
A710 Series flame detectors
Instruction Manual (V1.0)

Notice

Make sure to read this operating guide carefully before installing, operating or maintaining the device.

This manual describes the use of scope, installation and operation of A710 series flame detectors in detail. Also it contains the related notes for using the flame detector safety. Before designing, installing, using, operating and maintaining the flame detector, make sure that you have read and understood the content of the manual clearly, which prevents the quality of product from damaging or hurts the person.

Special Caution and Notice:

- ✧ The installation process and operation must comply with the relevant national standards.
- ✧ Any operation on the interior detector must be implemented by trained personnel.

Information

The following types of notices are used throughout this Operating Manual:

Warning: Identifies a hazardous or unsafe practice which could result in severe injury or death to personnel.

Caution: Identifies a hazardous or unsafe practice which could result in minor injury to personnel, or product or property damage.

Note: Identifies useful/additional information.

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For any information is not mentioned in this document or any content that need to be added or corrected, please contact us.

In the principal of devoting to progress and innovation, our corporation has always been improving product performance. We would greatly appreciate being informed of any errors or omissions that may be found in the content of this document.

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1. Summary



A710 series

A710 Series flame detectors (short-called the flame detector as follows) provide a new generation of fire detection capability and technical standards. The flame detectors which adopt a specially designed pieces of narrow-band infrared sensors and Blind type solar daylight UV sensors can distinguish the real flame radiation and interference sources effectively and reduce the impact of environmental factors on detector extremely by means of the built-in 16-bit microprocessor and proprietary signal algorithm processing. The detector can set 5 different Sensitivity levels in order to meet more needs in different location. We collected a large number of experimental data through market research and customers' feedback. We have made a big improvement based on its existing in the hardware circuitry and software algorithms.

A710 Series flame detectors contain the following eight kinds:

A710/IR3	three-wavelength infrared flame detector(relay)
A710/IR3	three-wavelength infrared flame detector(Current loop)
A710/IR2	dual-wavelength infrared flame detector(relay)
A710/IR2	dual-wavelength infrared flame detector(Current loop)
A710/ UV IR2	UV and infrared flame detector (Current loop)
A710/UV	Single UV flame detector (Current loop)

2. Main Features

Built-in 16-bit high-speed, low-power, high-performance, high-precision data processing chip.

Adopt narrow-band infrared sensors and patented solar-blind UV sensor.

It has multi-level sensitivity in order to meet more occasions. Also they can detect flammule earlier.

Detection angle can be able to reach to 120 Degree.

Detection range can be able to reach to 60m. (three-wavelength infrared)

The perfect algorithm combines optimally the flame detection and false alarm capabilities.

Detector is fit to a variety of fuels.

Apply to heavy industry applications.

Explosion-proof designs can be used in hazardous area of industrial sites.

Low maintenance cost, easy to update and improve.

3. Technical parameters

Operating voltage: DC24V (range DC18V~30V)

Operating Current: Monitor $\leq$ 25mA , Alarm $\leq$ 35mA (relay)

Operating Current: Monitor $\leq$ 30mA, Alarm $\leq$ 45mA (Current loop)

Angle range: 120°

Sensitivity level: 1~5 level adjusted

Detection range $\leq$ 60m (UV&IR2/IR2/IR3) ; $\leq$ 45m (UV)

Output:

Delay, Alarm relay, normally open contact output, 2A@30VDC。

Fault relay, normally closed contact output, 2A@30VDC。

Current loop :

Alarm output: 15mA

Fault output: $\leq$ 3mA

Normal: 5mA.

Operating Temperature: -0° C~50° C.

Operating Humidity: 0~95%RH.

Storage temperature: -40° C~85° C.

Explosion proof level: EX d II CT6(Explosion proof)

Protection level: IP66.

Weight: 3KG.

Housing material: Aluminium alloy, painted surfaces.

4. Structure and installation

Caution: Before installing detector, please cut off the power supply of it.

Notice: All wiring must comply with relevant standards and regulations.

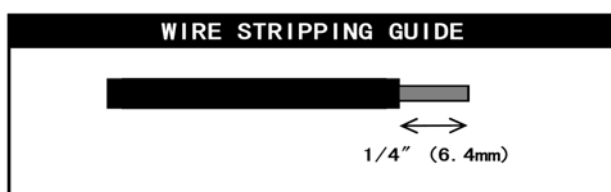
Notice: Detectors are installed in Explosion proof areas, the wiring of detector should be connected by power limit and be controlled. The setting of flame detector is subject to 《automatic fire alarm design standards》 (GB50116-98) 。

Check whether the external cable is open circuit, short circuit fault or not.

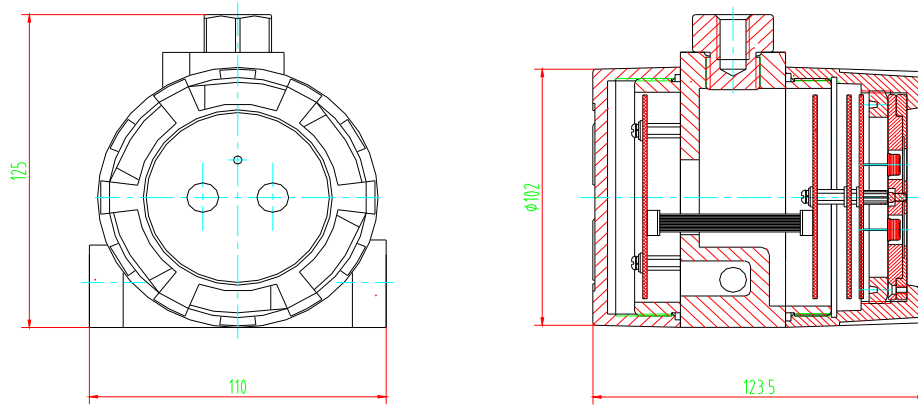
Install the detector according to the drawing as follows, adjust appropriately the detector view angle in terms of the scope of protection.

Notice: All connections adopt more than 1.0 square wire, the end of connections cut about 6mm Isolation jacket, then connect to the terminal blocks of A710 series flame detectors.

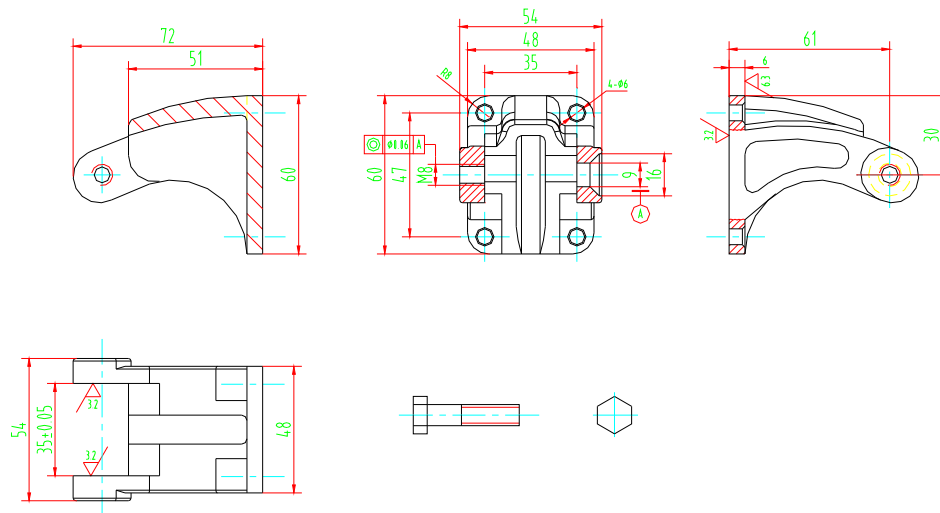
Warning: expose lead wire too much or too less may cause wrong connection.



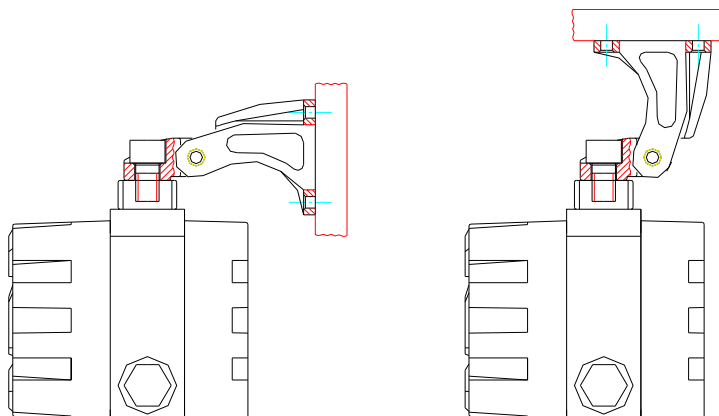
- The shape of detector as follow:



- The drawings of dedicated mounting bracket:



- Installation as follows:



Wall surface mounting

Flip down mounting

5. Wiring

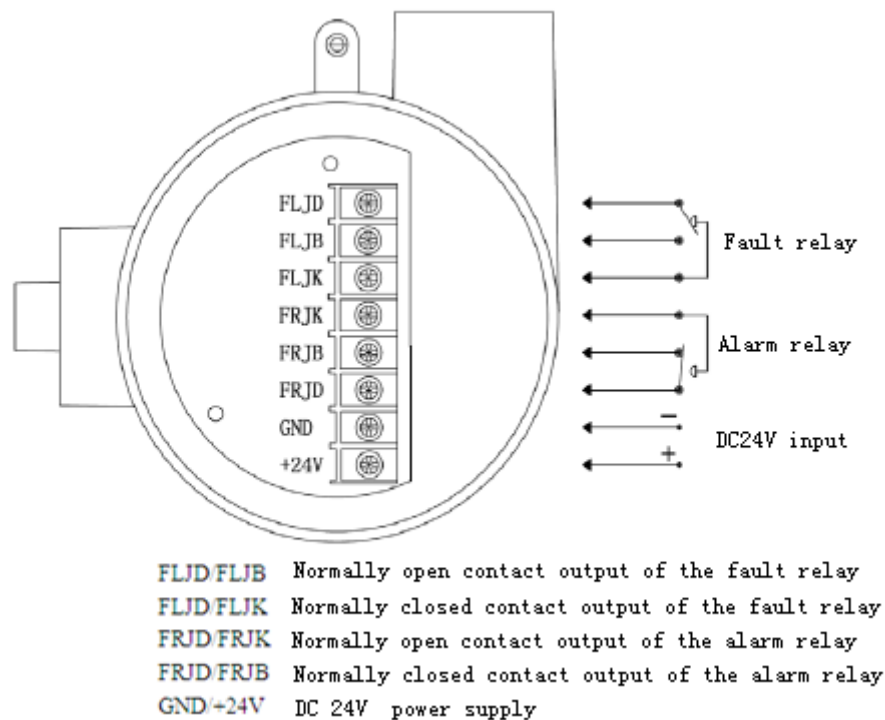
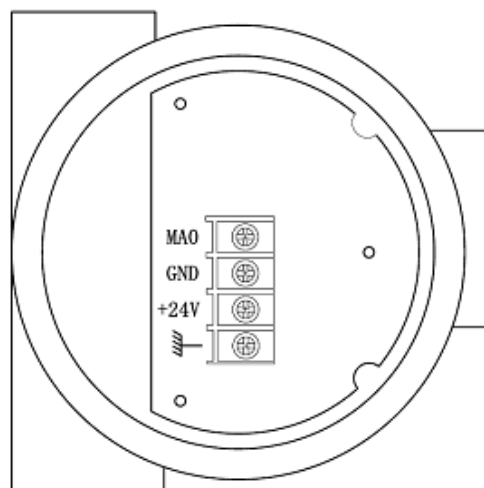


Figure 1 relay



Instructions: Open the detector cover
 GND/+24V Can be reset by DC24V power supply
 MAO Current loop signal output, Loading resistance is 100R to 500R.

Figure 2 Current loop

6. Package, transport and storage

The flame detector packages with carton in whose interior fills with damping foam. Flame detectors can be transported by rail, road or air transport, but should pay attention to handling,

prohibit using the handling tools to hit the upper surface of the box, in order to avoid damaging to the panel of device.

7. Test

Before testing, announce the related management department that fire detector system is testing that need to cut off the maintenance area or the systemic logic control functions in order to avoid unnecessary alarm linkage. The flame detector must be tested after installation and maintenance each time.

Detector executes initializing setting after powering on, the green lamp is always on, then ends after 30 seconds. Normal operation, the number of flashes from green light represents the current sensitivity level.

Before testing, examine whether the LED flashes or not, if not flash, the detector is not powered on (check the connections), or damaged (return to repair).

Field test tool is alcohol lamp or flame simulator. Simulate fire situation until the detector alarms. After the test, announce the related management department that the system returns to normal. If the detector can't pass these tests, you should be returned to repair.

Note: The flame detector does not have any internal parts which user can debug. Replacing any components or adjusting circuits are likely to damage the performance of the device without the manufacturer's agreement.

8. Maintaining

Important matters: Flame detector must be regular testing and maintenance in accordance with the national standards and the related regulations. Each detector must be cleaned at least once a year and be tested and maintained each month.

Before cleaning, announce the related management department that the system of flame detector will stop working temporarily for maintenance.

Cut off the area which will be maintained or the systemic logic control functions in order to avoid unnecessary alarm linkage.

Clean dust and impurities on the front of the detector by vacuum suction or compressed air.

If the lens has dirt, use the alcoholic cotton to wipe the lens, prohibit scratching the lens by hard object.

Follow the above procedure to test the detector after the cleaning of the detectors.

9. Appendix

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| ◆ A710 Series flame detectors inside the package | one; |
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| ◆ Packing list | one; |
| ◆ Accessories | a pocket. |