DI-9301E
Digital Single Input and Output Module

Features

◇ The dry contact input port can be programmed to NC or NO and monitored.

◇ The input can also be programmed as "self-answering", which means that the Input port monitoring is disabled, and the module will directly send a "status" signal to FACP when the dry-contact output changes state.

◇ Addressable unit. Address can be programmed in field.

◇ Input port utilizes AD sampling technology for precise testing.

◇ DIN-Rail mounted or Wall mounted.

◇ Standard: EN 54-18:2005

Description

With a microprocessor, the DI-9301E Digital Single Input and Output Module (the module) can communicate with fire alarm control panel (FACP), check loop power-cut, control output, circuit faults, logic state of input signals, and state LEDs. On receiving start command from the FACP, it will close the output relay and illuminate the active indicator.

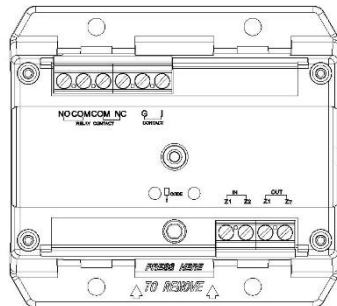## Connection and Cabling

Terminals of the module are shown in Fig. 1.

Fig. 1

◇ (Z1, Z2) IN & OUT: Connect with the loop of FACP, polarity-insensitive.

◇ I, G: Connect with normally open dry contact of an input device that closes when the device is in alarm or changes state. It may also be set to normally closed input by hand held programmer.

◇ COM, NO, NC: Dry contact output terminals (Note: there is 30kΩ resistance between NO and COM).
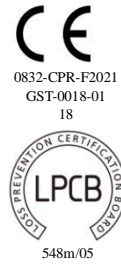
◇ CODE: Connect with the programmer.

Recommended Wiring: 1.0mm^2 or above fire cable for all terminals. Subject to local codes.

Installation

Warning:

Before installing the module, disconnect power from the loop.

1) Before installation, make sure the enclosure is in good condition and markings are complete.

2) Before installation, make sure the enclosure is in good condition and markings are complete.

3) The module can be mounted on a 35mm DIN-Rail as shown on Fig. 2.

4) The module can also be wall mounted by 4 mounting screws as shown in Fig. 3. Minimum mounting space is 67mm×40.5mm.
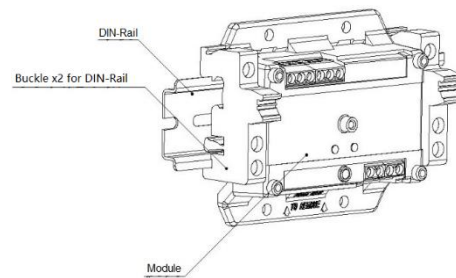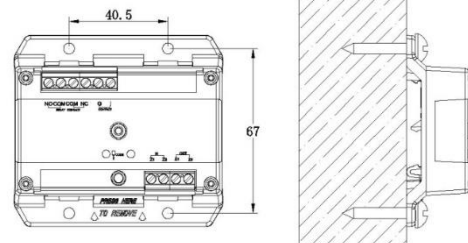

Fig. 2

Fig. 3

Application

The module connects with fire control devices which are activated by the FACP.

The address and working mode of the module can be programmable by a programmer in field. Please refer to *P-9910B Hand Held Programmer Installation and Operation Manual* for details.

Programming Parameters：

In standby state of the programmer, Inputting "456" and then pressing "Clear" can unlock the programmer, press Fn and then number 3, "—"will be popped up on the screen to indicate it is in programming mode. Write a parameter and then pressing "Program", a "P" will show on the screen meaning the parameter is programmed.

Press Fn and then number 3, input and output checking methods can be set.

Parameters Setting	Input	Output
1	Self-answering	NO checking
2	Normally-closed	NO checking
3	Normally-open	NO checking
11	Self-answering	Checking
12	Normally-closed	Checking
Others(Default)	Normally-open	Checking

Press Fn and then number 4, the number of address points can be set.

Parameters Setting	Address
2	Occupies two addresses, one for the input and one for output.
Others(Default)	One address for both input and output.

The relationship between the input port resistance and the product state is shown in the following table:

Detection mode	I/G port resistance	Input state
Normally-open	< 1 kΩ	Active
	> 11.7 kΩ	Fault
	other	Normal
Normally-closed	< 1 kΩ	Fault
	> 11.7	Active
	other	Normal

The relationship between the output port voltage and the product state is shown in the following table:

Output port voltage	Output state
< 12 V	fault
> 13 V	normal

✧ Connection of the module to field devices with normally open dry contact is shown in Fig. 3.
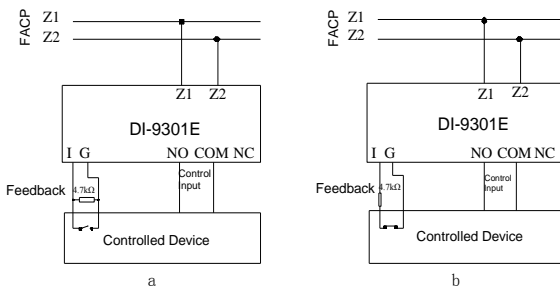

Fig. 3

✧ Connection of the module to devices controlled by 24V is shown in Fig. 3.
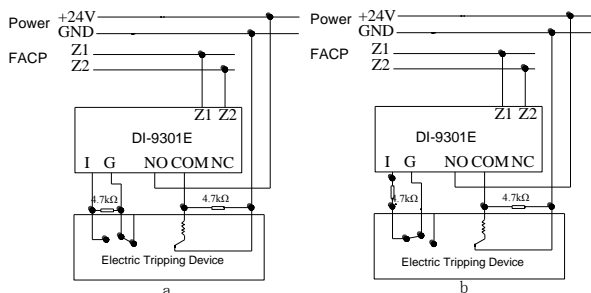

Fig. 4

Notes:

✧ **It's only applied for not more than 30VDC or AC.**

✧ **There is 30kΩ between COM and NO so that weak current occurs during operating. It's not suitable to control those devices controlled by weak current.**

✧ **Some fire door control panel, elevator control box has low starting current because of using comparator, logic level. We don't recommend that the module is adopted due to false alarms caused by circuit or special interference. Please add relays between the module and the control devices if the module is used necessarily.**

✧ **The module is not used for gas extinguishing equipment.**

Specification

Operating Voltage	Loop 24VDC(16VDC - 28VDC)
Standby Current	≤ 0.26mA
Action Current	Loop≤ 0.7mA
Relay Output	NO or NC
Output Capacity:	2A@30VDC. Contact resistance is 30kΩ in normal. It closes after starting.
Programming	Electronically addressing
Address Range	Two options preset by manufacturer: Option 1: Both Input and Output occupy one address that ranges from 1 to 242. Option 2: Occupy two addresses representing Input and Output. Input address range is 1 to 241. Output address is automatically programmed as input address plus 1.
LED	Input LED: Red. It lights in receiving feedbacks, lights 0.5s on, 0.5s off in input faults, and flashes in other states. Output LED: Red. It lights in relay action, 0.5s on and 0.5s off as there is output fault. It turns off in other states.
Ingress Protection Rating	IP30
Operating Temperature	-10° C - +55°C
Relative Humidity	≤ 95%，non-condensing
Compatible DIN-Rail	35mm DIN-Rails
Materials of the Enclosure	ABS, white(RAL9016)
Dimension(L×W×H)	85.3mm×78mm×33mm
Weight	About 66.5g

Accessories and Tools

Model	Name	Remark
P-9910B	Hand Held Programmer	Supplied separately
RT-0.25W-4.7kΩ ±5%-25mm	Resistor	Provided

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.

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