DI-M9103
Intelligent Rate of Rise and Fixed Temperature Heat Detector

Features

◇ Address can be set in field.

◇ Fault self-diagnostic.

◇ Rate of rise and fixed temperature, and fixed temperature programmable

◇ Reed switch testing.

◇ Output terminal for remote indicator available.

◇ Complying with UL 521.

◇ Polling LED can be set to OFF.

Description

DI-M9103 Intelligent Rate of Rise and Fixed Temperature Heat Detector (the detector) is a new addressable fire alarm device cooperating with GST intelligent fire alarm control panels (FACP) to build a fire detection system. The detector shows fire condition by LED indicator and transmits alarm signals to the FACP.

Connection and Wiring

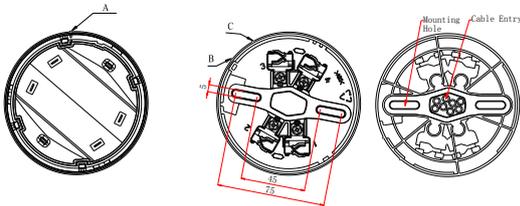The detector bottom is shown in Fig. 1 and the base in Fig. 2.

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.

There are four terminals with numbers on the base.

1&3: Loop connection (polarity-insensitive)

2: Positive terminal of remote indicator

4: Negative terminal of remote indicator
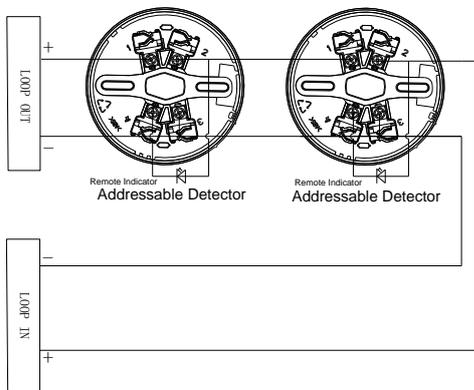
The system connection is shown in Fig. 3.

Fig. 3

Recommended Wiring

$1.0mm^2$ or above fire cable for all terminals laid through metal conduit or flame retardant conduit, subject to local codes.

Note：It's recommended to use cables of different colors to avoid incorrect wiring.

Installation

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

First fix the orientation 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.

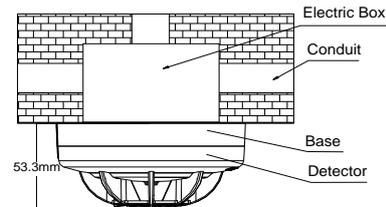Mounting of the detector is shown in Fig. 3.

Fig. 3

Application

The detector is especially applicable to places where fire occurs with sharp rise of temperature. Used together with smoke detectors, it can detect fire with more reliability to reduce losses.

The detector can be addressed in field by using P-9910B programmer. Please refer to *P-9910B Hand Held Programmer Installation and Operation Manual* for details.

The default class of the detector is rate of rise and fixed temperature (7) and polling LED is normal. The parameter can be modified using GST handheld programmer.

When the programmer is in standby state, entering unlock password and pressing "Clear", it will be unlocked. Pressing *Function* followed by *4*, there will be a "-"at the last digit. Entering different number corresponding to the classes ("7" for rate of rise and fixed temperature, "8" for fixed temperature) followed by "Program", there will be a "P" shown on the screen, indicating its class is programmed. Pressing "Clear" can clear the "P", and entering locking password followed by "Clear" will exit.

Table 1 Detector setting parameters

Input Number	Class	Polling LED State
7	Rate of rise and fixed temperature	Normal
8	Fixed temperature	Normal
135	Rate of rise and fixed temperature	OFF
136	Fixed temperature	OFF

Read Heat Detector Class: When the programmer is in standby state, pressing "*Test", it will display address of the detector. Pressing "Up"*, it will display sensitivity level, device type and heat detector class in turn.

Testing

Note: Before testing, make sure the detector is properly installed and powered up. Testing can only begin after the detector is powered up for 10 seconds.

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

The detector must be tested after installation and regular maintenance. The methods should meet the requirements from local authority. The detector should meet NFPA72. The testing methods are as follows:

(1) Reed switch testing

The testing area of the detector is shown in Fig. 4.

Approach the commission tool to the testing area of the detector and hold for several seconds until the detector alarms.
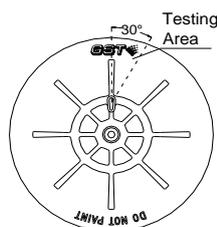

Fig. 4

(2) Temperature test

Approach a heater (such as a hair drier of 1000w-1500w) to the thermistor of the detector until it alarms. It is 12 inches between the hair drier and the thermistor to avoid damaging on the plastic enclosure of the detector

After testing, disconnect power to the detector for over 10 seconds to reset it. Notify the proper authorities that the system is back to normal operation.

If a detector fails in testing, return it for repair.

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.
- ✧ Do fire simulation test at least once every 6 months.
- ✧ Before fire simulation test, 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.
- ✧ Protect the metal component on the PCB against damp and improper distortion.

Cautions

1. Detector should be firmly installed and the wire be reliable.
2. LED on the detector should face the main entrance for people to see it.
3. Be careful not to damage the detector in maintenance.
4. Heat detector is not suitable for detecting smoldering fire.

Specification

Operating Voltage	Loop 24V (16V~28V)
Standby Current	≤0.6mA
Alarm Current	≤1.5mA (without remote indicator) ≤3.5mA (with remote indicator)
Indicator	Red, Flashes in polling, and illuminates in alarming
Sensitivity	Action Temperature :135℉ (57.2℃) Response rate of rise:15℉/min (8.3℃/min)
Maximum spacing	50 ft. (15.2 m)
Remote indicator output	Polarity-sensitive output, Directly connects to remote indicator (built in 10k resistor in series. Maximum output current is 2.0mA); The remote indicator is quiet in polling and will flash in alarming.
Programming Method	Electronically programmed
Code Range	One address within 1~242.
Class Setup	Rate of rise and fixed temperature (default), and fixed temperature programmable
Wiring	Non-polarized 2-core for loop. Polarized 2-core for remote indicator.
Ambient Temperature	32℉ (0℃)～100℉ (37.8℃) (UL 521)
Ingress Protection Rating	IP2X
Dimensions	Diameter: 100mm Height: 53.3mm (with base)
Mounting Hole Distance	45-75mm
Weight	About 110g (with base)

Accessories and Tools

Module	Name	Remarks
P-9910B	Handheld Programmer	Order separately
DB-M01	Base	Order separately
T-MT	Commission Tool	Order separately
C-9314P	Passive Remote Indicator	Order separately
BP-9314P	Back Plate for Remote Indicator	Order 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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