



Product overview

JM-LS858-11-A domestic combustible gas detector meets national standard: GB 15322-2019.

This product is a high stability carbon monoxide gas alarm, used to detect the leakage of carbon monoxide (chemical formula CO) gas. We choose Combustion battery type carbon monoxide sensor, which has the characteristics of high stability and small sensitivity drift.

The product adopts backlight digital LCD to display alarm concentration. When the alarm detects a carbon monoxide gas leak and it reaches the alarm setting concentration, the red LED flashes and alarm. This product is used in the places where carbon monoxide gas may be produced.

Product diagram

① fault indicating light ② power light
③ alarm light ④ test

PPM on the display panel represents 10^{-6} (volume fraction)

Functional features

- LCD displays the alarm concentration of carbon monoxide gas
- Adapt MCU Controlling
- Automatic fault detection indication and display
- Alarm automatic reset function
- SMT technology, with strong stability
- AC220V working voltage
- Operated with backup battery
- Design of high reliability sensor
- Relay output (3A/AC220V or 3A/DC28V)
- Range $0-990 \times 10^{-6}$ (volume fraction)

Wiring installation guide

The thickness of the conductor core should be appropriate, and improper connection will lead to carbon monoxide leakage. In case of leakage, it can't alarm normally.

PPM on the display panel represents 10^{-6} (volume fraction)

Technical parameters

Working Voltage	AC220V
Power consumption	$\leq 2.5W$
Accuracy	10×10^{-6} (volume fraction)
Measurement range	$0-990 \times 10^{-6}$ (volume fraction)
Rated alarm value	200×10^{-6} (volume fraction)
Sensor type	electric chemical sensor
LCD display	when the carbon monoxide is more than 10 ppm, the display starts, and the display atmosphere is $0-990 \times 10^{-6}$ (volume fraction)
Buzzer pressure	≥ 85 dB/m
Response time	$\leq 60s$
Ambient temperature	$-10^{\circ}C \sim +55^{\circ}C$
Ambient humidity	10% ~ 90% (no condensation)
Overall dimension	138 * 90 * 40 mm
Installation mode	wall mounted or plug-in installation
Sensor Life span	3 years
Applicable gas type	Co
Communication interface	UART

The main function

1. Self-check: On the premise that the detector has no alarm or fault sound, long press the mute/self-check button, the indicator light will flash several times in a circle, accompanied by the buzzer sound.
2. Alarm: When the combustible gas in the monitoring air exceeds the concentration set by the alarm, the buzzer sends out a rapid "di, di" intermittent sound signal, the alarm indicator (red) flashes, and the relay is closed at the same time to make the output device power Connected. When the concentration of combustible gas reaches the concentration set by the alarm, the detector will automatically release the alarm sound and light signal, the relay will open, and the power supply of the output device will be turned off.
3. malfunction: When the sensor is open or short-circuited, the yellow light will be on and the buzzer will be on for a long time. Silence: When the detector sounds an alarm or fault, press the silence/self-check button and the sound stops.
4. Warm-up: After power-on (red, yellow, green) the indicator light flashes alternately 3 times, then the green light flashes for about 1 minute, after warming up, it enters the monitoring state and the green light is on.
5. Record reading: The reading device reads data through the serial interface of the detector. The serial communication protocol: 4800bps, 8, 1, even, adopts TTL negative logic communication level, master-slave station, half-duplex communication mode, reading device As the master station and the detector as the slave station, the maximum communication distance is 15 meters. The port uses a 4-pin 2.54MM single-row pin header.
6. When the yellow light is flashing, it indicates that the service life of the detector has expired and the user needs to replace the detector.

Product installation

1. This product is suitable for wall-mounted installation. Choose a suitable location, usually on the ceiling above the air source, about 2m away from the air source (see the figure below for details)

2. Fix the mounting bracket on the ceiling and embed the detector on the mounting bracket.
3. When installing at home, it should also be noted that the installation location should not be too close to the gas stove, so as to prevent the detector from being baked by the stove flame, and can not be arranged in a place with large oil smoke, so as to avoid false alarms or cause the detector's air inlet to enter the air. It is not smooth, which will cause the sensitivity of the detector, and it cannot be installed on the exhaust fan, the side of the door and window, and the bathroom with large water vapor.

Certificate of Quality

product name :
Household combustible gas detector

test : qualified
Quality Department : QC008

Manufacturer :
Shenzhen Longsin Intelligence Technology Co., Ltd.

4. Please correct the wiring according to the wiring diagram. All wiring installation must comply with national and local laws, regulations and standards. The thickness of the wire core should be appropriate, and the wires connecting the detector and other auxiliary devices should have color markings to prevent the wires from being connected incorrectly. Inappropriate wiring will cause the sensor to fail to alarm normally when carbon monoxide gas leaks.

Instructions

Turn on the power to the alarm. The alarm enters the self-checking state, and the buzzer beeps once. At this time, the green indicator, red indicator and yellow indicator light cycle twice, and the alarm enters the preheating state. The LCD character increases by 1 to display and preheat. After about 180 seconds, the state is monitored normally. It is prohibited to use gas for testing during the warm-up period. If the external AC power supply fails, the detector will automatically switch to sleep mode.

When the carbon monoxide gas concentration reaches 0×10^{-6} (volume fraction), the LCD starts to display the gas concentration:

PPM on the display panel represents 10^{-6} (volume fraction)

Handling of police information

When the concentration of CO in the air reached or more than the set value, the detector will alarm automatically and continuously. Without inhaling air from the alarm area, you should:

1. Shut off the pipeline valve immediately
2. Open windows to make sure fresh air in and air circulation;
3. Extinguish the fires, and DON'T use anything that can cause spark (such as lighter, matches, and etc.)
4. DON'T turn on/off any electric equipment;
5. Check the reason of gas leakage, and inform related department and professionals to handle. If confirmed as false alarm, you should check whether the installation position of the detector is appropriate.

Alarm Records

	Records quantity:
Alarm records	250
Alarm recovery records	250
Fault records	120
Failure recovery records	120
Power off records	60
Power on records	60
Sensor failure records	1

Handling of police information

Red light flash	CO gas leakage
Green light flash	Warm-up
Green light always on	Working well
Yellow light always on	Fault inside

Fault analysis and troubleshooting

Fault	Reason	Solution
LED always flash	1. Long time no power	Power on and aging 24hours
	2. Tested with gas when warm-up	Prohibit the test with gas when warm-up
Yellow light always on buzzer keeps beeping	3. The datum point of sensor drifted	Adjust the datum point again
	Sensor malfunction fault	Contact the agent to repair

Hazards from CO

CO gas can anesthetize the central nervous system, and caused the asphyxia even death. CO poisoning as below: (PPM means 10^{-6})

50PPM Within 8hours, the max concentration can be endured by healthy adult

200PPM After 2~3hours, slight headache feeble

400PPM	Frontal headache during 1~2hours, after 3 hours threatening life
800PPM	During 45 minutes, dizzy, nausea, spasm, anesthesia during 2hours, die 2~3hours
1600PPM	During 20 minutes, headache, dizzy, nausea, die within 1hour
3200PPM	During 5~10 minutes, headache, dizzy, nausea, die within 30 minutes
6400PPM	During 5~10 minutes, headache, dizzy, nausea, die within 10~15 minutes
12800PPM	Die within 1~2 minutes

Notice

1. The product is CO detector, cannot be used for natural gas, lpg gas, CH4, propane and etc.
2. Prohibit hit and beat during transport and mounting, or the device cannot work well
3. The detector must be wiring correctly, and with correct power supply
4. The detector must be maintained regularly as the manual asked
5. Please clean the dust from the surface of detector by vacuum cleaner monthly
6. Prohibit to clean the detector with detergent or solvent, otherwise the chemicals will cause permanent damage or transient pollution the sensor
7. Do not use air freshener, hair spray, paint, or other sprays nearby the detector
8. The detector lifespan is limited, it should be tested professionally every 6 months
9. The detector can reduce accidents, but cannot make sure perfectly safe. For your safety, please use the detector correctly, and be vigilant, strengthen your safety precautions.

Reminder

1. The detectors wall-mounted, please make sure it screwed well after installed, and avoid to fall off and hit someone caused by screw loose
2. If use not permitted or incompatible power supply, fire disaster, explosion, and other dangerous may be caused
3. The product is including some small components such as screws. To avoid the dangerous to children (some possible asphyxia caused by swallowed the components and other dangerous) and unintentional damage to the device by children, please put the device and components to the place where cannot be gotten by children,
4. Please use the detector with permitted environment temperature, or some fault may be caused
5. Please keep the detector and components away from rain and damp to ensure the device working well

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