

# JTW-ZD-A20KE Point-type Heat Fire Detector

#### 1 Product overview

**1.1** JTW-ZD-A20KE point-type heat fire detector (detector hereunder) is a two-wire switch-type temperature detector. The detector adopts a non-polarity two-wire connection, which can be applied in the compatible conventional switch quantity alarm control system and monitoring alarm system, and it can also be connected to the intelligent fire alarm control system through the input module. The detector monitors the temperature of the working site in real-time. When the detector is in the monitoring status, the red indicator light flashes and the working current is small. When the field temperature exceeds the set alarm threshold, the detector enters the alarm status, the red light is steady, and the loop current increases rapidly. The alarm signal of the detector is transmitted in the form of a loop current change and has the alarm locking function, and the reset of the alarm can only be realized by a short power failure.



**1.2** The detector is suitable for places where a lot of heat is generated when a fire occurs, such as kitchens, boiler rooms, generator rooms, drying workshops, smoking rooms and other industrial and civil buildings. It is not suitable for places where a large amount of smoke and a small amount of heat are generated when a fire occurs.

#### 2 Product features

- **2.1** Using the upper and lower cover structure design, independent base installation. Installation, debugging, and maintenance are simple and convenient.
- **2.2** Real-time monitoring, and accurate judgment of the environmental temperature in the protected area.
- **2.3** Non-polarity two-bus connection, easy installation and maintenance.

#### 3 Technical parameters

3.1

Items	Parameters		
Executive standard	GB 4716-2005		
Product type	A2 (operating temperature:54°C~70°C)		
Weight	about 60g (with base)		
Product dimension	diameter: 105mm, height:43mm (With base)		
Installation Height	≤8m		
Wiring mode	non-polarity two-bus system		
Operating voltage	Loop 24V		
Operating current	inspection status: $<$ 50uA alarm status:1mA $\sim$ 15mA(It is related to the current limiting		
	resistance of the loop)		
Temperature	-10°C~+50°C RH≤95%(40 °C±2°C, without condensation)		
Operating instruction	monitoring status: red indicator shining;		
	alarm status: red indicator steady on		
Protection area	specific reference to the national standard GB 50116-2013 "Code for Design of		
	automatic fire alarm system" relevant provisions		
Connecting host	used with the input module and the fire alarm control panel/fire linkage control panel		

- 4 Product appearance and size (see Fig.1)
  - 4.1



Fig.1 (Unit: mm)

#### 5 Use and engineering application

**5.1** Schematic diagram of detector base (DZ-A16K), as shown in Fig.2:



Terminal definition (Non-polarity two-bus system)

- 1 -- Signal Terminal L2(Common Port)
- 2 -- Signal Terminal L1(to next cascade)
- 3 -- Signal Terminal L1(to upper cascade)
- 4 -- Null

*Note: Pins 2 and 3 are shorted through the inside of the detector and cooperate with the controller to detect whether the detector is online (see Fig.3).* 

### Fig.2

- **5.2** Wiring method:
  - a. Detector access to the Conventional Fire Alarm Control Panel wiring diagram, as shown in Fig.3:



Fig.3

b. The detector connects to the Addressable Fire Alarm Control Panel through the input module, as shown in Fig.4:



#### 6 Installation and debugging

**6.1** According to the national standard GB 50116-2013 "Code for Design of Automatic Fire Alarm System" and the national standard GB 50166-2019 "Standard for Construction and Acceptance of Automatic Fire Alarm System" in the relevant provisions and requirements to determine the installation position, installation spacing and number of detectors in the protected area.

The installation of the detector requires the use of a supporting base. The supporting base is shown in Fig.5. The external dimension is  $105mm \times 13mm$  (diameter  $\times$  thickness), the fixed hole diameter is 4.5mm, and the spacing of fixed holes is 45mm ~ 65mm.



Wiring requirements: The signal line should use an RVS twisted pair, cross-sectional area≥1.0mm<sup>2</sup>.

- **6.2** The specific methods of installation and debugging are as follows:
  - a. Confirm that the detector type matches the controller host type;
  - b. According to the construction drawing, use two M4 screws to secure the base to the specified position through holes C and D shown in Figure 5;
  - c. Cut off the controller power supply and connect the detector correctly according to the construction drawings;
  - d. Align the indicator light at detector A (as shown in Fig.1) with the pattern at base B (as shown in Figure 5), and then insert the detector into the base, turn the detector clockwise until the detector is locked in place;
  - e. After all products are installed and confirmed, switch on the controller power supply;
  - f. After the detector is powered on normally, the red indicator light of the detector blinks every time, indicating that the detector has begun monitoring work;
  - g. Finally, use special tools or direct smoke blowing to test the detector alarm. After the detector alarm, the indicator light will be steady on, and the controller will give the corresponding alarm information. After the test, restore the controller and make the detector return to the monitoring state.

#### 7 Precautions

- **7.1** When the detector is tested separately, a current limiting resistor of 3K should be connected in series in the test loop. It is not allowed to connect DC 24V directly to the detector, otherwise, the alarm test will cause the detector to be damaged.
- **7.2** When the detector is connected to the automatic fire alarm control system through the input module, the cascaded detectors should be less than 50.
- **7.3** Do not remove the protective cover that comes with the detector before it is put into use after the onsite installation. Otherwise, the detector may be contaminated.
- **7.4** It is strictly forbidden to use an open flame (such as a lighter, etc.) for the heating test during the alarm test, so as not to damage the detector. It is alarm test.
- **7.5** The detector installation shall comply with the provisions of the national standard GB 50116-2013 "Code for Design of Automatic Fire Alarm System" and GB 50166-2019 "Standard for Construction and Acceptance of Automatic Fire Alarm System".

#### 8 Maintenance

8.1 A Warning: Before the detector is maintained, the relevant management department should be notified that the system will be maintained and the monitoring will be temporarily stopped. At the same time, the logical control function of the

area or system to be maintained should be cut off, so as not to cause unnecessary alarm linkage. After the test notify the management department to restore the system to normal.

- The detector should use a special testing instrument every quarter to test the operation and confirm the lamp display; You 8.2 are advised to maintain the installed detectors every two years.
- Within the warranty period agreed on in the contract, the detector used normally according to the prescribed 8.3 requirements should fail due to defects in materials or manufacturing processes, we will be responsible for free repair or replacement. If the detector fails due to artificial damage, improper use or self-adjustment, modification or disassembly, it does not belong to the scope of the warranty, and the company will not be responsible for all consequences caused by it.
- The company is responsible for the paid maintenance of products not covered by warranty, if you need to repair, please 8.4 contact us. At the same time, we would like to get some important information about the product you want to repair, such as product failure and possible reasons, so that we can find the problem in the shortest time, but also to provide a reference for our future product development and improvement.

#### 9 Fault analysis and troubleshooting

9.1

Fault phenomena	Analysis of possible causes	Methods of elimination	Remarks
Call the fire alarm when	There's a problem with the	Send the detector back to the factory for	
the power is on	internal circuitry	repair.	
	There's a problem with the	Send the detector back to the factory for	
Doses not work after being powered on	internal circuitry	repair.	
	Poor contact with the base	Check re-installation	
No fire alarm for the test	There's a problem with the	Send the detector back to the factory for	
	internal circuitry	repair.	

## SHENZHEN HTI SANJIANG ELECTRONICS CO., LTD.

Address: 3/F., Guangcai Xintiandi Mansion, Nanshan Road, Nanshan District, Shenzhen, Guangdong, 518054, China Fax: +86(755)86223939

Tel: +86(755)86226969

https://www.sanjiang-security.com