

**Instruction Manual of FACP-6000  
system  
(Ver.1.1, 2010,11)**

# Instruction manual of addressable smoke detector

## A. Features

1. Automatic compensation function. It can be automatically compensated to improve the reliability of the smoke detector, such as external environment (temperature, humidity, dust, static, etc.) factors caused by changes in performance drift.
2. Built-in product ID code
3. Intelligent judgment, cleaning forecast function
4. Two bus, linkage, nonpolarity
5. Advanced electronic coding technology, improving coding flexibility
6. Two response modes (commonly referred to as algorithms)
  - Mode 1: Fast response mode. In this mode, the detector will alarm when the smoke concentration exceeds the alarm threshold more than 3 times consecutively. This mode applies to the system debugging installation phase or test phase.
  - Mode 2: Intelligent response mode. It is conducive to accurately determine the fire alarm signal, reduce false alarm (factory default).

## B. Specifications

1. Working voltage: 15-28V Impulse voltage
2. Working current:
  - 1) Standby current:  $\leq 0.5\text{mA}$
  - 2) Alarm current:  $\leq 2.8\text{mA}$
3. Type: Addressable, 2 wire (nonpolarity)
4. Encoding: Electronic code
5. Work indication:
  - 1) Normal monitoring status : LED light will blink periodically
  - 2) Fire status: Remain lit
  - 3) Failure status: LED light remain off or blink irregularly
6. Operating environment: Temperature  $-10^{\circ}\text{C} \sim 50^{\circ}\text{C}$ , Relative humidity  $\leq 95\%\text{RH}$  No condensation
7. Color: white
8. Weight: 120g
9. Executive standard: GB 4715-2005

## C. Outline diagram

(Figure 1)

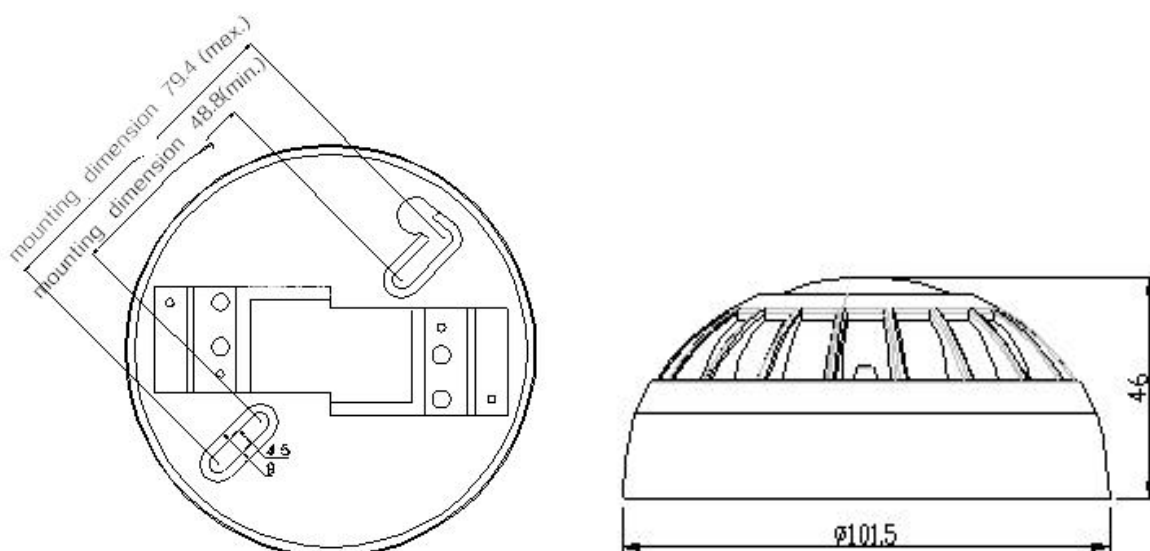


Figure 1 Outline diagram

## D. Installation

1. Smoke detector installation and wiring diagram shown in Figure 2

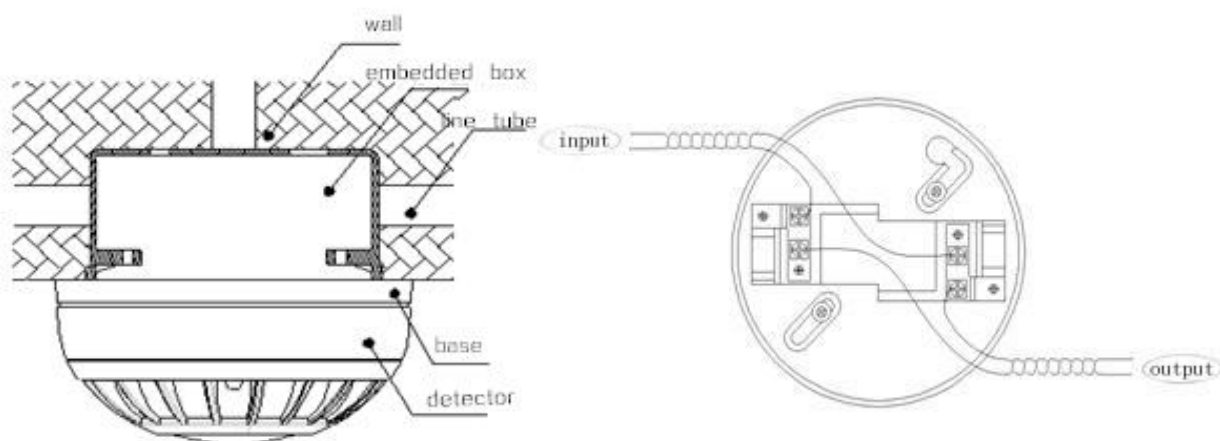


Figure 2 Installation diagram

86H50 standard embedded box can be used as pre-embedded box; when installation, locate smoke detector on the base and rotate clockwise.

2. Wiring requirements: Wire should be RVS-2 \* 1.0 mm<sup>2</sup> or 1.5 mm<sup>2</sup>

3. **WARNING:** Before installing the smoke detector, turn off the power and make sure that all the bases are installed securely.

## E. Use and operation

Encoding operation: you can use our company's hand-held encoder to live coding. When encoding, connect the two clips of the encoder to the two terminals of the linkage, open the hand held encoder power, enter the address code to be written (address code range must be: 1-242, the address code for the same loop is unique). Press the "write code" button, if encoding is successful, the encoder will display the address number after sending the address code. If failed, the encoder will display "FAL" after sending the address code.

For details on the steps and methods of encoding, refer to the "Hand held Encoder User's Manual".

## **F. Note**

1. The plastic part attached with smoke detector is dust cover. Please cover the dust cover after the installation or room decoration, painting construction, so that the smoke detectors are contaminated.
2. The alarm function test of smoke detector should be performed every six months.
3. When the controller detects the cleaning forecast, please send the number of smoke detectors back to the company for cleaning, in order to avoid false or false positives, resulting in unnecessary losses.
4. Equipment transportation, handling, storage must be carried out in the packaging state, gently loading and unloading, to prevent damage to the collision. Storage environment should be kept ventilated, dry, avoid open storage.

# **Instruction manual of heat detector**

## **A. Features**

1. Built-in product ID code
2. Using hardware and software filtering to improve the anti-interference ability of the temperature detector
3. 2 bus, linkage type, nonpolarity
4. Advanced electronic code technology improves the flexibility of coding
5. Using highly sensitive thermal elements to improve the response speed of temperature sensor.

## **B. Specifications**

1. Working voltage: 15-28V Impulse voltage
2. Working current:
  - 1) Standby current:  $\leq 0.5\text{mA}$
  - 2) Alarm current:  $\leq 3.0\text{mA}$
3. Type: 2 bus (nonpolarity)
4. Encoding: Electronic code
5. Temperature detector's status indication:
  - 1) Normal monitoring status: LED light will blink periodically
  - 2) Fire status: remain lit
  - 3) Failure status: LED light remain off or blink irregularly
6. Operating environment: Temperature- $10^{\circ}\text{C} \sim 50^{\circ}\text{C}$ , Relative humidity $\leq 90\%$  RH no condensation
7. Color: white
8. Weight: 120g
9. Executive standard: GB 4716-2005

## **C. Outline diagram**

(Figure 1)

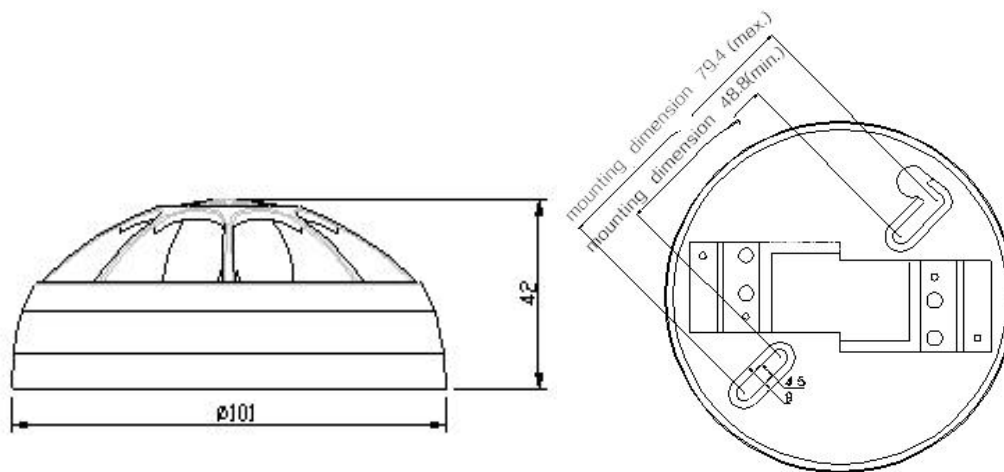


Figure 1: Dimensions

## D. Installation

### 1. Installation method

Figure 2 shows the installation of the temperature detector

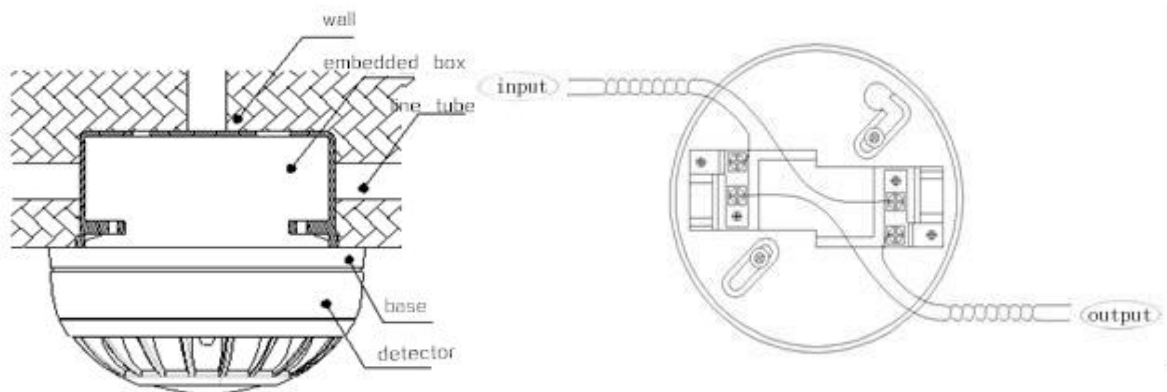


Figure 2 installation diagram

86H50 standard embedded box can be used as pre-embedded box; when installation, locate heat detector on the base and rotate clockwise.

2. Wiring requirements: Wire should be RVS-2 \* 1.0 mm<sup>2</sup> or 1.5 mm<sup>2</sup>

3. **WARNING:** Before installing the heat detector, turn off the power and make sure that all the bases are installed securely.

## E. Use and operation

Encoding operation: you can use our company's hand-held encoder to live coding. When encoding, connect the two clips of the encoder to the two terminals of the linkage, open the handheld encoder power, enter the address code to be written (address code range must be: 1-242, the address code for the same loop is unique). Press the "write code" button, if encoding is successful, the encoder will display the address number after

sending the address code. If failed, the encoder will display "FAL" after sending the address code.

For details on the steps and methods of encoding, refer to the " Handheld Encoder User's Manual".

#### **F. Note**

1. The plastic part attached with heat detector is dust cover. Please cover the dust cover after the installation or room decoration, painting construction, so that the smoke detectors are contaminated.
2. The alarm function test of smoke detector should be performed every six months.
3. When the controller detects the cleaning forecast, please send the number of smoke detectors back to the company for cleaning, in order to avoid false or false positives, resulting in unnecessary losses.

## **Instruction Manual of Manual Call Point**

#### **A. Features**

1. Built-in product ID code
2. Using hardware and software filtering to improve the anti-interference ability of the manual call point
3. Use dedicated keys to reset after the chip is pushing down
4. The alarm button provides independent output contacts for direct controlling of other external devices
5. The address code is electronic code, which can be rewritten on site

#### **B. Specifications**

1. Working voltage: addressable 15-28V Impulse voltage
2. Working current:
  - 1) Standby current:  $\leq 0.5\text{mA}$
  - 2) Alarm current:  $\leq 2.3\text{mA}$
3. Output capacity: rated DC30V / 100mA passive output contact signal, contact resistance  $\leq 100\text{m}\Omega$
4. Start part type: reusable type
5. Start mode: manually press the chip
6. Reset mode: reset with a dedicated key. After the product alarm, open the alarm button key cover (Figure 1) insert the special key to the right twist 90 degrees, the product can be reset.
7. Indication status: Indication status:
  - 1) fire lights, red, normal patrol when the periodic flashing, after the alarm is always on, the lights off when the failure or irregular flash
  - 2) phone lights, red, about 6s flash once
8. Type: connected with the controller with nonpolarity two bus types, with a fire alarm system with nonpolarity two bus connections
9. Encoding: Electronic code, encoding range (1~242)
10. Operating environment: indoor, Temperature-10℃~50℃ , Relative humidity $\leq 95\%$ RH, No condensation
11. Shell material and Color: ABS, red

- 12. Protection class: IP43
- 13. Weight: about 95g (with base)
- 14. Dimensions: 90mm×90mm×33mm
- 15. Mounting hole distance: 60mm
- 16. Executive standard: GB 19880-2005、GB 16806-2006

### C. Outline diagram

(Figure 1)

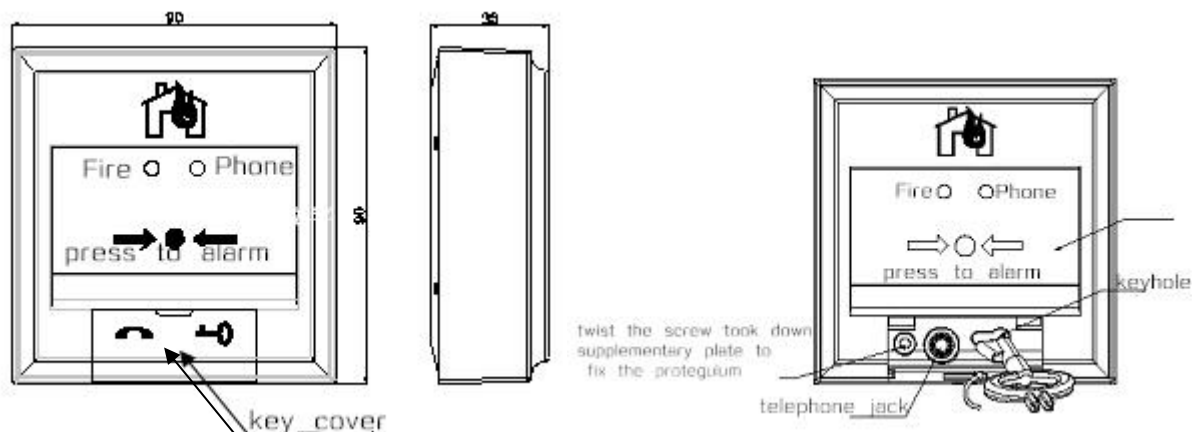


Figure 1 Schematic diagram of the alarm button

### D. Installation

1. Installation method:

Alarm button installation (Figure 2)

2. Wiring:

Insert a special key, you can open alarm base and the cover. Wiring as shown in Figure 3, load the manual call point to the base after wiring. Twist the screw took down from supplementary plate to fix the cover to the base, and pay attention to the installation direction, and the installation orientation logo (Figure 3)

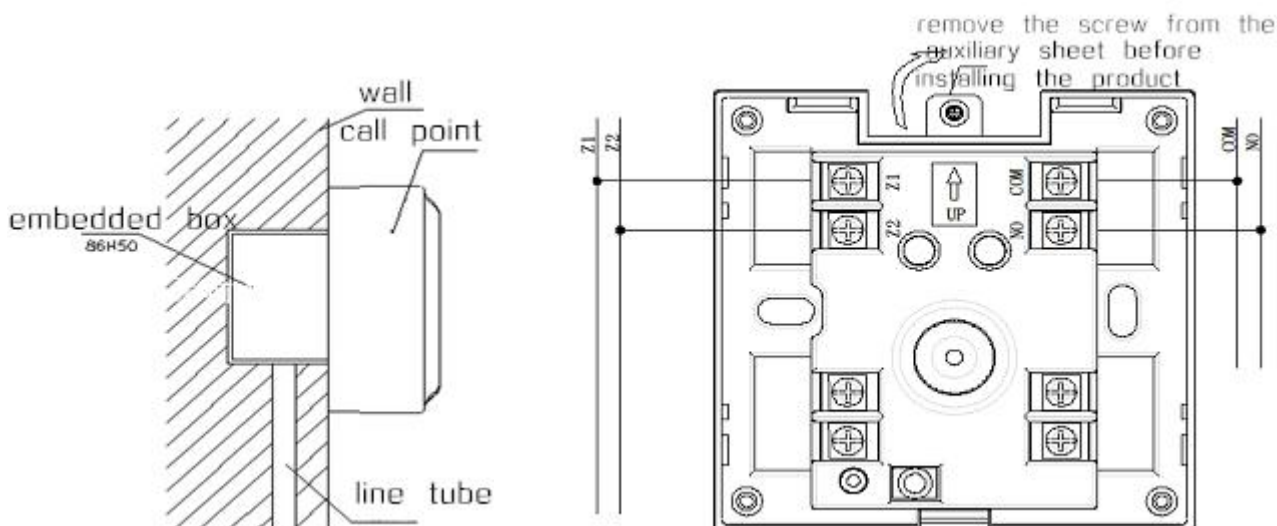


Figure 2 alarm button installation diagram

## e 3 alarm button wiring diagram

Z1、Z2: connection to the alarm controller signal bus, nonpolarity.

NO、COM: Rated DC30V / 100mA passive output terminal, when the alarm button is pressed, the output contact closure signal, can directly control the external device.

TL1, TL2: connection with fire telephone system, nonpolarity

TL1、TL2: connect with the fire telephone system, nonpolarity

3. Wiring requirements: Wire(Z1, Z2) should be RVS-2 \* 1.0 mm<sup>2</sup> or 1.5 mm<sup>2</sup>; RVS-2\*1.0 mm<sup>2</sup> or 1.5 mm<sup>2</sup> for NO, COM wire. Fire line should be RVVP shielded wire, and sectional area should more than 1.0mm<sup>2</sup>.

4. **WARNING:** Before installing the heat detector, turn off the power and make sure that all the bases are installed securely.

### E. Operation

Encoding operation: you can use our company's hand-held encoder to live coding. When encoding, connect the two clips of the encoder to the two terminals of the linkage, open the handheld encoder power, enter the address code to be written (address code range must be: 1-242, the address code for the same loop is unique). Press the "write code" button, if encoding is successful, the encoder will display the address number after sending the address code. If failed, the encoder will display "FAL" after sending the address code.

For details on the steps and methods of encoding, refer to the " Handheld Encoder User's Manual".

### F. Note

1. The alarm function test of smoke detector should be performed every six months.
2. When the controller detects the cleaning forecast, please send the number of smoke detectors back to the company for cleaning, in order to avoid false or false positives, resulting in unnecessary losses.



## **Instruction manual of input module**

### **A. Features**

1. Installed directly in the embedded box
2. Built-in product ID code
3. Using hardware and software filtering technology to improve the module's anti-jamming capability
4. Linkage, 2 bus type, nonpolarity

### **B. Specifications**

1. Working voltage: linkage 15-28V Impulse voltage
2. Working current:
  - 1) Standby current:  $\leq 0.55\text{mA}$
  - 2) action current:  $\leq 5.5\text{mA}$
3. Type: Addressable, 2 wire (nonpolarity)
4. Encoding: Electronic code
5. Module's Indication status:
  - 1) Normal monitoring status: The green inspection lamp flashes periodically
  - 2) action state: red action light keep lit, green inspection lights keep lit
6. Operating environment: Temperature- $10^{\circ}\text{C} \sim 50^{\circ}\text{C}$  Relative humidity $\leq 95\%\text{RH}$ , No condensation
7. Dimensions : 56mm×56mm×21.5mm (transparent cover not included)
8. Color: beige
9. Weight: about 53g (transparent cover included)
10. Executive standard: GB 16806-2006

### **C. Structural features**

1. Module's Dimensions and installation dimensions shown in Figure 1

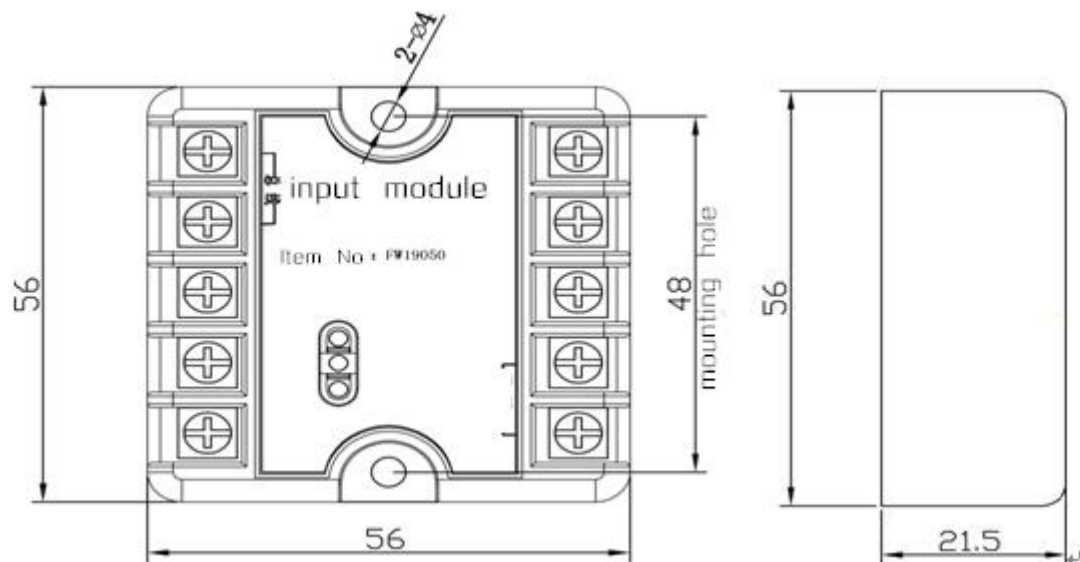


Figure 1 Dimensions and installation dimensions

#### D. Installation

**WARNING: Before installing the device, the power must be switched off.**

1. The module can be installed in either a exposed way or a concealed installation. As for concealed installation, the module can be installed in the 86H50 standard embedded box, and then installed on the cover just like Figure 2 shows; for exposed way, the module installed in the terminal box which shown in Figure 3.

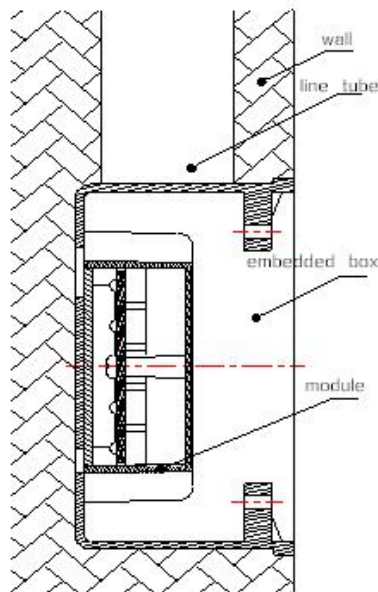


Figure 2 concealed wire diagram

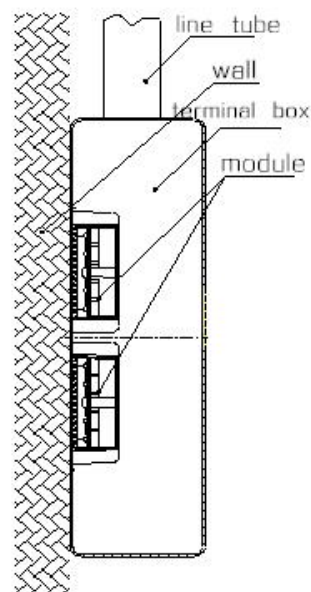


Figure 3 exposed wire diagram

2. wiring method shows in Figure 4

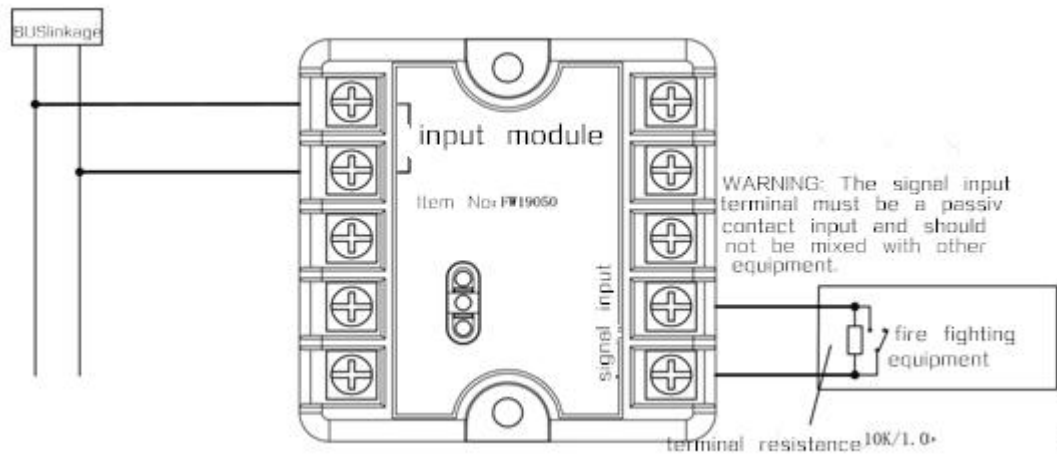


Figure 4: wiring diagram

3. Wire requirements: Wire (bus) should be RVS-2 \* 1.0 mm<sup>2</sup> or 1.5 mm<sup>2</sup>; RVS-2\*1.0 mm<sup>2</sup> or 1.5 mm<sup>2</sup> for signal input wire.

### E. Use and operation

Encoding operation: you can use our company's hand-held encoder to live coding. When encoding, connect the two clips of the encoder to the two terminals of the linkage, open the handheld encoder power, enter the address code to be written (address code range must be: 1-242, the address code for the same loop is unique). Press the "write code" button, if encoding is successful, the encoder will display the address number after sending the address code. If failed, the encoder will display "FAL" after sending the address code.

For details on the steps and methods of encoding, refer to the "Handheld Encoder User's Manual".

### F. Note

1. The alarm function test of smoke detector should be performed every six months.
2. When the controller detects the cleaning forecast, please send the number of smoke detectors back to the company for cleaning, in order to avoid false or false positives, resulting in unnecessary losses.

## **Instruction manual of input and output module**

### **A. Features:**

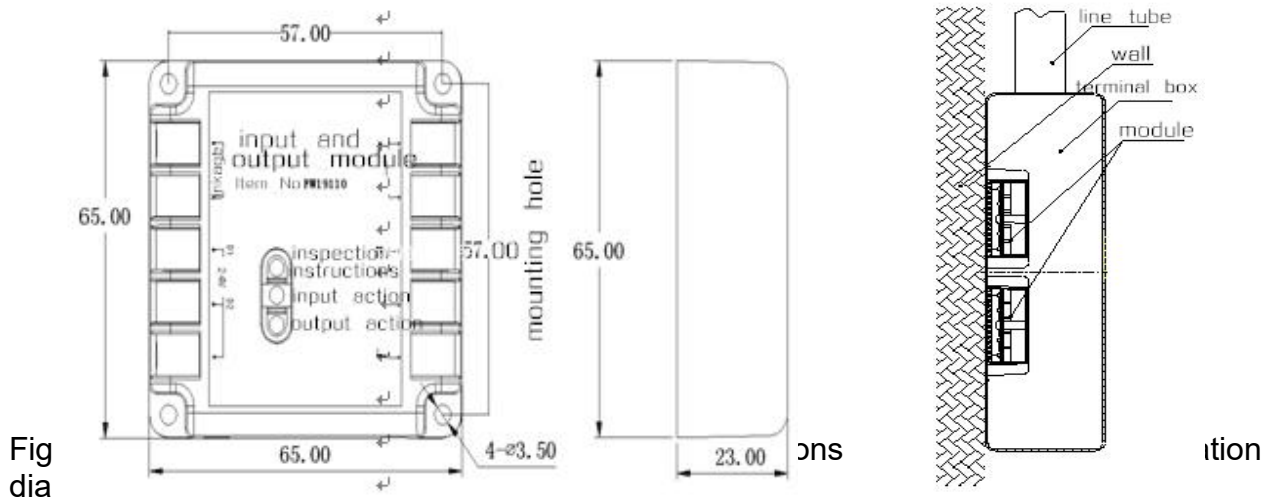
1. Built-in product ID code
2. Using hardware and software filtering technology to improve the module's anti-jamming capability
3. Linkage, 2 bus type, nonpolarity

### **B. Specifications**

1. Working voltage: linkage 15-28V Impulse voltage, DC24V(21V-28V)
2. Working current:
  - 1) Standby current:  $\leq 0.65\text{mA}$
  - 2) action current:  $\leq 2.0\text{mA}$
3. Type: Addressable, 2 wire, nonpolarity; DC24V, nonpolarity
4. Encoding: Electronic code
5. Module's Indication status:
  - 1) Normal monitoring status: The green inspection lights periodically flashed
  - 2) Signal input action indicator: red input action light keep lit
  - 3) start output action instructions: red output action light keep lit, green inspection lights keep lit
6. Operating environment: Temperature- $10^{\circ}\text{C} \sim 55^{\circ}\text{C}$  Relative humidity $\leq 95\%\text{RH}$ , No condensation
7. Color: beige
8. Weight: about 72g (with cover)
9. Dimensions: 65mm×65mm×23mm (without cover)
10. Executive standard: GB 16806-2006

## C. Structural features

The dimensions and installation dimensions of the module are shown in Figure 1



## E. Installation

**WARNING: Before installing the device, turn off power.**

1. Before installation should first check whether the shell is intact, logo is complete.
2. Install the module in the terminal box as shown in Figure 2.
3. Wiring: Figure 3 and Figure 4

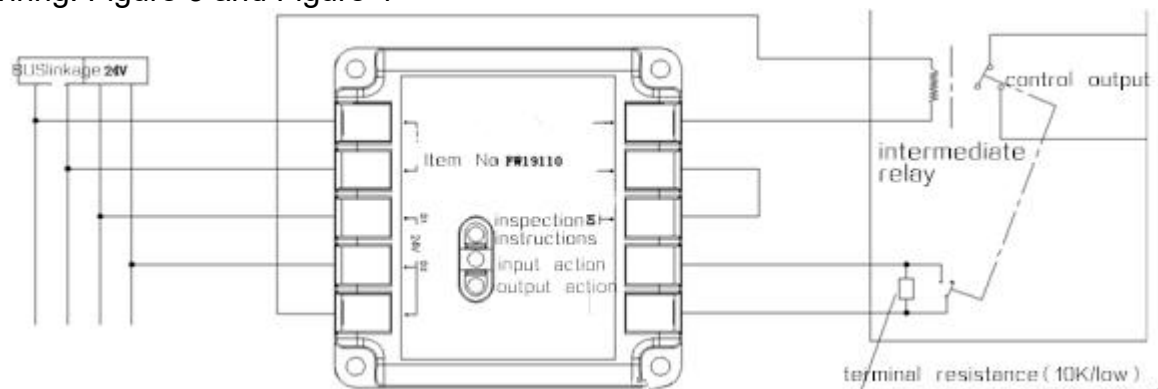


Figure 3: method diagram of high-voltage high-power equipment controlled by

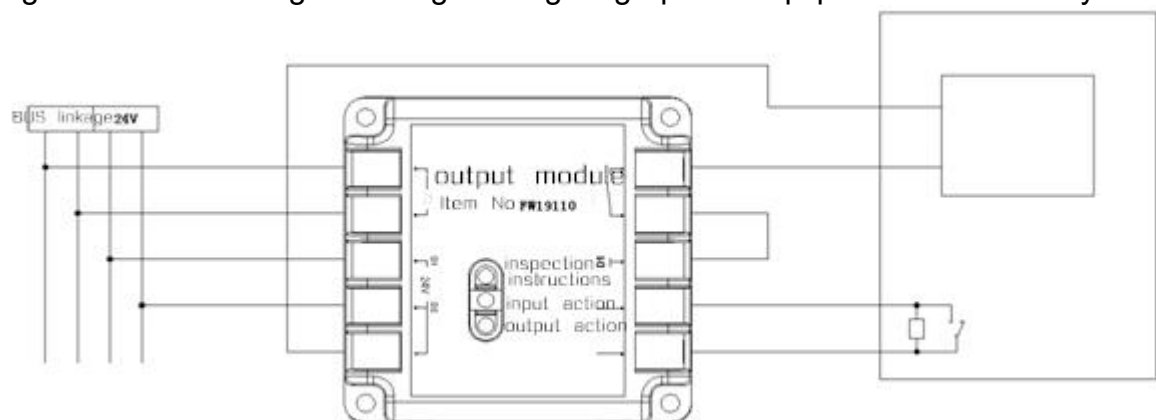


Figure 4: wiring diagram

**Special warning: low-voltage low-power devices directly controlled by the module should meet the following conditions:**

1. Working voltage range: 18~30V (recommended 24V)
2. Working current:  $\leq 1.5A$

3. Wiring requirements: Wire (bus) should be RVS-2 \* 1.0 mm<sup>2</sup> or 1.5 mm<sup>2</sup>: The DC24V power line uses the BV-2 \* 1.5 mm<sup>2</sup> or 2.5mm<sup>2</sup> line; the normally open output line uses the BV-2 \* 1.5 mm<sup>2</sup> or 2.5mm<sup>2</sup> line; RVS-2 \* 1.0 mm<sup>2</sup> or 1.5mm<sup>2</sup> line for the feedback (BUS).

#### **E. Use and operation**

Encoding operation: you can use our company's hand-held encoder to live coding. When encoding, connect the two clips of the encoder to the two terminals of the linkage, open the handheld encoder power, enter the address code to be written (address code range must be: 1-242, the address code for the same loop is unique). For details on the steps and methods of encoding, refer to the "Handheld Encoder User's Manual".

#### **F. Note**

1. If the module reported fault after the long-term operation, first check whether the module is damaged, or whether the installation location is changed that not should to be, and then consider other fault of the module.
2. When the controller detects the cleaning forecast, please send the number of smoke detectors back to the company for cleaning, in order to avoid false or false positives, resulting in unnecessary losses.