



LY-H1000UV IR2

Point-type infrared / UV flame detector

operating instruction

Version: V1.0



LY-H1000UV IR2 point infrared / UV flame detector instructions

Matters need Attention

Thank you for choosing our products. Please read this instruction manual carefully before installation, operation, or maintenance of the equipment to ensure safe and proper use.

This specification details the scope of application of LY-H1000UVIR2 flame detector, installation and operation methods, and the precautions related to the safe use of flame detectors. For any organization and individual, before designing, installing, using, operating and maintaining the flame detector, please confirm that they have read and clearly understood the contents of this specification in order to cause damage to the product quality or the safety of personnel.

The installation process and operation must strictly comply with the relevant national standards and requirements.

Any operation inside the flame detector must be carried out by the personnel directed by the technical personnel of the manufacturer.



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Catalogue

1. Product Overview	2
2. Main Characteristics	2
3. Technical Parameters	3
4. Installation and Mounting	4
5. Wiring Schematic Diagram	7
6. Packaging, Storage, and Handling	7
7. Acceptance Test	7
8. Common Fault Handling	8
9. Maintenance	9
10. Accessories	9

1. Product Overview

LY-H1000UVIR2 type infrared / ultraviolet flame detector (hereinafter referred to as flame detector), after the company many years of data accumulation and field installation experience, with stable fire response ability and rich interface, reasonable structure design, simple installation, convenient wiring, 360° adjustable bracket can adjust detection range, provides convenience for late maintenance and adjustment.

The design, manufacture and inspection of this product shall follow the following national standards:

GB 12791-2006 Point-Type Ultraviolet Flame Detector

GB 15631-2008, Special Fire Detector

GB/T3836.1-2021 The Explosive Environment- -Part 1: General Requirements for Equipment

GB/T3836.2-2021 Explosive Environment Part 2: Equipment protected by "d"

GB/T3836.31-2021 Explosive Environment-Part 31: Equipment protected by dust ignition housing "t"

Multi-band red-ultraviolet composite flame detection technology is one of the best solutions for timely fire warning. The technique detects fire by detecting the characteristic band red ultraviolet light emitted by flames, faster than traditional smoke or temperature-sensing fire detection techniques. Especially in open areas, the warning time is greatly reduced. Flame detector using the high performance photoelectric sensor, again through the built-in microprocessor fusion signal processing algorithm, effectively distinguish the real flame radiation and interference source, on the basis of the rapid response to fire also greatly reduce the wave false alarm, light, air conditioning false alarm such as environmental factors on the influence of the detector.

2. Main features

1. Equipped with high performance high speed low power anti-interference data processing chip.

2. Comprehensive suitable for hydrocarbon combustion, metal, inorganic matter and



LY-H1000UV IR2 point infrared / UV flame detector instructions

other fires, such as wood, oil, ethanol, hydrogen, phosphorus, lithium metal and so on have a significant response effect.

3. Using 3 photoelectric sensors, reasonable division of labor, mutual collocation.
4. Two-color light super light up to 22000 mcd lumen indication quick switch, clearer display of the working state.
5. Rich multi-functional interface, can be connected with a variety of control equipment, with switching volume output, 4-20mA output, RS485 communication, 24V active / passive switchable relay output.
6. Built-in multi-stage anti-current, over voltage, anti-static, lightning protection circuit, to eliminate the impact on the access line.
7. The perfect algorithm best combines the flame detection and prevents false alarm capability.
8. The detector is suitable for the combustion of multiple fuels.
9. The explosion-proof design is suitable for industrial use in dangerous areas.
10. Choose high quality precision fence type terminal table, stable and reliable connection, with partition and turning cover plate design, convenient for different wire wiring protection and guidance, -40~120°C high temperature insulation resistance. The screw connection mode can be used worldwide.

3. Technical parameters

Working Voltage	DC24V	Output Signal	Two sets of relay contact outputs
Monitor Current	≤25mA		4~20mA output
Alarm Current	≤55mA		Standard RS485 (User docking protocol)
Work Instructions	Green LED is always bright (Power-on initialized 5S blinking)	Fire Relay	The contact capacity is 2A / 30VDC, 1A / 125VAC
		Signal Output Relay	The contact capacity is 2A / 24VDC, 2A / 120VAC
Alarm Instructions	Red LED is always bright	The 4-20 mA Signal (Adjustable according to the	Monitoring status of 5 mA (Adjustable)
angular field of	IR 90° and UV 120°		Alarm status of 20 mA (adjustable)

View		equipment requirements)	
Operative Norm	GB 15631-2008、 GB 12791-2006	Spectral Coverage	Ultraviolet light: 180nm~260nm Infrared: 3.8~4.3um
The three photoelectric sensors detect the following, respectively			3.8 μm, 4.3 μm, and 10 μm
Working Temperature	-20°C ~ +55°C	Electrical Interface	M20*1.5
Storage Temperature	-20°C ~ +60°C	Working Humidity	0~93 ± 3% RH Without Condensation
Weight	1.6KG	Explosion-proof Sign	Exdb IIC T6 Gb
Shell Material	Metal	Levels of protection	IP66
Sensitivity Level	I level	Outline Dimension	145mm*111mm*130mm
Probe distance and response time		The alcohol fire of 33 * 33cm and n-heptane fire of 25m can alarm within 30s	

4. Installation and Mounting

Warning: Before installing the detector, cut power to the power line of the detector. All wiring must comply with the relevant standards and regulations. Check the external cable for open circuit and short circuit faults. Adjust the viewing angle of the detector appropriately.

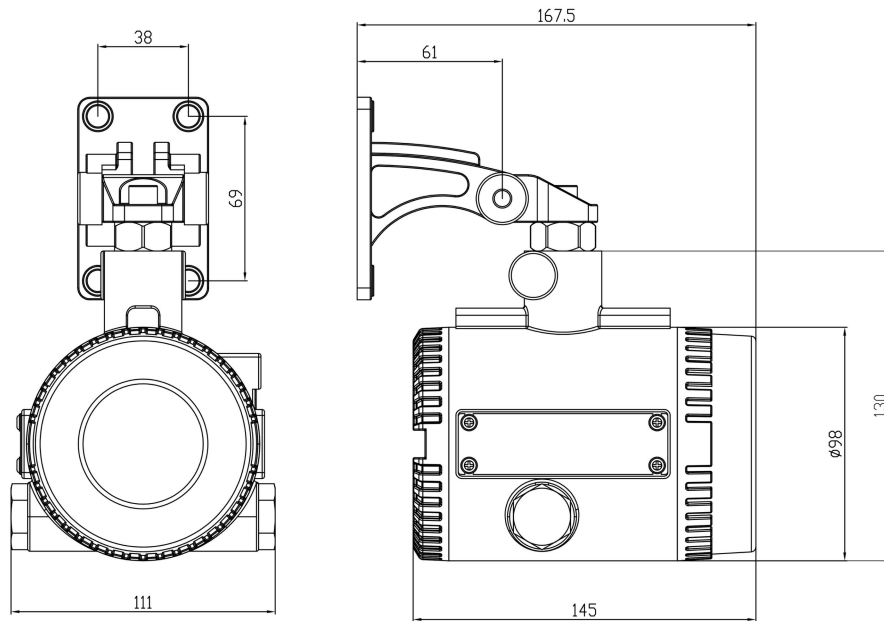
Note: All wires use wires of more than 1.0 square meters, with about 6mm of insulation sheath stripped at the end of the wires and connected to the terminal of the flame detector.

Caution: Excessive or too little exposure of wires may cause incorrect connections.

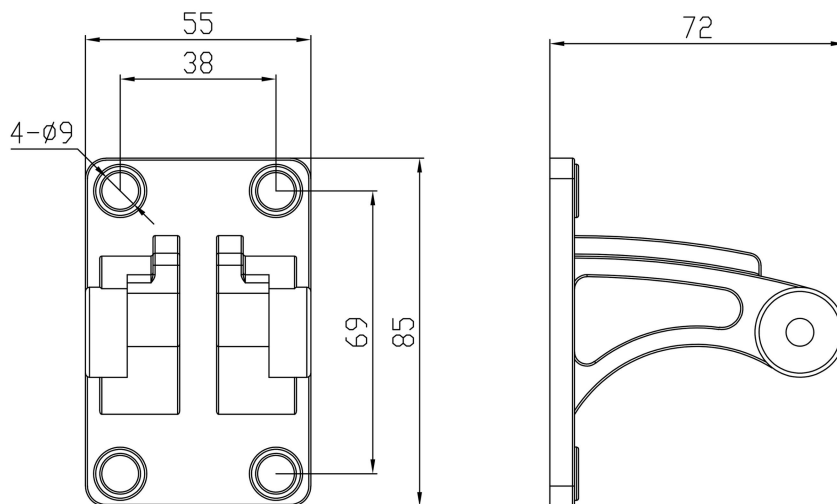


4.1 The detector profile is as follows:

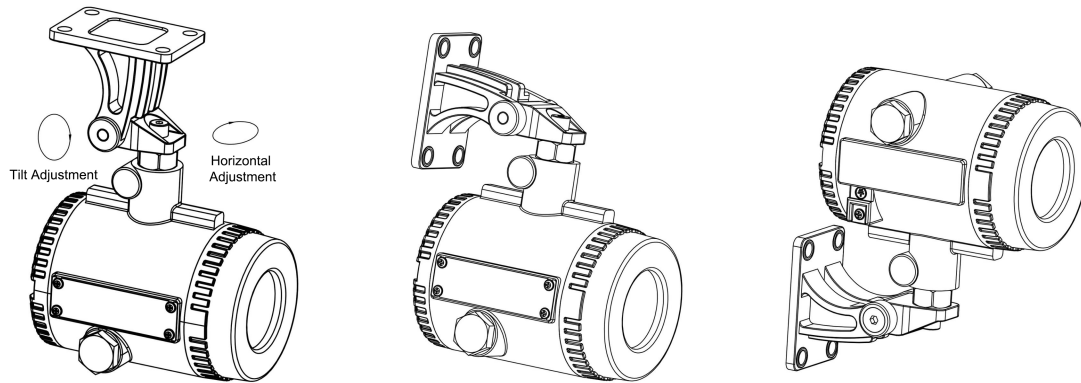
LY-H1000UV IR2 point infrared / UV flame detector instructions



4.2 Outline drawing of special installation bracket:



4.3 The installation mode is as follows:



The suction top installation installation (2)

Wall-mounted installation (1)

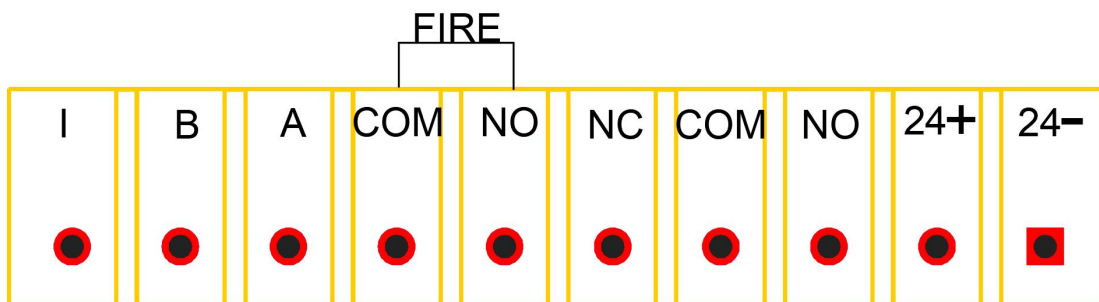
Wall-mounted installation (2)

1. The detector can be mounted on the wall, roof or fixing frame. The installation height and position shall be determined according to the sensitivity level of the detector. The distance of the detector to the monitoring target can be determined according to the fire characteristics, generally not less than 1.5m.

The detector shall avoid obstacles as much as possible. For obstacles with horizontal and longitudinal dimensions not exceeding 0.5 m, the distance between the detector and the obstacle shall not be less than 2.5 m; for external dimension exceeding 0.5 m and unavoidable, the number of detectors shall be appropriately increased.

2. Ensure that the ground of the detector is reliably grounded (the ground is on the right side of the detector), and its grounding resistance should be 4 Ω.
3. The thread connection of the detector and the thread steel pipe shall be sealed; the connection thread between the sensor and the detector housing must be twisted and sealed; the connection thread between the detector cover and the shell must be twisted and sealed.
4. Can not be installed in the same thread-piercing pipe with the AC signal cable.
5. It is forbidden to install the detector directly on the heat source or vibration source.
- 6, the detector detection area should try to avoid the area with thermal radiation, light and direct sunlight.

5. Wiring schematic diagram



24V + / 24V-: DC 24V DC power supply.

24V + / 24V- / I: 4 mA-20 mA current signal output.

A / B: Standard RS485 communication line.

FIRE-COM / NO: open fire alarm.

NC / COM / NO: the relay normally closed / normally open contact (active / passive optional) output.

6. Packaging, storage, and handling

The flame detectors are packaged in foam boxes. Do not load and unload violently to avoid damage to the protective cover glass and internal electronic components.

The storage area has low natural temperature requirements, but the heavy salt fog area or heavy water vapor environment should be avoided, otherwise it is easy to cause corrosion. Storage for more than 3 months must be tested after the test report issued by the manufacturer and put into use.

7. Acceptance test

Before the test, inform the relevant management department of the flame detector system to test and cut off the logical control function of the maintenance area or system to avoid unnecessary alarm linkage. The flame detector must be tested after installation and after each maintenance period.

After the detector is powered on, enter the detection state, and the green light is always on. If not on, check the wiring and supply voltage, or be damaged (return to repair).

The field test tool is controlled fire sources such as close range alcohol lamp or lit paper (pay attention to prepare fire extinguishing equipment). Simulate fire situation until detector alarm.

After the test, notify the relevant management department system to return to normal. If the detector fails to pass these tests, it shall be returned for maintenance.

Warning: For product internal debugging and special requirements, you must call the after-sales phone for technical support. Private change will cause irreversible damage to the equipment performance.

8. Common fault handling

Order Number	Fault Phenomenon	Analysis of causes	The exclusion method
1	The monitoring lights are not on	1. The power cord is not connected correctly	Check the power supply terminal, such as whether the wrong port, virtual connection, reverse connection, missing connection
		2. Unpowered	Connect the power supply and check the power supply voltage
2	There is no output signal after the detector alarm	1. Incorrect output line connection	Check the output line and contact the manufacturer after sale
		2. Output line is open or open	
3	The inspection light-on detector does not alarm	1. Incorrect test angle and distance	If the real fire test, it must be within the detection range, refer to(3.Technical parameters) table
		2. Incorrect test method	In the simulation test, the test distance needs to be shortened according to the size of the flame, and the flash simulator is needed. The flash frequency reaches 5 HZ or above, it is recommended to use an alcohol lamp, candle or light a

			piece of A4 paper.
4	The detector often miscalls when powered on	1. The probe sensitivity is not suitable to the field	Too much interference source, docking with the manufacturer, back to the factory setting.
		2. Environmental environmental impact	Eliminate interference from the surrounding environment, and try to avoid direct sunlight
		3. Shell Protection cover is not screwed	Sensors directly exposed to the environment are susceptible to radiation interference

9. Maintenance

The warranty period of this product is one year (except the protective cover glass), the normal use of the failure, can enjoy free factory repair and maintenance services. The damage caused by man-made and natural disasters and abnormal use does not belong to the scope of warranty.

Important: The flame detector must be tested and maintained in accordance with national standards and relevant regulations. The detector must be cleaned at least once a year and tested and maintained once a month.

Before cleaning and testing, the flame detector system will be maintained and temporarily stopped. Cut off the logical control function of the area or system that will be maintained to avoid unnecessary alarm linkage. Use vacuum suction or compressed air to remove dirt impurities on the detector front. If the lens has oil stains and dirt, can be used cotton soft cloth with a little alcohol to wipe the lens, to avoid hard objects will scratch the lens.

*** Protective cover lens for special crystal products, soft texture, valuable and fragile.**

When all detectors are cleaned, test the detector in the test steps described above.

10. Accessories

One LY-H1000IR2 flame detector is packed in the box;

One instruction manual, certificate of qualification, one factory inspection report, one packing order; One set of mounting bracket (see packing list)