Anwetech

Explosion-Proof Point Thermal Fire Detector

AT-ES01

Installation and Operation Manual

I. Overview

The AT-ES01 Explosion-Proof Point Photoelectric Smoke Detector complies with the GB3836 and GB12476 series of standards for explosion-proof performance. It has been tested and certified by nationally accredited institutions, obtaining both the 3C certification and the explosion-proof certification.This detector is suitable for use in Zone 1 and Zone 2 explosive gas atmospheres containing Group IIA, IIB, or IIC gases, with temperature classes T1 to T6, as well as in Zone 21 and Zone 22 combustible dust environments.

The AT-ES01 detector is a non-addressable switch-type detector with a relay output, making it compatible with fire alarm control panels from any domestic or international manufacturer. When smoke concentration exceeds the preset threshold, the detector's indicator light switches from a flashing state to a steady red, signaling an alarm to the control panel. The indicator will only return to the flashing (normal monitoring) state after a system reset or a brief power cycle.

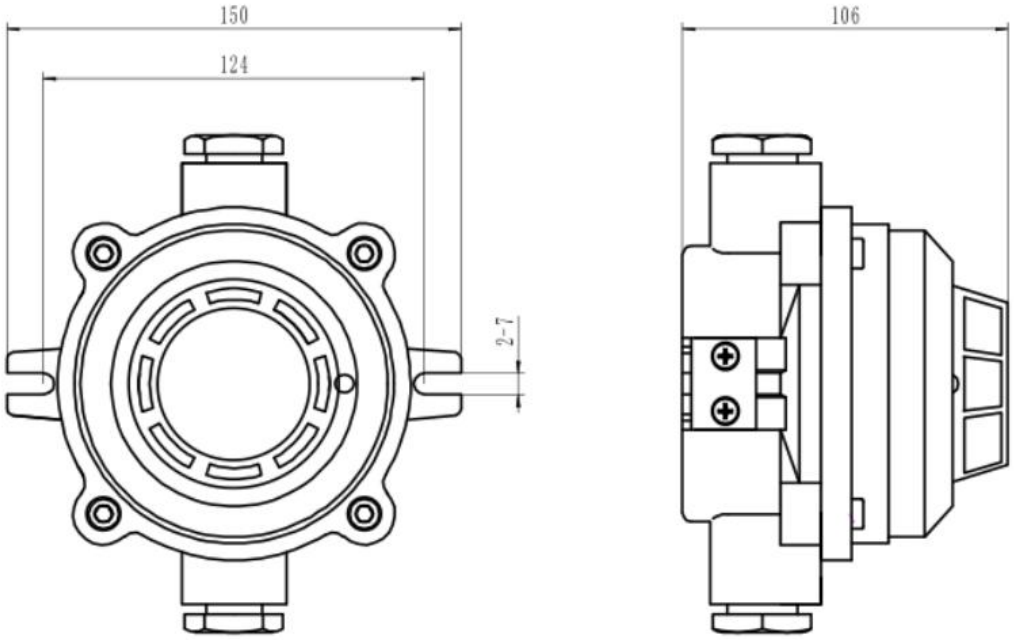
The detector incorporates advanced light scattering technology and imported photoelectric components to ensure high reliability, stability, and consistency. Its unique labyrinth design provides excellent anti-condensation and dust resistance, along with strong immunity to ambient light interference. Featuring a robust structure, an aesthetically pleasing design, stable and reliable performance, it also offers high resistance to humidity and good chemical corrosion resistance.

II. Main Technical Parameters

III. Outline Drawing

Technical Specifications Table

Parameter	Specification
Explosion-Proof Mark	Ex db ib II CT6 Gb / Ex ib tb IIIC T80℃ Db
Operating Voltage	DC24V ± 2V (Non-polarized)
Monitoring Current	≤150 μA
Alarm Current	10mA ~ 30mA
Alarm Output Form	One pair each of Normally Open (NO) and Normally Closed (NC) contact outputs
Response Threshold	0.10 dB/m ~ 0.27 dB/m
Alarm Reset	Momentary power interruption (Min. 10s, Max. DC2.5V)
Power-up Time	≤10 S
Maximum Wind Speed	7.6 m/s (1500 fpm)
Alarm Acknowledgement Light	Red, flashes during normal monitoring, stays steadily lit during alarm
Protection Area	When the space height is 6m~12m, the protection area of one detector is 80m² for general protection sites. When the space height is below 6m, the protection area is 60m².
Operating Environment	
↳ **Temperature**	-20℃ ~ +50℃
↳ **Relative Humidity**	≤95% (Non-condensing)
↳ **Atmospheric Pressure**	80 kPa ~ 110 kPa
Cable Entry Thread	2 - G3/4
Weight	1.2 kg



(Note: Visual representation not provided in text)

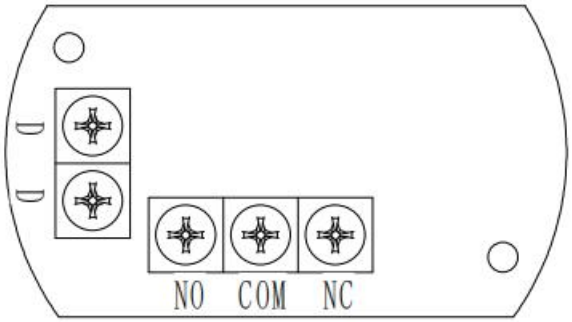
IV. Installation and Wiring

1 Installation: Secure the detector's explosion-proof housing to the ceiling using M6 screws through its mounting feet, according to site conditions.

2 Cable Entry:

For Group IIB: Uses a structure with a sealing cap compressing a sealing ring.
For Group IIC: Uses a sealed filler structure.

Wiring: (Refer to diagram below)



DD: DC 24V (Non-polarized)

NO: Normally Open contact
COM: Common terminal
NC: Normally Closed contact

(Note: Wiring diagram not provided in text)

V. Precautions

1 Do NOT perform live disassembly in hazardous areas.
2 During installation, avoid damaging the flameproof joint surfaces and keep them clean. Tighten 3 the flameproof joint screws evenly, ensuring no foreign objects are present on the joint surfaces.
3 For long-term use, inspect the detector's performance regularly. If faulty or damaged, it must be serviced by qualified personnel.