DI-9103E Intelligent Rate of Rise and Fixed Temperature Heat Detector

Features

✧ Electronically addressed in field.

✧ 3 classes programmable.

✧ Self-diagnostic.

✧ Reed switch testing.

✧ Fire LED allows 360° viewing.

✧ Remote indicator output available.

✧ Designed to comply with EN 54-5 standard.

✧ Polling LED can be set to close.

Description

DI-9103E Intelligent Rate of Rise and Fixed Temperature Heat 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 alarm by the LED indicator and transmits the signal to the FACP.

Connection and Wiring

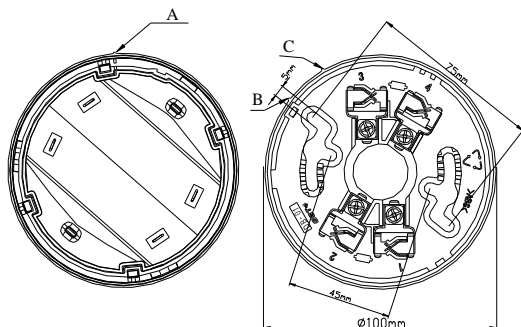Fig.1 shows the detector bottom and Fig. 2 DB-01 base.

Fig. 1   Fig. 2

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

Recommended Wiring

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

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

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 A on the detector with B on the base, rotate the detector to align mark A with mark C (Refer to Fig. 1 and 2 for the position of the marks), the detector will be fitted to the base.

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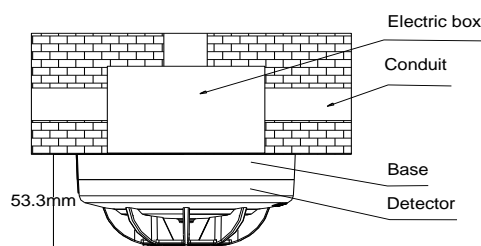Fig. 3 shows the schematic for mounting the detector.

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 A1R, which can be modified using the 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 ("2" for A1R, "3" for A2S) followed by "Program", there will be a "P" shown on the screen, indicating the 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
2	A1R	Normal
3	A2S	Normal
5	BS	Normal
130	A1R	Close
131	A2S	Close
133	BS	Close

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.

The detector must be tested after installation and regular maintenance. The 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.

(2) Temperature test

Approach a heater (such as a hair drier) to the thermistor of the detector until it alarms.
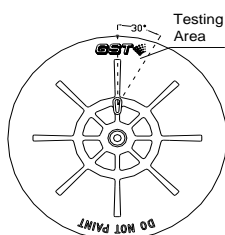

Fig. 4

(3) After testing, disconnect the power to the detector for over 5 seconds to reset it. Notify the proper authorities that the system is back to normal operation.
(4) If a detector fails in testing, clean it by the steps in "Maintenance", and retest it. If it still fails, return it for repair.

Maintenance

1. The detector should be installed just before commission and kept well before installation, taken corresponding measures for dust-proof, damp-proof and corrosion-proof.
2. The dust cover should not be removed until the project has been plunged into usage. Otherwise it may not report alarm normally.
3. The detector should be cleaned at least every year to ensure normal operation of the system.
4. Before cleaning, notify the proper authorities that the system is under maintenance and will temporarily be out of service. Disable the automatic controls relating to the zone or system under maintenance to avoid unwanted actions.
5. The detector should be tested after cleaned and re-installed to ensure normal operation.
6. Protect the conductive metal element on the detector base from humidity or rigid distortion.
7. Fire simulation test should be done to the detector at least every 6 months.

Accessories and Tools

Model	Name	Remarks
P-9910B	Hand Held Programmer	Order separately
DB-01	Base	Order separately
T-MT	Commission Tool	Order separately

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 alarm
Remote indicator output	Polarity-sensitive, directly connects to remote indicator (built in 10k resistor in series. Maximum output current is 2.0mA); The remote indicator is quiet in normal and flashing in alarm.
Programming Method	Electronically programmed
Code Range	One address within 1~242.
Classes and Setup	3classes (A1R, A2S, BS) programmable
Wiring	Non-polarized 2-core for loop. Polarized 2-core for remote indicator.
Ingress Protection Rating	IP2X
Ambient Temperature	Class A1: -10℃~+50℃ Class A2: -10℃~+50℃ Class B: -10℃~+65℃
Typical Fixed Temperature	Class A1: 58℃ Class A2: 62℃ Class B: 77℃
Relative Humidity	≤95%, non-condensing
Material	ABS
Dimensions	Diameter: 100mm Height: 53.3mm (with base)
Mounting Hole Distance	45mm~75mm
Weight	About 110g (with base)

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 of charge for repairing or replacing from defects in design, materials and workmanship during the warranty period. This warranty does not 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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