

Explosion-Proof Infrared Beam Smoke Fire Detector



Installation and Operation Manual

AT-EB01

I. Overview

The AT-EB01 Explosion-Proof Infrared Beam Smoke Fire Detector (hereinafter referred to as the "Detector") is a flameproof, reflective linear infrared beam smoke detector. This housing is designed to accommodate either a coded or non-coded linear beam smoke fire detector module from the manufacturer. The detector must be used with reflector(s); the required number (one or four) is determined by the installation distance between the detector and the reflector.

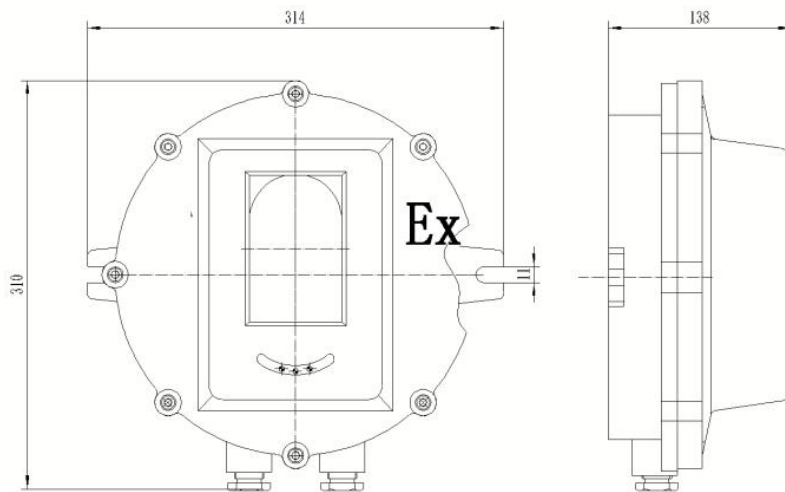
The explosion-proof performance of the detector complies with the GB3836-2000 series of standards. It has been tested and certified by the designated national inspection authority, obtaining the required explosion-proof certification. It is suitable for use in Zone 1 and Zone 2 hazardous areas containing explosive gas atmospheres of Group IIA, IIB, IIC, with temperature classes T1 to T6.

II. Main Technical Parameters

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Parameter	Specification
Explosion-Proof Marking	Ex db ib IIC T6 Gb / Ex tb IIIC T80°C Db
Operating Voltage	DC15V to DC28V
Power Supply Current (dependent on internal module)	Debugging: ≤ 20mA Standby: ≤ 12mA Alarm: ≤ 22mA
Operating Environment	Temperature: -20°C to +50°C Relative Humidity: ≤ 95% (Non-condensing) Atmospheric Pressure: 80 kPa to 110 kPa
Indicator Lights	Debugging: Green & yellow LEDs flash in specific patterns Normal Standby: Red LED flashes periodically Fire Alarm: Red LED steady, yellow LED off Fault: Yellow LED steady Beam Obstructed: Fault (steady yellow) for 20s, then Fire Alarm (steady red)
Coverage Area	Maximum Area: 1,400 m ² (100m x 14m) Max. Beam Length: 100m Max. Protected Width: 14m
Conduit Entries	2 x G3/4"
Installation Dimensions	2 x φ11 mm mounting holes, 270 mm center distance
Wiring Method (dependent on internal module)	Coded Type: 2-wire bus Non-Coded Type: DC24V power lines & alarm out

III. Outline Dimension Diagram



IV. Installation, Wiring, and Commissioning

Installation: Install the detector and the reflector plate directly opposite each other at both ends of the protected area, ensuring they are on the same horizontal line of sight.

Cable Entry: Uses a sealing nut design to compress the sealing gland and ensure integrity.

Wiring and Commissioning: For wiring and commissioning procedures, please refer to the installation manual provided with the internal infrared beam detector module.

V. Precautions

Absolutely prohibit live disassembly or maintenance in hazardous (explosive) areas.

2 During installation and maintenance, do not damage the flameproof mating surfaces. Keep these surfaces clean. Tighten the flameproof surface screws evenly, and ensure no foreign objects are trapped in the flameproof joint.

3 During long-term operation, inspect the detector's performance periodically to ensure it is functioning correctly. Regularly clean dust and debris from the detector's optical window.

4 If the detector fails or is damaged, it must be serviced by qualified professional personnel.