Instruction Manual of A9030T Point-type Photoelectric Smoke Detector

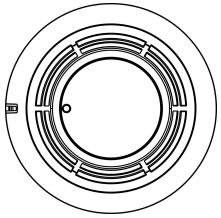
------ Please read this Manual carefully before installing and using the product. -----

I. Product overview

A9030T point-type photoelectric smoke detector (Detector hereunder) is a kind of photoelectric smoke detector. With an internal microprocessor, it supports electronic coding and is accessed through SEC3002 fire alarm control panel via a two-wire bus. The detector realizes real-time acquisition of the in situ smoke concentration data and sends back the data to a fire alarm control panel. It can also receive and execute the control commands given by a fire alarm control panel.

The detector is suitable for such industrial and civil buildings that have a great deal of smoke during fires but no smoke under normal circumstances, such as restaurants, hotels, teaching buildings, office buildings, computer rooms, communication machine rooms, libraries and archives. It is not suitable for places with a great deal of retained dust and water mist, places where steam and/or oil mist may be generated and places with retained smoke under normal circumstances.

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II. Product features

- ✓ It can realize electronic coding and rewrite the address via coder in situ.
- ✓ Within a single-chip microcomputer, it can process the sampling data in real-time, save the latest 144 historical data and realize a curve tracing for the field situation.
- ✓ It has a temperature, humidity and dust accumulation drift compensation function and a sensor fault detection function (fault reporting to fire alarm control panel).
- ✓ Non-polarity, two-bus connection that ensures convenient installation and maintenance.
- ✓ Designed with an upper cover and a lower cover and installed on an independent base, it can be installed, debugged and maintained conveniently.
- ✓ Built-in remote indicator output terminal, drive remote indicator lit when fire alarm。

III. Technical parameters

1. Executive standard: EN54-7
2. Operating voltage: 24V (pulse modulation)
3. Standby current: < 0.3mA;
4. Alarm current: no remote indicator < 1.5mA , has remote indicator < 3.5mA
5. Work indication: The red indicator will blink in the monitoring status or remain lit in the alarm status.
6. Weight: about 128g(with Base)
7. External dimensions: diameter: 100mm, height: 58mm (with the base)
8. Wiring method: non-polarity two-bus system (L1, L2); the terminal 2 and 4 can connect with the remote indicator.
9. Operating environment: Indoor, temperature: - 10℃ ~ +55℃; relative humidity: ≤ 95% (non-condensing)
10. Coding mode: It can realize electronic coding via coder in situ. Address codes 1 to 324 are available for selection.
11. Matched host machine: SEC3002 fire alarm control panel.

IV. Appearance and dimensions (see Fig.1)

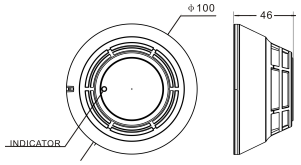
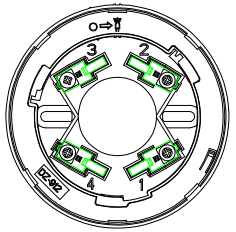


Fig.1(unit:mm)

V. Use and engineering application

1. Fig.2 is the schematic diagram of the matched mounting base.



Definitions of terminals(non-polarity two-wire system):

1 --Signal terminal (L1)
2 – Negative of remote indicator
3 --Signal terminal (L2)
4 – Positive of remote indicator

Fig.2

2. Wiring method: The detector is accessed through a compatible fire alarm control panel via a two-wire bus. It uses non-polarity connection. The terminals L1 and L2 of the two-wire bus are connected with the terminals 1 and 3 of the matched mounting base. Fig.3 is a schematic diagram of the connection between multiple detectors with a fire alarm control panel.

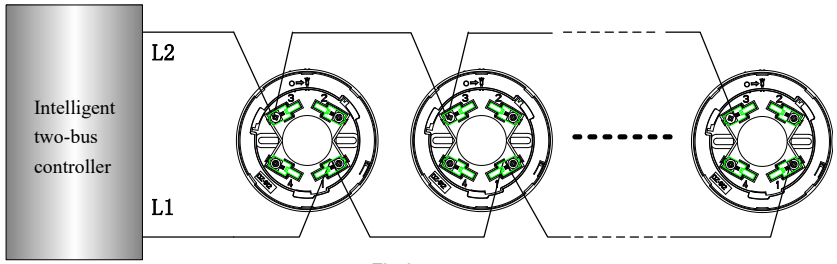


Fig.3

3. Remote Indicator connection: the negative and positive of remote indicator should respectively connect on terminals 2 and 4,as shown in Fig.4.

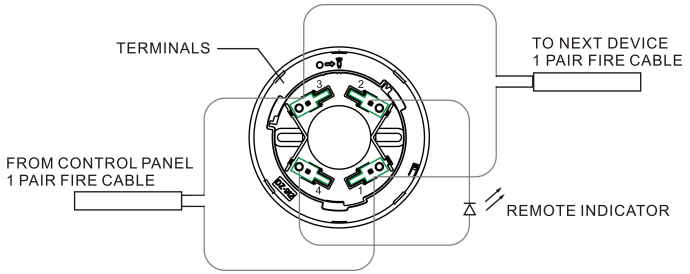


Fig.4

4. Coding address: As shown in Fig.5, detector is accessed via the detector mounting base on the coder, non-polarity connection is adopted for the terminals L1 and L2, set the coder with the coding function, select the correct address number and press the RUN key to complete the address code setup. (Note: See the User's Manual of the coder for the detailed operation.)

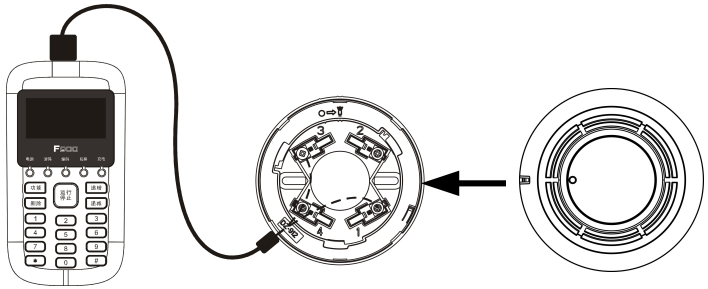


Fig.5

VI. Installation and debugging

Determine the location, mounting distance and numbers for mounting the detectors in the protection area according to relevant provisions and regulations of the local codes.

A self-contained complete base is necessary during the installation of a detector. As shown in Fig.6, the model, the external dimensions, the mounting hole diameter and the mounting hole spacing of the base are DZ-912, Φ100mm×26.4mm (diameter×thickness), Φ4.5mm and 44.5mm～64.3mm respectively.

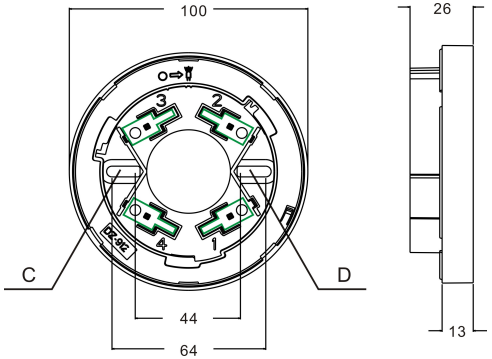


Fig.6(unit:mm)

Wiring requirement:

It is proper to use RVS twisted pairs with a section area of equal to or larger than 1.0mm^2 for the signal buses L1 and L2.

Specific installation and debugging methods:

1. Make sure the type of the detector matches the type of the host machine of the fire alarm control panel;
2. Use two M4 screws to fix the matched mounting base on the designated position via the mounting holes C and D shown in Fig.6, as instructed in the construction drawing and make sure the matched mounting base has been firmly installed.
3. Use a coder to make the detector coded according to the detector address on the construction drawing.
4. Disconnect the power supply of the fire alarm control panel and connect the detector correctly according to the construction drawing.
5. The lower edge of the detector base raised position aligned with the groove position, and then the detector into the base, the detector clockwise until it locks into place the detector.
6. After all the products are installed and checked, connect the power supply of the fire alarm control panel and conduct automatic login.
7. When automatic login is success, the red indicator of the detector will blink once about every 12 seconds, which suggests that the detector has begun to operate normally.
8. Finally conduct an alarm test for the detector through some special tools or direct smoke blowing. After the detector gives a fire alarm, the indicator will remain lit and the fire alarm control panel will simultaneously show corresponding alarm prompt information. After the alarm test, reset the fire alarm control panel and restore to the monitoring status.

VII. Precautions

1. A detector can not share an address with other equipment in a single bus circuit, or else an address conflict may occur.
2. Never dismount the protective cover delivered with the detector too early after the field installation and before the use of the detector, or else the detector may be contaminated.
3. The protection area and quantity of the detectors should comply with relevant provisions and regulations of the local codes.

VIII. Maintenance

⚠Warning: Before conducting maintenance for detectors, inform the related management department that the monitoring will be stopped temporarily when the system maintenance. Meanwhile, disable the logic control function of the area or system to be maintained to avoid unnecessary alarm linkage. After the test, inform the management department to restore the normal functions of the system.

1. For a detector, at least semi-annual tests should be done according to related provisions and regulations of the local codes; for a detector that has been installed and used, it is recommended to have it cleaned and maintained once every two years.
2. Operating environment has a great influence on the performance of the detector. If the detector is installed and used in a place where its normal use is easily affected by dust, high wind speed and other factors, its maintenance period should be shortened.
3. If a detector fails due to a material defect or a manufacturing process defect under normal conditions of use in one year following the date of its delivery, we shall repair or replace it for free. However, the faults of the detector due to artificial damage, improper use, or authorized adjustment, reconstruction or disassembly are not covered in the guarantee and we shall assume no responsibilities for any the consequence thereby caused.
4. We may provide paid repair service for products with any faults beyond the guarantee range. If you have such products that need repair, please contact us. When sending such a product to us for repair, you are expected to provide some important information about the product, such as the phenomenon and possible cause of the product fault, so that we can find out the cause of the fault in the shortest time and so the information may be used as a reference in our future product development and improvement.

IX. Fault analysis and troubleshooting

Fault	Possible cause	Troubleshooting method	Remarks
The detector can't be coded.	The internal circuit is damaged.	Send the detector back to the factory for repair.	
The detector can't be logged into normally.	The detector has no address or has a coincident address.	Recode the detector address.	
The detector reports a fault after login.	The sensor has failed.	Send the detector back to the factory for repair.	
	The labyrinth is seriously contaminated.	Clean the labyrinth of the detector.	
The detector reports a fire alarm after login.	There is a great deal of smoke dust or steam in the room.	Log in again after the smoke, dust or the steam is eliminated.	
	The internal circuit has failed.	Send the detector back to the factory for repair.	
	The labyrinth is seriously contaminated.	Clean the labyrinth of the detector.	
The detector cannot operate normally after being powered up.	The indicator or the internal circuit is damaged.	Send the detector back to the factory for repair.	
	The contact with the base is poor.	Inspect and reinstall the base.	
The detector can't send out fire alarm signal during an alarm test.	The internal circuit is damaged.	Send the detector back to the factory for repair.	

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