt which will cause temporary error or permanent damage. If the alarm alarms, you can smell the thick chemical gas, it may be the error. Because CO is a colorless and odorless gas and chemical gases

have thick smells. If chemical gas alarm alarms, put the alarm in the fresh air for 30 minutes. If it still does not withdraw from alarm condition or the LCD shows the concentration is still rising or changes very slowly, it means the alarm has been polluted by chemical gases. At this time, it shall be put in the fresh air with the power off for a longer time to let it recover. If after being put in the air for a week, it does not recover (LCD shows OPPM), the sensor may be damaged, so please do not use the alarm any longer.

#### key point:

If the alarm is polluted by other chemical gases, and after being put without electricity for one week, and the concentration is not displayed OPPM, the alarm shall not be used again.

#### 2. Correct daily maintenance of alarm

The alarm must be kept clean when used. It shall be maintained once a month or the detection performance will be influenced and even may cause damage to the alarm. Maintenance methods are as follows:

2.1 If dust can be seen obviously on the surface, remove it with a vacuum cleaner.

2.2 Rub the surface with wet soft cloth which water has been wringed from. Note that the wet cloth shall not drip.

2.3 Open the battery compartment, check if there is battery leakage or rusting. If there is leakage or slight rusting, wipe it with clean cloth and replace batteries. If there is heavy dust, please send it to the service point that is authorized by the producer to repair or stop using it.

2.4 After cleaning, an inspection test shall be done by 'TEST/MENU' button. Only after it passes the test can you reinstall and use it.

During the process of maintaining and cleaning, you can't clean the alarm with chemical like alcohol, petrol, cleanser, etc., or it may cause damage to the alarm.

**Key point:**

The alarm shall be cleaned and maintained once a month. During the process of maintaining and cleaning, you can't clean the alarm with chemical cleanser.

3. daily main points:

- Do not spray chemical aerosol like air freshener, fixature, perfume, insecticide and spray paint near the alarm.
- Do not brush paint and pigment. If you need to paint the wall and floor, please put the alarm into the plastic bag first. After the smell has been fully volatilized, install the alarm again.
- Do not block up or cover the alarm's venthole with Paste adhesive or other things.
- If your alarm drops in the floor, pick it up to check whether the battery has been dropped or loosen. After making sure the battery is intact, press again the "TEST/MENU" button to test whether the function is normal. Install it again after making sure the function is normal.

4. Damage of tearing open, modifying or maintaining alarm without authorization

The gas data of alarm has been calibrated before it leaves the factory. If the shell is taken apart without authorization and any component parameter or control software of the alarm is changed, the alarm data may be deviated or missing, which may cause the alarm to alarm mistakenly or become invalid. You can't repair and change any component or program during the alarm's stated life time.



**warning:**

You can't repair and change any component or program during the alarm's stated life time, or the alarm may be invalid and cause accidental disaster.

**四、additional instruction**

1. recognition of carbon monoxide:

Carbon monoxide is a kind of colorless and odorless gas which can cause people to die and will engender when any combustible matter burns. When burning the combustible matter in the limited room, higher concentration carbon monoxide will be engendered. When people absorb a certain amount of carbon monoxide, they will die. Now many countries' Consumer Product Safety Commissions have warned the public the harm of fatal family poison gas and make the carbon monoxide poison as the first public safety problem.

## 2. How the carbon monoxide engenders:

In home, carbon monoxide may be engendered from heating and burning. The main sources are kitchen wares and heating installation, such as: stove, water heater, fireplace, firewood furnace carbon grill, natural gas furnace cage, heating devices, microgenerator and so on.

When these devices are in well-ventilated condition or in normal working condition, the amount of carbon monoxide will be little and discharged quickly without doing harm to people. But when there is lack of oxygen or the burning is not sufficient, or the devices have problems, high concentration carbon monoxide will engender. Because the ventilation is not good, and the carbon monoxide is not given off quickly, the high concentration carbon monoxide will be accumulated to the extent that will harm people's health.

## 3. carbon monoxide's influence to human's physical health

Carbon monoxide is a kind of colorless, odorless and nonirritant gas. It is classified as chemical asphyxiant. The direct response of carbon monoxide poisoning is hypoxia. When people imbibe carbon monoxide, it will be absorbed quickly by the lung and spread through alveolar-capillary membrane and combine with hemoglobin to form carbonyl haemoglobin (The process is reversible.). But there is small amount of carbon monoxide in the blood. Hemoglobin combining with carbon monoxide is more than 200 times of combining with oxygen. This will lessen the oxygen of the blood, separate the oxygen and hemoglobin, which lessen the oxygen providing the organs and make the body lack of oxygen. But the chemical property of carbon monoxide will not change and the carbon

monoxide will be exhausted through expiration. The expiration is decided with the same factors as absorbability. 1) , If the carbon monoxide concentration in the absorbed air does not change, the COHb concentration in the blood will get to a stable value after several hours. There are many factors which determine the speed of getting to the stable value, such as pulmonary ventilation volume (physical activity), alveolar capillary delivery, cardiac parameters, blood oxygen hemoglobin concentration, atmospheric pressure, oxygen and carbon dioxide concentration in the air, but the carbon monoxide concentration and the exposure duration of carbon monoxide are the two most important factors of deciding COHb concentration.

ChartA.1. influence of Different blood COHb concentration's on adults healthy.

A.I-Effects of healthy adults COHb blood concentration on health	
%COHb	effects
0.3-0.7	Internal CO quantity, normal range of non-smoker
0.7-2.9	Not be confirmed to have physiological changes
2.9-4.5	Cardiovascular changes of heart disease patients
4-6	Usually value of smoker, psychomotor test in bad
7-10	Cardiovascular changes of no heart disease (cardiac output increase, coronary blood flow)
10-20	Mild headache, weakness, has potential impact on fetus
20-30	Severe headache, nausea, limb movement damage
30-40	Severe headaches, irritability, mental confusion, visual acuity damage, nausea, muscle weakness, dizziness
40-50	Spasm, unconsciousness
60-70	Coma, collapse, and death
Sources: the United States environmental protection agency 1984	

There are many other forms and thesis concerning this topic. American sanitation, education and welfare department's paper mentions that when the COHb concentration is 3%, the perceptible visual sensitivity will be damaged. Recently, Kleinman et put forward that the normal clients' exercise tolerance decreases after one hour receiving the 100ppm carbon monoxide.

#### A.2 slow influence to high risk group

People who have coronary artery disease will reduce the exercise ability in the low carbon monoxide concentration. Those who are in the low carbon monoxide concentration, the time that induces angina pectoris will shorten.

Carbon monoxide will do harm to the normal development of the fetus through placental barrier. Because different organs have problems or special changes, many high risk groups are more sensitive to carbon monoxide. The high risk groups are:

- a) Those who have anaemia or other hemoglobin diseases that cause the oxygen carrying amount lessen;
- b) Those who have a fever, hyperthyrea and are pregnant need more oxygen;
- c) Those who lack of breath that causes oxygen shortage;
- d) Those who have heart disease or Vascular insufficiency, such as brain hypoxia and peripheral vascular disease.

#### A.3 normal COHb concentration

In normal condition, the COHb concentration of the body is low, from 0.3% to 0.7%, which can not be said good or harmful.

#### A.4 smoke

The smokers' carbon monoxide concentration in the body is high, changing between 5% and 9%. Those who smoke cigar may exceed 10%.

early symptoms of carbon monoxide poison:

Usually headache, have blurred vision, feeble, sicchasia, vomit, somnolence, disordered sense and miss the direction, which are like flu. You shall realize it must be carbon monoxide poisoning. The symptoms will be reduced after they leave the place or after a long time, but will not disappear.

Drawing high concentration carbon monoxide will be fatal within several minutes. Drawing low concentration carbon monoxide for a long time is also dangerous. Expose in the low concentration carbon monoxide for a long period of time may damage the heart and brain permanently.

#### 4. carbon monoxide's harm to the family

According certain clinography, the death rate caused by carbon monoxide poisoning keeps the first. At least 10,000 Americans are harmed by carbon monoxide poisoning every year.


In daily lives, everyone may be more or less influenced by carbon monoxide. But the experts think the unborn babies, children, old people and those who have heart or respiratory diseases are weaker to resist carbon monoxide. They are more easily to be caused to death or badly injured by carbon monoxide.

In order to be healthy and safe, you need to know the sources that may produce carbon monoxide in home. Burning kitchen wares, device's chimney and vent shall be kept in unobstructed condition. Use combustion device correctly. Do not use burning and high heating devices in closed rooms, small and airtight bathrooms. Often maintain and check

burning instruments and gas supply systems. For example, heat exchanger in the stove cracks, water heater' exhaust vent block off or the birds' nest blocks up the flue pipe and so on, which will all cause the carbon monoxide.

Besides noticing the usage of burning instruments, you should also know more about early poisoning symptom of carbon monoxide. If you doubt you are carbon monoxide poisoning, go to the fresh air and seek urgent help. Blood check is the most correct method to evaluate whether it is carbon monoxide poisoning.

Prevent the carbon monoxide poisoning, use the carbon monoxide correctly and let you know the existence of carbon monoxide' s harm much earlier in order to manage or leave in time. But the carbon monoxide alarm is to let people know the dangerous existence of carbon monoxide; they can manage or withdraw from the dangerous zone in time but can not stop the carbon monoxide from giving away.

 **Warning:**

The carbon monoxide alarm is used to tell people the existence of carbon monoxide and to deal with it or leave and the alarm itself can' t stop the occurrence of leakiness of CO.

5. poisoning symptom of carbon monoxide  
 common mild symptoms:  
 mild headache、sicchasia、vomit、feeble

- common secondary symptoms:  
 headache、somnia、confused、accelerated heart rate
- common severe symptoms:  
 convulsion、lose sense、heart and lung failure、can cause the brain hurt and dead

**poisoning symptoms of carbon monoxide concentration:**

carbon monoxide concentration (ppm)	respiratory time and symptoms
50ppm	the maximum concentration that the healthy adults can endure within 8 hours
200ppm	after 2-3 hours, mild headache、feeble、giddiness、sicchasia
400ppm	within 1-2 hours the forehead aches; after 3 hours, it threatens to life
800ppm	within 45 min, giddiness、sicchasia、convulsion; lose consciousness within 2 hours; die within 2-3 hours
1600ppm	the head aches within 20 min、giddiness、sicchasia; die within 1 hour
3200ppm	the head aches within 5-10 min、giddiness、sicchasia; die within 25-30 min
6400ppm	the head aches within 1-2 min、giddiness、sicchasia; die within 10-15 min
12800ppm	die within 1-3 min

**Attention:** carbon monoxide poisoning symptoms in the form above aim at healthy adults. As for weak people, the response is different.

## 6. cure of carbon monoxide poisoning

Anyone that is doubted carbon monoxide poisoning shall leave the potential dangerous environment zone which has carbon monoxide at once, breathe fresh air and go to the hospital. Now the carbon monoxide poisoning can be evaluated through carbon monoxide hemoglobin blood test. This test can check the carbon monoxide content. In order to check correctly, check immediately after absorbing carbon monoxide. Acute carbon monoxide poisoning is always treated by oxygen uptake. When it is severe (sense disorder), people shall be treated in special hyperbaric oxygen chamber, which will be depended on the doctors.

## 7. how to deal with harmful CO or when the CO alarm alarms?

Always know something about carbon monoxide and understand how to evaluate whether the family members have carbon monoxide poisoning symptoms. Many reports concerning carbon monoxide poisoning points out that when the victims realize the situation is not good, they have already had disorder sense, lost sense of direction to escape from the house or made calls to seek help. Children or old people will first be influenced.

**If you or your family members have the symptoms mentioned in this chapter, consult the doctor at once though it is a mild symptom.**



### **Warning:**

Carbon monoxide is a kind of poisoning gas that can kill people's lives. When the CO alarm alarms, it means the carbon monoxide has been engendered.

Because carbon monoxide can kill people's lives, you shall manage as follows if the carbon monoxide alarm alarms:

- 1) Turn off the burning instruments, heat-producing devices and heating equipment that can produce and discharge carbon monoxide at once. Open the door and window and gas supply system as quickly as possible.
- 2) Inform all the people to leave to the outside where there is fresh air, count the number of people, make phone calls or other ways to seek help and wait for first aiders to make the house ventilate and get rid of the sources that will cause danger. Before the alarm withdraw from alarm condition, the professional personnel who do not wear oxygen-supply and poison-prevent equipment can not enter into the house again.
- 3) If carbon monoxide has been given away and gotten rid of professionally, the alarm alarms again within 24 hours, repeat the previous steps again and seek qualified technician to investigate the burning and heating devices that can produce carbon monoxide and whether the ventilation system is under normal operating condition. If finding problems in the inspection, stop using at once and ask qualified organization or technician to repair.

In order to protect your and your family members' safety and health, you shall know more about carbon monoxide poisoning symptoms, prevention and management of carbon monoxide so as to reduce the threat to you, your family and

people surrounded by.

五. Accessories list

LM - 201 A product leave factory with the following accessories:

No	Accessory Name	Quantity
1	LM-201A	1PC
2	Install card board	1PC
3	AA alkaline battery	3PCS
4	Install screw	2PCS
5	Plastic expansion	2PCS

**This instruction is very important for you to use the product, please read carefully and keep it well. If the product loses effect because of the damage caused by human factor, our corporation will not bear any responsibility.**

Thanks for purchasing our products.

