

## Features

- ✧ Built-in MCU processes signals and controls communication digitally.
- ✧ Intelligent algorithm ensures quick response to reduced false alarms.
- ✧ 3 classifications available.
- ✧ High sensitivity, reliable performance, and dust-proof, damp-proof and corrosion-proof abilities.

## Description

DI-9104Exd is a light-sensitive detector that detects fire by picking up the ultraviolet light from flaming material. It's designed for areas where an open fire is liable to occur with large amount of radiation and no smoldering stage, or where quick response to a fire is required. This detector can be applicable to zone 1 and 2 of explosive hazardous areas.

The detector is able to work either in addressable mode connecting with GST intelligent fire alarm control panel(FACP) to transmit signal through detection loop or in non-addressable mode connecting to 24VDC power supply to transmit signal by outputting different resistance values.

## Connection and Wiring

Screened 2-core cable with cross section 1mm<sup>2</sup> or above, and outer diameter  $\phi$  8 mm is required for field wiring. Please follow the steps below:

- (1) Rotate down the back cover and the pressing nut.
- (2) Thread a proper length of the cable through the pressing nut, metal washer and joint washer in sequence.
- (3) Peel away the outer layer of the cable with 5mm of metal core exposed, rotate in the cable together with the joint washer, metal washer and the nut into the detector housing, and fasten the nut using a spanner.
- (4) Connect the cables to corresponding terminals of the detector, and the screen layer to the safety earth position inside the housing.
- (5) Fasten the back cover with tools, and make sure the detector is earthed through its safety earth position on the cover.

## Installation

- (1) Fig. 1 is the schematic diagram for installing the detector.
- (2) Please check the following after installation:
  - There shall not be any crack or air bubbles. The back cover and the detector shall be securely fastened.
  - There shall not be any scratch or crack on the detecting window.
  - There shall be joint washer in the wiring hole.
  - The joint washer matches with the cable diameter.
  - The pressing nut is locked.
  - There is earth cable at the "earth" mark.
  - The detection window shall face the protected area.

**Note: The detector shall be installed in compliance with relative installation codes. Make sure the housing is in good condition.**

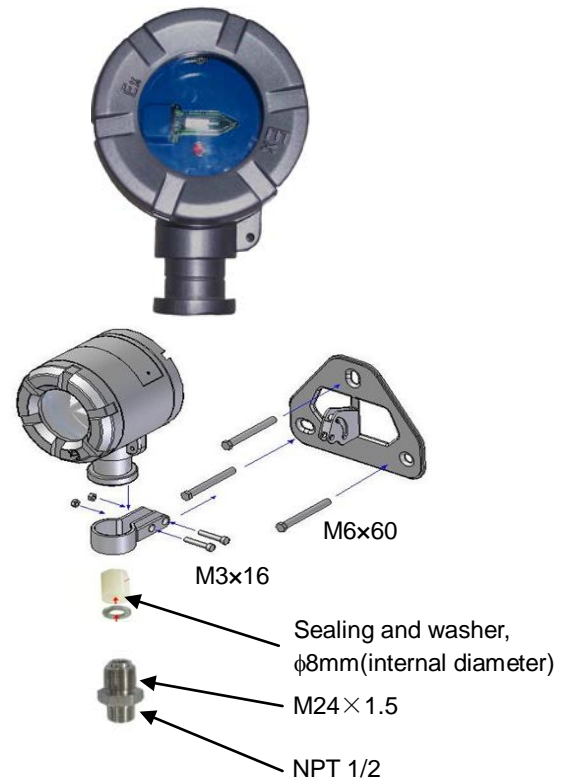


Fig. 1

## Application

Schematic of system connection is shown in Fig. 2 (addressable mode) and Fig. 3 (non-addressable mode).

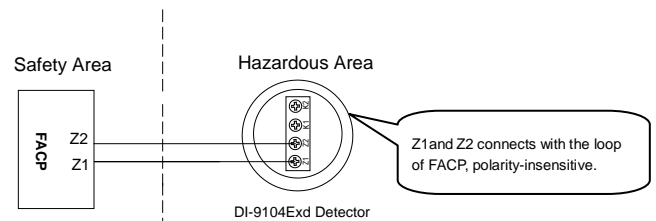


Fig. 2

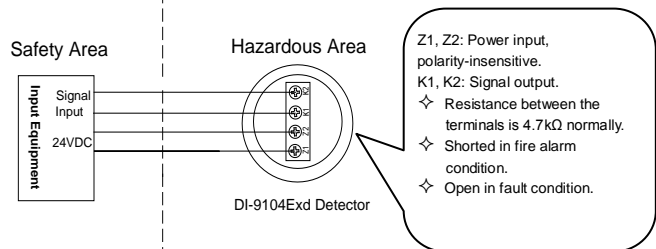


Fig. 3

## Operation

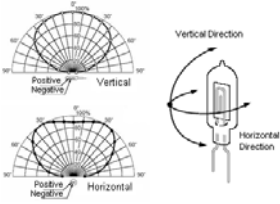
The detector powered by 24VDC voltage, which may come from control panel in addressable working mode or 24VDC power supply in non-addressable working mode.

In addressable mode, Terminal Z1 and Z2 are to be connected with the loop of FACP polarity-insensitively. The FACP polls the detector status through the loop, and displays its fault and fire alarm messages.

In non-addressable mode, 24VDC power supply can be directly applied to Terminal Z1 and Z2. K1 and K2 output different resistance in different conditions. If the resistance is 4.7kΩ, the detector is in normal standby state; if the terminals are shorted, the detector is in fire condition; if the terminals are open, the detector is in fault condition.

The detector has 3 classifications. The factory default is Class 1. The address and sensitivity can be read and changed using P-9910B Programmer. Please refer to *P-9910B Hand Held Programmer Operation Manual* for details.

## Specification

Operating Voltage	Addressable Mode: Loop voltage: 24VDC come from FACP Z1,Z2 terminals
	Non-addressable Mode: Voltage: 24VDC come from power supply
Operating Current	Addressable Mode: Standby current ≤ 2mA Alarm current ≤ 3mA
	Non-addressable Mode: Standby current ≤ 13mA Alarm current ≤ 23mA
Power-up Time	≤10s
Indicator	In addressable mode and non-addressable mode, indicator is red. It flashes when polling, and illuminates steadily in alarm.
Programming Mode	Electronic programming. Occupying one loop address.
Address Range	1~242
Spectrum Response Range	185nm~260nm
Detection Angle	
Detection Distance※	25m for Class 1, 17m for Class 2 and 12m for Class 3.
Alarm Response time	≤30s
Ingress Protection	IP66
Ambient Temperature	-20 °C +60 °C
Relative Humidity	≤95%RH, non-condensing
Dimensions	147mm×106mm×92mm
Material and Color	ZL102 aluminum alloy, silvery grey.
Weight	1.5kg
Installation Hole Spacing	110mm×72mm
ATEX Certificate NO.	Presafe 14 ATEX 5547
Explosion-proof Mark	Ex d II C T6 Gb

※Test fire: The flame generated by 2000g of alcohol (concentration above 90% ) in a container with bottom area 33cm×33cm and height 5cm.

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

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## Accessories and Tools

Name and Model	Qty.	Remarks
P-9910B Hand Held Programmer	1	Order separately
Expansion Bolt M6×60	3	
Screws M3×16	2	

## Maintenance

- (1) The detector shall be cleaned at least once a year to ensure normal operation of the system.
- (2) 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.
- (3) The detector shall be tested after being cleaned and re-installed. After testing, notify the proper authorities the system is back in operation.

## Caution

- (1) The detector should be handled with care during storage, transportation, installation, commission and maintenance to avoid damage from falling, impact, outside force and friction.
- (2) Installation and maintenance should strictly comply with relative codes for explosive and hazardous areas.
- (3) Never open the cover for maintenance in field.
- (4) The enclosure must be earthed.
- (5) The lens only endures low impact energy, so the detector shall be installed the position where the foreign objects can't attack it.
- (6) The following places are not suitable for the detector:
  - ✧ Where flameless fire is to be expected.
  - ✧ Where intensive smoke spreads before flames.
  - ✧ Where the "view" of the detector is opt to be obscured.
  - ✧ Where the sun can directly shine or indirectly shine the detection window.
  - ✧ Where there is strong UV light source in field, like a tungsten halogen lamp.
  - ✧ Where open fire, welding, X rays, arc or sparks may exist in normal condition.
- (7) The threaded entries comply with following parameters:
  - ✧ Position on the equipment: see Fig.1
  - ✧ The number permitted:1
  - ✧ Sealing and washer size: φ8mm(internal diameter) × φ18mm(external diameter) × 20mm(thickness)
  - ✧ Cable external diameter φ6~φ8 mm is recommended
  - ✧ The torque for cable nut is 25 N.m to compress sealing ring

## 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.