

Features

- ◇ Fault self-diagnostic.
- ◇ A magnet test available.
- ◇ Providing for connections to remote indicators.
- ◇ Built-in microprocessor stores 14 history data.
- ◇ Polling LED can be set to OFF.
- ◇ Standard: UL268.

Description

DI-M9102 Intelligent Photoelectric Smoke Detector (the detector) can form fire alarm system connecting with a fire alarm control panel (FACP). The detector illuminates indicators to indicate fire condition and transmits alarm signals to the FACP.

Using infrared scattering technology, with an innovative chamber, the detector receives very weak infrared light under the normal clean environment. If smoke particles enter the chamber, the received light signal will be increased by scattering. When smoke density reaches a certain amount, the detector will give alarm signals. In order to reduce interference and power consumption, the emitting circuit works in pulse mode to prolong the life of IR emitting diode..

Connection and Cabling

The orientation base of DB-M01 is shown in Fig. 2.

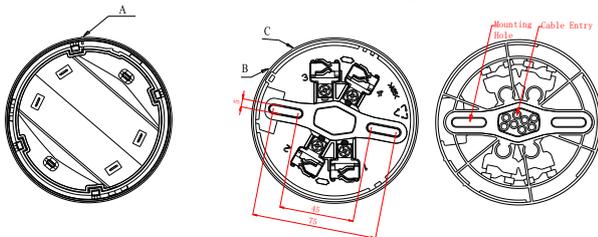


Fig. 1

Fig. 2

Please install the base according to following steps:

- 1) Locate mounting holes on the rubber layer of the base according to the holes on the back box, and punch the holes with a screwdriver.
- 2) Count the number of cables needed and punch correct quantity of holes with a screwdriver on the rubber layer. Thread the cables through the cable entry holes.
- 3) Install the base onto the back box with screws.

Warning: Do not punch mounting holes and cable entry holes bigger than needed. Do not punch more holes than needed.

Used together with UL certified GST-M200 control panel, loop of the control panel should be connected with terminals "1" and "3" of the base, polarity-insensitive; terminals "2" to anode of remote indicator and "4" to the cathode. System connection is shown in Fig 3.

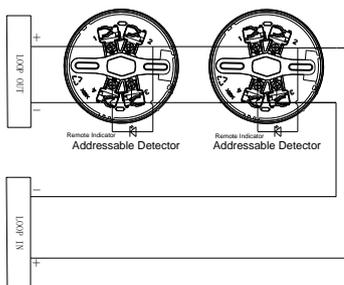


Fig. 3

Recommended Wiring

1.0mm² or above fire cable for all, laid out through metal conduit or flame-resistant conduit, subject to local codes. The connection of remote indicator should use different color cables to distinct polarity.



Installation

Refer to *D Series Detector Application Bulletin* for additional installation instructions.

Fix the base with two tapping screws. Then align A (Fig. 1) on the bottom of the detector to B (Fig. 2) of the base, and rotate the detector clockwise to mark C. Mounting of the detector is shown in Fig. 3.

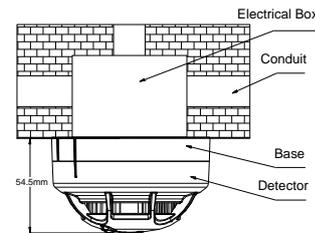


Fig. 4

Application

The polling LED is Normal by default, which can be modified to OFF state using P-9910B programmer changes sensitivity of the detector.

Program sensitivity: 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 parameter of the detector and press *Program*, the screen will show a "P", the parameter is programmed successfully. Press *Clear* to clear the "P". Input locking password and press *Clear* to return.

Detectors Setup

Input Parameter of a Detector	Status of Polling LED
1	Normal
129	OFF

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 level, device type, initial sensitivity.

Testing

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

Before testing, 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.

All detectors must be tested after installation and periodically thereafter. Testing methods must satisfy the Authority Having Jurisdiction (AHJ). Detectors offer maximum performance when tested and maintained in compliance with NFPA 72. The detector can be tested in the following way:

- 1) Magnet test

Magnetic test zone is shown in Fig.5. Put the magnet of commission tool close to the zone of the detector and hold on for a few seconds

until the detector generates alarm.

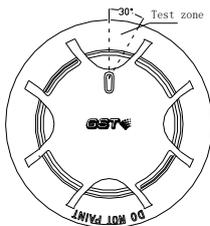


Fig. 5

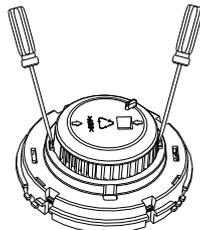


Fig. 6

2) Smoke test

The Trutest model 300 Aerosol Smoke Detector Tester can be used for smoke entry testing. Set the generator to represent 4%/ft to 5%/ft obscuration as described in the Trutest manual. Using the bowl shaped applicator, apply aerosol until the panel alarms.

Additionally, canned aerosol simulated smoke (canned smoke agent) may be used for smoke entry testing of the smoke detector. Recommended aerosol smoke products are:

Manufacturer	Model
Trutest	AERO400

When used properly, the canned smoke agent will cause the smoke detector to go into alarm. Refer to the manufacturer’s published instructions for proper use of the canned smoke agent.

Warning: Canned aerosol simulated smoke (canned smoke agent) formulas will vary by manufacturer. Misuse or overuse of these products may have long term adverse effects on the smoke detector. Consult the canned smoke agent manufacturer’s published instructions for any further warnings or caution statements.

When testing is complete, restore the system to normal operation and notify the proper authorities that the system is back in operation.

Maintenance

- The detector must be cleaned once a year to ensure normal operation of the system.
- 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.

Chamber Clearing Steps:

- Open the top cover of detector, and draw out the sensing chamber by slightly lifting its two sides using a straight screwdriver, as shown in Fig. 6.
- Use a vacuum cleaner or cleaned, compressed air to remove dust and debris from the insect guard and the sensing chamber. The sensing chamber can also be cleaned by clear water and brush. Put the sensing chamber in clean water to brush the dust inside and take out to dry it.
- Install the sensing chamber and top cover back.

Cautions

- Dust covers can’t be removed until the project is put into use formally. Take well care of dust covers for future use.
- Dust covers effectively but not absolutely prevent dust particles from going into detectors. So, we recommend that detectors should be removed prior to construction, decoration, or other activities producing dust. The proper authority should be informed of detectors removing.
- Be careful not to damage the detector in maintenance.
- The smoke detector may not sense fire that where smoke cannot reach it, such as in chimneys, in walls, on roofs, or on the other side of closed doors.
- The detector cannot monitor the place beyond protection area.

6. The detector may not warn you about fires caused by insufficient safety measures, violent explosions, leaking gas, improper storage of flammable materials like diluents and other safety hazards, arson or children playing with fire.

7. The alarm of a smoke detector used in high velocity environment will be delayed due to dilution of smoke by frequent and fast airflow.

8. Smoke detectors have their own service life. In order to keep the detector working in good condition, please maintain them according to recommendations from manufacturers and relative state standards.

9. The detectors must be tested regularly, at least once a year.

10. Smoke detectors are not to be used with detector guards unless the combination has been evaluated and found suitable for that purpose.

Specification

Operating Voltage	Loop 24V(16V - 28V)
Standby Current	≤ 0.8mA
Alarm Current	≤ 1.8mA (without remote indicator) ≤ 3.8mA (with remote indicator)
Fire LED	Red, Flash in polling, and illuminate in alarming.
Remote indicator output	Polarity-sensitive output, directly connect to remote indicator (built in 10k resistor in series, max. output current is 2mA); Flashes in alarming and does not illuminate in normal.
Programming	Electronically addressed.
Programming Range	Occupying one address within 1 - 242.
Sensitivity Range	1.23% - 3.20% per ft
Wiring	Loop: two wire, polarity-insensitive
UL Temperature Range	32°F (0°C) - 100°F (37.8°C) 0 - 95%, non-condensing
Operating Temperature	14°F (-10°C) - 131°F (+55°C) 0 - 95%, non-condensing
Material and Color	ABS white (RAL 9016)
Ingress Protection Rating	IP2X
Dimension	Diameter: 100mm Height: 44.5mm(without base)
Mounting Hole Distance	45mm - 75mm
Weight	About 110g

Accessories and Tools

Mode	Name	Remarks
P-9910B	Hand Held Programmer	Supplied separately
DB-M01	Orientation base	Supplied separately
T-MT	Commission tool	Supplied separately
C-9314P	Remote Indicator	Supplied separately
BP-9314P	Back Plate for Remote Indicator	Supplied separately

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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