

# DC-9101(IS)

## Intrinsically Safe Conventional Combination Heat Photoelectric Smoke Detector



Ex

### Description

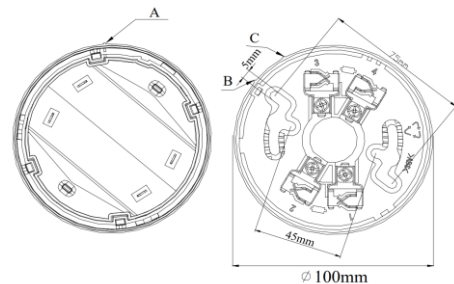
DC-9101 (IS) Intrinsically Safe Conventional Combination Heat Photoelectric Smoke Detector is a kind of combination detector consisting of smoke sensing parts and semi-conductor heat sensing parts. It's applicable to Zone 1 and Zone 2 of areas with explosion-proof requirement in petroleum and chemical industries. By combination of smoke detection and heat detection, it overcomes the non-sensitivity to dark smoke particles of ordinary scattering photoelectric detectors. It can also pick up fire with obvious rise of temperature such as alcohol flame, thus extending the application range.

### Features and Benefits

- Drift compensation enables strong environmental adaptability
- Integrated algorithm for analyzing fire, improving the sensitivity highly
- Self-diagnostic
- Reed switch test
- Removable innovative sensing chamber, easy for maintenance
- Reporting dirt fault for contaminated chamber
- Fire LED allows 360° viewing
- 3-level sensitivities and fixed temperature or rate of rise programmable

### Terminals and Installation Holes

Below figures show the detector bottom and terminals of the base.



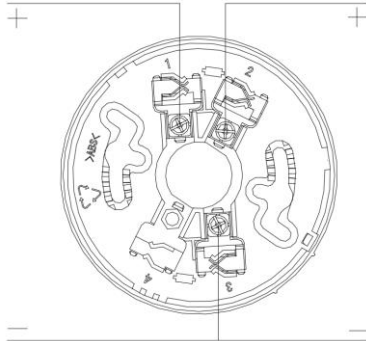
- 1: Detection zone positive IN
- 2: Detection zone positive OUT
- 3: Detection zone negative IN and OUT
- 4: Physical fix only

### Recommended Cabling

1.0mm<sup>2</sup> or above fire cable is recommended, laid through metal or flame-retardant conduit, but subject to local codes. The capacitance distributed among cables should not be over 0.083μF, and the inductance distributed should not be over 4.1mH.

## Application

The wiring diagram is shown below



Working mode of the detector can be set through P-9910B programmer. Below table shows the setting codes and working modes. Factory defaults at Level 1 + Rate of Rise Temperature.

Detector Code	Smoke Sensitivity	Heat Detection
1	Level 1	Rate of rise
2	Level 2	Rate of rise
3	Level 3	Rate of rise
11	Level 1	Fixed temperature
12	Level 2	Fixed temperature
13	Level 3	Fixed temperature

## Terminals and Installation Holes

Operating Voltage	24V (16V ~ 28V)
Standby Current	≤60uA
Alarm Current	10mA≤I≤30mA
Indicator	Red. Flashes in polling, and illuminates in alarm
Explosion-proof Mark	Ex ib IIC T6 Gb
Explosion-proof Certificate	CE21.0155
Zener Barrier	U <sub>o</sub> = 28V, I <sub>o</sub> = 93mA, C <sub>0</sub> =0.083uF, L <sub>0</sub> =4mH, P <sub>0</sub> =651mW
Alarm Clear	Instantaneous Power-off (2s Min., 1.0VDC MAX.)
Smoke Sensitivity Level	3
Heat Sensitivity	Action Temperature: 135°F (57.2°C) Response Velocity: 15°F /min (8.3°C /min)
Environment Temperature	0°C ~ 37.8°C
Relative Humidity	≤95%, non condensing
Material of Enclosure	ABS
Dimensions	Diameter: 100mm Height: 54.5mm (with base)
Mounting Hole Distance	45mm ~ 75mm
Weight	About 110g

## Certificates and Compliance

- Explosion-proof Mark: Ex ib IIC T6 Gb
- Explosion-proof Certificate: CE21.0155

## Accessories and Tools



Part No.: DB-01(IS)  
Device name: Detector Base  
Product No.: 30205765

## Order Information

Part No.	DC-9101(IS)
Device Name	Intrinsically Safe Conventional Combination Heat Photoelectric Smoke Detector
Product No.	10104486
Compatible Products	I-9332 Flame Proof Zone Monitor Interface



Part No.: P-9910B  
Device name: Handhold Programme  
Product No.: 10104894