C-9101(Ex) Explosion Proof Combination Heat/Photoelectric Smoke Detector

Features

- ✧ Drift compensation to suit environment changing extensively.
- ✧ Integrated algorithm for analyzing fire, improving the sensitivity highly.
- ✧ Self-diagnostic.
- ✧ Removable innovative sensing chamber, easy for maintenance.
- ✧ Reporting dirt fault for contaminated chamber.
- ✧ Remote indicator output available.

Description

C-9101 (Ex) Explosion-proof Combination Heat/Photoelectric Smoke Detector (the detector), non-addressable, is a kind of combination detector consisting of smoke sensing parts and semi-conductor heat sensing parts in technological structure and circuit structure. It's applicable to zone 1 and zone 2 of areas with explosion-proof requirement in petroleum and chemical industries. It can match with fire alarm control panel, I-9332 Interface, explosion-proof detector and end-of-line resistor produced by GST to conduct the processing of detector signals. The detector has the advantages of both conventional photoelectric detector and rate of rise and fixed temperature heat detector. Just because of the combination of smoke detector and heat detector, it overcomes the non-sensitivity to dark smoke particles of ordinary scattering type photoelectric detectors. It can also pick up fire with obvious rise of temperature such as alcohol flame, thus extending the application range.

Connection and Cabling

Fig.1 shows the detector bottom and Fig. 2 the base.

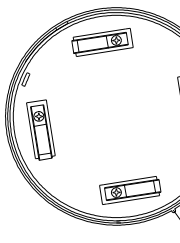

Fig. 1

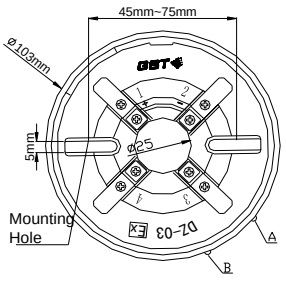

Fig. 2

There are four terminals with numbers on the base.

1: Detection zone positive IN
2: Detection zone positive OUT
3: Detection zone negative IN and OUT

2: Positive terminal of remote indicator
4: Negative terminal of remote indicator

Recommended Cabling

1.0mm^2 or above fire cable. The capacitance distributed among cables should not be over 0.04μF, and the inductance distributed should not be over 4.3mH. Laid out through metal conduit or flame-retardant conduit, subject to local codes.

Installation

A fixed installation direction is ensured by the location elements on the detector and the base. Fix the base with two tapping screws, and then align mark C on the detector with A on the base, rotate the detector to align mark C with mark B (Refer to Fig. 1 and 2 for the position of the marks), the detector will be fitted to the base.

Fig.3 shows the mounting of the detector.

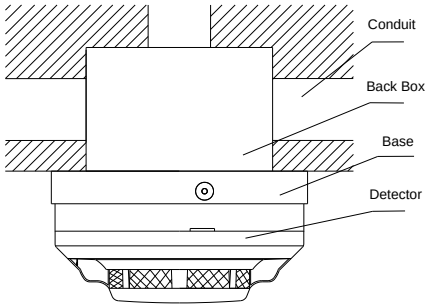

Fig. 3

Application

If the detector connects with fire alarm control panel, I-9332 interface and other exposition proof products in series, a 4.7kΩ end-of-line resistor should be connected to the end of loop. Note the polarity of power line.

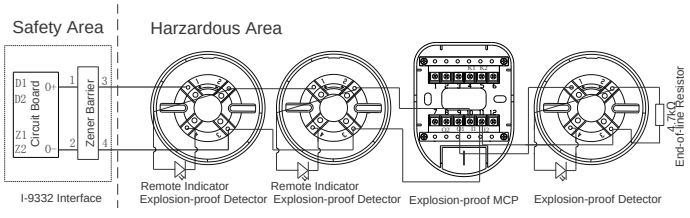

Fig. 4

Maintenance

- ✧ The detector should be installed just before commissioning and kept well before installation,

taken corresponding measures for dust-proof, damp-proof and corrosion-proof.

- ✧ The dust-proof cover cannot be removed until the project has been plunged into usage.
- ✧ If nuisance alarms are often found of the detector on site, the sensing chamber should be cleaned and replaced when necessary.
- ✧ Fire simulation test should be made to the detector once half a year.

Specification

Operating Voltage	24VDC (16VDC~28VDC)
Standby Current	≤60μ A
Alarm Current	10mA≤I≤30mA
Maximum Ripple Voltage	2V (peak-to-peak value)
Zener Barrier	Uo=28V, Io=93mA
Indicator	Red (flashes in normal and illuminates in alarm)
Remote Indicator Output	Directly connecting with indicator (built-in 5.1kΩ resistor, maximum output current is 5.0mA). Quiet in normal condition. Illuminates steadily in alarm.
Explosion-proof Mark	ExibIICT6
Alarm Clear	Instantaneous Power-off (10s MAX., 1.5VDC MAX.)
Power-up Time	≤5s
Action Temperature	58℃
Class	A2R
Response Velocity	3℃/min
Wiring	Polarized 2-core for detection zone cable. Polarized 2-core for remote indicator.
Ingress Protection Rating	IP22
Environment Temperature	-10℃～+50℃
Relative Humidity	≤95%, non condensing
Material of Enclosure	ABS (surface resistance ≤ 10^9Ω)
Dimensions	Diameter: 100mm Height: 56mm (with base)
Mounting Hole Distance	45mm~75mm
Weight	136g

Cautions

- ✧ The explosion-proof interface box should be installed in safety area, the wires of "Safety Area" should be separated from those of "Hazardous Area", and be kept a certain distance (At least 50mm).
- ✧ The safety barrier should be well grounded. The screws should not be loose. Ground resistance should not be over 1Ω . The assigned parameters in the intrinsically safe loop should not be over the specified value, that is, the capacitance distributed among cables should not be over 0.04μF, and the inductance distributed should not be over 4.3mH.
- ✧ During maintenance, products passing the explosion-proof test should not be replaced and parts and structure affecting explosion-proof functions should not be modified.

Accessories and Tools

Model	Name	Remark
I-9332	Interface	Order separately
DZ-03	Base	Order separately

Limited Warranty

GST warrants that the product will be free of charge for repairing or removing from defects in design, materials and workmanship during the warranty period. This warranty doesn't cover any product that is found to have been improperly installed or used in any way not in accordance with the instructions supplied with the product. Anybody, including the agents, distributors or employees, is not in the position to amend the contents of this warranty. Please contact your local distributor for products not covered by this warranty.

This Data Sheet is subject to change without notice. Please contact GST for more information or questions.

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