

⌈ Please read this manual carefully before installation. ⌋

TCMK5265 Input/Output Module User Manual



Liaoning-Yingkou Tiancheng Fire Protection Equipment Co., Ltd

Version	Date	Arthur	Reason
Ver1.0	2020.08.07	Zhu Zhenhua	1 st version

This page could be removed when printing or type-setting.

I. General

TCMK5265 Input/Output Module(hereinafter referred to as “module”) is a 2-wire module newly developed by our company mainly using for connecting fire protection linkage equipment controlled by fire alarm control panel. In on-site construction, this module mainly matches with air blower, water pump and 220V switch.

II. Characteristics

1. Non-polarity two-bus system, ultra-low power consumption, no need for external DC24V power supply;
2. The output is passive output;
3. Input and output have short circuit and open circuit detection functions;
4. Input and output are equipped with isolation circuits, which can effectively filter out external interference;
5. The input terminal can be set as a normally open detection line on site, and can be connected with passive contacts;
6. The address code is an electronic code, which can be written in advance by an electronic encoder, and the engineering debugging is simple and reliable;
7. The circuit part and the wiring bottom shell adopt the plug-in method, which is reliable in contact and convenient for construction.

III. Technical Specification

1. Working voltage:

Rated working voltage: DC24V (14V~28V)

2. Working current:

Monitoring current \leq 0.2mA ; Starting current \leq 0.5mA

3. Input check line: when the line breaks during the normally open check line (short circuit is the action signal), the module will send a fault signal to the control panel

4. Output detection line: When the output line is short-circuited or open, the module will send a fault signal to the control panel

5. Output contact capacity: passive output, the capacity is AC220V/1A

6. Indicator light: red (input indicator light: flashes during inspection, always on when action; output indicator light: always on when starting)

7. Coding method: electronic coding method, occupying a bus coding point, the coding range can be set arbitrarily between 1 and 255

8. 10. Use environment:

Atmospheric pressure: 86KPa~106KPa

Temperature: -10℃~+55℃

Relative humidity \leq 95%, no condensation

9. Dimensions: 86mm×86mm×40mm (with bottom shell)

10. Shell material and color: ABS, porcelain white

11. Weight: about 147g (with bottom shell)

12. Installation hole distance: 60mm

13. Executive standard: EN 54-18:2005

IV. Structure & Working Principles

1. The outline sketch map of this module is shown as Fig 1.

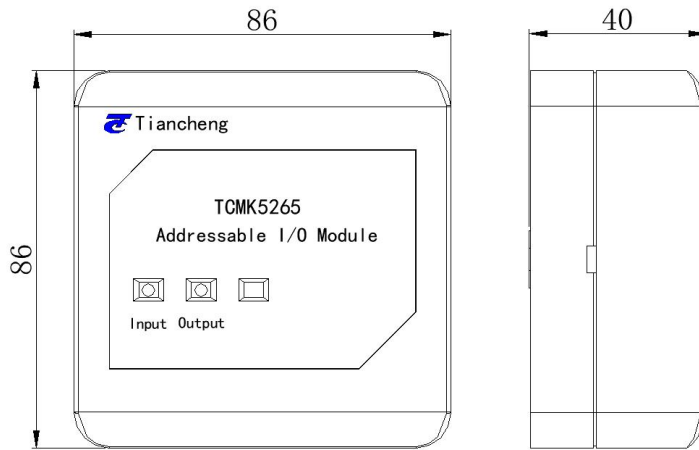


Fig.1 Outline of Module

2. Working Principle

The module is embedded with a microprocessor, which realizes communication with the fire alarm control panel, bus power-failure detection, output control, input signal logic state judgment, input and output line fault detection, and status indicator control. As the module receives the start command of the fire alarm control panel, it pulls-in the output relay and lights up the indicator light. After the module receives answer signal from the equipment, it transmits the information to the fire alarm control panel.

V. Installation & Wiring

Warning:

⚠ Before installation, please cut off the power supply of the loop and make sure that all the bases have been installed firmly and the connecting wires are correct.

⚠ The feedback input terminal of the module has function of disconnection detection, and a 10K resistance is required to be connected at its end, otherwise the control panel will give a fault at the feedback terminal; the output line also has this function and short-line detection function, when the module has no operation, It is required that the voltage of the terminal of normally open output is within AC220V, otherwise the control panel will display fault of the module output line.

1. Before installation, first check whether the shell is intact and the identification is complete.
2. The module adopts the method of surface mounting, the base and the module are installed in a plug-in structure. When installing, you only need to unplug the module, pass the cable through the cable hole of the bottom base and connect it to the corresponding terminal, and then plug it in. The module can be installed. The mounting hole distance of the module bottom base is 60mm.
3. The schematic diagram of the module terminal is shown in Figure 2:

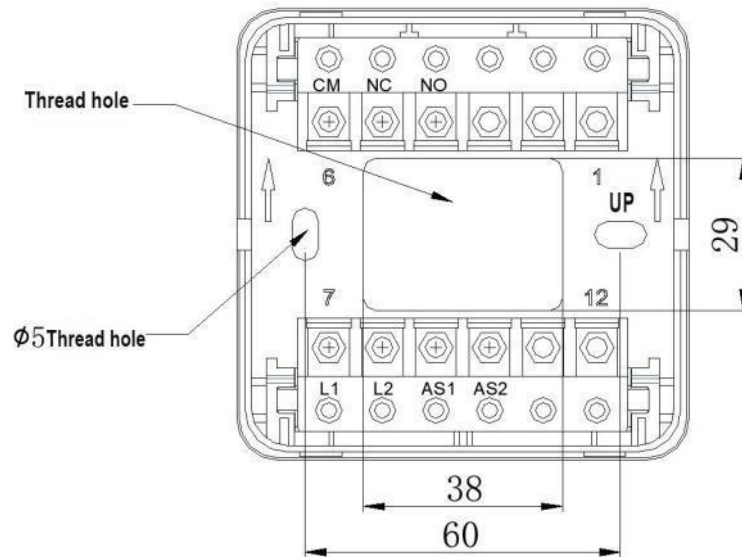


Fig.2 Schematic diagram of terminals

4.The wiring instructions are as follows:

L1, L2: Two bus input without polarity signal

CM: Passive relay common output contact (if controlling fans, water pumps and other equipment, connect to one end of the external AC220V power supply)

NO: Passive relay normally open output contact (if controlling fans, water pumps and other equipment, connect one end of the controlled relay coil, and the other end of the coil connects to the other end of the external AC220V power supply)

AS1, AS2: connected to the passive normally open contact of the controlled device, used to realize the confirmation of the device action response (it can also be set to self-answer through the electronic encoder)

5.Wiring requirements:

L1 and L2 use RVS twisted-pair wires with a cross-sectional area $\geq 1.0\text{mm}^2$, and the length of the connecting wire should be limited to that a single bus resistance $\leq 20\Omega$, otherwise the wire diameter of the wire should be increased;

COM, NC, and NO use RV lines with a cross-sectional area $\geq 1.5\text{mm}^2$.

VI. Use & Operation

The coding method of this module is electronic coding, which is simple and fast. The TCBM5023 electronic encoder produced by our company can be used for on-site coding. When coding, the electronic encoder is connected to the bus terminal of the module (regardless of polarity), Then you can edit and read the address code.

1. Coding method:

First go through the main "operation menu" of the encoder and press the No. 2 key to select "(2) mode setting", enter the sub-menu and select "(1) TC5000", then press "(5), (6), (7)" and choose incremental code, normal code, decrement code to use (Note: the default is TC5000, normal code), after selection, you can press "clear key / page key" to directly enter the addressing

interface, or press the exit key to return to the main page, press the No. 1 key to select "(1) Read and write address", and then connect the encoder to the module's bus terminals L1 and L2. Under standby state, enter the module's address code (1-255), and press " Write address", if the encoding is successful, it will display "succeed", if it is not successful, it will display "failed".

2. Enter the setting parameters:

First go through the main "operation menu" of the encoder and press the No. 3 key to select "(3) Read and write module configuration", enter the sub-menu and press the No. 3 key to select "(3) RC". There are two options here. In "Detection" mode, press the No. 5 key to select "(5) Yes", which means that the output failure is detected (the factory default is this option). Similarly, press the No. 6 key to select "(6) No", and the output failure will not be detected. For the second "pulse", press the No. 7 key to select "(7) Yes", which means pulse start (stop starting after 3S after starting), and similarly press the No. 8 key to select "(8) No", which means normal start. The factory defaults to this Option), then press the write address key to write the input and output modules, or press the read address key to read the configuration of the module.

VII. General Troubleshooting

Fault	Reason	Solution
Can not register normally	Signal terminals are not connected well.	<ol style="list-style-type: none"> 1. Inspect if the connecting position of signal line is right. 2. Measure the voltage between terminals of signal lines and see if it is within the allowed range.
Report fault after registration	Signal lines are not connected well.	<ol style="list-style-type: none"> 1.no terminal resistance 2.output line of reply is short-circuited or disconnected.
Automatic alarm without any input	Answer line is short-circuited.	<ol style="list-style-type: none"> 1. Measure if the signal terminal of passive contact is short-circuited. 2. Measure if the terminal resistance is short-circuited.

VIII. Attached Documents & Maintenance Instruction

- 1.Attached files: 1) packing list: 1; 2) Spare parts: two 10K resistance for each module. 3) User manual: 1.
- 2.Warranty : Our company is responsible for the warranty of this product. If you find any problems, please contact the company's technical service department in time. Users are not allowed to disassemble or repair by themselves, otherwise, they will be responsible for the consequences.
3. The maintenance contact information is as follows:

China·Liaoning·Yingkou Tiancheng Fire Protection Equipment Co., Ltd

Add: No.11-2 Kechechang Xili, Xishi District, Yingkou, Pilot Free Trade Zone (Liaoning), China

Tel: 86-417-3553119

Post Code: 115004

E-mail: info@tcfiretech.com

Website: www.tcfiretech.com