

Features

- ✧ Integrated algorithm of analyzing fire, recognize black smoke quickly.
- ✧ Drift sensitivity, suit to environment extensively.
- ✧ Removable innovative sensing chamber, easy for maintenance.
- ✧ Providing remote terminals connect with remote indicator.
- ✧ 3-level sensitivities

Description

JTY-GF-G3C Conventional Photoelectric Smoke Detector is a non-addressable detector, applicable to hotels, restaurants, office buildings, teaching buildings, banks, warehouses, libraries, computer rooms, switch rooms, vessels and etc. It can be connected with fire alarm control panel (FACP) through Addressable Zone Monitor. When the detector checks fire signal, it will send fire information to the control panel or addressable zone monitor unit by means of current changing. The detector keeps turning on the LED to indicate alarm state until it is reset.

The detector is developed from sensing chamber by dual-band scattering theory. It has the ability to resist dust contamination and environmental light.

The detector utilizes drift compensation algorithm: When the environment is changing, such as dust accumulation, humidity and temperature changing, the detector can figure out these drift variation to make up for sensitivity, thus the amount of smoke needed to generate an alarm remains constant, irrespective of environmental conditions. The principle diagram is shown as Fig. 1.

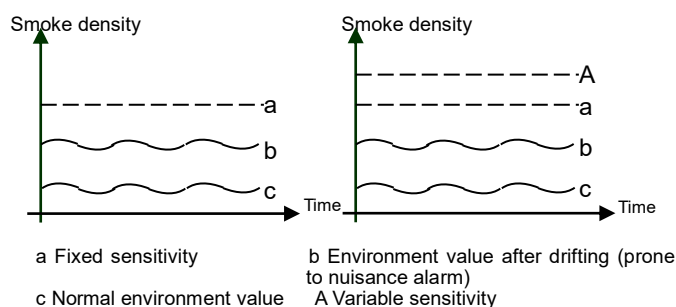


Fig. 1

Connection and cabling

The orientation base is shown in Fig. 3.

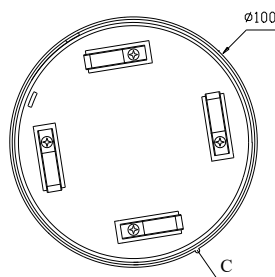


Fig. 2

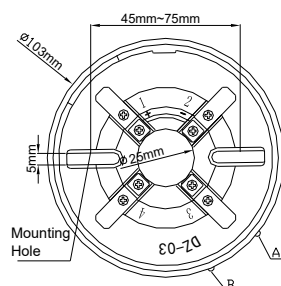


Fig. 3

There are four terminals with number on the base. "1" is connected with output anode of addressable zone monitor unit or the anode of the power supply; "2" is used as output, connected with anode of next detector (Terminal 1) and also connected with anode of remote indicator; "3" is connected with output cathode of addressable zone monitor unit or the cathode of the power supply as well as the cathode of next detector; "4" connects with the cathode of remote indicator.

Recommended Wiring

1.0mm² or above fire cable for all terminals laid through metal conduit or flame proof conduit, subject to local codes.

Note: Different color cables are used to avoid wiring mistake.



Installation

There are location elements on the detector and the orientation base to ensure there is only one installation position. There are two marks A and B on the orientation base (Fig.3), and a mark C on the detector bottom (Fig.2). Aligning mark C to A of the orientation base, and rotating the detector clockwise to mark B, the detector will be installed on the base.

Mounting of the detector is shown in Fig.4.

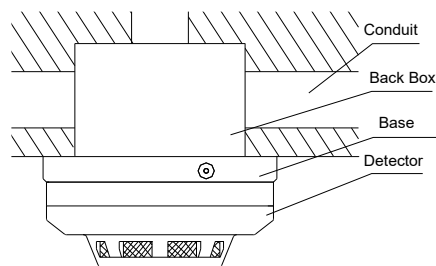


Fig. 4

Application

Notes: The alarm current depends on the current limit of the control panel. 24VDC cannot power the detector directly. Otherwise the detector will be blown up for lack of current limit resistor.

The sensitivity level 3 is default, which can be modified by P-9910B programmer.

Program parameters: In power-on state, input unlocking password and press *Clear* to unlock. Press *Function*, then press "3", the screen shows "-" at the last digit. Input corresponding sensitivity or parameter and press *Program*, the screen will show a "P", the corresponding sensitivity or parameter is programmed. Press *Clear* to clear the "P". Input locking password and press *Clear* to return.

Table 1 Parameters Setup

Parameter	Smoke Sensitivity
1	1
2	2
3	3

Read sensitivity: On power-on time, press *Test*, the LCD screen shows the address of the detector; Press *Up*, it shows in turn the sensitivity, device type, initial sensitivity.

The detector is suitable for hotels, restaurants, office buildings, teaching buildings, banks, warehouses, libraries, computer rooms and switch rooms, etc.

- ✧ When the detector is to be connected with conventional fire alarm control panel (the equipment inside the dotted lines is equivalent to a conventional FACP) or addressable zone monitor unit in series through a GST-LD-8320 Active End of Line Unit (AEOL) connected to the end of loop, an 1N5819 Diode should be connected on the detector base.

- ✧ Used as the detector base, the AEOL is to install a conventional detector on it. The system connection is shown in

Fig.5

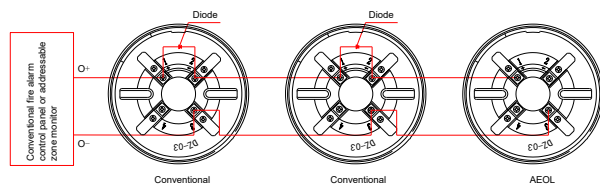


Fig. 5

- When the AEOL is not used as the detector base, a cover should be put on it. The system connection is shown in Fig. 6.

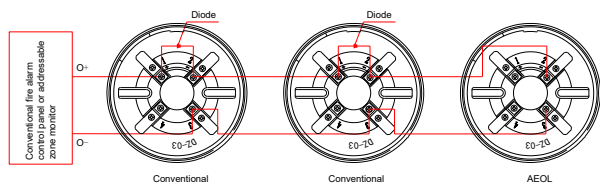


Fig. 6

- ✧ When the detector is to be connected with conventional fire alarm control panel (the equipment inside the dotted lines is equivalent to a conventional FACP) or addressable zone monitor unit in series through an end of line resistor connected to the end of loop, there should be no diode connected on the base. The system connection is shown in Fig. 7.

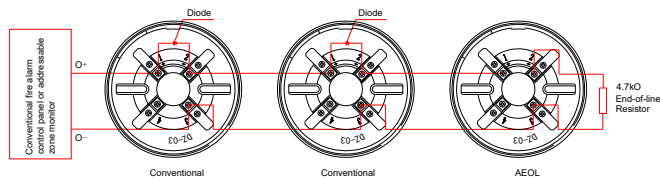


Fig. 7

- ✧ When a remote indicator connects with a few of detectors, a diode 1N5819 needs connecting with Terminal 4 of the orientation base in series and with anode of the remote indicator. The system composition is shown in Fig. 8.

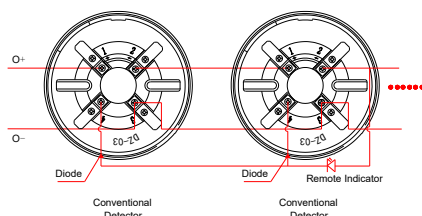


Fig. 8

Output loop of the addressable zone monitor unit can be connected with up to 15 conventional field devices. The addressable zone monitor unit features loop checking. When the loop is broken, the addressable zone monitor unit will send fault signal to fire alarm control panel. When any field device in the output loop is removed, the addressable zone monitor unit reports fault. If a Active End of Line Unit GST-LD-8320 is connected, it will not affect the normal operation of other field devices.

Testing

Before testing, please ensure that the detector has been installed correctly and powered up. After 10 seconds, testing can begin.

- The detector must be tested after installation and periodical maintenance.
 - Smoke test
Taking a cotton rope burning without flame close to the detector, blow the smoke into the detector until the detector generates alarm.
- After testing, cut power for 10 seconds at least and reset the detector. Notify the proper authorities that the system returns to normal state.
Clean the failure detector in the test according to *Maintenance*, and test it again. If it is still fail to pass, please return it to repair.

Note: The dust cover should be removed for testing. But it is recommended the dust cover to be applied until the system starts operation to avoid dust entering the detector.

Maintenance

- The detector should be installed just before commission and kept well before installation, taken corresponding measures for dust-proof, damp-proof and corrosion-proof.
- The dust cover cannot be removed until the project has been plunged into usage. Otherwise it can't alarm normally.
- Clean the detector at least once a year to ensure normal operation of the system.
- If nuisance alarms are often found of the detector on site, the sensing chamber should be cleaned and replaced when necessary.
 - Slightly shake the chamber to draw it out.
 - Clean the inside of the chamber with alcohol cotton or other clean liquid swab with tweezers. Make sure not to leave any fiber in the chamber.
 - Install the sensing chamber and top cover back.
- Before cleaning, notify the proper authorities that the system is undergoing maintenance and will temporarily be out of service. Disable the zone or system undergoing maintenance to avoid unwanted alarms.
- The detector should be tested again after cleaning and re-installing.
- Fire simulation test should be made to the detector at least once half a year.

Specification

Operating Voltage	24VDC(16VDC~28VDC)
Standby Current	≤60μA
Alarm Current	≤55mA
Indicator LED	Red, periodically flash once in polling Red, continue light in alarm Yellow, continue light in sensor fault or dirty
Remote indication output	Polarity-sensitive output, directly connecting with remote indicator (built in 10k resistor in series, max. output current is 2mA); don't illuminate when in normal; flash in alarming.
Max. ripple voltage	2V(peak to peak value)
Alarm reset	Instant power down (10s Min, 1.0VDC Max)
Sensitivity setting	The sensitivity can be set by hand held programmer. There are three sensitivity levels: level 3 (default), level 2, level 1.
Wiring	Two-wire, polarity sensitive.
Environment Temperature	-10℃~+50℃
Relative Humidity	≤95%, non condensing
Material	Plastic, white
Ingress Protection Rating	IP2X
Dimension	Diameter:103mm Height: 55mm (with base)
Mounting Hole Spacing	45mm~75mm
Weight	About 120g

Accessories and Tools

Model	Name	Remark
P-9910B	Hand held programmer	Supplied separately
DZ-03	Base	Supplied separately

WEEE Information



2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points.

Limited Warranty

GST warrants that the product will be free from defects in design, materials and workmanship during the warranty period. This warranty shall not apply to 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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