

# TXC7101

## Conventional Smoke Detector Installation and Operation Manual



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## 1 Overview

TXC7101 Conventional Smoke Detector (hereinafter referred as smoke detector) uses advanced micro-programmed controller unit (MCU) technology to realize auto compensation for external environment data drift and fire confirmation. It is suitable for hotel, restaurant, computer room, bank, shopping mall, warehouse, museum, library and office building etc.

## 2 Main Features

- 2.1 Aesthetically pleasing low profile design
- 2.2 Low power consumption, simple to use
- 2.3 Higher reliability ensured by auto drift compensation
- 2.4 Enhanced capacity of interference resistance by using multilevel wave filtering process
- 2.5 Fully-sealed PCB board protection process

## 3 Technical parameters

- 3.1 Operating Voltage: 24VDC $\pm$ 20%
- 3.2 Operating Current: Standby  $\leq$  0.15mA      Alarm:  $\leq$  28mA
- 3.3 Indicator: Monitoring: Red, flashes periodically  
Alarm: Red, stays on  
Mal-function: off or irregular flashes
- 3.4 Operating Environment: Temperature: -10°C $\sim$ 55°C  
Relative Humidity:  $\leq$ 95%RH, non-condensing
- 3.5 Color: White
- 3.6 Weight: 97g(with base)

## 4 Structure and Operation Principle

- 4.1 The structure and dimension are shown in Fig 1 & Fig 2

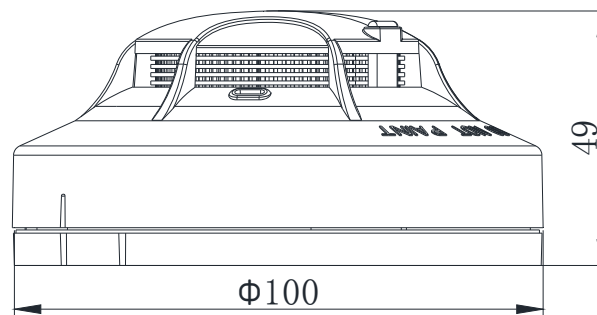


Fig 1 TXC7101 Appearance

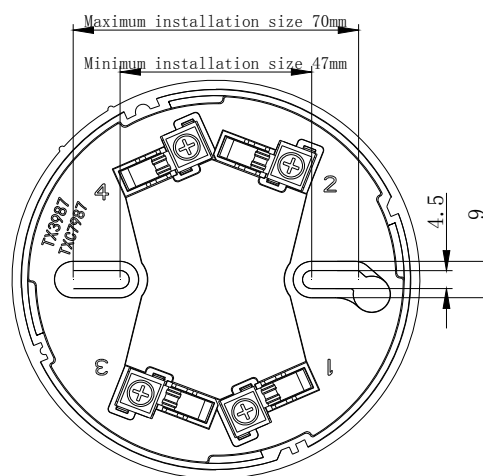


Fig 2 TXC7987 Mounting Dimension

#### 4.2 Operation Principle

The smoke detector detects fire by scattering of infracted beam. A pair of diodes of infrared transmitter and receiver is installed within the black body, and they can hardly receive any signal under smoke-free environment, but when fire occurs, the smoke will enter the detector chamber and scatter the light, which can send a weak signal to the infrared transmitter, and the signal then will be amplified by 200-400 times by the amplifying circuit. The threshold value of this amplified signal will be judged by the trigger circuit, if it reaches the threshold of a fire alarm, the LED indicator for fire will be lit and remains on, at the same time, the fire info will be sent to the fire alarm control panel to generate a fire alarm.

## 5 Mounting and Wiring

**Warning:** Before installing the detector, switch off the controller or disconnect the power from the loop and verify that all bases are securely installed.

5.1 Mounting: The mounting of detector is shown in Fig 3

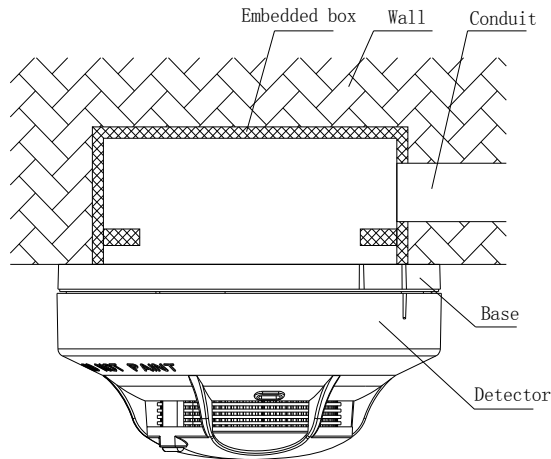


Fig 3: TXC7101 Installation Drawing

The pre-embedded box can be the standard box with model 86H50; To install, align the two mounting lines on both detector and base, then, rotate the detector clockwise to fit it to the base.

### 5.2 Wiring requirement:

Bus line: RVS-2\*1.0 mm<sup>2</sup> or 1.5 mm<sup>2</sup> cable laid through metal conduit or fire-retardant PVC conduit

### 5.3 Wiring description

Wiring is shown in Fig 4 and Fig 5

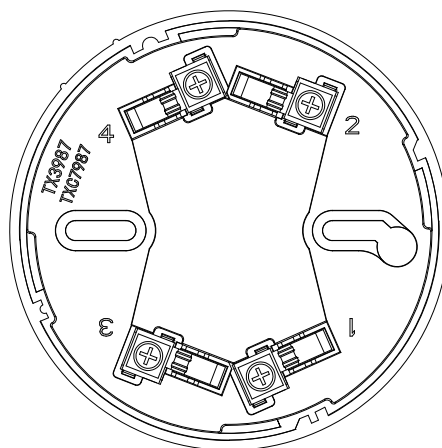


Fig 4: Single TXC7101 wiring

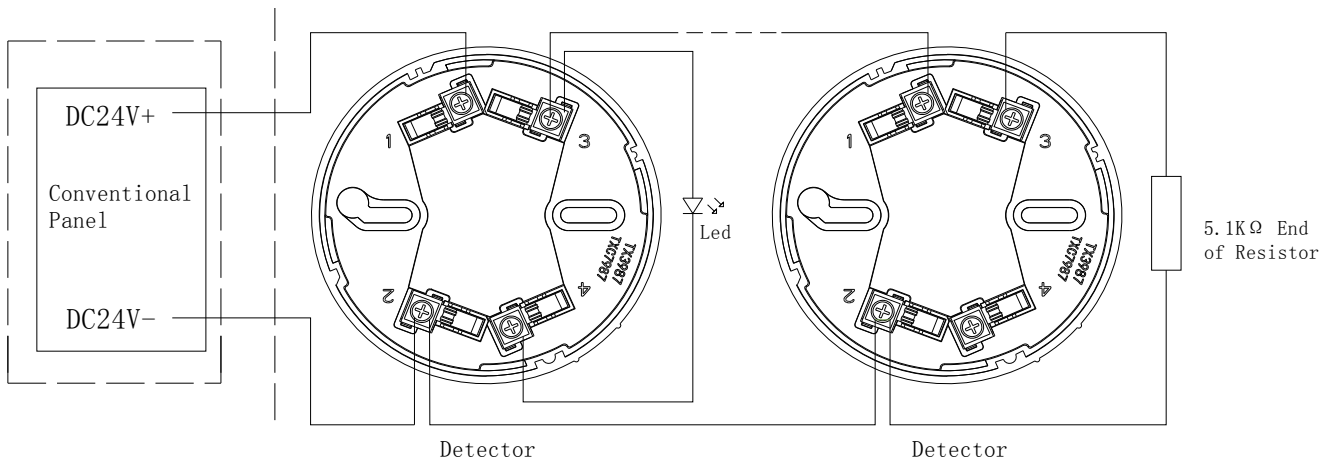


Fig 5: Multiple TXC7101 Wiring

DC24V: 1(+) and 2(-) from panel or module,

3(+) and 2(-) connect to next detector.

Led(optional):3(+) and 4(-).(without connecting resistor outside)

## 6 Applications and Operation

TXC7101 connects conventional control panel or zone monitoring module with non-polarized two wire. Zone monitoring module can monitor loop open circuit and send back mal-function signal of the device back to control panel. The module will display failure when any device removed from loop.

## 7 Handling and Storage

Detector handling and storage should be carried out under packaging status. Careful handling is needed to avoid damage. Detector shall be stored in the ventilated and dry environment. It is strictly forbidden to store the detectors in the open air.

## 8 Notes

8.1 Do not remove the dust-proof plastic cover from the detector before project inspection to avoid detector contamination.

8.2 Strict and complete on duty and shifts records are required to monitor the smoke detectors in operation

8.3 Conduct the alarm function test once every half a year.

8.4 Please put the dust-proof cover onto the detector whenever decoration or painting is carried out to protect the detector from dust contamination.